Sustainability report

To be the global leader in sustainable gold mining

Dear stakeholders,

It is with great pleasure that I present to you the sustainable development section of our annual report. Although sustainable development is presented as a separate section, we firmly believe that our business success is due to our approach of integrating sustainability into all aspects of our decision-making. Sustainability is a cornerstone of our business and is a working concept that is inherent in our DNA.

Sustainable development is integrated as a component in our all-in cost (NCE) of operations and as such critical as we target a long-term 25 per cent NCE margin. Our approach to sustainable development is one premised on the simple notion of managing our risks responsibly and capitalising on our opportunities. At the same time we are adopting an ever-increasing measure of proactivity to the long-term sustainability of the business.

This implies that we integrate sustainable development considerations into our activities right from the earliest stages of exploration through to feasibility studies, construction, mining and, ultimately, to mine closure. At the exploration stage we currently assign around ten per cent of our budget to sustainable development projects. We believe that applying such an early commitment to responsible practices has resulted in the success of our Cerro Corona Mine in Peru, which has evolved into a world-class operating mine that is economically viable, environmentally responsible and enjoys considerable social support. A case study of the cradle-to-grave approach adopted at Cerro Corona is presented on page 97 of this report.

Owning some of the world's best gold ore bodies enables us to pursue our vision of being the global leader in sustainable gold mining. We are cognisant of the fact that all of our mines have finite lives, which makes it even more critical that we convert the natural capital of our ore bodies into broad social benefit. We undertake this transfer in a manner that provides superior returns to our shareholders while being environmentally responsible and beneficial to our communities.

Sustainable development is a working concept that evolves with societal needs and expectations and our approach to sustainable development is thus informed by continuous stakeholder engagement. As you read through the following pages detailing our achievements and challenges in the various areas of sustainable development, I would encourage you, as a key stakeholder, to give us feedback on how we are faring on this journey.

NJ Holland Chief Executive Officer

Introduction



Visual inspection at the South Deep twin shafts

"To be the global leader in sustainable gold mining"

The mines that Gold Fields develops typically have a ten to 50-year horizon and their success can only be ensured if we invest in their long-term sustainability. A mine's successful operation is inextricably linked to the skills and expertise of the people we employ, the companies with which we do business, the safety of our operations and the nature of the relationships that we build with neighbouring communities and governments. It is both a matter of corporate responsibility and business sense that our operations do not damage the environment or cause harm in any way to the diverse groups of people with whom we interact. As such Gold Fields' vision *to be the global leader in sustainable gold mining* is underpinned by a sustainability policy that is fully integrated with the way we do business.

A careful consideration of sustainable development is critical for the global mining sector, as, historically, the mining industry's social and environmental legacy has not always been a positive one. As a company that sees itself operating for the long-term future, Gold Fields needs to ensure that its impact is beneficial – economically, socially and environmentally. This remains a key responsibility for the managers and executives of the company and informs the business decisions we make regarding safety, our people, communities, the environment and the evaluation of new investments.

As a company that mines in four countries on three continents, from 4,000 meters below the surface of the earth to 4,000 meters above sea level, and an exploration or project development presence in 12 countries across all continents, each of our operations has to deal with unique operational, economic, social and environmental challenges. The success of our business is inextricably bound with meeting these challenges successfully.

Sustainable development is not new to Gold Fields, but the past two years have seen a consolidation of the Group's sustainable development systems and structures, which are now integrated into a single, universal sustainable development framework. This incorporates best practice policies that have been consolidated into eight pillars of sustainable development, and refined to meet our operational needs. These include:

- Occupational health and safety;
- Human rights;
- Ethics and corporate governance;
- Risk management;
- Environment;
- Material stewardship and supply chain management;
- · Community and indigenous people; and
- Stakeholder engagement.

While the operational roll-out of these policies and principles is the responsibility of management within each project or operation, the Safety, Health and Sustainable Development Subcommittee of the Board, supported by sustainable development managers in each region, monitors the Group's overall sustainable development performance and drives our ongoing sustainability strategy. In our sustainable development framework we are guided by the sustainability framework of the International Council on Mining and Metals (ICMM), which includes adherence to its ten principles of sustainability and the commitment of member companies to transparent public reporting, comprehensive risk management, sound corporate governance and independent, external assurance. We also subscribe to the United Nations Global Compact and seek to align our operations and strategies with its ten principles in the areas of human rights, labour, environment and anti-corruption.

Finally our sustainability policy has been informed by the Global Reporting Initiative's (GRI) Sustainable Reporting Framework. The GRI has developed a framework which guides reporting on triple-bottom-line issues by companies that subscribe to it. Most multinational companies now report in accordance with the GRI framework and can self declare their level of GRI application. We declared a B+ GRI application level last year. This year we have self-declared an A+ GRI application level as required for ICMM members. Our auditors, PricewaterhouseCoopers, have third-party assessed our A+ self declaration. (See page 141 for their Assurance report). For a detailed breakdown of our performance against the GRI indicators go to our website at www.goldfields.co.za.

The following provides a headline overview of our performance in key areas that are critical to our stakeholders.

Occupational health and safety

We are continuing to make progress in reducing fatalities at our mines. But, despite a drop in fatalities from 22 to 18 during the year under review – all of them at our South African mines – we are well short of where we had hoped to be. Our policy dictates that *if we cannot mine safely, we will not mine,* and every fatality strengthens our resolve to mine with *Zero Harm.* This philosophy has been entrenched in the behaviour and attitudes of our people at both an operational and a corporate level. It has also spawned a number of initiatives to improve safety, such as the safe production management programme at our South African mines.

The Fatal Injury Frequency Rate (FIFR) for the Group improved by 15 per cent from 0.13 for financial 2009 to 0.11 in financial 2010, while the Serious Injury Frequency Rate (SIFR) improved by 11 per cent from 2.52 to 2.23 over the same period. The Lost Time Injury Frequency Rate (LTIFR) also displayed a slight improvement from 4.35 in financial 2009 to 4.31 in financial 2010. Finally, the Medically

Treated Injury Frequency Rate (MTIFR) fell from 12.2 in financial 2009 to 7.53 in financial 2010, a 38 per cent improvement.

Occupational diseases remain an ongoing challenge, with silicosis, tuberculosis (TB) and noise-induced hearing losses (NIHL) being the most pressing, particularly at the South African operations. Overall TB rates dropped from 22.2 to 18.6 per 1,000 employees between financial 2009 and financial 2010 and silicosis from 5 to 2.7 per 1,000 employees. NIHL cases also decreased from 1.5 in financial 2009 to 0.9 per 1,000 employees in financial 2010. Project 4M, implemented to help the company meet the South African Mine Health and Safety Council's 2013 milestones for silicosis and NIHL, is now well under way. Following baseline



To be the global leader in sustainable Gold mining

Values	To be the global leader in sustainable gold mining.					
	Safety	If we cannot mine safely, we will not mine.				
۲	Responsibility	We act responsibly and care for the environment, each other, and all of our Stakeholders - our employees, our communities and our shareholders.				
9	Honesty	We act with fairness, integrity, honesty and transparency.				
	Respect	We treat each other with trust, respect and dignity.				
?	Innovation	We encourage innovation and entrepreneurship.				
1	Delivery	We do what we say we will do.				

Introduction continued

studies, we have begun making a range of engineering changes to reduce exposure to these risks at source.

People

The responsible management of human resources is central to meeting our goal of being the global leader in sustainable gold mining. Reaching our target of five million ounces of gold a year in production or development by the end of 2015 will only be possible if we have a motivated, productive and skilled workforce. A comprehensive remuneration and incentive policy is in place to attract and retain the right talent and we invested R264 million during the year under review in training, education and development programmes. About 33,000 employees and

7,000 contractors received training to increase their skills and enhance the capacity of our workforce to meet our 2015 target.

2010 also saw the full implementation of our regionalisation strategy, enabling each region to determine the appropriate structure and complement for its workforce within the overall Gold Fields guidelines. During the year under review none of the regions implemented forced retrenchments, though the South Africa Region offered voluntary separation packages.

A focus of our human resources strategy in financial 2010 was the development and implementation of a human rights policy,

Overview of our key sustainability issues for financial 2010

Highlights

- Development of new vision and values for the company that assists with the roll-out of the Group Sustainable Development Framework.
- Finalisation of the Safe Production Rules and the roll-out to all operations.
- Completion of the DuPont follow-up assessment reviews in South Africa and their commencement in the other regions.
- Hard Rock Safety Award to Driefontein for the most improved mine. Kloof was awarded second place and Beatrix fourth.
- > Three consecutive quarters at Beatrix without a fatal accident.
- Damang operating for 428 days without a Lost-Time Injury. The mine being recognised as Ghana's Safest Mine.
- Cerro Corona achieving 4.2 million man-hours without a Lost-Time Injury and winning the Annual Mining Safety Award from the Peruvian Mining Safety Institute.
- South Deep's old-order mining licence converted to a new one.
- Total spend of R150 million on our socio-economic investment activities.
- Zero human rights transgressions.
- > No material breaches of our code of ethics reported.
- No material fines were imposed on the company.
- > ISO 14001, OHSAS 18001 and AS 4801 certifications maintained.

- > ISO 14001 certification achieved for Cerro Corona; all operations are now certified.
- > Cerro Corona achieved OHSAS 18001 certification.
- > All operations have been upgraded to **full compliance** in terms of the Cyanide Code.
- Expanded carbon footprint calculations to include supply chain.
- > Placed fourth in South Africa's Carbon Disclosure Project.
- Carbon policy developed.
- First gold miner to make use of carbon credits to fund a safety or climate change project – the Beatrix Methane project.
- > Beatrix project awarded **Deal of the Year** by UK's *Energy Risk* magazine.
- > Development and implementation of the Well-being Strategy.
- Total spend of R5.1 billion on procurement of local services and goods.

Lowlights

- Eighteen fatalities in the South Africa Region.
- Seven Level 3 environmental incidences.
- Difficulties with wage negotiations in the South Africa and West Africa regions.
- > Proposed rise in royalties at our Ghanaian operations.
- > Sharp increases in energy costs across our operations.

covering topics as wide ranging as trade union membership and discrimination. Our new human rights policy, together with the Gold Fields' code of ethics, adherence to international principles of good governance and corporate responsibility, as well as consistent reference to our six core values, ensure that our operations are equipped to identify potential abuses of human rights and implement corrective actions where required. This has undoubtedly contributed to the fact that we had a clear record regarding human rights abuses during the period under review. To further entrench adherence to these rights we have rolled out a human rights toolkit to all regions, designed to help managers and employees identify and recognise potential human rights risks. Human rights training will also be introduced for new employees at our induction centres in the current financial period.

Environment

Water is a key environmental issue at all of Gold Fields' operations and our water management strategy incorporates a comprehensive approach to limiting the use of water and mitigating the impact our mines have on water quality. Our total water withdrawal for the year was 63 million k ℓ , while total discharge was 77 million k ℓ , both slight improvements on financial 2009 when measured per unit of production.

We remained within all legal limits for water quality during the year and made satisfactory progress in our continuous water monitoring programme at Driefontein as well as our Tingo Valley Acid Mine Drainage (AMD) Rehabilitation Project at Cerro Corona. This rehabilitation project is linked to a legacy site that was not rehabilitated prior to Gold Fields' involvement in the area. As part of our social responsibility strategy Cerro Corona has implemented a programme to mitigate the AMD emanating from the legacy site.

