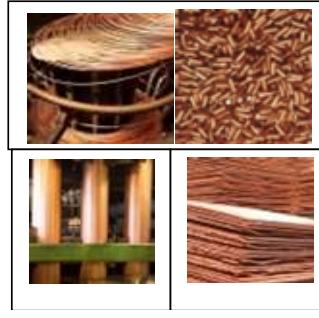


# VALUE CHAIN ANALYSIS ASSIGNMENT

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2008

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## **Summary**

This paper is a brief outline of the copper value chain in Zambia and South Africa. The thrust of the paper is an analysis of the value accruing from the copper mines and how this value is distributed among the identified stakeholders. The motivation for the paper is the need to find solutions to the conflicts in the industry arising from perceived inequity in the distribution of the mineral rents. The paper's overarching goal is to arrive at policy and operational recommendations for the stakeholders to partner and create win-win outcomes that reduce chances for grievances and conflict between mining MNEs and communities.

## **ABBREVIATIONS**

CIA	Central Intelligence Agency
DA	Development Agreement
EU	European Union
GVC	Global Value Chain
ILO	International Labor Organization
KCM	Konkola Copper Mines
LME	London Metal Exchange
MCM	Mopani Copper Mines
MMSD-SA	Mining Metals and Sustainable Development – Southern Africa
MNE	Multinational Enterprise
NFCA	Non Ferrous Metals Corporation - Africa
NGO	Non Governmental Organization
RSA	Republic of South Africa
UNCTAD	United Nations Commission for Trade and Development
ZAMEFA	Zambia Metal Fabricators
ZCCM	Zambia Consolidated Copper Mines
ZDA	Zambia Development Agency
ZESCO	Zambia Electricity Supply Corporation

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## **1.0 Overview of the mining industry**

### **1.1 Introduction**

Millennium Development Goal number 8 is on Global Partnership. The push for partnership to address the ills facing society is well supported. The value chain is made up of players, inputs, processes, outputs, outcomes and value. The call for partnership is to address asymmetries and unwanted outcomes or to foster symmetric relations and positive outcomes.

This paper is a brief outline of the copper value chain in Zambia and South Africa. The thrust of the paper is an analysis of the value accruing from the copper mines and how this value is distributed among the identified stakeholders. The motivation for the paper is the need to find solutions to the conflicts in the industry arising from perceived inequity in the distribution of the mineral rents. The paper's overarching goal is to arrive at policy and operational recommendations for the stakeholders to partner and create win-win outcomes that reduce chances for grievances and conflict between mining MNEs and communities.

This paper is a value chain analysis of the copper sub sector in Zambia and South Africa. Zambia was chosen because it is at one and the same time a major copper producing country and also a copper dependent economy with fortunes tied to the vagaries of the copper market prices. The country has a long history of mining. It has moved from being a middle income country in 1969 to one of the poorest by the turn of the century. South Africa, while known for gold also produces copper (1%) of global production. The country was chosen because while it is comparable to Zambia in many respects, it has a more advanced mining industry and will be a good comparator in the analysis.

Mining is a global business. The copper mining value chain involves application for exploration license, actual exploration, application for mining license; actual mining, marketing, retailing and exporting, and consumption by electrical and electronic firms, other manufacturers and the medical field among others (cf. Natural Resources Canada, 2001). Key players include input suppliers, mining companies, refineries, wholesalers and consumers. Others are governments, trade unions, mining NGOs, associations, chambers of mines, London Metal Exchange etc.

Because of the nature of mining the impact can be both positive and negative (Fraser and Lungu, 2007). The resource curse attests that mining is detrimental to the resource rich countries (cf. Pegg 2004, Warner 1995, 2003 and Gylfason 2001, Leite and Weidmann 1985, Ross 1999, Jones 2007). The effect of mining on the environment, the social fabric and the economy can be massive. Conflict has often resulted. The causes for conflicts are many. Conflict whether it is the violent type in the Congo DR and Niger Delta, or the latent type in South Africa, Zambia etc,

perception of inequity is usually at the heart of the conflict. Mining can cause conflict over control of the resource or resource-area, right to participate in decision-making and benefit-sharing, social and environmental Impacts (cf. Switzer, 2001). Because the focus is partnering to address conflict in the mining industry, relevant conflict will be that which flows from mining-related activities. It matters what value is created and to whom that values accrues; who the key actors are and their size; and what challenges exist in the mapped value chain. The value chain analysis will be for the purpose of uncovering those challenges and opportunities and arriving at a feasible model for such partnering among the key stakeholders.

