Our mission – now and into the future

AngloGold’s business is gold. We consistently create value for everyone with a stake in the company by finding and mining gold and by developing the market for our product.

The values that bind us

- AngloGold consistently generates competitive shareholder returns. We do this by renewing profitable gold reserves and by continuously improving the performance of our key resources – our people, our assets and our product. We conduct our affairs with honesty and integrity.

- Our employees have opportunities to develop their skills, sharing risks and rewards in workplaces which promote innovation, teamwork and freedom with accountability. We embrace cultural diversity.

- Every AngloGold manager and employee takes responsibility for health and safety and, together, strive to create workplaces which are accident-free.

- We strive to form partnerships with host communities, sharing their environments, traditions and values. Communities will be better off for AngloGold’s having been there. We will work in an environmentally responsible way.

- We are gold’s champion.
Foreword by the Chairman

AngloGold has always sought to be guided by the sentiment expressed by Sir Ernest Oppenheimer, Anglo American’s founder, that we should “… make profits, but do so in such a way as to make a real and lasting contribution to the communities in which we operate”. This philosophy resonates with the 1987 Brundtland Report’s interpretation of sustainable development to mean that which “meets the needs of the present without compromising the ability of future generations to meet their own needs.”

This report sets out AngloGold’s policies in the areas of activity covered by this broad understanding of our sustainable development obligations and, more importantly, describes some of the company’s activities and particular successes in the recent past. In describing our approach and some of our achievements, we do not imply that we do not still face very substantial challenges in all of these areas or that we have done enough. On the contrary, the existence of the strategies and plans in this report indicates the extent to which the Board and management of AngloGold acknowledge the difficulty and complexity of the task ahead of us.

In addition to the work being undertaken within the company and on and around its operations, AngloGold has for a number of years participated in the global debate on sustainability. At the highest level, CEO Bobby Godsell has been an active participant in the global mining industry debate, and, in particular, in the drafting of the Toronto Declaration of the International Council on Mining and Metals in May 2002.

The AngloGold Board has been structured and resourced to promote sound corporate governance and accountability across a broad range of issues, including those covered by this report. The board comprises 11 non-executive directors and four executive directors. The company has also established a number of board committees on which the non-executive directors play leading roles. Particularly relevant to this report are the Safety, Health and Sustainable Development and the Employment Equity and Development committees. These Board committees meet regularly to oversee the implementation of strategy agreed to by the Board.

The intention of this report is to inform all those who have a stake in this company of our objectives and plans for managing our obligations to them, our society and our environment. We also hope to show, in a useful format, how we are delivering against those obligations and objectives.

Russell Edey
Chairman
Philosophy

- We believe that through sensible, responsible and ethical corporate behaviour that reflects true awareness of and concern for our employees, neighbours and the environment in which we live, we will be successful in our business.
- Our objectives are:
  - workplaces that are safe and healthy;
  - environments that are ecologically sound and sustainable; and
  - communities that derive real social benefits from the fact that we are in business there.
- Deliberate measures for accountability are built into the company’s governance structures.

Social investment

- AngloGold’s social investment initiatives are aimed at delivering significant and lasting benefits to employees, communities and other stakeholders in partnership with governments, international agencies, labour, health and non-governmental organisations (NGOs).

Safety and health

- The safety and health of employees are fundamental to the sustainability of the business. AngloGold management and representatives from trade unions and government, combine their efforts in working towards improving safety and health in the workplace.
- We will identify and implement best practice across the company, with the aim of eliminating accidents and meeting or exceeding international best practice.

People and communities

- AngloGold’s aim is to ensure that the company is resourced with people who are appropriately motivated, skilled and experienced for a globally competitive company.
- At the same time, the company forms partnerships with the communities surrounding its operations, ensuring that all benefit from our having been there.

Environment

- In the planning, design and operation of its business, AngloGold seeks to promote sustainable development.
- At least achieving, then exceeding compliance with legislation is the primary target.
- While the company will at all times strive towards international best practice, it will do so taking cognisance of the needs and the specific circumstances of the countries, regions and communities in which it operates.
DEAR STAKEHOLDER

This is our first ever stand-alone report on our obligations and role as a corporate citizen, covering the health and safety of our employees, our environmental strategy management and social investment programmes.

The challenges presented in these areas are indeed some of the greatest our company and our industry face today. We believe that only through sensible, responsible and ethical corporate behaviour, that reflects true awareness of and concern for our shareholders, employees, neighbours and the environment in which we live, will our business succeed. Our objectives are businesses which are profitable; workplaces that are safe and healthy; environments that are ecologically sound and sustainable; and communities that derive real social benefits from the fact that we are in business there.

