



## RESEARCH REPORT 7

Governance of Africa's Resources Programme

February 2010



# **Securing a Social Licence to Operate?**

From Stone Age to New Age Mining in Tanzania

Alison Goldstuck and Tim Hughes

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## ABBREVIATIONS AND ACRONYMS

AMREF	African Medical and Research Foundation
BMI	Business Monitor International
BoT	Bank of Tanzania
CAO	Compliance Officer/Ombudsman
CSR	corporate social responsibility
DDP	district development plan
DRC	Democratic Republic of Congo
EAGM	East Africa Gold Mines
EBITDA	earnings before interest, tax depreciation and accumulated deprecation
EITI	Extractive Industries Transparency Initiative
ESIA	environmental and social impact assessment
FDI	foreign direct investment
GDP	gross domestic product
GRI	Global Reporting Initiative
HBS	Household Budget Survey
HIPC	Heavily Indebted Poor Countries
HIV/AIDS	human immunodeficiency virus/acquired immunodeficiency syndrome
ICMM	International Council on Mining and Metals
IDAP	Integrated Development Action Plan
IIED	International Institute for Environment and Development
KMCL	Kahama Mining Corporation Ltd
LEAT	Lawyers' Environmental Action Team
MDA	mineral/mining development agreement
MEM	Ministry of Energy and Minerals
NAI	Nordic Africa Institute
NGO	non governmental organisation
PAYE	pay as you earn
PML	Pangea Minerals Ltd
PWC	PricewaterhouseCoopers
RAP	relocation action plan
SDP	Social Development Programme
SME	small and medium-sized enterprise
STAMICO	State Mining Company of Tanzania
TANESCO	Tanzania Electric Supply Company
TRA	Tanzania Revenue Authority
TZS	Tanzanian shilling
USGS	US Geological Survey
VAT	value-added tax

## EXECUTIVE SUMMARY

Despite its relatively nascent operations, commercial mining is becoming a significant contributor to the Tanzanian economy and has the potential to become more so. While mining's contribution to Tanzania's gross domestic product (GDP) is a relatively modest 2.3%, its export value constitutes some 45% of foreign earnings.<sup>1</sup> Moreover, the government has set a target for the sector of a 10% contribution to GDP by 2025. Africa's third-largest gold producer after South Africa and Ghana, Tanzania is also endowed with significant diamond, gemstone and nickel deposits. Since the commencement of Tanzania's commercial mining operations, up to 15% of Africa's mining investment has been ploughed into the country's mining industry. Tanzania's gold deposits, along with its favourable Mining Act, have attracted investment from two of the world's major gold producers, Barrick Gold and AngloGold–Ashanti. However, mining in Tanzania has also attracted a great deal of increasingly trenchant criticism, resulting in claims that the country is not deriving its fair share from its mineral endowment and the government establishing the Bomani Commission to inquire into the mining sector, tasked with examining the existing Mining Act. While at the time of writing this report the government had not released its response to the Bomani Commission's findings, the expectation is that the government may seek to take a 10% stake in selected mining operations, increase the royalty on gold producers from the current 3% to 5%, and scrap a number of tax breaks and incentives embedded in the current Mining Act and other legislation.

In addition to coming under increasing governmental and non-governmental scrutiny, major mining houses in Tanzania operate in demanding social, environmental and logistical conditions. Infrastructure such as roads, electricity and water supply is often poor in the areas surrounding mines. Moreover, mines are also the subjects of intensive environmental scrutiny locally, in particular from non governmental organisations (NGO) and shareholder activists. But arguably the most important and daunting challenge confronting any commercial mining operation is the securing of the support of local communities. The 1990s can be regarded as the decade in which mining houses lost their legitimacy due to their role in environmental degradation and corrupt practices, and for stoking violence through phenomena such as conflict diamonds. By contrast, the first decade of the 21<sup>st</sup> century has seen the mining industry, multilateral and governmental bodies, and NGOs design and develop a host of governance structures to better regulate the mining sector and enhance its social, economic and environmental footprint. Key to this is the realisation that a prerequisite for successful and sustainable mining operations is the forging of social compacts among companies, the government and local communities. Arguably the most important of these compacts is the concept of a social licence to operate, which is granted not by governments, but by communities, and is conditional on companies behaving in a manner that is consultative, collaborative, ethical, progressive and legitimate.

Part I of this report presents a comprehensive overview of the mining sector in Tanzania from inception of the country's 1997 Mineral Policy. Part II is a case study of the largest mining company operating in Tanzania, the Canadian-based Barrick Gold Corporation. In just 26 years, Barrick Gold Corporation has grown to be the largest 'pure' gold mining house globally.

Toronto-based Barrick Gold Corporation subscribes to and is supportive of major mining corporate governance regimes, such as the Extractive Industries Transparency Initiative (EITI), the Global Reporting Initiative and the UN Global Compact. In 2007 Barrick was added to the Dow Jones Sustainability Index — North America for the first time and was ranked ‘best in class’ for its commitment to sustainability. Yet in August 2008 the Council on Ethics of the Norwegian Government Pension Fund — Global recommended the disinvestment of the fund’s holdings in Barrick stock due to environmental damage caused at its Porgera mine in Papua New Guinea.

Barrick is the biggest mine operator in Tanzania and, as such, attracts considerable government, civil society and media attention. The government has set high expectations for the mining sector and particularly the gold mining sector, targeting a 10% contribution to GDP by 2025. Barrick’s entry into the relatively new gold mining sector in Tanzania was through direct investment and acquisition. Its mine operations span the full spectrum from the exemplary, environmentally sound and profitable Tulawaka mine to the North Mara mine, which is dogged by deep legacy, environmental, operational and criminal challenges.

Barrick has applied considerable financial and human resources to its corporate social responsibility programmes in an attempt to secure a ‘social licence to operate’ at its Tanzanian mines. A social licence appears to be operational on three of the company’s mines; in the fourth, it is absent. The case study documents some of the challenges confronting Barrick in its Tanzanian operations and some of the more important programmes it has developed/co-developed in its attempt to conduct world-class mining in a developing country in Africa.

The report concludes with a number of recommendations about further enhancing the potential for a positive developmental impact from the Tanzanian mining sector and from Barrick in particular. The recommendations are as follows.

- 1 **The Tanzanian government should release its official response to the *Bomani Commission Report* without further delay.** Uncertainty in the mining sector is undesirable and unnecessary. The government has a responsibility to create regularity and certainty, mining companies require regulatory and certainty in order to make investment decisions, and the Tanzanian public deserves to know and understand the reasons behind the government’s policy on the taxation of mining companies.
- 2 **The Tanzanian government and mining houses should move to full EITI compliance without delay.** By so doing, greater revenue and fiscal transparency will emerge, which in turn will create greater certainty and confidence among civil society and local communities in relation to the mining sector.
- 3 **A national mining forum should be created that would serve as a multistakeholder consultative body to deal with all aspects of mining development in Tanzania.** It is recommended that the forum be representative of government (at all levels), business, NGOs/civil society and community interests according to an agreed formula for representation. Such a national forum would provide a legitimate platform for the consideration and expression of all stakeholder interests, and would seek to harmonise these interests and derive a greater developmental thrust and impact from the mining sector.
- 4 **All relevant government departments, e.g. those responsible for mining, energy, education, training, trade, transport and security, should develop a blueprint to maximise the benefits to the government of mining investment in Tanzania.** In other

words, instead of mining simply vesting with the relevant government department, it is proposed that all government departments and agencies involved in the mining value chain co-ordinate their efforts to ensure that they provide the best levels of service to the mining industry, while simultaneously identifying key opportunities to leverage the sector (such as technical training, infrastructure, energy and manufacturing).

- 5 **A greater share of mining taxes should be transferred to regional and local government for specific use in areas where the impact of mining is greatest.** This can be done in accordance with agreed formulae relating to population size and the quantum of taxes generated, for example, but it is clear from the research conducted for this report that local government capacity is woefully inadequate to meet the array of demands and responsibilities expected of it, particularly in mining areas.
- 6 **The government should declare mining areas as preferential developmental zones in order to attract investment and services to these areas.** By definition, mining is a non-renewable activity, and despite the considerable capital investment made in mines, in the medium to long term, all will close. The Tanzanian government must maximise the unique endowment it currently has for the longer-term benefit of the country. This will necessitate not only promoting skills development to service the mining sector, but in the longer term will require the promotion of skills leading to sustainable economic diversification away from mining.
- 7 **Donors, aid agencies and civil society should re-examine the role that they can play in working with communities around mines.** While it is vital that NGOs continue to play the role of civil society watchdogs to ensure the protection and advancement of social, economic and environmental rights around mines, far more can be done by co-designing developmental programmes with mining houses and the government. Some mining companies do indeed deserve to be demonised and protested against, and they should be permanently closed. However, those companies subscribing to the highest corporate governance and social responsibility standards globally and nationally should be seen as potential development partners. This should not be seen as a blanket endorsement of big mining houses in Tanzania, but rather a recommendation that on a case-by-case, company-by-company and project-by-project basis, civil society, NGOs, aid agencies and donors should seriously look for projects that are sound, progressive and have a sustainable developmental impact around the country's mines. In addition to access to international capital (as well as having a vested interest in local development), mining houses possess a host of other in-house skills such as engineering, planning, architectural, building and manufacturing that can be utilised for the benefit of local development projects. In the case of Barrick, the company has already adopted this model of engagement with demonstrable success.
- 8 **Mining houses in Tanzania should substantially improve their corporate communications with all stakeholders, including the government, donors, NGOs, civil society, communities and the media.** Ignorance and suspicion unnecessarily hamper closer co-operation between mining houses and all other stakeholders, which in turn has a deleterious impact on potentially progressive developmental policy formulation and implementation. Mining companies must work far harder and smarter to demonstrate the legitimacy of their operations, while acting transparently and in good faith when they fail to meet acceptable standards with respect to, for example, labour and environmental practices.



**PART I****TANZANIA'S MINING SECTOR**

ALISON GOLDSTUCK

**INTRODUCTION**

Large-scale mining in Tanzania was formally established in 1997, facilitated by the country's new Mineral Policy. From the outset, large-scale mining companies' actions have been placed in the spotlight amid allegations by stakeholders of unfair business practices and preferential treatment from the government. This has created fertile ground for media attention, which has exacerbated the tumultuous relationship between mining companies and stakeholders.

Academic or policy studies on the Tanzanian mining sector have typically explored either (a) the contribution the mining sector has made to Tanzania's economic and social development or (b) the negative social and environmental impacts of mining, which it is claimed outweigh the economic gains, particularly as these are perceived as a fraction of their true value due to an over-generous taxation regime.

The 'pro-mining' argument is the following. Mining activities have played a role in improving the country's macroeconomic fundamentals. Mining activity provides a source of stable revenue flows that have improved the treasury's fiscal management, ultimately contributing to a lower, stable inflation climate. The maintenance of this lower inflation equilibrium has encouraged higher levels of foreign direct investment (FDI), which in turn positively affects the country's GDP growth rate. In addition, investors' decisions to invest in Tanzania are also influenced by their confidence that payments and receipts in foreign currency will not be associated with unreasonably high risks. The mining sector is a foreign exchange earner, comprising 48% of exports in 2006.

However, these reports confirm that indirect economic benefits arising from the sector's activities are limited, as the structure and capacity of local business hinders its ability to integrate into mining companies' value chains. Furthermore, indirect benefits are trapped and embedded in a mine's immediate location and do not spread through the wider region. On the social front, mining companies' investments in community projects have fallen short of their envisaged benefits. Projects are implemented on an ad hoc basis instead of feeding into the mainstream public provision of social and economic service.

The anti-mining lobby's basic premise is that Tanzania's mineral wealth is being extracted by mining houses without due or fair benefit accruing to the country or the people in the areas surrounding the mines. According to this view, the laws and regulations governing mining companies' engagement in Tanzania are weighted in favour of foreign capital and, as a result, mining companies' contribution to the economy is negligible, especially their contribution to the fiscus. It is also argued that mining companies have

been a disruptive force in Tanzania's socio-economic development by unfairly favouring certain parties over others, using their privileged position to remove competition and creating negative externalities that they are not held accountable for. These claims arise from the following practices:

- the reduction of jobs in the artisanal mining sector since 2001 to make room for large-scale mining;
- the forced removal of artisanal miners from the land;
- the employment of expatriates to fill managerial positions instead of Tanzanians;
- salary packages for the identical job varying depending on whether a foreigner or Tanzanian is employed;
- increases in the spread of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) in mining towns due to unfavourable social conditions (young, single men living in dormitory-like conditions, which encourages prostitution and the rise of shanty towns); and
- communities' increased exposure to noise, air and water pollution, which are by-products of mining activity.

Furthermore, stakeholders marshal detailed knowledge to support their own views, but seemingly limited knowledge concerning other stakeholders' perspectives. The way in which some researchers have traditionally examined issues in the mining sector has contributed to the polarisation of stakeholders' views, which in turn hinders the possibility of constructive engagement and ultimately the potential for exploring new models to govern the sector.

## STYLISED FACTS<sup>2</sup>

The mining sector in Tanzania enjoys more media coverage than any other sector, yet its contribution to the economy, gauged in terms of traditional economic statistics, is relatively small. There is a clear dissonance between the sector's economic contribution to Tanzania's socio-political development and the public's interest in the sector. The reasons are, in part, located in Tanzania's post-colonial history.

Following from President Julius Nyerere's self-sufficiency legacy, allowing foreign companies to exploit Tanzania's resources was a politically sensitive topic. At the beginning of the economic reform process in 1997, the public was apprehensive about welcoming foreign participation in the mining sector. To allay these concerns, the government marketed the mining sector as the engine to drive Tanzania's economic development at both national and local levels. Tangible benefits arising from large-scale mining activities were to be jobs, business opportunities for entrepreneurs, direct investment in rural infrastructure and increased tax revenue flowing into the treasury to be used to improve the delivery of government services. It was envisaged that Tanzania would gain other intangible benefits from large-scale mining such as an improved balance of payments position, a stable inflation rate, additional sources of secure revenue flows that would improve the treasury's fiscal management and inflows of FDI that would act like a magnet to attract more FDI in other sectors.

The Mineral Policy of Tanzania of 1997 was designed to address the following national challenges:

- to raise significantly the contribution of the mineral sector to the national economy and increase GDP;
- to increase the country's foreign exchange earnings;
- to increase government revenues; and
- to create gainful and secure employment in the mineral sector and provide an alternative source of income particularly for the rural population.

The government's expectations that the sector would 'address national challenges' was assumed rather than validated. This same assumption surfaces in the government's National Strategy for Growth and Reduction of Poverty Policy of 1995. The mining sector is identified as a key productive sector in the economy and classified as a growth sector that can be used to attract FDI. Based on the sector's status, it is used as a tool to achieve two targets in the country's growth strategy. Firstly, it is being used to reduce unemployment from 12.9% in 2001 to a target of 6.9% in 2010 and address underemployment in rural areas.<sup>3</sup> Secondly, it is being used to increase the proportion of value-added mineral exports from 0.5% to a target of 3% by 2010.<sup>4</sup>

Thus, the government has created the perception that the mining sector could automatically deliver socio-economic benefits. Yet government policy does not discuss the unique features of mining and the subsequent time lag from exploration, to profitable operations, to mine closure, which can span 25 years. Mining and its associated benefits are assumed to be realised instantaneously. Furthermore, instantaneous adjustment makes no room for structural rigidities, and thus the structural weaknesses of Tanzania's economy are ignored. This approach ignores the root of Tanzania's problems as the country attempts to gain from activity in the mining sector.

The government has largely been responsible for creating the public perception that the mining sector's contribution to Tanzania's economy should be substantial, yet the sector's contribution has fallen short of these expectations. An environment of escalating gold prices and soaring gold production in Tanzania at a time when large mining projects are entering into their production phase has intensified the public's interest in the sector.

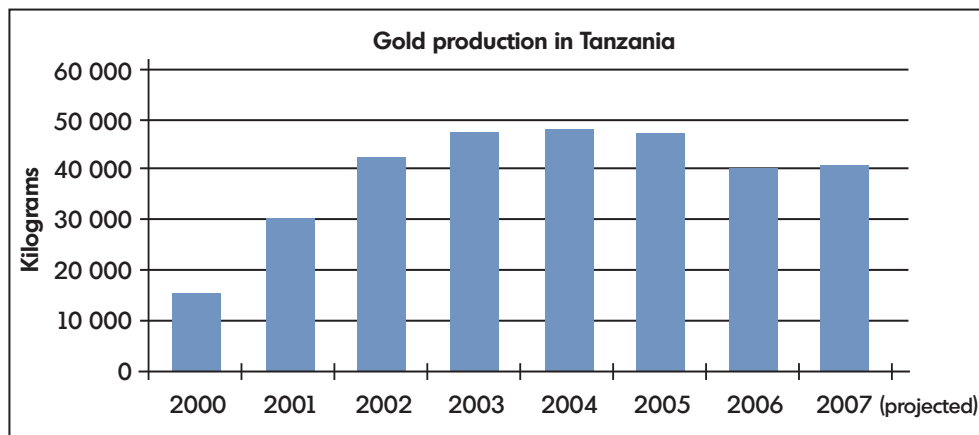
Based on the public's assumption that companies' profits are calculated on the basis of gold production multiplied by the gold price, mining companies are assumed to make supernormal profits. The public's perception that mining companies are fabulously profitable is given credence by asset managers who manage global hedge funds. In 2006 approximately 90% of Tanzania's gold production was mined by five multinational companies.<sup>5</sup> These global companies are listed on the world's major stock exchanges, which have detailed reporting requirements. This information is used by financial experts to talk up their portfolio investments, especially in the current (2009) economic environment when other sectors are struggling to perform. Portfolio managers have focused on discussing the mining industry's upside potential and by implication have remained relatively silent about the longevity of this boom phase.

The nature of the above discussion has created a skewed view of the mining industry's profitability and the sustainability of these profits by pushing 'unfavourable' news to the periphery. Generally, the global mining industry is becoming increasingly competitive.

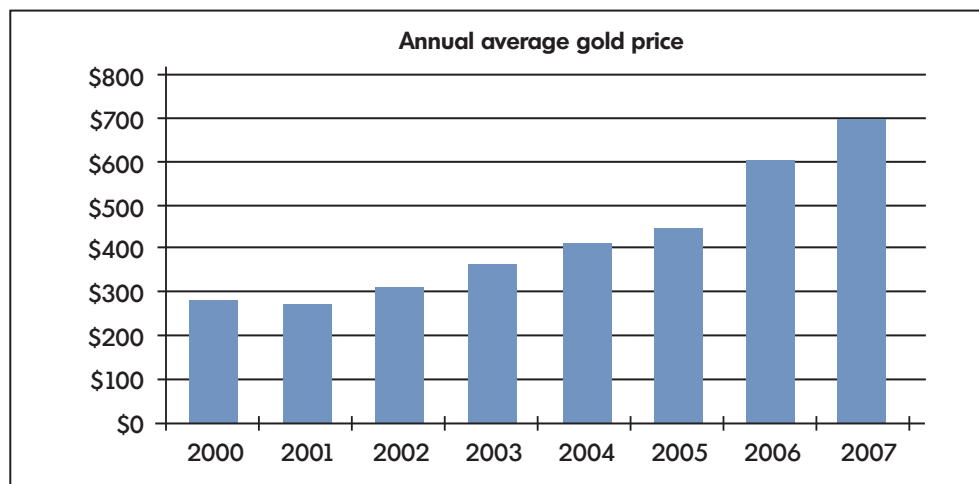
Operating costs are set to increase, resulting in falling net profit margins, and capital markets have tightened, which exposes companies to greater financial risk. Although commodity prices generally increased across the board from 2002 to 2008, portfolio managers' desire for commodities shares created price instability in the underlying asset, and thus mining companies' risk adjusted returns did not increase exponentially.<sup>6</sup>

Competition among mining companies has intensified since the beginning of 2008. Weaker consumer demand for goods and services following the banks' decision to reduce consumers' access to credit caused global production and trade to fall in the last quarter of 2008. A contraction in the global production of goods and services decreased the demand for commodities, which caused commodity prices, such as those for copper, cobalt, coltan and zinc, to reach record lows in 2009. Gold, however, was immune to the commodity downward price spiral because of its status as an alternative store of value to the US dollar.

**Figure 1: Tanzanian gold production and the price of gold, 2000–07**



Source: BoT (Bank of Tanzania), *Economic Bulletin for the Quarter Ending March*, 2009, XLI, 1, 2009, p. 48, accessed November 2009, [http://www.bot-tz.org/publications/QuarterlyEconomicBulletins/QEB\\_Mar\\_2009.pdf](http://www.bot-tz.org/publications/QuarterlyEconomicBulletins/QEB_Mar_2009.pdf).



Source: World Gold Council, Database, accessed 3 November 2009, <http://www.research.gold.org/prices/>.

The assumption that mining companies in Tanzania are making huge profits and are cash flush reinforces the public's perception that the mining sector's contribution to the economy should be greater than initially proposed by the government. Layering assumptions has created a situation where the public's perception of the mining sector's contribution to Tanzania's socio-economic development conflicts with reality. Tanzanians' palpable anger and resentment towards mining companies has resulted in a confrontational relationship that is played out in the country's economic, social and political spheres. This sentiment is captured in the following statement:

Mining contributes 'peanuts' to government revenue. Starting with a mere \$2 million in 1998, that contribution has just reached little over \$71 million in 2006 — unbelievable. Most large mining companies do not pay corporate tax. Their contracts allow them to siphon off Tanzania's mineral endowments without shame. Actual revenue to the government from these mining operations averages about 1.2% of the total government domestic revenue! No wonder every right minded Tanzanian is asking 'why' — Until when? When health centres run without adequate drugs, schools without adequate books and laboratories, roads that sometimes are impassable, inadequate access to clean and safe water, to mention but a few problems that people are facing amidst foreign exploitation of the country's natural resources. No wonder the late Baba wa Taifa Mwalimu Julius Nyerere cautioned the country's leadership not to rush in inviting foreigners to the mining sector until we have built domestic capacity to participate and manage the sector for the benefits of our people — current and future generations.<sup>7</sup>

The public debate about mining is preoccupied with two strands of thought: either searching for the missing 'millions' and ensuring that they do not escape Tanzania into mining companies' foreign bank accounts or increasing Tanzania's share of the pie. The negative sentiment towards the mining sector is implicitly affecting the re-evaluation of the 1998 Mining Act. Furthermore, it has contributed to tension, giving way to hostility, among stakeholders around the following issues:

- settling legacy rights around the redistribution of land and compensation;
- creating a working relationship between artisanal miners and large-scale miners;
- capturing and embedding the direct and indirect benefits from mining into the national and local economies; and
- the lack of transparency of the processes governing mining houses' payment to the treasury, which creates loopholes and allows them to out-smart the tax system.

This report's objective is not to judge stakeholders' viewpoints, but rather to understand stakeholders' assumptions in order to investigate potential new areas of dialogue and interaction. Currently, a set of stylised facts pervade the public discourse on mining, i.e. the country's mining legislation places the interests of foreign capital before those of Tanzanians; mining companies have used Tanzania's over-generous Mining Act, compared to international standards, to expropriate all earnings arising from Tanzania's mineral wealth; and mining companies' behaviour has robbed Tanzania of the tangible and intangible benefits arising from its mineral wealth. Criticism includes the following:

- Mining companies evade paying their 'fair' share of taxes by using questionable accounting practices to ensure that they qualify for all tax exemptions (paying corporate tax/level of royalty payments).
- The mining sector's contribution to Tanzania's economy is limited compared to the wealth these companies generate for their shareholders.
- Mining companies' employment practices unfairly discriminate against Tanzanians. All factors such as level of education and work experience being equal, mining companies prefer to employ expatriates in managerial and supervisory roles. Furthermore, expatriates are paid a premium wage compared to their Tanzanian counterparts for exactly the same job.
- Mining companies threaten the livelihoods of Tanzania's most vulnerable and marginal population group, the rural poor. The rural population have been displaced from their villages without compensation to make way for mega mines. In addition, artisanal miners have been pushed off their claims by large mining companies.

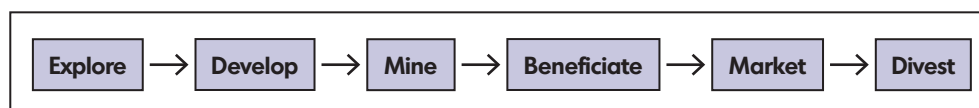
Yet a more holistic analysis of the reality of the mining sector in Tanzania reveals a somewhat different perspective.

### GENERIC MINING VALUE CHAIN

Industries have unique characteristics regarding their cost structures, risk profile and the manner in which prices are set. As a result, industry-specific legislation is designed in response to an industry's characteristics. To understand how legislation is structured, comment on its quality and pass judgement on whether it is fair to stakeholders require a discussion of the mining industry's value chain. The key issue is that in order to determine if Tanzania's mining legislation is 'over-generous', two questions must be answered. Firstly, does the design of Tanzania's mining legislation follow and conform to international principles and standards? Secondly, how are these international principles and standards applied in Tanzania? This discussion is about a matter of degree and requires Tanzania's legislation to be benchmarked against other countries' regulations.

Industries have certain structural features that affect (a) cost structures (ratio of fixed to variable costs); (b) the type of assets used (specific, generic, sunk or movable); (c) the investment horizon and exposure to uncertainty; (d) the manner in which prices and costs are set (international exchange or consumer driven); etc. For example, a cellphone company's risks, profit margins and cash flow are different to those of a gold mine and thus the intricacies of tax codes applied to these respective industries is also different.

**Figure 2: Generic value chain for the mining industry**



The components of the value chain involve different inputs and processes in order to produce an output. Despite these differences, a common feature prevails: that of investing in a sunk, specific asset based on today's projections of the future. Inherently, this is a risky activity. Firstly, once a company invests in assets, it effectively is exposed to moral hold-up, as the assets cannot be easily used by other parties or transported to other locations. Secondly, a lengthy process exists between exploration and marketing minerals. A company is exposed to cyclical commodity prices — because mining houses are price takers — and rising input costs that might make the original investment unprofitable. Thirdly, mining is conducted in remote areas, which complicates logistical issues throughout the value chain, from production to distribution. Lastly, mining involves tight cash-flow management under conditions of uncertainty, as provisions must be made to restore and reclaim an area after mining operations cease.

Most countries have devised a special tax system to deal with the mining industry. Although the details of the various countries' tax systems differ, the basic tenets are the same, as they are based on a generic value chain. Table 1 on page 16 elaborates on the steps involved in the generic value chain and explains the reasoning behind granting tax incentives.

Both David Tarimo,<sup>8</sup> a tax partner who specialises in Tanzanian law, and the Fraser Institute's *Annual Survey of Mining Companies*<sup>9</sup> agree that the content of Tanzania's mining tax laws follow international practices. Based on the present author's review of other African countries' mining tax laws, Tanzania's mining tax laws do not appear to be overly biased in favour of mining companies. Therefore, the perception that tax revenues collected from the mining sector are lower than expected due to generous allowances (depreciation, indefinite loss, carry forward, exemptions from import duties, income tax holidays, etc.) is open to debate. A side issue that is beyond the scope of this report, but nevertheless interesting, is the question of how much freedom a government has to radically alter its tax laws when countries compete against one another for capital.

According to the Fraser Institute study,<sup>10</sup> companies regard Tanzania's tax regime as a significant deterrent to investment compared with other countries that compete for the same investments.<sup>11</sup> The distinguishing factor between Tanzania and other developing countries is the manner in which companies interact with the government. In other developing countries, fiscal terms are subject to negotiation on a piecemeal basis, while in Tanzania, a standard framework is applied to all companies.<sup>12</sup> This raises an interesting point that the attractiveness of a tax regime to companies is based less on the content than on how it is applied. The way in which the Tanzanian government handled the review of its mining regulation created uncertainty among investors. Uncertainty is more of a deterrent to companies than the outcome resulting from modifying the content of legislation. The larger issue is that transparent governance procedures put in place to renegotiate legislation are just as important, or even more important, than the benefits granted under the original legislation.

## HISTORICAL PERFORMANCE OF THE MINING SECTOR

The Tanzanian mining industry's relatively impressive performance started in 2000, which coincided with the commencement of large-scale mining in the country. Until September

2008 Tanzanians had no experience of the mining sector when it was in the doldrums. Since then, the global recession has weakened the demand for raw materials and thus creating policies based on the industry's current performance could be premature. Nevertheless, the following section analyses data from the mining boom period of 2000–07 to present an overview of the sector's historical performance. This section's purpose is to place the past performance of the sector in context and to use this understanding to envisage where the industry's future prospects lie. Exploring how events in the sector might unfold is important to gauge whether government policy will be effective.

**Table 1: Tax incentives**

Value chain	Business case	Tax incentive
Determine the presence of a viable mineral deposit and calculate the profitability needed to mine the deposit.	Scoping is an expensive, protracted process. These sunk costs are incurred before taxable income is generated.  Allow companies to generate sufficient after-tax cash flow in the early years of production to service project debt, thereby reducing lenders' project risk.	Exploration expense carry forward is common. It is used to improve the risk–return equation by allowing companies to write off these expenses against future income tax.
Sink shafts and build infrastructure to expose and exploit deposits.	This is a capital-intensive stage that requires diverse equipment to be imported from specialised suppliers. The majority of capital costs are incurred before production commences, which has a negative impact on companies' ability to manage their cash flow.  Avoid front loading tax costs.	An accelerated depreciation allowance is provided for once production commences is standard. Exceptions from import duties are common practice.  If capital goods cannot be sourced locally, then a company is 'forced' to import these goods. Importing goods increases a company's costs due to logistics and taxes.  Attempt to assist companies in managing their cash flow by matching revenues with expenses to smooth the tax bill.
Remove mineral resource from ore body and transport.	Incurs operational expenditure to purchase imported equipment.	Relief from value-added tax (VAT) on equipment purchases is common, especially if minerals are exported.
Extract saleable products from ore and dispose of residues.	Incurs operational expenditure to purchase imported consumable goods such as chemical compounds, etc.	Relief from VAT on purchases is common, especially if minerals are exported.



