

SOUTH AFRICAN COAL MINING

2014



DIRTY POWER
AT WHOSE COST?

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ACKNOWLEDGEMENTS

This photo book was developed as part of the on-going work of the Mining and Extractives programme of ActionAid South Africa (AASA), which works with communities affected by mining. AASA's goal is to empower and support people living in poverty and marginalised communities across South Africa, with a special focus on women and children.

ActionAid commissioned and sponsored a research report on Coal Mining in Mpumalanga Province which forms the basis of the information contained in this book which seeks to bring the technical issues and stories the report raises to life through images.

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NB: The context of all images used in this publication can be found on pages 32 and 33.

DIRTY **POWER**



Introduction

Action Aid is an international non-governmental organisation working in 45 countries for a world free from poverty and injustice.

Action Aid in South Africa (AASA) has worked in collaboration with local organisations in five provinces since 2006. South Africa has very high levels of poverty, extreme inequality, and an unemployment rate of almost 40%.

In practice rights violations remain widespread and common despite a globally acclaimed progressive constitution and related legislative framework that assures these rights in theory. This can in part be attributed to the large scale failure in progressively transforming the economy.

Against this background, AASA focuses on the following programme areas:

- ▶ Women's and girls' rights
- ▶ Child and education rights
- ▶ Land and food rights
- ▶ Mining & extractives
- ▶ International engagement





This publication is a product of the AASA mining and extractives programme.

Up to the mid-1800s, South Africa was a largely agricultural economy. This changed with the discovery of diamonds in Kimberly, and later the discovery of significant gold deposits on the Witwatersrand in 1886, which launched South Africa as the biggest and richest gold producer in the world and set up the basis for the minerals energy complex that still prevails in the South African economy today.

South Africa's total reserves remain some of the world's most valuable, with an estimated worth of R30 trillion. Overall, the country is estimated to have the world's fifth-largest mining sector in terms of GDP value.

The damaging extractive methodologies of mining companies have led to far reaching environmental and health consequences for communities surrounding mining areas.

Mining houses occupy a strategically important part of the South African economy and since they wield enormous power and influence over the political structures of government, they are able to effectively influence the policy and regulatory frameworks within the mining sector. While workers within mining communities are relatively well represented through trade union structures, there is very little engagement with the communities located close to mining industries and which bear the social, environmental and economic brunt of mining activities.

One of AASA's key change promises is to ensure that by 2017, representatives (particularly women) from 100 communities impacted by mining in South Africa will be empowered to claim their rights from both mining companies and the state.



South Africa's economy is highly dependent on fossil fuels. Coal makes up roughly 91% of the fuel used in electricity production. It is estimated that as a country, South Africa can recover another 15–55 billion tonnes of coal. Thereafter, it will become too unprofitable to extract. The majority of South Africa's coal reserves and mines are located in the Central Basin, which includes the Witbank (Emalahleni), Highveld and Ermelo coalfields. Coal production in the Central Basin is likely to peak in the next ten years.

The National Development Plan (NDP) has identified the Central Basin as the heart of current exploitation of coal resources and has proposed a vision for the energy sector which promotes economic growth and development, social equity and environmental sustainability. The NDP has noted that in order to realise this vision, South Africa's energy system needs to be supported by effective policies, institutions, governance and regulation.



South Africa is a constitutional democracy, and the Constitution guarantees South African citizens a number of rights, including:

- ▶ the right to adequate housing (Section 26),
- ▶ the right to water and health (Section 27),
- ▶ the right to property (Section 25), as well as
- ▶ the right to an environment which is not hazardous/harmful to health or well-being (Section 24)

According to the Constitution, the government and courts are responsible for protecting these rights. However, the Coal Report highlights that these rights have not been fully protected and that the constitutional rights of people affected by coal mining are being compromised by the government and the mining companies despite the lofty visions and commitments.



NB: All information in this publication is derived from the Bench Marks Foundation Report entitled *South African Coal Mining* unless stated otherwise.

Mining companies are not bound by law to deal with the concerns raised by affected communities or individuals. The Mineral and Petroleum Resources Development Act (MPRDA) has been amended with the following key changes:

- ▶ Exclusion of the promotion of communities and their participation.
- ▶ Licenses for how water is used are no longer compulsory.
- ▶ Mining companies are no longer obliged to address the socio-economic needs of communities.