Before we prepared this report we went to many of our shareholders and other stakeholders and asked what they would like to know about our social investment policies and practices beyond what we normally disclose in our annual report. In this report we have attempted to respond accordingly. As with any report of this kind we cannot cover every aspect of our business in detail. What we have tried to do is provide an indication of our philosophy and how we put this into practice in the many different areas of operation. As far as possible we have done this through case studies and by profiling some of the special people in our organisation who ensure that we achieve our goals.

After you have had an opportunity to review this report, we encourage you to provide us with your feedback so that our reporting in future can be responsive to your interests. (See the back page for details on how to do this).

As time progresses we will undoubtedly learn to do things better and so improve our performance as our experience and knowledge grows. We will take this knowledge and employ it so that we and others may benefit from it.

At the end of 2001 we were gratified to hear that AngloGold was recognised as the sustainability leader in the precious metals sector by the Dow Jones Sustainability World Indexes (DJSI World). I am pleased to note that on 14 August 2002 we learnt that AngloGold had been included in the Edward Nathan & Friedland Sustainability Index. On an unweighted basis AngloGold was ranked first, and on a weighted basis we were ranked ninth in the index, which covers the JSE Securities Exchange South Africa. We will endeavour to continue in this vein.

BOBBY GODSELL
Chief Executive Officer
Gold has played a vital role in the development of society, sustaining and enhancing human existence, underpinning civil institutions and communities, enhancing the quality of life and contributing towards the protection of the environment.

The wealth and value that have been derived from gold and the benefits gained multiply many times as we move up the value chain from mining and milling to gold’s end-uses.

As one of the world’s largest gold companies AngloGold seeks to:
- design and conduct its business so that its workplaces are safe and healthy;
- ensure that its environment is both sound and sustainable;
- deliver clear social benefits to communities surrounding its operations.

A leading gold producer
AngloGold is one of the world’s leading gold producers, with a projected production of 6 million ounces of gold in 2002. The company holds extensive reserves, sufficient for sustaining operations well into the 21st century.

20 operations around the world
Directed from its headquarters in Johannesburg, AngloGold is a global company. Its production base spans 20 operations (nine underground, ten surface and one surface reclamation project) in Argentina, Australia, Brazil, Mali, Namibia, South Africa, Tanzania and the United States. AngloGold is exploring for gold in ten countries on four continents. The company employs almost 50,000 people worldwide.

More than 100 years of history
AngloGold was formed in June 1998 through a merger of the gold operations, mineral rights and exploration interests of Anglo American Corporation and its associated companies. Some of the operations within AngloGold have been associated with gold mining for more than 100 years, and bring with them a wealth of expertise and contributions to the industry and to the development of the towns, cities and countries in which they are located. On the other hand, certain AngloGold operations are recent additions in developing areas and countries where their contribution has yet to be completed.

An incomparable product
Gold, AngloGold’s product, is the ultimate store of value as a form of investment; it is used in jewellery and in a wide variety of industrial, scientific and research applications. Because of its unique properties among noble metals – such as
conductivity, malleability, beauty and rarity – gold has been revered and coveted for centuries. Indeed, the history of gold is inextricably linked to the history of civilisations, the sustainability of cultures and financial and religious institutions around the world.

**AngloGold believes in gold**

Through its international gold marketing initiatives, AngloGold is determined to sustain and grow the market for its product. The company has initiated – on its own and in conjunction with the World Gold Council – a global marketing initiative to broaden and deepen the market for gold around the world.

**The gold investment of choice**

AngloGold is listed on the Johannesburg, New York, London and Australian stock exchanges and the Brussels and Paris bourses, with shareholders around the globe. The company delivers competitive shareholder returns, good profits and strong cash flows, with significant dividend payouts. Through its marketing efforts the company intends to position gold as a 21st century product and, in so doing, establish AngloGold as the gold investment of choice.
AngloGold’s social investment initiatives are aimed at delivering significant and lasting benefits to employees, communities and other stakeholders in partnership with governments, international agencies, labour, health and NGOs.

In South Africa, where most of the company’s operations and employees are based, AngloGold’s corporate social investment programme is directed by the AngloGold Fund and Trust. (See case study on pages 8 and 9.)

The fact that about 70% of the projects supported by the Fund fall within the educational sector reflects the company’s response to the development priorities of the region. Over and above these activities, the company’s operations play a significant role in community social development, the provision of infrastructure, governance and support at a local level.

Another major challenge, particularly in South Africa, is that of the HIV/AIDS epidemic. (See case study on page 19.) AngloGold believes that this is not simply an issue which begins and ends with employees, but is one in which an holistic approach embracing local communities is more effective. To this end, significant and increasing expenditure is devoted to this cause. A separate report on how AngloGold is facing the challenge of HIV/AIDS is available on request and via the website at www.anglogold.com.