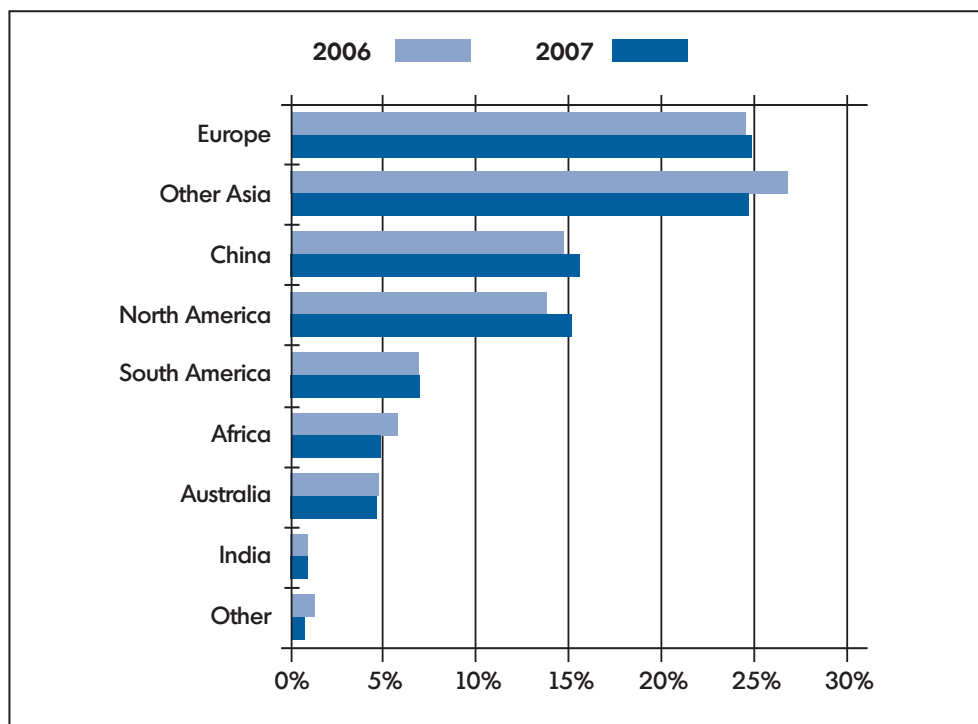
Sell products on international markets.	Export markets are competitive and thus a small differential in a company's costs has a large impact on its profit margins.	No or low export duties on minerals and making VAT on export sales exempt or refundable are common practices.  Encourage companies to export goods that provide a source of foreign exchange earnings.
Curtail operations and clean up the area.	No income is generated, yet the business will incur substantial costs relating to the closure and reclamation of the area.	To ensure that a company fulfils its obligations and rehabilitates the area, governments require companies to set aside funds for rehabilitation at the beginning of the project. It is standard practice for governments to allow this 'pre-paid expense' to be deducted from a company's current tax liability.
<b>Along the value chain</b>		
Cyclical commodity prices	Companies are price takers, and thus margins are susceptible to erratic price movements.	It is common for certain taxes, mostly royalties, to be waived if a project faces financial duress and to provide for the carrying forward of losses.
Stabilisation	The long gestation period of projects exposes companies to the risk that the tax regime will change over the project's lifespan, which affects their margins. Companies need certainty regarding tax rules that reduces risk by stabilising cost structures.	Governments reduce companies' uncertainty by negotiating or legislating settlements to stabilise the application of tax policies over a project's lifespan. This is commonly applied in developing countries.
Negotiated agreements	Setting up a mine is different in each area due to varying factors like political risk, macroeconomic conditions or lack of infrastructure.	Government wishes to attract a large investment to boost its industrialisation drive and negotiates an agreement, including special tax provisions, with the mine that has the effect of supplanting general laws, including laws that address tax matters.
Ring fencing		Most countries allow a company to consolidate books from all operations for determining income tax liability.

Source: Adapted from Otto J, 'Mining taxation in developing countries', UN Conference on Trade and Development study, 2000, <http://www.unctad.org/infocomm/diversification/cape/word/otto.doc>.

The performance of mining companies is driven by the price of commodities, as they are price takers. The internationalisation of commodity markets means that prices adjust swiftly to information. As a consequence, mining houses' profits have the potential to be erratic.

In 2007 gold comprised 9% of global commodity revenues, falling behind copper (28%), coal (12%), iron ore (12%), nickel (10%) and other metals (10%).<sup>13</sup> Mining activity is mainly in areas that have deposits of quality ores that are easily accessible. Other factors that influence an area's attractiveness are its sovereign risk, macroeconomic stability, quality of legislation and the consistent application of regulations. In 2006 and 2007 the majority of global mining revenues were generated in Europe and Asia, excluding China.<sup>14</sup> Africa's share of global revenue is relatively small when the geographical location of activity and type of mineral produced are considered.

**Figure 3: Global mining revenues by region, 2006–07 (%)**

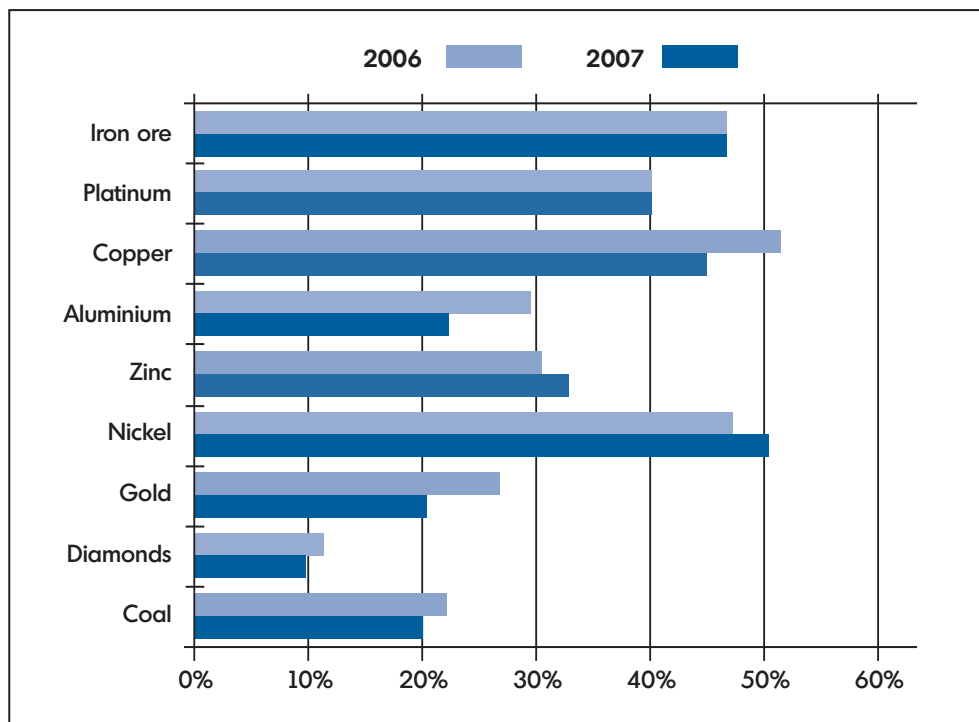


Source: PWC, *op. cit.*, p. 17.

Mining activities follow a generic pattern, yet the level and structure of costs along the value chain are slightly different for various minerals. Commodity producers are price takers and thus their profits margins are a function of reducing their cost base. During the boom period, producers increased their production levels to cash in on soaring commodity prices. The production runs of downstream and upstream businesses that feed into mines' value chain are fixed over the short term. Increased demand coupled with sticky supply-side conditions and pressure on infrastructure, which led to delays, has caused mines' costs to escalate. To curtail raising costs, mines began investing in sharing infrastructure

and establishing shared service functions. According to PricewaterhouseCooper's (PWC) 1998 global survey, operating costs increased by 38% from 2006 to 2007 due to escalating energy, labour, materials, transportation and contractor costs.<sup>15</sup> The risk associated with making these large returns tends to increase in a 'boom' environment, because commodity prices adjust at a faster rate than operating costs, which tend to be rigid. Since the costs incurred to produce different types of minerals are different and minerals are priced at different levels, it follows that the margins for each mineral fluctuate. Gold production is regarded as a higher-cost sector and its margins are flatter than those of other commodities.<sup>16</sup>

**Figure 4: Margin by commodity, 2006–07 (%)**



Source: PWC, *op.cit.*, p. 18.

From 2002 to 2007, global mining houses' financial results were impressive. Stronger commodity prices and increased demand for commodities drove companies' revenues. Revenues in 2007 were 3.3 times those of 2002.<sup>17</sup> From 2002 to 2007 the industry's earnings before interest, tax depreciation and accumulated depreciation (EBITDA) margins grew and its net profit increased twentyfold. Since 2007 the effect of escalating operating costs due to exogenous global factors has been felt by mining houses.<sup>18</sup> The largest 40 mining houses' revenue grew by 32%, but this was overshadowed by cost increases of 38%, thereby eroding margins.<sup>19</sup> In 2008 the industry entered into a new phase as growth in operating costs outstripped growth in revenues and, as a result, net profit margins declined and EBITDA margins stabilised.<sup>20</sup>

**Table 2: Trend in mining companies' income statement items, 2002–07**

	2002	2003	2004	2005	2006	2007	Average annual growth, 2002–07
<b>Income statement (\$ billions)</b>							
Revenue	95	114	178	213	249	312	26.85%
Operating expenses	75	85	125	134	141	176	18.60%
Income tax expenses	2	4	9	16	27	32	74.11%
Net profit	4	12	27	44	66	80	82.06%
<b>Ratios</b>							
Profit/revenue	4.21%	10.53%	15.17%	20.66%	26.51%	25.64%	
Operating expenses/revenue	78.95%	74.56%	70.22%	62.91%	56.63%	56.41%	

Source: PWC, *op. cit.*, p. 26 and author's calculations.

Yet the public's perception that the mining companies are particularly cash flush is incorrect. Firstly, the phenomenal growth in operating cash flows attained during 2004, 2005 and 2006 was not achieved in 2007.

Secondly, cash generated from operations was ploughed back into further operations. For the first time since 2003, net investing cash flows increased by 88% from 2006.<sup>21</sup> This indicates that companies' cash is being reinvested in exploring, developing, and merger and acquisition activities. This is corroborated by a 217% increase in the carrying amount of property, plants and equipment from 2002 to 2007, while fixed asset and development activities increased by 38% in 2007 compared to 2006.<sup>22</sup>

Thirdly, debt levels are expected to increase significantly due to the lag between exploration and production activities, even though the commodity boom allowed companies to accelerate their debt repayments. According to PWC, in 2008 the largest 40 mining companies increased their debt by 61%, which is not reflected in their financial statements, because of the protracted nature of mining activities.<sup>23</sup>

Fourthly, the global credit crunch is shifting investments from junior miners to large-scale miners. It is easier for large-scale miners to secure financing, as they have the 'benefit of production and cash flows to pay down debt and fund exploration and development'.<sup>24</sup>

Fifthly, even large-scale mining houses are approaching the top end of their debt covenants. An increase in operational costs, such as for labour, power and other inputs, is depressing margins, which has an impact on the capital costs of new projects. A sore point is the escalating costs of development activities. A combination of the above factors has meant that mining houses have entered a new phase: 'for the first year since 2002, cash flows from operations were insufficient to cover the increased levels of investment

activities.<sup>25</sup> This meant that mining houses have had no option but to arrange external financing to fund their growth, which has exposed them to the fallout from the credit contagion.

**Table 3: Balance sheet and cash-flow trends, 2002–07**

	2002	2003	2004	2005	2006	2007	Average annual growth, 2002–07
<b>Operating activities (\$ millions)</b>		22	43	58	77	95	
Investing activities		-20	-27	-38	-67	-126	
Financing activities		1	-9	-11	4	36	
Net cash flow		3	7	9	14	5	
<b>Balance sheet (\$ millions)</b>							
Property, plant and equipment	117	140	187	214	262	371	25.96%
Other assets	73	85	116	141	192	284	31.22%
Total liabilities	102	114	144	170	217	329	26.39%
Total equity	88	111	159	185	237	326	29.94%
<b>Ratios</b>							
Total liabilities: total equity	1.16	1.03	0.91	0.92	0.92	1.01	88.15%

Source: PWC, *op. cit.*, p. 26 and author's own calculations.

Another feature of the industry is that the dominance of Western companies is being challenged by Chinese, Russian and Brazilian companies. Furthermore, competition between established Western firms and emerging companies is affecting the way in which business is conducted. The combined effect is a more competitive, risky industry. To remain competitive, companies are adopting new business structures, causing a wave of merger and acquisition activity, which increased by 87% in 2007 compared to 2006, that continues to drive the industry's consolidation.<sup>26</sup>

The stylised fact is that these emerging companies play by different rules, in different markets. In developed markets, they follow orthodox business practices, where business decisions are grounded in commercial rather than political considerations, e.g. Chinalco's purchase of bauxite mines in Australia. In developing countries, the business behaviour of emerging multinational companies is perceived by Western companies to be more opaque, with a political agenda. Emerging multinationals draw on the political and financial backing of their home states to nudge out competition. Western companies argue that using a political dimension to curry favour gives emerging companies an unfair competitive advantage. This practice is most widespread in Africa, 'where governments

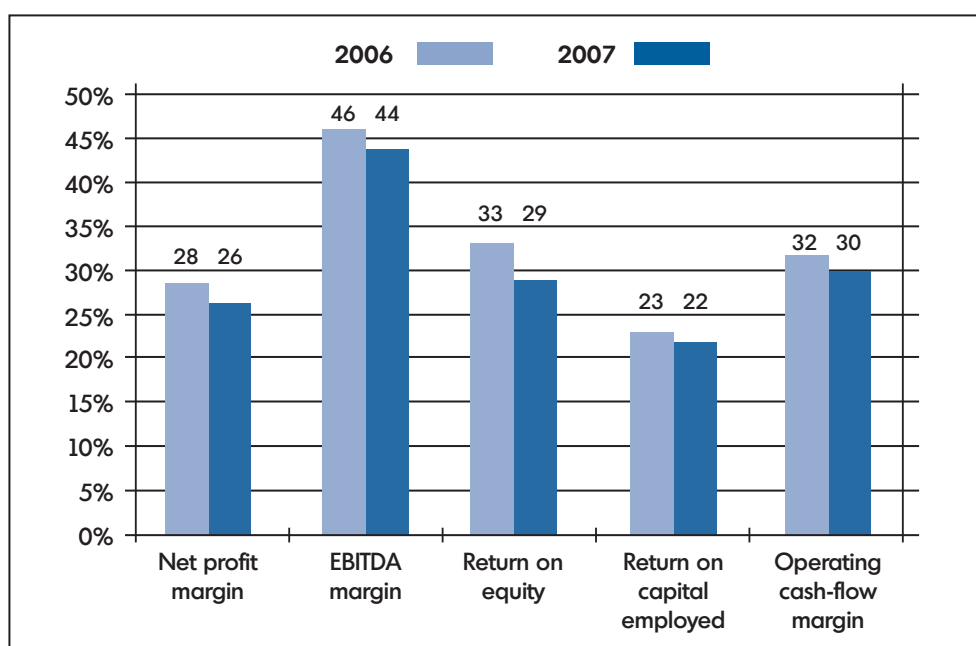
are often willing to sign away mining concessions in exchange for development assistance, infrastructure spending or political cover'.<sup>27</sup>

The nature of competition in the industry is complex. The market has become increasingly oligopolistic as global mining houses have merged to form mega-energy firms that produce a portfolio of commodities in various countries. These heavyweights have an arsenal of resources, the most important being capital, at their disposal to engage in defensive and offensive strategies to secure the world's premium deposits.

Major firms are not only competing against one another for prime deposits, but also face competition from other entities that play by different rules. These new entities are best described as quasi-corporate government entities that are a mixture of private–public investment and sovereign wealth funds. Their main objectives extend beyond maximising shareholder wealth and include securing resources for national interest and procuring infrastructure for local government. Given their political and development agenda, these entities receive government support that gives them privileged market access.

The industry's structure has changed as companies have consolidated to cope with a more competitive environment and a complex operating mode as different rules pertain to behaviour in different markets. Structural changes in the industry have produced new risks, altering the risk–return relationship, which influences firm's conduct, which is ultimately reflected in financial results. The new competitive structure and capital market pressures have placed pressure on the sector's phenomenal growth run from 2002 to 2006. Based on financial data, 2007 reflects a turning point in mining houses' aggregated results, when growth in key indicators started to decline. For example, in 2007, mining houses' growth in operating cash flows tapered off from 40%, 35% and 88% year-on-year growth in 2006, 2005 and 2004, respectively.<sup>28</sup>

**Figure 5: Summary of mining houses' financial performance 2006–07 (%)**



Source: PWC, *op. cit.*, p. 18 and author's own calculations.

## POLICY AND LEGISLATIVE EVOLUTION

This section focuses on exploring the Tanzanian government's conceptualisation of the structure of the mining industry and whether the country's legislative framework created the desired and envisaged market structure.

**Table 4: Timeline of Tanzania's policies and legislation**

Decade	Political events	Legislation
1960s	1961: Nyerere elected	1960–66: Private ownership, approximately 3–4% of GDP 1967: Mining nationalised, government majority stake and foreign ownership restricted
1970s	1973: Oil crisis 1974: Commodity crisis 1978–79: War with Uganda	1972: State Mining Corporation established 1979: Mining Act
1980s	1988: Mwinyi Elected	1980: Mining claims regulation 1980: Mining royalty regulation 1986: Private selling and buying activity legalised
1990s	1995: Mkapa elected	1990: National investment and promotion 1990: Gold-mining and -selling activities liberalised (encourage artisanal and small-scale miners) 1993: Public Corporation Act 1997: Tanzania Investment Act 1997: Mineral Policy of Tanzania 1998: New Fiscal Regime 1998: Mineral Act 1999: Mining (mineral rights) regulation
2000s	2005: Kilwete elected	

The desired outcome of Tanzania's legislative reform of its mining sector was to use the country's comparative advantage — its rich mineral deposits — as a platform to rejuvenate the economy. It was envisaged that the sector would increase economic activity in both the formal and informal sectors. The formal sector — large-scale mining — would serve as a means to increase GDP, attract FDI, boost imports and contribute to the treasury. The informal sector — small-scale and artisanal mining — would provide a means to alleviate poverty and provide employment in rural areas. These forms of mining fulfil different socio-economic goals and need to co-exist.

Large-scale miners provide capital, infrastructure (roads, electricity and water supplies), advanced technology and skills that allow Tanzanians to participate in the economy. Furthermore, royalties collected from large-scale miners are deemed to be larger than the corresponding revenues from junior miners, taking into account the costs of

administration and collecting smaller, more dispersed payments. Artisanal and small-scale mining provide jobs to lower-skilled and semi-skilled labour in rural areas, traditionally the sector of the population that struggles to find formal employment.

Different types of deposits require different mining methods to extract ores in the most profitable way. Artisanal and small-scale miners use traditional hand tools and processing equipment, and consequently their recovery rate is around 40%.<sup>29</sup> Given their skills, technology and access to capital, small-scale miners look for high concentrations (3–8 grammes of gold per tonne) that are close to the surface (less than 25 metres) in small veins.<sup>30</sup> Rich veins at shallow depths are located in Nyarugusu, Mugusu, Nyakagwe, Sirori Simba and Chunya, and in outlying veins around major deposits mined by large-scale miners.<sup>31</sup> Large-scale mining is capital intensive and is about exploiting economies of scale. As a result, large-scale miners 'look for deposits over 500,000 million ounces, up to seven thousand metres deep, with yields of 2–3 ounces per ton to recover the capital outlay involved in exploration and mining'.<sup>32</sup> Deposits of this nature include Bulyanhulu, Golden Pride (Lusu), Geita and Mobraha (Nyabirama).

The government's understanding is that the mining sector's ability to generate economic activities for all sections of the population requires large-scale mining activities to exist side by side with small-scale and artisanal mining. This understanding motivated the government to reform the country's mining legislation.

Primarily the creation of a mixed sector can be traced to two legislative reforms. Firstly, the disbandment of the monopoly rights of the State Mining Company of Tanzania (STAMICO) in 1996 created the opportunity for any Tanzanian national to register a claim and sell minerals. This created a boom in the artisanal mining sector, and the subsector grew from a few thousand miners in 1980s to 330 000 in 1993 and 550 000 in 1995.<sup>33</sup> Artisanal mining was brought into the formal sector as 'artisans went directly to mining, filing claims and developing legally areas they worked on informally'.<sup>34</sup> The government also established buying outlets for small-scale miners through commercial banks.

Secondly, the ratification of the Mineral Policy of Tanzania in 1997 changed the government's role in the mining sector. Prior to this legislation being passed, the government played a developmental role where it owned, mined and managed the mining sector. After the legislation was passed, its role was scaled back to monitoring the sector's operations by providing policy guidelines for attracting private investment.<sup>35</sup> The creation of a liberalised mining sector and attractive government incentives gave foreign investors the confidence to plough millions into developing large-scale mines in Tanzania. Mining companies receive incentives to invest in Tanzania under the Tanzania Investment Act 1997 and they also receive additional incentives under the Mineral Act of 1998, the Mining Act of 1998 and the Fiscal Package of 1998.

Legislation has been effective in creating a mixed sector, but ineffective in creating a framework that governs the mode of interaction among stakeholders. The licensing process is the most extreme example of a grey area that has led to conflict between large-scale miners and their smaller counterparts. For example, artisanal miners file their claims at local zonal offices of the Ministry of Energy and Minerals (MEM), while large-scale mining companies file their claims at the central registry in Dodoma.<sup>36</sup> Part of large-scale miners' agreement with the MEM is that they will buy out any pre-existing claims before proceeding with mining.<sup>37</sup> A discrepancy exists between zonal mining offices and the central registry records. As a result, large companies filed for licences on what appeared



to be fairly open areas and found afterwards that these areas were subject to numerous conflicting small claims.<sup>38</sup> Another twist is that the land compensation process is not transparent, creating more opportunities for misunderstanding among parties. According to a US Agency for International Development study:

Mine workers have also resisted removal from claims, even when they are bought out, as they typically receive no compensation. It all goes to the claim holder of record, and Zonal mining officials sometimes side with artisanal claims, to the point that some large companies complain of collusion.<sup>39</sup>

A key event that demonstrates the potential negative consequences that poorly defined governance structures has on stakeholders interaction is the forced removal of artisanal miners from a concession in the Bulyanhulu mining area during August 1996.<sup>40</sup> The number of artisanal miners in the Bulyanhulu area increased after 1993 when President Hassan Mwinyi gave a verbal commitment to such miners that they could return to or continue to mine in areas from which they were excluded. This unilateral decision was made by Tanzania's executive elite without informing other actors in the sector prior to the announcement.

Operating in an opaque governance environment complicates business activities and heightens the potential for conflict among parties. President Hassan Mwinyi's verbal commitment exposed grey areas concerning the links between central and local administrations, which complicates how the mining companies need to position themselves in relation to these two parts of government. Mining companies' right to mine and their specific mineral concessions are conferred by the national government, yet upholding these rights and enforcing related obligations fall under the control/management of local government authorities.

## PRODUCTION

Tanzania is a resource-rich country and is endowed with a wide range of mineral deposits that are scattered throughout the country. These include nickel, platinum, uranium, cobalt, Tanzanite, copper, silver, coal, iron ore, limestone and titanium. Comparing absolute production levels among minerals is difficult because of different metric measures. When average annual growth rates are compared among minerals, however, a clearer picture of production trends emerges. The growth of Tanzania's mineral sector is primarily driven by a rise in gold and gemstone production. Areas in decline include diamonds, salt and coal.

Tanzania's production of gold increased by 46% on an average annual basis from 1989 to 1999.<sup>41</sup> This surge in production is due to mining legislation, in particular the 1997 Tanzania Mineral Act, which encouraged global mining houses to invest in Tanzania and provided stable macroeconomic conditions. From 2000 to 2006 gold production continued to post double-digit growth rates, to make Tanzania the continent's third-largest gold-producing country after South Africa and Ghana. Gold reserves are located along the western side of the Rift Valley in the Mwanza, Mara, Shinyanga and Tabora regions.<sup>42</sup> Based on a conservative estimate, the country's proven gold reserves are above 36 Moz (one million ounces or 1 000 tonnes).

**Table 5: Production of minerals in Tanzania, 1989–2006**

Mineral	Metric	Production volume			Annual average	Annual average
		1989	1998	2006	1989–99	2000–06
Diamonds	Carats	75 885	97 830	272 204	11.97%	-4.30%
Gold	Kg	112	4 270	39 750	45.88%	17.56%
Gemstones	Kg	11 398	48 518	2 493 133	23.65%	59.61%
Salt	Tonnes	20 010	75 000	34 798	6.02%	-11.00%
Phosphate	Tonnes	8 451	1 431	2 881	-1.52%	-9.08%
Limestone	'000 tonnes	987	1 181	1 608	2.32%	1.17%
Tin ore	Tonnes	15	–	–	–	–
Gypsum	Tonnes	5 895	59 066	32 798	13.65%	-9.58%
Coal	Tonnes	2 505	45 073	17 940	40.49%	-21.92%
Pozolana	Tonnes	13 101	–	129 295	-16.06%	14.62%
Kaolin	Tonnes	1 554	–	–	–	–
Silver ore	Kg	–	–	14 906	–	–
Copper	Pounds	–	–	7 241 639	–	–
Bauxite	Tonnes	–	–	5 373	–	–

Source: Author's calculations based on MEM data cited in an online version of the Ministry of Finance and Economic Affairs' Economic Survey.

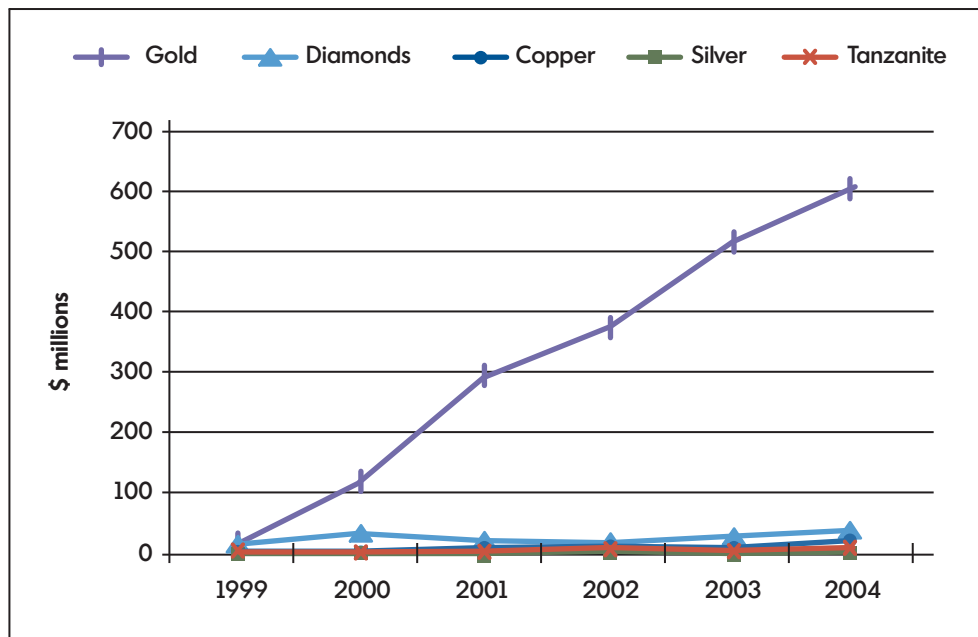
The influence of gold mining on Tanzania's mining sector only becomes apparent when production is measured in monetary terms. In 2004 the sector's production was worth \$655.4 million, with gold comprising 92.32% of this value. The second and third position belongs to diamonds and copper, with a share of 4.45% and 1.87%, respectively. From this production data, it can be deduced that Tanzania's mineral sector is reliant on the gold sector's health. Officials and businesspeople are acutely aware of this fact, which has placed the gold sector's fortunes at the centre of political debates.

The growth in value of gold production from 1999 has been driven by the government's economic policy to use the mineral sector as the economy's growth engine. The rationale behind the government's policy was to develop the mineral sector as an anchor industry that would attract spin-off industries to create backward and forward linkages into the mineral value chain. Developing a mineral sector requires good-quality ores, capital, skills and infrastructure. The government realised that it required foreign capital and skills to develop the country's mineral sector. The market to attract FDI is competitive, and to lure global mining houses to Tanzania, the government signed mining development agreements (MDAs) with large mining houses. These MDAs are comprehensive technical agreements that give mining houses preferential rights. MDAs are expensive to negotiate and draft and thus the exercise is only worth stakeholders' effort for large projects. As a consequence, the government's mining incentive programmes crowded out junior miners from participating in this market and pushed artisanal miners to the periphery.<sup>43</sup> In effect,

this has created a dualistic mining sector, where the majority of production is mined by the few, so-called global, producers, and an informal sector. These sectors exist side by side, which creates scenarios for conflict, but also co-operation and mutual gain.