**Table 1: Projected global copper production: 2006-2011**

000 metric tonnes of cu.	2006	2007	2008	2009	2010	2011	% change 2006-2011
SX-EW (Solvent Extraction-electrowinning)	3330	3696	4033	4515	4963	5387	61.8%
Concentrates	13641	13952	14314	14764	15400	16607	21.7%
Mines total	16971	17648	18347	19279	20363	21994	29.6%
Smelters	16 294	16971	17412	17967	18429	18785	15.3%
Electrolytic Refineries	16 506	17454	17950	18535	18787	19026	15.3%
Refineries total	20 630	21886	22739	23824	24521	25164	22%

Source: Directory of copper mines and plants, Dec. 2007 available at <http://www.icsg.org/> accessed on 23 May 2008

## 2.0 The Global Value Chain

The value chain has become an important determinant of value sharing. It is for this purpose it has been selected as an important element to address conflict in the copper mining subsector. The evolution of global production and global distribution networks has come to determine how and where value is created and who wins or loses in the process. Schmitz, (2005) posits that 'Value Chain Analysis (VCA) has become a useful approach to gain a comprehensive view of the various inter-locking stages involved from taking a good or service from the raw material to production and then to the consumer' (cf. ILO, 2005). Global value chains cover a full range of productive activities geographically dispersed to bring out a product or service from conception to completion and delivery to final consumers (cf. Gereffi, 2003, UNCTAD, 2003). Global value chain (GVC) analysis would identify possibilities for developing economy organizations to enhance their position or for their governments to negotiate effectively to receive a fair share of the value of their resources flowing into the GVC (cf. Schmitz, ILO, 2005). It is well known now that the supply chain for commodities have become longer, more sophisticated and global with many actors dispersed across national boundaries. The chain may begin at the 'Bottom of the Pyramid' which boast a billion people (Prahalad, 2006; Collier, 2007), or the Base of the Pyramid which boast four billion people with a \$5 trillion income (World Resources Institute/IFC, 2007) and end at the top of the pyramid with actors perched along the entire chain. Benefits and challenges are also found along the chain. The distribution of benefits

depends to a large degree, on the positioning along the value chain. In identifying business environment constraints – inefficiencies and cost disadvantages – policy makers have the opportunity to jumpstart economic reform processes that target priority areas along the value chain (cf. FIAS, 2007). In particular, at the base of the pyramid, it is claimed that identifying traps such as informality, poverty penalties – paying higher prices for services, and subsistence would launch the poor into the GVC (World Resources Institute/IFC, 2007).

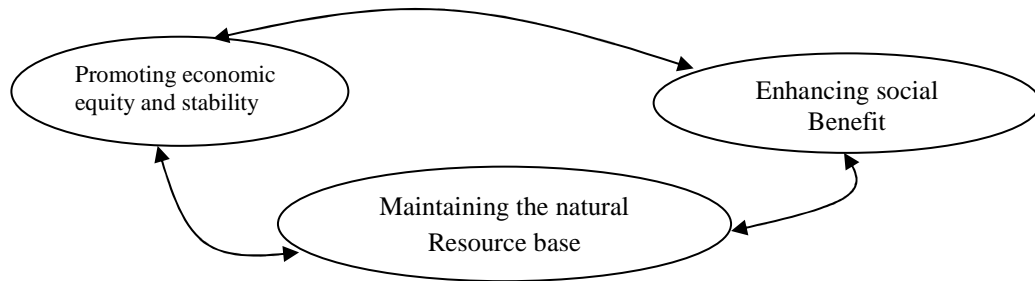
### **3.0 The mining value chain**

The mining industry constitutes archetypal value chains with specific participants. Ascertaining the value created, identifying the participants and determining where and to whom the value accrues might assist in crafting policies that ensure and assure a fair distribution of such wealth in the hope of creating an atmosphere fostering good relations and sustainable development. A lot has been written on mining in Southern Africa regarding the processing of copper. **However a systematic and comprehensive copper value chain analysis for Zambia and South Africa or Congo DR and Zimbabwe for that matter, indicating the actors both local and foreign and the distribution of value among these actors is not available.**

Even at the global level, papers covering the copper value chain showing value accrual and indicating how this is distributed among the parties are a rarity. The government of Zambia has expressed an interest in this research.

Part of the problem for Zambia is the secrecy in the industry. For instance, the mining development agreements (DAs) signed between the government and the MNEs in the mid 1990's were kept secret from other interested parties such as NGOs for many years. The DAs had amazing incentives for the investors that included a stability period of 15 -20 years during which no legal changes even to the country's constitution would affect the agreements. The governments only released these agreements in 2007 under extreme pressure from opposition politicians and NGOs. The revelation led to a new mining law and the repeal of the DAs. But the culture of secrecy means obtaining information to assess the value still remains a challenge. The Zambian government expressed their need for the copper value chain which is currently unavailable. This research will produce a type of "prototype" value chain for the country.

Given this scenario and in the light of the resource curse, it is the concern of this research to study the copper mining value chain in Zambia and South Africa to determine where the value is added and accrued, with a view to arriving at solutions through partnerships that create win-win outcomes and reduce chances for grievances and conflict between mining MNEs and communities. Essentially, the resource curse is supposedly the anti thesis of sustainable development. Sustainable development goals in the context of the southern African region include:



*Sustainable Development goals in southern Africa*

*Source: Adapted from: MMSD-SA Baseline survey (2001)*

For both Zambia and South Africa as for the entire SADC region, the overwhelming drive is said to be economic and social development because of the levels of poverty.

