

# CAPACITATING ELECTRONICS

The corrosive effects of platinum and palladium mining  
on labour rights and communities

Tim Steinweg and Esther de Haan  
November 2007



**CAPACITATING ELECTRONICS**

The corrosive effects of platinum and palladium mining on labour rights and communities

November 2007

**AUTHORS:**

Tim Steinweg and Esther de Haan

**PUBLISHED BY:**

SOMO – Centre for Research on Multinational Corporations

**RESEARCH SOUTH AFRICA:**

Civil Society Research and Support Collective (CSRSC)

**COVER DESIGN:**

Justar.nl

**ISBN:**

978-90-71284-19-9



This document is licensed under the Creative Commons Attribution-NonCommercial-NoDerivateWorks 2.5 License. To view a copy of this license visit:

<http://creativecommons.org/licenses/by-nc-sa/2.5>

**FUNDING:**

This document has been produced with the financial assistance of the European Union. The contents of this document are the sole responsibility of SOMO and can under no circumstances be regarded as reflecting the position of the European Union.

**ADDITIONAL COPIES ARE AVAILABLE FROM:**

SOMO -Centre for Research on Multinational Corporations

Tel: + 31 (0)20 639 12 91

E-mail: [info@somo.nl](mailto:info@somo.nl)

Website: [www.somo.nl](http://www.somo.nl)



## **MAKEITFAIR**

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.

makeITfair is co-ordinated by the Dutch organisation SOMO (Centre for Research on Multinational Corporations). 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.



Established in 1973, the Centre for Research on Multinational Corporations (SOMO) is a non-profit Dutch research and advisory bureau. SOMO investigates the consequences of Multinational Enterprises' (MNEs) policies and the internationalisation of business worldwide. SOMO's expertise lies in the field of international guidelines, treaties and codes of conduct for MNEs, and it conducts research on compliance with related norms. Focus is placed upon research on labour conditions in the global South and cooperation with local organisations and trade unions.

Website: [www.somo.nl](http://www.somo.nl)

|   |           |
|---|-----------|
| <b>Foreword</b> .....   | <b>4</b>  |
| <b>Executive summary</b> .....  | <b>5</b>  |
| Mining of PGMs.....   | 5         |
| Labour issues.....  | 6         |
| Community issues- case study.....   | 7         |
| Recommendations.....  | 8         |
| <b>1. Introduction</b> .....  | <b>9</b>  |
| 1.1. Metals used in our everyday products .....                                 | 10        |
| <i>Beryllium</i> .....  | 10        |
| <i>Cobalt</i> .....   | 11        |
| <i>Gallium</i> .....  | 11        |
| <i>Indium</i> .....   | 11        |
| <i>Palladium</i> .....  | 11        |
| <i>Platinum</i> .....   | 12        |
| <i>Ruthenium</i> .....  | 12        |
| <i>Rare earths</i> .....  | 12        |
| <i>Tantalum</i> .....   | 12        |
| <i>Tin</i> .....  | 12        |
| 1.2. Metals extracted in high-risk countries.....                               | 13        |
| 1.3. Issues connected to the extractives industry in developing countries ..... | 13        |
| <i>Environmental issues</i> .....   | 14        |
| <i>Human rights</i> .....   | 14        |
| <i>Working conditions</i> .....   | 15        |
| 1.4. Responsibility and ethical guidelines .....                                | 16        |
| <b>2. Supply chain management of brand companies</b> .....                      | <b>18</b> |
| 2.1. Traceability.....  | 19        |
| 2.2. Sphere of influence.....   | 19        |
| 2.3. Social and environmental purchasing criteria.....                          | 20        |
| 2.4. Transparency .....   | 22        |
| <b>3. Platinum Group Metals used in electronics</b> .....                       | <b>23</b> |
| 3.1. Palladium (Pd) .....   | 23        |
| 3.2. Platinum (Pt) .....  | 24        |
| 3.3. Rhodium (Rh), Ruthenium (Ru) and Iridium (Ir).....                         | 25        |
| <b>4. International Trade</b> .....   | <b>27</b> |
| 4.1 The supply chain of PGMs for use in electronic products.....                | 31        |
| <b>5. Mining in South Africa</b> .....  | <b>34</b> |
| 5.1. Research Methodology .....   | 34        |
| 5.2. Current Ownership of Resources (Mineral Rights) .....                      | 36        |

|           |   |           |
|-----------|---|-----------|
| 5.3.      | South Africa’s Extractive Sector .....  | 37        |
| 5.4.      | PGM Mining .....  | 42        |
| 5.5.      | Companies active in South Africa’s PGM mining .....   | 42        |
|           | <i>Anglo Platinum</i> .....   | 42        |
|           | <i>Impala Platinum (Implats)</i> .....  | 43        |
|           | <i>Lonmin Platinum (Lonplats)</i> .....   | 43        |
|           | <i>Northam</i> .....  | 44        |
|           | <i>Aquarius</i> .....   | 44        |
| <b>6.</b> | <b>Critical issues in PGM mining .....</b>  | <b>45</b> |
| 6.1.      | Environmental impact .....  | 45        |
| 6.2.      | Communities .....   | 46        |
| 6.3.      | Labour conditions .....   | 48        |
|           | <i>Health and Safety</i> .....  | 48        |
|           | <i>Contract workers in platinum mining</i> .....  | 49        |
|           | <i>Wages</i> .....  | 50        |
| <b>7.</b> | <b>Case Study: Anglo Platinum’s Heavy Hand with PPRust Communities ...</b>  | <b>51</b> |
| 7.1.      | Introduction.....   | 51        |
| 7.2.      | Anglo Platinum’s sustainability record.....   | 53        |
|           | <i>Local communities</i> .....  | 54        |
|           | <i>Workers’ health and safety</i> .....   | 55        |
|           | <i>Subcontracted and migrant workers</i> .....  | 56        |
|           | <i>Sustainability awards</i> .....  | 57        |
| 7.3.      | Anglo Platinum’s Strategy for Community Engagement on Resettlements:<br>The abuse of the black empowerment programme..... | 58        |
| 7.4.      | Disenfranchised and Dispossessed: The Story of the Ga Pila Community<br>Resettlement.....                                 | 60        |
| 7.5.      | The Struggle Continues: The Story of the Ga Puka and Ga Sekhaolelo<br>(Mothlotho ) Communities.....                       | 62        |
| 7.6.      | You Strike a Woman You Strike A Rock: Protests and Violence .....   | 65        |
| 7.7.      | Silencing Spoor: Attempts to Undermine Communities Representation.....  | 67        |
| 7.8.      | Is the tide turning?.....   | 68        |
| <b>8.</b> | <b>Conclusions and Recommendations.....</b>   | <b>70</b> |
| 8.1.      | The role of the electronics industry.....   | 71        |
| 8.2.      | The role of consumers .....   | 71        |

## 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 electronic consumer 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 young-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.

## **EXECUTIVE SUMMARY**

Electronic products like mobile phones, laptop computers and mp3 players contain a substantial amount of numerous metals. Brand companies - like Apple, Motorola, Nokia, Philips, Sony, Acer, Nintendo and Fujitsu Siemens – have not included the extractive industry in their supply chain management.

The focus of this report is on the supply chain issues related to the mining stage of Platinum Group Metals (PGMs). PGMs are used in the automotive, jewellery and electronic industries, and as such, are part of these industries' respective supply chains. PGMs consist of Platinum, Palladium, Rhodium, Ruthenium, Osmium and Iridium and make up only a few of the many metals used in electronic consumer products. Others include Beryllium, Gold, Cobalt, Tantalum, Tin and Rare Earths, many of which are extracted in developing countries that have high risks of environmental damage, human rights abuses and poor working conditions.

In the electronics industry, extractives can be seen as the forgotten link in the supply chain management of electronic consumer products. While companies subscribe to voluntary CSR initiatives such as the Electronics Industry Code of Conduct (EICC), the electronics industry as a whole feels that there is inadequate traceability or sphere of influence for a full supply chain approach up to the extractive phase. Additionally, most of the brand companies' own codes and guidelines address responsibility for the whole chain of production, but most companies only address problems occurring in the top of the supply chain. So far the industry has not taken any measures to integrate the mining of metals in their social or environmental responsibility efforts.

### **MINING OF PGMs**

In electronic products, palladium is mostly used in Multilayer Ceramic Capacitors (MLCCs), parts that are used in almost all types of electronic products. The industry consumed 33,000kg of palladium in 2006, accounting for 14% of total global demand. 13,300kg of platinum was used in electronic products in 2006, accounting for 6% of total global demand, mostly due to use of the metal in various types of hard disks and LCD screens. As the number of hard disks per device are rising, the platinum content of an average consumer electronics product is increasing. Rhodium is mostly used in flat panel LCD screens, while ruthenium, for which the electronics industry is the largest consumer, is used in newer types of hard disks.

The report describes one exemplary link of platinum, from the mining stage in South Africa to the end use of the metal in electronic products. Anglo Platinum, the largest PGM mining company in the world, supplies metals to the German company Heraeus. Heraeus uses platinum, among other metals, to develop materials used in thin film coating of hard disks.

It sells these materials to the thin film producing company Komag, which was recently bought by the large component manufacturer Western Digital. Western Digital in turn supplies to almost all the large computer brand companies.

In South Africa, mining is of substantial economic importance in terms of generating foreign exchange, balancing potential trade deficits and creating a large number of jobs. At the moment, there are approximately 450,000 people working in the mining sector, but this used to be twice as many in 1987. PGMs are mined in the northern Bushveld Igneous Complex (BIC), which contains the worlds largest PGM reserves, accounting for 55,7% of all available PGMs.

However, a recent report by the BenchMarks Foundation and research done by the Civil Society Research and Support Collective (CSRSC) identified a number of issues caused by PGM mining in South Africa; These include environmental impacts, including the depletion and pollution of drinking water sources and air pollution; the use of contract labourers, and their substandard and often hazardous working and living conditions; and the displacement of indigenous communities from their traditional rural lands into resettlement areas with township-like conditions and the consequent occurrence of violent clashes.

## **LABOUR ISSUES**

### *Health and Safety*

Unacceptable health and safety conditions were found in the PGM mines. The workers' health is compromised by the inhalation of dust, which negatively affects their long-term health. A substantial number of workers suffer from silicosis, a respiratory disease that is caused by inhaling silica and results in inflammation and scarring of the lung tissue as well as tuberculosis.

Miners often work under dangerous conditions, and many –especially contract labourers– do not receive proper safety training. Interviewed workers have mentioned receiving only few days of safety training before being sent underground. Additionally, old mines are re-mined, with added safety hazards. Due to the high price of platinum, shafts and rock pillars that were left in place as support are now being mined. Contract workers, rather than the mining company's own employees, are used to do this type of hazardous work with few safety instructions.

### *Contract workers in PGM mining*

An increasing number of PGM mines in South Africa are outsourcing core and non-core positions to contract labourers. These temporary workers often earn less than permanent employees and miss out on extra allowances, bonuses and other collective agreements. These miners often do not earn enough to sustain their livelihood, or provide adequate food and shelter for their families.

## **COMMUNITY ISSUES- CASE STUDY**

This reports describes a case study conducted by CSRSC in the mining region of Potgietersrust (PPRust), in the Northern Limb of the BIC. Here, a mine operated by the Anglo Platinum company is expanded to increase its output to approximately 12,190 kilograms per annum. This expansion requires the resettlements of three local villages, with a total population of 17,000 people, who are part of the Greater Mapela community. The village of Ga Pila was removed in 2001, and the people are now living in township-like conditions at a nearby farm. According to a South African NGO: *“Ga Pila residents were subjected to forced removals like those in the time of apartheid”*. The people of the two other villages, Ga Puka and Ga Sekhaolelo, are still protesting against the planned removal by Anglo Platinum to the Armoede farm.

Central to the conflicts between Anglo Platinum and the communities affected by the PPRust expansion is the vehicle Anglo Platinum has used to engage the communities on the resettlement issues. Anglo Platinum asked the communities to develop a resettlement committee, which would, together with Anglo Platinum’s advisors, be transformed into a Section 21 company. Section 21 companies are "not for gain" associations set up as part of the Black Economic Empowerment programme. However, these Section 21 companies are paid for by the mining company, thereby influencing the decisions of the body that should be representing the interests of the community.

Through various structures, including bribes, Anglo Platinum makes sure that the Section 21 companies behave in a manner that is beneficial for the mining company, and they no longer represent the interests of the local communities. The communities are now excluded from engaging in the decision making that will greatly affect their livelihoods.

According to several reports, the Ga Pila community now lives under worse conditions than before the resettlement. The provision of water and electricity is erratic and expensive for the poor households. At the same time, no farm land is available for these people, who have always relied on farming for their livelihoods. Anglo Platinum now wants to resettle the Mothlotho communities Ga Puka and Ga Sekhaolelo to the farm Armoede, and the communities have expressed their dissatisfaction with the arrangement for several years, while the living conditions in the two villages are steadily worsening. There are now intolerable levels of dust, noise and property damage and crops have been destroyed or are in threat thereof to make way for mining activities.

Various protests have been organised by the local communities, and this has led to a number of clashes with Anglo Platinum. In one incident in February 2007, Anglo Platinum allegedly instructed bulldozer drivers to dump mounds of dirt onto women who had formed a human chain to stop Anglo Platinum from putting a fence around their crop fields. In May 2007, when Anglo Platinum tried to remove 10 families in Mothlotho, community members

blocked the roads with burning tires, stones and human chains. The police plays has played a questionable role during these conflicts, clearly taking the side of Anglo Platinum.

Anglo Platinum's treatment of communities affected by its mining activities has not gone unnoticed, making it impossible for Anglo Platinum to sweep it under the carpet. The issues of resettlement of the Mothlotho communities was brought directly to the attention of Anglo American shareholders at the annual general meeting in London in April 2007, while the considerable number of community protests has also not gone unnoticed by the government.

### **RECOMMENDATIONS**

While at a corporate level, the responsibility for the conditions at and around the PPRust mines lies foremost with Anglo Platinum, various companies can also be held responsible through their role in the supply chain of PGMs and should exert influence. The direct customers of Anglo Platinum, as well as the end users in the sectors such as the electronics sector, should recognize their role in the chain and adopt a sustainable approach to the procurement of raw materials such as PGMs. Most of the major companies in the electronics industry have accepted supply chain responsibility and will have to live up to their own promises by including raw materials.

Through a sector wide approach within the electronics industry, the brand companies, as well as its large first-tier suppliers could pressure both the mining companies directly as well as other companies within the chain to ensure that the building blocks of their products are extracted in a sustainable manner.

# 1. INTRODUCTION

The worldwide consumer market for electronics is growing at a dazzling pace, with brand name companies battling for market shares. Consumers are hungry for the latest communication technology, replacing and adding new “necessities” to stay in touch, work while travelling, and play the latest games.

The worldwide mobile phone market reached a milestone in 2006 with more than one billion units shipped worldwide.<sup>1</sup> The market for MP3 players in Western Europe increased by 125 percent in 2005<sup>2</sup>, although mobile phones with music functions are taking over part of this market. The webcam market experienced an average growth of 44 percent, from 2.9 million units in 1999 to 18 million units in 2004.<sup>3</sup> Industry analyst Gartner forecasts that PC sales will increase by more than 12 percent during 2007.<sup>4</sup>

For years brand companies have been profiting from the boom in consumer electronics, investing in new technologies for more attractive and exclusive products and offering cheaper and cheaper products for consumers to increase sales. Consumers nowadays only pay half as much for a Nokia phone as they did in 2002.<sup>5</sup> The average price of a Sony Ericsson phone has fallen by 20 percent during the last year.<sup>6</sup>

To cut costs, consumer electronics companies have increasingly subcontracted whole or parts of their production to low-cost countries, mainly in Asia, Latin America and Eastern Europe, resulting in complicated supply chains that are highly complicated to oversee.<sup>7</sup>

The extractive industry could be described as the forgotten level of the supply chain of consumer electronics. So far, brand companies - like Apple, Motorola, Nokia, Philips, Sony, Acer, Nintendo and Fujitsu Siemens – 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. These global market leaders are unaware of the location of and the conditions under which the metals and minerals are mined that are used in electronic products. Still, as the research of this project shows, the consumer electronics industry is a significant consumer of several of the metals that are used in the products it sells.

---

<sup>1</sup> Svenska Dagbladet, Expansion krymper Motorolas vinst, the 20th of Jan 2007

<sup>2</sup> IDC, MP3 Western Europe Portable Compressed Audio Player Forecast and Analysis, 2005-2010

<sup>3</sup> IT Facts, \$1.2 bln of Webcams to be sold in 2005, 23 March 2005

<sup>4</sup> IDG News, Global Chip Sales Remain Hot, 2 October 2007

<sup>5</sup> Svenska dagbladet, Nokia utklassar i telekomkampen, 18 October 2007.

<sup>6</sup> Svenska Dagbladet, Prissras på mobiler slår hårt mot Sony Ericsson, 12 October 2007.

<sup>7</sup> ILO, The production of Electronic Components for the IT Industries: Changing Labour Force Requirements in a Global Economy, Geneva, 2007.

### 1.1. METALS USED IN OUR EVERYDAY PRODUCTS

The channels through which the metals such as platinum, tin and cobalt end up in consumer electronics are numerous. Some metals go through commodity exchanges, trade associations and trade houses or agents, mostly located in large cities of developed countries such as the UK and the US. Others are being exported directly by mining or processing companies to chemical companies that supply manufacturers of electronics components.

Products like laptops, mobile phones, games, MP3 players and webcams contain a substantial amount of metals. Amongst the most important in terms of volume are aluminium, iron, copper, nickel and zinc. However, other metals that are only used in very small amounts, such as beryllium, indium, tantalum and the platinum group of metals, are also essential for today's consumer electronics.<sup>8</sup>

It has been estimated that metals constitute 25 percent of a mobile phone's weight, batteries and battery chargers excluded.<sup>9</sup> The biggest variety of metals is found in the circuit board; About one-third of the circuit board is likely to be metal, another third is ceramic and glass and the remaining third is plastic.<sup>10</sup>

This project's review shows that the electronic industry is a significant consumer of some of these metals. During the last 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 products are getting smaller and smaller, strong materials such as beryllium/copper alloys are required, that are able to cope with higher temperatures and dissipate the heat fast. As such, beryllium/aluminium alloys are becoming increasingly important in hard disc drives.<sup>11</sup> The US consumes 50 percent of the world's beryllium production, of which 45 percent is used in computer and telecommunication products.<sup>12</sup>

In 2006, demand for beryllium alloys for the aerospace, automotive electronics, computer and telecommunications industries was strong.<sup>13</sup> The telecommunications and computer markets are expected to grow the fastest in terms of consumption of beryllium/copper

---

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

<sup>9</sup> Recycled Cell Phones - A Treasure Trove of Valuable Metals. U.S. Geological Survey, Fact Sheet 2006-3097. July 2006.