On average, since 1998 a new gold mine has opened each year. These mines are or were owned by Resolute Ltd, Ashanti Goldfields in joint venture with AngloGold, Barrick Gold Corporation, Placer Dome Inc, Meremeta Ltd, and Pangera Goldfields Inc in a joint venture with Minière du Nord.<sup>44</sup> It is estimated that these large mining companies collectively invested more than \$1.5 billion in Tanzania in the period 1995–2006.<sup>45</sup>

**Figure 6: Production of minerals, 1999–2004 (\$ millions)**



Source: Tanzania Chamber of Minerals and Energy, 2005 cited in MacDonald C & A Roe, *op. cit.*

**Table 6: Tanzania's largest mines**

Name	Owner	Mineral	Established	FDI (\$ millions)
Golden Pride	Resolute	Gold	1998	77
Bulyanhulu	Barrick	Gold	2001	280
Gieta	AngloGold–Ashanti	Gold	2000	450
Afrika Mashariki	Afrika Ashanti	Gold	2002	72
Buhemba	Meremeta	Gold	2003	65
Merelani Mining Ltd	Afgem	Tanzanite	2001	20
Williamson Diamonds Ltd	DeBeers and Tz	Diamonds	1940	12.3

Source: Lange S, *op. cit.*

According to the US Geological Society, production of gold in Tanzania will increase to roughly 57 tons in 2011 based on increased production from the Geita mine and the development of the Buckreef and Buzwagi projects.<sup>46</sup> The implication is that the size of the industry will change, but its shape will remain intact. Production will probably be dominated by the same large international companies, and artisanal miners will contribute roughly 4% of gold production.<sup>47</sup> Notable new projects in 2006 included Barrick's Buzwagi feasibility study and its Nyanzaga exploration activities, Resolute's increase of the life of its Golden Pride mine to eight years, and IAMGOLD's completion of a feasibility study of the Buckreef deposit.<sup>48</sup>

**Table 7: Structure of Tanzania's gold resources and reserves, 2006**

Project	Major operating companies	Tonnage (million metric tonnes)	Grams per metric tonnes	Contained gold (metric tonnes)
<b>Reserves</b>				
Bulyanhulu	Bulyanhulu Gold Mine Ltd (Barrick Gold Corp., 100%)	30.5	11.4	348
Geita	Geita Gold Mining Ltd (AngloGold-Ashanti Ltd, 100%)	79.0	3.3	264
North Mara	North Mara Gold Mine Ltd. (Barrick Gold Corp., 100%)	31.8	3.2	102
Buzwagi	Barrick Gold Corp.	45.2	1.8	82
Golden Pride	Resolute Mining Ltd	25.2	1.6	39
Tulawaka	Pangea Minerals Ltd (Barrick Gold Corp., 70%; Exploration Minières du Nord Ltée, 30%)	1.3	11.1	15
<b>Total</b>		<b>213.0</b>	<b>4.7</b>	<b>850</b>
<b>Resources</b>				
Bulyanhulu	Bulyanhulu Gold Mine Ltd	39.0	12.3	481
Geita	Geita Gold Mines	142.5	3.2	458
Tusker	Barrick Gold Corp., 51%; Sub-Sahara Resources NL, 49%	123.3	1.2	142
North Mara	North Mara Gold Mine Ltd	40.2	3.1	124
Buzwagi	Barrick Gold Corp.	53.5	1.8	97
Buckreef/ Rwamagaza	IAMGOLD Corp.	27.2	2.2	61
Golden Pride	Resolute Mining Ltd	38.6	1.5	57
Golden Ridge	Kahama Mining Corp. Ltd	33.1	1.5	46

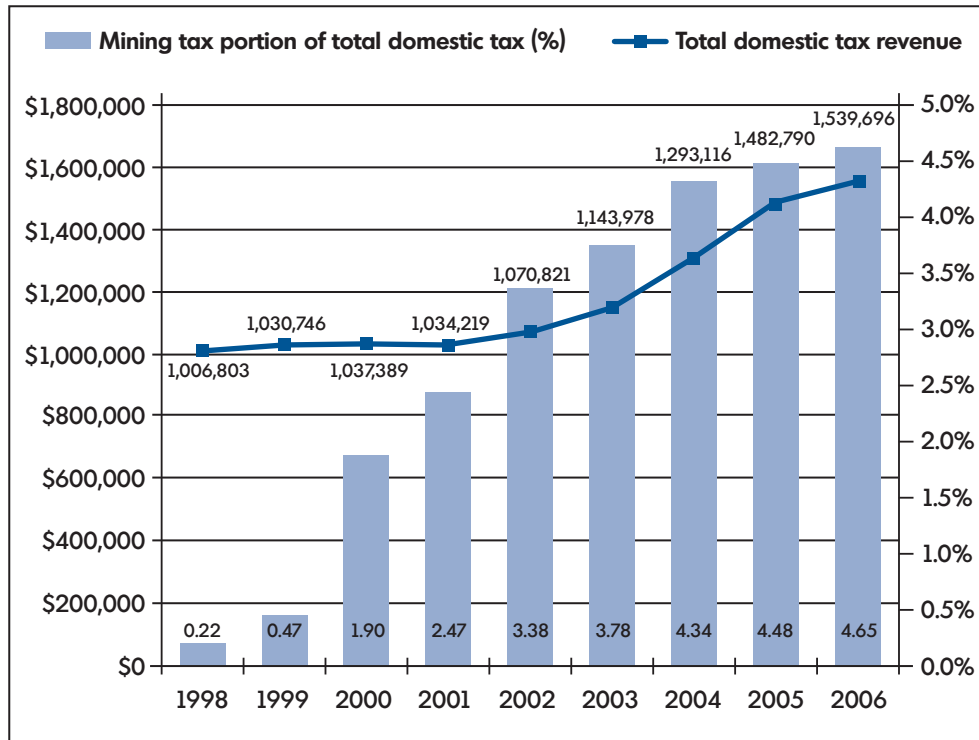
Nyakafuru	Kahama Mining Corp. Ltd	19.4	1.7	33
Buhemba	Time Mining Group	11.4	2.0	23
Mgusu	Shanta Gold Ltd	6.2	3.7	23
Tulawaka	Pangea Minerals Ltd	1.8	11.1	20
Kitongo: Main Zone	IAMGOLD Corp.	10.5	1.3	14
Kitongo: Isegenghe Hill	IAMGOLD Corp.	0.2	14.4	2
Miyabi	African Eagle Resources plc	12.4	1.3	16
Ikungu	Lakota Resources Inc.	2.5	2.3	6
<b>Total</b>		<b>523.0</b>	<b>3.6</b>	<b>1 600</b>

Source: USGS (US Geological Survey) Minerals, Database, accessed June 2008, <http://minerals.usgs.gov/minerals/pubs/country/africa.html#tz>.

## MINING REVENUES: PERCEPTIONS VERSUS REALITY

Large-scale mining activity is not evenly distributed throughout Tanzania's 117 local districts. The country's seven largest mines are located in Nzega, Geita, Kahama, Tarime, Biharamulo and Shinyanga districts,<sup>49</sup> and by implication, the majority of Tanzania's mining revenue originates from these areas. The concentration of large-scale mining activity in these districts makes it simpler for the Tanzania Revenue Authority (TRA) to collect mining taxes. Given the TRA's limited resources, its strategy is to focus its tax collection efforts on large-scale miners. Statistics show that this strategy has substantially increased the amount of tax revenue collected from the mining sector as a percentage of total domestic tax revenue from 0.22% in 1998 to 4.65% in 2006. The TRA's ability to collect taxes from the artisanal mining subsector is limited compared to the amount of revenue this activity generates. This subsector comprises numerous miners, who are often migrant, seasonal workers involved in the informal economy, a situation that implies a limited paper trail.

Another factor which is worth considering when evaluating the mining sector's contribution to the treasury is the quality of its revenue streams. Quality revenue streams improve the treasury's ability to plan its expenditure and are predictable, reliable and stable, while the value exceeds the cost of collection, and the formal mining sector's contribution to the state's coffers displays these four characteristics. When stakeholders comment on the mining sector's contribution to the state purely on value without considering quality, it is an incomplete assessment, especially given Tanzania's reliance on aid.

**Figure 7: Contribution of mining taxes to total domestic tax, 1998–2006**

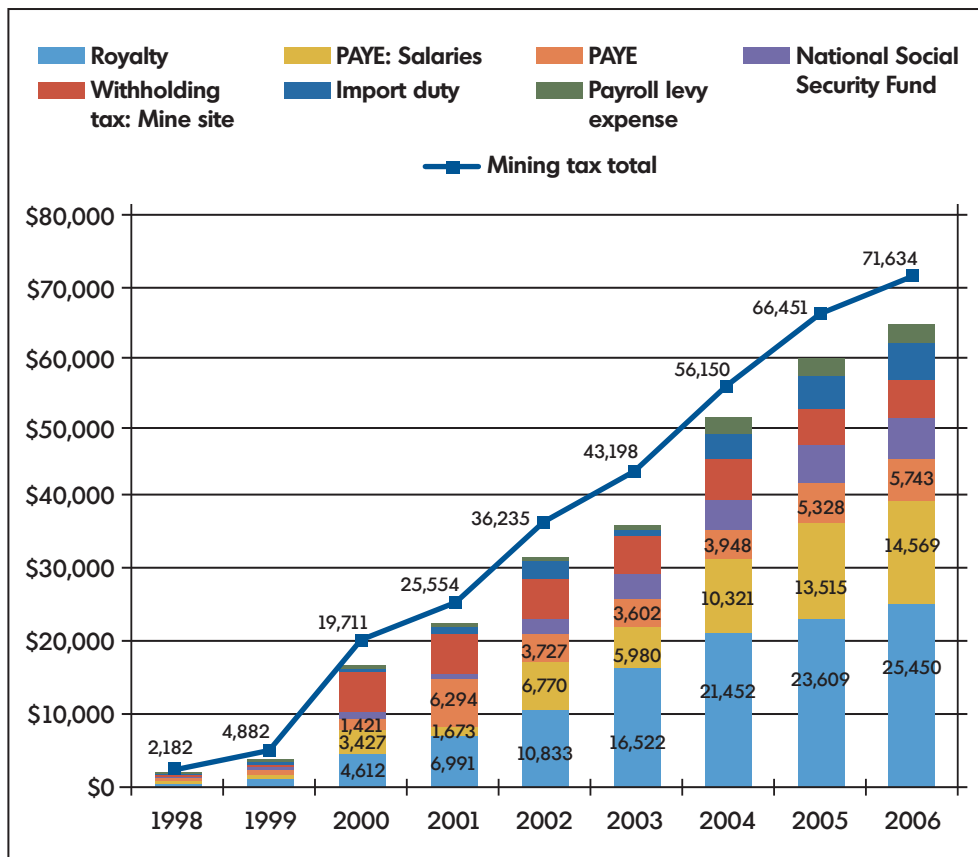
Source: Author's calculations based on MEM data cited in Ngowi D, *op. cit.*, p. 4 and data from the Ministry of Planning, Economy and Empowerment cited in an online version of the Ministry of Finance and Economic Affairs' Economic Survey.

The stylised fact is that mining companies' contribution to total tax revenue is a pittance compared to their profits, calculated on the basis of the gold price multiplied by production volume (for the purposes of this report referred to as the value of production). This brings three issues to the forefront of the debate. Firstly, how and why did the public establish a link between taxable income and the value of production? Secondly, does the public apply this benchmark to judge whether other industries are paying their fair share of tax? If this is not the case, why has the mining industry been singled out? Thirdly, would the creation of a benchmark to judge whether industries are sufficiently contributing to the fiscus be beneficial, and if so, how would it be created? Quoting statistical evidence to support an argument does not mean that the argument is objective. For example, a Norwegian Chr. Michelsen Institute report infers that tax revenues received from mining companies are insufficient, as the government received less than 8.4% of the sector's exported value in the period 1998–2003.<sup>50</sup> Exported value is a function of production value and by definition does not include costs, and thus is an inflated value. Alternatively, mining's contribution to the fiscus could be judged in respect to its share of GDP and value-added, which was 3.29% and 4% in 2006, respectively. Based on this benchmark, the mining sector's contribution to tax revenue of 4.65% in 2004 seems acceptable.

From 1998 to 2001 no systematic pattern regarding the composition of tax revenue can be detected. This result reflects the start-up nature of the industry, as the majority of large

mines were established in the period 2000–02. The mining tax code was amended in 2001. Companies were no longer allowed to defer royalty payments when their cash operating margins fall below zero. A 15% additional capital deduction on unrecovered development expenditure was removed. To gauge the effect these amendments had on the composition of mining tax revenue is difficult, as they were not applied uniformly throughout the sector, because some mining companies’ MDAs protected them from these changes. Since 2002 the majority of tax revenue generated from the mining sector has been in the form of royalty payments and pay as you earn (PAYE) tax on salaries (PAYE: Salaries in the figures that follow). From 2002 to 2006, these line items have comprised roughly 54% of mining tax revenue.

**Figure 8: Trend in the composition of mining tax, 1998–2006**



Source: Author’s calculation based on MEM data cited in Ngowi D, *op. cit.*, p. 4.

Taxation revenue generated from mining taxes increased from \$19,711,000 in 2000 to \$71,634,000 in 2006, representing an average annual growth rate of 24% per year. Mining taxation is broken down into 17 categories. The majority of these categories’ contribution to total mining taxation revenue remained flat. The growth in mining taxation revenues can be attributed to royalty payments and PAYE: Salaries. The performance of these latter categories can be loosely grouped into growth spurts. Royalty payments growth falls within

three periods: 1998–99 (limited growth), 2000–03 (rapid growth) and 2004–06 (stabilised growth). In 2002 the contribution of PAYE: Salaries increased approximately sixfold from its 2001 value. This category also experienced rapid growth in 2004 compared to 2003.

**Table 8: Average annual growth in mining tax revenues, 2000–06**

	2000 (\$'000)	2006 (\$'000)	Average annual growth, 2000–06	Percentage of total taxes collected	
				2000	2006
Royalty	4,611.6	25,450	32.94%	23.40%	35.53%
PAYE: Salaries	3,427.2	14,569.2	27.28%	17.39%	20.34%
PAYE	1,421.2	5,743.2	26.21%	7.21%	8.02%
National Social Security Fund	1,102.5	5,713.8	31.55%	5.59%	7.98%
Withholding tax: Mine site	5,785.6	5,271.5	-1.54%	29.35%	7.36%
Import duty	532.6	5,210.8	46.25%	2.70%	7.27%
Payroll levy expense	454.7	2,850.7	35.79%	2.31%	3.98%
Road toll	440.6	1,959.2	28.23%	2.24%	2.74%
Other	610.3	1,792	19.66%	3.10%	2.50%
Payroll levy	241.6	1,357	33.33%	1.23%	1.89%
Skills development levy	377.0	600.2	8.06%	1.91%	0.84%
Mining lease	307.0	522.9	9.28%	1.56%	0.73%
Stamp duty	114.4	175.0	7.34%	0.58%	0.24%
Donations	178.3	164.8	-1.30%	0.90%	0.23%
PAYE: Gratuity	0	155.1	0.00%	0.00%	0.22%
Parastatal Pension Fund	4.2	98.6	69.21%	0.02%	0.14%
Withholding tax: Dar es Salaam	102.1	0	-100.00%	0.52%	0.00%
<b>Mining tax total</b>	<b>19,710.9</b>	<b>71,634.0</b>	<b>23.99%</b>	<b>100.00%</b>	<b>100.00%</b>

Source: Author's calculation based on MEM data cited in Ngowi D, *op. cit.*, p. 4.

Large-scale mining operations were established from 2000 to 2002, which could explain the rapid growth in royalty payments during the period 2000–03 compared to 1998–99. Acknowledging that a link exists between the mining industry's development phase and



the value and type of taxation revenue generated has the potential to change the nature of the debate. The debate focuses on the value of taxes generated from mining in isolation from the mining sector's stage of development, which results in extreme views and short-term-driven policy responses. A good example is the contention that mining companies do not effectively pay corporate tax in Tanzania. On average, it takes a mine 15 years to reach its optimal operating efficiency. As large-scale mining in Tanzania was established only in 2000/01, it is conceivable that, given the early stage of the industry's development, mines generate insufficient taxable income to pay corporate tax, because of high operating costs and depreciation of capital costs.

The implicit assumptions underlying the argument that mining companies have evaded paying certain taxes are the following. Firstly, producing gold has similar cost structures, risk profile and timelines to producing consumer goods. This assumption is incorrect due to sunk cost, asset specificity, the price formation process and the 20-year project time spans associated with the mining industry. Secondly, public commentators' analyses of the mining industry tend to be based on short time horizons. Analysing the mining industry without using a long-term perspective has led commentators to take extreme views. These views have created unrealistic perceptions among stakeholders about the mining industries' current role in the economy. For public debate to become more founded in reality, it would be useful if stakeholders' perceptions are filtered through a common understanding of the mining industry's value chain, then tax policy is not about making piecemeal, isolated changes, e.g. 'simply' increasing royalties from 3% to 5%.

If tax policy is designed on a common understanding of the industry, it holds the potential to manage taxation methods as a portfolio of options. Such a change would have important implications. The collection, allocation and distribution of mining tax revenues do not currently fall under a special dispensation. Mining tax revenues are collected and deposited into the national government's Consolidated Fund, which flows into the national budget and statutory funds. To gauge whether mining tax revenue is deployed in an optimal manner, the quality of the management of the above 'general' funds and their effective allocation to beneficiaries need to be explored.<sup>51</sup> This will include the quality of accountability at both the national and local levels of government and the development that takes place at the local community level, which in turn is dependent on the effectiveness of the subnational government institutions.

Following legal and regulatory reforms, combined with the implementation of an integrated financial management information system, the national government has the fiscal management system in place to spend tax revenues appropriately. Weak areas in the fiscal management system at the national level include procurement, and internal and external audit. These areas are being addressed through capacity-building initiatives and the Heavily Indebted Poor Countries (HIPC) Relief Fund.<sup>52</sup> The thinking underlying the fiscal reform process in Tanzania has largely been to establish sound structures, processes and governance mechanisms at the national level and assume that the benefits from these reforms will automatically filter down to the lower levels. A combination of limited resources available to allocate to fiscal reforms and a centrally controlled top-down approach has marginalised two important issues. These are the management of fiscal relations among the different levels of government and the principles/assumptions underlying the distribution of mining tax revenues.

In theory, Tanzania follows a decentralised fiscal management approach. Local government authorities are responsible for preparing their own budgets, and independently managing and controlling their own expenditure.<sup>53</sup> Even though progress has been made in decentralising fiscal management on paper, the reality is that local government relies on national government for funding. Approximately 70–90% of local government's revenues are sourced from the central government, and cumulatively the districts' own tax revenues comprised less than 2% of national tax revenue in 2005.<sup>54</sup> Local government's ability to raise funds from special taxes, such as property tax, is limited. Furthermore, local revenues are inelastic and subject to year-on-year variability. The level of funding local government receives from the national government is determined by a formula set out in the Medium-term Expenditure Framework.<sup>55</sup> These funds are distributed via a bureaucratic maze, which raises questions about the quality of the local allocation of resources that emanate from central government ministries. Funds are released from the central budget office, to line ministries, to the Financial Administration Network, a bureaucratic maze within a bureaucratic maze, and then distributed to spending units.<sup>56</sup> The Financial Administration Network links headquarters and regions; the regions and the 117 districts; and finally the districts and the implementing units such as district schools or clinics.<sup>57</sup>

Local government is financially bankrupt without central government allocations, which form the basis of districts' funding and thus affect their planning, budgeting and expenditure management. This raises questions about the relationship between substance and form. The form — Tanzania's legislative and regulatory framework — has established the distribution of fiscal functions between the central and local government. The substance is that local government is under the direct control of central government. Furthermore the mechanisms to release funding among government entities are cumbersome and complicated. In conclusion, intergovernmental fiscal structures, governance and processes do not facilitate bottom-up planning or the optimal financing of local development. Revenue streams from central funding and local governments' own sources are subject to low levels of elasticity and year-on-year volatility. A combination of these factors makes effective budgeting and financial planning difficult. The optimal benefits from mining tax revenues are not being realised in the districts, as the intergovernmental fiscal system hampers local governments' ability to design, plan and execute projects.

The national government assumes that mining regions' ability to collect their own revenues is greater than that of non-mining regions. Unpacking this assumption unearths the perception that increasing growth in economic activity in a region instantaneously leads to an increase in a region's source of own funding/local budget. Embedded in this perception is the assertion that the benefits from mining activity will automatically trickle down to the region, but the negative effects will not. However, mining activity has both positive and negative effects on a region's finances. In positive terms, increased economic activity and the collection of special taxes have the potential to increase a region's ability to generate its own funds. Positive economic spin-offs are contingent on the local economy's ability to integrate into mining houses' value chain. This is not an automatic, instantaneous process, however, as it requires investment in infrastructure, skills and capacity. On the negative side, mining activity encourages the development of peri-urban settlements, which places pressure on local governments' social expenditure programmes. Over the short to medium term, the increase in social expenditure may outweigh the positive

income-generating benefits arising from mining activity in the region. This imbalance arises because migration and revenue collection occur within different time frames. As we have seen, local governments' revenue base suffers from low elasticity and yearly variability, and adjustment is slower than changes in migration patterns.

The government's approach fails to recognise that benefitting from mining activities requires an initial investment and that the scope of this initial investment will have a regional dimension. Regions have different resource endowments and are at various stages of development. The reality is that a regions' ability to benefit from mining activity is not homogeneous and requires upfront investment and planning at a national level. The government's participation in getting regions ready to benefit from mining activity cannot be a centrally determined blanket solution. Instead, the national government needs to work with provincial and local government to design policies and strategies that enable local entrepreneurs to integrate into mining houses' value chains. These targeted interventions could form part of local governments' local economic development strategies and cities' integrated development plans.

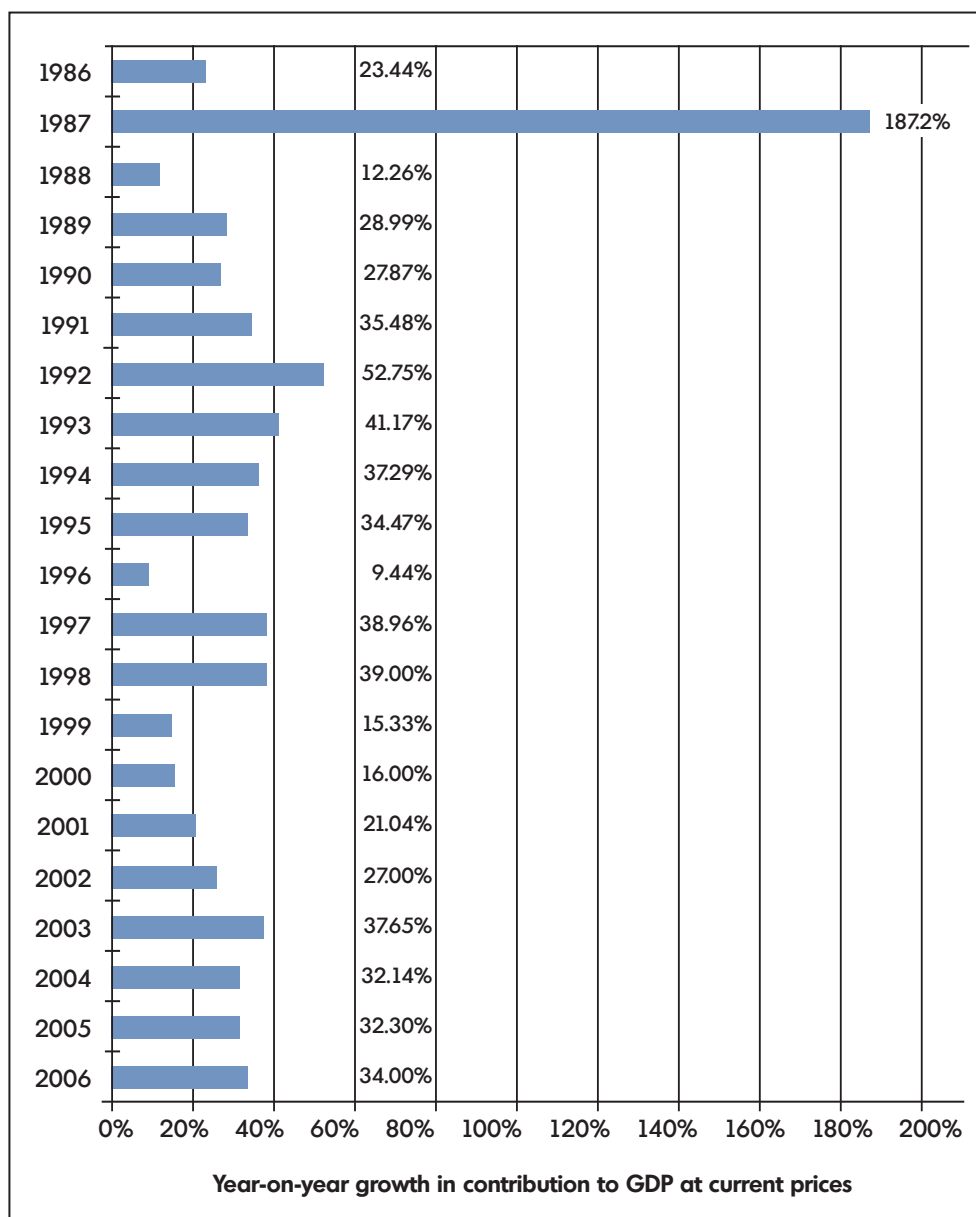
### MINING'S CONTRIBUTION TO GDP

The government realised that the gold price was likely to hover around the \$300–450 mark and formed STAMICO in 1973 to undertake large-scale mining operations.<sup>58</sup> The economic policies of Ujamaa led to a fiscal crisis and as a result the government did not have access to capital. Attempts by the government to raise capital in the 1980s and 1990s on the market, and through aid and public–private partnerships failed.<sup>59</sup> Even the investor-friendly 1979 Mining Act, which provided the legal and political framework and incentives for large-scale mining, failed to attract investors. When STAMICO failed to raise capital to mine gold when the metal's price hit unprecedented levels in the 1980s, it changed the industry's shape. The form of mining in Tanzania changed from large-scale operations to self-employed mining. The majority of these self-employed miners were mining illegally, as any mining activity was outlawed by the state unless these activities were carried out in association with the state. These strict regulations resulted in gold being smuggled out of Tanzania and sold in Kenya. Foreign mining houses established a presence in Tanzania from 1984 and small miners' operations become official in 1989 when mineral trading was liberalised.<sup>60</sup>

The sector's turbulent past has negatively affected the quality of historical production data. Historical data before 1989 may be understated and, by implication, the rate of the mining sector's growth over the latter part of the 1990s could be inflated. The spike in 1987 mining's contribution to GDP in figure 9 on page 36 is related to the end of STAMICO's monopoly and the passing of a law that allowed any Tanzanian national to register a claim and sell minerals.

When the 1998 Mining Act was passed into law in August 1999, it signified the government's unequivocal decision to create a liberal free-market-based mining sector. Under this Act, the government's role is confined to regulating and promoting the sector. The private sector has the freedom to explore and exploit resources, giving its members the space to operate and manage their own mineral enterprises.<sup>61</sup> The Act represented a cultural 180-degree turn in the government's policies from the call of independence

**Figure 9: Year-on-year growth in the mining sector's contribution to GDP, 1986–2006 (current prices<sup>62</sup>)**



Source: Author's calculations based on data from the National Bureau of Statistics that was published by the Bank of Tanzania and an online version of the Ministry of Finance and Economic Affairs' Economic Survey.

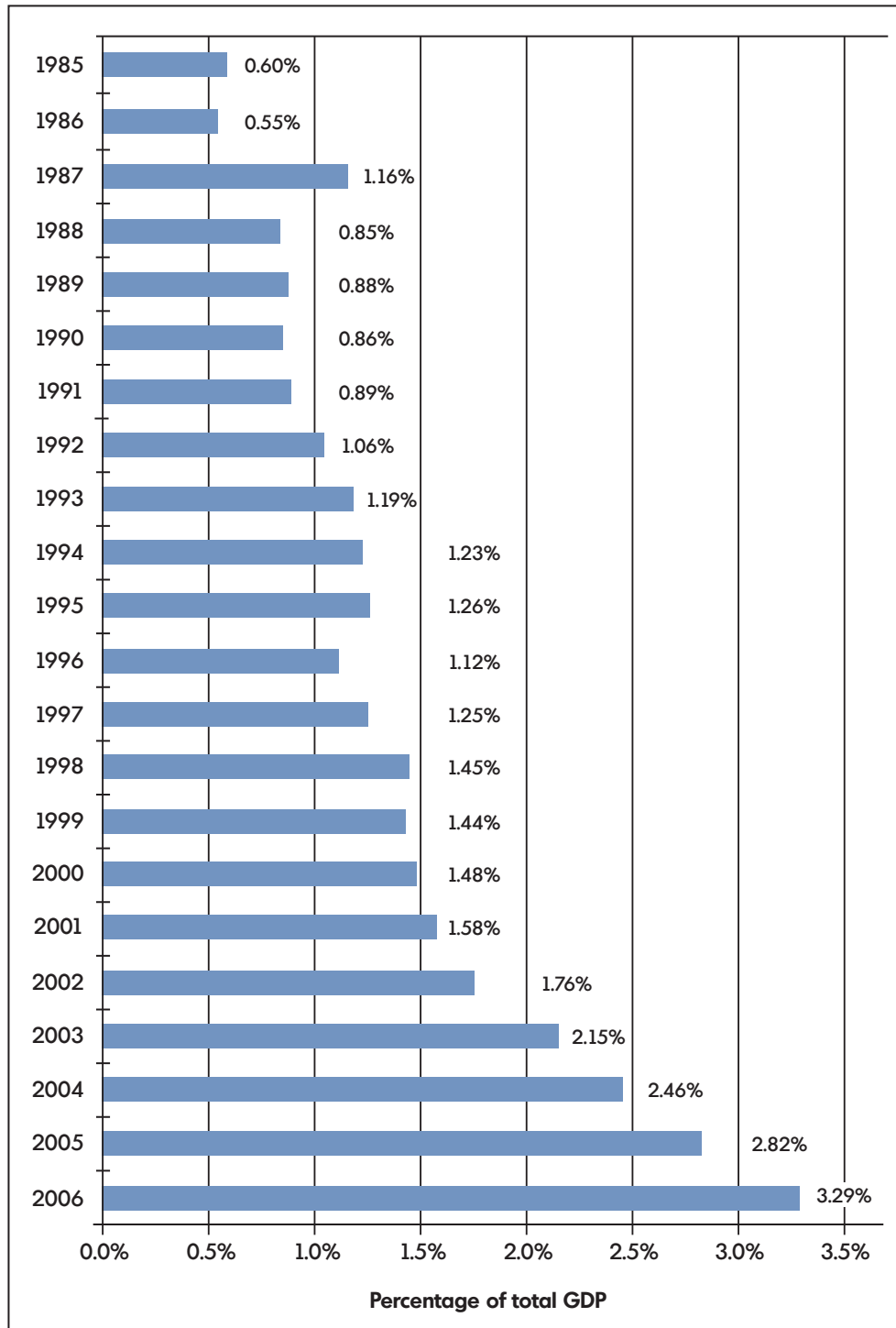
and non-reliance on foreign capital under Nyerere. Mining activities could be conducted by 100% foreign-owned companies, while the government provided guarantees against nationalisation and expropriation, and unrestricted repatriation of profits and capital was allowed. Mining royalties were pegged at a maximum of 3%, and import duties and tax exemptions on imported machinery, equipment and other inputs were granted. The

requirement (in the 1979 Mining Act) for local procurement of goods and services was waived. The positive effect of the 1998 Mining Act started to filter through into economic statistics in 1998. In that year FDI increased to \$58 million and the sector's contribution to GDP increased. The sector's contribution to the economy was more visible from 2002, because a significant time lag exists between conducting a geological feasibility study for a mine and that mine achieving commercial production.