**4.0 Mining in Zambia**

Mining was so successful in Zambia that in 1969 the country was classified as a middle income country with an economy three times that of Kenya, twice that of Egypt and larger than that of Turkey, South Korea or Brazil (cf. Fraser & Lungu, 2007). A combination of poor governance, the oil crisis and the copper prices left the country among the poorest 25 by the year 2000. The mines were nationalized in 1968 through sweeping economic reforms that put the government at the centre of the economy. By the year 2001, all the mines were privatized after bleeding the economy through subsidization. Privatization has increased production of copper again. Prices of copper are high thanks to Chinese and Indian demand and investment has poured into the Zambian economy. The downside has been an escalation of grievances, resentment and conflicts. In tracing the copper value chain it is the intention of this exercise to determine ways and means to so distribute mineral wealth as to minimize conflicts among the key players in the copper subsector. Mining in Zambia is dominated by copper followed by cobalt and gemstones (emeralds and semi precious stones). Others are zinc, lead, coal, gold, silver and uranium (The World Fact Book, CIA, May 2008).

**4.1 The copper mines and their owners**

Below we show the key mines in the country and the companies that own them. We also show the nationality of the MNEs. The notable development in the mining industry in Zambia has been the heavy presence of the Chinese and the absence of Anglo American Corporation that had become synonymous with mining in the country for decades. Anglo American pulled out of the country at the time the prices of copper were at rock bottom and to the company’s chagrin the prices rebounded hardly a year later (African Business, Mar 2002; BBC News, Aug 20, 2002). That departure severely disappointed the country which saw Anglo American as a fair weather friend. Exit Anglo American, enter the Chinese.

Table 2 : Size and Ranking of the copper mines in Zambia

Shareholder	Company	Rank	Cumulative production 7 years [MT]	Production (Copper Metric tonnes)						
				2006	2005	2004	2003	2002	2001	2000
Vedanta, CDC, International Finance Corp (IFC); ZCCM	<b>KCM</b> [Konkola, Nchanga, Nampundwe mines; Nkana smelter]	1	1,092,261	141777	163603	191685	195163	222010	19680	158343
First Quantum (Canada); Glencore (Swiss)	<b>MCM</b> [Mufulira, Nkana and smelter]	2	801,000	140764	132719	161000	134391	97966	83515	50645
First Quantum	<b>Kansanshi</b>	3	206,942	127316	79626	-	-	-	-	-
First Quantum Minerals (FQM)	<b>Bwana Mkubwa</b>	4	197,857	50647	49081	41605	29471	7499	9569	9985
Chinese government	<b>NFC Africa</b> [Chambishi]	5	61,824	22603	19789	19432	-	-	-	-
Chinese government	<b>Luanshya/Chambishi Metals</b>	6	56,492	22793	17632	16067	-	-	-	-
Metorex Ltd and ZCCM	<b>Chibuluma mine</b>	7	50,335	9718	5699	5248	6887	7548	7403	7832
Equinox	<b>Lumwana</b>	-	-	-	-	-	-	-	-	-
Luanshya and Baluba Copper Mines		-	-	-	-	-	-	-	-	-

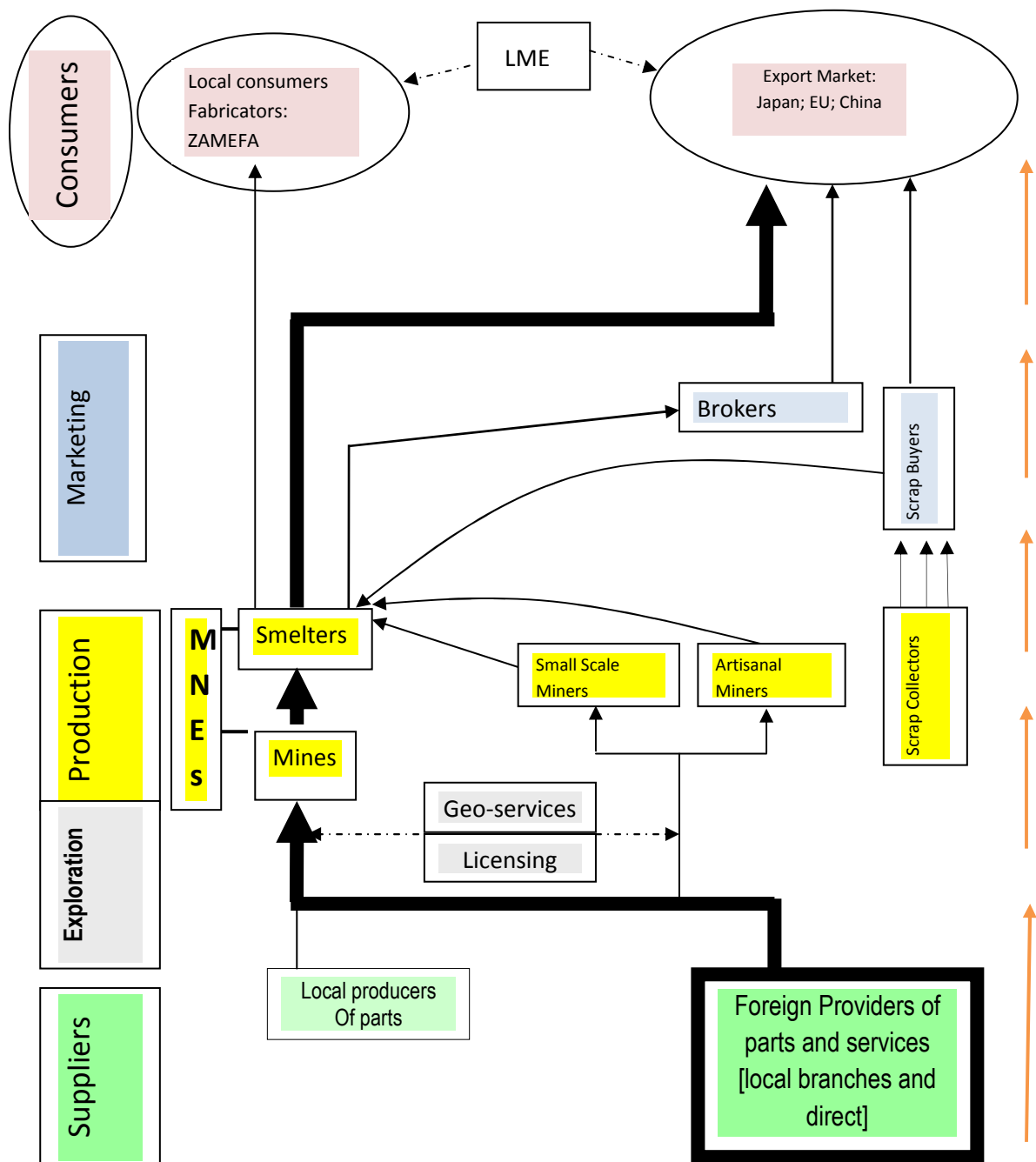
Source: Ministry of Mines and Minerals, June 2008 interview