<sup>10</sup> Dirty Metals. 2004. A report and Earthworks and Oxfam America. p. 28

<sup>11</sup> McNeil, D. Beryllium, Roskill Mineral Services. Available at [www.mmta.co.uk/economicsFacts/Articles/MiningJournalReview/Beryllium.pdf](http://www.mmta.co.uk/economicsFacts/Articles/MiningJournalReview/Beryllium.pdf)

<sup>12</sup> McNeil, D. Beryllium, Roskill Mineral Services and Shedd, K. (2007) Beryllium. U.S. Geological Survey, Mineral Commodity Summaries, January 2007.

<sup>13</sup> Shedd, K. (2007) Beryllium. U.S. Geological Survey, Mineral Commodity Summaries, January 2007

alloys. Demand for beryllium oxide ceramics is expected to rise due to ever more powerful computer chips generating larger amounts of heat that quickly must be dissipated.<sup>14</sup>

**COBALT** In 2006, rechargeable batteries used in products like mobile phones, MP3 players, laptops, digital cameras and game products accounted for a quarter of the world's total cobalt consumption, and this demand is expected to increase.<sup>15</sup> Last year's increased demand for cobalt has largely been driven by the consumer electronics sector. Among other things, cobalt is needed in magnets, speakers, headphones and media coatings for hard disc drives.<sup>16</sup>

**GALLIUM** The behaviour of gallium prices has largely tracked the mobile phone market during the last years. The largest market for gallium/arsenic devices is in mobile phones. Among other things, the metals is used in power amplifiers, keypad backlighting and camera flashes of mobile phones. It is estimated that more than 80 percent of all mobile phones will include a camera by 2011.<sup>17</sup>

**INDIUM** World consumption of indium is increasing strongly because of a strong demand for laptop computers, flat-panel televisions, and other devices, such as cellular phones, which contain flat-panel displays.<sup>18</sup> Indium is also used in high efficiency transistors, which are fundamental building blocks of the circuitry in computers, mobile phones, and other modern electronic devices.<sup>19</sup>

**PALLADIUM** In 2006, the electronics industry accounted for 15 percent of the world's palladium consumption.<sup>20</sup> Mobile phone producers accounted for roughly half of this percentage.<sup>21</sup> Most of the consumed palladium was used in multilayer ceramic capacitors (MLCCs). Palladium can also replace other more expensive or environmentally hazardous metals like gold, lead and platinum.<sup>22</sup> Smaller amounts of palladium are used for plating connectors and lead frames.<sup>23</sup>

---

<sup>14</sup> [www.mmta.co.uk/economicsFacts/Articles/MiningJournalReview/Beryllium.pdf](http://www.mmta.co.uk/economicsFacts/Articles/MiningJournalReview/Beryllium.pdf)

<sup>15</sup> Avicenne Développement, *The Rechargeable Battery Market 2006-2015*, 16<sup>th</sup> Edition, September 2007.

<sup>16</sup> Cobalt Development Institute, [www.cdi.com](http://www.cdi.com) and information from brand companies.

<sup>17</sup> Kramer, D. (2007) Gallium. U.S. Geological Survey, Mineral Commodity Summaries, January 2007

<sup>18</sup> Callaghan, R. & Carlin, J. (2007) Indium. U.S. Geological Survey Minerals Yearbook 2005

<sup>19</sup> Behrendt, S. et al. (2007) Rare metals. Federal Environmental Agency (Umweltbundesamt) pub. 23/07, p. 57 and <http://en.wikipedia.org/wiki/Transistor>

<sup>20</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

<sup>21</sup> Own estimation based on figures in Recycle Cell Phones – A Treasure Trove of Valuable Metals and U.S. Geological Survey, Fact Sheet 2006-3097. July 2006.

<sup>22</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

<sup>23</sup> [www.platinum.matthey.com/](http://www.platinum.matthey.com/)

**PLATINUM** In 2006, the global consumption of platinum in electronics increased by 18 percent, to 6 percent of the world's total consumption, owing to increases in hard drive manufacturing.<sup>24</sup> The metal is also needed to produce flat screens and liquid crystal displays glass used in laptops and some types of flat screen televisions.<sup>25</sup>

**RUTHENIUM** In 2006, global consumption of ruthenium increased by 45 percent, owing to a 78 percent increase of demand from the electronics industry. A new type of computer hard drive contributed significantly to this growth. Within the electronics industry, ruthenium is also used in chip resistors and flat screen displays.<sup>26</sup>

**RARE EARTHS** Rare earths is a group of 17 elements. Demand for rare-earth products was strong within the display, magnetics and electronics industries.<sup>27</sup> Miniaturisation of consumer electronic devices is one global trend that is strongly influencing the demand for rare-earths. Neodymium and lanthanum are for example used in MLCCs found in cell phones, laptop computers, cameras and automobile electronic controls, which also depend on high-intensity rare-earth magnets.<sup>28</sup>

**TANTALUM** Tantalum is used in the manufacturing of capacitors mainly used in mobile phones, computers, digital cameras, hearing aids, cardiac pacemakers and automotive electronics (ABS, GPS, ignition systems). The trend towards miniaturisation contributes largely to the increased demand for tantalum.<sup>29</sup>

**TIN** Tin is used in solders for printed circuit boards and other components. It has become a hot commodity after new European environmental regulations came into force, requiring the global electronics industry to replace lead. Traditional solder is an amalgam of 63 percent tin and 37 percent lead, but lead-free solder is composed of almost 95 percent of tin. The switch to tin has significantly contributed to the increased global tin prices in recent years.<sup>30</sup> Presently 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.<sup>31</sup>

---

<sup>24</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

<sup>25</sup> Platinum 2007. Johnson Matthey. [www.platinum.matthey.com/uploaded\\_files/2007/07\\_platinum.pdf](http://www.platinum.matthey.com/uploaded_files/2007/07_platinum.pdf) and George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006.

<sup>26</sup> Ibid.

<sup>27</sup> [www.mmta.co.uk/economicsFacts/Articles/MiningJournalReview/RareEarths.pdf](http://www.mmta.co.uk/economicsFacts/Articles/MiningJournalReview/RareEarths.pdf)

<sup>28</sup> Ibid.

<sup>29</sup> Behrendt, S. et al. (2007) Rare metals. Federal Environmental Agency (Umweltbundesamt) pub. 23/07, p. 22

<sup>30</sup> Cox, S. AlterNet.org, September 14, 2006, [www.texasenvironment.org/news\\_story.cfm?IID=288](http://www.texasenvironment.org/news_story.cfm?IID=288)

<sup>31</sup> ITRI, New ITRI Statistics Demonstrate Strength of Tin Demand, 2 Feb 2006, available at [www.itri.co.uk/pooled/articles/BF\\_NEWSART/view.asp?Q=BF\\_NEWSART\\_197290](http://www.itri.co.uk/pooled/articles/BF_NEWSART/view.asp?Q=BF_NEWSART_197290) and The Star, Strong Appetite for Tin in China, available at <http://biz.thestar.com.my/news/story.asp?file=/2007/5/14/business/17707272&sec=business>

## **1.2. METALS EXTRACTED IN HIGH-RISK COUNTRIES**

Metals are extracted all over the world, but mostly in high-risk countries such as China, Russia and various African countries. The so-called ‘resource curse’ explains the paradox that countries rich of natural resources tend to experience less economic growth than countries without such natural wealth. One of the several reasons for such trends to occur is that countries that are largely depending on their mining sector are highly subject to fluctuating world prices. Many of them have failed to diversify their economies and big flows of revenues tend to fuel political and economic corruption. Natural resources may also provoke or prolong conflicts within and between societies.

### **MAJOR PRODUCING COUNTRIES OF SELECTED METALS**

| <b>Metal</b>     | <b>Major producers (in descending order)</b>                            |
|------------------|---|
| <b>Beryllium</b> | <b>US, China</b>  |
| <b>Cobalt</b>    | <b>DRC, Zambia, Australia, Canada, Russia, Cuba</b>                     |
| <b>Gallium</b>   | <b>China, Germany, Japan, Ukraine</b>                                   |
| <b>Palladium</b> | <b>Russia, South Africa, Canada, US</b>                                 |
| <b>Platinum</b>  | <b>South Africa, Russia, Canada, US</b>                                 |
| <b>Ruthenium</b> | <b>South Africa, Russia, Canada, Zimbabwe</b>                           |
| <b>Tantalum</b>  | <b>Australia, Brazil, Mozambique, Canada, Ethiopia, Rwanda, the DRC</b> |
| <b>Tin</b>       | <b>China, Indonesia, Peru, Bolivia, Brazil /.../ the DRC</b>            |

## **1.3. ISSUES CONNECTED TO THE EXTRACTIVES INDUSTRY IN DEVELOPING COUNTRIES**

The research within makeITfair, of which this report is part, focuses on mining activities in developing countries, where mining operations are mostly owned by foreign enterprises. These foreign companies create needed jobs and income, but their investments come with several downsides as well. Environmental degradation, labour issues and human rights violations are among these. In some places, these activities contribute to ongoing tensions and conflicts. The income from extraction and processing of metals may even fuel war. This is for example still the case in the eastern parts of the Democratic Republic of the Congo at the moment.

Poor communities often complain that mining companies do not sufficiently contribute to the welfare of the population. Several governments have granted companies reductions in taxes, which tend to attract foreign investments but reduces state revenues that could be spent on much needed development programs in their country.

**ENVIRONMENTAL ISSUES<sup>32</sup>**

Mining operations have always impacted the environment, but recent operations are increasingly open pit mines that simply blast away the soil in search of the metals, destroying the environment in the process. Mining of metals is producing an enormous amount of waste, as the intended metal only accounts for a very small percentage of the total extracted mass. For example, 1 ton of copper produces 110 ton of waste and 200 tons of overburden – created by blasting away the soil and rock. The huge amounts of waste generated by these mining processes can contain toxic substances as arsenic and lead. The toxic substances are either contaminants of the ore or are introduced to extract the ore, leading to contamination of the environment, including the water, with a huge impact on the surrounding communities. When companies close down their mining operations, they often do so without cleaning up the land. And governments in many developing countries have not required guarantees to do so from the mining companies. Even in the cases where such guarantees have been agreed upon, problems such as shortfalls of such guarantees or the bankruptcy of the mining company can leave the government with a pile of toxic waste and various huge expenses. One of the major problems involves the accountability of mining companies for collective impacts on air, surface and underground water resources, as they are notoriously difficult to attribute to single producers.

Regulation in the EU, such as RoHS, is restricting the use of hazardous substances in electronics. Substances like lead, cadmium and mercury, too hazardous to be allowed for use in consumer electronics, are frequently either introduced in mining operations to extract the metal sought or are contaminants of metals such as zinc and copper and are released by mining. Workers are frequently exposed to such hazardous substances when extracting and processing metals and the soil, water and surrounding communities are gravely affected by the introduction of these substances into the environment. Smelters, further processing the ore, pollute the air which has far-reaching effects on a wider surrounding area.

**HUMAN RIGHTS**

In some instances, the mining for extractives has contributed to violent conflicts and has corrupted officials and governments. It is ironic that high-priced resources are often extracted in areas where populations suffer wars but do not reap any of the benefits. There are examples of mining companies' involvement in violent repression of protesting communities, both by actual involvement and by providing materials to army or police. Furthermore, mining companies are putting enormous pressure on local communities to relocate from their lands, sometimes without offering ample compensation to cover for the loss of houses, farming lands and livelihood. Through environmental degradation the

---

<sup>32</sup> Based on Earthworks and Oxfam America (2004), Dirty Metals. Mining, communities and the environment

communities can rapidly lose their means of survival and this is often not taken into account when offering compensation. As described by the Framework for Responsible Mining, important steps in the process of starting a mining operation include the consultation of communities prior to the mining operation. A second prerequisite is the so-called “free, prior and informed consent”, which entails the full participation of stakeholders groups when the mining operations affect their rights and lands.<sup>33</sup> However, due to the difficult technical nature of assessing a mine’s impact on local communities, their right of free, prior and informed consent is often poorly implemented.

Other issues include the vast amounts of electricity, water and other utilities needed for mining operations. Companies can easily out-compete communities to cover their needs, leaving the communities with more difficult access to such basic necessities. Also, migrant workers, brought in by mining companies, might create distortion of social relations and other problems such as shortage of housing.

#### **WORKING CONDITIONS**

Working conditions are often poor in the mining industry with dangerous and unhealthy working environments. Workers are often not equipped with protective gear, nor do they receive ample health and safety instructions. Occupation diseases are rampant. High production targets can lead to unsafe actions and behaviour as well as slack safety measures that cause accidents in the mines, killing or injuring miners. According to Communities and Small-Scale Mining, between 1 to 1.5 million children are working in the mining industry today, mostly out of economic necessity.<sup>34</sup> Some children work during school holidays, while others have dropped out of school to earn money for their families.

Contract workers make up an increasingly significant part of the labour force, employed through local employment agencies and external contractors. These temporary workers often earn less than permanent workers and they often do not benefit from extra allowances and bonuses. It comes as no surprise that miners are often not earning enough to make a living or to provide enough food and decent shelter and education for their families. Moreover, they often lack health and safety training. They also do not benefit from collective agreements between the mining company and its own permanent employers.

At present around 13 million people work in small mines throughout the world, most of them in developing countries.<sup>35</sup> The vast majority continue to live in poverty. Most

---

<sup>33</sup> <http://www.frameworkforresponsiblemining.org/>

<sup>34</sup> CASM referred to in Svenska Dagbladet, *Guldrusch*, 21 October 2007.

<sup>35</sup> [http://www.iied.org/mmsd/mmsd\\_pdfs/artisanal.pdf](http://www.iied.org/mmsd/mmsd_pdfs/artisanal.pdf)

Congolese artisanal miners earn between US\$1-3 per day, irrespective of whether they mine diamonds, gold, copper, coltan, cobalt or cassiterite. Artisanal mining encompasses dangerous practices such as unstable open pits, unsupported deep shafts and galleries where diggers may remain underground for days; child labour, rapid and high levels of migration between sites with significant community impacts, social disruption, environmental devastation, health concerns, debt-bonding, *et cetera*<sup>36</sup>.

The living conditions of mine workers in developing countries are in many ways precarious. Temporary workers never know the duration of their current position. Because of the temporary nature of their employment, this group is often not organised. Many miners – mostly men - work far away from their hometowns, their family and friends. They are often housed in dormitories in secluded areas, with various problems, such as alcohol abuse as well as sexual transmitted diseases such as HIV/AIDS. The mining industry is notorious for its high rates of HIV infection, and migrant labour is contributing to the spreading of the disease when they return home infected.

#### **1.4. RESPONSIBILITY AND ETHICAL GUIDELINES**

Increasingly, electronics companies participate in branch initiatives. They subscribe to ethical guidelines for the industry and most have adopted individual codes of conduct. Most of the codes and guidelines address responsibility for the whole chain of production, but the reality is different. As said, most brand companies of consumer electronics only address problems related to the top of the supply chain. So far the industry has not taken any measures to integrate mining of metals in their social or environmental responsibility efforts<sup>37</sup>.

In October 2004 the Electronics Industry Code of Conduct (EICC) was developed by three leading brands and five contract manufacturers<sup>38</sup>. The code addresses issues like Labor, Health and Safety, Environment, Management System and Ethics; “The Electronic Industry Code of Conduct outlines standards to ensure that working conditions in the electronics industry supply chain are safe, that workers are treated with respect and dignity, and that manufacturing processes are environmentally responsible”<sup>39</sup>. The code is currently, in

<sup>36</sup> D’Souza, Kevin (2007). Artisanal Mining in the DRC. Briefing note, prepared for discussion at the DRC Donor Coordination Meeting by Wardell Armstrong LLP. p. 5

<sup>37</sup> Just before the publication of this report, Hewlett Packard informed SOMO 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. During finalization of this report, it was unclear how the company will proceed with the results. In November 2007, branch initiative EICC/GeSI also informed SOMO that it had commissioned a study to further investigate how metals are extracted, purchased and used within the electronics industry. Svenska Dagbladet, *Expansion krympet Motorolas vinst*, the 20th of Jan 2007

<sup>38</sup> The EICC was then adopted by HP, Dell, IBM and five contract manufacturers (Solectron, Sanmina-SCI, Jabil, Celestica and Flextronics.)

<sup>39</sup> [http://www.eicc.info/downloads/EICC\\_English.pdf](http://www.eicc.info/downloads/EICC_English.pdf)

October 2007, undersigned by 30 companies. The EICC Implementation Group (EICC IG) was formed in early 2005 as a collaborative effort to develop and deploy a common implementation approach around the EICC. The objective is to make it more efficient for suppliers to align to a single set of standards. The group also develops tools to assist member firms in code implementation.

Another industry initiative is the Global e-Sustainability Initiative (GeSI). GeSI was established by a group of five telecommunications firms<sup>40</sup> and now has 21 member companies, with some overlap with the EICC. GeSI aims to influence the sustainability debate, inform the public of its members' voluntary actions to improve their sustainability performance and to promote information and communicate technologies that foster sustainable development<sup>41</sup>.

The GeSI Supply Chain Working Group has signed a memorandum of understanding in conjunction with the Electronic Industry Code of Conduct Implementation Group and joined forces in 2005 to “develop and deploy a consistent set of tools and processes to measure, monitor and improve supply chain CSR performance across the Information and Communications Technology sector.” The EICC IG and GeSI aims to achieve this objective through the coordination of activities that are common to each group’s strategic plan.<sup>42</sup>

The codes adopted by individual companies as well as the EICC code and GeSI initiatives, could well be revisited to make sure that they include the environmental, human rights and labour conditions at the level of extracting the metals. The initial responsibility taken for the supply chains is a start, but it is important that the codes are revised to include the specific issues, down to the whole chain of production, including the extractives level. More efforts are necessary to make sure that conditions will indeed improve, down the whole supply chain of the games consoles, the smart phones, and the laptop computers.

The reality of mine workers and communities in developing countries show that there is much left to be done. SOMO, FinnWatch and SwedWatch have investigated the supply chains and conditions behind the production of several metals that are essential for consumer electronics products; Platinum Group Metals (PGMs), tin, tantalum and cobalt.

---

<sup>40</sup> British Telekom, Nokia, Deutsche Telekom and Vodafone

<sup>41</sup> GeSI Progress Report 2005 ‘Contributing to a more sustainable knowledge economy’, France 2005, p.4

<sup>42</sup> GeSI stakeholders meeting in Berlin, April 2005

## 2. SUPPLY CHAIN MANAGEMENT OF BRAND 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.

*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.<sup>43</sup>

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.<sup>44</sup>

*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 “participants 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”.<sup>45</sup>

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.<sup>46</sup> 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

---

<sup>43</sup> OECD Guidelines for Multinational Enterprises, article 2:11.