AMD is becoming a critical issue for the South African mining sector and, while not directly impacted, Gold Fields is playing a key role in formulating an industry response. Our mines on the far West Rand have the potential to cause AMD in future. However, due to the current dewatering process this will not become an issue until the current mined out areas are flooded, post closure. Gold Fields has engaged with numerous stakeholders and formulated a strategy designed to prevent the formation of AMD. We are in the process of implementing this strategy, which includes treating our water discharges to potable

standards. This project, which has been named Liquid Gold, will be subject to extensive feasibility studies and will be linked to off-take agreements for the treated water. At all operations we continue to engage closely with local communities, government structures and environmental interest groups on issues of water management.

The Group reported no major environmental incidents or fines for non-compliance during the year under review, but we had seven Level 3 incidents unchanged from financial 2009. All these incidents have been addressed and their impact mitigated.

Energy, climate change and carbon footprint

Gold Fields' environmental responsibility is closely tied to issues of energy, climate change and carbon footprint. In South Africa in particular our carbon footprint is dictated by the use of coalfired energy purchased from South Africa's energy utility, Eskom. Energy saving is thus a key component in our integrated carbon management strategy, which was finalised during the year. The strategy provides a framework for the inclusion of carbon and climate change-related issues into business planning models and decision-making processes throughout the organisation.

Gold Fields is already recognised as a leader in the South African mining industry in dealing with carbon-related issues. For the fourth year in a row we submitted a disclosure report to the National Business Initiative's Carbon Disclosure Project. We were ranked fifth overall on the Carbon Disclosure Leadership Index: JSE 100 for 2009, similar to our ranking in 2008. Total carbon emissions for calendar 2009 amounted to 7.4 million tonnes, similar to the level of emissions in 2008.

Gold Fields is making use of the sophisticated market mechanisms that have developed around the carbon credit market. During the year under review we sold Certified Emissions Reductions (CERs), the financial securities used to trade reduced carbon emissions, to fund a methane gas project at our Beatrix Mine. With this deal we not only became the first gold mining company in the world to utilise CERs, but have set the scene for the use of carbon credits to fund other greenhouse gas and energy-saving projects at Gold Fields (see case studies, pages 116 and 117).

Energy supply and pricing is an issue at all our operations, but has required particular attention in South Africa following

Introduction continued

on Eskom tariff increases of 25 per cent for each of the next three years. As a company we invested significant financial and human resources in energy-saving initiatives around the globe in financial 2010. This has seen our South African electricity consumption decline by five per cent (around 30 MW) to below 600 MW and we are seeking similar energy savings in the current financial year.

Stakeholder engagement and social development

Local communities grant us our social licence to operate and it is imperative that we take an active interest in their development and well-being. Such engagement begins at the exploration stage; in projects such as Komana in Mali (see case study page 112), we invest around ten per cent of our exploration budget on sustainability issues. Before we invest though, communities are engaged to determine their economic, social and environmental requirements. This engagement continues through the construction and production phases of the mine and continues beyond its closure. It is a cradle-to-grave approach which is entrenched in our approach to sustainable development.

Our stakeholders include a wide range of groupings: local, regional and national governments, regulators, NGOs, employees and contractors, formal and informal communities, industry associations and academics institutions. We engage with them in formal and informal meetings and the key issues raised by them inform the content and substance of our sustainability programmes.

During financial 2010 we invested around R150 million directly in sustainability projects covering a wide range of areas, including enterprise development and employment creation, infrastructure, health and education. In addition we make it a priority to employ local labour and contractors, wherever possible. This is in line with our policy that our manpower make-up in every region should ideally reflect the demographics of the host country.

Supply chain management and material stewardship

A critical part of our commitment to local communities is making use, wherever possible, of local suppliers and contractors. Our involvement with these suppliers and contractors extends beyond procurement spend and extends to training and mentoring support. In return we expect these firms to adhere to the same high standards of sustainable development that we do. They are audited and closely monitored for their management of human rights, environmental and safety issues. We plan to roll out the newly developed human rights toolkit to all suppliers and contractors to raise their awareness of these important issues.

These responsibilities extend to the treatment of our waste material, which is often undertaken by contractors. Material stewardship is critical in ensuring that we leave a limited environmental footprint. During the year Gold Fields became the first mining group, registered as a signatory with the International Cyanide Management Institute, to obtain accreditation and full compliance for all its eligible operations under the International Cyanide Management Code. This accreditation extends to all transport and other major suppliers and contractors, which have to provide a certificate of safe disposal and are also subject to our normal ISO 14000 certification audit. Tailings and waste rock remain our big-ticket items when it comes to material wastage and during financial 2010 we made further progress in retreatment to extract further value from them. A large portion of our industrial waste, such as oil, grease and steel, is recycled.

Corporate governance and risk management

Underpinning our sustainable development programme is a commitment to sound corporate governance standards. Corporate ethics and corporate governance are strategic imperatives for the success of Gold Fields' business. During financial 2010 the Board of Directors adopted the recommendations on good corporate governance as contained in the King III Report on Governance for South Africa, which became effective on 1 March 2010 and will be implemented fully in our next financial period. No material transgressions of our ethics policy were reported during the period under review. In addition, no significant fines or non-monetary sanctions for non-compliance with legal requirements have been levelled against the company.

Gold Fields also supports the principles and processes of the Extractive Industry Transparency Initiative through its membership of the ICMM.

Gold Fields has a well developed enterprise-wide risk management (EWRM) process, which has been in place for a number of years. The overriding purpose of EWRM is to assist the company in achieving its business and strategic objectives, support the company's efforts to achieve the highest levels of corporate governance and achieve full compliance with the requirements of the King III Code.

Case study – Cerro Corona – A business case for sustainable development



Cerro Corona Mine in Peru

In a mere five years, Gold Fields' state-of-the-art Cerro Corona Mine in Peru has become one of the star performers in the company's suite of assets. Currently producing about 90,000 ounces of gold a quarter at a notional cash expenditure of just over US\$500/oz, this mine has become a model of operational and financial viability. But it's also a role model for cradle-to-grave sustainable development. Considering its humble beginnings as a derelict mine site, the successful development of Cerro Corona can be attributed to a large extent to applying best sustainable development practice from the early exploration stage to the ramp-up to full production.

Early on, significant investments were made to ensure the sustainability of the proposed operation. These investments took many forms, from engaging the local communities to best practice with regard to environmental management. It was underpinned by a commitment to sound governance principles. Even

before the mine reached its prefeasibility stage, extensive engagement with local communities and providing early job opportunities created the basis for sound development. Many hours were spent discussing the plans for the mine with local community members, leading to long-term agreements that prioritised local suppliers and employees, socio-economic and enterprise development, as well as a focus on best environmental management practice.

Today Cerro Corona is a working model for sustainable development and a mine that lives our credo of being the global leader in sustainable gold mining. Its successes over the past five years include:

- An outstanding safety performance confirmed by OHSAS 18001 certification and a number of local and national safety awards.
- ISO 14001 certification for its environmental management system; again the mine has achieved awards for its environmental performance.
- The establishment of a range of socio-economic investments ranging from the provision of education facilities to the development of alternative livelihood projects. Investments in agricultural projects in the area stand out. These projects have seen, amongst others, a 50 per cent rise in farmers' meat production, a considerably higher yield from pasture land, an artificial cattle insemination programme and construction of a US\$400,000 dairy plant.
- Employment has been created for local community members either through direct employment or by supporting the use of local suppliers and contractors. Many of our suppliers have used their Gold Fields contracts to grow their operations to provide services to other companies in the area and increase their employment of local labour (see case study page 121).
- Permanent engagement structures have been established to ensure ongoing positive relations with our stakeholders.
- Best practice governance policies and systems.
- A comprehensive risk management system which evaluates potential risks and ensures that mitigatory actions are in place.
- The Gold Fields code of ethics is entrenched and anonymous tip-off service providers have been established.
- A human rights training toolkit has been developed and is being integrated into training processes. Associated grievance mechanisms
 have been implemented that cater for disputes with external as well as internal parties.

Economic impact

Gold Fields prides itself on being a responsible corporate citizen with all the responsibilities and obligations that come with this position. In this sustainability report we outline in great detail our programmes in the various areas that are grouped under the heading of sustainable development: human resources; health, safety and well-being; environment; energy and carbon management; supply chain management and material stewardship; and social responsibility and stakeholder engagement.

For many stakeholders – from government to local communities – their interaction with Gold Fields is increasingly being defined by the company's sustainability programme. But what this overlooks is the more important contribution the company makes in terms of economic wealth generation, which has contributed to economic growth and poverty reduction for almost 125 years. We view this aspect as our main contribution to the well-being of the countries in which we operate.

In the financial year under review the economic value Gold Fields has distributed amounts to around R20 billion.

The economic value distribution during financial 2010 is broken down as follows:

- Almost R10.6 billion in wages, benefits and contracts paid to our 46,700 full-time employees and significant numbers of contractors working at our mines;
- Tax and royalty payments of around R2.7 billion in financial 2010;
- Procurement spending of over R5 billion;
- Dividend and interest payments of about R1.6 billion; and
- Corporate social investment spending of around R150 million.

The economic contribution of our operations in the four countries we operate in – South Africa, Peru, Ghana and Australia – differs widely, led by the estimated three per cent of gross domestic product (GDP) in Ghana, where Gold Fields is the largest mining company. But it is safe to state that in the local communities adjacent to our mines the role of Gold Fields is inextricably linked to their economic welfare.

Mineral wealth to national wealth

Ensuring that mining contributes to economic development and poverty reduction is a critical issue for many countries. The International Council on Mining and Metals (ICMM), of which Gold Fields is an active member, states that over 50 countries are significantly dependent on mining in that the sector provides at least six per cent of exports or plays a critical role in the domestic economy. The recent boom in mineral exports and prices has also generated billions of dollars of extra revenues for governments of resource-rich countries. More is in store given that China's demand for metals is forecast to grow two to four times over the next 25 years, according to the World Bank.

Past experience has demonstrated that, under the right regulatory and political conditions, mining can provide an important, even critical, contribution to economic growth. Countries like Canada, Australia and South Africa have used their mineral wealth as a springboard to broader economic development.

In a number of mineral-rich countries emerging from periods of chronically poor economic performance, such as Ghana, Mali and Peru – all countries in which Gold Fields is either mining or exploring – mining has provided an important kick-start to growth.

South Africa

Number of employees	43,462
Salaries and contractors (R million)	7,047
Taxes (R million)	696
Procurement spend (R million)	6,505
CSI spend (R million)	42

Ghana			
Number of employees	2,514		
Salaries and contractors (R million)	1,462		
Taxes (R million)	1,004		
Procurement spend (R million)	5,949		
CSI spend (R million)	58		

An equal number of mining-dependent economies though have underperformed their peers and in some cases the "resource curse" – the over-dependence on minerals and metals for national income – has led to significant damages to non-resource sectors of industry and instability caused by fluctuating commodity prices. The challenges associated with translating mineral wealth into national wealth are manifold and well documented: mining revenues have been squandered by governing elites, fuelled corruption and, in extreme cases, funded civil wars and trans-boundary conflicts.