The Coal Mining Report focuses on the areas of eMalahleni Local Municipality and Steve Tshwete Local Municipality (Witbank and Middelburg). Both of these fall under the Nkangala District Municipality. This area is mined intensely for coal - with an exceptionally high number of coalmines, Eskom power-plants, as well as steel and chrome processing plants in the vicinity.

Emalahleni is home to many large industrial companies like Highveld Steel and mining companies such as Anglo Coal, Xstrata, BHP Billiton/Ingwe as well as energy-generating enterprises.

Emalahleni is a coal mining district with 22 coal mines in an area with a radius of no more than 20 km. There are many power stations (such as the Duvha Power Station), steel mills (Highveld Steel) and Vanadium Corporation nearby which all require coal.

The report therefore speaks to the Nkangala District communities. It is almost impossible to select any one community as all the communities in these two districts are near mining communities.

Professor John Ruggie was appointed by Kofi Annan (the UN Secretary General at the time) as Special Representative for Business and Human Rights, with the responsibility to develop a set of guiding principles that corporations should follow in order not to violate or compromise people's basic rights.

In 2008, Ruggie presented the “Protect, Respect and Remedy” framework based on three pillars:

- ▶ the duty of the State to protect human rights,
- ▶ the responsibility of companies to respect human rights, and
- ▶ access to remedy for those affected.



There exists a huge imbalance of knowledge and power between corporate and community stakeholders. When mining companies consult with local communities, the meetings are largely symbolic. In practice, these “consultation meetings” are simply a routine duty which soothes the consciences of government officials when mining and water licences are issued.



Communities complain bitterly about the dust which results from blasting and open cast mining as well as the lack of consultation across the life of operations, but their complaints fall on deaf ears. The communities’ troubles are complicated further by government officials actually enabling and allowing Anglo American Corporation PLC to renege on its social, environmental and other responsibilities. In all its divisions from platinum to coal, the company continues to “harvest” board representatives and BEE shareholders from senior figures of the ruling political party as a way of by-passing accountability through patronage.

As the main supplier of electricity, Eskom, supplies BHP Billiton’s smelters with power for less than the cost price, even though the cost of power generation has increased dramatically over the past five years. The pricing arrangement has been calculated by Chris Yelland (an energy analyst) to mean that BHP Billiton pays between 20c and 26c per kilowatt hour at its Richards Bay smelters. By contrast, Eskom has a production cost of 47c per kilowatt hour and supplies other

large industrial and mining customers at an average of 56–58c per kilowatt hour. Eskom supplies domestic uses anywhere between 88c per kilowatt to 140c per kilowatt, depending on the usage.

At the same time, communities affected by coal mining often have no access to electricity even though they bear the most direct cost on their health and safety.





Coal mining is associated with a number of hazards to health and the environment. Generally, coal mining puts strain on the environment during the extraction, processing, and transportation of coal to a power station. Human beings are also negatively affected in the coal fuel chain through exposure to harmful pollutants, as well as through injuries and fatalities.

The country has approximately 6 000 abandoned mines spilling acid water and heavy metals into the environment. These mines have been abandoned in spite of strict environmental and

water laws. The mining companies also ignore a legal requirement for mines to set aside funds for shutting down mines safely (found in the Minerals and Petroleum Resources Development Act).

Mines which are abandoned in this way transfer a major cost to society, as the impact on local communities is extensive. Large-scale coal mining companies tend to sell-off mines as they approach their 'end of life' stage. They are then bought by junior mining companies that do not have the resources or capacity to close down such mines properly.

Individuals and communities are concerned about the impact of mining on wetlands, streams and rivers. They point out that the mines in the area have a poor track record when it comes to preserving wetlands. They also express concern about the impact of mining on local streams and rivers such as the Wilge River.

The Department of Water Affairs has found that the major mining companies such as Anglo and BHP Billiton have little concern for water and environmental legislation or regulations.

The main impacts on water-based ecosystems (mainly from Gold, Uranium and Coal mining) include the following:

- ▶ Increased heavy metals in streams (heavy metals are dangerous to human health and the environment);
- ▶ Addition of toxic and non-toxic metals into the water supply;
- ▶ Acid mine drainage (which effectively increases the acidity of the water);
- ▶ Increased suspended solids (dangerous solid particles which are carried in the water but are not dissolved into it);
- ▶ Dissolved solids (rendering the water impure);
- ▶ Increased water hardness (i.e. increased mineral content in the water);
- ▶ Increased sulphates (which compromises the health of people drinking it);
- ▶ Increased trace metal concentrations (which can result in water which is poisonous);
- ▶ Decrease in dissolved oxygen (making the water deadly to fish); and
- ▶ Decreased pH (meaning the water is more acidic).