<sup>44</sup> Global Compact, subtext to the first principle.

<sup>45</sup> EICC's Code of Conduct.

<sup>46</sup> 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. IBM indicated that they no longer produce any of the products mentioned in the text. They were, however, represented in the common response of the EICC.

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 E-Sustainability Initiative (GeSI)<sup>47</sup>.

### **2.1. 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 SOMO 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.

### **2.2. 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.*<sup>48</sup>

---

<sup>47</sup> 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.

<sup>48</sup> Response received the 7th of April 2007.

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 to avoid including 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 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.<sup>49</sup>

### **2.3. SOCIAL AND ENVIRONMENTAL PURCHASING CRITERIA**

In most cases suppliers further up 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 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 conduct such audits.

*"We find that some suppliers lack 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 harmonize 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

---

<sup>49</sup> Statement letter submitted to SwedWatch 16 November 2007

**Table 1: Overview of the outcome of the questionnaire**

| <b>COMPANY NAME</b> | <b>DID THE COMPANY ANSWER THE QUESTIONNAIRE?</b> | <b>DOES THE COMPANY KNOW WHERE THE METALS INCLUDED IN ITS PRODUCTS HAVE BEEN EXTRACTED?</b> | <b>DOES THE COMPANY THINK THAT THE EXTRACTION OF METALS LIES WITHIN ITS SPHERE OF INFLUENCE?</b> | <b>DID THE COMPANY GIVE OUT NAMES OF THEIR COMPONENT SUPPLIERS?</b> |
|---------------------|--|---|--|---|
| 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.*

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.

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

### **3. PLATINUM GROUP METALS USED IN ELECTRONICS**

The focus of this report is on the Platinum Group Metals (PGMs), which are used in the automotive, jewellery, chemicals and electronics sector. PGMs includes platinum, palladium, rhodium, ruthenium, osmium, and iridium, and are currently recovered from three sources: primary PGM deposits; as byproducts of nickel and copper recovery; and from secondary (recycled) resources.

#### **3.1. PALLADIUM (PD)**

Palladium global sales amounted to 231,000 kg in 2006, a 7% decrease from 2005. The decrease was driven by the jewellery industry purchasing 30% less than the year before. The decrease was partially offset by growth in the use of palladium in autocatalysts and electronics. Global mine output of palladium climbed to 224,000 kg, with Russia and South Africa accounting for 44% and 38% of the total, respectively.<sup>50</sup>

Palladium is mainly used in autocatalysis (125,000kg, or 54%, in 2006). Since palladium is more than three times cheaper than platinum, many autocatalysts manufacturers have switched to palladium. In the US, autocatalysts accounted for 55 % of platinum consumption, and 54 % of palladium consumption in 2006.<sup>51</sup> The electronics industry consumed 33,000kg of palladium in 2006 (14% of total demand), an increase of 10% compared to the year before. Other uses of palladium include jewellery manufacture (30,000 kg, or 13%), dental alloys (25,000 kg, or 11%), and chemical industry (13,000 kg, or 6%)

Most of the palladium consumption in the electronics industry is used in multilayer ceramic capacitors (MLCCs), which are used in all types of electronic goods. MLCCs are passive components used in computers and other consumer electronics devices, and production volumes of all types of MLCC continue to grow at a great pace and exceeded one trillion in 2006.<sup>52</sup>

Palladium replaces other more expensive or environmentally hazardous metals in electronic products, such as gold, lead, and platinum.<sup>53</sup> Palladium-containing components are used in virtually every type of electronic device, from basic consumer products to complex military hardware. Although each component contains only a fraction of a gram of metal, the sheer volume of units produced results in significant consumption of palladium.

---

<sup>50</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

<sup>51</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

<sup>52</sup> Platinum 2007. Johnson Matthey. <http://www.platinum.matthey.com/>

<sup>53</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

For example, it has been estimated that the amount of palladium in a single mobile telephone handset is 0.015 g. Mobile phone sales reached a total of 1 billion units in 2006, accounting for approximately 15,000kg (6% of total demand and almost half of the palladium consumption of the electronics industry) of palladium.

Smaller amounts of palladium are used in conductive tracks in hybrid integrated circuits (HICs), plating connectors and lead frames. The automotive industry is the largest market for HICs. The connectors linking various components of personal computers are plated with a conductive layer of precious metal, such as gold and palladium. Palladium is used as an alternative plating material to gold for connectors as it has a lower density and therefore a coating of similar thickness requires less weight of the metal.<sup>54</sup>

In the electronics sector, component sales are expected to increase. Increased demand for palladium, however, will be somewhat offset by a combination of miniaturization and the substitution of palladium by nickel and silver in multilayer ceramic capacitors.<sup>55</sup> Nickel has substituted palladium in many types of MLCC in recent years. However, with plant utilisation rates high, few manufacturers had the opportunity to switch to nickel-using technology in their production. Some producers have even added palladium MLCC capacity, increasing overall palladium consumption in this sub-sector for the first time in six years. Palladium usage in the plating of electronic components also fared well in 2006.

Environmental factors also had a significant effect on the uptake of palladium by the electronics industry in 2006. The pressure to move to cleaner manufacturing processes and to recycle a greater proportion of electronic products continues to grow all round the globe. In Europe, the WEEE directive came into force in 2006. Other countries are also considering implementing similar rules in the near to medium-term. Palladium has found some use as an alternative plating material on lead frames for this reason.<sup>56</sup>

### **3.2. PLATINUM (PT)**

In 2006, global platinum sales were about 239,000kg, a 3% increase compared with that of 2005, while global mining output was estimated at 221,000kg. Increased sales of diesel cars in Europe and tighter emission regulations combined to increase the consumption of platinum in autocatalysts with 11%, to 130,000 kg. The global consumption of platinum in jewellery was 49,900 kg and 11,200kg in chemical catalysts. The global consumption of platinum in electronics increased by 18% in 2006, to 13,300 kg (6% of world total).<sup>57</sup>

---

<sup>54</sup> [Http://www.platinum.matthey.com/](http://www.platinum.matthey.com/)

<sup>55</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

<sup>56</sup> Platinum 2007. Johnson Matthey. <http://www.platinum.matthey.com/>

<sup>57</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

Continuing rapid expansion in hard disk manufacturing was the most important factor, consuming 6,900 kg.<sup>58</sup> The consumer electronics industry had a good year in 2006, with computer sales rising 10%, boosting the number of hard disks needed. Platinum use in the magnetic recording layer of hard disks rose in line with the volumes of hard disks shipped; these climbed by more than 15 %, to a global total of over 400 million.<sup>59</sup> Today, all hard disks contain platinum in their magnetic layers. The proportion of platinum in the magnetic alloy has increased steadily over time, from less than 10% in 2002 to over 35% on average today.

Hard disks using perpendicular magnetic recording technology have started to gain market share - these use similar recording media as conventional hard disks, maintaining the platinum content per disk. As the number of hard disks per device are rising, the platinum content of an average consumer electronics product is increasing. On the other hand, flash memory seems to be gaining in the portable device market, replacing the small one inch hard disks. As no platinum is used in flash memory, this development can limit net growth rates.<sup>60</sup>

Purchases of platinum for use in thermocouples in the semiconductor and glass industries also rose, supported by strong consumer electronics sales and continuing expansion of capacity of flat screen display production. Electroplating of electronic components, often applied to provide corrosion resistance, also continues to represent a sizeable part of the electronic sector's demand for the metal.<sup>61</sup> Platinum consumed in the production of liquid crystal display (LCD) glass and other glasses increased by 8% in 2006, to 12,000 kg. Most of this increased consumption came from increased capacity in the LCD industry in Asia.<sup>62</sup>

### **3.3. RHODIUM (RH), RUTHENIUM (RU) AND IRIIDIUM (IR)**

Global rhodium consumption in 2006 rose by 4 % to 31,000 kg compared with that of 2005. A majority of this, 86 % in 2006, was used in the production of autocatalysts. Other uses of rhodium were, in descending order, LCD glass manufacturing, chemicals, electrical applications, and jewellery.<sup>63</sup>

Demand of rhodium from the glass industry was strong in 2006, rising 5% to 1,700 kg. Demand was highest for flat panel display glass and although there appears to be overcapacity for LCD glass manufacture, 2006 still saw significant expansions with new

---

<sup>58</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

<sup>59</sup> Platinum 2007. Johnson Matthey. <http://www.platinum.matthey.com/>

<sup>60</sup> Platinum 2007. Johnson Matthey. <http://www.platinum.matthey.com/>

<sup>61</sup> Platinum 2007. Johnson Matthey. <http://www.platinum.matthey.com/>

<sup>62</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

<sup>63</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

plants being constructed in Asia, thus driving rhodium demand higher. The market share of flat panel displays for televisions and computers continues to increase.<sup>64</sup>

Ruthenium demand was mostly fuelled by the electronics industry, with substantial uptake for use in chip resistors, flat screen displays plasma display panels (PDP) and hard disks. Global consumption of ruthenium increased by 45% to 40,100 kg in 2006 due to a 78% increase [to 19,500 kg] in consumption in the electronic industries in 2006. A new type of computer hard drive, the perpendicular magnetic recording (PMR), accounted for a significant portion of the increases in consumption. Some of the other uses for ruthenium are conductive paste used in resistor components, plasma display panels, jewellery, and chemical processors.<sup>65</sup>

Manufacturers have moved to minimise ruthenium usage in PDPs, leaving metal consumption lower.<sup>66</sup>

In contrast, the use of ruthenium in the manufacture of hard disks has become significant. Although ruthenium was used in disks before, it is deposited on newer types of hard disks to increase memory storage capacity. Most producers switched their production to this new technology in 2006, leading to a surge in demand for ruthenium. A large proportion of the metal used in the hard disk manufacturing process is recycled for re-supply to the hard disk producer.<sup>67</sup>

The iridium market was rather slower moving and demand only grew by 2% to 3.700 kg. Iridium demand rose slightly during 2006. Its use in process catalysts climbed to 1 kg. Demand for iridium crucibles to produce high-quality crystals for electronics fell back to 0.8 kg.<sup>68</sup>

---

<sup>64</sup> Platinum 2007. Johnson Matthey. <http://www.platinum.matthey.com/>

<sup>65</sup> George, M. (2007) Platinum Group Metals. U.S. Geological Survey Minerals Yearbook 2006

<sup>66</sup> Platinum 2007. Johnson Matthey. <http://www.platinum.matthey.com/>

<sup>67</sup> Platinum 2007. Johnson Matthey. <http://www.platinum.matthey.com/>

<sup>68</sup> Platinum 2007. Johnson Matthey. <http://www.platinum.matthey.com/>

## 4. INTERNATIONAL TRADE

The metals used in electronics are not usually mined at the same location where the electronic products are produced. Rather, they are imported, processed, exported and re-exported, making the supply chain a long and complex one. While there is a lot of mining activity in China, the electronics industry makes use of a lot of metals and minerals mined in Africa and elsewhere. Most of the metals, including the researched PGMs, undergo a number of stages of processing before they are used in the production of electronic parts. This processing is partially done by the mining companies themselves, while the specialty chemical industry also plays a role.

This chapter gives an overview of how the metals are traded internationally, and gives an insight in the chain that links the extractive industry with the electronics industry by exploring an exemplary link from the mining stage up to the electronics production.

The large majority of PGM mining takes place in South Africa and Russia. South Africa is the world's leading supplier of platinum, supplying 150,000 kg. in 2006, of a total global supply of 192,000 kg.<sup>69</sup> Global supply exceeded global demand in 2006 for the first time since 1998 as a result of South Africa's increase in production.

Russia accounts for almost half of the global supply of Palladium. Supply decreased with 16% in 2006, to 111,000 kg. South African supply has grown steadily with an increase of approximately 28,000 kg. in 2006 compared to figures for 1997.

In South Africa, there are a number of large mining companies who control the production of platinum, palladium, ruthenium and rhodium. The largest production company is Anglo Platinum, a subsidiary of Anglo American Plc.. Other large companies active in PGMs in South Africa include Impala Platinum, Lonmin, Northam and Aquarius Platinum.<sup>70</sup> In Russia, Norilsk Nickel is the dominating PGMs producer. As described in more detail in chapter 5, the major source of South African platinum is the mines in the Bushveld Igneous Complex (BIC).

According to the United Nations Comtrade Database, South Africa exported almost 320,000Kg. of PGMs in 2006.<sup>71</sup> This figure includes export of unwrought platinum,

---

<sup>69</sup> Johnson Matthey, Supplies, Mining & Exploration, no date, [http://www.platinum.matthey.com/uploaded\\_files/2007/07\\_supplies.pdf](http://www.platinum.matthey.com/uploaded_files/2007/07_supplies.pdf) (20-09-07).

<sup>70</sup> Johnson Matthey, Platinum 2007, [http://www.platinum.matthey.com/uploaded\\_files/2007/complete\\_publication.pdf](http://www.platinum.matthey.com/uploaded_files/2007/complete_publication.pdf) (20-09-07).

<sup>71</sup> UN Comtrade Database, Query Result, <http://comtrade.un.org/db/dqBasicQueryResults.aspx?cc=7110&px=H2&r=260,%20290,%20472,%20577,%20710&cy=2006&p=0&rg=2&so=9999> (20-09-07).

unwrought other PGMs and semi-processed PGMs. It should be noted that no trade data was available for Russia. When not taking Russia into account, South Africa is by far the largest exporter of PGMs, while Switzerland, USA, UK and Germany complete the top 5 (see Table 1).

**Table 1: global export figures of PGMs (2003-2006)**

| REPORTER TITLE  | TRADE VALUE      |
|-----------------|------------------|
| South Africa    | \$21,270,021,606 |
| Switzerland     | \$8,104,119,467  |
| USA             | \$8,000,260,692  |
| United Kingdom  | \$7,587,695,507  |
| Germany         | \$6,780,088,000  |
| Other reporters | \$7,493,378,595  |

*Total Export: \$59,235,563,867 (source: UN Comtrade)*

As shown in Table 2, The United States and Japan are the largest importing countries, most likely due to their large car production industry. Switzerland, Germany and China are other large importers.

**Table 2: global import figures of PGMs (2003-2006)**

| REPORTER TITLE       | TRADE VALUE      |
|----------------------|------------------|
| USA                  | \$15,865,283,580 |
| Japan                | \$11,519,783,641 |
| Switzerland          | \$9,684,883,916  |
| Germany              | \$7,524,102,000  |
| China, Hong Kong SAR | \$4,189,939,141  |
| Other reporters      | \$16,364,691,257 |

*Total Import: \$65,148,683,535 (source: UN Comtrade)*

South Africa only exports approximately 1% of its total platinum exports directly to China, who imports most of its PGMs from Switzerland. Switzerland seems to be playing the role of middleman, stockpiling large quantities of PGM in its vaults, and trading the minerals to end users through its exchanges.<sup>72</sup> Table 3 shows South Africa's export figures, while Table 4 shows China's import figures.

<sup>72</sup> See for example <http://www.miningmx.com/platinum/812987.htm>.

**Table 3: South Africa's exports of PGMs (2003-2006)**

| <b>PARTNER TITLE</b> | <b>TRADE VALUE</b> |
|----------------------|--------------------|
| Japan                | \$7,056,986,105    |
| USA                  | \$6,142,279,535    |
| Switzerland          | \$2,997,440,634    |
| Germany              | \$2,015,264,808    |
| United Kingdom       | \$1,894,921,896    |
| Other partners       | \$1,163,128,628    |

(source: UN Comtrade)

**Table 4: China's imports of PGMs (2003-2006)**

| <b>PARTNER TITLE</b> | <b>TRADE VALUE</b> |
|----------------------|--------------------|
| Switzerland          | \$2,497,386,534    |
| Japan                | \$766,843,314      |
| South Africa         | \$350,642,047      |
| Germany              | \$232,701,640      |
| Russian Federation   | \$139,096,779      |
| Other partners       | \$203,268,827      |

(source: UN Comtrade)

There are PGM-specific trade and business associations. The London Platinum and Palladium Market (LPPM) is a trade association that trades the two metals in London and Zurich.<sup>73</sup> Members include mostly financial institutions and PGM manufacturers. The most important role of the LPPM is the fixing of daily trading prices, which is based on the stocks of PGM plates and ingots in Zurich's vaults.<sup>74</sup>

There are a number of large PGM trading and manufacturing companies active on the world market. Johnson Matthey is one of the largest PGM marketer and distributor. Its activities comprise of marketing for Anglo Platinum, and the refining and recovery of platinum from used catalysts, among other things. Other companies that are involved in trading and processing metals for the electronic industry include Umicore, based in Belgium, Engelhard, based in the US, W.C. Heraeus from Germany and Ishifuku from Japan. All these companies are also listed as Anglo Platinum's major customers.<sup>75</sup> A number of these companies have subsidiaries in China whose business activities relate to the production of

<sup>73</sup> See <http://www.lppm.org.uk/>

<sup>74</sup> Johnson Matthey website, Trading Glossary, London Platinum & Palladium Market Fixings, no date, [http://www.platinum.matthey.com/pgm\\_prices/1048091126.html](http://www.platinum.matthey.com/pgm_prices/1048091126.html) (20-09-07).

<sup>75</sup> Anglo Platinum website, Operations, Investments/Stakeholding, no date [www.angloplatinum.com](http://www.angloplatinum.com) (20-09-07).

electric and electronic equipment. For example, W.C. Heraeus has a number of subsidiaries in China who produce gold bonded wires for all the large electronic manufacturers.<sup>76</sup>

Johnson Matthey provides some clear market data on their website. According to their categories, the category “rest of the world”, which includes China, is where the largest import of platinum for uses in electrical and glass products (see Table 5) takes place. The same goes for the use of palladium in electronics.