The 1998 Mining Act established Tanzania as an investment-friendly country, paving the way for mining projects such as the Bulyanhulu Gold Mine in 1996 and the Geita Gold Mine in 2000. Once these projects came on line, the sector was placed on a growth trajectory, reflected in its growing contribution to GDP and its impressive annual growth. The mining sector has drawn interest and scrutiny from stakeholders because of its impressive growth rates. This discussion often omits that the sector's growth rate is off a fairly small base and thus a double-digit growth rate's overall contribution to the economy is small. The economy achieved an average annual GDP growth of 4.8% during the period 1996–2003, of which mining contributed around 0.3%, or some 6% of the total.<sup>63</sup> The gulf between the sector's growth and its contribution to the economy has reaffirmed the public's opinion that something does not add up: the sector has grown at an increasing rate, yet its contribution to the overall economy has only slightly improved.

The mining sector has significantly contributed to Tanzania's firmer macroeconomic fundamentals, such as GDP growth, FDI and exports. In comparison, the sector's 'real' or tangible contribution to Tanzania's economy, such as jobs and the population's access to improved social services from mining revenues flowing into the treasury and services has been disappointing. The gap in the public's expectations between the sector's tangible and intangible benefits has created public pressure to revise the 1998 Mining Act on the grounds that it places the interests of foreign capital before those of the country's people. Given the risk dynamics of the industry, such as sunk assets, uncertainty around legislation will cause investors to postpone future projects. The sector's impressive historical performance compared to other sectors will be negatively affected until stakeholders' speculation about changes to mining legislation is addressed.

From the statistics in table 9 on page 39, it becomes apparent that the mining industry's growth in Tanzania has been volatile. This volatility arises from four factors. Firstly, the sector's growth performance is calculated off a relatively small base, which accentuates movements in peaks and troughs. Secondly, the way in which activity in the sector has been promoted is a factor. Mega projects have a long gestation period from identifying reserves to extracting ores. When these large-scale projects come on line, they bump up production levels. Thirdly, performance is affected by the price-taker nature of the industry and the setting of commodity prices on commodity exchanges, which is open to manipulation from arbitrage traders. Finally, the risky nature of mining activities requires a stable political environment underpinned by legislation that is renegotiated in a transparent manner. Given the industry's volatility, the policy question is whether a country's industrial strategy should be based on a volatile industry. Given the industry's volatility, does the government envisage linking into mining houses supply chains to create spin-off industries that have an application outside the mining sector?

**Figure 10: Mining's contribution to GDP, 1985–2006 (current prices)**

Source: Author's calculations based on data from the National Bureau of Statistics that was published by the Bank of Tanzania and an online version of the Ministry of Finance and Economic Affairs' Economic Survey.

**Table 9: GDP by kind of economic activity at current prices**

	Annual contribution to GDP (TZS millions)			Average annual growth	
	1985	1995	2006	1985-95	1996-2006
Agriculture	90,334	1,318,459	6,858,680	30.74%	16.17%
Mining & quarrying	994	35,190	493,309	42.86%	27.13%
Manufacturing	14,611	200,525	967,773	29.94%	15.38%
Electricity & water	1,455	60,348	228,718	45.14%	12.88%
Construction	5,126	109,429	868,037	35.81%	20.72%
Trade, hotels & restaurants	23,033	417,626	1,747,619	33.61%	13.90%
Transport & communications	5,755	159,771	677,122	39.43%	14.03%
Financial & business services	14,932	353,080	2,083,643	37.21%	17.51%
Public administration/ other services	13,477	255,401	1,304,791	34.20%	15.98%
<b>Total</b>	<b>166,304</b>	<b>2,796,642</b>	<b>14,995,248</b>	<b>32.61%</b>	<b>16.49%</b>

Source: Author's calculations based on data from the National Bureau of Statistics and the Bank of Tanzania and an online version of the Ministry of Finance and Economic Affairs' Economic Survey.

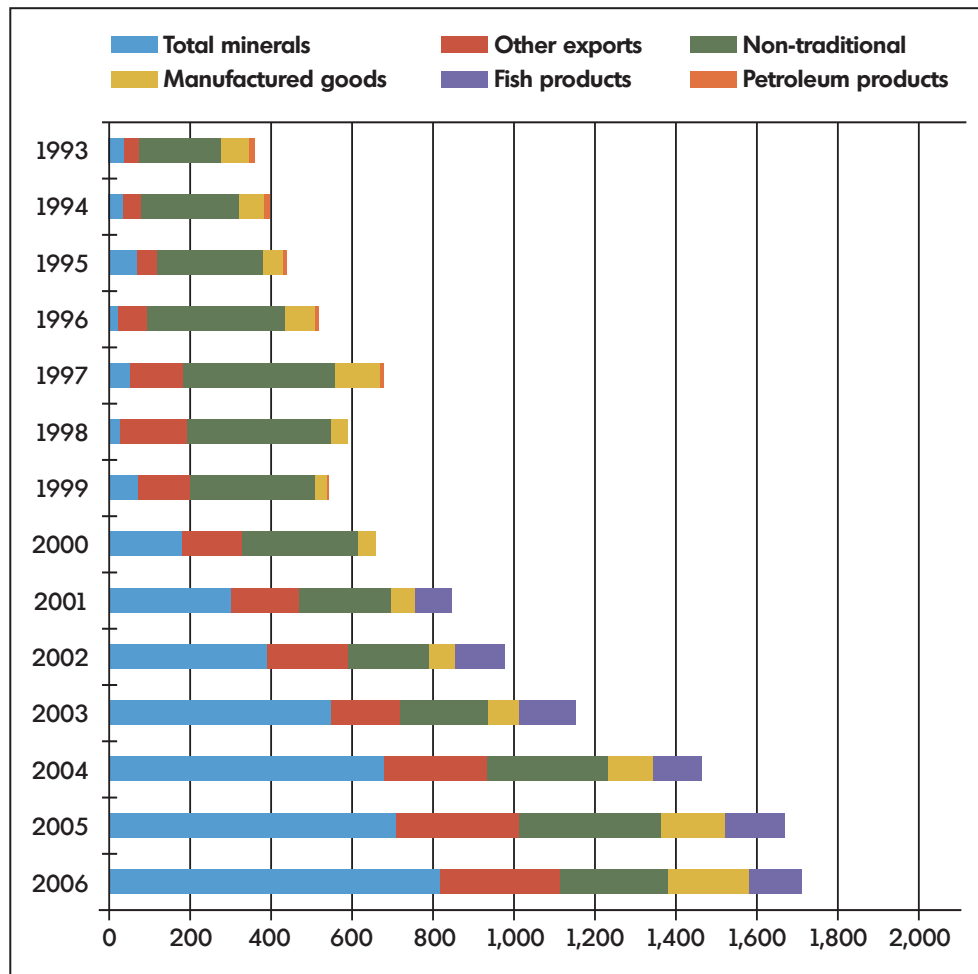
## TRADE

The mineral sector's contribution to GDP is fairly small, hovering around 4% of GDP in 2006. This statistic is in line with expectations, as the sector had to rebuild itself from its malaise stemming from political and economic events. From 2000 to 2006 the sector's growth increased, hitting double digits, although off a small base. Impressive growth rates created the perception that the sector's contribution to the economy as a percentage of its GDP should be greater. This prompted stakeholders to ask where the wealth created by the sector had disappeared to. Critics turned their attention to exports to explain where the missing wealth was located. An aside argument is that stakeholders' desire to track down the 'missing' wealth that is 'owed' to the government confuses an increase in productivity with a sector's contribution to GDP. One is an absolute measure, while the other is relative. Mining is a highly productive sector compared to agriculture, but mining's contribution to GDP is less.

Tanzania's export basket was predominately dominated by agricultural commodities. A turning point in this regard is 2000, as it marks the start of the decline of traditional exports. In 2000 traditional exports were valued at \$293 million, comprising 44.14% of Tanzania's export basket, but by 2006 their contribution was 15.5%, valued at \$267

million. Over the past five years, the composition of Tanzania's export basket shifted away from traditional exports (coffee, cotton, sisal, tea, tobacco, cashew nuts and cloves) to non-traditional exports (minerals, manufactured goods, fish products, petroleum products and other exports).

**Figure 11: Composition of Tanzania's export basket, 1993–2006 (\$ millions)**

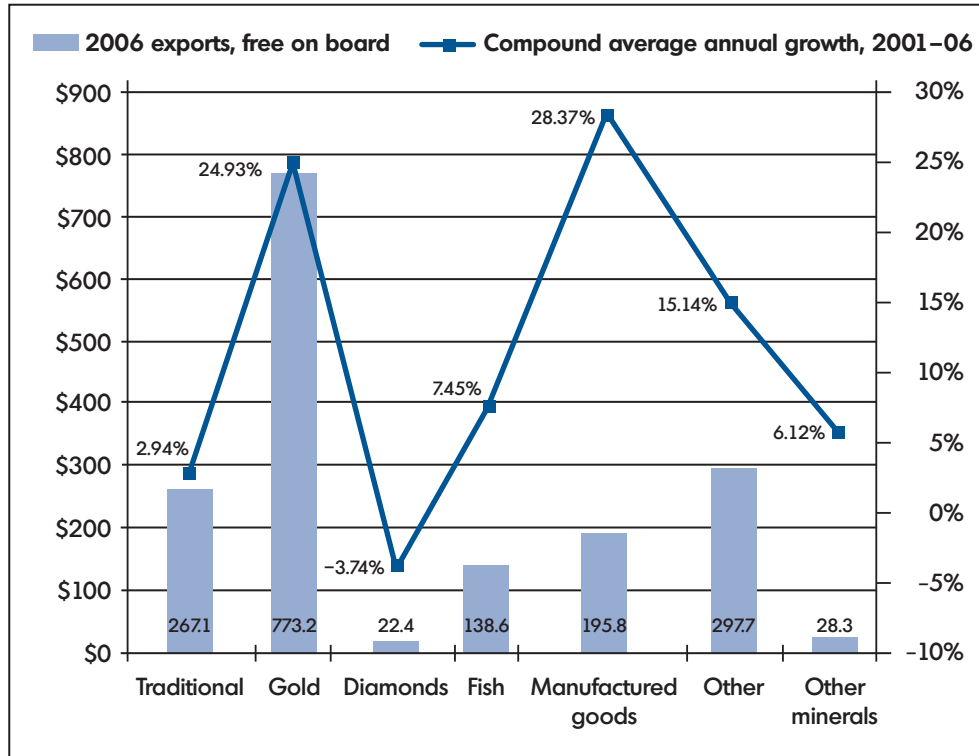


Source: Author's calculations based on data from from the National Bureau of Statistics and the Bank of Tanzania and an online version of the Ministry of Finance and Economic Affairs' Economic Survey.

From 2000 to 2006 non-traditional exports grew by 25.62% on an average annual basis from \$371 million to \$1,456 million, to comprise 84.5% of Tanzania's exports in 2006. The increase in non-traditional exports was due to increased exports of minerals, which achieved a 29.07% average annual growth rate from 2000 to 2006 to be worth \$824 million, representing 47.81% of Tanzania's total exports in 2006. If the data is analysed at the next level, it becomes apparent that gold was responsible for the rise in Tanzania's mineral exports.

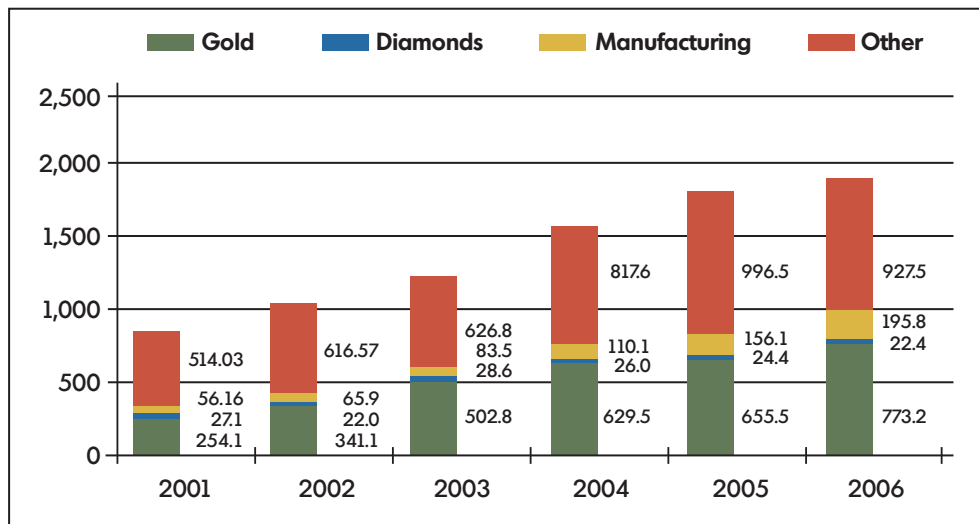


**Figure 12: Growth of Tanzania's exports, 2001–06 (\$ millions)**



Source: Author's calculations based on data from from the National Bureau of Statistics and the Bank of Tanzania and an online version of the Ministry of Finance and Economic Affairs' Economic Survey.

**Figure 13: Gold's position as one of Tanzania's chief exports, 2001–06 (\$ millions)**



Source: Author's calculations based on data from from the National Bureau of Statistics and the Bank of Tanzania and an online version of the Ministry of Finance and Economic Affairs' Economic Survey.

Gold's status as one of Tanzania's chief exports is a relatively new phenomenon. In 2000 gold exports were worth \$114 million, which represented 79% of mineral exports and 17% of total exports of \$663 million. Exports of gold totalled \$773 million in 2006, approximately 44.87% of Tanzania's total exports and 93.84% of Tanzania's mineral exports. The phenomenal growth in Tanzania's gold exports is due to the government's policies that provide incentives for large-scale gold producers to invest in the country. Production statistics show that the government's measures have been successful in attracting capital to mine Tanzania's resources. Export data shows that the majority of this production is destined for international markets. Mining houses argue that the sector benefits Tanzania by generating much-needed foreign exchange.

To judge whether mining improves Tanzania's foreign exchange potential requires the following issues to be considered. Firstly, what type of product is exported? According to standard international trade classification data, the majority of gold is exported in its raw form and a minimal amount is exported as beneficiated product. Most of the value associated with 'producing' gold is leaving the economy, representing a missed opportunity to use a primary commodity to build the country's ability to export industrial goods. Gold does therefore contribute to the country's foreign exchange earnings, but it is below the optimal level.

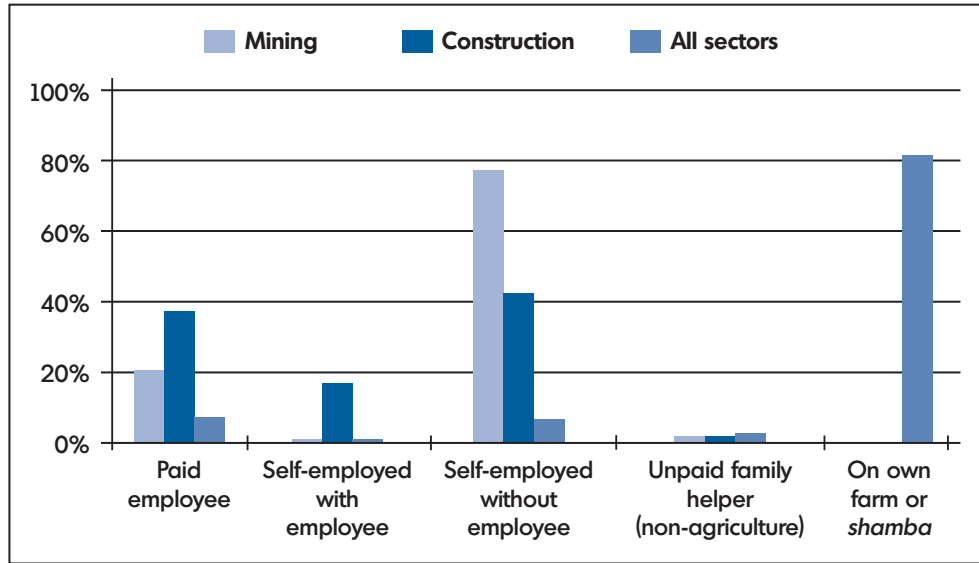
Secondly, where are the inputs used to mine gold imported from? In the period 2001–06 imports of capital goods (transport equipment, machinery, and building and construction equipment) grew by an average annual rate of 16.34% from \$740 million in 2001 to \$1,577 million in 2002. Imports of intermediate goods outpaced the growth in capital goods. In 2001 the value of these imports was \$442 million, whereas in 2006 their value was \$1,733 million. This growth was driven by oil imports (to compensate for hydroelectricity outages) and, to a smaller extent, industrial goods. Although the value of mining houses' imports is unknown, given the composition of Tanzania's import basket and the type of inputs required to mine minerals, it is feasible that mining houses' share of the country's imports is large. This leads one to question whether the notion that mining is a net contributor to Tanzania's foreign exchange earnings.

## EMPLOYMENT

Large-scale mining houses produce 96% of Tanzania's gold, while the remainder is produced by small-scale miners and, to a limited extent, advanced small-scale companies. Although large-scale mining houses produce such a high percentage of Tanzania's gold, they only employ one-fifth of the mining sector's workforce.<sup>64</sup> The remaining four-fifths are self-employed and are predominately classified as artisanal miners.<sup>65</sup>

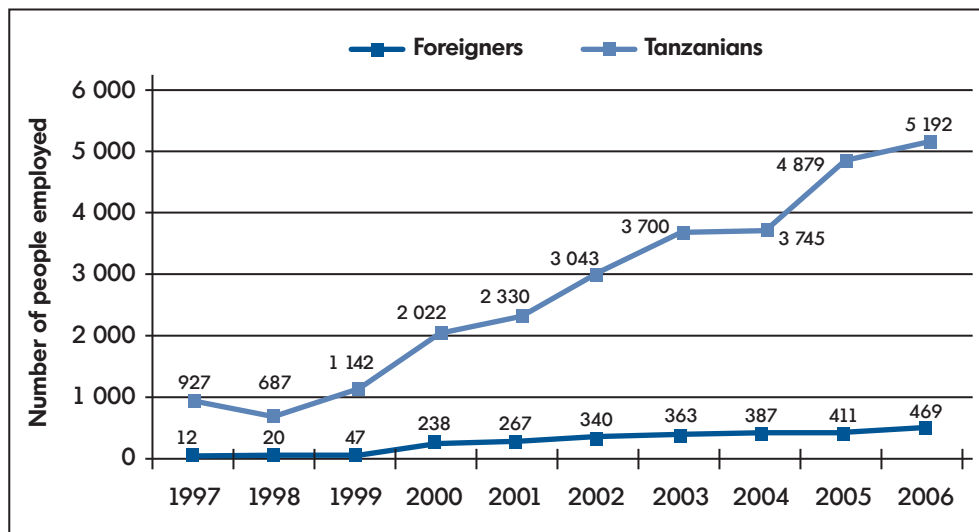
Large-scale mining is a highly technical, capital-intensive activity. Most of Tanzania's mining activity is conducted by large, sophisticated multinational companies. These companies use standardised methods of production throughout their operations, irrespective of the unique economic characteristics of their host countries. The number of direct jobs created by these companies will be small compared to the value of inputs to produce the final product and the value of that product.

**Figure 14: Type of employment in selected industries**



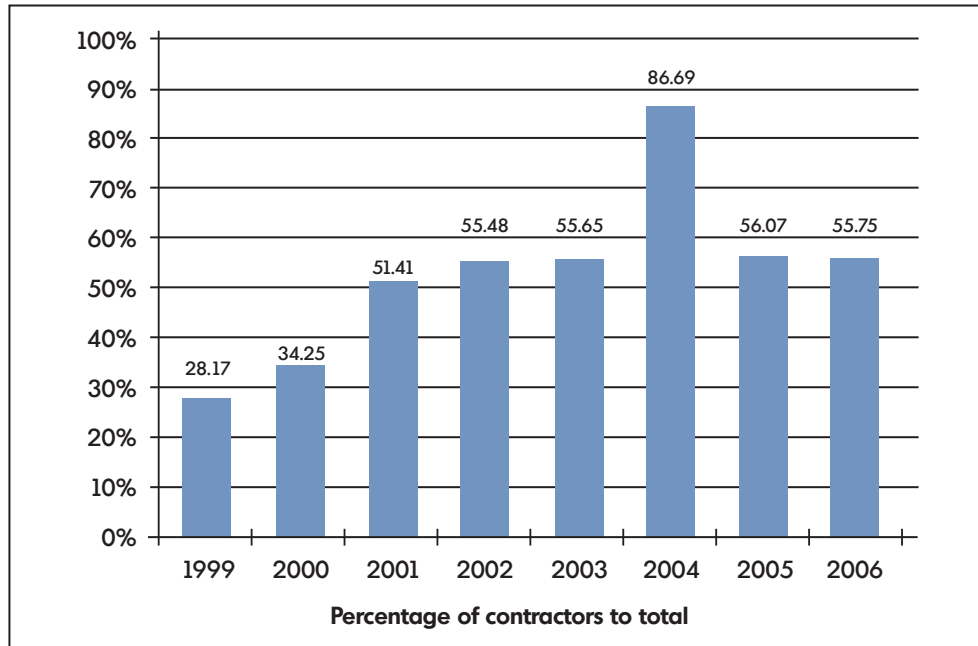
Source: World Bank, *op. cit.*, p. 6.

**Figure 15: Employment in large-scale mining operations, 1997–2006**



Source: Tanzanian Chamber of Mines, cited in Ngowi D, *op. cit.*, p. 5.

A mines' profitability is a function of reducing its operational costs, as the price of gold is set by international commodity markets. Commodity prices are cyclical and thus companies work with production values, within operational boundaries, to take advantage of peak prices. As a result, mines attempt to reduce their overheads by informalising their labour requirements. The implication is that the sector's propensity to provide numerous, full-benefit, full-time employment opportunities is limited.

**Figure 16: Proportion of contractors in large-scale mining, 1999–2006 (%)**

Source: Author's calculations based on data from the Tanzanian Chamber of Mines, cited in Ngowi D, *op. cit.*, p. 5.

Large-scale mining is a competitive industry. Companies' ability to use technology to improve their productivity levels and reduce their costs is a source of competitive advantage. Large-scale mining therefore creates jobs for skilled workers. In developing countries, skilled labour is scarce compared to semi-skilled and unskilled labour. Furthermore, skilled labour tends to reside predominately in the cities or is imported from other African mining centres such as South Africa, Ghana and Namibia.<sup>66</sup> Mining houses have the financial means to attract skilled labour to 'rural' areas by offering them salaries above the market rate. This practice increases the wage differential between skilled and semi-/unskilled labour, which has led to rising income inequality between local inhabitants and 'foreigners'.

When locals hear that expatriates are being paid a premium to do a job, it creates the perception that locals are being denied opportunities. This sentiment has reinforced locals' perceptions that foreigners disproportionately gain from the exploitation of Tanzania's natural resources. Global mining operations are price takers, and thus increasing profits is a function of increasing productivity levels, which in turn has an effect on the amount companies spend on training their employees. From 2000 to 2004 mining companies trained 13 672 people, costing \$10,689,750.<sup>67</sup> This training covered a range of areas, including geology, electrical and mechanical engineering, underground mining techniques, safety measures, finance and management.<sup>68</sup> When mining companies train their employees, they elevate the skills of a select few, who by comparison to the majority of semi-/unskilled workers are already highly skilled. The skill differential between skilled and semi-/unskilled workers is increasing, which entrenches the position of an elite set of highly skilled workers.

**Table 10: Mining companies' expenditure on training, 1997–2004**

	<b>Total number of people trained</b>	<b>Total expenditure (\$)</b>	<b>Expenditure/person (\$)</b>
<b>1997</b>	173	27,095	157
<b>1998</b>	20	1,235	62
<b>1999</b>	1 370	3,511	3
<b>2000</b>	1 815	2,359,801	1,300
<b>2001</b>	1 814	237,600	131
<b>2002</b>	2 134	2,416,519	1,132
<b>2003</b>	2 485	2,647,115	1,065
<b>2004</b>	3 861	2,996,874	776

Source: Tanzanian Chamber of Mines cited in MacDonald C & A Roe, *op. cit.*, p. 46.

The structure of the sector traps training and formal employment in the top echelons, relegating the majority of the sector's workers, who are semi-/lower-skilled artisanal miners, to erratic, arduous, dangerous labour. Although artisan and small-scale mining forms part of the informal economy and thus data is not accurate, it is estimated that it employs 600 000 people.<sup>69</sup> Small-scale operations often lack adequate controls and monitoring, adhere only minimally to safety and environmental standards, and face a virtual absence of supporting physical or institutional infrastructure.

To prevent the gap widening between skilled and artisanal miners in terms of their pay and quality of working conditions, targeted interventions are required that form part of a local economic development initiative. For example, this could mean training artisanal miners to use commercial technology to process and brand products in the local area, and opening up a market for these goods. These initiatives are being undertaken, but only on a piecemeal basis. An example is a joint venture funded by local and international investors to establish facilities to cut, polish, shape and sell gemstones in the local area and to export these value-added products. The government could tap into these initiatives to empower small-scale and artisanal miners with skills, equipment and ring-fencing operations.

Indirect employment opportunities generated by mining include entrepreneurial activities to sell consumer goods to local inhabitants, public works-type projects to establish infrastructure, and opportunities for local business to supply mines with a range of supplies through their procurement programmes. Indirect employment opportunities have been largely limited to service industries and procurement. Although procurement expenditure has increased over the period, it is off a very small base. Furthermore, most locally procured products are not produced in the local area, as mining operations are detached from local supply chains.

Another issue that must be considered is the sustainability of spin-off industries. Industries must initially feed into mining supply chains and then go beyond them to export technology to other mines operating under similar conditions. Past experience shows that jobs involving mainly support functions created in remote areas that are tied to the lives of the mines have not created productive activities linked to the mines' operations

and tend to be unsustainable in the future. In order to make large-scale mines a stepping stone to create viable spin-off industries, targeted policies are required that are part of a local economic development strategy. Pursuing policies that generate more wealth at the top to trickle down will not change the local economy's structure.

**Table 11: Mining companies procurement expenditure, 1997–2004**

	Unit	1997	1998	1999	2000	2001	2002	2003	2004
<b>Total goods &amp; services</b>	<b>\$ millions</b>	2	4.3	36.1	104.7	109.5	125.7	187.9	133.5
<b>Local goods &amp; services</b>	<b>\$ millions</b>	1.02	1.37	24.55	61.50	64.82	64.77	83.60	68.50
<b>Local/total</b>	<b>%</b>	51.22	31.77	68.00	58.74	59.20	51.53	44.49	51.31

Source: Tanzanian Chamber of Mines, cited in MacDonald C & A Roe, *op. cit.*, p. 41.

Assessing whether the mining sector has an overall positive impact on creating 'quality, sustainable' employment for Tanzanians is a complex question. The first step when attempting to answer this question is to count the number of absolute jobs created. The second step is to understand the linkage between the formal and informal sector in order to assess whether a job created in one sector affects the other sector. The third step is to look at the qualitative aspects of a job, i.e. whether it is sustainable and safe.

As argued in this section, the sector creates relatively few jobs, and these opportunities are for highly skilled workers. Firstly, the capital-intensive nature of production and the complex operations involved require skilled labour, which often resides outside the local community. Secondly, employment opportunities created in local upstream and downstream industries are minimal, as these industries' supply chains are not integrated into the mining houses' supply chains. Extraction activities take place in local areas, but value creation activities are exported to other regions, and as a consequence the value from mining is exported out of the community. Given these factors, the number of formal jobs created by the mining sector is limited. According to the National Bureau of Statistics 2000/01 study, the formal mining sector comprises 0.2% of total employment.<sup>70</sup> Furthermore, the number of these job opportunities that are secured by members of the respective local communities is even smaller.

Small-scale mining has demonstrated that it has the capability to absorb more labour than large-scale mining. Since the 1990s, following large-scale foreign investment, employment levels in the artisanal sector have tapered off. Studies by Kulindwa *et al.* suggest that large-scale mining companies have the funds and legal backing to negotiate artisanal miners out of their claims.<sup>71</sup> These arguments are used to support the notion that large-scale mining has 'muscle out' small-scale activity, which ultimately reduces the number of jobs created by the sector. Data to corroborate this theory is unreliable and inconsistent. Even if data did exist, it would not indicate causation. Mining is a global industry, the product is uniform and the price is set internationally. To compete, a

company's cost structure must be in line with the industry's standard. This does not imply that there is no room for artisanal mining in Tanzania, because this would conflict with Tanzania's goal to industrialise. Artisanal mining has a place in the mining sector as a labour-absorbing activity provided it is supported by the government and integrated into large-scale mining activities. For example, Meremeta provides small-scale miners with equipment provided that these miners exclusively sell their production to Meremeta. In essence, the type of production methods used in artisanal mining compared to large-scale mining means that, per dollar invested, artisanal mining creates more jobs. This does not imply, however, that large-scale mining crowds out artisanal mining.

As mentioned earlier, large-scale mining creates relatively few good-quality formal jobs. The sector's exposure to production and price cycles has caused companies to lower their fixed overheads by employing contractors (see figure 15 on page 43). The media's coverage has largely focused on wage discrepancies, which has pushed other equally important issues to the periphery of public debate. One such issue is the concentration of benefits, such as training and work experience, in the top tiers of society. Large-scale mining creates and traps wealth among the few and as a consequence broadens inequality. For communities to benefit from large-scale mining activity requires the creation of indirect employment spin-offs from mining activities in the area. Creating small piecemeal projects that work with mines does not create a viable economic system. Supply chain linkages between the city and the region and then the mine must be built, which requires a sequential, structured approach.

## CORPORATE SOCIAL RESPONSIBILITY

Mining houses are not legally obliged to invest in local communities. Such investment falls under companies' respective corporate social responsibility (CSR) initiatives and is at companies' discretion. The discrepancies in their approach to community development has exposed companies to criticism about the companies' motivation to make such investments, the value of the investments and way in which they have been made in communities. The reasons motivating mining houses' decision to support communities and whether their contributions are sufficient are not covered in this report, but the case study in the second part of the report deals with Barrick's CSR activities in some detail. Deciding whether contributions are sufficient is difficult, as it is a subjective process based on a chosen benchmark, e.g. whether or not CSR should be linked to a mine's profits or mine's level of production or the poverty levels of the community bordering the mine.