**Table 3: Other key actors in the Zambian copper value chain are:**

<b>Government</b>	
The Ministry of Finance	
The Ministry of Mines and Minerals Development <a href="http://www.zambia-mining.com">www.zambia-mining.com</a> <a href="mailto:mines@zamnet.zm">mines@zamnet.zm</a> ; Chief Engineer: Mr. Charles Dindiwe; Economists: Messrs Alfred Phiri (0977801010) and Mbewe (0955131722)	
The Geological department <a href="mailto:gsd@zamnet.zm">gsd@zamnet.zm</a>	
Zambia Bureau of Standards – <a href="http://www.zamstats.gov.zm">www.zamstats.gov.zm</a>	
Zambia Revenue Authority – <a href="http://www.zra.org.zm">www.zra.org.zm</a> ; <a href="mailto:advice@zra.org.zm">advice@zra.org.zm</a>	
<b>Chambers</b>	
The Chamber of Mines	
Zambia Association of Chambers of Commerce and Industry – <a href="http://www.zacci.org.zm">www.zacci.org.zm</a> ; <a href="mailto:zacci@zamnet.zm">zacci@zamnet.zm</a>	
The Zambia Association of Manufacturers – <a href="http://www.zacci.org.zm/m_sec_cofmines.php">www.zacci.org.zm/m_sec_cofmines.php</a> ; <a href="mailto:comines@zamnet.zm">comines@zamnet.zm</a>	
<b>Fabricators</b>	
The Zambia Metal Fabricators – ZAMEFA	
<b>Associations</b>	
The Associations of Small Scale Miners	
Association of Zambian Women in mining	
Association of suppliers to the mines (contact: Fanuel Banda, President, MD Fluid Base Industries, Mobile: 0955778375)	
Women in Mining Trust – Zambia (contact: Namakau Kaingu)	
The Economic Association of Zambia (EAZ)	

The Geological Society of Zambia	
Emerald Miners & Semi Precious Stones Association of Zambia	
Lundazi Gemstone Miners Association	
North Western Miners Association	
<a href="#">Association of Zambian Woman in Mining</a>	
<a href="#">Kalomo Miners Association</a>	
Luapula Small Scale Miners Association	
Mkushi Small Scale Miners Association	
Mpika Small Scale Miners Association	
<a href="#">Association for the Empowerment of Woman in Gemstone and Mineral Mining</a>	
<b>Others</b>	
Jesuit center (Contact: Father Enriot : <a href="mailto:phenriot@jesuits.org.zm">phenriot@jesuits.org.zm</a> )	
Mine watch Zambia: <a href="http://www.minewatchzambia.com">www.minewatchzambia.com</a>	
The Mines Union of Zambia (MUZ)	
The Zambia Congress of Trade Unions	

***Figure: The copper value chain***

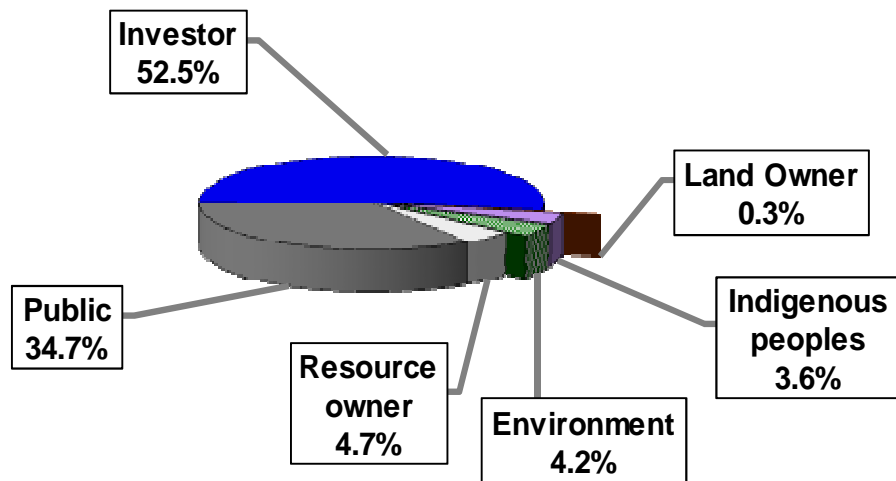


Thus input suppliers feed the mines with spares, parts, chemicals, equipment, energy and services. The MNEs do the mining of ore. Transporters assist the mines to move ores to smelters and from smelters they transport copper cathodes to the ports in South Africa and Dar es salaam, Tanzania from which they are taken overseas. Chamber of mines is the custodian of the MNEs interests. The government