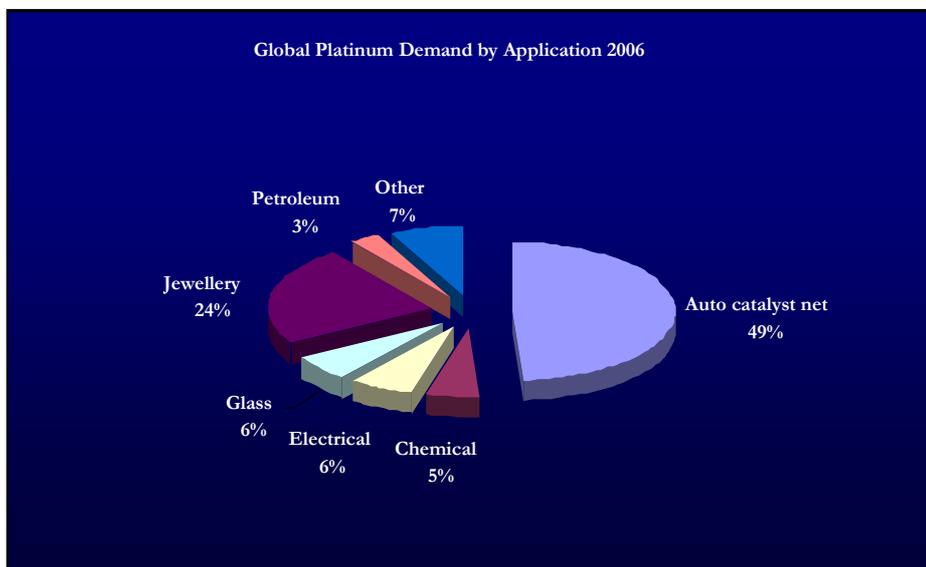
**Table 5: demand of PGMs**

| <b>TONNES *</b>          | <b>2002</b> | <b>2003</b> | <b>2004</b> | <b>2005</b> | <b>2006</b> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| <b>Platinum</b>          |             |             |             |             |             |
| <i>Europe</i>            |             |             |             |             |             |
| Electrical               | 1,2         | 1,1         | 1,2         | 1,2         | 1,4         |
| Glass                    | 0,3         | 0,3         | 0,2         | 0,3         | 0,3         |
| <i>Japan</i>             |             |             |             |             |             |
| Electrical               | 1,7         | 1,2         | 1,6         | 2,0         | 2,3         |
| Glass                    | 1,9         | 2,7         | 2,8         | 2,9         | 3,1         |
| <i>North America</i>     |             |             |             |             |             |
| Electrical               | 3,0         | 2,6         | 2,8         | 3,0         | 3,1         |
| Glass                    | 0,9         | -0,9        | -0,3        | 0,2         | 0,3         |
| <i>Rest of the World</i> |             |             |             |             |             |
| Electrical               | 3,9         | 3,1         | 3,7         | 5,0         | 6,4         |
| Glass                    | 4,2         | 4,5         | 6,4         | 7,8         | 8,4         |
| <b>Palladium</b>         |             |             |             |             |             |
| <i>Europe</i>            |             |             |             |             |             |
| Electronics              | 2,6         | 2,6         | 3,6         | 2,5         | 3,1         |
| <i>Japan</i>             |             |             |             |             |             |
| Electronics              | 4,4         | 7,0         | 7,3         | 8,1         | 8,5         |
| <i>North America</i>     |             |             |             |             |             |
| Electronics              | 6,5         | 6,7         | 5,8         | 6,1         | 5,9         |
| <i>Rest of the World</i> |             |             |             |             |             |
| Electronics              | 10,1        | 11,6        | 12,0        | 13,4        | 15,2        |

(Source: Johnson Matthey)

<sup>76</sup> Heraeus website, <http://www.heraeus.com.cn/doce/gsj.htm> (14-08-08).

Figure 1: Global Platinum Demand by Application



#### 4.1 THE SUPPLY CHAIN OF PGMs FOR USE IN ELECTRONIC PRODUCTS

As described in Chapter 3 the PGMs are being used in different electronics components, including hard disks and LCD screens. In an attempt to clarify these links, this section will describe the example of how platinum mined by Anglo Platinum ends up in hard disks that are used in products of major electronic brands.

Anglo Platinum is the largest PGM producer in the world, and a subsidiary of Anglo American, which is one of the largest mining multinationals in the world. As stated on AngloPlatinum's website, one of their large customers is the German chemical company Heraeus, with whom the mining company has a 'direct long term contract to buy PGMs'.<sup>77</sup> It is unclear what quantities are traded between the two companies.

Heraeus is a private German company that does not provide much information on their website. It does have an annual report, but does not mention its suppliers or customers.<sup>78</sup> What is known, is that Heraeus has a division called the Thin Film Materials Division. This division uses platinum in its so-called 'sputtering targets', the raw materials used for coating

<sup>77</sup> Anglo Platinum website, Operations, Investments/Stakeholding, no date [www.angloplatinum.com](http://www.angloplatinum.com) (20-09-07).

<sup>78</sup> Heraeus, Annual Report 06, [http://www.heraeus.de/HH%5Ceng%5Cholding\\_resources.nsf/\\$files/download\\_heraeus\\_gb\\_06\\_e.pdf/\\$file/heraeus\\_gb\\_06\\_e.pdf](http://www.heraeus.de/HH%5Ceng%5Cholding_resources.nsf/$files/download_heraeus_gb_06_e.pdf/$file/heraeus_gb_06_e.pdf) (20-09-07).

hard disks.<sup>79</sup> These sputtering targets consist of a mixture of cobalt alloy and platinum, and are only a few tens of nanometers thick. Sometimes, the layer is so thin that it consists of single atoms. However, as M. Welgert of Heraeus' Thin Film Materials Division states: *“Although the actual consumption of platinum is not very high, the sputter target technology requires quite remarkable amounts of platinum, which are permanently bound in the loop of target and rigid disc production.”* As this technology greatly increases the storage density of hard disks, demand for platinum in hard disks has increased over the last years.

The next link in this particular chain is the thin-film disk supplying company Komag Inc. Komag is an American company, with its headquarters and Research & Development branch located in San Jose, but with thin film disk production sites in Malaysia. In its annual SEC-filing, Komag identifies Heraeus as one of two suppliers of sputter target materials (the other is Williams Advanced Materials).<sup>80</sup> In this document, the company describes the increased bargaining power of suppliers such as Heraeus, due to the increase in demand for platinum and other sputter target materials.

On its website, Komag lists Hitachi, Seagate, Western Digital and Samsung as its major customers. It was announced in July 2007 that Western Digital has acquired Komag for 1 Billion dollars. It is unclear how this development will affect Komag's position as the supplier of Western Digital's competitors, according to an online news report.<sup>81</sup> Western Digital makes mention of Komag Inc. in its annual report, listing the company as one of its third party suppliers for needed hard disk equipment, although such statements are now obviously outdated.<sup>82</sup> A SEC-filing was found describing this volume purchasing agreement that existed before the take-over, but the volumes were omitted due to confidentiality requests.<sup>83</sup> As is the case with the link between AngloPlatinum and Heraeus, no hard volume figures were found.

Western Digital is one of the world's largest producers of hard disks, and supplies a whole range of well-known electronic brands. These include HP, Acer, Dell, Fujitsu Siemens, Toshiba, Apple, Packard Bell and Sony.<sup>84</sup>

<sup>79</sup> W. Wreznio-Rossbach, “\$1,000 for 31 grams of platinum: no panic, but raised eyebrows,” The London Bullion Market Association, no date, [http://www.lbma.org.uk/publications/alchemist/alch41\\_pgms.pdf](http://www.lbma.org.uk/publications/alchemist/alch41_pgms.pdf) (20-09-07).

<sup>80</sup> Komag Inc. Sec Filing 10-K, <http://www.sec.gov/Archives/edgar/data/813347/000095013407003850/f27493e10vk.htm> (20-09-07).

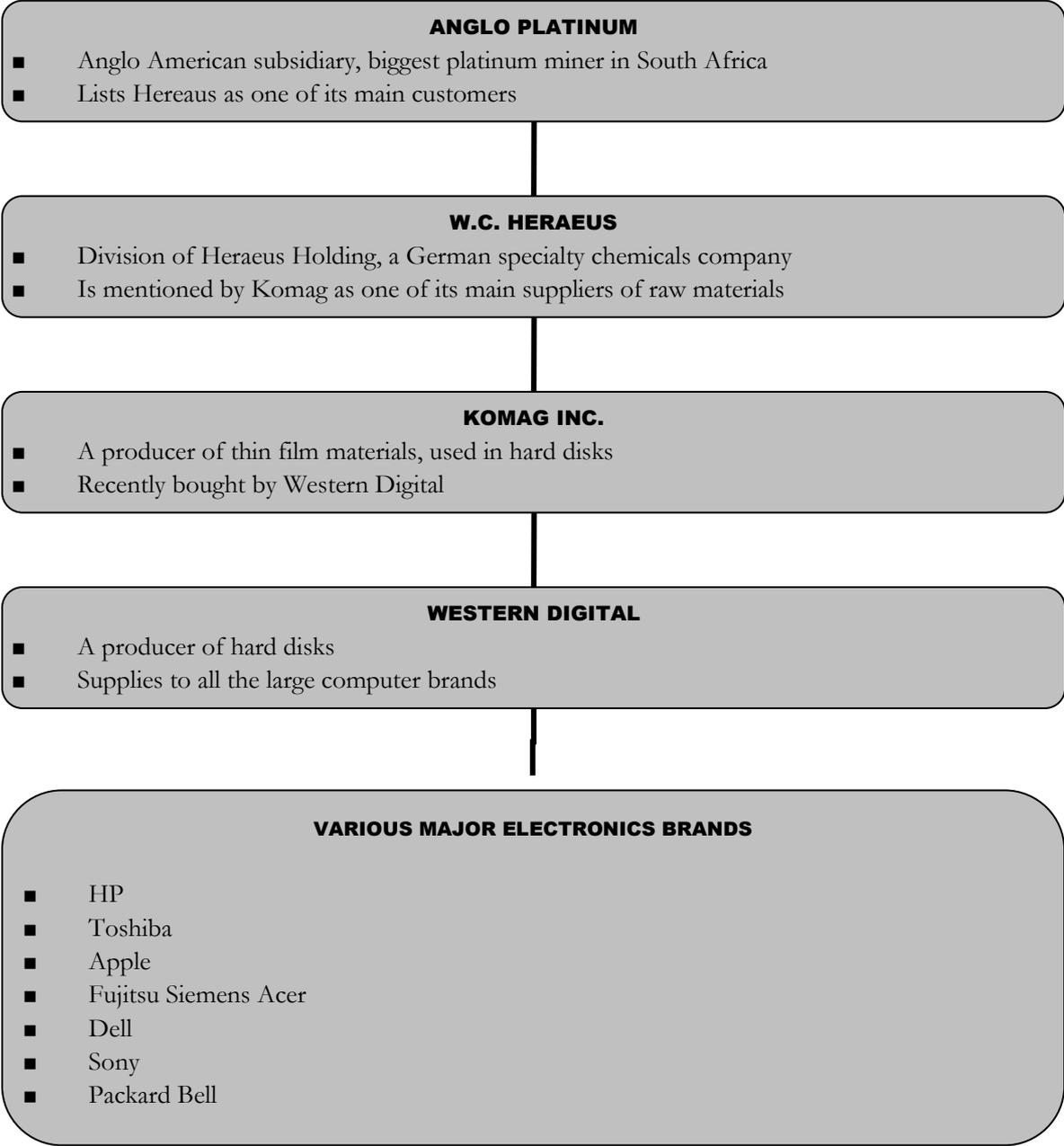
<sup>81</sup> “Western Digital koopt platterfabrikant Komag,” 01-07-07, <http://pro.tweakers.net/nieuws/48244/Western-Digital-koopt-platterfabrikant-Komag.html> (20-09-07).

<sup>82</sup> Western Digital, 2006 Annual Report and Form 10-K, <http://www.westerndigital.com/en/library/company/2278-001005-A02.pdf> (20-09-07).

<sup>83</sup> Western Digital Corp, SEC-Filing 10-K For 7/1/05, EX-10.29.1 <http://www.secinfo.com/dsvRm.zbzp.8.htm> (20-09-07).

<sup>84</sup> I. Schipper & E. de Haan (2007), Hard (Disk) Labour, Somo Amsterdam.

Figure 2: An example of the supply chain of PGMs to the electronics industry



## 5. MINING IN SOUTH AFRICA

The problems of extractive industries in developing economies has been alluded to earlier. South Africa represents one of the most developed economies in Africa with sophisticated mining and environmental legislation. Due to South Africa's dominant position in the PGM market, the mining and processing of PGMs are the biggest foreign income earner and now parallel gold as the largest provider of employment in South Africa's extractive industry. However, even in this context mining activities seem to come at significant social and environmental costs, often carried by marginalised sections of society.

This research specifically focused on those metals with significant use in electronics that are mined in South Africa. Platinum Group Metals were selected for the case study due to the significant demand for these metals from the electronics industry, which uses 12% of global PGM supply.<sup>85</sup> Additionally, South Africa is the largest global producer and reserve base of PGMs.

There are a substantial number of PGM mines in South Africa and the scope of the research was not to canvas all, but the choice was made to select Anglo Platinum, the largest producer of PGMs. In addition, the Benchmarks Foundation had conducted an excellent research into the PGM extractives industry around Rustenburg, one of the major PGM extraction sites in the country, and the intention was to supplement this data. The report produced by the Benchmark Foundation serves as input for this report.<sup>86</sup>

### 5.1. RESEARCH METHODOLOGY

The research in South Africa was conducted by the Civil Society Research and Support Collective (CSRSC), a workgroup that provides research, material development, facilitation and training for labour and civil society organisations working in Africa in support of educational and organisational development and campaigning. The interviews were done by Aisha Bahadur, Michael Koen and Nhlanguano Nyembe.

An initial desktop survey was done and snowball sampling was used to explore issues relevant to the negative impact of PGM mining on communities and workers. This sampling process was used in order to explore issues seldom receiving focus in main stream CSR research. It should be noted that this case study is not presented as a comprehensive or representative overview of the sector as a whole. Instead, the case study described below should be regarded as the result of a qualitative analysis, with the specific intention of

---

<sup>85</sup> In comparison, the electronic industry's demand of gold is at 9%. Based on calculations from demand figures 2006 found at [http://www.gold.org/value/stats/statistics/gold\\_demand/index.html](http://www.gold.org/value/stats/statistics/gold_demand/index.html)

<sup>86</sup> Whilst welcoming the benchmarks report, Anglo Platinum has taken issue with a number of the conclusions in the report. This report has aimed to include Anglo Platinum's point of view when Benchmark's conclusions are used.

identifying some of the issues in the sector. Not all issues could be covered in the selected case studies and there are still a number of nuances that could be further explored through additional case study development.

During this research process, a few issues presented themselves as focus areas. Firstly, the use of contract workers and their conditions of work relative to their full time counterparts was seen as a point of significance. The second issue was the displacement of communities in the face of expanding PGM mining as a result of growth in global demand and price. The environmental degradation faced by adjacent communities was also deemed significant.

In investigating the issues of contract labour, selected interviews were held with contractors working at an Anglo Platinum mine in the Rustenburg area as well as at an Impala Platinum (Implats) mine, another large producer. The interviews with workers subcontracted at the Implats mine, eight in total, were conducted at the mining site. While the interviews were conducted on the site of the mining operations, it should be noted that they took place in the relatively safe surroundings of the employees' hostels. In addition to the eight individual interviews, a small focus group discussion was held at the same site with workers of a second sub-contractor.

A second focus group discussion was held with workers at another site near Rustenburg, operated by Anglo Platinum. This focus group met off-site, thereby creating a relatively safe discussion environment. Finally, a third focus group discussion was held with a local union group, consisting of shop stewards, workers and union organisers of both Implats and Anglo Platinum

To further investigate media reports surrounding the second issue of treatment of communities on and near the mining sites, a series of interviews were conducted with key players in some of these community mobilisation groups and with legal representatives. Again, it should be noted that there are a number of different communities and the scope of the research was not exhaustive. As such a few cases have been selected that cover particular aspects of such interactions but also expose some common approaches and responses by mining companies to these communities.

Interviews were held with

- Richard Spoor, who represents several communities engaged in struggles with Anglo Platinum and with workers and communities affected by other mining interests of Anglo American.
- Brand Nthako, who is part of Jubilee, a South African NGO that is working closely with the communities concerned within Jubilee's Ecological Debt and Reparations Campaign.

Further interviews and consultations were done with various lawyers, farmers, botanists, an eco tourism community initiative, environmentalists, community members and NGOs.

This chapter also incorporates responses from Anglo Platinum and Impala Platinum to a draft copy of this report.<sup>87</sup>

## **5.2. CURRENT OWNERSHIP OF RESOURCES (MINERAL RIGHTS)**

For more than a century mining has played a significant role in social relations and economic development in South Africa. As the source of much conflict after white settlement and the motivation behind many of the very early racist and oppressive pieces of legislation in the country, mining has been of great significance to the economic and social history of South Africa. It therefore has contributed to laying the foundation of the South African reality today. It is a major source of employment, despite a decline in the number of jobs over recent years.

Historically, ownership of resources was vested in private hands or by the state. It was a dual system that effectively prevented new entrants into the extractives market. With the democratic transition of South Africa, new legislation was drafted in the form of the Minerals and Petroleum Resources Development Act 2002. This act, which came into effect in 2004, provisioned that all mineral rights would be in the hands of the state, and all private mining operations would take place under license from the government. Mining companies who owned the old mineral rights are now required to meet a number of criteria before they are assigned new mining rights, including the transfer of ownership of a portion of stock to previously disadvantaged groups.

Several measures taken within the Black Economic Empowerment (BEE) program, set up to provide disadvantaged groups with economic opportunities after Apartheid ended, have changed the current landscape of South African mining. New BEE mining giants such as African Rainbow Minerals and Mvelaphanda Resources are becoming increasingly important players in the this sector.<sup>88</sup>

Whilst the BEE program has been an important step forward, concerns have been raised that the restructuring of ownership has failed to deliver to a broader constituency of disadvantaged communities.<sup>89</sup> Legislative and regulatory requirements such as the Mining Charter do make provisions for so-called broad based black economic empowerment but doubts have been raised about its effectiveness. This debate is defined by those in favour

---

<sup>87</sup> Responses from Anglo Platinum and Impala platinum were received on the 23<sup>rd</sup> November 2007.

<sup>88</sup> Department of Minerals and Energy, South Africa's Mineral Industry 2005/2006 (2007), p.11.

<sup>89</sup> Bench Marks Foundation (2007), Review of the CSR programmes of the Platinum mining Industry in the Platinum Producing region of the North West Province.

pointing to large financial deals involving BEE companies, and those in opposition pointing to the very limited effects on the majority of poor South Africans.

Through the Mining Charter and the Minerals and Petroleum Act, all mining companies are required to report their performance so that it can be objectively assessed on the basis of a balanced scorecard. This scorecard is used by commercial audit bureaus to assess a company's compliance with the legislation. However, the opinion has been voiced that such a client relationship does not give ample consideration to local communities during the assessment procedure.