The right public policies will define the success of the conversion rate from mining to economic development and solutions to this challenge are increasingly understood. In a recent paper the ICMM listed some of the key policies required:

- Sound macro economic policies, such as careful management of exchange rates and volatile income tax.
- Transparency in how mineral revenues are reported and spent.
- Improvement in state governance.
- Public investment focused on development priorities.
- Companies giving priority to local employment and procurement.

Public imposts on the mining industry

The mining industry has to make investment decisions for the longterm and timeframes span into decades not years. The investors who put up the risk capital, often in the billions of dollars, are required to take a long-term view of their investment. Gold Fields, for example, is looking at a more than 40-year time horizon for its South Deep Gold Mine, with shareholders willing to spend well over US\$1 billion in bringing the mine to full production.

This long timeframe defines the case for sustainable business: an investment can only be recovered by ensuring that the mineral wealth is extracted safely, it benefits the communities impacted by the project and does not compromise the environment.

However, despite our solid sustainability track record, we are increasingly witnessing a high, and rising, level of interference in our operations from governments, communities, organised labour and non-governmental organisations in all the countries in which we operate. Mining and mineral rights are viewed as part of the national patrimony and in some cases their ownership has reverted to the state. Increasingly though these stakeholders are also demanding a say in how mining operations are managed and run. The imposts have manifested themselves in a number of ways: higher taxes, such as the proposed Minerals Resource Rent Tax (Super Tax) in Australia and higher royalty taxes in Ghana and South Africa; restrictions and regulations on ownership and requirements to fill the socio-economic gap left by inadequate public services.

As we have demonstrated, Gold Fields is both a committed corporate citizen that takes its sustainability responsibilities extremely seriously and a creator of significant economic value to adjacent communities and the countries in which it operates. However, it is equally important that shareholders, who after all provide the risk capital, are rewarded for their investment.

It is vital that shareholders' demands are balanced with those of our other stakeholders, who in most cases do not provide investment capital. However, at present, the increasing levels of interference from outside stakeholders are threatening the sustainability of many mining operations. If the balance is not restored we fear that future investments in mining projects will be severely impacted; it is understandable that investors would not want to risk their capital in such an environment. The socioeconomic benefits that sustainable mining offers would thus be lost to many communities and countries.

Peru	
Number of employees	310
Salaries and contractors (R million)	597
Taxes (R million)	593
Procurement spend (R million)	1,178
CSI spend (R million)	27

Australia	K .
Number of employees	454
Salaries and contractors (R million)	1,526
Taxes (R million)	388
Procurement spend (R million)	3,851
CSI spend (R million)	1

Our people

1

Our people

Gold Fields' 50,000 employees are the most critical stakeholders in the company's effort to become the global leader in sustainable gold mining. They contribute immeasurably to the company's ability to achieve its triple-bottomline targets. If we are to achieve the ambitious production goals we have set ourselves – namely to have five million ounces of gold a year either in development or in production by 2015 – we need to have a well-informed, trained, motivated, productive and healthy workforce.

Converting workers at Gold Fields into owners of the company will make a major contribution towards achieving future human resource goals. It has always been our aim to ensure that every employee in the company owns shares in Gold Fields. In this regard the company has developed an Employee Share Option Scheme that will see category 3 to 8 employees receiving a 10,75% equity interest in Gold Fields' South African assets. This transaction is expected to be concluded by the end of calendar 2010.

Our responsibility towards our employees starts with the average eight hours they spend at the workplace, but extends to the other 16 hours of the day as well. For this reason we spent the 2010 financial year entrenching our 24 Hours in the Life of a Gold Fields Employee programme, which was launched early last year throughout the Group.

This programme starts with ensuring that, in return for their labour, our workers receive market-related compensation. In addition generous incentive and bonus schemes are in place to raise the output of our staff and help us reach maximum efficiencies. The 24 Hours programme also includes components to ensure that employees are well housed, have access to recreational activities and enjoy a healthy lifestyle. We continued to roll out our R550 million employee housing project, launched in South Africa in 2009, and handed over 192 homes to employees and their families during the year. Health, safety and wellness are integral parts of this programme and are dealt with in detail in the next section of the sustainability report.

Our other human resource-related sustainability issues relate to training, human rights, organised labour, transformation and diversity.

Employee engagement and labour relations

Various structures and engagement forums allow for two-way dialogue between organised labour and company management, including inter alia communication channels with HR managers on all sites; employee representative committees; website, intranet, newsletter and campaignspecific communication; and employee climate surveys. These channels provide Gold Fields with an important sense of the material issues and concerns of its diverse group of employees.

South Africa and Ghana have strongly unionised environments with 80 per cent of South African employees and 93 per cent of Ghanaian employees belonging to unions. Operations in both countries have formal structures in place to engage with trade union representatives, many of whom are full-time labour organisers at our mines.

During the year under review the Ghanaian operations experienced a one-day unprocedural strike action during wage negotiations. The matter was settled through negotiations.

No employees at our operations in Australia and Peru have opted to join an organised labour movement.

Over the years Gold Fields' relationship with trade unions has matured as the company has maintained open and ongoing communication with this important stakeholder group. In South Africa we invested in a number of initiatives to improve labour relations during the year. This included a leadership development programme



20,000

10.000

South Africa



2006 2007 2008 2009 2010

International

South Africa (93%)
 Ghana (5%)
 Australia (1%)
 Peru (1%)

SA employees (HDSA%)



Employees wages and benefits (Rm)



Our people continued

offered to all union leaders to enhance their business acumen and knowledge about the economics of mining.

Improving our understanding of employees' most material issues is equally important and to this end we have proposed a new employee relations model and revised engagement structures in the South Africa Region. This follows an analysis of existing problems in our relationship with organised labour. The model was presented to union representatives for feedback and input in April 2010. This, together with the results of an employee climate survey conducted in financial 2010, will inform our future approach to employee relations.

Transformation and diversity

Transformation and the creation of a diverse and demographically representative workforce is an important sustainability issue at Gold Fields. The company strongly supports legislation and guidelines that promote equal opportunity and demographic representation of its workforce reflecting the wider population. In South Africa employment equity is a national imperative enshrined in the Employment Equity Act and a key component of the Mining Charter that filters through to the social and labour plans of our mines. While not legislated, the employment of local people in Ghana and Peru is considered best practice and is a necessary ingredient for positive community relationships.

Good progress has been made in Peru, where all of our employees are now local, and in Australia, where the operations are managed to a large extent by Australians. The Tarkwa Mine in Ghana is run by a Ghanaian national and Ghanaians are increasingly being elevated to senior management positions at all operations. Because skills are scarce and expatriate positions highly valued in Ghana, Gold Fields faces a retention challenge in this region. However, remuneration packages are highly competitive and continue to attract top talent.

South Africa presents our biggest transformation challenge and while we have made good empowerment progress in middle management tiers, where 32 per cent of employees are

Case study – Human rights toolkit encourages vigilance about potential abuses

Being a mining company in developing countries comes with a huge burden of responsibility in the area of human rights. Gold Fields is determined to maintain an exemplary human rights record, which is an important part of our alignment with the United Nations Global Compact and our membership of the ICMM.



Our human rights toolkit

More importantly, these responsibilities are enshrined in our human rights policy. The company has a responsibility to educate employees and contractors to ensure that human rights abuses do not occur. The challenge for a company as globally diverse as Gold Fields, however, lies in the fact that human rights issues differ from region to region, so a one-size-fits-all approach was never going to be suitable in rolling out human rights education.

Enter the human rights toolkit, launched across all our operations during the year. Informed by the Global Reporting Index (GRI) and developed in conjunction with human rights experts, the toolkit includes region-specific case studies of human rights abuses that illustrate the key risks for our operations.

This compact box challenges employees' knowledge of human rights issues. A board game highlights gaps in their knowledge, while a DVD, facilitator's guide, training slides, workbook and assessment questions teach them how to identify, avoid and prevent human rights abuses. The flexible toolkit also includes training material to suit different job grades and disciplines, and has been translated into Spanish for use in our South American operations.

"Our next goal is to roll out a similar intervention for suppliers to ensure that they too have a human rights record that's beyond reproach," says Nisha Mowjee, Human Resources Manager, International Operations, who was instrumental in developing the toolkit.

historically disadvantaged South Africans (HDSAs), much remains to be done before senior management levels are satisfactorily representative. Our drive to transform Gold Fields has been given added momentum with government's proposed update to the Mining Charter, which requires that 40 per cent of positions at all levels are filled by HDSAs by 2014. At present we have 36 per cent representativity at these levels. Table 1 below provides our employment and equity breakdown.

Table 1: Gold Fields SA Region workforce profile as at 30 June 2010

Occupational level	Male				Female				Foreign nationals		
Occupational level	А	С	I	W	А	С	I	W	Male	Female	Total
Senior management Professionally qualified and experienced specialists and	9	2	5	63	2	0	2	4	4	0	91
mid-management Skilled technical and academically qualified workers, junior	171	15	41	558	73	7	18	114	25	0	1,022
management, foremen and superintendents Semi-skilled and discretionary	2,145	48	25	2,118	357	14	7	293	664	5	5,676
decision making Unskilled and defined decision	12,857	18	4	489	978	10	1	190	9,793	32	24,372
making	9,920	3	1	55	1,033	2	0	0	4,382	99	15,495
Grand total	25,102	86	76	3,283	2,443	33	28	601	14,868	136	46,656

NB: A = African; C = Coloured; I = Indian; and W = White



Crew replacing liners inside mill at Beatrix

Our people continued

Our primary response to the transformation challenge has been to invest heavily in education and training and we are seeing some promising results from this investment. But it is a long-term process and most mining engineers, for example, will require years of hands-on experience before they can be elevated into more managerial positions. While we wait for this crop of leaders to emerge we will have to recruit senior black managers externally into key positions.

In line with our transformation commitments, we have also targeted a higher representation of women at all levels in the company. At present women make up around seven per cent of our workforce, still short of the 2014 target of ten per cent set for the mining industry by the charter. In addition to inadequate availability of skills, the physical demands of mining make it particularly difficult to attract women to the sector. The appointment of a black female chair by November this year should provide further impetus for progress on this front.

Attracting and retaining skilled people

Global shortages in technical, engineering and Mineral Resources skills remain a challenge across the Gold Fields Group, and each region has strategies in place to attract, develop and retain the best skills available. We have always put a strong emphasis on training and during the year invested R264 million in internal training and skills development initiatives. Each employee received 35 hours of training on average last year.

The accredited Gold Fields Business and Leadership Academy continued to play an important role in developing the skills required by the company for optimal performance. During the year 9,992 employees completed qualifications at the academy, while many other employees underwent further training during financial 2010. This ranged from courses in adult basic education to advanced mining and technological studies.

Gold Fields has for decades engaged with academic institutions and relevant government departments to help improve the quality and quantity of engineering graduates in South Africa. It is therefore pleasing to see that our investment in bursaries is generating a steady supply of black engineers and technicians, 72 of whom were employed full time in the company during the year, while 117 continue to pursue tertiary studies. In 2009 Gold Fields awarded 124 university bursaries, 378 technical learnerships and 40 postgraduate assignments. It will take time for these recruits to gain enough hands-on mining experience to be elevated to more senior positions, but we are confident that the programme will create a robust pipeline of highly skilled HDSA candidates and usher in a new breed of management to the company.