Companies' contribution to social expenditure programmes in local areas remained relatively constant in the period 2000–06 and grew by less than 1% on an average annual basis. Over the same period, the commodity price for gold increased by 15.1% per year from \$272 to \$636 per ounce and gold production increased by 17.66% per year from 15 060 to 47 000 tonnes. The mismatch between the rates of growth in value compared to social expenditure has created a perception among Tanzanians that mining companies' contribution to local communities is inadequate. This perception is reinforced by mining companies' relatively small contribution to the national economy (GDP, net foreign exchange generation, direct employment and taxes) compared to the value they create. Tanzanians are critical of mining houses' interaction with local communities, as

**Table 12: Large mining companies' social expenditure, 1999–2006**

	Education	Health	Water	Roads	Micro finance	Others	Total
<b>1999 (\$)</b>	61,431	27,264	2,054,866	2,015,193	-	-	<b>4,158,754</b>
<b>2000 (\$)</b>	196,926	242,905	3,307,440	3,255,230	46,133	1,023,720	<b>8,072,354</b>
<b>2001 (\$)</b>	338,886	1,032,583	807,157	-	-	161,999	<b>2,340,625</b>
<b>2002 (\$)</b>	435,197	271,000	120,494	351,762	39,668	272,267	<b>1,490,388</b>
<b>2003 (\$)</b>	177,184	170,516	77,000	51,213	13,139	585,363	<b>1,074,415</b>
<b>2004 (\$)</b>	824,276	662,372	378,965	311,407	5,120	2,403,047	<b>4,585,187</b>
<b>2005 (\$)</b>	1,118,689	1,028,898	1,277,953	252,582	30,300	3,663,553	<b>7,371,975</b>
<b>2006 (\$)</b>	1,252,932	1,152,366	1,431,307	282,892	33,936	4,103,179	<b>8,256,612</b>
<b>Average annual growth 2000–06</b>	36.12%	29.63%	-13.03%	-33.45%	-4.99%	26.03%	<b>0.38%</b>
<b>2000 (%)</b>	2.44%	3.01%	40.97%	40.33%	0.57%	12.68%	<b>1</b>
<b>2006 (%)</b>	15.17%	13.96%	17.34%	3.43%	0.41%	49.70%	<b>1</b>

Source: Author's calculations based on MEM data cited in Ngowi D, *op. cit.*, p. 6.

they view community development programmes as a means of last resort to get mining houses to contribute their fair share to the economy.

Being critical of mining companies' absolute level of expenditure has two negative consequences. Firstly, it focuses attention on how much is being spent while downplaying the importance of what the money is being spent on. Changes in the composition of expenditure have been ignored over the period. In 2000 the majority of companies' social expenditure was allocated to roads and water. By 2006 companies' social expenditure covered an array of services, which included healthcare and education.

Secondly, the way in which these services were delivered should not escape scrutiny. An approach in which mining companies plan, manage and deliver social services to a community without any significant input from national government, local government or the community has been followed in the past. This model of company-led social service provision has been successful in delivering basic services to communities. Yet it is debatable whether this model can significantly improve communities' livelihoods to the level where they can participate in the economy.

Development practitioners' experience has shown that an individual's ability to participate in an economy requires a mixture of skills. This implies that the provision of social services has the maximum effect on improving a community's livelihood when these social services are provided as a network of services. For communities to access a bundle of integrated social services, covering healthcare, education, water and electricity, requires a mixture of bottom-up and top-down planning. In an ideal world, company's social



expenditure would be part of a local government's local economic development strategy that feeds into national policies. However, in Tanzania, companies' social expenditure is done on an ad hoc basis. Therefore, for policymakers to close this gap requires them to go beyond focusing on what companies spent on social services to asking how companies' social expenditure fits into a local government's local economic development initiatives.

A change in the composition of mining houses' expenditure to fund education and health services raises questions about the governance standards used to identify projects, mobilise funds, manage a project's outputs and monitor the project's progress. When the issue of community development is raised, the discourse moves to the amount of capital invested. The assumption is that a correlation exists between the capital invested in social projects and the benefits rural communities derive from these projects. Conventional logic argues that mining houses' expenditure on basic services has had a limited impact on surrounding communities' livelihood, as these communities' access to social services is below the national average. The orthodox answer to this problem is to increase mining houses' social expenditure. This hypothesis fails to recognise that non-linear feedback loops exist among stakeholders' actions. This section therefore argues against this conventional logic. The disparity regarding access to social services existing between rural communities bordering mines and the national average is an indication that the structure, governance mechanisms and processes in place to guide and deliver social investments are inadequate. Increasing the amount spent on social investments will not necessarily produce better results. The fact that the development indicators of communities bordering mines remain below the national average is evidence that greater expenditure is not the sole route to uplifting communities.

To understand the possible impact that social investment could have on a community's livelihood, it is important to consider the nature of poverty in Tanzania. Poverty in the country has a structural dimension and the government's ability to eradicate poverty through the trickle-down effect has produced limited results. Specifically, the trickle-down approach resulted in greater income disparity between Dar es Salaam and the rural areas. The methodology used in this section is to compare the incidence of income poverty between mining regions and non-mining regions. Large-scale, modern mining activity is concentrated in the Lake Victoria goldfields, predominately in the Mwanza (Geita), Mara (Buhemba and North Mara), Shinyanga (Bulyanhulu) and Tabora (Golden Pride) regions. These regions' poverty indicators are compared to the mean performance of the Tanzanian mainland. The degree of poverty will be gauged by drawing on official statistics from the 2000/01 household survey and the International Council on Mining and Metals 2007 survey data. The data used to conduct the present study is outdated and thus the true reflection of mining's contribution to the economy is underestimated, as the sector was in its infancy during 2001, and most of the mega mines came on line in 2002. Despite data problems, the exercise is valuable, as it exposes a new method of examining data, even if the data itself might not be fully relevant.

A surprising feature is the spread in poverty rankings among mining regions. This raises the question of whether variations in results are due to different modes of interaction between communities and mining houses.

**Table 13: Percentage of households below the food and basic needs poverty line, 2000/01**

Region	% households below food poverty line	% households below basic needs poverty line
Tanzania mainland	19	36
Mara	36	46
Mwanza	30	48
Shinyanga	22	42
Tabora	9	26
<b>Highest</b>	Mara (36)	Singida (55)
<b>Lowest</b>	Dar es Salaam (7)	Dar es Salaam (18)

Source: Household Budget Survey (HBS) 2000/01, Appendix C, p. 180, cited in MacDonald C & A Roe, *op. cit.*, p. 38.

Mining regions' performance in the categories discussed below does not follow a systematic pattern. On average, the regions performed dismally regarding households' access to electricity, reported mediocre results concerning access to protected water and achieved commendable results pertaining to the provision of toilet facilities. Mining companies cite the lack of a reliable continuous supply of electricity as a major operational risk and thus spend millions of dollars to build electricity generating capacity. An important area to explore is the factors that have blocked local communities from tapping into this infrastructure. A positive development is that mining companies' expenditure allocated to provide communities with electricity has increased by approximately 26% on an average annual basis from 2000 to 2006.

Regions' performance across categories differs widely. For example, community access to electricity in Tabora is well below average, access to toilets is above average and access to secure water facilities is below average. These fluctuations indicate that the provision of basic services may not be planned as a package, but delivered in an ad hoc way. This approach affects mining houses' ability to participate in community development programmes and opportunities for communities to benefit from positive spillover effects of mining houses' activities.

Education has played a prominent role in large-scale mining houses' community development programmes. Mining houses profile their activities in education as one of their major contributions to local communities. From 2000 to 2006 mining houses' expenditure on education increased by an average annual rate of 36.12%, from \$96,926 in 2000 to \$1,252,932 in 2006, making it the third-largest expenditure item behind services and water. According to the International Council on Mining and Metals, 'the mining sector in Tanzania has contributed in a visible way to the expansion of primary education in its areas of direct influence'.<sup>72</sup> The case of Barrick's contribution to local education will be discussed in the second section of this report.

Based on the assumption that each region's level of per capita funding for education from central government is equal and also that no differentiation exists in the effectiveness and efficiency of local government's ability to provide education in the various regions, it is logical that communities in mining regions should have better access to education

than those in non-mining regions. This statement is based on the underlying theoretical argument that local governments in mining regions receive additional funds, in the form of companies CSR programmes, to provide education, in contrast to local governments in non-mining regions. This theory does not reflect reality. Mara is the only mining region that performs above the national average in all three categories.<sup>73</sup> Shinyanga's performance is significantly below the national average in all three categories and it has the lowest adult literacy rate in the country.<sup>74</sup>

**Table 14: Household size and access to facilities, 2000/01**

Region	Mean household size	Electricity (%)	Toilet (%)	Clean water (%)
Tanzania mainland	4.9	39	93	55
Mara	5.9	10	86	40
Mwanza	6.2	5	92	53
Shinyanga	6.7	3	90	39
Tabora	4.7	4	97	25
<b>Highest</b>	Mwanza (6.7)	Dar es Salaam (59)	Ruvuma (99)	Dar es Salaam (94)
<b>Lowest</b>	Mtwara (3.8)	Kagera (2)	Tanga (81)	Lindi (19)

Source: HBS 2000/01, Appendix C, p. 180, cited in MacDonald C & A Roe, *op. cit.*, p. 38.

**Table 15: Educational indicators for mining regions, 2000/01**

Region	Upper primary enrolment (%)	Net primary enrolment (%)	Literate adults (%)
Tanzania mainland	54	59	71
Mara	59	62	76
Mwanza	56	52	65
Shinyanga	45	46	55
Tabora	51	55	65
<b>Highest</b>	Ruvuma (66)	Kilimanjaro (81)	Dar es Salaam (91)
<b>Lowest</b>	Lindi (36)	Lindi (44)	Shinyanga (55)

Source: HBS 2000/01, Appendix C, p. 180, cited in MacDonald C & A Roe, *op. cit.*, p. 44.

Based on the Household Budget Survey for 2000/01, the overall performance of the mining regions has fallen below the national average. Large discrepancies exist among mining regions' performance. This provides an opportunity to explore the different modes of engagement between communities and mining houses and learn from one another's successes. Furthermore, large variations exist within a region's performance in related

subcategories, such as the education cluster or the provision of basic services. These variations open up questions regarding the way in which programmes are conceptualised and implemented.

Thus, the above analysis questions the conventional view that increasing the amount spent on social investments by mining companies will invariably improve the livelihoods of communities bordering mines. According to the International Council on Mining and Metals, a major constraint that limits the return from social investment to local communities concerns how to 'embed these contributions into mainstream public provision. Most of the companies have realised that they need to combine forces with government and social service providers and are seeking guidance over how such arrangements might be structured.'<sup>75</sup> This realisation opens up new opportunities for stakeholders to collaborate throughout the value chain in a non-linear way to escape falling into either a top-down or bottom-up development approach.

## ENDNOTES

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- 18 *Ibid.*
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**PART 2****SECURING A SOCIAL LICENCE TO OPERATE? FROM  
STONE AGE TO NEW AGE MINING IN TANZANIA**

TIM HUGHES

**INTRODUCTION**

The central purpose of this case study is to empirically examine the dichotomy between the perceptions and evidence marshalled by the non-governmental sector and the mining sector, particularly with respect to the social and local economic impact of large-scale commercial mining operations in Tanzania. Although a similarly dichotomous relationship operates between elements of the political class and the mining houses, this was not the focus of the case study. Barrick Gold was selected as the subject of this case study for two reasons. Firstly, it is the largest gold-mining company operating in Tanzania and thus its operations have a significant bearing on the overall impact of the sector on the country's economy. The second reason for selecting Barrick was that it has been subjected to ongoing criticism from the NGO community and declined to participate in the research for the 2008 *A Golden Opportunity*?<sup>1</sup> report, which was critical of its operations, as well as those of AngloGold–Ashanti.

The case study examines the degree to which Barrick has achieved, is earning or is failing to earn a social licence to operate in Tanzania. More particularly, it is an examination of some of the programmes and initiatives the company has put in place to meet the challenges to its social licence to operate. Thus, the broad question examined is, 'What are Barrick's gold-mining operations doing to ensure that they are regarded as legitimate and beneficial by the communities in which they operate?' And, consequently, if Barrick's operations are viewed as legitimate and beneficial to communities, how did the company achieve this? Alternatively, if, as the world's largest gold-mining house, the company has failed to achieve a social licence to operate its mines, then why is this?

The case study is divided into three broad sections. The first examines the variance among the respective Barrick mines in achieving a social licence to operate and the reasons for this differentiated performance. The second section sketches a number of the more important CSR initiatives and programmes that the company has initiated, run or participated in with other stakeholders. The final section presents a summary of the key findings and recommendations emerging from the empirical research.

## METHODOLOGY

Research for this case study was conducted via a series of interviews with all senior executives and managers at the Barrick African regional head office in Dar es Salaam and all four Barrick mines in Tanzania between April 2008 and April 2009. Three sets of head office interviews were conducted. In September 2008 the author was an observer at a multistakeholder meeting designed to prepare for the roll-out of the Integrated Development Action Plan (IDAP) for the North Mara mine. In September 2008 the author undertook a three-week on-site visit to all four of the Barrick mines.<sup>2</sup> In April and May 2009 the author undertook a final set of fact-checking, update and review interviews at Barrick's head office in Dar es Salaam. The purpose of this last set of interviews was to attempt to assess the impact of the global financial crisis on Barrick's Tanzanian operations, and on its CSR programmes in particular.

The author was given free and open access to all executives and senior managers at Barrick's head office and at all its mines. Full access was also granted to all mining operations, including management and workers on all mines, above ground and underground. Company representatives took the author to community relations and CSR programmes around each of the mines. Free time was set aside to meet with the communities, civil society and other stakeholders during the mine site programme.

## BARRICK'S TANZANIAN OPERATIONS

Not only is Barrick the largest mining company and gold producer in Tanzania, but its 2006 acquisition of Canadian gold major Placer Dome elevated it to the world's largest gold-mining company. Barrick operates four gold mines in Tanzania and has one nickel project under development. The location of the mines is depicted in figure 1.

Bulyanhulu is an underground mine located in north-west Tanzania, 55 kilometres south of Lake Victoria and approximately 150 kilometres from the city of Mwanza. At 31 December 2008 Bulyanhulu had 12 million ounces of proven and probable gold reserves. In 2008 the mine produced 200 000 ounces of gold at a total cash cost of \$620 per ounce.

Commissioned in 2009 at a cost of \$400 million, Buzwagi mine is located in north-west Tanzania, approximately six kilometres east of Kahama town and 120 kilometres south of Mwanza. At full production, Buzwagi will be the second-largest mining operation in Tanzania and the largest single open pit in the country. On 4 May 2009 Barrick announced the first gold pour at Buzwagi. In 2009 Buzwagi is expected to produce approximately 200 000 ounces of gold at a total cash cost of some \$335 per ounce. Proven and probable reserves at Buzwagi are 3.3 million ounces of gold.

The North Mara gold mine is located in the north-western part of Tanzania in Tarime District of Mara Region, approximately 100 kilometres east of Lake Victoria and 20 kilometres south of the Kenyan border. In 2008 North Mara produced 197 000 ounces of gold at a total cash cost of \$757 per ounce. Proven and probable reserves are some 3 million ounces of gold.

The Tulawaka mine is a 70/30 joint venture between Barrick and Northern Mining Explorations Ltd, respectively. The site is located in the far north-west of Tanzania, approximately 1 000 kilometres from Dar es Salaam and 120 kilometres west of Barrick's



**Figure 1: Barrick's Tanzanian mines**

Bulyanhulu mine. In 2008 Barrick's share of production at Tulawaka was 148 000 ounces of gold at a total cash cost of \$212 per ounce. The company's share of proven and probable gold reserves as of 31 December 2008 is estimated at 80 000 ounces of gold.

### A SOCIAL LICENCE TO OPERATE?

A consistent theme in mining social responsibility questions is the definition of the roles and responsibilities between mining houses and the government. This is particularly moot in the operations of mining houses in remote geographical areas far from the metropole or regional capitals. It is even more challenging in areas where local government capacity is weak, or unresponsive, or inadequately funded. The issue is further complicated by the fact that, prior to commercial mining operations, the capacity of the pre-existing local government may have been adequate for local service provision on a small scale. However, once mining operations begin, the entire demographic, economic and infrastructural profile of the locality is altered, with all the attendant claims and demands for local and municipal services. Whereas mining houses bring capital investment to local

areas and with it the potential for job creation, they also place a strain on existing local services and infrastructure as a consequence of their investment. The commencement of mining operations — even initial prospecting and drilling operations — alters both the economic attraction and political importance of the locality, and in consequence, mining constituencies and communities often become highly politicised. The economic inflationary effect of mining investment is most obviously manifest in rapidly rising land prices, a process that in turn is driven by local communities perceiving both a threat and an opportunity arising from the mining activity.

These dynamics are observable in the communities and localities surrounding all of the Barrick mines, but are particularly evident around the new Buzwagi mine and are acute in the Gokona area of the North Mara mine. Local government capacity in the areas surrounding all four of Barrick's mines is weak and unable to provide reliable basic services to the existing community, let alone the expanded community attracted to the areas by the centripetal pull of mining investment. Operating with a corporate imperative of mining in accordance with the highest global standards, Barrick is compelled to take on a host of community services and infrastructure provisions, some of which are determined by production requirements, others to meet global best practice benchmarks, and others to meet community demands and needs.

In 2007 Barrick was added to the Dow Jones Sustainability Index — North America for the first time, being ranked 'best in class' for its commitment to sustainability. Barrick exhibits high reporting standards and subscribes to the Global Reporting Initiative (GRI). Established in 2002, the not-for-profit GRI is the world's most extensive sustainability reporting network. The GRI reporting framework sets out the principles and indicators that organisations can use to measure and report economic, environmental and social performance.<sup>3</sup> The most comprehensive element to the GRI framework is its Sustainability Reporting Guidelines, which are utilised by Barrick in its corporate annual sustainability reports. Moreover, each of Barrick's Tanzanian mines issues an annual sustainability report, which is published on the company's website. All criteria reported on are measurable, thereby enabling stakeholders to track performance over a five-year reporting period. While the company meets the highest corporate reporting standards, it is confronted with greater challenges at the level of operations. Arguably the most demanding challenge confronting Barrick in its Tanzanian operations is to secure and maintain a 'social licence to operate'.

In 2003 Pierre Lassonde, president of Newmont Mining, observed:

Without the support of the community, your project is going nowhere .... [A social licence to operate is] the acceptance and belief by society and specifically our local communities, in the value creation of our activities, such as we are allowed to access and extract mineral resources .... You don't get your social licence by going to a government ministry and making an application or simply paying a fee ... it requires far more than money to truly become part of the community in which you operate.<sup>4</sup>

Beneath the apparent simplicity of Lassonde's injunction lies a complex set of criteria to which mining companies must subscribe in order to earn and retain a social licence to operate within communities. A 2005 survey of mining companies regarded the following activities, in order of importance, as essential to earning their social licence to operate:

- maintaining a positive corporate reputation;
- understanding culture, customs, language and history;
- educating local stakeholders about the project;
- ensuring open communication among all stakeholders;
- business partnership with communities;
- workforce training;
- community support and capacity building;
- employing innovation and technology;
- enabling corporate transparency;
- meeting sustainable development criteria;
- collaboration with communities;
- responsible local stakeholder compensation;
- going beyond legal and regulatory compliance;
- partnering with NGOs for assistance where necessary; and
- promoting a positive brand value as a corporate image.

Even with the obvious overlap among the above criteria, the list is extensive and demands of companies that ‘community relations’ are no longer seen as a risk mitigation strategy, but rather as a core activity to be mainstreamed across all business units. Moreover, unlike a legal MDA, a social licence to operate is not issued for the life of the mine. It is granted by the community, can be withdrawn by that community, and requires constant renewal. Whereas an infraction of the legal mining licence can be corrected by the payment of a fine or technical corrective steps taken, the withdrawal of a social licence to operate cannot simply be regained financially, and may have far longer consequences over the life of the mine. Communities have collective memories, and the loss of a social licence to operate leaves a legacy.

Of the four Barrick mines operating in Tanzania, three (Bulyanhulu, Tulawaka and Buzwagi) appear to have earned their social licence to operate, and one (North Mara) has not. The following section discusses efforts at securing a social licence to operate at three of the mines — Bulyanhulu, North Mara and Buzwagi. Barrick’s small, profitable and environmentally progressive, ‘model mine’, Tulawaka, is discussed later in the report, as it exemplifies a number of the social, environmental and mine closure challenges all commercial-scale gold-mining operations in Tanzania will face.

## BULYANHULU MINE

Bulyanhulu has two legacy issues that challenge its social licence to operate. The first is the controversy bequeathed to Barrick<sup>5</sup> relating to the 1996 conflict over the establishment of the Bulyanhulu mine by Sutton Resources, during which artisanal and small-scale miners were forcibly evicted by the Tanzanian police and mine security forces. More than just clashes, the NGO Lawyers’ Environmental Action Team (LEAT) has persistently claimed that more than 50 miners were buried alive during the time of the forced removals. To date, these claims have not been substantiated and no evidence has been provided, but a Norwegian Church Aid-funded DVD produced in 2008 shows footage of the clashes and supports the claims of violence and forceful removals of artisanal and small-scale

miners, as well as containing footage of families claiming that their relatives were lost in the underground diggings. In response to these claims and petitions by, among others, LEAT and the Council of Canadians, in 2002 the Office of the Compliance Officer/Ombudsman (CAO) of the International Finance Corporation and the Multilateral Investment Guarantee Agency conducted an on-site investigation at Bulyanhulu and found no evidence to support the claims of human burial at the time of the forced removals.<sup>6</sup> Unwisely, neither the CAO nor the Tanzanian government saw the need for the holding of a public inquiry into the Bulyanhulu forced removals and claims of human rights abuses; thus, the matter remains unresolved and continues to fester to the present.<sup>7</sup>

The second legacy issue that has threatened the Bulyanhulu social licence to operate is the legacy of sometimes conflictual industrial relations on the mine. Mine management at Bulyanhulu has spanned the full spectrum from the exemplary to the unsatisfactory. Despite Barrick investing in a raft of industrial relations consultants whose work at Bulyanhulu resulted in some improvements in relations between management and workers, these relations eventually broke down completely, culminating in a strike at the mine in October 2007. Supported by the Tanzanian Mines and Construction Workers Union, some 1 000 miners walked off the mine because of grievances over expatriate/local salary disparities, working conditions, medical care and other issues. While the Barrick vice president for Africa acknowledged in an interview for this report that some senior managers and elements of the Bulyanhulu mine were 'not up to scratch' during this period, the strike action did not follow agreed-to negotiation processes and was thus deemed illegal.<sup>8</sup> Consequently, the striking workers were dismissed and mining operations were severely curtailed. By mid-November 2007 production had recovered to 65% of capacity and by December 2007, 325 striking workers had been re-hired. Eventually, some 500 striking miners were re-hired. Significantly, subsequent to the strike, Barrick replaced and restructured senior management at the Bulyanhulu mine, as well as addressing some of the legitimate concerns of striking miners, specifically with regard to working conditions. While the author's site visit to the Bulyanhulu mine in September 2008 was too brief to fully assess management-worker relations, interviews conducted with senior management and workers suggested that a significantly more constructive and engaged relationship had been forged. It is evident that Barrick executives and senior management have learnt significant lessons from the strike action and that the current senior management at Bulyanhulu is regarded as progressive and enlightened, and as the best in the company. However, unlike the other three Barrick mines in Tanzania, Bulyanhulu is an underground mine and subject to a host of operating risks, and pressures and it will require particularly skilled management to ensure success operationally and with respect to industrial relations.

Despite its social licence to operate being threatened by the burial/massacre claims and its industrial relations challenges, the Bulyanhulu mine can legitimately claim to have strengthened its case due to its employee housing programme, its progressive community relations and its CSR programmes around the mines.

## NORTH MARA MINE

North Mara is the mine at which Barrick has yet to be granted a social licence to operate. Commissioned in September 2002 by unlisted Australian mining company East Africa

Gold Mines (EAGM), the mine is a salutary lesson in how not to establish a mine within or near to an existing community. There is constant and persistent anecdotal evidence that the way in which the mine was established was neither transparent, nor did it secure the support of the local community in the Tarime District. Moreover, there are repeated reports from people involved in mining and community development work in the area over many years that the community feels duped and deceived by the way in which the mine was established. It is claimed that EAGM made a number of promises to community leaders, local government officials and ministerial officials in Dar es Salaam to the effect that community development projects would be established as part of the granting of the mining licence. Many of these reported promises and commitments failed to materialise.

A sense of general dissatisfaction at the poor quality of community development initiatives undertaken by EAGM is pervasive in the area. A local clinic that was built as part of EAGM's social development commitment is already in need of substantial repairs. A visit to the clinic revealed cracks in the construction and a building that is now barely functioning. In July 2003 EAGM was bought out by the Canadian mining company Placer Dome, and there is evidence that the new mine owner undertook a number of credible community development initiatives, including the rehabilitation of some of the buildings and infrastructure either not completed by EAGM, or that required improvement.

In 2006 Barrick acquired Placer Dome and in consequence acquired its North Mara mine, and its legacies. It is important to be cognisant of the geographic, social, economic and ethnic history of the Tarime District in which North Mara is located, as these factors continue to challenge the mine's operations and certainly mitigate against it being granted a social licence to operate by the surrounding community.

Located in the far north-east of Tanzania, adjacent to the Mara River, the mine lies just 30 kilometres from the Kenyan border. According to the 2002 census, the Tarime District has a population of 492 798. The dominant ethnic Kuria people of the region number in excess of 350 000 with 213 000 living in Tanzania. The Kuria were split by a fearsome attack by the Masaai in the early 19<sup>th</sup> century and are now divided into some 16 clans. The Tanzanian Kuria are largely pastoralist, but their history of gold mining in the North Mara region dates from at least the 19<sup>th</sup> century.

Wage employment and work opportunities in the area are negligible, and employment activity is generally limited to pastoralism. In the areas in which gold deposits are found, mining is the preponderant occupation of choice, particularly for young males. A research survey in the Tarime District conducted by Michael Fleisher found that 84% of households interviewed had at least one male member who had prospected for gold and 34% were in some way dependent on income from gold mining.<sup>9</sup>

The Kuria people have a distinctive social identity and a reputation for militancy. The racist and ethnocentric sentiment and descriptors of colonial records notwithstanding, documentation found after the withdrawal of colonial governorship of North Mara (Tarime) records found that while the area is fertile and replete with possibilities, it is also described as '[u]nruly and turbulent, a cross between a lunatic asylum and a bear (sic) garden. The intervening months were taken up with the usual cattle thefts, litigation, acts of violence and complaints that go to make the daily round'.<sup>10</sup>

The Kuria people are described as '[a]n unruly and backward people for whom normal administrative methods as applied elsewhere have seemed to be inadequate .... A tribe which enjoys ample share with the Irishman in his traditional dislike of the law.'<sup>11</sup>

Yet the colonial reports go on to note a grudging admiration and respect for the Kuria:

Amongst the Kuria are many able agriculturalists, interested in new ideas and a fine contrast to the lethargic Luo and Suba. The African cultivator in North Mara in no sense resembles a sheep to be led or driven, but rather an intelligent human being to be persuaded.<sup>12</sup>

Kuria who fought on the side of the Allies in the Second World War are described in the colonial documentation thus: 'The recruiting effort varies considerably from the superb offerings of the Kuria and other fighting tribes to the meagre and grudging dribble begotten by the Jita'.<sup>13</sup>

At the time of the Uganda–Tanzania war of 1978–79, Kuria men accounted for some 50% of army personnel. The army has now been significantly down scaled, as has its Kuria component, which now constitutes some 20%. In June 2009 clashes between Kuria and Luo people over cattle rustling resulted in the reported deaths of between 20 and 40 combatants. The clashes stemmed from cattle raids and the torching of Luo villages by Kuria. Both sets of combatants were armed with traditional weapons, as well as AK-47 assault rifles.<sup>14</sup> Fleisher has concluded that inter-clan enmity among the Kuria stokes the violence attendant on cattle raiding and justifies the activity.<sup>15</sup> The economic reason underlying the clashes is that beef prices are higher across the border in the more affluent Kenya; consequently, cattle theft from Tanzanian farmers for 'export' across the border in Kenya is common. Cattle theft also supplies butcheries and tanneries within Tanzania. What is of particular significance is that the criminal networks running cattle rustling and sale are well established, wide ranging and efficient. It is therefore conceivable that these same networks are being used for illegal gold smuggling in the Tarime District and for export across the border into Kenya.

In addition to militancy and traditional patriarchy, Kurian society is infused with misogynistic beliefs and behaviour. Male violence against women and wives in particular is common, with family violence patterns documented by two local NGOs, Agency for Defending Women Rights and KIVULINI. Child marriage is also common among the Kuria of Tarime.<sup>16</sup>

Kuria people were also resistant to Julius Nyerere's agricultural collectivist policies of Ujamaa and have arguably paid the price for this ever since, as Tarime has become a region that is underserved and undervalued by the government of Tanzania. That the Tarime District is represented by the opposition Chadema party, rather than the dominant Chama Cha Mapinduzi party, further reinforces the sidelining of the district from central government concerns and developmental support. The July 2008 death in a road accident of the sitting member of parliament for Tarime, Chacha Wangwa (who was highly vocal in his criticisms of the government, Barrick and his own party), further heightened community suspicions and their collective sense of alienation.