As is stated in a study done by the BenchMarks Foundation in South Africa on CSR programmes of the PGM mines:

*“Given the immensity of a mining operation and the sheer scale of the mining corporations’ size, power and wealth vis-à-vis local communities, civil society structures (NGOs, CBOs, FBOs) and even local and provincial government, there is need to consider an evaluation process which gives communities a far greater say in the process and its outcomes.”<sup>90</sup>*

When examining the benefits accrued by local communities through mining, the same reports illustrate the differences between the way these initiatives are presented, and the realities of communities interacting with the mining companies. The BenchMarks Foundation mentions the well-known example of the Bafokeng people, who were given lucrative royalties by Impala Platinum for the natural resources present in their territories. This arrangement is usually held up as an example of the positive effects the mining industry has on local communities. These benefits should trickle down to all residents of Phokeng, the capital of the Bafokeng, improving their economic well-being.

However, 94,9 % of people in Phokeng still use pit latrines, as they do not have access to running water and depend on wells and boreholes. Only 12,3% of people in Phokeng have access to electricity, while the vast majority use paraffin, candles and wood. 39% of people in Phokeng are unemployed, and 61,4% of individuals living in Phokeng have no annual income. The condition of the Bafokeng people can only be described as one of stark poverty.<sup>91</sup>

### **5.3. SOUTH AFRICA'S EXTRACTIVE SECTOR**

Mining is of substantial economic importance to South Africa particularly in terms of generating foreign exchange and balancing potential trade deficits. The precious metals and minerals are the most important extractive group in South Africa, while coal is the other

---

<sup>90</sup> Bench Marks Foundation (2007), Review of the CSR programmes of the Platinum mining Industry in the Platinum Producing region of the North West Province, p.20.

<sup>91</sup> Idem

major commodity of the South African extractives industry. Gold, PGM and coal made up 81% of South Africa's value of primary minerals and metals in 2005/6.

### **SOUTH AFRICA'S MINERAL INDUSTRY STRENGTHS**

According to The Department of Minerals and Energy and the Geoscience Council of South Africa, the country's mineral wealth is found in diverse geological formations, of which the following are well known:

- the Witwatersrand Basin, which hosts a considerable portion of the world's gold reserves, as well as uranium, silver, pyrite, and osmiridium and yields some 98 percent of South Africa's gold output;
- The Bushveld Complex, which contains more than half of the world's reserves of chrome ore and platinum-group metals. Additionally, the Complex hosts ores of vanadium, iron, titanium, copper, nickel and fluorspar
- The Transvaal Supergroup, which contains enormous resources of manganese and iron ore;
- The Karoo basins in Mpumalanga, KwaZulu-Natal and Limpopo hosts coal and anthracite beds;
- The Phalaborwa Igneous Complex, which hosts copper, phosphate, titanium, iron, and vermiculite ores;
- Kimberlite hosted, alluvial and marine diamond deposits;
- Heavy mineral sands, containing ilmenite, rutile and zircon;

South Africa has the world's largest reserves of platinum-group metals (PGMs, 87,7 percent), manganese (some 80 percent of the total world reserves), chromium (72,4 percent), gold (40,1 percent) and aluminosilicates, and significant reserves of titanium, vanadium, zirconium, vermiculite, and fluorspar. 92

South Africa's mineral industry has always made an important contribution to the national economy, largely supported by gold, diamond, coal and platinum group metals production. It has provided the impetus for the development of an extensive and efficient physical infrastructure and has contributed greatly to the establishment of the country's secondary industries. Table 6 gives an overview of the extractives industry's contribution to South Africa's economy.

---

<sup>92</sup> Department of Minerals and Energy and the Geoscience Council of South Africa, South Africa's Mineral Industry 2005/2006, December 2006, [http://www.dme.gov.za/pdfs/minerals/sami\\_05\\_06\\_Print.pdf](http://www.dme.gov.za/pdfs/minerals/sami_05_06_Print.pdf) (20-09-07).

**Table 6: Some figures on the South African mining sector**

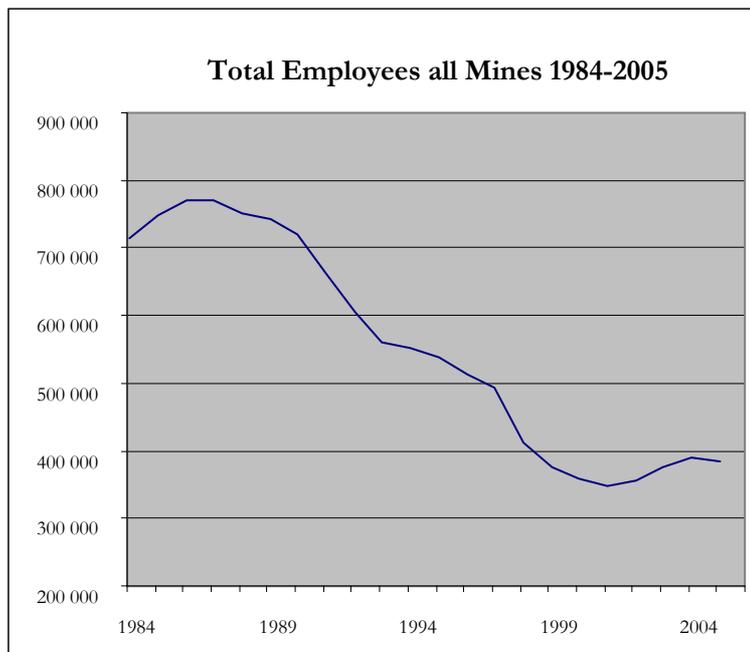
| <b>Share of GDP</b>                   | <b>2005</b>     | <b>2004</b>   |
|---------------------------------------|-----------------|---------------|
| Mining sector                         | 6.2%            | 6.3%          |
| Including indirect multiplier effects | 15%             |               |
|                                       |                 |               |
| <b>Value to economy</b>               |                 | <b>Growth</b> |
| Mining industry                       |                 | 2.4%          |
| PGM                                   |                 | 9%            |
| Diamonds                              |                 | 9.7%          |
| Coal                                  |                 | 0.6%          |
| Iron ore                              |                 | 1%            |
| Gold                                  |                 | -13%          |
| Non-mining sector                     |                 | 6.3%          |
|                                       |                 |               |
| <b>Investment in mining sector</b>    |                 | <b>Share</b>  |
| Total fixed investment                |                 | 6.1%          |
| Total private sector investment       |                 | 8.5%          |
|                                       |                 |               |
| <b>Export</b>                         | <b>Absolute</b> | <b>Share</b>  |
| Mining sector                         | R104 billion    | 30%           |
| Including beneficiated minerals       |                 | >50%          |
|                                       |                 |               |
| <b>Employment</b>                     | <b>2005</b>     | <b>2004</b>   |
| Direct                                | 442911          | 457371        |
| Indirect                              | 147673          |               |
|                                       |                 |               |
| <b>Taxes</b>                          | <b>Absolute</b> | <b>Share</b>  |
| Company tax paid to government        | R9 billion      | 10%           |

Total employment in mining has halved since the mid 80s.

Figure 3 shows a significant collapse in employment until 2000 but a slight recovery on the back of the global minerals commodity boom of the late 90s. If the chamber of mines is correct in its estimates that some 5 million people are dependent on the income of the

current workforce, this would imply a substantial amount of human suffering as a consequence of the mining industry’s restructuring processes over the last 20 years. In recent years, employment has picked up more, and there are currently 458,600 people employed in mining in South Africa.<sup>93</sup>

**Figure 3: trends in employment in South Africa's mining sector**



Employment in the gold mining sector has collapsed in the last twenty years, while employment in PGM mining operations has doubled over the same period. As the price of PGMs is higher than that of gold, PGM mining has proved to be far more lucrative. PGM, gold and coal account for approximately 84% of employment in the sector, but diamonds, iron, chromite and other minerals have also had significant employment growth since 2000. The PGM mining sector employed 168,479 people in 2006.<sup>94</sup>

<sup>93</sup> Chamber of mines, Fact & Figures 2006, <http://www.bullion.org.za/> (24-11-07).

<sup>94</sup> Chamber of mines, Fact & Figures 2006, <http://www.bullion.org.za/> (24-11-07).

Figure 4: Employment per extractive

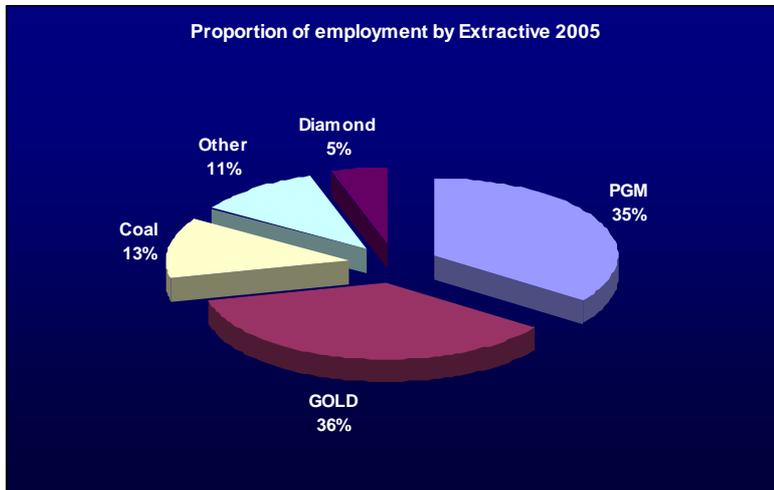


Figure 5: PGM mining sites in BIC



*(source: Platinum Group Metals website)*

#### **5.4. PGM MINING**

South Africa has the world's largest known deposits of platinum group metals (PGM) consisting of platinum, palladium, rhodium, ruthenium, iridium and osmium. Much of these deposits are located in the Bushveld Igneous Complex (BIC), which is an enormous body of rock extending for about 400 kilometres in the North and North West of South Africa, and mostly consist of underground mines. This rock was formed from a molten intrusion 2 billion years ago that is thought to have tapped deep into the earth and cooled and mixed in such a way that platinum and palladium mineralization was concentrated and settled into distinct and continuous layers, each averaging 1 meter in width. The BIC is divided into an eastern and western lobe with a further northern extension.<sup>95</sup>

#### **5.5. COMPANIES ACTIVE IN SOUTH AFRICA'S PGM MINING**

The following section is a selection of the dominant corporate players in the PGM mining sectors in South Africa.

##### **ANGLO PLATINUM**

Anglo Platinum is the largest global producer of platinum and other PGMs, such as palladium, rhodium, ruthenium, iridium and osmium, accounting for about 40% of world production. Anglo Platinum group comprises of a number of operating subsidiaries; the

---

<sup>95</sup> Chamber of mines website "Platinum Group Metals in SA," <http://www.bullion.org.za/MiningEducation/Platinum.htm> (25-11-07)

group mines, processes, refines and markets platinum and other platinum group metals (PGMs) and base metals.

It is a subsidiary of Anglo American plc holding that holds 74.75% shares in the company. In the 12 months to December 2006, Anglo Platinum produced almost 80,000 kg. platinum and over 43,000 kg. palladium and total earnings were R11.993 billion or €1.28 billion. It also produces 9,363 kg. of ruthenium, accounting for a 38.2% share of the global ruthenium production.<sup>96</sup> In 2006, Anglo Platinum employed 42,609 full time workers and 36,057 contract workers and the total payroll and benefits were R6.4 billion (€688 million).<sup>97</sup>

Anglo Platinum operates three mining centres:

- Rustenburg Platinum Mines located on the Western Limb of the Bushveld Igneous Complex (BIC) in the North West Province
- Potgietersrus Platinum (PPRust) located on the Northern Limb, near the town of Mokopane (Potgietersrus).
- Lebowa Platinum situated on the Eastern limb of the BIC operating the Atok Mine.

#### **IMPALA PLATINUM (IMPLATS)**

Impala Platinum is South Africa's second largest PGM producer.<sup>98</sup> Impala produced approximately 370,000 kg. PGMs in 2005. The company is active in various regions of the BIC, and has mining, refining, investment and marketing operations.

Implats currently has two mines, both situated on the western limb of the BIC.

- the Bafokeng North
- Wildebeesfontein South

#### **LONMIN PLATINUM (LONPLATS)**

Lonmin Platinum is the smallest of the three major platinum producers, but still employs 20,000 people. Lonmin Platinum produced 48,000 kg. PGMs in 2005, including 11,570 kg. of palladium. Lonmin operates two reefs in the BIC; UG2 reef and Merensky reef. It operates four other mines in South Africa, three in the Northwest province and one in the Limpopo province.

---

<sup>96</sup> Figures are based on figures made available by Anglo Platinum to the Commission of the South African Competition Tribunal in 2005.

<sup>97</sup> Anglo Platinum website, Economic Impacts, no date, [http://www.angloplatinum.com/def\\_main.asp?Id=sustainable\\_development/sd\\_economic\\_impacts/sd\\_em\\_impacts/sd\\_e\\_m\\_impacts\\_main.asp&Related=true](http://www.angloplatinum.com/def_main.asp?Id=sustainable_development/sd_economic_impacts/sd_em_impacts/sd_e_m_impacts_main.asp&Related=true) (26-11-07).

<sup>98</sup> Mbendi website, "South Africa, Mining: Platinum Group Metals mining," no date, <http://www.mbendi.co.za/indy/ming/plat/af/sa/p0005.htm#10> (20-09-07).

#### **NORTHAM**

Northam Platinum Limited (Northam) owns and operates the Northam mine located at the upper end of the western limb of the Bushveld Complex. It has expressed its intent to acquire 100 per cent of the Booyendal platinum project in the eastern Bushveld, to be in operation by 2010. The Northam mine produces some 9,200 kg. of PGMs annually. Northam markets its precious metals to a customer base in South Africa, North America, Europe and Japan.<sup>99</sup>

#### **AQUARIUS**

Aquarius Platinum Limited is active in the Bushveld Complex and in Zimbabwe through its 50% stake in Mimosa Investments. Aquarius Platinum focuses on small deposits and a capital-intensive (mechanized) rather than a labour-intensive mining model. Founded in 1996, the company produces just 14,000 kg. of PGM annually, mostly at its 50%-owned Kroondal mine (a partnership with Anglo Platinum).<sup>100</sup>

---

<sup>99</sup> International Platinum Association website, About IPA, "Members," no date, <http://www.ipa-news.com/about/members.htm> (25-09-07).

<sup>100</sup> Hoovers website, "Aquarius Platinum Limited," no date, [http://www.hoovers.com/aquarius-platinum/--ID\\_107329--/free-co-factsheet.shtml](http://www.hoovers.com/aquarius-platinum/--ID_107329--/free-co-factsheet.shtml) (25-09-07).

## 6. CRITICAL ISSUES IN PGM MINING

The mining of PGMs, both in South Africa and elsewhere, has had a number of negative impacts at and around the mining sites. These issues include environmental damage, negative consequences for local communities, and hardships faced by workers in the mines.

### 6.1. ENVIRONMENTAL IMPACT

One of the negative consequences of mining activities is the high impact on the environment, as the sector consumes vast resources such as water and power, and has immense effects on land degradation and pollution.

In South Africa the study conducted by the Benchmarks Foundation revealed the impact of PGM mining on the groundwater. There are effects seen of the abundant water use by the mining companies, resulting in direction changes of underground water flows, drying up of springs and drops in levels of several resources, among others through heavy metals in groundwater. Leakages of waste can have a detrimental effect on ground water as well as on productive land.<sup>101</sup>

The air quality is minimally monitored in South Africa while PGMs mining and smelter emissions have high impacts; carbon dioxide and sulphur dioxide emissions have increased and consequently, respiratory infections have soared. These emissions also has an effect on the quality of farming lands and the environment as a whole.<sup>102</sup>

**Looking beyond South Africa to Russia, the other large PGM supplying country, research by the Blacksmith Institute in Norilsk, the main PGM mining area, found the following: “The city has been accused of being one of the most polluted places in Russia, where the snow is black, the air tastes of sulfur and the life expectancy for factory workers is 10 years below the Russian average. A 1999 study found elevated copper and nickel concentrations in soils in as much as a 60 km radius of the city”. The company that is producing in Norilsk is Norilsk Nickel and is one of the leading producers in Russia of non-ferrous and platinum-group metals with one-third of the world's nickel deposits and a substantial part of the country's total production of nickel, cobalt, platinum, and palladium. Blacksmith reported “much higher rates of respiratory, digestive and nervous illnesses [with children] and more abortions and premature births than other cities in the region. Incidences of cancer (especially lung) have increased. Some estimates state that air pollution is responsible for 37% of children's morbidity rates and 21.6% of adult morbidity”.**<sup>103</sup>

---

<sup>101</sup> Bench Marks Foundation (2007), Review of the CSR programmes of the Platinum mining Industry in the Platinum Producing region of the North West Province.

<sup>102</sup> Bench Marks Foundation (2007), Review of the CSR programmes of the Platinum mining Industry in the Platinum Producing region of the North West Province.

<sup>103</sup> The Blacksmith Institute website, World's worst polluted places, “Norilsk,” no date, <http://www.blacksmithinstitute.org/site10h.php> (25-09-07).

## 6.2. COMMUNITIES

Mining also affects communities, most significantly those located within the vicinity of the mine. Positive impacts on these communities include the creation of employment and other economic opportunities, as well as social investments in areas such as education and healthcare. Negative impacts include the encroachment of mining activities on residential and farming land, loss of livelihoods and health risks from exposure to pollutants.

**Some of the families of Sefikile previously located on land that is now part of the mine were forcibly removed in the 1940s to make way for mining operations which began in 1948. Now once again the Sefikile community faces the threat of losing its land in a deal concluded between Anglo Platinum and the local Chief Nyalalala John Pilane in 2006, sanctioned by the government.**

**In the deal the Chief leased the land on which the Sefikile village occupies without consulting the community to Anglo Platinum in October 2006. However, the 52 original families of Sefikile bought the land in 1910 but because it was not possible for a black community to own the land, the title deed was put in the name of Chief Romono John Pilane, the grandfather of the current chief, to be held in trust for the 52 families. Anglo Platinum however side steps dealing directly with the Sefikile community, based on the argument that the communities have no legitimate representative or legal structure whom the mine can engage with, despite the existence of a democratically elected community group mandated by the community to deal with the mine on its behalf.**

**Anglo Platinum submits that**

***“Chief Pilane is the legally recognised custodian of the Sefikile and Bakgatla-Ba-Kgafela land by the Government of the Republic of South Africa. Therefore Anglo Platinum had to sign the lease with Chief Pilane. There may well be a dispute over the land between the Sefikile community and Chief Pilane, however until such time as the South African government amends who the legal custodian is of the land is, Anglo Platinum has no choice but to enter into legal agreements with the constitutionally recognised legal custodian of the land”.***<sup>104</sup>

**In an interview Charles, whose family was one of the 52 that purchased the land on which the village sits, mentions that the families understand that the village is located on platinum rich land and are not opposed to an expansion of the mine on their land. What they want is for the land to be given back to the community so that they can enter into a deal with Anglo Platinum that will give them equity in the mine. Charles believes that this will be the only fair way to compensate the families of Sefikile that have been forced to sit on the sidelines and watch as Anglo Platinum pulls out billions of Rands worth of platinum from their land.**

---

<sup>104</sup> Anglo platinum response to SOMO draft report. Novemeber 2007

Yet Anglo Platinum says: “Anglo Platinum has also entered an agreement with the Bakgatla-Ba-Kgafela whereby the community holds a 15% equity share in the mine”, however this is disputed by the community group that claims that there was no consultation and this arrangement will only benefit the traditional authority that is now benefiting from land that should belong to the community. Anglo Platinum further submits that “if the Sefikile are in dispute over the legal tenure of their land it is a matter between the Bakgatla, themselves and the State. Should the State rule that the Sefikile have direct tenure over the land then clearly Anglo Platinum will amend its lease agreements.” By making such a submission, Anglo Platinum sidesteps dealing with the Sefikile community directly affected by its mining activities, despite the existence of a democratically elected community group mandated by the community to deal with the mine on its behalf.