To strengthen the skills pipeline in South Africa further we announced a R28 million investment in skills development through a three-year sponsorship of the mining faculties of the University of the Witwatersrand and the University of Johannesburg. In terms of the sponsorship, the universities will receive a combined once-off capital injection of R8 million followed by R6 million a year for three years. In return Gold Fields is afforded naming right status for the infrastructure that it sponsors as well as participation in advisory committees at the two universities. Amongst others the funds will be used to equip mining design laboratories; for upgrading and new equipment for existing design laboratories; and salaries of full-time senior tutors at the faculties.

In other countries too Gold Fields is developing closer relationships with tertiary institutions. Ghana's second batch of 10 sponsored engineering apprentices is currently in the process of completing the second year of study at the Takoradi Technical Institute (TTI) in Tarkwa. The skills development of these students is augmented by their practical work experience at our engineering departments at the mines.

The South American region has formed alliances with a number of tertiary educational institutions to deliver training programmes on leadership, human rights, executive coaching, technical skills and financial skills. These institutions to date include the University of Piura and DBM Peru. The company is also finalising relationships with three other universities.

Leadership development

The company's leadership development programme, piloted in the South Africa Region in financial 2009, focuses on ensuring that all executives and senior managers are equipped to fill vacancies when needed and have a wider understanding of all the issues confronting the company's leadership. Altogether 16 senior managers joined the pilot programme on a full-time basis for eight months. The outcome of this pilot study was extremely positive and during the year under review the programme was successfully launched in Peru. The West Africa and Australasia Regions concluded the design and exploratory phases and will launch the programme in the final quarter of 2010. A total of 23 Ghanaian employees completed supervisory, management and leadership training while 16 protégés were assigned mentors for ongoing, hands-on training and development. Around 242 training events focusing on supervisory and team leadership skills were held at the company during the year.

The Australasia Region ran several leader training programmes during the year, focusing on supervisor training, Occupational health and safety law for supervisors, frontline management and individual coaching. Employees trained in management and supervisory skills increased during financial 2010 to 74 per cent of identified employees.

The South America Region's management and supervisory training focused on developing supervisory capabilities in mine operations, geology and the mineral resources divisions of the company. Around 29 per cent of managers and 28 per cent of supervisors are involved in the leadership training programme being run in conjunction with the University of Piura.

Human rights

Adherence to human rights is a relatively new segment in the corporate HR practice. It has developed sophisticated tools to prevent and monitor infringements ranging from the use of child labour and forced labour to racial and gender discrimination, as well as upholding rights to freedom of association such as membership of trade unions. Gold Fields' human rights policy strictly enforces the elimination of any significant risks to these rights. Internal grievance mechanisms also allow employees and contractors to raise possible human rights infringements.

During financial 2010 human rights was one of the focus areas of the human resources department, which kicked off the campaign with the launch of a toolkit for HR managers (see case study, page 102). The toolkit and accompanying awareness programmes are currently being rolled out in all the regions.

Longer term it is envisaged that adherence to human rights is integrated into all investment agreements as well as contracts with suppliers.

Case study – From mine labourer to community relations



Charles Stofile

When Charles Stofile was a schoolboy he dreamed of a career in politics, but the reality of apartheid South Africa in the 1980s severely limited his options and his first job at Gold Fields was as a general mine labourer.

Today he stands in shoes that are vastly different from the miners' boots he once filled. As head of Stakeholder Engagement and Local Economic Development at Beatrix Mine, Charles has come a long way. His career has been characterised by self-motivation and a willingness to grab opportunities for learning and improvement afforded by Gold Fields.

"To improve my prospects as a miner I did the company's Blasting Certificate, but then my focus changed and I realised I wanted to be in a job dealing with people and their development, where I could make positive changes in the community in which I lived," he says.

To get there Charles first did a management programme through the University of Cape Town, before taking management capacity and project management training courses at the Gold Fields Academy. "Studying while working full time and meeting your responsibilities as a family man is tough, but I believe you have to make sacrifices if you want to get ahead," he says.

The studies paid off and Stofile climbed the ranks from mining team leader to Human Resources and Sustainable Development Officer, then Sustainable Development Superintendent, before taking up his current position. "It was a bold step for Gold Fields to establish the Academy when it did and it certainly helped me take a 200 per cent leap in my career," he says.

Health, safety and well-being

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Health, safety and well-being

Safety is the cornerstone of sustainability at Gold Fields. The statement, that *if we cannot mine safely we will not mine* is more than just a philosophy; during the year the prioritisation of safety over production resulted in an estimated 722 kg of gold not being mined. More importantly, together with the safety credo *stop, think, fix, verify and continue*, it has initiated a change in the way that the company and its people think about issues of safety in mining. There is a realisation amongst our people that it is indeed possible to mine without injury or fatality and that the target of *Zero Harm* at our operations is achievable.

However Gold Fields is a long way from achieving its ultimate ambition of *Zero Harm*. During financial 2010 the target of reducing fatalities at the South African operations by a third was not met. A total of 18 employees tragically lost their lives at our South African operations. We owe it to those who have died to further improve on our safety performance.

The key safety statistics (see accompanying graphs) show that while many safety metrics show improvement, there are still areas where we are lagging.

In the South Africa Region, the Fatal Injury Frequency Rate improved by 18 per cent from 0.16 in financial 2009 to 0.14 in financial 2010 and the Serious Injury Frequency Rate by 14 per cent from 3.22 to 2.76 over the same period. The Lost Time Injury Frequency Rate showed a marginal improvement of nine per cent from 5.38 in financial 2009 to 4.91 in financial 2010.

The South America Region reported no fatalities. The Lost Time Injury Frequency Rate improved by 28 per cent from 0.25 in financial 2009 to 0.18 in financial 2010, but the Medically Treated Injury Frequency Rate showed a slight regression from 0.90 to 1.00. Critically, the Cerro Corona Mine received its OHSAS 18001 certification.

The West Africa Region also had no fatalities but other safety standards unfortunately regressed. The Lost Time Injury Frequency Rate declined from 0.31 in financial 2009 to 0.37 during the year under review, while the Medically Treated Injury Frequency Rate regressed from 0.88 to 1.95.

In Australia our operations had no fatalities but the Lost Time Injury Frequency Rate weakened from 0.94 in financial 2009 to 2.00 in financial 2010 while the Medically Treated Injury Frequency Rate regressed from 9.44 to 10.47.

Various health and safety programmes, rolled out during the year, have made some impact but further work is needed before we are anywhere close to achieving our targets. Incentivising our employees is a critical component and the achievement of safety targets accounts for between a third and up to 50 per cent of their bonuses and incentives. A similar emphasis is being placed on the health and well-being of our staff. We realise that accidents are more likely if our employees are unwell as a result of occupational and other diseases. During the year under review Gold Fields entrenched its efforts – as part of its 24 Hours in the life of a Gold Fields employee programme – to combat the impact of diseases and encourage a healthy lifestyle.

Engaging employees on issues of safety

Management, employees and contractors all play a crucial role in achieving health and safety goals. Employees are represented at various levels on health and safety committees and on a range of statutory and voluntary engagement forums between supervisors, line managers and organised labour. General health and safety topics are also covered in formal agreements with trade unions and during financial 2010 we also initiated a tripartite forum between the company, government and labour.

General and job-specific health and safety training forms part of induction, and is reinforced annually through refresher training. Risk-specific training is also provided where needed.

Quantifying our health and safety risks

Safety is the number one priority at all our operations, but it enjoys even greater emphasis at our South African operations, where deep underground and labour-intensive mining continues to claim the lives of our employees and contractors.

The most significant risk arises from fall of ground, linked to gravity and seismicity. In total fall of ground related accidents comprised 39 per cent of the 18 fatalities in financial 2010 compared with 59 per cent of 22 fatalities in financial 2009. While fatalities caused by gravity increased to five in financial 2010 from two in financial 2009, seismic related fatalities came down sharply to two in financial 2010 from 11 previously. Such improvements are in part attributable to the work done by the Seismic Task Team (see case study, page 106). Number of fatalities











Health, safety and well-being continued

High levels of mechanisation, together with the relative shallow nature of the ore bodies in the Australian underground mines, mean employees there are not as exposed to gravity and seismicityrelated safety hazards as they are in South Africa. Similarly the open-cast mines in Ghana and Peru pose a much lower injury and fatality risk. At those mines vehicular accidents and hand-tool injuries pose the greatest injury concerns.

The nature of open-cast operations also poses a much lower occupational diseases risk, and silicosis, chronic obstructive airways disease (COAD) and tuberculosis (TB) are not a significant issue in the Australasian, West African and South American regions.

They are, however, a key risk in the South African Region. HIV/Aids, while not an occupational disease, compounds the risk of TB and the high rate of HIV infection in the general South African population, coupled with the dust-exposure risk associated with gold mining, places South African gold miners at the top of the TB risk category.

Noise-induced hearing loss (NIHL) is also a key occupational health risk, that is monitored and actioned at our South African and Australian operations.

Initiatives to improve safety performance

Our pro-active approach to safety has been instrumental in achieving performance improvements during the year. The *Safe Production Rules* were successfully rolled out to all operations in the group in all relevant languages.

In South Africa they have been fortified by the implementation of the *Safe Production Management Programme* (SPM), the original five pillars of which were consolidated during the year into a focus on two critical areas: risk reduction and compliance. Initiatives actioned through the safe production management task team were instrumental in improving safety at the South African operations. Other programmes are being planned, including a behavioural based safety programme, which has been designed for roll out in the 12 months to end-June 2011 in the South Africa Region to reduce accidents caused by negligence or non-adherence to standards.

A progress assessment was carried out by the DuPont consultancy during April as a follow-up assessment to the initial audit carried out in 2008. The assessment has shown that the South Africa Region has made good progress towards establishing a culture where safe production and *Zero Harm* are reflected as a standard way of working.

The Australian operations continued to entrench the highly successful *Zero Incident Process* (ZIP) safety training programme, which uses psychologically based interventions to bring about behaviour change. During the year, the programme was extended to all major underground contractors. Ghana's "safety referee" system, introduced at Damang Mine, continues to entrench vigilance and improved safety behaviour through a system of discipline and reward.

Many operations also improved reporting methods during the year. The Tarkwa Mine now reports an average of 2,900 hazards a month compared to a total of 1,020 for the previous year, and both Ghanaian mines include all contractor and minor injuries requiring any form of medical treatment in their MTIFR statistics. Australia's St lves operation has expanded the scope of LTIs to include injuries that cause lost-time many months after the initial incident.

Case study – Seismic Task Team makes good progress



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Frans Castelyn at the Seismic lab

The Seismic Task Team, formed last year under the leadership of rock engineer Frans Castelyn, has already made great strides in quantifying the risk associated with seismicity and put strategies in place to reduce the exposure of Gold Fields' workers to seismic events. This has been instrumental in reducing the operations' fall-of-ground (FOG) injuries by 38 per cent for the current fiscal year. Fatalities linked to seismic events have fallen to two in financial 2010 from 11 in the previous years.

These major advancements are the result of the combined efforts of a team of highly qualified and experienced mining seismologists, and some of the best seismic systems in the country, all stationed at Gold Fields' Seismicity Laboratory at Driefontein.