In 2010, the Department of Water Affairs published a report which found that extensive coal mining operations north and west of Emalahleni (Witbank) have resulted in many abandoned mine shafts and large areas of land which are sinking. This has resulted in widespread changes to the natural flow of local groundwater. It has also led to the contamination of groundwater as well as the Brugspruit due to water flowing through flooded mines.





A recent report by the Bureau for Food and Agriculture Production shows that “pollution in the Middelburg Dam [where BHP Billiton operates] exceeds the quality limits for water for human consumption, and the Witbank Dam is heading in the same direction.”

Apart from water pollution, the main impacts associated with coal mining include climate change impacts from greenhouse gases, human health burdens due to air pollution, fatalities and injuries due to coal mining and transportation, and impacts related to land use.

The Department of Environmental Affairs reported in 2011 that “The total estimated emissions of fine [dust pollution] on the High Veld Priority Area are 279 630 tons, of which approximately half is [caused by] opencast mine haul roads.” According to the Department Environmental Affairs, the total industrial sources are by far the largest contributors of emissions in the area, accounting for 89%.





Black lung disease – the common name for underground coal workers’ pneumoconiosis – has now also been found amongst workers who take part in surface coal mining. (This is according to an investigation by NPR News and the Centre for Public Integrity, with additional reporting by the Charleston Gazette).

The illness is directly caused by inhaling coal dust, which progressively builds up in the lungs until it can no longer be removed by the body. This leads to swelling, fibrosis (scarring of the lungs) and, in the worst cases, death





According to the Maize Trust of South Africa, “based on statistics from AGIS (2011) it was calculated that in the year 2007, Mpumalanga’s cultivation equalled a total of 993 301 hectares. If the current mining areas are overlaid with the latest field crop boundaries, a total of 326 022

hectares of farmland will be lost to mining and a further 439 577 hectares are at risk if the prospecting area is also transferred, totalling 765 599 hectares of cultivated land potentially transferred if all mining activities are taken into account.”



Mpumalanga is at the heart of the so-called maize triangle in South Africa, and coal mining is drastically reducing the land available for the growth of maize. Maize is the staple food of the black African majority in the country who also make up the bulk of the poorest of the poor. It is predicted that the loss of land to maize farming caused by coal mining will see a drastic reduction in the production of maize and therefore an escalation of food prices impacting negatively on food security of this majority.



Coal mining is a major contributor to acid mine drainage (AMD) in South Africa. Human exposure to AMD pollutants can occur through drinking contaminated water, eating contaminated food, or absorbing water or air pollutants through the skin. “Metals such as aluminium, copper, zinc and arsenic (all related to AMD effects) can concentrate in plant tissue when plants are exposed to elevated concentrations of these metals near mining activities.” If such plants are eaten by animals, the metal concentrations may be carried along in the food chain. Animals which drink contaminated water and/or feed on contaminated plants have been shown to accumulate metals in their tissue or in their milk. (Thus it can also be passed on by humans through breast milk and perhaps even compromised genes.)



On visits to Witbank's Klarinet section the research team and monitors came across seven poorly constructed, unsecured, and untended 'evaporation pans.' The team did pH tests which returned a reading of 2.5 on a standard HTH test kit for Chlorine, pH, Total Alkalinity and Acid Demand. The reading implies acid levels that are too high to sustain biological life in the water, and inconsumable as drinking water for humans or animals. The evaporation pans had no fencing, the warning signs were completely inadequate, and the site had no exclusion zone being completely accessible to the public. The evaporation pans were not lined, implying that the acid water could freely seep into the ground water impacting on boreholes in the vicinity. The pans flowed freely downstream into the Olifants River.





“Studies of the health effects in coal mining communities have found that community members have a 70% greater risk of developing kidney disease and a 64% greater risk of developing chronic obstructive pulmonary disease (COPD) such as emphysema. They are also 30% more likely to report high blood pressure (hypertension).”