ministries regulate and monitor the industry. Associations cater for members needs either to government departments of mining seniors. Trade Unions look after the interests of mining employees who are it members. NGOs monitor environmental degradation, worker exploitation and general human right issues.

**Figure 2: Proposed share of mineral rent in Southern Africa** (Source: University of wits, RSA, 2002)

This recommendation is in line with other studies that have recommended a share of



60:40 between the investor and the public (government) respectively. This University of Witswatersraand recommendation was addressing the share of the value of mineral rent that accrues within the host country. “mineral rent” were defined as ‘the present value of the future stream of net revenues that mineral deposits can generate over time, where net revenues are the difference between total revenues and total costs and costs include a competitive return on investment’. The value chain analysis on the other hand considers the value along the entire chain from exploration to consumption and how this is distributed.

**Table 4: Current share of value**

		USD/Pound (lb.)	% of value	Cumulative %
Copper Producer	Copper cathode	3.854	22	22
Metal fabricator	Copper wire rolls	13.686	56	78
Retailer	Bare copper wires	17.54	22	100

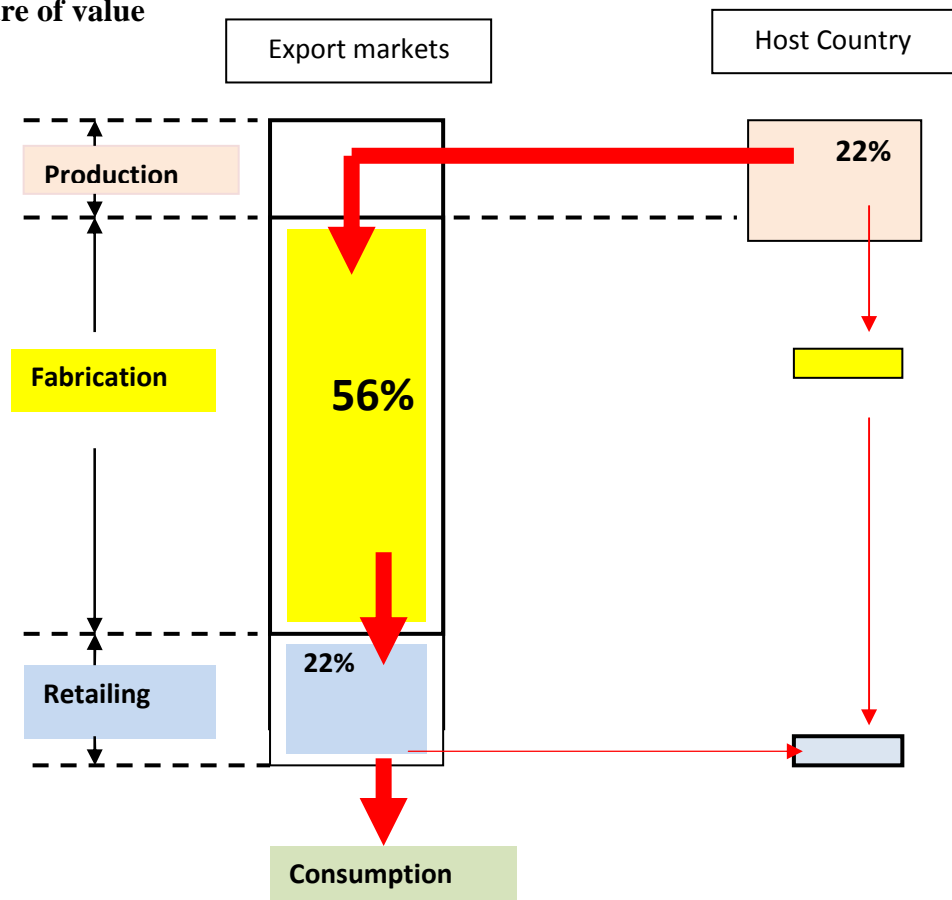
Source: LME

It is possible at this stage that there are other players between the copper producer and the copper retailer who share in the 56% value. It is hoped that further analysis will unravel the other players. At any rate, it is clear that the bigger value comes after production. The analysis becomes more meaningful when the value distribution is distributed between host countries and export markets. What is clear at this stage is that a disproportionate value of the copper accrues outside the country of production. It is said that this is the type of situation that creates deep resentment