At South Africa's Driefontein and Kloof Mines, underground geophones equipped with three-way sensors detect seismic events and send the data through to a centralised control room, alerting the Seismic Task Team whenever a potentially dangerous seismic event has occurred. The team analyses the data to determine a more precise location within a 30 meter margin of error, before sending this information through to the shaft at the mine where the event took place. The entire process can take as little as three minutes and actively saves lives.

"On the team's recommendations, Gold Fields has also implemented centralised blasting, whereby all blasting takes place during a specific time window when there are no workers underground. Our research shows that seismic action is directly related to blasting activity and that 70 per cent of seismic events occur within two hours of blasting, so this strategy drastically reduces the exposure of our workforce," explains Castelyn.

Reducing the burden of occupational diseases

All employees undergo initial and annual medical surveillance, the scope and practice of which is aligned to local legal requirements and regional health and safety risks. These tests allow for prevention, early identification and treatment of occupational diseases.

Our most important occupational diseases intervention is Project 4M, aimed at reducing silicosis and noise induced hearing loss at the South African operations in line with the Mine Health and Safety Council Milestones for 2013. Gold Fields is fully committed to meeting and exceeding these targets. Engineering controls reduce exposure at source, while administrative control, training and awareness entrench behavioural change.

We are making some progress. At the end of financial 2010 96 per cent of equipment measured generated a sound pressure level below 110 dB, a key indicator for the December 2013 NIHL milestones. Only four per cent of the individual gravimetric dust sample measures taken at the same time were above the occupational exposure limits of 0.1 mg/m³, which is within the 2013 silicosis milestone indicator of not more than five per cent.

Because of the high rate of co-infection, the South Africa Region consolidated its disease management approach into a single unified strategy that incorporates HIV/Aids, other sexually transmitted infections and TB. Our voluntary counselling and testing (VCT), rates are only 44 per cent of the workforce, and more work remains to be done to meet our 100 per cent VCT target. We continue to raise awareness amongst employees and are investigating partnership opportunities with government to achieve the national goal of testing 15 million people by June 2011.

During financial 2010 993 employees in the South Africa Region joined the high-active anti-retroviral treatment programme (Haart). This was in addition to the 794 employees who remained on Haart during the year.

In Ghana, Gold Fields continues to monitor and treat all cases of malaria among employees, and to educate and train community members. The HIV/Aids programme provides employees and contractors with access to a personalised, confidential health risk assessment and tailored health improvement plan that includes optional HIV/Aids testing. The programme was extended to dependants of employees and community members during the year.

Australia's St lves operation is investigating the use of sintered filters to reduce 99 per cent of diesel particulate at source and expects to be in a position to report on their impact over the next 12 months.

Well-being

The 24 Hours in the life of a Gold Fields employee programme, is premised on the understanding that the role of a company extends beyond the eight hours an employee spends at the workplace. Ensuring a safe workplace, providing staff with decent housing, offering a nutritional diet and encouraging workers to live a healthy lifestyle all form part of the programme. Sport is a critical component in this strategy and we harnessed our staff's enthusiasm for soccer to encourage active participation in sports. We started upgrading and investing in new sporting facilities at all our operations to encourage employees to lead a healthier lifestyle.

Case study – Gold Fields nurse leads by example



Vicky Gumede

Vicky Gumede's story begins like so many others. Months and months of feeling sick pointed to a deeper underlying health issue. "I started to get sick, tested positive for TB, went on medication but ended up falling ill again," says the auxiliary nurse from the Gold Fields Medical Centre at the Leslie Williams Hospital in Carletonville.

Fortunately, advice from her mother meant that Vicky's story doesn't end like so many others. "She thought it was time I had an HIV/Aids test. I was so afraid but I went to my neighbour for counselling and got tested the next day," she relates. The HIV positive result was unsurprising but no less devastating for that. Vicky's CD4 count – the measure of her immune system – was just 17 (a healthy person has a CD4 count of between 600 and 1 000).

"When I came back to work I told my manager that I was HIV positive and he encouraged me to seek treatment through the Gold Fields ARV programme," Vicky explains. That was in 2006. Today, she's living proof that a positive HIV result need not be a death sentence. "My CD4 count is now 826 and my viral load negative, meaning that there is an undetectable amount of virus in my blood," she says proudly.

Vicky's path to recovery inspired her to share her story with colleagues and fellow community members. In her work and at home she draws on her own experience to counsel people about the importance of having an HIV test. She's regularly called upon by Gold Fields to address groups of employees at rallies and Aids Day events.

With opportunistic illnesses behind her, Vicky has clear goals for her future. She hopes to be able to study to become a fully qualified nurse. "I also want to take a formal peer educator course, and join the 1 000 other qualified Gold Fields peer educators."



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Environment

The environmental impact of our operations is one of Gold Fields' most important sustainability issues, particularly as the mining sector is the focus of much criticism regarding its considerable environmental footprint. Most recently, scrutiny has focused on the dewatering of underground mines, acid mine drainage (AMD), leaching from tailings dams and the carbon footprint of gold mining. Gold Fields is acutely aware of these issues; unless they are dealt with effectively they will have an adverse impact on our goal of being the global leader in sustainable gold mining.

Guided by the principles of the International Council on Mining and Metals (ICMM) through our membership and the United Nations Global Compact, our environmental policy statement commits us to continually improving our environmental performance and reducing our environmental footprint.

During the year under review our Peruvian mine, Cerro Corona, became the last of our operations to be ISO 14001:2004 certified. The ISO 14001 standards, together with the company's sustainable development framework and dedicated environmental management structures, govern the way in which Gold Fields identifies, manages and mitigates its key environmental risks. We view legal compliance as an absolute non-negotiable and maintain an ongoing dialogue with government, communities, NGOs, environmental interest groups and key stakeholders on how we manage our environmental impact.

Engaging with stakeholders on environmental issues

Neighbouring communities are key stakeholders in Gold Fields' environmental footprint and the company has formed dedicated environmental engagement forums with many of these communities. In the South America Region, for example, community representatives regularly meet with the company's environmental management team and play an important monitoring and participatory role.

Environmental impact is also a key issue when the company conducts exploration for new mining opportunities. The ability to mine in an environmentally sustainable way is a key consideration when investigating the exploration potential of an area (see case study, page 112).

In the South Africa Region, Gold Fields was instrumental in forming and currently chairs the Mining Interest Group (MIG), through which the

industry collectively approaches water management in the area, including the Wonderfonteinspruit river. The company is also represented on the Far West Rand Dolomitic Water Association, which engages with farmers and other stakeholders on dewatering and water quality issues.

Ongoing interactions with stakeholders in these engagement platforms, together with internallygenerated risk reviews, have highlighted water, land management and waste as our most material environmental issues (see the supply chain management and material stewardship section for information on waste management).

Water

The dewatering of mines, acid mine drainage (AMD), water quality and water availability are headline environmental issues in all regions in which Gold Fields operates. The graphs alongside illustrate the improvements made in water usage and quality during the year under review. Total water withdrawal for the year amounted to 63 million kl, while a total of 77 million kl was discharged. The average quality of water discharged for the year was 70.43 milli-Siemens/metre (mS/m), which is acceptable by international mining standards. Our draft water licences for the South African mines contain an inherent requirement to ensure that our discharges conform to a maximum limit of 60 milli-Siemens/meter within the next few years. Our water strategy will address how we can achieve this requirement within the stipulated timeframe. Negotiations with the Department of Water Affairs are ongoing.

South Africa Region

AMD poses the most pressing environmental risk in the South Africa Region and is a key component of the company's water strategy. This strategy makes provision for, amongst others, characterisation of the groundwater plumes, separation of clean and dirty water and mapping and monitoring of underground plumes. Waiting for the mines to close before dealing with the risk of AMD has proven disastrous for a number of other South African mining operations. Gold Fields' water strategy is designed to avoid this scenario and to ensure a long-term solution.

To improve our water monitoring systems, we piloted a continuous water monitoring system at Driefontein during the year (see case study, page 113), which will be rolled out in the catchment area in the current year. The company also approved a R21 million three-year investment in a proprietary software system to consolidate all



🗖 Level 2 📕 Level 3





Closure costs (US\$ million)



Environment continued

environmental data and generate interpretative reports and trend analyses.

Kloof is the only one of our South African operations that has received a new water licence from the Department of Water Affairs and Forestry. The other mines have received draft licences and are in negotiations to receive their new licences.

Gold Fields' long-term strategy for dealing with the risk of uranium in mining waste and water is to investigate the treatment of water and waste by removing the uranium to ensure that levels are kept within limits set by the World Health Organisation. Currently we have bio-dams and settling dams in place to ensure uranium levels remain within the legislated limits. The company is also actively involved in industry initiatives investigating the potential benefits and pitfalls of removing tailings dams off permeable dolomite sites to prevent groundwater pollution. In the long term we are also looking at options to extract uranium from tailings for commercial purposes.

South America Region

Water quality is the key environmental consideration and the issue most frequently raised by communities at the Cerro Corona Mine in Peru. The company submits water samples, taken in conjunction with community representatives, to the relevant authorities on a monthly basis and water quality is externally audited every six months. In most instances these samples indicate that water quality exceeds the standards required by legislation. However, communities downstream of the mine continue to raise water quality as an issue. In response the company has asked the authorities to conduct an external and independent study in areas outside the mine's direct area of influence, and devised an externally approved water monitoring system for the area. As part of our community programme we invested in a rehabilitation plant for the Tingo River, even though it is unrelated to and far from our operation.

In one of the adjoining valleys to the Cerro Corona Mine are two springs known as SP7 and SP11. Though these springs cannot necessarily be geologically linked to the mine, as a proactive measure we commenced discussions with the landowners to obtain permission to monitor the quality of the water discharged from the springs. We have now reached agreement with the landowner to allow us to monitor the quality on an ongoing basis (monitoring has commenced during the year) and to discuss potential action plans should any deterioration of the water quality occur.

West Africa Region

We previously reported that sulphuric material had been discovered in one of the pits at the Tarkwa operation in Ghana. Samples taken during the year indicated that water quality at this pit is not significantly different from the other pits and that the effect of the sulphides is therefore not significant.

Sankarani River in Mali

Case study – Environmental stewardship begins with exploration

Long before Gold Fields sinks the first shaft or opens the first pit, the company would already have spent years determining whether it will be able to mine in a way that is sustainable and causes *Zero Harm* to the local communities and the environment.

Our Komana mineral exploration project in Mali is a prime example of the company's commitment to determining sustainability in the exploration stage. External consultants, Environmental Resources Management, were contracted to undertake a comprehensive environmental and social impact assessment (ESIA) to establish the key economic, social and environmental impacts our operations could have.

This can only be achieved by getting to know local communities and the place they call home. The Komana ESIA therefore necessarily included in-depth consultation with the local authorities and extensive public participation by members of communities within the area. This goes hand in hand with independent investigations into the area's cultural heritage, biodiversity and water resources.

As is often the case in areas with a predominantly rural population, environmental and social considerations are inextricably linked in Mali and the majority of residents rely on the land for their livelihood. This presents risks and opportunities. The ESIA highlights the economic importance and ecological sensitivity of the Sankarani River, which runs through the exploration area and is used by local people for drinking, fishing and irrigation. But it also highlights the opportunity for Gold Fields to bring employment, infrastructure, better schooling and medical care to the local community. These considerations will be carefully weighed up before Gold Fields decides to go ahead with mining.