In 2006, it was reported that mercury emissions in South Africa were second only to China,

contributing more than 10% of global mercury emissions. This was reportedly mainly from coal combustion (releasing the mercury that occurs naturally in coal) and gold mining. People who have been exposed to mercury exhibit neurotoxic effects. Debilitating diseases like Multiple Sclerosis, Parkinson’s Disease, and Alzheimers have all been linked to mercury poisoning. Mercury poisoning is particularly problematic in children and developing fetuses.



The land on which Coronation informal settlers reside in Likazi is extremely dangerous. South Africa's underground coalmines are extremely shallow and given to collapsing into sinkholes – especially during the rainy season. The shafts also fill up with water, producing acid mine water which flows into both the ground water and the surface water. Coal waste spontaneously combusts and residents risk being severely burned.

The coal waste pile on the edge of the informal settlement at Coronation mine was being re-

mined by informal miners. These miners dig for coal to sell to people in informal settlements who do not have access to electricity as well as to obtain coal for their own energy needs.

Matthew Hlabane, our guide in Likazi, informed the research team that an adult and two boys died recently when the tunnel they had dug under the mine waste collapsed on top of them. Mines that are not properly closed serve as an invitation to the large numbers of unemployed people in South Africa to engage in uncontrolled and unregulated (i.e. illegal) informal mining.



There are increasing numbers of children drawn into this activity. While the major mining corporations truthfully deny employing child labour, their history of not taking responsibility for mine closures is leading to the re-emergence of child labour on our mines.

Mining companies in South Africa regularly break environmental, labour and social laws.



They are not even afraid to admit that they do so, as many Bench Marks Foundation reports have shown over the years, because they know that there would be no consequences. Operating without water licences, starting opencast operations in close proximity to communities, causing the development of urban slums and squatter camps through the 'living out' allowance, not controlling dust and smoke emissions are all standard practice. When senior politicians are on the boards and are shareholders, the state becomes toothless. It may bark now and then, but it hardly ever bites.



The need for rights and responsibilities to be paired with appropriate, accountable and effective government action – when violated or ignored – is not met at all. Communities and workers are left powerless. They cannot expect help from the state or from the mining companies. Consequently, communities have lost faith in democracy.

South Africa is faced with a crisis of representation and communities and workers are increasingly resorting to violence in their protests. On the other hand, the mining corporations respond with the militarisation of mine security and use their influence on the government to call for increasingly vicious repression by the state against its own citizens.

Global best practice guidelines on corporate responsibility are not implemented in a meaningful manner and mining companies fail to act according to the principles of human rights and community engagement (indicated in frameworks such as the United Nations Guiding Principles on Business and Human Rights or the Bench Marks Principles).





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If urgent steps are not taken to address the valid grievances of mining communities by means of truthful, transparent and equal consensus-seeking community engagement practices, the social, labour and economic crises currently plaguing the industry are set to continue.





RECOMMENDATIONS

The Report recommends to the Department of Mineral Resources and the Industry and the Chamber of Mines *the establishment of an independent central fund on which mine impacted communities could draw from to appoint their own expert law, geological, environmental, social and economic experts so as to offset the imbalance in knowledge and power that exists between mining corporations and communities in the consultation processes;*

The Report recommends to the Department of Mineral Resources and the Industry and the Chamber of Mines *the establishment of an independent national grievance and arbitration mechanism to which mining impacted communities could refer all mine impact related grievances;*