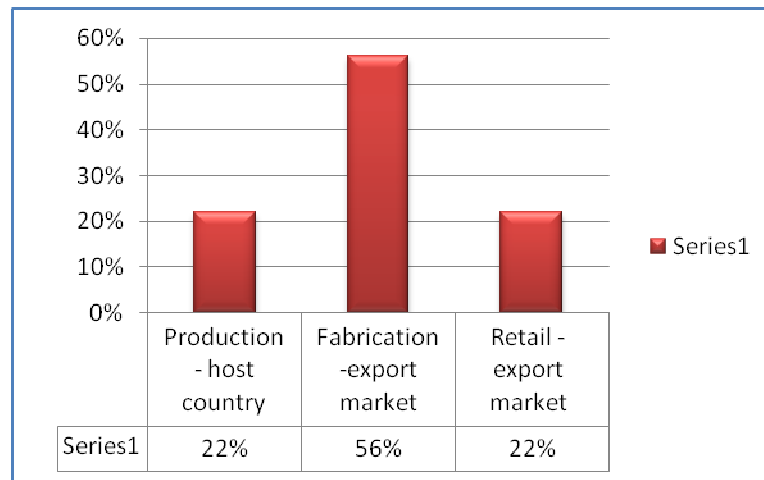
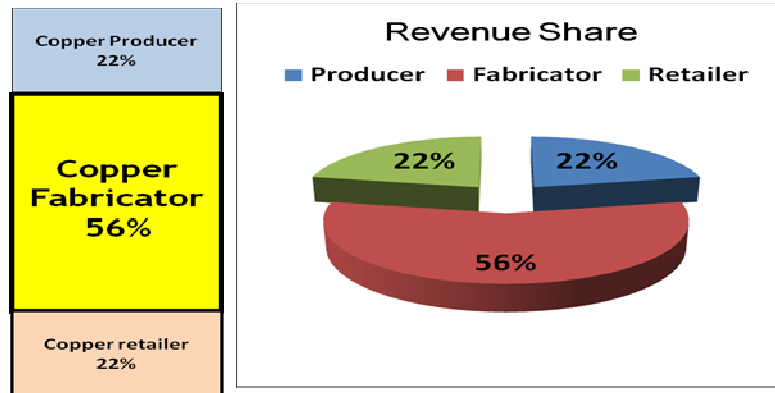
that so easily erupts into violence and that the ultimate/ideal situation would be one where:

- At the input level, supplies are sourced locally. This would mean creating industries to supply the mines, from local sources (as far as possible, and there are challenges)
- At the production level, to see that all production and smelting occurs at the local level (this is happening)
- Post smelting, the fabrication should occur at the host country level. This would mean local beneficiation or the creation of a manufacturing industry at the host country level. Botswana has done it for diamonds – cf. Mines weekly (Nov 2007)<sup>1</sup> (and there are challenges)
- Post fabrication – an export regime bereft of the suffocating bureaucracy that makes exports uncompetitive (and there are challenges)

**Figure 3: share of value**



<sup>1</sup> Mines Weekly, Nov. 2007 at [http://www.miningweekly.com/article.php?a\\_id=120451](http://www.miningweekly.com/article.php?a_id=120451), accessed on 25 May 2008.



From the above analysis, it appears that some 78% of the value accrues outside of Zambia. Of the 22% that is shown as accruing in the country, further analysis would show a much smaller amount since the MNEs have foreign bank accounts into which the sale proceeds are banked.

#### 4.2 Power distribution in the value chain

The copper chain is dominated by big actors, both upstream (mining companies), downstream (electrical engineering companies), and in-between (international traders). Copper is sold to industrial users who incorporate it into products that are sold to consumers, government agencies and other industrial users. An important institution in the copper chain is the London Metal Exchange which establishes spot and futures markets for copper. Other important actors in the copper chain include processors, "scrap" collectors, recycling companies, financial services and governments. The critical path in the value chain passes through the smelters before the refined copper (99.9% pure) is exported. The ownership of smelters is crucial to the value chain. In Zambia, there are three smelters. One is owned by the Chinese (NCFA), the second by Konkola Copper Mine (KCM) and the third by Mopani Copper Mines (MCM).