The manifestations of the absence of a social licence to operate are clearly evident around the North Mara mine.<sup>17</sup> The physical proximity of the pit, its waste rock dump and tailings to local villages are problematic. LEAT, for example, claims that 'millions of tonnes' of waste rock have been dumped on villagers' land without regard for their rights and the environment. While these claims have not been substantiated, two phenomena exacerbate these sentiments. The first is the legal uncertainty and opacity of land and restitution rights within the villages and in particular with regard to relocation

compensation. In this regard, Barrick has employed a Kiswahili-speaking relocation and restitution expert to negotiate land compensation agreements with all affected people around the mine. With a long track record of work at the UN and decades of experience in development agency work, he is now arguably the world's leading expert on individual land claimants and restitution in the mining sector. Supporting the work of the land claims expert are a number of company attorneys who finalise all legal agreements relating to relocation, restitution and compensation.<sup>18</sup> The legal uncertainty of land ownership and compensation around the mine has resulted in numerous lengthy disputes between community/land owners/villagers and the company, particularly with regard to the expansion plans for the exploitation of the new Gokona pit. This process has been complicated by the understandable phenomenon of front running, family land subdivision and value loading of land earmarked for acquisition. Mine-affected communities have only one opportunity to secure maximum compensation for their land, and thus it is understandable that they will take whatever steps necessary to achieve the highest price. The front running of land means that once it becomes known that the mine company seeks to acquire land in a given area, ownership often changes hands in favour of wealthier or politically connected individuals in the area who are in a better position to negotiate a higher price with the company.

The second observable phenomenon is that once land has been earmarked for purchase, the land owner will often divide the land into strips and invite family members to cultivate these strips, resulting in the company having to negotiate with up to ten owners for compensation. Compensation paid is determined not just by the extent of the land, but also by the value of what is cultivated on the land. For example, a mature mango tree has a particular compensation value in accordance with its age, size and yield. Seedlings also have a particular value, and thus it is common that land earmarked for acquisition by the mine will be subdivided and rapidly cultivated with seedlings in order to secure a higher compensation value for the land owner from the company. Similarly, bee hives in trees and honey cultivation have a particular compensation value, and thus new bee hives springing up on land earmarked for acquisition are common. This phenomenon is also manifest in land cleared for establishing pylons and running the Tanzania Electricity Supply Company (TANESCO — the Tanzanian power utility) cables to North Mara. Once the pattern of land clearance and pylon erection is clear, local communities embark on a cultivation programme along the anticipated line of pylon erection in order to seek compensation for their 'loss of income' from the curtailing of crop cultivation and honey production.

The consequence of this dynamic is that land prices have risen precipitously in the North Mara Gokona area, with the average land compensation package exceeding \$25,000.<sup>19</sup> Note that this is the land compensation fee; the company still provides land and new replacement dwellings of larger dimensions and better specifications than the replaced dwelling for the affected family to move into. The phenomenon of the inflationary effect and politicisation of land acquisition is not unique to North Mara. During protracted negotiations for land around the Buzwagi site, the company encountered great difficulties in acquiring *myala* (sand) that had been contaminated by mercury in previous artisanal diggings. Given the toxic nature of the mercury-polluted *myala*, the company was required to acquire this sand in order to meet its environmental impact assessment commitments. While the sand has no intrinsic value and in fact is an environmental hazard, once it

became known that the company was obliged to purchase the sand and fence off the area containing it, the price for selling the *myala* escalated from tens of dollars to thousands of dollars. This precipitated a number of acute disagreements among Barrick, the community and, indeed, politicians brought in to 'mediate' the disagreement.<sup>20</sup>

The challenges at North Mara mine run far deeper than this, however. North Mara is plagued by issues that go beyond social mistrust and antipathy and are in fact criminal. Most recently, the intensity of these activities led to the closure and evacuation of the mine in December 2008. In this regard, a clear and important distinction needs to be made between small-scale miners in the North Mara area who operate legitimately under licence, as well as artisanal miners who operate legitimately on the outlying gold deposits, and illegal and criminal miners who work either without a licence or, at the extreme end of the scale, steal, crush and process ore from the Barrick North Mara mine.

The challenges and dangers of artisanal mining have been profiled by NGOs such as Global Witness, Partnership Africa Canada and Oxfam. These include the physical dangers of handling unstable explosives, the collapsing of digging walls, poisoning from the mercury used to create gold amalgam from crushed gold ore, the acutely exploitative conditions of work, the often implicit or explicit violent nature of 'employment' practices, the proliferation of crime and illicit activity around artisanal digging sites, and health threats such as the proliferation of sexually transmitted diseases.

Consequently, policy thinking about artisanal mining has been rehabilitated from the wastelands of development in recent years, giving rise to initiatives such as the Diamond Development Initiative, the World Bank Local Economic Development and Mining Initiative, the International Council on Mining and Metals Resource Endowment Initiative, and, most particularly, the Communities and Small-Scale Mining Initiative, established in 2001.<sup>21</sup>

Learning from these initiatives, Barrick operates harmoniously with the small-scale licensed miners (who may have as many as 200 people in their operations) in the gold-bearing areas around North Mara mine. In the case of artisanal mines in the surrounding areas, Barrick has dedicated one of its Tanzanian general managers to work on the development of an artisanal mining programme in an attempt to enhance the operations of this sector, to make it safer and to produce greater yields from the ore body for artisanal miners. This programme will not be 'owned' by Barrick, but approval has been granted by the company's head office in Toronto for funding and organisational support for the programme to commence. This initiative pertains to artisanal miners in the area, but the challenges posed to North Mara by illicit, illegal and criminal mining are profoundly different.

The North Mara pit and stockpile are subject to constant intrusion, as the perimeter fence around the mine has been dismantled by people entering the mine freely to dig, or collect, remove and process ore.<sup>22</sup> Each night and frequently during the day, reportedly anywhere from 200 to 4 000<sup>23</sup> people enter the mine from the surrounding areas to mine illegally, to collect ore from the stockpiles, or to engage in other illicit or illegal activity. Collusion among mine employees, security guards and illegal miners is rife.<sup>24</sup> For example, collusion takes place between mine personnel and illegal crushers in the identification of the highest-grade rock piles. As the processing plant is calibrated to process ore of a consistent grade, stockpiles are kept separately (e.g. high, medium and low grade) and then mixed to an average ore grade before entering the crusher. While it is true that



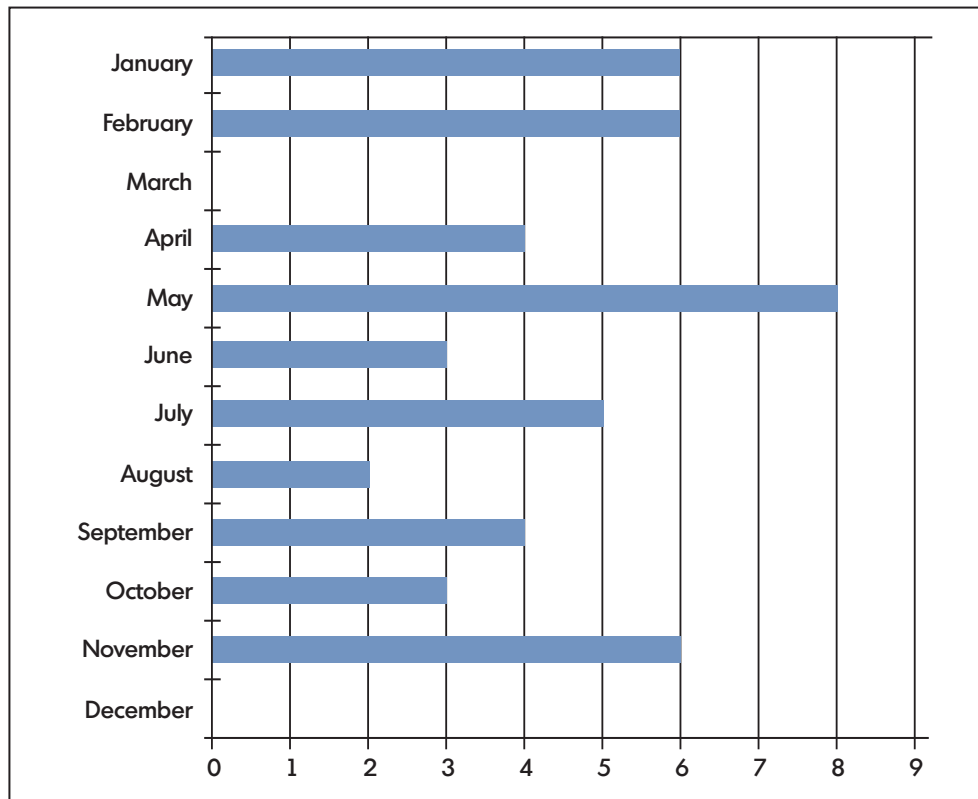
the gold seam at the North Mara pit is quite visible, the location of high-grade gold-bearing rock is less clear when the ore has been mined and stockpiled. Due to collusion between mine personnel and illegal 'intruders', the high-grade stockpile is most frequently targeted, bagged and carried off-site to illegal crushing sites. But criminal activity extends far beyond illegal mining at the mine. In 2007 the North Mara mine lost some 2 000 000 litres of diesel fuel due to theft. In September 2008 an attack on the gold room (where the gold is poured and stored as ingots before being transported off-mine) was attempted by criminals carrying AK-47 assault rifles. A Barrick security guard was shot dead in this incident. In December 2008 some 4 000 people invaded the mine, causing an estimated \$10 million of damage, resulting in Barrick evacuating its personnel from the area. The company has estimated that in 2007 up to \$200 of production costs per ounce could be attributed to crime and security costs at the mine.

Barrick has been severely criticised by the community, NGOs and international activists for its operations in and around the North Mara mine, including accusations of the use of excessive force and live ammunition against 'intruders'.<sup>25</sup> Barrick is a signatory to the UN Global Compact, but not the Voluntary Principles on Security and Human Rights.<sup>26</sup> The latter is a multistakeholder initiative of the extractive sector driven by the governments of the US, the UK, the Netherlands and Norway. Since March 2009 the Canadian government has become more actively committed to ensuring that its companies operating in compliance with the Voluntary Principles, even if they are not signatories. While Barrick is not a signatory to the Voluntary Principles, its management claims to adhere to and be guided by them. In summary, the Voluntary Principles attempt to regulate the role of company security guards in the extractive sector by establishing a comprehensive set of guidelines for the training and conduct of security forces employed in the extractive sector and to regularise their relationship with official police forces. The overarching ethos of the Voluntary Principles is that, while acknowledging that the extractive sector often operates in locations with a high potential for conflict and that companies have a legal right to protect their personnel and equipment, this must be done in a manner that respects local laws and protects human rights. The Voluntary Principles also set guidelines for the training in and usage of weaponry by company/private security forces.

Barrick has taken the decision not to use lethal ammunition, but rather uses non-lethal baton rounds in the weapons carried by the security guards on their mines. Live ammunition weaponry is available on a limited basis on the mines, however, to be used specifically in the protection of personnel and, for example, in protection from an attack on the gold room. Live ammunition is not used by Barrick security personnel against 'intruders' onto the North Mara mine. When the security of Barrick personnel is threatened, as was the case in the invasion of the mine by some 4 000 people in December 2008, the local police force is called upon to protect personnel and equipment. During the December 2008 mine invasion the local police shot and wounded a number of invaders. Figure 2 on page 66 records assault injuries in the North Mara mine in 2007.

In addition to this array of challenges, the North Mara mine suffered a further setback to securing its social licence to operate (and, more importantly, the community was negatively impacted) as the result of an environmental incident in May 2009. After a period of heavy rains, acid water from a mine storage facility overflowed into the Tigithe River, causing extensive pollution. The spill reportedly resulted in damage to agricultural land adjacent the river, as well as the poisoning of fish and a number of cattle.<sup>27</sup> Other

**Figure 2: Injuries from assaults on employees and contractors of the North Mara mine, 2007**



reports suggested that the pollution had led to severe skin condition of three children and one adult male in the downstream areas, but to date the graphic evidence suggests that these cases are pre-existing skin conditions, in particular vitiligo, a condition that presents as depigmentation of the skin around orifices such as the mouth. The cause of vitiligo is not yet known, but is thought to be a combination of viral and hereditary factors.

Barrick responded to the pollution spill by despatching a team to assess the incident and to divert the flow from reaching the Tigithe River, but also acknowledged that the siting of the temporary ore stockpile was too close to the river and community impact area. This incident and other seepage incidents were exacerbated by the theft of the special PVC plastic liner material from the storage ponds by members of local communities.<sup>28</sup>

In contrast to this litany of problems, there are a host of positive and beneficial aspects to the North Mara mine. Although the mine conforms to the typical pattern of commercial mining operations by being highly capital intensive rather than labour intensive, the mine nevertheless employs over 1 500 people, 88% of whom are Tanzanian. Total taxes generated by North Mara mine in 2008 exceeded \$45 million. Royalties amounting to some \$22 million were paid to central government, with approximately another \$10 million in royalties being paid to former claimholders in Nyabirama, Nyabigena and Gokona. A 1% royalty is paid into the Gokona Community Trust. More than 53% by value of procurement for the mine is Tanzanian. The electrification of the mine at a cost

of \$35 million will also have broader positive impact for local communities and the region through subreticulation from the North Mara power line.

Moreover, Barrick's CSR response to the perfect storm it inherited in North Mara has been extensive. The North Mara Mine Community Relations Department is the biggest in the group's African operations and draws on a skill set that ranges from land restitution experts to social workers, anthropologists, former aid agency workers and former miners. In the field of community health, the North Mara mine has worked closely with the African Medical and Research Foundation (AMREF) to equip and roll out awareness-raising programmes on HIV, sexually transmitted infections, tuberculosis and malaria using peer educators. Voluntary counselling and testing centres have been set up, as well as malaria control programmes within the local communities. The previously mentioned artisanal mining initiative has been approved for funding and can expect to be implemented in 2009. Other Barrick initiatives in the North Mara region include water projects; hospital rehabilitation; the building of schools and teachers' accommodation; the provision of some 1 870 scholarships; local business development projects, including women's income generation initiatives; assistance with micro credit; and the provision of an automatic teller machine. Other Barrick initiatives include agricultural projects, on-site leadership programmes and child-care facilities.

In order to deal with the extraordinary challenges confronting the mine, the North Mara Community Relations Department was recently substantially restructured in order to align it with the communities needs and to ensure the more effective and sustainable delivery of services. In addition to the 'normal' Barrick Community Relations, Health and Training Department activities of forging progressive relations between the mine and community, the company designed a comprehensive programme of community engagement that seeks to forge a structured and integrated relationship between the mine and community. The objective is to simultaneously secure the future of the mine and significantly enhance the development of the community. The company has acknowledged that not only does it not enjoy a social licence to operate the North Mara mine, but that the very viability of the mine is under threat. Thus, 'securing the mine' is not enough. Securing support for the mines operations while simultaneously boosting the development of the community around the mine is fundamental. This is no small task, as the stated aim of some parliamentarians and at least one NGO is not the development of the local community, but for the mine to be closed.<sup>29</sup>

The programme designed to secure the future of the mine and the development of the local community is the IDAP. The programmatic outline of a generic IDAP is depicted in table 1 on page 68.<sup>30</sup>

The most important element to Barrick's North Mara IDAP is placing the community at the centre of its design, implementation and management. This is to be achieved via the establishment of the North Mara Villages Leadership Forum, which serves as the umbrella executive body for a series of subcommittees under the IDAP. The forum is chaired by a village leader, with 14 other village chiefs serving on it. Secretariat facilities are provided by Barrick. The North Mara mine general manager serves on the forum, as does a senior Barrick community relations manager. The forum oversees a number of other subcommittees structured along the same principles of community leadership with support from a Barrick secretariat. These subcommittees deal with security, education, business, environment and health, youth, and sports. The operating principle of the

**Table 1: Generic integrated development action plan**

Tasks	Activities
Baseline research	Documentation collection and review; meetings with company
Capacity and constraints analysis: company, local government, NGOs, aid agencies, local community (leadership)	Meetings with all stakeholders
Stakeholder engagement	Key informant and organisational interviews
Workshops with stakeholders	Post-mining awareness and sustainable development potential for: infrastructure development social services demand small and medium-sized enterprise (SME) business development agricultural development
Ongoing community consultation plan	Compilation, including feedback mechanisms to involve villagers in the planning and implementation process
Infrastructure and social services plans	Project identification (update and prioritise existing potential projects with villagers) and preliminary feasibility assessment
SME business development plans	Project identification (update and prioritise existing potential projects with villagers) and preliminary feasibility assessment
Agricultural projects development plans	Project identification (update and prioritise existing potential projects with villagers) and preliminary feasibility assessment
Mine closure planning analysis	Identification of linkages between the IDAP and the mine closure plan
IDAP workshop with stakeholders	Formulation of mechanisms for project prioritisation and selection, implementation and ongoing participatory evaluation
Finalisation of IDAP	Compilation (selected projects, sources of funding, potential partners, cost estimates, implementation schedule, roles and responsibilities, training requirements, monitoring and evaluation process)
Initiate implementation	Workshop: alignment of IDAP with capacity of partners to implement; initiate training and implementation process

committees is that they collectively identify community needs and priorities and then co-design programmes designed around these needs. Barrick views these relationships as a trilateral endeavour among the community, local government and the company. Barrick

will not execute a community programme unilaterally and encourages the involvement of NGOs as co-implementers of programmes building, based on the positive experiences around the Bulyanhulu mine.<sup>31</sup>

As a postscript to this analysis, it should be noted that the twin impact of cost-cutting measures pursuant to the 2008/2009 global financial crisis and the invasion of the North Mara mine in December 2008 curtailed the implementation of the IDAP. Indeed, more than 10% of the North Mara workforce was made redundant in the aftermath of the global financial crisis. The invasion of the mine, the ensuing violence and \$10 million worth of damage to mine equipment clearly not only soured relations between Barrick North Mara and the community, but also forced Barrick head office in Toronto to reconsider its engagement with and commitment to the North Mara mine.

After a thorough re-evaluation of the mine in all its dimensions, as well as the restructuring of the Community Relations Department and the IDAP itself, financial approval was given for a new integrated community engagement programme to commence in 2009. It should also be noted, however, that Barrick's commitment to the mine and to its attendant community relations programmes was predicated on assurances given during meetings with Tanzania's most senior politicians, including that a substantially increased Tanzanian police force presence would be stationed around the mine.

### BUZWAGI: FROM STONE AGE TO NEW AGE MINING

The circumstances in which North Mara mine was established and the failure of its founders and operators to secure a social licence to operate before and during mining operations serve as a salutary lesson in 'how not to do mining'.<sup>32</sup> It is still unclear whether Barrick will secure its licence to operate the North Mara mine, but the experiences and lessons of running this mine, combined with the relative successes of Tulawaka (and, to a degree, Bulyanhulu), have been built into the entire planning, design and operations of the new Buzwagi mine. Moreover, Buzwagi has been conceptualised, planned and developed from project to commissioning to meet and exceed global best practice.

Developed at a cost of \$400 million, feasibility for Buzwagi commenced in 2005, was completed in October 2006 and the mine poured its first gold in May 2009. At full production, the mine will be the largest single-pit mine in Tanzania. From the project phase onwards, Buzwagi was designed by Barrick to incorporate the lessons learnt from seven years of operations in Tanzania and, for example, sought to employ as many local personnel as possible. In year one, 646 Tanzanians were employed, compared to 45 expatriates. By year four of operations, the number of expatriates is planned to drop to 23, with the number of Tanzanians increasing to 677. By year 10, the figures are planned to be 21 expatriates and 679 Tanzanians. A future Tanzanian general manager has already been identified to run the Buzwagi mine.

A significant feature of the development of the Buzwagi mine was the particular attention dedicated to the environmental and social impact assessment (ESIA) and the relocation action plan (RAP). The ESIA was registered with the Tanzanian National Environmental Management Council as early as November 2005, followed by six months of field studies in preparation for the implementation of the ESIA and RAP. This process entailed consultation with local communities, village leaders and regulatory working

groups, with the aim of mitigating the impact of the mine on local communities and the environment. Lengthy consultations ensued to establish fair asset values, and identify location expectations and preferred relocation sites. The ESIA and RAP processes identified 541 families that would be affected by the mine, with 206 households earmarked for relocation. A RAP task force was initiated in July 2006 comprising consultants and personnel of the mine project. The ESIA was submitted to the government in December 2006 and approved in June 2007. Despite a lengthy negotiation process, by early 2008 five families and householders had refused to be relocated, which had significant project, security and cost consequences for the mine. During the course of site visits to the mine, as well as through other interviews and documentary evidence, it was repeatedly asserted by Barrick personnel that the company had made the community's acceptance of the RAP a prerequisite for developing the mine. Evidence was provided to the Tanzanian Presidential Committee on Mining that Barrick would not proceed with its investment at Buzwagi without the approval of the RAP by all stakeholders and every affected family.

Receiving the approval of the district commissioner and regional commissioner of Kahama, the RAP was designed and carried out to be in compliance with the World Bank's Operational Policy 4.12 on Involuntary Resettlement<sup>33</sup> and the International Financial Corporation's Performance Standard 5 on Land Acquisition and Involuntary Resettlement.<sup>34</sup> The scope of the RAP and ESIA included the following:

- housing replacement;
- land replacement;
- business losses compensation;
- tree compensation;
- graves' relocation/compensation for shrines;
- livelihood restoration:
  - support services; and
  - skills replacement training;
- development programmes;
  - resource development (livestock, fruit trees, forest regeneration, plantation development, honey production); and
  - business development (community farms and facilities).

Housing replacement was conducted on an agreed formula. Every new house was constructed of cement blocks, with a zinc roof, well point and water tank. The exact specifications (number of rooms, etc.) of the new dwelling was in accordance with the size of the dwelling replaced in the RAP, but in each instance, the new dwelling would be larger in extent than the one replaced. In addition, every family/dwelling relocated in the RAP has been provided with one acre of surrounding land. Where people owned two properties within the area covered by the RAP, the company replaced one dwelling and provided the option of compensation in cash for the other dwelling. A range of the houses built in terms of the RAP is depicted in figure 3.

The largest house pictured to the right was being built as a guest house by a land owner affected by the RAP. The owner had invested the compensation paid by Barrick in a guest house in anticipation of an influx of people to the area. Yet he, along with other neighbours, was attacked and killed by people from a nearby village before he could take

Figure 3: Houses built in terms of the RAP



occupation of the new building. His attackers reportedly told him that the money he was using to build his guest house was *mzungu* (white people's) money to which he was not entitled, but that it had to be shared among the community in the other villages.<sup>35</sup>

The RAP budget included \$2.3 million for community development and livelihood restoration. Other elements of the ESIA included deepening of more than 50 water wells in the 'social impact area' of the mine to ensure the continuity and sustainability of the water supply for the community during and after the life of the mine. Even during the project development phase, the company engaged in the expansion and upgrading of the Mwendakulima High School (the school that was moved by virtue of the overhead electricity pylon location) and the establishment of the Mwendakulima Co-operative Farm (see figure 4). The full cost of the RAP was some \$13 million, of which \$10 million was spent on mine compensation payments and a further \$3.5 million on power-line relocation compensation.

**Figure 4: Mwendakulima Co-operative Farm**



Particular attention has been paid to environmental management issues on the Buzwagi mine and surrounding areas. For example, water harvesting for the 75 hectare water collection facility is based on full collection in a single rain season and is planned to be adequate for a 1–100 year drought. The facility has accounted for expected drops in surrounding ground water levels due to water harvesting for mine use and in addition to the approximately 50 deeper well points drilled by the company, water reticulation systems from Lake Victoria have been built to supplement supplies, should this be necessary. Water in the mine storage ponds is anticipated to be acceptable for release into the environment. The plant has been designed from the outset to be connected to the



national grid in a joint venture with TANESCO, thus obviating the environmental impact of diesel generators.

As in the case of Tulawaka mine, the mine closure and rehabilitation plan was approved before mining operations commenced. A budget of \$27 million has been set aside for progressive reclamation, closure and post-closure of the mine. Mine closure is currently estimated to be in 2018.

The establishment of the Buzwagi mine is not without controversy, however. The February 2007 MDA between the Tanzanian government and Pangea Minerals Ltd (Barrick) was signed in London rather than Dar es Salaam due to a late and unexpected change in the travel commitments of the then minister of energy and minerals, Nazir Karamagi. The signing of the MDA in London has created problems of perception, suspicions of collusion and accusations of possible corruption. Claims have been made that clauses beneficial to Barrick were inserted into the contract and others beneficial to the government were deleted or amended unilaterally by the minister at the last moment. As the government has determined that all MDAs are confidential and cannot be published, the truth or otherwise of these claims cannot be verified. That such claims cannot be refuted by either the government or Barrick due to confidentiality clauses is a persuasive reason why all MDAs should be made public, in the interests of transparency and good governance. At the very least, the Tanzanian Bunge (parliament), or a select committee, should have access to MDAs before and after they are signed.<sup>36</sup> It should be noted that Barrick is a supporting company of the EITI, which requires companies in the extractive sector to declare and publish the revenues they pay to governments on an annual basis. The counterpart to the EITI is that members countries publish their receipts from extractive countries and that these sets of figures are independently audited, reconciled and published for public scrutiny. Tanzania was not a member of the EITI at the time of the signing of the Buzwagi contract, but in February 2009 the country was accepted as a candidate member.

While the controversy relating to fiscal and taxation matters in the mining sector has been dealt with extensively in the first section of the report, it is of value to note the contribution to tax revenue that the Buzwagi mine is expected to make over its operating life. A report in the newspaper *This Day* quotes Tundu Lissu, a lawyer for LEAT, as saying the following on national television: 'So minus the three percent royalty which itself is negligible, Tanzania as a country will earn a mere \$583,980 from the Buzwagi gold mine each year.'<sup>37</sup>

In contrast to this perspective, Barrick presented the following list (table 2 on page 74) of expected revenue generation and benefits to the Tanzanian government during Tanzanian Presidential Committee on Mining hearings in January 2008.

Thus, from Barrick's perspective, 56% of all expenditure over the life of the Buzwagi mine will be paid to the government in various taxes or will accrue directly to the Tanzanian economy. Stated differently, of the almost \$1.5 billion anticipated expenditure over the life of the mine, some \$818 million will accrue to the government of Tanzania or the economy more broadly. Extrapolating from the LEAT estimates of \$583,980 per year accruing to the government, the total expected revenue over the life of the mine (assuming a best case scenario of 15 years) will be \$8,759,700. Thus, the difference in perceived and expected benefit between the Barrick figure and the LEAT figure is \$809,490,300. If nothing else, this disparity highlights in stark terms the difference in calculation and

perception of the benefits of mining to the Tanzanian economy. This cognitive dissonance represents one of the severest challenges to the very existence and future prospects of the mining sector in Tanzania and demands the establishment of a national mining forum to deal with problems of perception and reality among all affected stakeholders.

**Table 2: Lifetime expected expected revenue generation and benefits of the Buzwagi gold mine**

Activity	Cost (\$)	% accruing to Tanzanian economy	Amount received by government/injected into Tanzanian economy (\$)
Taxes & royalties	198,850,000	100	198,850,000
Tanzanian payroll	50,300,000	100	50,300,000
Infrastructure development (power line)	30,000,000	100	30,000,000
Capital: plant and infrastructure	268,000,000	28	74,000,000
Capital: mining equipment	49,000,000	0	0
Capital: owner's cost	38,000,000	58	22,000,000
Capital: sustaining	41,117,000	17	7,000,000
Operating costs: general & administration	43,000,000	70	30,100,000
Operating costs: processing	174,700,000	23	40,200,000
Operating costs: mining	379,000,000	60	227,400,000
Operating costs: Power	90,000,000	100	90,000,000
Operating costs: freight & refining	65,000,000	30	19,400,000
Rehabilitation	29,000,000	100	29,000,000
<b>Total</b>	<b>1,455,967,000</b>	<b>56</b>	<b>818,250,000</b>

## BARRICK AND ENVIRONMENTAL STEWARDSHIP

All Barrick's environmental performance data, from spillage incidents to water usage and energy consumption, is published on the company's website in compliance with the GRI. Barrick's Environmental Management System Standard is designed to meet and in some

respects exceed the standards set in the ISO 14001.<sup>38</sup> Despite setting and meeting high standards, however, the company has experienced environmental incidents. One of these included a pollution spill at the Porgera mine in Papua New Guinea, which resulted in the Norwegian Future Fund disinvesting its holdings in Barrick Gold. The most serious environmental incident in Tanzania has been the spillage of some 9 000 000 litres of acidic water from the North Mara mine.

In addition to the regional environmental department at the Barrick head office in Dar es Salaam, each mine operates its own environmental department. Tulawaka mine was also the first mine in East Africa to be certified Cyanide Code compliant. Developed after the disastrous 2000 cyanide spill into the Tisza and Danube rivers from a gold smelter in Romania, the Cyanide Code has been developed to regulate and improve the manufacture, transport, handling and storage, operations and decommissioning of cyanide in the gold mining industry.<sup>39</sup> Signatories to the code must agree to be audited by an independent third party and to have the results of the audit published on the website of the International Cyanide Management Institute. The North Mara mine is the only mine in Tanzania with a laboratory equipped to monitor and measure Cyanide Code compliance on site. The Buzwagi mine has been designed to be Cyanide Code compliant from project design through to decommissioning. Environmentally sensitive and sustainable water harvesting and usage is a central tenet of all the Barrick mines, but the Buzwagi project in particular has allowed the company to design the mine along the lines of best practice in the processes of water harvesting and usage. Water quality testing is conducted and recorded on all mines daily.

Dust produced during mining and from mine vehicles on roads around the mine is a major environmental concern.<sup>40</sup> Most road networks around the mines are 'dust roads' that require constant watering to suppress dust. Barrick mines use two methods of road dust suppression. The first involves mixing molasses with the water sprayed onto roads and the other is an artificial mixture used to bind the dust to the road. The Buzwagi mine has invested \$250,000 in dust monitoring equipment, which is the first of its kind used in Tanzania. See figure 5 on page 76.

Before an MDA is signed, an environmental management plan has to be approved by the government, which includes a costed mine closure programme. Thus, all Barrick mines in Tanzania have a costed closure programme that includes the progressive reclamation and rehabilitation of land throughout the life of the mine and for a number of years after closure. While mine closure plans are often drawn up by external consultants, it is the responsibility of the mining company to gain the plan's approval, and monitoring of compliance with the closure plan is undertaken by the government.