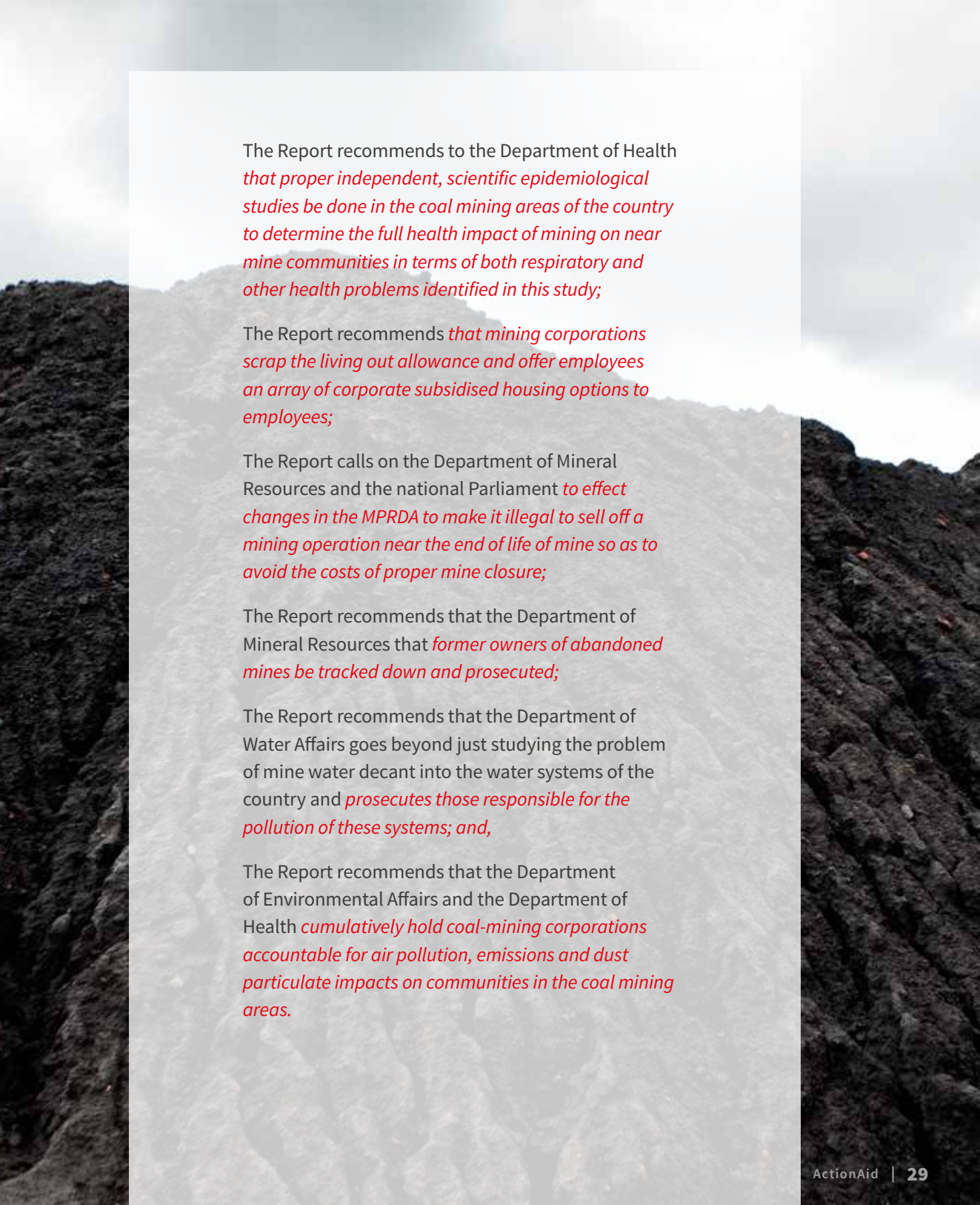
The Report calls for *voluntary principles to be replaced with statutory and legally binding regulations and obligations as far as mine impacts are concerned. It is clear that voluntary principles have minimal impact;*

The Report calls for *the Department of Environmental Affairs and the Department of Water Affairs to rigorously apply the “polluter pays” principle to ensure that limits are applied and regulated, and that severe penalties are imposed on major polluters ;*

The Report calls for *absolute obligatory transparency by mining corporations regarding mine closure funds and plans;*

The Report calls *on the industry to effect and conduct community consultation, negotiation and participation across the life of mine from greenfields to closure;*

The Report calls for *the obligatory adoption of the community’s informed continuous right to consent or refuse proposed mining operations and developments;*



The Report recommends to the Department of Health *that proper independent, scientific epidemiological studies be done in the coal mining areas of the country to determine the full health impact of mining on near mine communities in terms of both respiratory and other health problems identified in this study;*

The Report recommends *that mining corporations scrap the living out allowance and offer employees an array of corporate subsidised housing options to employees;*

The Report calls on the Department of Mineral Resources and the national Parliament *to effect changes in the MPRDA to make it illegal to sell off a mining operation near the end of life of mine so as to avoid the costs of proper mine closure;*

The Report recommends that the Department of Mineral Resources that *former owners of abandoned mines be tracked down and prosecuted;*