Table 5: opportunities and constraints in the copper value chain in Zambia

The copper value chain			
		Opportunities	Constraints for local participation
ACTORS			
<b>6. Export//local fabrication/ Consumption</b>	Local: ZAMEFA; ZESCO; MINING COMPANIES Foreign: USA, CHINA, EU, JAPAN	1. Fabrication	<ul style="list-style-type: none"> <li>Failure to develop a manufacturing base to beneficiate copper prior to export</li> <li>A weak industrial policy</li> <li>Export of raw copper</li> </ul>
<b>5. Marketing</b>	MNEs	-	<ul style="list-style-type: none"> <li>Access to capital</li> <li>Lack of Managerial skills</li> <li>Lack of Transport management skills</li> </ul>
<b>4. Transportation/Haulage</b>	Transport companies: <b>Copperbelt Mining Trucking Ltd</b>	<ol style="list-style-type: none"> <li>Supply of scrap and ores and Services Construction and manufacturing</li> <li>Catering, security, health, maintenance, outsourcing labour to the mines, insurance, finance syndicating and advice, legal advice, recruitment services, etc</li> </ol>	<ul style="list-style-type: none"> <li>Lack of capital; entrepreneurial skills;</li> </ul>
<b>3. Production</b>	MNEs: <ol style="list-style-type: none"> <li>NCFA – China</li> <li>Equinox - Canada</li> <li>Vedanta – UK/India</li> <li>1<sup>st</sup> Quantum Minerals - Australia</li> <li>Glencore – South Africa</li> <li>CDC</li> <li>ZCCM</li> </ol>	<ol style="list-style-type: none"> <li>Opportunities to supply security, cleaning and catering services; insurance, legal representation, audits,</li> <li>partnership at the fabrication end rather than merely service/maintenance</li> <li>It is government's intention to develop small scale miners</li> <li>opportunity to partner to open small scale mines</li> <li>Capacity building opportunities to small scale miners and suppliers</li> </ol> Suppliers of accessories: <ul style="list-style-type: none"> <li>Blackwood Hodge</li> <li>Conan Investments</li> <li>EML</li> <li>Plascon Paints</li> <li>Micmar</li> <li>Exide Batteries</li> <li>Dunlop Zambia</li> </ul>	<ul style="list-style-type: none"> <li>Low entrepreneurial skills</li> <li>Government red tape] instead of smart tape]</li> <li>Lack of funds for government law enforcement agents<sup>2</sup> and the Chamber of mines (<b>Irinnews.org, 2008</b>)</li> <li>Local suppliers lack quality standards such as delivery time and pricing, <b>ibid.</b></li> <li>Environmental degradation</li> <li>Weak enforcement of environmental laws by government</li> <li>Poor salaries for workers</li> <li>Casualization of labor</li> <li>Low of backward linkages</li> <li>Failure to invest in infrastructure in the mining townships and in surrounding communities at mine site</li> </ul>
<b>2. Exploration</b>	MNEs;	<ol style="list-style-type: none"> <li>Hire of equipment: drilling machines, graders, bulldozers, borehole drilling etc</li> <li>Investor friendly policies</li> <li>One stop shop: The Zambia <sup>3</sup> Development Agency (<b>Times of Zambia, 29 April 2008</b>)</li> <li>Public/Private Sector Forum created in 2004</li> </ol>	<ul style="list-style-type: none"> <li>Lack of skills</li> <li>Lack of finance</li> <li>The legal environment</li> </ul>
<b>1.Lodge an application to explore</b>	MNEs; MOM	<ol style="list-style-type: none"> <li>Geological services required</li> <li>Survey services required</li> <li>Knowledge of the culture and tradition of the area to be prospected</li> <li>Investor friendly policies</li> </ol>	<ul style="list-style-type: none"> <li>Geological skills</li> <li>Surveying skills</li> <li>Low entrepreneurial skills</li> </ul>

## **5.0 Opportunities and constraints**

### **5.1 Opportunities**

Zambia has a vast un-explored mineral potential in various minerals but especially copper-cobalt with estimates put at 2 billion tons on the Copperbelt alone (Zambiamining, 2008). The country has an investor- friendly business regime including the one stop shop Zambia Development Agency (ZDA). Small scale suppliers have opportunity to upgrade process-wise, product wise and even functionally. The new Mining and Minerals Development Act restricts the issuance of small scale mining licenses to citizens only opening the door for partnerships with external investors, further creating space for them to move into more sophisticated mining and input supplies, improving their processes to become more efficient and competitive and move into export markets in the region and beyond. The Citizen Empowerment Act (2006) intended to empower locals is yet to be operationalized by the commission set up for the purpose. At this point, opportunities appear to be as follows:

- Partnerships to set up haulage firms to transport copper to the ports
- Partnerships to set up fabrication companies
- Partnerships to provide services to the mines: security, catering, cleaning, exploration, underground facilities etc
- Partnership to set up a local supply industry and firms to produce spares, equipment and chemicals
- Partnering to lease equipment and machinery to the mines
- Partnering to supply labor to the mines
- Partnering to form junior mines

Mining is a highly mechanized business and hence low on labor uptake. It is said that the side businesses take up the labor creation imperative. Perhaps such a scenario might address the perception of inequity in the distribution of wealth, but also in actuality might keep more of the value within the host country (but there are challenges here as well)

### **5.2 Constraints**

The major constraints include:

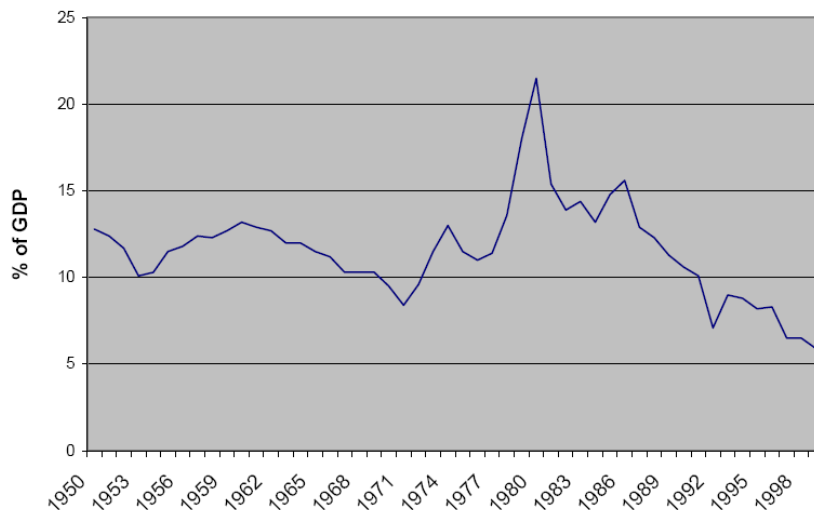
- Weak negotiating position of the Zambian government vis-a-vis the mining industry because of Zambia's economic and social dependency on the sector.
- MNEs invest with their sight set on exporting raw copper to the external market
- The international trade regime discourages the exportation of beneficiated products by slapping them with higher tariffs than is done with raw copper (EU)
- MNEs appear to remain attached to the umbilical cord of suppliers in their home country e.g. Canadian and Australian MNEs
- The government has no resources to enforce existing laws such as citizen empowerment act, environmental management act etc. Thus while the laws may exist on paper, enforcing them is quite another matter