Australasia Region

Water issues in Australia relate chiefly to ongoing supply of processquality water. Such water is currently sourced from borefields close to the Agnew and St Ives Mines but both operations have begun sourcing alternative water supplies. Additional sources include groundwater from a decommissioned open-pit near Agnew and water from a freshwater dam near St Ives.

Land management and biodiversity

As the western side of the Driefontein Mine has been identified by authorities as a potential protected environmental area, the company has commissioned an independent baseline study to determine the level of biodiversity in the area and inform an appropriate management strategy. This will serve as a pilot programme for other South African operations.

In Africa Gold Fields is a founder and active member of Leadership for Conservation Africa (LCA), an organisation that brings together business and environmental organisations to pursue conservation-led socio-economic development.

The LCA Board uses its international network of leading business and governmental leaders to promote LCA initiatives, and to support specific conservation-driven development projects in each of the respective member countries.

In 2010 Gold Fields doubled its contribution to the LCA and took the lead in developing two potential projects in Ghana: the Cape Three Point coastal forest reserve and the Shai Hills savannah reserve. It is envisaged that both will be taken to feasibility study in the near future under Gold Fields' leadership.

The LCA, which enjoys support from 16 African countries and leading companies operating in Africa, believes that conservationdriven development can contribute significantly to the socioeconomic well-being of rural Africa, while sustaining habitats and wildlife for future generations.

The shores of Lake Lefroy near Australia's St lves operation (see case study page 117) are areas of sensitive biodiversity which could be disrupted through overclearing. However, internal and external permitting systems are in place and clearing activity is monitored by environmental authorities on an ongoing basis.

Environmental incidents

Gold Fields has an established incident reporting system ranging from Level 1 to Level 5. The incident levels are categorised in the glossary at the back of the annual report.

Our trends show a sustained increase in Level 2 incidences from 181 in financial 2009 to 223 in financial 2010, which, in part, reflects an improved reporting standard for environmental incidences. This has enabled us to become more proactive in our response and prevent incidences from occurring in future. During the year the number of Level 3 incidences was unchanged at seven. Level 3 incidents are detailed on our website at www.goldfields.co.za.

Case study – You cannot manage what you cannot measure



Danny Ramsuchit

As one of our biggest environmental impacts, water has long been an important issue in the area surrounding our Driefontein Gold Mine in South Africa. This has taken on even further significance in light of the public scrutiny under which water quality in the Wonderfonteinspruit has been placed. Gold Fields complies with all water-related environmental legislation and conducts weekly, monthly and quarterly water quality tests. As part of this programme, we implemented a pilot project for the testing of water quality that has taken the commitment to water sustainability a step further.

The introduction of an automated continuous water monitoring system at Driefontein has allowed Gold Fields to get the most accurate and comprehensive data regarding both the fissure and mine process water leaving its operation. "Continuous water monitoring means you avoid the normal pitfalls of random sampling, whereby results can be influenced by the time at which the sample was taken, as well as other variables," says Danny Ramsuchit, head of Environmental Management at the mine. Calibrated and managed by independent company, Süd Chemie, the system monitors pH, conductivity, temperature and free chlorine levels, which serve as early warning indicators.

These results are updated every three minutes and are available on an ongoing basis to company managers and the Department of Water Affairs via a dedicated online portal. They provide Gold Fields with a wealth of data that can be used for trend analysis and immediate, realtime detection of any water quality issues.

Successfully running as a pilot for five years at Driefontein, the continuous water monitoring project has provided a model for roll-out to other parts of the company. The Department of Water Affairs is even considering including such systems as a mandatory requirement for new licensing conditions.

Energy and carbon management

Energy and carbon management

Rising energy costs and growing concerns about the effect of climate change have elevated the importance of energy efficiency and carbon management for large companies such as ours.

In its pursuit of being the global leader in sustainable gold mining, Gold Fields has been proactively aligning the company and its operations to a carbon-constrained economy. Our intention is to make low-carbon behaviour and related business decisions the norm within the company. Energy efficiency is integral to our carbon policy and a key environmental consideration. At most of our operations electricity is derived via coal or diesel, which are major contributors to CO₂ emissions around the globe. Saving energy will thus have a positive and measurable impact on our environmental footprint.

Adopting an integrated carbon management strategy

Gold Fields is in the process of formulating an integrated carbon management strategy. This will align us with the latest corporate governance standards and the requirements of King III, which demands increased attention to climate change and recognition of the business costs and opportunities of environmental risks.

Once implemented, the strategy will provide a framework for the inclusion of carbon and climate change-related issues into business planning models and decision-making processes throughout the company. Through the implementation of this strategy Gold Fields will seek, amongst others, to:

- Limit its liabilities in view of existing and impending emissions regulation;
- Decrease energy costs through improved energy efficiency and lower emissions; and
- Increase revenues through opportunities such as carbon trading.

The strategy has been distilled into 15 initiatives and will be rolled out to all regions supported by an extensive communications campaign.

Tracking and reporting on impact

The company's key source of carbon emissions is coal-fired electricity in the South African

operation and gas and diesel-generated power in the Australasia, West Africa and South America Regions. In a number of countries in which we operate our emissions are being measured and monitored.

In South Africa Gold Fields was ranked fifth overall on the Carbon Disclosure Leadership Index among the JSE Top 100 Companies. The company furthermore discloses its carbon footprint to the National Business Initiative's Carbon Disclosure Project (CDP), which details the calculation of the carbon footprint and quantifies and reports greenhouse gas (GHG) emissions. During the year under review we reported on Scope 1, 2 and 3 emissions for the company's global operations.

Our carbon footprint for the year was 7.4 million tonnes CO_2 -e, comprising 1.3 million tonnes Scope 1 emissions, 5.1 million tonnes Scope 2 and 1 million tonnes Scope 3 emissions. Total 2010 emissions were virtually unchanged from 2009 levels, but significantly higher than the 6.1 million tonnes CO_2 -e emitted in 2008, when the South Deep and Cerro Corona Mines were not included in our portfolio. The carbon footprint per ounce of gold was determined to be 1.78 tonnes CO_2 -e/ounce, compared with 1.51 tonnes CO_2 -e/ounce in 2009 and 1.4 tonnes in 2008. (This calculation only takes into account Scope 1 and 2 emissions). The scope definitions are contained in the glossary.

The South African operations accounted for 90 per cent of all Gold Fields Scope 1 and 2 emissions for calendar 2010. This is not surprising given that the South African mines, with their extensive underground operations, utilise the most electricity.

In accordance with the National Greenhouse and Energy Reporting Act 2007, the Australasian operations reported to the National Pollutant Inventory and made its annual energy efficiency opportunities submission. Four projects were highlighted as potential opportunities, including a fuel management system installation, ore haulage optimisation and secondary fan rationalisation.

Electricity consumption (MWh)







South Africa (85%)
 Ghana (8%)
 Australia (4%)
 Peru (3%)

Diesel consumption (TJ)



CO, emissions* (tonnes)



Energy and carbon management continued

Australia's draft legislation for the Carbon Pollution Reduction Scheme (CPRS) was postponed until 2012. In the interim Gold Fields has registered with the CPRS. When it comes into force, this cap and trade legislation will allow the company to import certain carbon units.

The South African energy challenge

Electricity accounts for around 96 per cent of the energy used in the Gold Fields' South Africa Region. The country's energy supply crisis and the 25 per cent per year national electricity tariff increase for each of the next three years are therefore material issues. As part of its ongoing response to the energy supply crisis in the country, the company made a commitment during the year to reduce its electricity consumption at its South Africa Region by five per cent during financial 2010, equivalent to around 30 MW.

It is however important to understand this figure in light of various factors that affect energy consumption in underground mining. Around 48 per cent of all electricity consumption is used for ventilation and the cooling and pumping of water. The cooling requirements of deep underground mines depend on the depth

of the mine and increase exponentially with the depth at which mining is undertaken. The average depth of ore mined in South Africa has increased over the past few years and as a result energy consumption per tonne mined has risen. Similarly we are ramping up production at South Deep which also requires a significant rise in power usage.

Furthermore average electricity demand rises as the grade of ore mined declines due to increased hoisting and milling requirements. In South Africa the average yield has decreased from 5.5 g/t in financial 2007 to 4.2 g/t in financial 2010, resulting in a slight increase in average electricity consumption per kilogram gold produced. However, the energy savings alluded to earlier managed to offset these increases and enabled the South Africa Region to reduce its energy consumption significantly during the year under review.

The Group's total electricity consumption rose by 11 per cent to almost 5,922,322 MWh as Cerro Corona was included for the full financial year for the first time. The commissioning of Tarkwa's CIL plant also boosted power usage.

Case study – From methane curse to carbon trading



What the flare at Beatrix will look like

Over the past 30 years explosions caused by the ignition of methane claimed more than 40 of our miners' lives at Beatrix, Gold Fields' mine in the Free State. We are now turning the methane curse into a carbon-trading and electricity-generation blessing.

The same methane – 40 per cent of the total at Beatrix – will now be flared and later on harnessed to produce 5 MW of electricity, representing five per cent of Beatrix's electricity needs. Gold Fields put the finishing touches on the methane project during the year under review and in the process became the first gold miner in the world to sell Certified Emissions Reductions (CERs), the financial securities used to trade carbon emissions.

Gold Fields will sell 1,700,000 CERs to European energy trading company Mercuria Energy Trading SA under forward contracts, which will run until 2016. A CER is awarded for every tonne of carbon dioxide (CO₂) saved during a company's production process. Since methane is considered a particularly "aggressive" greenhouse gas, we will receive 21 CERs for each tonne of methane we capture.

At current CER values and exchange rates, the CER contract is worth about R200 million and will provide an economic return on the project. Gold Fields will use the funds to finance the flare facility and the power generation plant, says Jan du Plessis, Senior Consultant, Environmental Engineering, in the South Africa Region. Since 2005 he has been working on a strategy to make our operations greener by reducing dependence on carbon-based energy, particularly coal.

This clearly has environmental benefits for the company, but the establishment of a viable global market in the trading of carbon credits derived from carbon emissions saved has also made it economically viable to become a greener company, as it will aid the funding at projects which otherwise may have not gotten off the ground.

Energy-saving and alternative energy projects

During the year, Gold Fields invested heavily in energy-saving initiatives across all its operations. These initiatives have gained higher commercial viability with the increased use of carbon credits to fund them. The South Africa Region has identified ten potential projects that, if successfully developed, could yield savings in excess of 600,000 tonnes of $\rm CO_2$ -e (equivalent) per year.

The first among these projects – and the one that is up and running – is the Beatrix Mine Methane Project, which will generate about 5 MW of electricity and save around 2,000 tonnes of methane, which equals 42,000 tonnes of CO_2 –e (see case study, page 116).

Other projects include the Kloof Ice Chiller Project, currently in validation stage, which employs hard-ice technology for underground mine cooling. Once implemented the two projects should reduce our greenhouse gas (GHG) emissions by around six per cent. In the Australasia Region, we have successfully tested a solar/ wind lighting system at St Ives to replace diesel-fired lighting. The company is reviewing options to roll out the system more extensively at the St Ives and Agnew operations and is also investigating the possibility of using solar-powered pumps for tailings dams.