The Report recommends that the Department of Water Affairs goes beyond just studying the problem of mine water decant into the water systems of the country and *prosecutes those responsible for the pollution of these systems; and,*

The Report recommends that the Department of Environmental Affairs and the Department of Health *cumulatively hold coal-mining corporations accountable for air pollution, emissions and dust particulate impacts on communities in the coal mining areas.*









Photo Information (from left to right on each page)

PAGE	LOCATION	DESCRIPTION	COMMUNITY MEMBERS
Front cover	MNS	Large mining vehicles haul heavy loads which causes major damage to road infrastructure over time. Johanna makes a fire in an imbawla on the side of the road, close to her home.	Johanna Mavuso
Title page	MNS	Johanna takes care of her sick mom, Tina, who is bedridden because of severe dust exposure.	Johanna Mavuso & Tina Kheswa
2 & 3	Emalahleni	Coal mining in Emalahleni	
4 & 5	Emalahleni	A mine dump in Emalahleni	
5	Ermelo	Gandries, Andries, Alfa, Thema and Josiah are miners in Ermelo.	Gandries Lukhele; Andries Msumbane; Alfa Zibane, Themba Magagula, Josiah Mthethwa
6	Emalahleni	A coal power station in Emalahleni	
7	MNS	Josephine collects coal as the only source of energy for her home.	Josephine Malepe
8	MNS	An early morning in MNS	
9	Coronation	Informal households and communities are located very close to mining operations. There are major incidences of land subsidence in Coronation and this a serious risk for communities living in the area.	
9	Coronation	Precious moved to South Africa, from Mozambique, with her grandchildren in order to seek a better life. The family live in a single room shack in Coronation.	Precious Maziui, Peto Maziui (22 years old) and Thelma Maziui (12 years old)
9	MNS	Sonto, who is unemployed, has lived in MNS all her life and has seen very little improvement.	Sonto Mabena
10	MNS	Josephine, Aneas and Christine dig for coal in MNS. The buckets of coal are lugged to their homes to use for heat and cooking.	Josephine Malepe (orange dress), Aneas Magagula & Christine Malalha (blue t-shirt)
11	MNS	Thandi, like the majority of residents in the MNS, has no access to electricity. She uses coal to fire-up an imbawla which is used for generating heat and cooking.	Thandi Thwala (31 years old)
12 & 13	Emalahleni	The coal mining and power stations in Emalahleni have both contributed to the contamination of water sources in the area.	
12 & 13	Coronation	Coal mining and power generation have led to increased heavy metals in streams.	
13	Traansvaal & Delagoa		
13	Vosman	Contaminated water is piped out of a mine in Vosman. This area is not cordoned off and is easily accessible to children in the area, making it a serious health hazard.	
14	MNS	Siyabonga collects water at the communal tap in MNS. He then transports it back home in his wheelbarrow.	Siyabonga Palapala (8 years old)
15	MNS	Annah and Enia collect water at the communal tap in MNS. They transports the containers of water back home in wheelbarrows.	Annah Mashimige (59 years old) & Enia Muigungi (38 years old)
16 & 17	MNS	Large mining vehicles haul heavy loads which cause major damage to road infrastructure over time. These vehicles are in transit throughout the day, passing through MNS and posing a real risk to the community, particularly children, with increased levels of dust, increased numbers of accidents and the destruction of paved roads (potholes). Johanna sits close to the side of the road, and plays cards with her friends.	Johanna Mavuso