- Lack of a forum bringing together all the concerned parties: MNEs, government, trade unions, chambers, associations of small scale miners, associations of suppliers and community leaders
- The quality of products and services from the local suppliers is said to be of lower quality than that of similar imported products. This is both a downside as well as an upside. The latter is because it provides an opportunity for partnering between more sophisticated foreign companies and local ones.

## 6.0 Mining in South Africa (RSA)

### 6.1 Facts on RSA

South Africa is a middle-income, emerging market with an abundant supply of natural resources; well-developed financial, legal, communications, energy, and transport sectors; a stock exchange that is 17th largest in the world; and modern infrastructure supporting an efficient distribution of goods to major urban centers throughout the region (CIA world fact book, 2008). The main export commodities are gold, diamonds, platinum, other metals and minerals, machinery and equipment (*ibid*). In terms of **industries** South Africa is the world's largest producer of platinum, gold and chromium. It also has automobile assembly, metalworking, machinery, textiles, iron and steel, chemicals, fertilizer, foodstuffs, commercial ship repair industries. In agriculture RSA produces corn, wheat, sugarcane, fruits, vegetables; beef, poultry, mutton, wool and dairy products.



*Granville (2001:59): Contribution of mining to the South African economy*

In the year 2000, minerals accounted for 47% of all exports in value. South Africa has 2.1% of the world's copper reserves and 1% of production. **Parabola copper mine** in Mpumalanga province is the largest producer and is also the deepest and largest open pit mine in the country. The mine produces 75% of South Africa's copper production and 2.4% of South Africa's mineral production (142 000 tons and 120 920 tons in 2001 and 2003 respectively). The company is owned by Rio Tinto

(48%) and Anglo American (29%). The mine also owns the only copper smelter in the country (see 1.10 below).

South Africa's beneficiation is better developed than Zambia's but still far below the ideal situation (Mogotsi, 2007)<sup>4</sup>.

### 7.0 The copper value chain in South Africa

The copper value chain in South Africa is simpler because the dominant player is one: Parabola Copper mine. It owns the smelter as well. There are other producers of copper amounting to some 25% (MBENDI, 2007; AME, 2008). The other major copper mines are O'Kiep Copper Company (Pty) Ltd situated in Namacualand (Northern Cape Province) and the Dikulushi copper mine. Black Mountain polymetallic mine is another copper producer as is Bushveld Igneous Complex platinum mine that produces copper as a by-product.

**Table 6: Opportunities and constraints in South Africa**

		Opportunities	Constraints
	<b>ACTORS</b>		
<b>9. Export// local Consumption</b>			
<b>7. Transportation</b>	MNEs Transport companies	Construction, manufacturing, supply of scrap and ores Services: Catering, security, health, maintenance, outsourcing labour to the mines, insurance, finance syndication and advice, legal advice, recruitment services, etc	<ul style="list-style-type: none"> <li>Lack of craftsmanship</li> <li>Lack of specific skills in finance syndication and financial management, quality assurance such as on time delivery</li> </ul>
<b>6. Production</b>	MNEs: Rio Tinto Anglo American	The Mining law specifically supports formally economically disadvantaged people: affirmative action Communities negotiate for royalties with mines Opportunities for partnering with locals to supply security, cleaning and catering services; insurance, legal representation, audits,	<ul style="list-style-type: none"> <li>Low entrepreneurial skills among the locals</li> <li>Literacy rates</li> </ul>
<b>3. Transportation services</b>	Transport companies	Room for partnering to supply transport	Low entrepreneurial skills among locals
<b>2. Lodge an application to explore</b>	MNEs; Ministry of Mines	The Mining law specifically supports formally economically disadvantaged people: affirmative action	<ul style="list-style-type: none"> <li>Geological skills</li> <li>Surveying skills</li> <li>Low entrepreneurial skills</li> </ul>

**Table 9: From chains to partnerships in South Africa**

CHAIN	STAKEHOLDERS	ISSUES	INTERVENTION
Application for exploration License	MNEs; Government	Capacity of previously disadvantaged	NGOs; govt.

Exploration	MNEs; Communities		Government NGOs
Application for Mining license	Government MNEs	Capacity building	Government NGOs
Production (mining)	MNEs; Communities	Environmental degradation Law enforcement Quality of local supplies	Government Associations MNEs
Marketing	MNEs	Access to Information	
Transporting	MNEs; Communities (SMEs)	==do==	
Recycling	MNEs Government SMEs (Scrap Collectors)	Price offered to collectors	Government
Closure	MNEs Government Communities	Environment Community welfare Local economy diversification Closure plan	Government MNEs NGOs

*Table 6: From chains to partnerships*

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