With its imminent closure, the Tulawaka mine illustrates most clearly the content, and extent and objectives of a contemporary closure plan. The Tulawaka mine is located in the formerly pristine Biharamulo Forest Reserve. The overall objective of the mine closure plan is to reinstate commercial forestry as historically practised in the reserve, complemented by low-intensity honey production utilising traditional methods of bee keeping over as large a portion of the reclaimed site as possible, taking into account the remaining residual mining disturbances. The underlying principles of the Tulawaka mine closure plan are:

**Figure 5: Dust monitoring equipment**

- to limit the potential adverse effects of the closed mine on the local environment and to ensure that the quality of life of the surrounding communities is not compromised;
- to comply with all regulatory requirements and to ensure a successful 'relinquishment' of the mine site once all measures contained in the plan are completed;
- to ensure that the mining company can 'walk away' from the reclaimed and closed site with minimal residual maintenance and attention required; and
- to ensure that existing mining operations and closure measures are as seamless as possible until transformation.

The specific objectives of the plan are clustered around four criteria. The first is to ensure the physical stabilisation of the site. While there is an acknowledgment that mining operations permanently alter the environment, the plan seeks to minimise the impact of these changes. All surface infrastructure is to be removed in order to minimise the risk of accidents and to ensure that the site does not become an eyesore. The upper and outer slopes of the tailings facility are to be stabilised and these are graded to a 17 degree angle. They are then graded and planted with vegetation. The approximately 250 000 seedlings planted on the facility to date are drawn from the community outgrower seedling programme. Water run-off channels are to be created and water storage dams are to be 'environmentally' shaped and vegetated. The long-term objective of the closure plan is to leave the mine indistinguishable from the surrounding areas when viewed from the air.

While the mine closure plan is both coherent and comprehensive, it deliberately does not deal with pre- and post-closure employment challenges looming at Tulawaka. Despite being a relatively small mine, closure translates into the potential loss of hundreds of jobs on or around the mine by 2011. During on-site field work at the mine, workers in particular expressed grave concern about the loss of jobs and their prospects for future employment either at other Barrick operations or within the mining sector in Tanzania more broadly. The company has responded to this challenge in two ways. The first is to intensify on-site and vocational training. This is an ongoing and daily activity on the mine, but has become a particular priority at Tulawaka. The objective of the intensive training programmes is to increase workers' skills to levels where they can be absorbed into other Barrick mines and, in particular, the new Buzwagi mine. The secondary objective is to provide workers with skills that will make them more 'marketable' in the burgeoning Tanzanian mining sector or that can be utilised in the local economy around the post-closure Tulawaka mine.

Although difficult to quantify, another phenomenon reportedly increasingly observable around the mine as closure looms is the higher levels of anxiety within the surrounding community and a (possibly related) marked increase in the number of intrusions and security incidents on the mine. The company and, indeed, local police and security services are being challenged by the prospect of the community and illicit miners attempting to extract ore from the mine (from both the pit and underground) in the post-closure period, with all its attendant risks. The post-closure period of the Tulawaka mine will require close scrutiny and documentation in order to apply these lessons to future mine closure plans.

## BARRICK AND RENEWABLE ENERGY

Barrick as a corporation is committed to sourcing 10% of its energy needs from renewable sources. Using in excess of 200 000 litres of diesel a day on its Tanzania mines alone, in 2009 Barrick Africa commissioned a carbon audit of its operations. Until 2009 Bulyanhulu, Tulawaka and North Mara mines ran their operations on diesel, with all its attendant carbon dioxide emissions. North Mara mine was scheduled to be connected to the Tanzanian electricity grid by late 2009 and Buzwagi was designed from conception to be linked to TANESCO. In addition to carbon dioxide emissions from its diesel electricity generation, other diesel-powered trucks, diggers, loaders and water carriers contribute to the company's mine-generated carbon footprint. Furthermore, the company operates a De Havilland Dash aircraft for operational flights among its four mines on a continual basis. Another contributor to the company's carbon footprint is the frequency of international flights taken by staff on rotation. Expatriate contracts operate a two-months-on, one-month-off rotation, and as staff are recruited from Australia, New Zealand, Canada and South Africa, they undertake relatively frequent long-haul flights to and from the Tanzanian operations.

In a positive development, in 2007 Barrick entered into a joint venture with the Tanzanian government to bring electricity to the North Mara region. The \$28 million project aligned the interests of the government to meet its 25% electrification target by 2010 and facilitated Barrick's objective of creating greater efficiencies, cost savings and

environmental benefits at its North Mara mine. In this regard, the spike in the petroleum price to \$145 per barrel in 2007 had a major impact on the company's operating costs.

In an effort to move closer to achieving the corporate target of supplying 10% of its energy needs from renewable sources, reduce its carbon footprint and mitigate the impact of social sidelining, in 2007 Barrick entered into a joint venture with Export Trading Company Ltd to launch a biodiesel initiative at the Bulyanhulu mine. The crop selected for production of biodiesel was *Jatropha curcas*. Originating in the West Indies, *Jatropha* was taken to Asia by Portuguese traders and then brought to Africa by Arab and Portuguese traders. It is now regarded as a naturalised plant and has been used for medicinal, building and oil-producing purposes in Africa. Although non-invasive and relatively easily grown in Tanzania, *Jatropha* has not been produced in sufficient commercial quantities to allow its harvesting for biodiesel application. Other potential commercial by-products of *Jatropha* harvesting include glycerine and fuel cakes. The underlying principles of the programme were to develop a project that was environmentally, financially and economically beneficial to the company and community.

Barrick already operates a successful seed/seedling community outgrower programme in which seeds are cultivated in nurseries on the mine sites (see figure 6) and then distributed as seedlings to growers in the surrounding communities for further cultivation. The mature seedlings are then bought back from the community and used on mine sites, particularly for mine rehabilitation programmes. Successful schemes operate around the Bulyanhulu mine and the Tulawaka mine. The success of the Tulawaka seedling community outgrower scheme was acknowledged by the mine receiving the 2007 Tanzania Presidential Environmental Award.<sup>41</sup>

**Figure 6: Nurseries on mine sites**



The Jatropha plantation scheme was designed to build on this experience. In order to make the scheme practically and commercially viable, however, a nursery and growth area of sufficient size needed to be established. The nursery was established within reach of local communities and was constructed of local materials wherever possible. A clone bank of some 11 hectares was identified to support the outgrower programme. An area of some 300 hectares within the Bulyanhulu mining licence area was identified for joint cultivation of Jatropha with the community. The final extent of the Jatropha cultivation area is envisaged to be 1 500 hectares. Barrick will manage the initial phases of the programme, with the Export Trading Company performing continual mentorship. The target for production has been set at 20 000 litres of biofuel per day. At full production, this would represent some 10% of the mine's current fuel requirements.<sup>42</sup>

Running parallel with the development of the nursery, clone and seed bank is the development of learner-friendly training materials in order to meet the needs of the Jatropha farmers participating in the scheme. This will include aspects such as training in production, disease control and finance. It is seen as vital that both the ethos and the capacity are built for peer support, and, in the event of one farmer struggling to produce or harvest, it is envisaged that he/she will receive support and guidance from other members of his/her 'estate' to bring his/her crop to fruition. The company will record and archive a record of the experience of the programme from both its perspective and that of the farmers in order to strengthen the programme's sustainability.

From the community's perspective, the most important objective of the programme is to ensure that the farmers are provided with a commercially viable programme that guarantees them demand for their Jatropha within an environmentally sound business plan. By so doing, the company is attempting to avoid subjecting growers to the vicissitudes of market volatility and the resultant threat to the depletion of natural resources.

The land earmarked for the cultivation of Jatropha for the project was specifically identified as marginal, non-active agricultural land. Farmers are specifically not permitted to join the scheme by switching production from an edible crop to Jatropha biofuel production. Written into the outgrowers' contract is a clause that notes that biodiesel is not a stand-alone, 'get-rich-quick' scheme, but rather a longer-term investment that supplements the farmers existing portfolio of operations and crop production. It is also seen as an opportunity for emerging farmers to build a portfolio of operations around Jatropha production over the next forty to fifty years. Intercropping and animal grazing on established Jatropha sites are also encouraged, as well as the development of a habitat for pollinators in order to enrich the biodiversity of the sites.

Only farmers with a proven track record of competent agricultural production were selected for the first phase of the project. Although farmers in the vicinity of the Bulyanhulu have been successful pastoralists and mixed croppers, in recent years there has been a decrease in productive land due to over-grazing and the growth of scrub-ridden unproductive land. It is this land that has been earmarked for clearing and prospective Jatropha cultivation. The programme envisages 300 local growers each overseeing five hectares of Jatropha production. These 300 growers will be brought into a co-operative estates arrangement to minimise cost bases and to maximise efficiencies of scale. These co-operative estates will be further organised into three larger groupings of 500 hectares, which will serve as training, support and collection points.

To bring the project to fruition, Barrick purchased a biodiesel refinery at a cost of some \$250,000 to be located within the fence line of the mine. Organic waste matter will be made available for composting and the production of fuel cakes. This latter innovation should assist in reducing the impact of the destruction of biomass on local fuel needs.

Yet by mid-2009 the *Jatropha* biofuel project had not come on stream. It was reported that one of the barriers to bringing the scheme to fruition was the practice of 'front running' land acquisitions by, among other things, politicians making the acquisition of land to be earmarked for incorporation into the scheme either financially unattractive or non-viable. It is unclear how this impasse will be resolved, but it is regrettable that a scheme of this nature, which in its design offers the potential to make a long-term contribution to the energy, environmental and economic benefit of the company and local community around Bulyanhulu, should be effectively derailed by rent-seeking behaviour.

### BARRICK'S SUPPLIER CODE OF ETHICS AND LOCAL SUPPLY CHAINS

In 2007 Barrick adopted a supplier code of ethics according to which suppliers to the company are asked to subscribe to and meet standards set under, for example, the UN Global Compact, which Barrick joined in 2005. Established in 2000, the UN Global Compact sets a policy framework for the ethical operation of corporations globally. A voluntary code, the Global Compact operates on the basis of the adherence to 10 modest principles and seeks to mainstream the activities of corporations into the achievement of the Millennium Development Goals. The Global Compact's 10 principles are as follows: businesses should (1) support and respect the protection of internationally proclaimed human rights; (2) make sure that they are not complicit in human rights abuses; (3) uphold the freedom of association and the effective recognition of the right of collective bargaining; (4) eliminate all forms of forced and compulsory labour; (5) abolish child labour; (6) eliminate discrimination in respect of employment and occupation; (7) support a precautionary approach to environmental challenges; (8) undertake initiatives to promote greater environmental responsibility; (9) encourage the development and diffusion of environmentally friendly technologies; and (10) work against corruption in all its forms, including extortion.<sup>43</sup>

Barrick suppliers are asked to make a declaration on an annual basis that they understand and comply with the company's code of ethics. Each supplier is requested to complete a self-assessment score card, which is regularly monitored. It is not clear whether or not suppliers have been excluded from Barrick's approved list of providers on the basis of their failure to meet the code's requirements since the adoption of the code or whether the code has had an impact in improving the business practices of the company's suppliers.

Controversy around mining company procurement in Tanzania, however, is centred less on the ethical practices of suppliers, their manufacturing methods and labour practices and far more on the (national or international) sources of procurement. The criticisms levelled at Barrick and other international mining houses operating in Tanzanian are twofold. The first is that multinational mining companies operate a globalised, centralised buying policy that, while it sources the best prices for all the companies' operations globally, effectively shuts out local producers and manufacturers. This barrier to entry for



local producers, in turn, suffocates broader opportunities for local economic development. This is despite the fact that the Tanzanian government promotes an indigenous local supplier programme.<sup>44</sup> The second source of criticism is that mining houses receive import duty relief and capital equipment tax write-offs on plant such as heavy diesel equipment, which is not manufactured in Tanzania, and thus the country sees no benefit. Critics contend that these concessions serve as an effective tax loophole for international corporations and that there is no local benefit from heavy plant procurement as there are no local franchise holders.

The stock corporate response to these two criticisms is that in a globally competitive environment, mining houses are compelled to seek the best, most reliable and most cost-effective suppliers who can meet all safety and quality standards and thereby reduce overall input costs. Relatedly, companies contend that local producers either do not, or currently cannot, supply inputs at the levels of quality and reliability required for mining operations. Given the particularly hazardous nature of mining and the justified criticism of mining houses whose safety track records are poor, inferior or unreliable equipment or supplies cannot be tolerated on a mine.<sup>45</sup> In the case of Barrick, mine safety is tantamount to an obsession. All Barrick mines in Tanzania have notched up laudable safety records and it is not unusual for a Barrick mine to go several millions of worker hours without experiencing a loss-of-time incident. In the case of the Tulawaka mine, for example, the mine has operated for six million worker hours without a loss-of-time incident. The relative newness of commercial-scale mining in Tanzania also means that few local businesses have 'tooled up' to supply large mining houses such as Barrick. Furthermore, given the advanced nature of South African mining and ancillary services, it is possible to procure most industrial equipment required for a mine from, or through, South Africa. Tanzania is at a further disadvantage in that its neighbour Kenya enjoys a more advanced, sophisticated and competitive economy, and thus provides a more attractive 'local option' for sourcing mining supplies.

The above notwithstanding, local (Tanzanian) procurement by Barrick represents the majority (55%) of all inputs. While the company retains a comprehensive database of all of its local suppliers and attempts to procure locally wherever possible (as it is required to do in terms of its MDA with the Tanzanian government), it has recently embarked on a programme to boost local procurement and has dedicated a senior head office manager to run this programme. Currently, the company conducts a programme at each mine aimed at boosting local entrepreneurship, with a view to substantially increasing the number of local suppliers to the mines. This involves interventions such as assisting with the formalisation of businesses so that they meet all statutory requirements to become registered vendors. Mine 'tender' supplier documents are posted in local small-business centres around the mines in order to alert local businesspeople to these opportunities. Small-business classes are offered to strengthen both specific skills, such as clothing manufacture, and more general business skills, such as basic book-keeping and administration. Mine managers also actively seek out local suppliers of goods ranging from food and beverages to mosquito nets and furniture.<sup>46</sup>

The new Barrick head office local supplier initiative is an attempt to enhance and formalise local supply chains so that they meet all the criteria of quality, reliability and cost-effectiveness.

**Table 3: Barrick's Tanzanian procurement activities, 2008**

Materials and goods procured in Tanzania	\$115,028,043
Services procured in Tanzania	\$118,207,014
<b>Total spend in Tanzania</b>	<b>\$233,245,057</b>
Materials and good procured outside Tanzania	\$126,729,240
Services procured outside Tanzania	\$58,588,042
<b>Total spend to outside suppliers</b>	<b>\$185,317,282</b>
Number of Tanzanian registered vendors to Barrick	2 017
Number of non-Tanzanian registered vendors to Barrick	2 794
<b>Total</b>	<b>4 811</b>

Thus, in simple dollar terms, Barrick spends some 26% more on Tanzanian suppliers than on non-local suppliers. Yet it does so with 777 fewer Tanzanian registered vendors. The obvious observation is that there is massive potential for Tanzanian vendors to supply far more to Barrick, depending on the nature of equipment required and the capacity of Tanzanian vendors to meet Barrick's quality, reliability and cost requirements.

As part of the head office local procurement programme, the chief executive and senior manager responsible for the programme have travelled to each of the mines and their surrounding communities to explain in detail the Barrick procurement process. Importantly, this includes the requirement that Tanzanian suppliers certify their adherence to the abovementioned code of ethics for suppliers. To facilitate greater access to Barrick supplier requirements and tenders, the company has established a web page and dedicated email address exclusively for the use of local vendors. A number of core Tanzanian suppliers have now been identified who will receive ongoing support training and assistance to supply Barrick with reliable and consistent inputs.<sup>47</sup>

## LOCAL EDUCATION

'Companies measure ounces; communities measure development.'

Community leader in Tarime District, September 2008

A consistent challenge to and weakness of CSR programmes is the absence of independent monitoring and evaluation. Success in CSR activities is sometimes regarded by corporates as the absence of hassles from the community. Too often, companies 'report the numbers' rather than measuring the impact of their programmes. CSR reports tabulate company spend within a financial year, rather than reporting longer-term progress, challenges and impacts. This weakness is in part due to the ad hoc formulation of programmes, particularly when they are reactive or are designed to mitigate a perceived risk or threat to the business model rather than being part of a longer-term, integrated and calibrated programme of community development. CSR departments are under constant pressure internally and externally to justify their activities, yet by definition, impact assessments

take longer than a single corporate reporting period. Companies would do well to stand back from the reporting treadmill with respect to CSR and institute longer-term, tiered programmes with in-built monitoring, reporting and evaluation criteria that will, over time, result in more cost-effective programmes. Moreover, there has been an historical tendency for companies to either ‘write a cheque’ for external programmes or conduct programmes ‘in-house’. While both approaches have merit, a stronger and more sustainable approach is to forge partnerships among companies, governments, NGOs, development agencies and communities.

Barrick has adopted a series of strategies in its CSR engagement. These range from the funding of ‘external’ programmes such as payment for medical operations to a range of in-house projects, run either from the Community Relations Department at head office or, most typically, in conjunction with community relations departments on each mine. A further innovation and one that deserves emulation is the practice adopted in the new Buzwagi project of each manager ‘adopting’ a community programme and reporting on the success and impact of the programme as part of his/her key performance indicators as a manager.<sup>48</sup> This mainstreaming of community relations programmes and activities and the evaluation of managers serves to galvanise company–community relations and goes some way to addressing the historical practice of separating community relations issues from those of mine production and management. As the regional vice president of Barrick noted in an interview:

You cannot simply ring fence yourself from the community and the local environment. Mining is no longer simply about the production of ounces of gold, or tons of ore, but far more about how those ounces and tons are produced and the impact this has on local communities and the country more broadly. We are guests in this country and we must behave accordingly. I think it's also important to be sensitive to the fact that we are a global mining house operating in Africa. The industry has to get away from the idea that there is one set of standards for the rest of the world and another for Africa. My aim is to show that we can do world-class mining in Africa and, in fact, set a higher standard here.<sup>49</sup>

A valid criticism of mining houses CSR programmes is that they can be particularistic, reactive, defensive and disconnected from broader national, regional and local development policies. There are exceptions to this practice, however. One programme that appears to have met the criteria of partnership, impact and measurement is the community education programme launched around the Bulyanhulu mine with the international agency CARE.<sup>50</sup> In 2001 Barrick invested \$2million to fund an education programme in the Kahama District of Tanzania. At the time of the establishment of the Bulyanhulu mine, the area was poorer and less developed than the national average. Indeed, all human development indices in the area reflected an under-performance against the national average. In terms of local education, the following statistics are indicative of the pre-existing structural challenges. Adult illiteracy in the area stood at some 90%; just 71% of children of school-going age in the Bugarama ward (near the mine) attended school; and of these, 21% did not complete primary school. In 1999 a mere five children in the ward were selected to attend secondary school.

Under the Barrick-sponsored scheme, the first secondary school in the Bugarama ward was constructed, together with eight new primary schools and full teacher accommodation

facilities. Six years after the launch of the Barrick/CARE programme in Kahama, the educational profile of the region has improved markedly. Primary school enrolment has increased by 75%, with over 7 000 children enrolled. Far more children are now making the transition from primary to secondary education, with the number increasing from some 800 in 2001 to some 1 885 in 2007. Over 89% of children who write their final primary school exams now pass, compared to just 16% in 2001. Bulyanhulu employee and contractor donations facilitated the secondary school education of some 150 orphaned children. Village leaders identified particularly needy students who were granted financial support under the scheme, and, at the other end of the educational spectrum, Barrick paid for four highly promising students to attend the international school at Moshi.<sup>51</sup>

The Barrick educational initiative was only one element of a broader integrated development programme for the Kahama District. Tanzania's Local Government Reform Agenda requires the drafting of a district development plan (DDP) for each region. Kahama District Council's 2001 DDP sought to improve the welfare of the local population by enhancing food security, rural income and improving social services in the district. Despite the commitment of 25% of locally derived income to the DDP, this represented just 2% of the anticipated expenditure required to fulfil its aims and objectives. The central government committed itself to funding 12% of the plan, but partners were sought for the remainder, and in particular the Kahama Mining Corporation Ltd (Barrick). In order to generate community benefits in its 'impact area', Barrick launched a Social Development Programme (SDP) focusing principally on the provision of infrastructure for water supply, healthcare and primary education.<sup>52</sup> The Barrick programme formed part of and was integrated into the Oil, Gas and Mining Sustainable Community Fund of the International Finance Corporation and World Bank programme for the development of the Kahama District.<sup>53</sup> The programme itself was designed as a multistakeholder initiative with clearly delineated areas of responsibility, expertise and impact. Other partners included the AMREF and WEDECO water treatment company. The structure of the programme is depicted in figure 7 on page 85.

The SDP was founded on and operated through a partnership approach structured through a series of multistakeholder steering committees comprising representatives of the company, the District Council, NGOs, donors and the community. The SDP is aligned to the Kahama DDP and, by so doing, sought to fulfil the need for a 'bottom-up' approach to development in the district. It should be noted, however, that Barrick was a core funder of the SDP and provided other technical expertise such as project and contract management. It is equally important to note that the projects were designed with the objective of the local government in the Kahama District taking over their management and maintenance. The projects were also designed on a 'user-fee' basis. The fees charged for services established under the SDP are designed to fund local government management of the infrastructure and provide for the maintenance and, in due course, replacement of old infrastructure. An example of such an arrangement is the provision of solar-powered water pumps established for public use, but for which a nominal fee is charged per 25 litres, which is collected at the pump, recorded in a ledger and paid over to the District Council on a weekly basis.<sup>54</sup>

After contracting the services of Canadian consultants, Barrick designed the SDP around five mutually reinforcing themes, as follows.

**Figure 7: Structure of Barricks’s Social Development Programme**

Partners	Partnership			
	Education	Health	Housing	Water
<b>Kahama Mining Corporation Ltd (KMCL)</b>	Project management. Financial resources. Construction of classrooms.	Project management. Financial resources. Rehabilitation of dispensary.	Project management. Financial resources. Facilitate employment of local community.	Project management. Financial resource for construction and community education.
<b>NGOs</b>	<b>CARE Tanzania</b> Project management. Produce training manuals. Train and monitor teachers. Community mobilisation.	<b>AMREF</b> Train health workers. Supervise dispensary. Produce health promotion materials. Liaise with government and local communities.		<b>WEDECO</b> System operation and maintenance. Community mobilisation. Community education.
<b>Kahama District Council government</b>	Recruit teachers. Supervise schools. Supply learning materials. Provide construction materials for school buildings. Logistical support to programme.	Recruit and train dispensary staff. Dispensary supervision. Produce drugs and other materials. Logistical support to programme.	Prepare land use plans. Assist KMCL in land acquisition and negotiations.	Contribute to design of water system.
<b>Village government and local communities</b>	Contribute labour and land for construction work. Explore community’s potential financial contribution to education. Mobilise community to participate in adult education. Provide feedback on the education programme.	Facilitate the identification of peer educators. Assist peer educators with awareness campaigns. Provide feedback on the health programme.	Assist KMCL in the payment of compensation. Prepare land use plans. Provide advice on the required social facilities. Mobilise communities to assist in building facilities.	Contribute to the identification of water points. Build water points. Participate in water user groups. Take long-term responsibility for the operation and management of the system.

- 1 A mine employee housing scheme of 600 units and infrastructure such as roads and community services were planned to benefit local communities.<sup>55</sup>
- 2 A community education programme was established that sought to improve the quality of education through the provision of school buildings and classrooms. Barrick undertook the building of school buildings, playgrounds and accommodation, with the proviso that the government fund posts for teachers at the new and expanded facilities. The building of quality teacher accommodation was particularly important in attracting teachers to the area, thereby reducing the teacher:pupil ratios in local schools and enhancing the quality of teaching. This model of a public-private partnership among Barrick, local government authorities and national educational authorities has been successfully replicated at the Tulawaka mine, as well as at a school that was physically moved in order to allow electricity power cables to be run directly to the Buzwagi mine.<sup>56</sup> Importantly too, the SDP made provision for the establishment of basic adult education facilities.
- 3 Basic healthcare facilities were provided to the community around the mine. In addition to clinics, community health education programmes were established to assist in dealing with diseases such as HIV/AIDS and malaria. As part of its broader health CSR programme, Barrick also embarked on an extensive malaria education and mosquito net distribution programme in its communities of operations. The mosquito net programme was found to have limited success, however, due to factors such as access and usage disputes within families, as well as the misuse of nets for other purposes such as fishing. Relatedly, the company adopted a comprehensive malaria prevention policy and campaign at the workplace. Given the preventable nature of malaria and the high rates of absenteeism among mine workers suffering from the disease, the company embarked on a programme of preventive education, fogging (the spraying of insecticide around the mine site), the installation of high voltage mosquito traps, the free distribution of mosquito repellent and the provision of mosquito nets to all its mine workers. Consequently, the company contended that, given the provision of all these measures, workers were no longer at high risk to malaria and thus could not reasonably claim time off work for malaria if all these provision had been adhered to.
- 4 Safe, reliable and affordable water was supplied to local communities.
- 5 Local enterprise and housing were developed.

Typical of the Barrick mode of community development is the structuring of trilateral agreements among the individual mine, the respective district council and the local community. For example, in 2008 at the Tulawaka mine (which is scheduled for closure in 2011), Barrick's Pangea Minerals Ltd (PML) signed a memorandum of agreement with the Biharamulo District Council on the following basis.

- PML is to construct the Nyantakara Secondary School (see figure 8) and will supply all materials in accordance with the designs and specifications of the Biharamulo district works engineer. PML undertakes to provide building materials for two staff houses per year for four years, four classrooms per year for four years, a library, two hostels in four years, a playing field and one water borehole. PML also undertakes to supply the desks and chairs for the school.
- The role of the council is to undertake the provision of technicians for the construction

**Figure 8: Nyantakara Secondary School**

of the school building, the provision of labourers to assist the technicians, the provision of plans for construction, the daily management and supervision of the school, and the provision of security for the school and its students.

- The role of the community is the provision of all the labour required to assist in the construction of the school and the provision of security for the facility under construction.

The Tulawaka memorandum of agreement was signed by the district commissioner, the district executive director, the general manager of PML and the ward councillor of Lusahunga ward on behalf of the community. The strength of the agreement is that for the development to have legitimacy, it requires ownership from all three major stakeholders in the area and, indeed, to bring it to fruition requires the full co-operation of all the parties. The potential weakness in the agreement is ensuring the capacity and political will of the District Council and the local community to meet their commitments fully and timeously. Given that Tanzanian district councils receive the bulk of their funding from central government transfers, the capacity of the Biharamulo District Council to deliver on its commitments is dependent on the political will and financial commitment of central government. Thus, it is vital to the success of any mining–district council–community development programme that central government and the respective ministries are brought into the planning and design of the initiative on a conceptual, funding and personnel basis early on in the process and that there is a firm, costed financial and political commitment to support the development. This is particularly important, for example, in meeting the staffing requirement of schools and clinics. In turn, it is important that the facilities and conditions of service are attractive enough to secure appropriately

skilled professionals to take up posts in outlying rural areas. Given the impending closure of the Tulawaka mine, the community will be confronted with a host of post-closure economic and social challenges, which need to be taken into account in current and future community development programmes.

Other community developments undertaken by Barrick (PML) in the area surrounding the Tulawaka mine include the provision of a local community clinic, which at the time of writing was still staffed by a paramedic and was awaiting the arrival of a fully qualified medical doctor. There is some concern about the delay in the arrival of the community doctor, as this is a government-funded position and it is not clear whether this commitment will be met. Another community project under way is the construction of a community mosque, for which Barrick has supplied building materials.

It must be noted that despite these initiatives and the job creation opportunities provided by the mine, as well as small business development and supplier opportunities, the community surrounding the Tulawaka mine area remains impoverished and faces an uncertain future after the mine's closure. Evidence of mal- and under-nourishment is evident within the community. While brick structures are found in the area, the typical dwelling found in the local community is mud brick and reed roof with very little surrounding ancillary infrastructure or services. There is very little evidence of local small-scale business development in the area. This may be due in part to the impending closure of the Tulawaka mine, but while the mine still has two years to closure, there is very little indication of local mine suppliers or services such as food and carpentry or mechanical repairs within the surrounding 'commercial' zone.

Moreover, the facilities and capacity of the village council are threadbare. The council meets in a building with one table and a set of chairs. (See figure 9). It has no 'office' or administrative facilities to carry out its mandate. Levels of interest and motivation among councillors appeared low during meetings, as did the capacity of some councillors to adequately represent their communities. These capacity challenges reinforce apathy and erode the political will to energetically represent communities. Furthermore, the absence of credible or effective community leadership undermines Barrick's efforts to engage in effective trilateral relationships with the district councils and communities. There is a circularity to these arguments, however, as better funding of village councils by district councils and greater capacity-building efforts (particularly administrative training) by Barrick could greatly enhance the effectiveness, and thus legitimacy, of the village councils.

## EXPATRIATES AND SUCCESSION PLANNING

A trenchant criticism of the large mining houses operating in Tanzania is their overdependence on and overpayment of expatriate employees compared to locals.<sup>57</sup> More particularly, the criticisms centre on the failure of mining houses to recruit and train Tanzanians and, when doing so, the practice of paying them far less than expatriates doing the same job. The response from mining houses is that as a relatively new mining country, Tanzania has yet to educate, train and develop sufficient numbers of locals to adequately staff the country's mining operations. Barrick has launched a postgraduate training and scholarship programme designed to enhance the number of appropriately qualified mine personnel, but this is some years from seeing greater numbers of qualified Tanzanians



**Figure 9: Community members of the village council**

occupying top managerial and technical positions on mines. Barrick employs skilled personnel drawn from Ghana, for example, which has a far longer history of commercial mining than Tanzania. Moreover, during the period of the commodities boom (up to September 2008), skilled Tanzanian mining staff were also attracted to other mining countries (including the Democratic Republic of Congo — DRC) where salaries were reportedly higher. Responding to the criticism of overpayment or differential payment to expatriates compared to Tanzanian staff doing the same job, Barrick contends that it is forced to pay globally competitive salaries in order to attract skilled personnel from mining countries such as Canada, Australia and South Africa. It also has to compensate expatriate staff (Barrick refers to these staff as being on global assignment) with hardship allowances and other benefits. Expatriates also enjoy certain tax benefits by virtue of earning their salaries 'offshore'.