As a new operation, the South America Region is still investigating potential energy-saving projects. Two focused investigations at our Ghanaian mines – extending the life of truck tyres and use of cleaner diesel fuels – have already led to significant energy savings. However, as a result of the increased mining rate, diesel consumption in Ghana went up slightly.

Case study – Harnessing wind power in Australia



Lake Lefrov

A new project at Gold Fields' St lves operation in the Australasia Region looks set to harness wind power as a renewable energy source for the mine. This comes at a critical time for the operation, which currently sources power from BHP Billiton, an agreement that expires in 2014. The company is in negotiations to extend the contract but BHP Billiton is unable to guarantee uninterrupted power for any requirements that the mine may have over and above the current 20 MW supplied per year. Gold Fields is ready to bring new underground mines into production, but these will require up to 40 MW of power, so the pressure is on to find alternative sources of energy.

Prior to committing to a large capital investment in wind turbines, Gold Fields has followed industry best practice by conducting a two-year targeted wind survey to establish whether wind speeds in the area surrounding St lves will be sufficient to provide the additional power requirements. Typically, average wind speeds above four meters per second (14.4 km/h) are needed to turn a large-scale wind turbine.

In 2009 St lves' management commissioned the installation of a ten meter-high mast near the centre of Lake Lefroy. Wind speed data is recorded every 15 minutes and captured by a data collection system. The results look promising. Data gathered up to now, together with regional wind maps, indicate that the wind resource exceeds the minimum requirement for turning large turbines.

Wind energy has the potential to have a positive environmental impact in Australia, particularly in the southern half of the continent, and Gold Fields will see the benefit from using this renewable energy source in a reduced carbon footprint.

Supply chain management and material stewardship

Supply chain management and material stewardship

Suppliers form a vital link in our business chain and are a key stakeholder in the company. They provide us with the raw materials needed to mine gold as well as the equipment and services for our mines. But supply chain management at Gold Fields extends beyond ensuring a costeffective and secure supply pipeline. As a core sustainability issue it incorporates the interests of local economies in our host countries, and provides the company with an opportunity to invest in the development of local small- to medium-sized businesses through preferential procurement practices.

Inasmuch as the company recognises the responsibility it has towards its suppliers, it also has a responsibility to ensure that it builds relationships with business partners who adopt sustainable business practices that do not cause harm to people or the environment. In effect a fruitful relationship will only develop if our partners accept and adopt the high standards of conduct that Gold Fields sets for its own employees and operations. Large organisations are in a unique position to influence the corporate governance and business practices of the companies in their supply chain, and Gold Fields endeavours to use this opportunity to entrench the principles of sustainable development in the companies with which it interacts.

Our relationships with suppliers also include the important element of material stewardship, which compels us to manage all materials used and disposed of by the operations. These standards are extended to its suppliers, particularly those who provide transport and waste management services.

Local procurement

While not legislated in all countries in which we operate, securing a "social licence to operate" is a common requirement and one that hinges partly on a company's willingness to contribute to the local economy through sustainable procurement practices. It is Gold Fields' policy to make use, where possible, of local suppliers in all regions. Our mines are often located in remote regions where infrastructure is poor and economic activity limited. In such instances, preferential procurement practices, benefiting indigenous or local suppliers and service providers, play an even greater role in helping to develop the local economy.

Legislation in the South America Region (Peru) requires that companies give priority to local suppliers, provided they meet the necessary standards. Around 15 per cent of the region's procurement spend goes to local suppliers in the immediate area surrounding our Cerro Corona Mine. These suppliers provide heavy equipment, general services and light transportation. The contracts they have secured with Gold Fields have allowed many of these companies to grow from small start-up enterprises to profitable and sustainable medium-sized operations (see case study page 121).

The South Africa Region's social and labour plan requirements emphasise local economic development, of which preferential procurement is an important component. It is Gold Fields' policy to make use of local historically disadvantaged South African-owned (HDSA-owned) companies wherever possible. During the year we spent R3.05 billion with such suppliers, which accounts for 46 per cent of the total procurement budget in the South Africa Region.

In the West Africa Region, the majority of contractors are located within a 40 km radius of the mines, while the Australasia Region has, since inception, consistently made use of local suppliers.

While contracts with large organisations like Gold Fields can transform the business of local suppliers, many face multiple challenges in meeting the required contractual standards. Gold Fields is committed to providing assistance and an enabling environment that will allow local suppliers to overcome these challenges and become preferred vendors. Management in the South America Region meets with local suppliers on a bimonthly basis and offers ongoing training to bring these companies up to standard. Should an HDSA supplier not meet the required standards, the South Africa Region offers various interventions to support and develop the company concerned.





Materials (tonnes) 100,000 80,000 60,000 40,000 20,000 0 Bissing Besting HCI Line Cement Cement Australia Ghana



Supply chain management and material stewardship continued

Ensuring sustainable development business practice

Business standards relate not only to the operational requirements of the company but also to other sustainable development issues such as safety, human rights, community development and environmental responsibility. The company's supply chain management and material stewardship policies seek to encourage business partners and vendors to adopt sustainable business practices.

All contractors to the company are expected to meet its occupational health and safety and environmental management standards, which mostly comprise those set out in the OHSAS 18001 and ISO 14001:2004 standards. Suppliers undergo prescreening for health, safety and environmental management as well as regular compliance audits, conducted internally by the safety and environmental teams or externally by independent assessors.

As a signatory to the United Nations Global Compact and as part of its commitment to the principles of the International Council on Mining and Metals (ICMM), Gold Fields upholds the highest standards for the protection of human rights. Human rights are also a pillar of our sustainable development framework and are enshrined in our code of ethics and human rights policy. During the year the company developed a human rights toolkit to entrench human rights practices across all its operations. The toolkit currently targets employees but future plans include its rollout to suppliers and contractors to raise awareness about the risk of human rights abuses. While suppliers are not currently screened specifically for human rights compliance, the general selection audit for new suppliers includes a human rights component and they are required to meet the human rights standards and commitments of the company. Any incidence of human rights abuse among suppliers can lead to the immediate termination of the contract.

In Peru contracts with local suppliers, and maintenance of these relationships, include stipulations for investment in local community development projects.

Ensuring responsible material stewardship

Gold Fields' supply chain and material stewardship policies highlight the company's commitment to source, store, utilise and dispose of materials in an environmentally and socially responsible manner, with due attention to issues of health and safety.

Fortunately, gold is not harmful to humans or the environment and has many beneficial applications in medicinal and environmental technologies. However, the gold production process utilises a

Case study – Former worker starts thriving supplier business



Jimmy Gumede

Jimmy Gumede, a former Gold Fields employee, started JEG Mining Service & Projects in 2006 with little more than a cellphone, his pension and an all-important construction contract at the No 3 Shaft of Kloof Gold Mine.

"Starting a business is about taking risks and I had to give up my salary and the mine house we were living in to pursue my aspirations, but I would not be where I am today if Gold Fields hadn't empowered me by giving me my first contract," he says.

Today, JEG employs six permanent staff and over 150 contractors from the local community, and in the past financial year reported turnover of R10 million. In addition to Gold Fields, the company lists Central Rand Gold, Uranium One and Harmony among its clients.

But Gumede's journey hasn't been without its challenges, chief among which was funding the business entirely from his own pocket. "I learned the importance of respecting your business enough to leave money in it when you are paid, instead of spending it all," he says.

Landing contracts is another ongoing challenge and Gumede works hard to establish relationships with procurement officers through faceto-face meetings. "Some managers still prefer to go with large brand names in the construction industry. It's frustrating because we know we can often deliver a better job, at a lower cost using local labour," he says.

In JEG's favour is Gumede's vast experience in mining. "I've worked my entire life in this industry and I understand the requirements of every job we take on," he says. He knows this specialist knowledge is a key differentiator and has wisely restricted JEG's focus exclusively to the mining sector.

wide range of materials and generates waste products which are potentially hazardous or environmentally harmful. Our biggest waste output comes from waste rock and tailings and chemical and diesel waste, while cyanide and reagents are potentially harmful chemicals being used in the gold process. The management, transportation and disposal of this waste, whether by the company or its contractors, are critical components in our material stewardship policy.

All waste disposal, transportation and recycling contractors are audited for ISO 14001 compliance and procurement contracts require certification in terms of the relevant waste management legislation of the country. During the year Gold Fields became the first mining group to obtain accreditation for full compliance with the International Cyanide Management Institute's Cyanide Management Code. This accreditation extends to transport suppliers and contractors. The code is recognised as the gold mining industry's best practice for cyanide management by the World Gold Council, the Council for Responsible Jewellery Practice, the International Finance Corporation and the G8 Group of Nations.

The South Africa Region recycles a large portion of its waste rock to process any available gold, while contractors recycle a portion of the remainder for use as crushed rock in construction. The remaining waste rock is kept in waste dumps, the rehabilitation of which is catered for by closure cost provisions. Many of these waste rock facilities undergo concurrent rehabilitation during a mine's active life.

A portion of our tailings is also used as backfill for our underground operations to improve shaft stability, while the remainder is stored in tailings dams. Tailings dams have multiple control mechanisms to ensure that they are stable and that their potentially harmful impact on the environment is mitigated. The results of routine inspections, which range in frequency from daily to annually, are evaluated by independent, certified engineers. The tailings dams also have full pollution containment facilities designed to capture any runoff from the dams. Much of the water in the dams is recycled for use in the mine's processes, thus ensuring that the facilities act almost as closed circuits. We also plant vegetation on the side slopes to ensure that dust emissions from the dams are limited. Tailings management systems are fully compliant with ISO 14001 certification requirements and externally audited.

The company's operations have systems and contracts in place to recycle steel, grease, oils, organic waste and paper and cardboard products where possible. On-site salvage yards separate the various forms of waste for reuse and recycling.

Gold Fields does not import, export or transport any waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII.

Case study – Building businesses in Peru's local communities



Juan de Dios Villanueva

Román Acuña Galvez used to be a farmer focusing on cattle breeding in the remote areas surrounding the Cerro Corona Mine in Peru. When Gold Fields opened the mine in his community, Galvez saw an opportunity to start his own small business. With his connection to the local community, he was well placed to supply the company with staffing services as Gold Fields was committed to prioritise the employment of local labour. What started out as a business of 16 people in 2006 quickly grew and today Galvez provides employment for 120 people. He now counts other mines and businesses in the area among his customers though Cerro Corona remains his largest client.

He's not the only entrepreneurial success story in the local communities near Cerro Corona. Transportistas Chuquilin, formed in 2007, provides transportation services to Cerro Corona and has created eight jobs, while Contratistas Generales Coymolache del Perú SRL, headed by Juan de Dios Villanueva, employs 27 local people and is a heavy-machinery contractor to Gold Fields La Cima. They are just a few among the small businesses that have taken advantage of the opportunities created by the mine.

Each of these small businesses falls into Cerro Corona's direct area of influence which is defined as the Coymolache, Pilancones, El Tingo and Hualgayoc communities. Like Galvez, the majority of them survived as farmers before the mine opened and, while they didn't have any prior experience as entrepreneurs, they benefit enormously from the ongoing business support and guidance Gold Fields provides to its suppliers. Meeting Gold Fields' exacting standards for quality, safety and sustainability should also ensure that these suppliers continue to expand and that the company leaves a lasting legacy in the communities in which it operates.