PAGE	LOCATION	DESCRIPTION	COMMUNITY MEMBERS
17	Komati	The coal power station in Komati emits large volumes of pollution into the atmosphere.	
18	Mgewane	Mpumalanga is at the heart of the so called maize triangle in South Africa. Coal mining is drastically reducing the land available for the growth of maize.	
19	Blesbokspruit	Acid mine water flows into both ground and surface water, polluting these sources. This violates the right of communities to have access to clean drinking water.	
20	Clewer	The high levels of acid in water sources, around coal mining areas, have rendered it unsuitable to sustain biological life. The water is also dangerous for human and animal consumption.	
21	Blesbokspruit	Acid mine drainage negatively impacted the fertility of soil in Blesbokspruit rendering certain regions barren.	
22	MNS	Tina is bed ridden due to severe dust exposure. She is unable to take care of herself and her three daughters; Zanele, Zinhle and Johanna.	Tina Kheswa, Zanele Mavuso & Zinhle Magagula
22	MNS	Johanna, who is 12 years old and the eldest of the children, looks after her mom and younger siblings.	Johanna Mavuso & Tina Kheswa
22	MNS	Tina is unable to work and the family's only income is a government grant.	Tina Kheswa
23	MNS	David, who lives in MNS, has had serious kidney failure. According to David, his condition is the result of consuming contaminated water. David's health continues to deteriorate, his lungs are under strain due to the high levels of dust and fumes, generated from the mines, that pollute the air.	David Kgomo (32 years old)
24	Coronation	Qibelo, Aniya and Simphiwe are orphans who live with their grandparents in Coronation. They often play with their friends in areas that are prone to land subsidence and spontaneous combustion.	Qibelo Zulu (13 years old), Aniya Mlambo (10 years old) & Simphiwe Mabilane (9 years old)
24	Coronation	Children in Coronation often play in dangerous areas due to the lack of playground facilities.	
24	Coronation	The land on which Coronation informal settlers reside is extremely dangerous. The underground coalmines are shallow and are prone to collapsing into sinkholes.	
25	Coronation	Selinah is standing in a sinkhole while digging for coal that will be used at home for heat and cooking. Her 4 year old son, Mahlabi, plays about as he waits for her.	Selinah Ntuli (40 years old) and her son Mahlabi Ramoesho (4 years old)
26	Protest	MACUA Protest held on 27th, 28th and 29th August 2013 at the Mining Lekgotla to call on Government and Business to consult with communities on the impacts of mining on their livelihoods and health. MACUA continues to call for greater community participation in issues affecting communities affected by mining.	
26 & 27	Protest		
28 & 29	Emalahleni	Coal fields in Emalahleni.	
30 & 31	Ermelo	Shoes is an artisanal miner in Ermelo and works long hours for very little return.	Shoes Dube (34 years old)
32 & 33	MNS	Sarah, who has lived in MNS all her life, has seen very little improvement. She lives in a caravan with her family and has no access to electricity. Sarah collects coal and wood to make fire that is used for cooking and heat.	Sarah Nigosi (51 years old)

MACUA

NATIONAL COORDINATING COMMITTEE

PROVINCE	COORDINATOR	CONTACT DETAILS
Kwazulu Natal	Sifiso Dladla Lindy Ngubane	+27 (0) 788498621 +27 (0) 733638776
Northern Cape	Tebogo Moitsi	+27 (0) 824563508
North West	Chris Molebatsi Mpho Makgene	+27 (0) 713782540 +27 (0) 787255635
Gauteng	Meshack Mbangula Boitumelo Mphahlele	+27 (0) 749775588 +27 (0) 723240941
Mpumalanga	Linda Mbonani Nomacebo Mbayo	+27 (0) 786084870 +27 (0) 793002331
Limpopo	Sello Kekana Betty Laka	+27 (0) 796319803 +27 (0) 760037144
Free State	Mothobi Tshabalala Mpai Nkali	+27 (0) 789278775 +27 (0) 825359543



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<p>PHOTOGRAPHY</p> <p>Ilan Godfrey</p> <p>Current Location - Cape Town, South Africa</p> <p>South African mobile: +27 (0) 72447 4604</p> <p>International/UK mobile: +44 (0) 7796 40 57 88</p> <p>Email: mail@ilangodfrey.com</p> <p>Website: www.ilangodfrey.com</p> <p>Skype: ilangodfrey</p> <p>Twitter: @IlanGodfrey</p>	<p>DESIGN & LAYOUT</p> <p>Pam Shoulder</p> <p>The Training School – A division of Fortify Trade & Invest (Pty) Ltd</p> <p>www.thetrainingschool.co.za</p> <p>Location: 2 Tottenham Avenue, Melrose Estate, Johannesburg, South Africa</p> <p>South African mobile: +27 (0)836009970</p> <p>Email: pam@thetrainingschool.co.za</p> <p>Website: www.thetrainingschool.co.za</p>	<p>COPY EDITOR</p> <p>Timothy Hacksley</p> <p>South African mobile: +27 (0) 836930541</p> <p>South African fax: +27 (0) 865523626</p> <p>Email: timothyhacksley@gmail.com</p>
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Postbus 10707
1001 ES Amsterdam
Tel: 020 520 62 10
IBAN: NL13INGB00000026655
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