Barrick employs significantly more Tanzanians than expatriates and it is in the company's interest to employ even more, particularly at the skilled, managerial and executive levels. It should be noted that the chief executive of Barrick in Tanzania is a highly qualified and experienced Tanzanian. All Barrick mines are implementing localisation and succession plans, with Tanzanian employees already identified as future general managers for two of the company's mines.

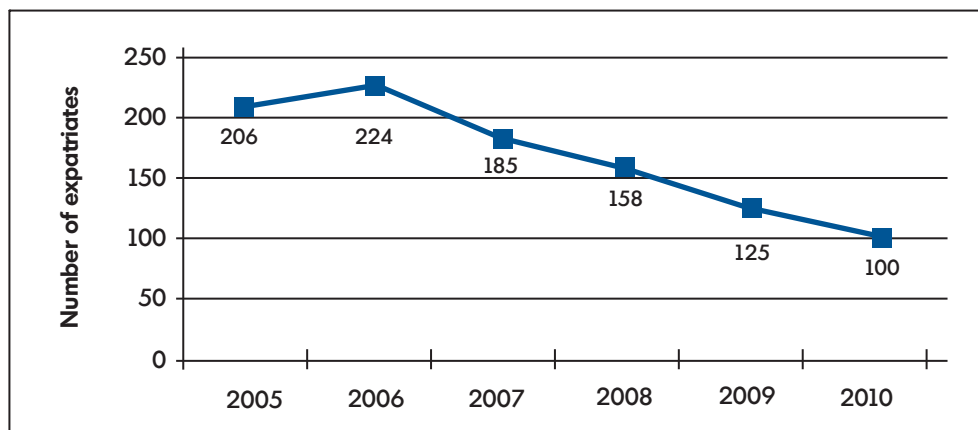
Each department operating on a Barrick mine is required to develop a succession plan, which involves the identification of, assessment and development of Tanzanian employees to equip them to replace expatriates in key roles. Succession plans follow six steps:

- 1 developing a succession pool, which involves selecting/nominating top potential national employees as competency levels are achieved and validated;
- 2 the pairing of mentor and mentoree and a process of trust and confidence building;

- 3 the preparation of personal development plans, with mentor and mentoree preparing a 12-months training plan under the supervision of the head of department;
- 4 the signing of agreement contracts that are submitted to the company in which the two parties agree to fulfil their respective obligations;
- 5 training and mentoring, which requires the implementation of training and development activities, which can take between one and five years; and
- 6 handing over, on satisfactory completion of the programme.

Upon successful completion of the programme, the mentor is provided with a financial reward. Efforts are made to place/deploy those expatriate employees successfully replaced by a local staff into other positions within the mine, or in-country, or elsewhere within the Barrick group. The targets for decreasing the dependence on expatriate employees at Bulyanhulu mine is depicted in figure 10.

**Figure 10: Targets for decreasing the dependence on expatriate employees at Bulyanhulu mine, 2005–10**



## MINING, THE MEDIA AND BARRICK

A final consideration of this case study is the vexed relationship between mining houses (and Barrick in particular) and the media in Tanzania. As discussed in the first section of this report, antipathy towards, prejudices against and (mis)perceptions of the mining sector in Tanzania are exceptionally strong. It is a commonly held view within the industry that mining has no friends, but rather interests. This is the case with respect to mining operations within Tanzania. The industry is viewed with deep suspicion by all key stakeholders within the country, including government at all levels, political parties, organised civil society, donors and the media. The reasons for this are threefold. In the first instance, the Tanzanian government has done a singularly poor job of locating and explaining mining within its proper economic and social context. It has promised more than the sector can currently deliver in terms of contribution to the economy and, indeed, social development. While it is reasonable for the government to set an objective of the mining sector contributing 10% of GDP by 2015, such a target has to be properly

calibrated and set against realistic criteria. Moreover, as has been pointed out in the first section of the report, commodities are cyclical and, by definition, the mining sector is subject to acute fluctuations that are determined by both global and local factors. As price takers, it is particularly difficult for mining houses to forecast earnings beyond the immediate reporting period and thus it is even harder for governments to plan, forecast and budget for mining revenues even within a medium-term expenditure framework. The generous tax conditions applied to MDAs in terms of the Tanzanian Mining Code have been singled out by politicians, civil society and the media as the single greatest contributor to the country not receiving its expected mining windfall, yet the government has failed to adequately deal with these perceptions, let alone change the reality of the situation. At the height of the commodity boom in 2006/2007 a number of Southern African countries (most notably Zambia and the DRC), announced a review of their mining codes, with specific reference to royalty and tax provisions. This was variously regarded as a manifestation of 'resource nationalism', elite opportunism, or simply a sensible and pragmatic step on the part of government to secure greater national benefits from windfall taxes on high commodity prices. Finally responding to political and social pressure, in 2007 President Jakaya Kikwete convened a commission of inquiry to review the mining sector in Tanzania under the leadership of a respected judge, Mark Bomani. Although the Bomani Commission submitted its report to the president in mid-2008, the president has yet to formally respond to its findings. This has created two negative perceptions. The first is that the establishment of the commission was merely a political tactic to ease pressure from the opposition and some ruling party politicians for the president to 'take action' against the mining houses to increase the benefits of mining to the fiscus and country more broadly. The second negative effect is that of creating uncertainty among existing and potential investors in the mining sector in Tanzania. Despite this, the Bunge (parliament) debated the *Bomani Commission Report* in July 2008, commended the retired judge for his work and recommended that the government implement its findings without delay.<sup>58</sup>

The reported key recommendations of the Bomani Commission are to increase royalties on gold mining from the current 3% to 5%, with the royalty on diamond mining to be increased to 7%. The commission also reportedly recommends a change in the calculation basis of tax benefits and breaks for mining houses to prevent the abuse of current tax incentives. A further significant reported recommendation is an increase in the local and regional share of mining tax revenues to aid local development and deal with concerns of social and economic justice for local communities. It should be noted that mining companies were reportedly assured during the Bomani Commission hearings that it was not the intention of the government to make any changes to the Mining Code retrospective, and thus existing MDAs would not be affected. However, mining companies reportedly also made it equally clear to the government that any changes to existing MDAs would be resisted and referred to international legal arbitration for adjudication.

While the status of the *Bomani Commission Report* and its recommendations remain in limbo, opposition parties in particular have worked with the local media to ensure that the commission's work remains in the public consciousness. The media have a central role to play in raising awareness of matters of national importance such as transparency in the mining sector, and, irrespective of accusations of 'political manipulation', have been correct in keeping the Bomani Commission on the public agenda. However, the media's

laudable efforts at keeping the Bomani Commission in the public domain have not been matched by a concomitant level of journalistic skill, research and professionalism. On the contrary, media reporting of the mining sector in Tanzania is largely impressionistic, sensationalist, ill-researched, ill-informed and irresponsible. Three examples illustrate this. The first relates more to public perceptions than the role of the media, but nevertheless highlights the problems of ignorance and sensationalism in relation to the mining sector. On 4 May 2009 a full-page colour feature was taken out in the *Tanzania Daily News* by MRJ Sabodo of Dar es Salaam. The feature was headed, 'What happened to the Bomani Report on Gold?'<sup>59</sup> The author outlines a number of the reported recommendations of the Bomani Commission and extrapolates the value of revenues 'lost' by the TRA due to the failure of the government to accept and implement the recommendation of an increase in gold-mining royalties from 3% to 5%. After the implications of the non-compliance with other of Bomani's recommendations, the author concludes with the following claims:

I have got a buyer from India where they are buying gold at 1,200–1,300 US dollars per ounce, so you can imagine how much we are looted!! The only item, which its price does not go down (sic), is GOLD — not like OIL or other minerals.

Despite the legitimate concerns of the author of the newspaper feature relating to the failure of the government to adequately respond to the *Bomani Commission Report*, the credence of the feature is severely diminished by the claim of the existence of a buyer of gold at \$200–300 above the prevailing \$900/ounce spot price of gold at the time.<sup>60</sup> This, combined with the claim that the price of gold does not fall, suggests that the piece may have been placed in the newspaper for motives other than simply the public good, as it is unlikely that anybody with the financial resources to pay for a full-page colour feature advertisement in a national newspaper could be so ignorant.

The second and third examples of poor and irresponsible journalism in reporting about the mining sector are specific to claims relating to Barrick.

The 21 November 2006 edition of the Tanzania edition of *This Day* newspaper carried front-page allegations that Barrick was involved in a systemic and widespread tax evasion 'scandal' with respect to import duties, particularly through the Mwanza Airport. The newspaper was in possession of 'documentary evidence' supporting its claims and quoted a TRA Mwanza branch 'source' as saying,

This documentary evidence is just the tip of the iceberg to show to what extent the company has been evading taxes over the years. It should amount to billions of shillings in total. They need to pay this, plus penalty to the government.<sup>61</sup>

*This Day* also reported that a mining company in the Mara region had been recently fined \$1 million for similar abuse of TRA tax concessions. According to the article, Barrick was twice approached for comment on the piece, but had failed to respond by the time it had gone to print.

In response, Barrick issued a press release both denying it was involved in tax evasion or any illegal wrongdoing with respect to import duty processes and obligations, and seeking to clarify the process and paper trails that govern the import of goods and the duties payable.<sup>62</sup> The present author specifically investigated such allegations of tax

evasion (particularly of import duties) during the course of research for this report and was given full access to both the procurement and tax departments of Barrick's regional head office in Dar es Salaam. While it is clear that in the normal process of taxation, VAT and import duties, there is an administrative lag between payments due and tax receipts, in fact by far the greatest lag in payment is from the government to Barrick with respect to VAT refunds. At the time of writing, the outstanding VAT refunds claimed by Barrick amounted to tens of millions of dollars. Barrick has also offered to assist the TRA in the creation of a TRA unit dedicated to the management of Barrick's tax and revenue.

While it would have been better for all parties had *This Day* and Barrick clarified these claims and misperceptions before publication, the need for better journalism from the media and better corporate communications from Barrick is clearly evident.

The final case of poor journalism relates to a mining accident in September 2008 in which it was reported that eight miners had been killed in a sand-filled pit 'run by Canada's Barrick Gold Corporation'.<sup>63</sup> The miners had reportedly been killed when wood used to hold up the walls of the pit to prevent collapses was sawn away and removed by 'unknown people'. The source of the claim that the miners were killed on a mine 'run by Barrick' was reportedly the Mara regional police commissioner. It is clear from research carried out for this report that neither Barrick nor any other industrial-scale miner in Tanzania (or elsewhere) would be involved in working 'sand-filled pits'. Such activities are conducted by artisanal miners and the accident in question is characteristic of the dangers of such mining. This is one of the motivations behind the Barrick artisanal mining project in the Mara region.

The truth behind the tragedy was that the accident occurred in artisanal diggings some 60 kilometres from the North Mara mine. Upon being notified of the accident, the volunteer rescue team from the Barrick North Mara mine flew to the site of the accident to assist with the rescue and recovery operation.

The conclusion drawn from these three incidents of poor journalism, low levels of understanding or simple malevolence towards the mining sector is that the government, media houses and mining houses are culpable and that all three must take steps to improve communications. In the case of the government, its expectations of the mining sector have to be informed by a better and more realistic understanding of the industry and the particularities of its Tanzanian operations. Moreover, it has a responsibility to manage public expectations in a more responsible manner. In the case of the media houses, journalistic training in reporting on the mining sector requires dramatic improvement, along with an improvement in the exceptionally poor conditions of service of journalists in Tanzania. In the case of the mining houses, and Barrick in particular, far more work is required to consult with and educate the government, the media and civil society about the entire spectrum of mining operations in Tanzania. To date, the company has been relatively ineffective (some argue too modest) in communicating the successes achieved in securing its social licence to operate in Tanzania. In 2009 the company took significant steps to address this lacuna by initiating regular informal briefings with a range of stakeholders, including the media, politicians and religious leaders, to improve both understanding and dialogue. More frequent on-site mine visits have been facilitated, leading to greater transparency, the breaking down of barriers, and the inculcation of greater trust between stakeholders and protagonists.

## CONCLUSION

This report has sought to document and illustrate a range of CSR programmes and interventions adopted by the world's largest gold-mining company in its Tanzanian operations. The benefits of some of these programmes are immediate and tangible, particularly those involving the construction of school and healthcare facilities. The electrification of mine sites is another area where Barrick's economic and financial interests have dovetailed with community and environmental interests. Other programmes such as the local farmer co-operatives and local supplier programmes are quantifiable and are showing encouraging progress and benefits. The exemplary CSR programmes around the Bulyanhulu mine have been in operation the longest, and these benefits are becoming increasingly tangible. However, it may be too soon to properly evaluate and measure the success and impact, or otherwise, of many other programmes. What is demonstrable is that the company has engaged in a wide range of interventions in the areas of health, education, environmental and local economic development that seek to make a contribution to the proximal community around the mine sites, as well as to longer-term regional and national development. It is also evident that Barrick has learnt significant lessons from its earliest Tanzanian operations and has sought to build these into the development of its new mine at Buzwagi in particular.

It is significant that CSR programmes promising sustainability and greater long-term success are those that are co-conceptualised and run by multiple stakeholders, more particularly the company, the Tanzanian government, aid agencies and NGOs, and local communities. The risk inherent in such programmes is the failure of one or other party to deliver on its commitments by virtue of capacity constraints or lack of political will. Capacity constraints are manageable and, indeed, programmes can be adjusted to account for this. Where political will is absent, however, even the most progressive, accurately costed and well-funded programmes fail to meet their stated objectives. Rent-seeking behaviour from wealthy individuals or politicians at the local level can also lead to well-designed programmes being still-born or aborted.

The legal and regulatory governance of the mining sector in Tanzania is relatively sound, but political leadership in relation to the mining sector is relatively poor and at times dilatory. Until the Tanzanian government at all levels takes greater ownership of the politics of mining in the country, the sector will be hampered in its operations and cannot fulfil the potential it sets for itself, nor that set by the government. Furthermore, the Tanzanian government and mining houses have failed to work together adequately to produce a new generation of Tanzanian mining specialists that can take the industry forward in order to reach its economic and developmental potential. As has been noted in the report, however, Barrick and the government have begun working on schemes to bring greater numbers of appropriately skilled graduates into the mining sector.

The levels of ignorance of and antipathy towards the mining sector in Tanzania are extraordinarily high. In the experience of the writer, these levels of ignorance and antipathy in Tanzania are higher than those found, for example, in Ghana, South Africa, Botswana, Namibia, Zambia and perhaps even the DRC. This, among other things, results in even the more progressive mining houses struggling to secure social licences to operate or not being given due credit for sound and sustainable policies, while smaller operators continually fail to adhere to the most basic labour and environmental standards without

public criticism. Furthermore, as critical as tax revenues are to the development of Tanzania, insufficient attention is paid to the broader economic potential of mining beyond revenue transfers. While industrial-scale mining is not a significant employer in absolute numbers, the ancillary economic and financial benefits of mining investment provide a unique opportunity for the Tanzanian government to leverage a host of training, social and local economic development benefits particularly to communities in the immediate vicinity of the mines. This potential is far from being realised in Tanzania and, given that minerals are a finite and non-renewable resource, each ton of ore mined that does not provide an ounce of local economic benefit is an unrecoverable and unnecessary waste.

## RECOMMENDATIONS

New discoveries are seldom made when conducting research of this nature. All the stakeholders interviewed had considerable expertise in their field of work, from technical and managerial to social and developmental. Moreover, members of the community who were interviewed, as well as NGOs and civil society organisations, have a wealth of history and experience in and around the mines and seldom benefit from the ‘intrusion’ of policy researchers and analysts. The best that can be expected is that by conducting research as an independent outsider, all stakeholders tend to engage in a process of self-reflection and evaluation of their own activities when responding to questions in interviews. It is hoped that this in itself has some value for interviewees. However, ‘overview’ observations are made by researchers that sometimes clarify or contextualise existing issues and challenges in such a manner as to assist with policymaking and programme reform. Below are a number of tentative and modest recommendations emerging from this research.

- The first recommendation is that the Tanzanian government should release its official response to the *Bomani Commission Report* without further delay. Uncertainty in the mining sector is undesirable and unnecessary. The government has a responsibility to create regularity and certainty, mining companies require regulatory certainty in order to make investment decisions, and the Tanzanian public deserves to know and understand the reasons behind the government’s policy on taxation of mining companies.
- The second recommendation is that the Tanzanian government and mining houses should move to full EITI compliance without delay. By so doing, greater revenue and fiscal transparency will emerge, which in turn will create greater certainty and confidence among civil society and local communities in relation to the mining sector.
- The third recommendation is for the creation of a national mining forum that would serve as a multistakeholder consultative body to deal with all aspects of mining development in Tanzania. It is recommended that the forum be representative of government (at all levels), business, NGO/civil society and community interests according to an agreed formula for representation. Such a national forum would provide a legitimate platform for the consideration and expression of all stakeholder interests, and would seek to harmonise these interests and derive a greater developmental thrust and impact from the mining sector.
- The fourth recommendation is that all relevant government departments, e.g. those responsible for mining, energy, education, training, trade, transport and security,

should develop a blueprint to maximise the benefits to the government of mining investment in Tanzania. In other words, instead of mining simply vesting with the relevant government department, it is proposed that all government departments and agencies involved in the mining value chain co-ordinate their efforts to ensure that they provide the best levels of service to the mining industry, while simultaneously identifying key opportunities to leverage the sector (such as technical training, infrastructure, energy and manufacturing).

- The fifth recommendation is that a greater share of mining taxes be transferred to regional and local government for use in the specific areas where the impact of mining is greatest. This can be done in accordance with agreed to formulae relating to population size and quantum of taxes generated, for example, but it is clear from the research conducted for this report that local government capacity is woefully inadequate to meet the array of demands and responsibilities expected of it, particularly in mining areas.
- The sixth recommendation is that the government should declare mining areas as preferential developmental zones in order to attract investment and services to these areas. By definition, mining is a non-renewable activity, and despite the considerable capital investment made in mines, in the medium to long term, all will close. The Tanzanian government must maximise the unique endowment it currently has for the longer-term benefit of the country. This will necessitate not only promoting skills development to service the mining sector, but, in the longer term, will require the promotion of skills leading to sustainable economic diversification away from mining.
- The seventh recommendation is for the donors, aid agencies and civil society to re-examine the role they can play in working with communities around mines. While it is vital that NGOs continue to play the role of civil society watchdogs to ensure the protection and advancement of social, economic and environmental rights around mines, far more can be done by co-designing developmental programmes with mining houses and the government. Some mining companies do indeed deserve to be demonised and protested against, and they should be permanently closed. However, those companies subscribing to the highest corporate governance and social responsibility standards nationally and globally and should be seen as potential development partners. This should not be seen as a blanket endorsement of big mining houses in Tanzania, but rather a recommendation that on a case-by-case, company-by-company, project-by-project basis, civil society, NGOs, aid agencies and donors should seriously look for projects that are sound, progressive and have a sustainable developmental impact around the country's mines. In addition to access to international capital (as well as having a vested interest in local development), mining houses possess a host of other in-house skills, such as engineering, planning, architectural, building and manufacturing skills, that can be utilised for the benefit of local development projects. In the case of Barrick, the company has already adopted this model of engagement with demonstrable success.
- The eighth and final recommendation is for mining houses in Tanzania to substantially improve their corporate communications with all stakeholders, including the government, donors, NGOs, civil society, communities and the media. Ignorance and suspicion unnecessarily hamper closer co-operation between mining houses and all other stakeholders, which in turn has a deleterious impact on potentially progressive



developmental policy formulation and implementation. Mining companies must work far harder and smarter to communicate the legitimacy of their operations, while acting transparently and in good faith when they fail to meet acceptable standards with respect to, for example, labour and environmental practices.

Mining houses face a choice in Tanzania. Either they must secure, maintain and constantly renew their social licences to operate or face an increasingly challenging operating environment. The overarching conclusion of this research report is that working collaboratively with the Tanzanian government at all levels, as well as with aid agencies and responsible NGOs and, most importantly, with communities themselves, progressive mining houses such as Barrick will not only secure a social licence to operate, but have the potential to make a significant and positive developmental impact in the medium to long term.

## ENDNOTES

- 1 Curtis M & T Lissu, *A Golden Opportunity?: How Tanzania Is Failing to Benefit from Gold Mining*, 2nd edition. Dar es Salaam: Christian Council of Tanzania, National Council of Muslims in Tanzania and Tanzania Episcopal Conference, October 2008.
- 2 Buzwagi was visited as a Barrick 'project', as it had not been commissioned as a mine at this time.
- 3 See, <http://www.globalreporting.org>.
- 4 Lassonde P, 'How to earn your social licence', *Mining Review*, Summer 2003, pp. 7–13, as quoted in Nelsen J & M Scoble, *Social License to Operate Mines: Issue of Situational Analysis and Process*. Vancouver: Department of Mining Engineering, University of British Columbia, 2006.
- 5 The original Bulyanhulu commercial gold mine was developed by Sutton Resources in 1996.
- 6 See Tanzania/Bulyanhulu Project01/Kankola, [http://www.cao-ombudsman.org/cases/case\\_detail.aspx?id=113](http://www.cao-ombudsman.org/cases/case_detail.aspx?id=113).
- 7 For LEAT's response to the CAO report, see <http://www.lead.or.tz/activities/buly/lead.response.to.cao.pdf>.
- 8 Interview with Gareth Taylor, regional vice president, Barrick Gold, Dar es Salaam, September 2008.
- 9 Fleisher ML, *Kuria Cattle Raiders: Violence and Vigilantism on the Tanzania/Kenya Frontier*. Ann Arbor: University of Michigan Press, 2000.
- 10 *Ibid.*, p. 120.
- 11 *Ibid.*
- 12 *Ibid.*, p. 124.
- 13 *Ibid.*, p. 125.
- 14 Reuters, 'Tanzania cattle clashes kill 12, uproot many more', 28 June 2009.
- 15 Fleisher ML, "War is good for thieving!" The symbiosis of crime and warfare among the Kuria of Tanzania', *Africa*, 72, 1972, pp. 131–49.
- 16 See Fleisher ML, 'Cattle raiding and household demography among the Kuria of Tanzania', *Africa: Journal of the International Africa Institute*, 69, 1999; and more generally in Tanzania, see Von Struensee V, *Widows, Aids, Health and Human Rights in Africa*. London: Crisis States Research Centre, London School of Economics, 2005.

- 17 During fieldwork at the North Mara mine for this report, stones were thrown at the author and certain areas around the mine were regarded as too dangerous to enter or to even leave the 4X4 vehicle.
- 18 While these attorneys are paid for by Barrick and thus their impartiality can be questioned, there are strong suspicions that some of them have colluded with land and compensation claimants to secure a slice of the compensation figure achieved.
- 19 Information provided to the author on a site visit to the North Mara mine in September 2008.
- 20 Interview with Dave Anthony, general manager, Buzwagi mine, September 2008. The author is grateful to Anthony for sharing the correspondence documenting the acquisition of the *myala*, its cost escalations, and the series of community and political interactions required to finalise its purchase.
- 21 See, <http://www.artisanalmining.org> for further details.
- 22 After the occupation of the mine by some 4 000 people in December 2008, the mine was re-fenced.
- 23 These events are termed by Barrick as 'intrusions' onto the mine and are documented by the company and its security guards. People caught committing an offence on the mine are photographed, recorded, documented and handed over to the local police for charging and possible prosecution. When visiting the North Mara mine for this report, the author witnessed tens rather than hundreds of people entering the mine unauthorised at any one time during day time, and in one event in December 2008 a reported 4 000 people entered the mine unauthorised.
- 24 During a follow-up interview with the Barrick regional vice president for Africa in April 2009, the author was informed that the company had identified and weeded out a number of Barrick personnel on the North Mara mine who had been engaged in an illegal relationship with illegal crushers and local criminals around the mine.
- 25 The most 'vocal' of these are entities affiliated with Protest Barrick.net, <http://www.protestbarrick.net> and the Tanzanian activist NGO LEAT, <http://www.lead.or.tz>.
- 26 See, <http://www.voluntaryprinciples.org>.
- 27 Gyuse T, 'Villagers fearful after mine water containment pond overflows', Inter Press Service, 18 May 2009.
- 28 Graphic evidence exists of the theft of the special PVC pond linings. The writer noted the use of the stolen PVC linings for floor and roofing material in the dwellings of the villages surrounding the mine.
- 29 See, in particular, *This Day* (Tanzania), 'Government under pressure to close down North Mara mine', 10 July 2009, as reproduced in <http://www.protestbarrick.org>. Taken from [http://www.commddev.org/userfiles/file/TOR\\_IntegratedDevelopmentActionPlanConsult.doc](http://www.commddev.org/userfiles/file/TOR_IntegratedDevelopmentActionPlanConsult.doc).
- 30 Taken from [http://www.commddev.org/userfiles/file/TOR\\_integrateddevelopmentactionplanconsilt.doc](http://www.commddev.org/userfiles/file/TOR_integrateddevelopmentactionplanconsilt.doc).
- 31 Interview with Gareth Taylor, regional vice president, Barrick Africa, April 2008.
- 32 This term was used by the regional vice president of Barrick in an interview with the author in September 2008.
- 33 See, <http://go.worldbank.org/64J6NBjY90>.
- 34 International Finance Corporation, *Performance Standards on Social and Environmental Sustainability*, 30 April 2006, <http://www.ifc.org/ifcext/...PerformanceStandards2006.../IFC+Performance+Standards.pdf>.

- 35 Related to the author by the family of the deceased owner of the building during fieldwork at Buzwagi, September 2008.
- 36 In an interview with the Barrick regional vice president in September 2008, the author was informed that Barrick had expected to sign the Buzwagi contract in Dar es Salaam, but that the company was informed that the minister had been called to London on official business. Rather than waiting for the minister to return, Barrick officials flew to London to join the minister and signed the MDA at his hotel. Barrick further contended that they 'had no problem' with opening MDAs to public scrutiny.
- 37 *This Day* (Tanzania), 'Buzwagi: Was the government taken for a ride?', 1 October 2007.
- 38 See, <http://www.iso.org>.
- 39 For full details, see, <http://www.cyanidecode.or>.
- 40 During the IDAP stakeholder workshop in September 2008, members of the community complained that dust thrown up by Barrick trucks around the North Mara mine was settling on local schools. The regional vice president of Barrick responded by instructing the general manager of the mine to ensure that this did not reoccur.
- 41 See Barrick's 2007 CSR report, <http://www.barrick.com/CorporateResponsibility/OurCommitment/Awards/default.aspx>.
- 42 The entire Jatropha biofuels project outline is captured in an internal Barrick project memo and summarised in the company's publication, '*Beyond Borders: Focus on the Environment*', July 2008, <http://www.barrick.com/Theme/Barrick/files/docs../BeyondBorder2008July.pdf>. This section of the report draws on both documents and is supplemented by interviews with Barrick Africa's environmental manager conducted in September 2008 and May 2009.
- 43 For more details, see, <http://www.unglobalcompact.org>.
- 44 It should be noted too that there is great sensitivity to this programme, given the significant number of Tanzania suppliers of Asian background compared to the number of 'African' (indigenous) Tanzanian suppliers.
- 45 On one of Barrick's mines, sheets of unused and unusable rusting iron mesh used to hold up underground rock were shown to the author. The mesh was unusable as the welds on the mesh were of inferior quality and thus unable to meet the safety requirements of the mine.
- 46 The author spent a number of days with the procurement manager of the Buzwagi mine travelling to local suppliers and bringing back samples of locally manufactured cloth and furniture, as well as food supplies.
- 47 Interview with Gerry Bouwers, Barrick supply chain manager, May 2009 and Barrick PowerPoint presentation used for a supplier seminar at Mwanza, 22 May 2009.
- 48 Interview with Dave Anthony, general manager of Buzwagi mine, September 2008.
- 49 Interview with Gareth Taylor, Barrick vice president Africa region, Dar es Salaam, April 2008.
- 50 For more, see, <http://www.care.org/>.
- 51 Barrick, *Beyond Borders: A Barrick Gold Quarterly Report on Responsible Mining*. Dar es Salaam: Barrick, December 2007.
- 52 The programme is documented in *Partnerships for Managing Social Issues in the Extractive Sector, Case Study 8, Development in Kahama District, Tanzania*, <http://www.bpd-naturalresources.org>.
- 53 See, <http://www.commddev.org/content/document/detail/1519/>.
- 54 It should be noted that during fieldwork in the Tulawaka mine district for this report, it was discovered that the ledger for water payment receipts had already been pre-completed at one solar-powered water pump and that there was no correlation between monies collected and recorded. Neither the person collecting and recording the water fee nor the representatives of

the District Council could account for this anomaly. Moreover, it was discovered that a water pump installed by Barrick near a village had been broken for a number of weeks. When asked why the pump had not been repaired using the money from water collection at the solar-powered well point, the person tasked with maintaining the water pump stated that insufficient money was available to repair the pump.

- 55 A small example of this ancillary provision of services noted during fieldwork was the use of the Barrick mine buses by the broader local community around Bulyanhulu.
- 56 Power cables are most efficient when pylons are aligned in a straight line and lose efficiency when their direction is altered. Thus, it was more cost-effective to move the existing school that lay under the path of the proposed TANESCO lines to Buzwagi than to change their direction so as to avoid hanging over the school. However, Barrick provided more classrooms of a better quality than had previously existed and also built staff buildings, accommodation for more teachers, and a better-equipped playground and facilities for the children.
- 57 In documentary form, see Norwegian Church Aid, *A Golden Opportunity*, DVD, 2008.
- 58 A popular Kiswahili version of the *Bomani Commission Report* is posted on the Tanzanian Policy Forum website, <http://www.swahili.policyforum-tz.org/files/ripotiyabomani.pdf>. The author was emailed an English version of the report.
- 59 *Tanzania Daily News*, 'What happened to the Bomani Report on Gold?', sponsored feature, 4 May 2009.
- 60 See, [http://goldprice.org/gold-price-history.html#1\\_year\\_gold\\_price](http://goldprice.org/gold-price-history.html#1_year_gold_price).
- 61 *This Day* (Tanzania), 'Barrick in alleged tax evasion scandal', 21 November 2006, <http://www.thisday.co.tz>.
- 62 Deo Mwanyika, chief executive officer, Barrick Tanzania, 'Press statement in response to *This Day* 21 November 2006 Barrick tax evasion allegations', undated.
- 63 Agence France Presse, 'Eight killed in Tanzania mining accident', 20 September 2008.

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