Social responsibility and stakeholder engagement

Social responsibility and stakeholder engagement

Gold Fields' operations have a significant impact on the lives of people who reside in the communities around our mines; the company in turn requires the support of these communities to be able to operate effectively. They are an important source of labour and provide us with the access and social licence necessary to operate. The mines we operate often have a lifetime that spans generations and it is therefore vital that we invest in the upliftment and improvement of the people with whom we interact. Meaningful and transparent stakeholder engagement with these communities is a critical prerequisite for such investments and, therefore, to the sustainability of our mines.

While gaining community buy-in is an important social responsibility, it is also a business imperative. Only by understanding the needs and concerns of these stakeholder groups can we build constructive and positive relationships that will support the long-term objectives of the business. Mining operations that do not enjoy a good reputation among communities are less likely to be given a mandate for future expansion and are more likely to experience disruptions to production from them. Where community relationships are weak, it is a reasonable expectation that the mine's bottom-line will suffer.

Talking to communities

Gold Fields is guided in this approach by the internationally used AA 1000 Stakeholder Engagement Standard. Stakeholder groups differ from one region to the next, but are generally determined by the company's impact on local communities, which are represented by various layers of government, elected community leaders, informal community groups, NGOs, environmental focus groups, organised labour and local enterprises. The tone of engagement with these groups can have a significant impact on the company's ability to overcome community-related challenges. We thus spend considerable time and resources in building sound community relations.

Gold Fields begins the engagement process at the exploration stage, talking to community stakeholder groups to understand their needs and obtain their input on future plans for the prospective development of a new mining operation. In exploration projects, such as Komana in Mali (see case study, page 112), we dedicate between five to ten per cent of our budget to sustainability issues, a large portion of which is spent on building community relations.

Another example is Chucapaca, the advanced exploration stage project in Peru, where we

invested a great deal of time during the year under review building relationships with the Santa Cruz de Oyo-Oyo, Corire and Santiago de Chucapaca communities. These communities are now broadly supportive of our exploration work in their area, but have concerns about the potential impact of any future mine on the quality and availability of water – a scarce resource in the area. We have finalised a five-year agreement that underlines our commitment to the sustainable management of water resources and the extent of our investment in community health, education and employment projects.

Responding to community needs

Integral to the AA 1000 SES process is the establishment of regular formal engagement platforms with each stakeholder group. The agenda for participatory consultation is determined by the materiality of issues, both to the company as well as the stakeholder groups. We are also guided by country-specific legislation regarding community engagement and relations.

South Africa

Sustainable development initiatives in the South Africa Region are largely centred around spending by our mines in terms of their statutory Social and Labour Plans (SLPs), which are approved by the Department of Mineral Resources. Gold Fields also takes cognisance of municipalities' integrated development plans and issues raised by communities in developing our sustainability programmes. During the year under review, the South Africa Region invested about R42 million in community development and skills training projects.

In line with the requirements of the SLPs, these projects are located in the areas around our mines, as well as in labour sending areas. Many of our rural development projects are based in the Eastern Cape and KwaZulu-Natal provinces, home to around 31 per cent of Gold Fields' staff (see case study, page 124).

Closer to our operations in the Free State and the West Rand, the four mines themselves invest heavily in projects that support community initiatives, but, more importantly, support local economic development (LED). Our flagship project, the Living Gold rose farm near Carletonville, which employs about 300 local workers, continues to require funding support to the tune of around R10 million a year from Driefontein Gold Mine. Similarly the Golden Oils project was supported by Beatrix with about R2.5 million during financial 2010. Other projects include the Thusanang business support

Economic value distributed (Rm)



r ne 2010 economic value includes procurement of all purchase orders, not just supplies issued.



CSI spend (% of total Group)



South Africa (14%)
 Ghana (57%)
 Australia (1%)
 Peru (27%)

Procurement spend SA – HDSA (% of total)



Social responsibility and stakeholder engagement continued

centre at Driefontein and a brick making business at Beatrix. All our operations also contribute towards the Business Trust and the National Business Initiative, two organisations heavily involved in supporting LED around the country.

The Department of Mineral Resources has also approved plans for new Local Economic Development projects at South Deep, including a flagship project that will help emerging farmers in the South Deep community gain access to much-needed seed capital. A total of R15 million will be invested over the next five years into the trust fund established for this purpose, which will be administered by representatives from the local farming community and Gold Fields.

The company is focused on projects that empower communities, build capacity and transfer skills for greater self-reliance. All community projects include clearly defined handover periods and exit strategies. In the coming year we will focus on further improving our understanding of community needs and collaborating with relevant stakeholders in devising long-term strategies that meet those needs effectively.

It is important to note that sustainability spending is fully integrated into the operational budgets of our mines in South Africa. As such the South Africa Region spends hundreds of millions of rand on projects that benefit our employees, their family members and the communities in which they live. Falling under this umbrella is Gold Fields' five-year R550 million housing programme as well as regular investments in schools that serve our communities.

On the skills development front, Gold Fields announced a three year R28 million sponsorship of the mining engineering faculties of Wits University and the University of Johannesburg during financial 2010, of which half will be disbursed this year. This is in addition to the approximate R175 million the Group spends on training in South Africa through the Gold Fields Academy, on-mine training and bursaries.

West Africa

During the year under review, Gold Fields' West African operations invested US\$2 million in community development projects at its two Ghanaian mines. These include education projects to build schools and provide scholarships for local children, 300 of whom have already benefited from secondary and tertiary education assistance over the past five years. The company's infrastructural development initiatives have also improved road access to remote areas and delivered electricity and potable water to many adjacent communities.

Gold Fields has also invested heavily in alternative livelihood projects that provide a sustainable income for unemployed members of the community. These include oil palm and fish farms which employed 110 people during the reporting period (see case study on opposite page).

Case study - Social investment in the Eastern Cape



Nominiko Tshaviso

Almost a third of Gold Fields employees in South Africa hail from impoverished rural areas in the Eastern Cape and KwaZulu-Natal. A significant portion of the company's sustainability budget is therefore dedicated to these rural areas via the Abalimi Phambili crop and poultry farming project. In financial 2010 R3 million was spent in these labour sending areas, the bulk of it on agricultural development projects coordinated by the TEBA Development Agency.

Abalimi Phambili provides local emerging farmers, some of whom were formerly employed by Gold Fields, with training, mentorship, technical support and advice, access to funding and links to viable markets. For example, 45 former employees, who were medically boarded due to spinal injuries, are now poultry farmers in these areas. They are a portion of the 1,800 farmers who benefit from the crop and poultry development projects.

One of the success stories is a young woman, Nominiko Tshayiso, who has been involved in poultry farming in the Lusikisiki area of the Eastern Cape since 1997. Ms Tshayiso was identified by an Abalimi Phambili facilitator who provided her with training and technical advice and quickly noticed her entrepreneurial spirit.

She was identified as the right person to develop a local hatchery for day old chicks, a project that has the support of the KwaZulu-Natal Poultry Institute (KZNPI), which initially trained Ms Tshayiso.

Ms Tshayiso has successfully grown the first part of the enterprise – supplying local farmers with day old chicks, which she sources from hatcheries in KwaZulu-Natal. She sells over 30,000 chicks and 4,800 chickens per month in the area and with the proceeds has purchased a bakkie and employs three staff in the business. The next stage of the business is to build a hatchery in Lusikisiki, though this is taking longer to complete than planned, largely due to material supply problems.

Ms Tshayiso has to juggle her new business with her chosen profession as a teacher in the area. It's a balancing act she is performing well.

South America

The remote location of Gold Fields' Cerro Corona Mine means that local communities rely heavily on the company for health, education, skills development and training programmes, as well as basic infrastructure, such as roads and telecommunications. During the year under review we invested US\$3.5 million in such projects, in line with commitments agreed upon when the company established the operation.

One of our success stories at Cerro Corona is our investment in agricultural projects in the area including pastures and meat production. The latter has seen a 50 per cent rise in local meat farmers' production, while the yield of the pasture land has risen from five tonnes per hectare in 2005, before Gold Fields' investment, to 15 tonnes in 2009. The area supported has increased from 800 hectares to around 1,500 hectares. The project also involved the introduction of Brown Swiss cattle to the dairy herds, and an artificial insemination programme that resulted in a 55 per cent pregnancy rate among the herd. Between 80 per cent and 90 per cent of the cattle is vaccinated compared to just 30 per cent in 2005. The third phase of the project was the construction of a US\$400,000 dairy plant – it is scheduled to start operating late in 2010.

Australia

Community-related issues at the company's Australian operations focus mainly on the rights of indigenous people under the terms of the Native Titles regulations. Gold Fields also invests in community development projects around the St Ives and Agnew mines through the Gold Fields Australia Foundation.

Tackling the unemployment challenge

Of all the challenges facing the diverse communities in which we operate, unemployment is the most pressing. Community expectations that Gold Fields will provide jobs for local people are high and our company policies heavily favour the use of local labour. In South Africa and Peru legislation requires companies to give priority to local labour and suppliers. We therefore train prospective employees to achieve requisite mining skills and assist local suppliers in meeting the standards required for all our vendors.

However, Gold Fields' operations can only provide a limited number of jobs. Community investment in all regions thus includes an element of alternative income training and skills development for local community members. The farming projects in Peru and Ghana provide just two examples of how successful such an approach can be.

In South Africa we offer retrenched staff the option of receiving training at a registered institution, which provides workers with the skills needed to seek employment in other sectors. It is a model which we are developing further, particularly at a time when unemployment levels in South Africa remain high and show few signs of easing.

Case study - Investing in alternative livelihoods in Ghana



Fish cage culture project

"Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime." The Gold Fields Ghana Foundation took this old Chinese proverb very literally and has invested significant funds and resources in two fish farming projects at the Tarkwa Gold Mine. The project started in October 2008 with the development of the Abekoase project of eight fish ponds. Seven ponds have been stocked with tilapia fingerlings and the remaining one with catfish. Over 100 community members were employed in the construction of the ponds, which now employ 40 workers on a permanent basis.

In November last year Gold Fields funded the development of eight nylon netting cages on a lake at the mine. The cage culture project employs one person full time. To date over 50,000 tilapia fingerlings have been stocked.

The produce from both fish projects is being sold to the mine's canteens, local hotels and restaurants. Gold Fields Ghana has greater ambitions and is investigating the feasibility of a cold storage facility which would facilitate larger economies of scale and a significant expansion of the project. Gold Fields is still helping to

manage this project in its early stages, but plans to hand it over to the local community once the business is a "going concern" and links to market have been firmly established.

In Ghana, around 40 per cent of the community investment budget is channeled to agricultural projects under the Sustainable Community Empowerment and Economic Development (SEED) programme. Between October 2008 and mid-2010 SEED has spent over US\$250,000 on the Tarkwa fish projects.

Apart from fish farming, Gold Fields has already distributed over 16,000 healthy oil palm seedlings to 263 farmers in various communities around Tarkwa, providing them with planting materials and technical training. Farmers also have access to oil palm processing facilities, which allows them to "own" part of the manufacturing process instead of being limited to being suppliers of raw palm oil fruits only.