The community wants meaningful benefit from living in such close proximity with the mine. This benefit should take the form of jobs and other social investment that will improve the living conditions and quality of life for the community. Living conditions are a serious concern at Sefikile. Living alongside the villagers of Sefikile, two informal settlements have sprung up. In 1996 a large informal settlement established and again shortly after 2000 another was formed. The shacks line the side of the road and seem to be four to five rows deep for at least two kilometres before the gates of the mine and the verges along the dirt road are littered with waste. Whilst formal housing at Sefikile is serviced with water and electricity, in the informal settlements there do not seem to have any other services apart from water available through communal taps.

Many of the men living in the informal settlements work at the mine, a number of their families have settled there too, whilst others have come to see out opportunity for employment or may work in the town or surrounding areas. The original community size is estimated at 8000 and there are 1700 households. This does not include the informal settlement and it is estimated that the number of Sefikile residents would easily double if these would be included. These informal settlers are now a part of Sefikile and their numbers could quite possibly exceed that of the original community. Their needs must also be taken into consideration and whilst there is a certain amount of tension between the original community and the informal settlers, the original community has accepted that they are now part of the community and are would not support their removal.

The original Sefikile community has put demands to the mine, including demands for addressing mine dumping, other environmental concerns, HIV/AIDS and jobs. There was a meeting with the mine where the mine promised to recruit 60 people but they did not.

The possible effects of resettlements on communities are illustrated by the case study on the PPRust communities in the next chapter.

### 6.3. LABOUR CONDITIONS

While the mines do provide employment opportunities, the work is often hazardous, physically straining and unhealthy. Mine workers' unions exist and have made significant gains for workers, but the increasing use of contract labourers is eroding the effectiveness of unions while contract labourers are often employed under precarious conditions.

#### HEALTH AND SAFETY

The researchers of Benchmarks Foundation found unacceptable health and safety conditions in the mines that were part of their survey, owned by Anglo Platinum, Implats, Lonplats, and Xstrata. The inhalation of dust has long-term effects on the workers. In a press release on the report the executive director of Benchmarks Foundation, John Capel, said: "We found that many workers suffer from silicosis, a respiratory disease that is caused by inhaling silica and results in inflammation and scarring of the lung tissue or tuberculosis. Overall, an increase of 80% of patients around Rustenburg suffers from respiratory infections". Anglo Platinum has issued a statement in which it says that platinum mining does not cause silicosis, but that the company does employ workers who suffer from silicosis due to earlier mining work.<sup>105</sup> More research is required to adequately assess this issue.

Miners are often working under dangerous conditions and – especially contract workers – are not always trained. In an interview Singata, a subcontracted worker at Impala Platinum in South Africa, mentions that he was only given three days safety training and was then sent underground. Some of the mines are old mines which are being re-mined and it is contract workers that are made to work there. These contract workers are not allowed to access the mine clinics and therefore Singata uses government health services. He has no knowledge about HIV/AIDS and says that there is no education on the disease offered to them on the mines. John, a foreman at Impala Platinum, also mentions that when new mineworkers and assistants are deployed, they are given minimal training in operating equipment and on health and safety issues. Training lasts a maximum of two days and the workers would be sent underground to work fulltime shifts.<sup>106</sup>

In an interview with contract workers that had worked in different platinum mines, it was reported that with the high price of platinum, shafts are being re-mined and rock pillars that were left in place as support are now being mined. Permanent mine workers are told that

<sup>105</sup> Business and Human Rights website, Anglo Platinum response to Bench Marks report on social & environmental impacts of the platinum mining industry in North West Province, South Africa, 09-07-07, [www.business-humanrights.org/Links/Repository/991807/jump](http://www.business-humanrights.org/Links/Repository/991807/jump), (24-11-07).

<sup>106</sup> In their response to the report, Impala Platinum argues that proof of competence is scrutinised by Impala during the engagement and assessment process of a new contract worker. Should the contract employee fail his assessment he is given the necessary skill training by Impala. This usually lasts 3 days during which the individual is trained on basic safety management, rock strata management and educated on gas and vapour. Once the contractor employee has passed his competence assessment, he will then attend a 2 day induction programme which includes further safety instruction.

the work is dangerous and needs to be done by the contracting company that specialize in this type of work. Contract workers are being used to do this type of hazardous work for lower wages and less rigorous safety instructions. What this points to is that whilst mining companies are sensitive to the need for proper address of health and safety as part of their corporate social responsibility, they pass on the risk of hazardous work to the contracting company. This company, in turn, passes the risk to the contract worker who has very little protection due to the nature of his employment and can be declared unfit to work and dismissed without adequate severance pay, should he be injured on duty.

#### **CONTRACT WORKERS IN PLATINUM MINING**

An increasing number of platinum mines in South Africa are outsourcing core and non-core function work. In the case of core function work, contract workers are used to perform the same job functions as permanent workers. This has meant that many quality jobs are being replaced by fixed term contract work, through the use of labour brokers and contract mining companies.

Labour brokers and contract mining companies use contract labour and, in most cases, pay workers less and do not provide the same benefits as full time workers employed directly by the mine. Workers accept the low pay, no benefits and poor training because there are a great number of workers that are competing for employment. As a result, contract workers have little job security and if a worker does not accept the terms of employment or working conditions, there are others that are willing to take their place.<sup>107</sup>

Labour brokers often do not source workers from the vicinity where the mine is located. They often source labour from areas where mine workers came from historically in order to find more skilled labour. This is linked to the huge job losses in gold mining in the last decade, and as a result, some of those workers sourced by labour brokers are retrenched gold miners or skilled workers that have been made redundant. As a result, labour brokers continue to seek out contract workers from regions like the Eastern Cape and other Southern African countries such as Malawi, Zambia, Zimbabwe, Lesotho and Mozambique. These workers are brought to work in platinum mining towns like Rustenburg despite large numbers of available workers.

Organising in unions is complicated for contract workers as their employment is precarious. Even where the union has had some success in recruiting contract workers working for labour brokers or mining contracting companies, it is often difficult to set up branch

---

<sup>107</sup> Impala Platinum responded to this issue saying “The employment contract of contract workers is between the contractor company and the contractor employee. Contractor employees’ conditions of employment are regulated by the employment contract they have with the contractor company.” Impala Platinum response to SOMO draft report, November 2007.

structures and build capacity as workers can be easily reassigned to different workplaces. Thus, workplace-bound branch structures for workers belonging to contract companies can be compromised.

**WAGES**

The workers interviewed at Impala have complained about their wages, Singata mentions that he never gets paid in time nor does he receive overtime pay from Impala. The only overtime pay he receives is for working on public holidays. Days missed due to illness are sometimes not paid either. From the limited number of interviews done it appeared that wages received by contractors were between half to two thirds of that of their fulltime counterparts in similar occupations. This issue requires further quantitative research to explore and make conclusive findings.

## 7. CASE STUDY: ANGLO PLATINUM'S HEAVY HAND WITH PPRUST COMMUNITIES

### 7.1. INTRODUCTION

The following case study gives information on the mining region of Potgietersrus, in the Northern Limb of the BIC, from a platinum mining site (PPRust) operated by Anglo Platinum.

The nature of metal extraction creates a complex set of interacting interests. The debates on community and development issues, government regulation and environmental protection are all defined by diverging interests from various stakeholders. In such an environment there will always be claims and counter claims as to the representation of interests. The issues described in this case study will inevitably have multiple interests and interpretations even within the communities involved. This case study does not attempt to represent communities as homogenous entities of singular intent to oppose mining in all and any form. Rather, it points to examples of mining initiated processes which have crystallised division and stimulated resistance.

The soaring prices of platinum and the massive profits currently generated in the extraction of PGMs have prompted mining companies to expand operations and increase exploration of PGMs. Anglo Platinum has been in the forefront of the renewed interest in PGM mining, and they have received the mining rights to various prospected sites, through its wholly-owned subsidiary Potgietersrust Platinum Ltd. (PPL). This has a considerable effect on the livelihoods of the local communities at these sites.

**The properties on which Anglo Platinum has rights to mine are situated on the northern limb of the Bushveld Complex, in the Mokopane and Mokerong districts. They include the farms Sandsloot 236KR, Knapdaar 234KR, Tweefontein 238KR, Rietfontein 240KR, Overysel 815LR, Zwartfontein 818LR and Vaalkop 819LR.**<sup>108</sup>

In 2006, the PPRust North expansion project was approved by the board of Anglo Platinum. The project will expand milling capacity by 600,000 tons per month, in addition to the 385,000 tons per month milled by the existing PPL facility. The expansion will produce an additional 6,500 kg. of platinum per annum to bring total platinum production at PPRust to 12,190 kg. per annum.<sup>109</sup> Anglo Platinum's expansion of their PPL mine in the

---

<sup>108</sup> Anglo Platinum website, Our Operations, Ore Reserves and Mineral Resources, no date [www.angloplatinum.com](http://www.angloplatinum.com) (20-09-07).

<sup>109</sup> Anglo Platinum website, Projects, Mining Projects In Development, PPRust North project, <http://www.angloplatinum.com> (20-09-07).



According to Anglo Platinum, “the resettlements became necessary as mining activities encroached on the communities and Anglo Platinum was concerned about the safety of residents.”<sup>110</sup> Anglo Platinum has stated that the community and its Chief Langa requested relocation in 1995 and the company agreed as the Ga Pila area was required for waste placement optimization. In addition, Anglo Platinum says that there was a potential risk to safety and a loss of land utilization. The relocation would also work in the economic interest of Anglo Platinum, allowing them to take steps for noise pollution management and to use the opportunity to come across as contributing positively to local socio-economic development.

However, Anglo Platinum’s presentation of the Ga Pila relocation gives an anaesthetized view of events, as the only indication of the strong emotions during this process were mentioned in the company’s extensive list of ‘lessons learnt’.<sup>111</sup> The people of Ga Pila did not leave voluntarily, according to Brand Nthako of Jubilee South Africa, an NGO working closely with these communities.

Now in 2007, several years after the relocation, many former residents of Ga Pila at Sterkwater are still trying to give voice to issues of their relocation, their perceived loss of livelihood and the unfair compensation for their homes and land. At the same time communities in Ga Puka and Ga Sekhaolelo, known collectively as the Mothlothlo Community, are resisting Anglo Platinum’s plans to relocate these two villages to Armoede farm (see Figure 6). They have seen what has happened to the Ga Pila community and are engaged in a struggle against Anglo Platinum to ensure that they are given fair compensation, decent housing, services and infrastructure and have the ability to maintain their social and economic way of life.

## **7.2. ANGLO PLATINUM’S SUSTAINABILITY RECORD**

Anglo Platinum has well defined corporate responsibility policies, put forth in their annual sustainability reports.<sup>112</sup> The company has set a minimum wage for all its employees, recognizes new unions and does engage in collective bargaining. Anglo Platinum has signed onto the conventions and standards of the ILO, the Universal Declaration of Human Rights, and adheres to local labour legislation.

Wages for mining employees have increased over the last two decades. Much of this is due to the presence of a strong and well organised trade union in the form of the National union

---

<sup>110</sup> Anglo Platinum website, Resettlement projects receiving media attention in 2006, Safety and Sustainable Development <http://www.angloplatinum.com/> (20-09-07).

<sup>111</sup> Anglo Platinum, “Ga Pila Project Overview,” Presentation by Dean Pelsler, Business Manager PPRust, March 2003, [http://www.angloplat.com/investor\\_media/im\\_presentations/facility\\_visits/ga\\_pila\\_relocation\\_050303/ga\\_pila\\_facility\\_visit.pdf](http://www.angloplat.com/investor_media/im_presentations/facility_visits/ga_pila_relocation_050303/ga_pila_facility_visit.pdf) (20-09-07).

<sup>112</sup> The latest annual report is available at [http://angloplatinum.investoreports.com/angloplatinum\\_ar\\_2006/downloads/anglo\\_platinum\\_ar\\_2006\\_SD\\_Report.pdf](http://angloplatinum.investoreports.com/angloplatinum_ar_2006/downloads/anglo_platinum_ar_2006_SD_Report.pdf)

of Mineworkers which has ably and powerfully represented member interests despite difficult conditions in the gold sector due to the many job losses. According to its sustainability report, 78% of Anglo Platinum's employees are represented by a union, of which the National Union of Mineworkers is by far the largest.<sup>113</sup>

Anglo Platinum also gives ample attention to the environment in its sustainability report, where it states that it intends to preserve natural resources and minimize the environmental impacts of its activities. Partially due to a fairly strong environmental lobby, environmental compliance seems to be maintained for most of the mining activities. However, not all environmental impact is considered. The Bojanala Platinum District, for example, is covered with a dyke swarm that stretches from Pilanesberg to Johannesburg.<sup>114</sup> This dyke swarm determines the flow of underground water, the water table, and the location of fountains among other things, and most of the people in the Bojanala District are dependant on underground water drawn from wells and boreholes for their water supply. Very few outside the mining industry are aware of the impact of the perforation of dykes, caused by mining activities, on underground water. The issue is not mentioned in any sustainability reports and there are doubts that it is even discussed at Environmental Impact Assessment (EIA) meetings between communities and corporations before operations commence.

#### **LOCAL COMMUNITIES**

According to the BenchMarks Foundation, all the corporations, including Anglo Platinum, consult with local communities to include their interests in the company's policies.

However, the report mentions a number of problems that come from such consultations.<sup>115</sup>

- Communities cannot possibly foresee the impact of mining on the land, the environment, resources and culture, as there is limited exposure to technology, high levels of illiteracy and no knowledge of geology, chemistry or hydrology.
- Communities are usually heterogeneous entities and may contain many different interest groups. Conflicts that may arise within communities are between the traditionalists and those who are keen to change, or because of generation gaps and gender inequality.
- Communities do not have access to the same expertise or financial means as mining companies.

As Benchmark Foundation states:

*Given the above the entry of the mining corporation into the community equation may result in factions arising. Such factions might use the prospect of greater wealth and prosperity as a weapon*

---

<sup>114</sup> Bench Marks Foundation (2007), Review of the CSR programmes of the Platinum mining Industry in the Platinum Producing region of the North West Province.

<sup>115</sup> Idem

*against other factions in the community. Issues such as royalties, projects, and even the prospect of employment might prove divisive and destructive of communities. There have been a number of cases involving the Bafokeng and the Bakwena in the North West Province, and communities in Limpopo and Mpumalanga that illustrates the negative impact that a mining operation might have on communities.*<sup>116</sup>

#### **WORKERS' HEALTH AND SAFETY**

With regards to employee safety, an important issue in the mining sector in general, Anglo Platinum recognizes the problems, and makes mention of a number of behavioural, technical and labour solutions.<sup>117</sup> The mining industry has seen an decrease in the number of deaths and accidents over the last 10 years, as more safety measures have been implemented.

However, there has been a substantial death toll in 2007 and Anglo Platinum has had a number of serious accidents resulting in the deaths of a workers. In July Anglo Platinum suspended production at its Rustenburg mine for about seven days following the deaths of five workers in a two week period. Seven other deaths had already occurred in the first half of the year. This has led to the National Union of Mineworkers putting pressure on the company, by criticizing the company's lack of training and its failure to follow safety procedures.<sup>118</sup> This in turn contributed to the departure of Anglo Platinum's CEO in August, and the suspension of some mining operations for nearly a month.

Former CEO Havenstein resigned at the end of August 2007, attributing his departure to the need for change in the company's safety record, and the need for the company to address safety issues. During his announcement he said "*I believe Anglo Platinum needs new leadership and a new insight to achieve these safety goals*". One of the reasons for this situation was ascribed by Anglo to the high labour turnover (some 150% amongst contractors) on its mines.<sup>119</sup> This is probably related to a combined impact of the use of contract labour and the high incidence of HIV associated with the mines.

While it seems that the mining companies do acknowledge that their high turnover employment practices have a worrying effect on the number of fatal accidents, most accidents are still met with measures such as safety audits, inspections and investigations. However, the underlying problem of high labour turnover does not seem to be addressed.

---

<sup>116</sup> Bench Marks Foundation (2007), Review of the CSR programmes of the Platinum mining Industry in the Platinum Producing region of the North West Province, p.21.

<sup>117</sup> Anglo Platinum, "Sustainable Development Report"  
[http://angloplatinum.investoreports.com/angloplatinum\\_ar\\_2006/downloads/anglo\\_platinum\\_ar\\_2006\\_SD\\_Report.pdf](http://angloplatinum.investoreports.com/angloplatinum_ar_2006/downloads/anglo_platinum_ar_2006_SD_Report.pdf) (20-09-07).

<sup>118</sup> [http://muarateweh.blogsome.com/2007/07/08/anglo-platinum-to-suspend-production-at-rustenburg-mine-after-worker-deaths/\(5-11-07\)](http://muarateweh.blogsome.com/2007/07/08/anglo-platinum-to-suspend-production-at-rustenburg-mine-after-worker-deaths/(5-11-07))

<sup>119</sup> Corporate shake-out as doughty duo exercise zero tolerance on spate of 18 mine fatalities, Martin Creamer, Mining weekly, 10 Aug 2007 [http://www.miningweekly.co.za/print\\_version.php?a\\_id=113857](http://www.miningweekly.co.za/print_version.php?a_id=113857) (26-11-07).

On October 17<sup>th</sup>, Anglo Platinum had three shafts closed by the government following another fatality in one of its mines, while another employee was seriously injured. According to an online news report, the National Union of Mineworkers “has called on the Department of Justice and the Directorate of Public Prosecutions to start prosecuting those in charge of mines where people have been killed.”<sup>120</sup>

It should be noted that mine safety seems to be a sector-wide problem, as other PGM mining companies, such as Northam and Impala, have also had shafts closed by the government following work-related casualties.<sup>121</sup>

#### **SUBCONTRACTED AND MIGRANT WORKERS**

41,7% of people working on Anglo Platinum’s operations are employed by sub-contractors. Many of these sub-contracted labourers are migrants (including foreign migrants), who have been recruited to the mining sites from various regions. There is no indication that these sub-contractors adhere to any international, national or even corporate codes of ethics and it is unclear what their policies are with regard to issues such as wages, housing, health, and vocational training.

Many of these sub-contracted migrant workers continue to live in single men’s hostels, while others receive ‘living out’ allowances.<sup>122</sup> This has led to a large influx of single men into and surrounding local villages. The inevitable tensions between these two groups have led to “*vigilantism, mob-justice, xenophobia, the undermining of traditional authority, increased alcoholism and the rapid growth of the sex-trade and the consequent spread of sexually transmitted diseases and HIV/AIDS.*”<sup>123</sup>

Many costs, including that of housing, health and training, as well as the headache of personnel management and labour negotiations can be shifted to sub-contractors. Sub-contractors in turn recoup such costs from the workers themselves who then become a burden on the state provided health clinics, housing and social welfare systems. This eventually has a negative effect on the sustainability of local communities. According to the Benchmark Foundation:

*“While the mines claim a reduction in migrant workers among their labour force, the system of sub-contracting has resulted in two unforeseen consequences; firstly, many sub-contractors continue to employ foreign workers, so these workers no longer appear in the records of the mine’s direct labour force. Secondly, the contract workers do not have access to the health facilities and anti-*

<sup>120</sup> <http://www.miningmx.com/platinum/659919.htm> (5-11-07)

<sup>121</sup> Idem

<sup>122</sup> Bench Marks Foundation (2007), Review of the CSR programmes of the Platinum mining Industry in the Platinum Producing region of the North West Province.

<sup>123</sup> Idem

*retroviral programmes of the mines. HIV positive contract workers do not appear on the statistical records of the mine, and they do not present a burden on the medical expenses of the corporation.”<sup>124</sup>*

Through the use of subcontracted labour, mining companies such as Anglo Platinum seem to have found a way to sidestep the issue of reducing migrant mine workers. This method of working seems to be very beneficial for the company, as it relieves itself from a number of difficult problems, as described above, while it still adheres to the principles of the Mining Charter and other national and international guidelines. As a consequence, the mining companies are no longer held accountable for these issues, but the implications and problems of such methods are no different from those that the Mining Charter intends to solve.

### **SUSTAINABILITY AWARDS**

Issues like those mentioned above seem to have no impact on the Johannesburg Securities Exchange Social Responsibility Index, which has ranked Anglo Platinum in the top six of the 30 companies in the “high environmental impact” category. It awarded Anglo Platinum Corp Limited a joint top score together with its parent company Anglo American plc. These categories recognize the difference in impact between companies active in different sectors, and is based on an assessment of a company’s direct and indirect environmental impact as a whole. A key criteria is that a company “*should work to develop and continually improve its social and stakeholder relationships by ... treating all stakeholders with dignity, fairness and respect, recognising their rights to life and security and free association...*”<sup>125</sup>

It should be noted, however, that the fundamental flaw of the JSE SRI index is that it measures only what companies report, rather than making use of independent measures of verification. Therefore, the value of such indexes can be debated, as is the case due to various reasons for a number of other social awards that Anglo Platinum received in 2006;

- Fourth in the UNEP SustainAbility “Tomorrow’s Value Global Reporting Survey of Corporate Sustainability Reporting”.
- The ACCA Award for the best 2005 sustainability report.
- Nedbank Capital’s Green Mining Award – Sustainability Category.
- Mail & Guardian ‘Investing in the Future’ Corporate Award.
- Govan Mbeki Housing Award – Mining Company Category.
- Second in the Ernst & Young Reporting Awards.
- Third in the ‘Company of the Future’ Survey.

---

<sup>124</sup> Idem, p.60.

<sup>125</sup> JSE SRI Index, Background and Selection Criteria, October 2003, <http://www.jse.co.za/sri/docs/criteria/Background%20and%20Criteria.final.06%2010%2003.pdf> (06-11-07).

### **7.3. ANGLO PLATINUM'S STRATEGY FOR COMMUNITY ENGAGEMENT ON RESETTLEMENTS: THE ABUSE OF THE BLACK EMPOWERMENT PROGRAMME**

Central to the conflicts between Anglo Platinum and the communities affected by the PPRust expansion is the vehicle Anglo Platinum has used to engage the communities on the resettlement issues. According to Nthako, “*Anglo Platinum tells the community that they need to have a ‘resettlement committee’ that it can work with that is selected by the community. This committee is then guided by ‘advisors’ paid for by Anglo Platinum and transformed into a Section 21 Company*”. Section 21 companies are “not for gain” associations set up ostensibly to derive socio-cultural benefit for their members, as part of the post-apartheid ‘black empowerment’ programme. The members of the resettlement committee, rather than the community as a whole, are the members of the Section 21 company. While these members were initially chosen by the community, they seem to have long lost their independent stance in relation to the mining company, as described further below. These members elect directors amongst themselves, creating an undemocratic structure where the members of the Section 21 company make the decisions for the community.

According to Richard Spoor, a human rights lawyer working with these communities, “*Anglo Platinum has a simple strategy with these Section 21s; a strategy of ‘co-opt and subvert’... These Section 21 Companies are fully funded by the mine including the payment of salaries and costs of legal representation and advisors.*” The Mothlotho Development Committees, elected by the Ga Puka and Ga Sekhaolelo communities, have indicated the financing of the Section 21 companies by Anglo Platinum as one of the problematic issues;

*“Anglo Platinum must stop its financial, logistical and technical support to the Section 21 companies forthwith. It is not proper for Anglo Platinum to interfere in the internal affairs of the community by sponsoring groups that do its bidding or by denying its critics jobs and opportunities that it offers its ‘friends’ in the community. Anglo Platinum cannot continue to maintain that the conflict and divisions in the community are matters internal to the community and not of its making when it is the main sponsor of that conflict and the author of those divisions. An independent investigation and audit must be undertaken into the financial affairs of the Section 21 Companies and the results should be made public to allay community concerns that there has been widespread abuse, fraud and theft of money made available to them by Anglo Platinum, ostensibly for the communities benefit.”<sup>126</sup>*

Spoor’s description of Anglo Platinum’s strategy of “co-opt and subvert” is supported by the manner in which the Mothlotho Development Committees were allegedly undermined by the Section 21 companies. The community has no representation in the Section 21

---

<sup>126</sup> Statement and Demands of the Ga-Puka and Ga-Sekhaolelo (Mothlotho ) Development Committees, 11th June 2007, <http://www.minesandcommunities.org/Action/press1529.htm> (20-09-07).

company and have no control over its decision making or the election of directors. Efforts to persuade the directors of the Section 21 companies to submit themselves to democratic processes have been unsuccessful. The Mothlotho Development Committees state that *“the Section 21 Companies have been structured in such a way that they are neither democratic nor accountable. They have no mandate or authority to represent the community or to enter into any agreement on its behalf.”*<sup>127</sup> This is based on the fact that the “resettlement committees” that the communities elected in 1998 are the only members of the Section 21 company. These ‘resettlement committees’ that were initially elected have long been co-opted by Anglo Platinum and as a result serve the interest of the company and not the community. The Mothlotho Development Committee calls for the establishment of new democratic and accountable structures, no negotiations under coercion and the renegotiation of relocation agreements.

Negotiations about issues such as the terms of leasing of the land, resettlement and compensation take place between the Section 21 company and Anglo Platinum without involvement of the community. Moreover, the land that the communities are resettled to is transferred to the Section 21 company and as a result the community no longer has any rights on their land and do not own the houses to which they are resettled. Tremendous power over the communities is placed in the hands of the Section 21 companies, leaving the community vulnerable to exploitation and abuse. Spoor’s perception is that *“The members of the section 21 companies distinguish themselves only by their slavish obeisance to their master and their enthusiasm to compromise the rights and interests of the community for their own selfish interests.”*<sup>128</sup>

In 2007, the communities independently set up the Mothlotho Development Committees to engage with Anglo Platinum on the resettlement issues. There has been some difficulties with getting Anglo Platinum to recognize these bodies, and there have even been allegations of bribery of the members of these committees. The committees developed their Statements and Demands, which are recognized by the local communities as their own.

There are further allegations that Anglo Platinum uses the Section 21 company to serve its own, financial interests rather than those of the communities. Anglo Platinum negotiates with the Section 21 company, rather than with the community, about the terms of leasing the land, resettlement and compensation costs. The communities’ land is leased to Anglo Platinum by the Section 21 company, and this money is used to cover the costs for resettlement. Through this agreement, Anglo Platinum gets out of paying for these resettlements as the money that is being use should already belong to the communities, while the communities have lost the rights over their land. Anglo Platinum uses this same structure of Section 21 companies in about 15 other villages in the Greater Mapela area.

---

<sup>127</sup> Idem

<sup>128</sup> Letter to Mr Chris Schalkwyk, Director General, Department of Land Affairs from Richard Spoor, legal representative for the members of the Langa-Mapela tribe who reside inter alia at Ga-Chaba, Ga Molekana and Ga Puka and Ga Sekhaolelo, 26 May 2007.

#### 7.4. DISENFRANCHISED AND DISPOSSESSED: THE STORY OF THE GA PILA COMMUNITY RESETTLEMENT

Despite resistance to the relocation, households in the Ga Pila community that had signed off on the resettlement agreement were relocated to Sterkwater. Brand Nthako from Jubilee South Africa recalls *“As soon as they were loaded on the trucks with their belongings, the bulldozers would come in and tear down their houses. This served two purposes; there was no going back for the families that moved and those that were still there were made to feel that there was no hope so you better give up the struggle, take the compensation offered and go”*. In total 7,000 people were relocated.

There are also those that refused to leave Ga Pila. Anglo Platinum does not mention, in any of their presentations, the resettlement of the 26 families at Ga Pila that refused to move. In a reaction to the first draft of this report, Anglo Platinum states that it *“has taken a decision not to forcibly remove these families and engagement is continuing”*.<sup>129</sup>

These families have been subjected to actions taken by Anglo Platinum to force them to leave, including cutting off their water and electricity, bulldozing surrounding roads and demolishing houses to leave them living amongst the rubble and in the shadow of a mine dump.<sup>130</sup> According to Brand Nthako, *“these families are now being punished by Anglo Platinum who refuses to engage with them”*.

The compensation of R20,000 per household received by those of the Ga Pila community that did leave is not considered to be fair compensation for several reasons. Firstly, the families that moved no longer own their own houses, the community has been broken up, grazing land lost and services must now be paid for.<sup>131</sup> The general feeling is that such losses of livelihood and increases in expenses are not compensated by such meagre amounts. Secondly, there is a strong sense of injustice when the compensation is compared to the billions of Rands that the mining company will profit from its mining operations.

Each family was given R12,000 payable when they moved and an additional R8,000 to be paid when the last family member had moved. This strategy was used to ensure those that moved would put pressure on those resisting the resettlement, dividing the communities and inciting violence. Spoor explains; *“You have incredibly poor people who have money dangled in front of them – but only if the rest have given up their homes. This will encourage intimidation – and worse. It is criminally irresponsible to push through such measures.”*<sup>132</sup>

<sup>129</sup> Anglo Platinum’s response to the first draft of this report, received 23-11-07.

<sup>130</sup> “Mining giant Anglo American faces the wrath of the poor in South Africa,” Socialist Worker (UK), April 2007, <http://www.socialistworker.co.uk/art.php?id=11205>, (20-09-07).

<sup>131</sup> Interview with Brandt Nthako of Jubilee South Africa. Anglo Platinum refutes this claim and states that the families do own the houses, but that the land is communal. Anglo Platinum’s response to the first draft of this report, November 2007.

<sup>132</sup> “Mining giant Anglo American faces the wrath of the poor in South Africa,” Socialist Worker (UK), April 2007, <http://www.socialistworker.co.uk/art.php?id=11205>, (20-09-07).

Anglo Platinum claims that the housing offered to the community is better than what they had before. But Richard Spoor claims that Anglo Platinum follows a policy of “like for like”.<sup>133</sup> According to Brand Nthako, communities are even worse off, “*the houses are so poorly built that they crack any time there is blasting at the mine 30 kms away. There is nothing in Sterkwater except houses, they are isolated and each household is now forced to pay for services that they received for free before. For example, there used to be boreholes in Ga Pila, but now the households must pay for water, rates and taxes. These are poor households that don’t have the money for these things?*”.

Anglo Platinum remains adamant that they have conducted the resettlements at Ga Pila according to local and international guidelines. According to Anglo Platinum’s former CEO Havenstein; “*these relocations were planned under the requirements of South African legislation, the Chamber of Mines resettlement guide, World Bank guidelines and the new safeguard policies for resettlement?*”.<sup>134</sup> Whilst the Ga Pila community that now lives at Sterkwater places the blame on Anglo Platinum, Anglo Platinum shifts the blame to the local municipality.

*“Some relocated occupants of the new houses at Sterkwater have become dissatisfied with the maintenance of services. Anglo Platinum handed over the responsibility for maintenance of services at Sterkwater to the local municipality on completion of construction and the relocation. It would appear that capacity constraints within the municipality have meant that service provision has become somewhat erratic at times and has led to the residents, who do not receive an adequate response from the municipality, blaming Anglo Platinum.”*<sup>135</sup>

But Brand Nthako indicates that “*Anglo [Platinum] is trying to hand over Sterkwater to the municipality so it can become a township [and] then all the problems [would] belong to the municipality.*”

Even more devastating than the poor quality of housing and services is that there is no farming land for the Ga Pila community at Sterkwater. Nthako says that “*the Section 21 companies promised heaven and earth to persuade the communities to move... they told them wherever you are going you will have fields to plough and land to graze your animals?*”. It is the loss of arable and grazing land that has cause further impoverishment of the community that has resettled from Ga Pila to Sterkwater. The women are in particular affected since they often contribute to the household subsistence through farming.

Today, The Ga Pila community in Sterkwater still continues to struggle against the yoke of the Section 21 company. In February 2007, 29 people were arrested in Sterkwater including Induna (Headman) Pila, Local Councillor Phillipos Mello and the entire Council of Elders. Induna Pila is over 70 years old and many of the others arrested are of a similar age. The traditional leadership comprising of the Induna and the Council of Elders objected to the

---

<sup>133</sup> IAfrica website, Business, Transcripts, “Richard Spoor versus Goliath,” no date, <http://business.iafrica.com/transcripts/918791.htm> (20-09-07).

<sup>134</sup> Anglo Platinum, Sustainable Development Report 2006, p.5.

<sup>135</sup> Idem, p.73.

construction of a community hall by the Section 21 Company as there had been no consultation with the community. When their request for a halt to the construction was ignored, the elders removed planks that marked the foundations and stored these at the Induna's house until the issue would be resolved. This is an acceptable traditional practice when disputes arise. The police were called in and the community leaders as well as some members were charged by the Section 21 Company with theft and malicious damage to property. Five people were released the following day, two of them allege that they were taken into the bush by the police and kicked and beaten with cables. The other 24 people were eventually released on bail.

### **7.5. THE STRUGGLE CONTINUES: THE STORY OF THE GA PUKA AND GA SEKHAOLELO (MOTHLOTH) COMMUNITIES**

Anglo Platinum now wants to resettle the Motlhotho communities Ga Puka and Ga Sekhaolelo to the farm Armoede.<sup>136</sup> The farm is aptly named, as this Afrikaans word means "poverty". These communities currently live on the adjacent farms Overysel and Zwartfontein and are members of the indigenous Mapela-Langa. Anglo Platinum claims it has the rights for mining activities at this land, as it negotiated the lease of the tribal land farms Overysel and Zwartfontein in 1993. In this agreement, the Mapela-Langa was to receive a sum of R5000 per annum per farm, with an annual 10% increase. Richard Spoor explains how Anglo Platinum proposes to acquire this land and the subsequent relocation scheme:

*"The State and the Mapela-Langa will lease Overysel and Zwartfontein to the Section 21 companies for the purposes of open cast mining for an indefinite period... The section 21 companies will in turn sub lease the farms to the PPL mine and the rental amount received will pay for the cost of the removal and resettlement. The section 21 company will become the owner of the portions of the farms Armoede and Rooibokfontein where the Motlhotho community will be removed to. They will also own the fixed improvements. The section 21 companies will take transfer of portions of Armoede and Rooibokfontein from the State and from the Anglo Platinum subsidiary companies who presently own it. This land does therefore not accrue to the Mapela-Langa tribe. From the perspective of the tribe they forfeit thousands of [acres of] valuable agricultural land for no contractual advantage to them at all."*<sup>137</sup>

<sup>136</sup> During the course of this research, no relocations had taken place yet. The researchers received word from Anglo Platinum that 363 families had relocated voluntarily as of November 2007. This could, however, not be independently verified within the time span of this research.

<sup>137</sup> Letter to Mr Chris Schalkwyk, Director General, Department of Land Affairs from Richard Spoor, legal representative for the members of the Langa-Mapela tribe who reside inter alia at Ga-Chaba, Ga Molekana and Ga Puka and Ga Sekhaolelo, 26 May 2007.

While Anglo Platinum argues that the Section 21 companies are the legitimate representatives of the communities<sup>138</sup>, the communities themselves have expressed their dissatisfaction with this arrangement for several years. In a recent attempt to provide a more democratic structure for negotiations with Anglo Platinum, the Mothlotho Development Committee proposed that the Section 21 companies “should be wound up”. Instead, the committee propose new democratic structures to negotiate and enter legally binding agreements on behalf of the communities. *“For that purpose one or more Communal Property Associations (CPA’s) should be established in terms of the Communal Property Association Act, (Act no 28 of 1996).”*<sup>139</sup>

In order to establish such an association, the communities would have to manage to annul the 1993 Overysel and Zwartfontien lease with Anglo Platinum and would have to get the traditional authority and government to agree to grant them the land. In this way, the community can appeal to the Department of Land Affairs for approval of the Communal Property Association. Such an association requires that the government plays an active role in its creation. The Mothlotho Development Committee proposes that the Independent Electoral Commission supervises elections of officials.

The communities are not against the relocation but are unhappy with the terms of the agreements regarding their dispossession, removal and resettlement, both at an individual and communal level. In 2004, many members of these communities signed ‘Agreement of House Sign Off’ documents, agreeing on an individual basis to relocate. However, as Spoor argues:

*“Since many community members were told that they had no choice but to be relocated and that signing the agreement was the only way that they would receive a house at the new location, the documents are contracts of adhesion and duress. Many community members signed the documents believing that they faced no other alternative to homelessness and destitution when forcibly relocated, so lacked the necessary free will when they signed the documents.”*

It is difficult to reconcile these events with the principle of ‘ free prior and informed consent’ as put forth in the Framework for Responsible Mining. Subsequent to these events, several hundred members of the communities have signed statements repudiating the house sign-off documents.

While the communities are doing their best to challenge the land dispossession and resettlement proposals, the living conditions in the Ga Puka and Ga Sekhaolelo communities are steadily worsening. The environmental conditions created by open cast

---

<sup>138</sup> Anglo Platinum’s response to the first draft of this report, received 23-11-07.

<sup>139</sup> Statement and Demands of the Ga-Puka and Ga-Sekhaolelo (Mothlotho ) Development Committees, 11th June 2007

mining and blasting subject these communities to intolerable levels of dust, noise and property damage. As Nthako states: *“they blast so close to the houses that sometimes people have to be evacuated before hand and then the houses shake and the windows shatter”*. According to Nthako, the mining activities have led to the communities’ water supply becoming unsuitable for drinking, and Anglo Platinum now trucks water in for the community. Anglo Platinum has constructed a razor wire corridor that the communities must pass through to access their villages, which is unsafe and makes community members easy targets for criminals. Crops have been destroyed or are in threat thereof to make way for mining activities.

In one incident in February 2007, Anglo Platinum allegedly instructed bulldozer drivers to dump mounds of dirt onto women who had formed a human chain to stop Anglo Platinum from putting a fence around their crop fields.<sup>140</sup> The Mothlothe Development Committee believes that Anglo Platinum is making their living conditions intolerable so that they will give in and accept the terms of resettlement; *“Anglo Platinum has been working purposefully and deliberately to turn Mothlothe into a ghetto by cutting off the communities access to the resources that sustain them including land for food production, water, grazing land, roads and schooling. It has created conditions that are difficult, dangerous and unhealthy in an effort to force people to relocate. This must stop”*.<sup>141</sup>

In May 2007, when Anglo Platinum tried to remove ten families in Mothlothe, community members blocked the roads with burning tires, stones and human chains. Caroline Ramotsele, a community representative stated: *“We want Anglo Platinum to come here so that they must negotiate with the community. Some of the agreements are made by a few individuals and do not represent us. Individuals sign without the full understanding of what they are doing. They cannot remove us without the entire community's full understanding and consent.”*<sup>142</sup>

The Mothlothe Development Committee further explains this position :

*“Anglo Platinum should respect the communities’ right to deal with it on a collective basis. It is not acceptable that Anglo Platinum exploits the poverty and weakness of individuals by offering them sums of money to relocate graves or as compensation for land if the amounts offered have already been rejected by the community as inadequate and unfair. Many people are so desperately poor that they will accept a crust of bread if that is what it takes to keep their families alive. This makes them vulnerable to be cheated and exploited. Such people are entitled to the protection of the collective just as vulnerable individual employees are entitled to the protection offered by trade unions.”*<sup>143</sup>

<sup>140</sup> Jubilee South Africa, Press Statement, “Mothlothe Community Blocks Forced Removals by Anglo Platinum,” 29-05-07, available at <http://www.minesandcommunities.org/Action/press1514.htm> (20-09-07).

<sup>141</sup> Statement and Demands of the Ga-Puka and Ga-Sekhaolelo (Mothlothe ) Development Committees, 11th June 2007.

<sup>142</sup> Jubilee South Africa, Press Statement, “Mothlothe Community Blocks Forced Removals by Anglo Platinum,” 29-05-07, available at <http://www.minesandcommunities.org/Action/press1514.htm> (20-09-07).

<sup>143</sup> Statement and Demands of the Ga-Puka and Ga-Sekhaolelo (Mothlothe ) Development Committees, 11th June 2007.

It is clear that these communities will not go quietly, they are shouting as loud as they can for a more equitable agreement with Anglo Platinum that respects their cultural values, provides proper compensation and allows the communities to continue their way of life, including the ability to provide for their families through subsistence farming. The Mothlotho Development Committee has formulated a number of concrete demands in name of the community, simply named the Statements and Demands,<sup>144</sup> while 106 members of the community have initiated legal action against Anglo Platinum's wholly-owned subsidiary PPL and nine other defendants.

At present, no resettlements have been attempted by Anglo Platinum through the Section 21 Companies. Since the incident in May 2007 it appears that the relocations of Mothlotho communities have been put on hold, although Anglo Platinum insists that the process of relocation is continuing.<sup>145</sup> The company also claims that the resistance and protests against relocation is limited to "factions" within the communities.<sup>146</sup>

#### **7.6. YOU STRIKE A WOMAN YOU STRIKE A ROCK: PROTESTS AND VIOLENCE**

The words "You Strike a Woman You Strike A Rock" were first penned 49 years ago when 20 000 women from across South Africa marched on the Union Buildings on August 9, 1956 to protest the extension of apartheid pass laws on black women.<sup>147</sup> It is an apt song for the struggles of the communities at Potgietersrus, where the ability of rural women to contribute to the livelihood of their family is under threat and where men, women and children have been subjected to acts of violence and arrests for standing in the way of Anglo Platinum's mining interests.

Amongst the communities' allegations levelled at Anglo Platinum and the Section 21 companies is the manipulation of the police to suppress legitimate protests and acts of defiance. The Mothlotho Development Committees argues that:

*"The dispute between Anglo Platinum and the members of the Mothlotho community should be recognised for what it is: A civil matter between the mine and the community. The police have no role in that dispute and to the extent that they are involved they should exercise maximum*

---

<sup>144</sup> Statement and Demands of the Ga-Puka and Ga-Sekhaolelo (Mothlotho ) Development Committees, 11th June 2007, <http://www.minesandcommunities.org/Action/press1529.htm> (20-09-07).

<sup>145</sup> Mines & Communities website, "Anglo Platinum condemned for safety violations while relocations seem fated to continue," 08-06-07, <http://www.minesandcommunities.org/Action/press1520.htm> (20-09-07).

<sup>146</sup> Anglo Platinum's response to the first draft of this report, received 23-11-07.

<sup>147</sup> 'When you strike a woman, you strike a rock', Leanne Raymond, South Africa, August 10 2005, <http://www.iol.co.za>.

*constraint. It is not acceptable for the mine to make its earth moving equipment available in support of police action against community members, as has happened recently.”*<sup>148</sup>

This statement refers to an incident where the mine supported violent police action against residents who were protesting against removals.<sup>149</sup> The company provided heavy machinery to remove barricades erected to prevent demolition trucks entering the villages.<sup>150</sup> A number of community members were seriously injured. In an earlier incident, dozens of women protesting the seizure of their farm land were beaten and arrested at Anglo Platinum’s behest.

Nthako tells how:

*“when the police are called in, they don’t investigate the charges. They first arrest the people, sometimes using violence, and then release them saying the company has no case. But to subject people to such mistreatment is a violation of their rights.”* Spoor backs this up saying *“(whilst) arrests and beatings have become commonplace, not a single matter has gone to trial, save that of a community leader, Mr Phillipus Dolo, who was arrested and detained for six days for allegedly referring to directors of the section 21 companies as ‘rats’ and ‘dung beetles’”*.<sup>151</sup>

Children have also been victims in these conflicts.<sup>152</sup> In one incident in February 2007, the chairman of the section 21 company at Ga Puka lodged a complaint with the police against children who were dancing and singing in the streets after national television broadcasted a programme on the issues of their resettlement. The next day, five children were arrested. The youngest of the children is an 11 year old girl named Shirley Ramotsela, and the oldest is 17 were then charged with malicious damage to property. Shirley’s mother was herself beaten and detained in January for standing in front of the bulldozers.<sup>153</sup>

<sup>148</sup> Statement and Demands of the Ga-Puka and Ga-Sekhaolelo (Mothlotho ) Development Committees, 11th June 2007, <http://www.minesandcommunities.org/Action/press1529.htm> (20-09-07).

<sup>149</sup> R. Spoor, Press Release, “Action instituted against Anglo Platinum over forced removals at Mothlotho ,”, 25th July 2007, <http://www.minesandcommunities.org/Action/press1587.htm> (20-09-07).

<sup>150</sup> Anglo Platinum states that they were acting on the request of the police, who did not have such heavy equipment themselves. They also state that the protests were by only a small faction within the community and that a majority of villagers removed the blockade in a counter-protest. It was not possible to verify these claims within the scope of this report.

<sup>151</sup> An Open Letter To Anglo American: "Act now before irreparable harm is done" Richard Spoor 25 February 2007.

<sup>152</sup> R. Spoor, Press Release, “Action instituted against Anglo Platinum over forced removals at Mothlotho ,”, 25th July 2007, <http://www.minesandcommunities.org/Action/press1587.htm> (20-09-07).

<sup>153</sup> Anglo platinum in there response to the SOMO draft argues that the actions of the protestors do not represent the entire community.

## **7.7. SILENCING SPOOR: ATTEMPTS TO UNDERMINE COMMUNITIES REPRESENTATION**

In an attempt to further suppress the claims and actions of these communities against Anglo Platinum, their legal representative human rights lawyer, Richard Spoor, has also come under attack. There have been several attempts to discredit him extending beyond the section 21 companies to government. Nthako tells of “*even government involvement to get rid of Richard. The Premier of Limpopo [province of South Africa] went to the communities and told them ‘you don’t need a white man to fight for you, the government can sort these problems out for you, fire your lawyer, then we can talk’. But the people trust Richard, they want Richard, they won’t let him go.*”

Efforts have been made by Anglo American and Anglo Platinum to reign in Spoor. Anglo American lodged a complaint with the Law Society of South Africa for unprofessional conduct which was meant to be heard in May 2007 but was postponed. Then in July 2007, Spoor received a letter from Anglo Platinum where the company demanded that he withdraws a number of comments made against them and undertake not to defame the company again.<sup>154</sup>

Spoor however, refuses to be silenced and in a response to the law firm representing Anglo Platinum he defends his position and that of his clients as follows:

*“Unlike the rich and powerful corporations that you represent, my clients are amongst the poorest, most vulnerable and most disadvantaged communities in South Africa today. My client communities are furthermore situated in remote rural areas and are effectively voiceless. Your clients have the advantage over them in almost every respect; in money, skills, knowledge and resources and of course in the teams of professionals and consultants that your clients are able to deploy to advance their causes and their interests. It is my brief not only to provide the legal services that they, my clients, so desperately require but also to articulate their plight and to ensure that it is communicated to the wider public and to the world. When I speak or write on these matters I do so for and on behalf of my clients, who otherwise might not be heard. One of the great advantages I enjoy over my clients is my ability to write and speak in English and as such I am uniquely placed to engage with the mainstream media on their behalf. When your client seeks to interdict me from speaking out on the facts and making fair and justifiable commentary thereupon, they are in fact seeking to silence my client communities and are seeking to prevent me from carrying out my professional obligations towards my clients. That is unconscionable.”<sup>155</sup>*

---

<sup>154</sup> Anglo Platinum website, Media Release, “Anglo Platinum Requests Richard Spoor To Withdraw Defamatory Statements,” 06 July 2006, [http://www.angloplatinum.com/def\\_main.asp?Id=press/display.asp&Related=true&Id2=153](http://www.angloplatinum.com/def_main.asp?Id=press/display.asp&Related=true&Id2=153) (20-09-07).

<sup>155</sup> R. Spoor, “Re: Anglo-American Platinum Corporation Ltd and two others: Threatened Interdict,” email, published 06-06-07, <http://www.minesandcommunities.org/Action/press1150.htm> (20-09-07).

## 7.8. IS THE TIDE TURNING?

Anglo Platinum's treatment of communities affected by its mining activities has not gone unnoticed, making it impossible for Anglo Platinum to sweep it under the carpet. In fact in the Chief Executive Officer's message of the company's 2006 Sustainable Development report, Anglo Platinum former boss Ralph Havenstein admits "*We attracted negative media publicity in 2006 over our perceived heavy-handed approach to dealing with local communities*"<sup>156</sup> and he goes on to defend several of these issues, including the relocation plans for the Mothlotho communities.

The issues of resettlement of the Mothlotho communities was brought directly to the attention of Anglo American shareholders at the annual general meeting in London in April 2007, where Spoor outlined the concerns of the communities. Anglo American Chairman Sir Mark Moody Stuart and former Anglo Platinum CEO Ralph Havenstein responded, acknowledging "*that there was a problem with the Section 21 Companies which had to be addressed in order to ensure that they were representative and accountable. They committed Anglo Platinum to engage with all stakeholders but did not commit to the principle of no relocations without full, free and informed consent of the communities concerned.*"<sup>157</sup>

The considerable number of community protests has not gone unnoticed by the government. The Minister of Minerals and Energy, Buyelwa Sonjica acknowledged the uprisings of communities in the Limpopo and as a consequence has recognised the need to broaden community participation. In July 2007, she said "*that government could amend legislation (the Mineral and Petroleum Resources Development Act) governing the mining sector, to give communities a stake in mining companies operating in their areas*".<sup>158</sup>

Buyelwa Sonjica has publicly announced that the government will appoint a team to investigate an adaptation of current mining laws to give communities located near mining sites, and those supplying labour, a larger stake in operations. This move is a direct consequence to the uprising and resistance of communities such as in the Limpopo province.

On a number of occasions, the Department of Minerals and Energy (DME) has accused Anglo Platinum of "*an unwillingness to adopt the mandatory black empowerment requirements laid out in mining laws enacted in May 2004*"<sup>159</sup>. It was on the basis of these criteria that the DME

<sup>156</sup> Anglo Platinum, Sustainable Development Report, 2006.

<sup>157</sup> R. Spoor, "Statement to Anglo American AGM," 17-04-07, <http://www.minesandcommunities.org/Action/press1468.htm> (20-09-07).

<sup>158</sup> Mining Weekly website, Podcasts, "Podcast, June 27<sup>th</sup> 2007," [http://www.miningweekly.co.za/article.php?a\\_id=111727](http://www.miningweekly.co.za/article.php?a_id=111727) (20-09-07).

<sup>159</sup> Allan Seccombe & David McKay, Havenstein quits amid safety review, MiningMx, 30-07-07, <http://www.miningmx.com/platinum/298206.htm> (20-09-07).

rejected applications lodged by the company for four new order prospecting rights. Anglo Platinum has taken legal action against the DME following these decisions, but the status of these legal proceedings are unclear at the time of finalising this report.

Cynthia Carroll, the CEO of Anglo American Plc., has already met with Minister Sonjica in a bid to resolve some of the black empowerment issues. Communities have lived through change in leadership at Anglo American and Anglo Platinum. There is always the hope that Anglo American and Anglo Platinum will seize the opportunity of changing leadership to make a clean start and reform its approach to the tens of thousands of South Africans that have shown their resolve to fight against their exploitation and for the right to live with dignity and respect.

## 8. CONCLUSIONS AND RECOMMENDATIONS

This report has mapped the supply chain of PGMs, from the mining stage to the end use in electronic products, and identified some of the most stressing issues that occur during the mining of the extractives. Almost all production and mining of PGMs is done in Russia and South Africa, where a number of social, labour and environmental issues are known to occur.

The raw materials reach the electronic producers through various trade channels. It seems that the large western mining companies, who operate most of the PGM mining in South Africa, sell most of their extractives to Europe and North America. Here, the product is stored, traded, and resold, including to western electronic companies active in Asia, and their first and second tier suppliers.

In this report we have identified one exemplary case where the mining operations of PGMs have had harmful effects on the livelihoods of local communities as well as shortly introduced several other issues that play a role in the mining of PGMs in South Africa and Russia. For example, the largest PGM mine and processing site in Russia is located in the northern town of Norilsk, which was included by the Blacksmith Institute in its top ten list of worst polluted places in the world.<sup>160</sup> There are also several reports of bad labour conditions and labour disputes, and several issues are described in this report.<sup>161</sup>

While at a corporate level, the responsibility for the conditions at and around the PPRust mines lies foremost with Anglo Platinum, various other companies can also be held responsible and exert influence through their role in the supply chain of PGMs. For example, the financial sector has recognized its role as financier of projects, and has adopted the Equator Principles for a more sustainable approach to project financing. Likewise, the direct customers of Anglo Platinum, as well as the end users in the sectors such as the electronics sector, should recognize their role in the chain and adopt a sustainable approach to the procurement of raw materials such as PGMs. Most of the main companies in the electronics industry have accepted supply chain responsibility and will have to include the raw materials.

---

<sup>160</sup> The Blacksmith Institute website, World's worst polluted places, "Norilsk," no date, <http://www.blacksmithinstitute.org/site10h.php> (25-09-07).

<sup>161</sup> See for example, <http://www.iccm.org/en/72-HIV-AIDS/2148-SA%E2%80%99s-Platinum-Strikes-End-but-NUM-Protests-Contract-Labour-Abuses-at-Bafokeng-Rasimone-Platinum>, and <http://www.minesandcommunities.org/Action/press1546.htm>.

### **8.1. THE ROLE OF THE ELECTRONICS INDUSTRY**

There is not much known yet of the raw materials production part for the electronic industry and the companies are not transparent nor acknowledge sufficient influence on this part of the production chain. Individual electronic producers and brands claim they do not procure sufficient amounts of raw materials to be able to pressure the mining companies for a more sustainable approach to mining. However, the sector as a whole can be regarded as a significant consumer of PGMs and other metals, and sector-wide approaches to more sustainable mining of its raw materials can certainly have effect. Through a sector wide approach the brand companies, as well as its large first tier suppliers could pressure both the mining companies directly as well as other companies in the chain to ensure that their products are extracted in a sustainable manner.

The first step in this process is mapping out the entire supply chain for the electronics products. Traceability of raw materials would open up possible channels of sustainable sourcing, and it would identify where the influence of the electronics industry is the largest. Industry codes, such as the EICC, could then be applied throughout the entire chain, and not just in the first or first two tiers of production.

The electronic industry would have to map the issues that are effecting workers, communities and environment in the raw material part of the production chain and develop a plan of action, with an initial focus on those metals and those regions where the market share of the electronics industry is the largest. In the case of PGMs, a proactive approach from a sector that has approximately 15% market share could be significant, especially when it finds cooperation with the other PGM consuming sectors, such as the automotive industry.

### **8.2. THE ROLE OF CONSUMERS**

At the moment, consumer awareness of the content and production conditions of the electronic products that they purchase seems very limited. Not much is known about where the mobile phones, laptops, mp3 players or game consoles are produced, let alone where the raw materials used originate from. For consumers to play a role towards a more sustainable production of electronic equipment, such awareness is a prerequisite.

Through campaigns, media events and other methods of awareness raising, consumers can be encouraged to demand more transparency from the electronic brand companies. At the same time, consumers could have a positive effect on the conditions all down the supply chain to the mining stages by purchasing sustainably produced electronic products. Of course, these would have to be available to them.



for people everywhere