In other African countries in which AngloGold operates – Namibia, Mali and Tanzania – social investment is managed at country and operational level and addresses needs identified through extensive consultation with communities. (See case study on page 11.) Projects address issues such as infrastructure development (roads, water pipelines, sanitation), the construction of buildings (hospital wards, schools and community centres), small business ventures and entrepreneurship for education. Malaria prevention and management are also important in this region.

In North America, AngloGold personnel are involved in community initiatives aimed at encouraging economic diversity and strengthening the post-mining sustainability of local mining-dependent activities.

In South America, community-based initiatives are focused on the educational, health and environmental sectors.

Social investment contributions in Australia are made in areas such as health care, education and training and in environmental spheres. Fostering cross-cultural awareness and respect is another issue of concern where training is funded by the company to heighten awareness of and sensitivity to community issues.
In October 2000, AngloGold’s Mineração Morro Velho in Nova Lima, Brazil, opened the doors of the Harry Oppenheimer Environmental Education Centre to local communities. The idea was born from a group of Morro Velho employees who, with their families and children were instrumental in building the centre.

Fourth-grade students from local town schools (such as Nova Lima, Rio Acima, Raposos, Caeté and Sabará) were targeted for the programme. At the outset it was decided that employees’ children would be the programme monitors. A multimedia programme was developed, combining environmental concepts (such as ecology, the ecosystem and pollution), with a clear indication of Morro Velho’s own environmental philosophy and track record. Students also visit the company’s treatment plants as part of the experience.

The project has been an extraordinary success. During the year 2001 more than 5,000 students participated in the programme, which has since been extended to include teachers, who, in turn, educate their students and families. Apart from accommodating the students who were escorted by monitors on a daily basis, and sometimes even twice a day, the centre attracted more than 20,000 visitors during the year.

The new centre not only provides environmental education, but also contributes towards a richer way of life. Located in an historic building and surrounded by more than 100 hectares of natural woodlands, the centre is open to the community every day, providing much needed leisure space with ecological trails, steeped in the history and culture of the region.
AngloGold employs some 44,000 people in southern Africa. Beyond the businesses it operates and the wider socio-economic impact of these activities, the company plays an important and constructive role in supporting employees and communities around southern Africa who are working for the improvement of society.

The company aids the initiatives of people who, with hard work and dedication, seek to contribute towards the broader welfare of their society. The AngloGold Fund and Trust was established following AngloGold’s formation to undertake the company’s social responsibility activities, and provides support for sustainable projects initiated by communities, to contribute to longer-term well-being and development.

During 2001, the Fund and Trust contributed US$1.9m (R16.5m) to 262 projects, across southern Africa. The Fund backs and supports people and organisations who make a real difference to their communities, and who are helping themselves to improve their circumstances. In this way, AngloGold reaches those people who have been marginalised from mainstream society and access to other sources of

The South African Mobility for the Blind Trust provides training in rural areas for blind people in assisting them in becoming mobile. The AngloGold Fund supported this worthy cause during 2002.

Two nursing sisters in rural KwaZulu-Natal, who are part of a home-based care outreach programme supported by the AngloGold Fund. This province is one of the hardest hit by the HIV/AIDS epidemic in South Africa.
financing. The main areas of activity are broadly defined as:

- **Education**, including the Rural Schools Scheme. Other aspects of expenditure include training courses for officials and teachers, specialist training for facilitators, training of home-based care givers and adult basic education programmes.

- **Community health**, including education, home-based care and community rehabilitation programmes, capital equipment for hospitals and clinics, outreach programmes, educational materials and research. Much of this spending is related to HIV/AIDS, tuberculosis (TB), primary health care and caring for the aged.

- **Job creation, skills development and entrepreneurship**, including training courses, project start-up capital, research, support centres offering services to entrepreneurs and training centres.

- **Community upliftment and welfare initiatives**, including national policy studies, research projects into rural development, educational programmes aimed at crime prevention and development conferences.

The Fund is managed by Tshikululu Social Investments (TSI) on behalf of AngloGold, and directed by a board of trustees chaired by an AngloGold executive director.

**TAKING EDUCATION INTO RURAL COMMUNITIES**

Children in remote rural communities have traditionally not had the same access to educational facilities as their urban counterparts. With the continuing cost pressure on national and provincial authorities, AngloGold recognised the need to partner with government and NGOs to help alleviate the imbalances of the past.

The AngloGold Rural Schools Scheme focuses on providing classroom accommodation to existing primary and secondary schools in often under-resourced areas, such as the Eastern Cape Province. Under frequently onerous circumstances, communities and teachers are determined to ensure that their children have a better future. The Fund recognises and rewards this spirit.

When considering applications it examines pupil/teacher ratios as well as the degree of community involvement. When granting financial assistance in these cases, the Fund looks at the existing support in the community.
Prior to the establishment of the Yatela mine in Mali in 2001, AngloGold was instrumental in an extensive community consultation process in the area. The most pressing needs identified were for improved medical services and facilities in the villages surrounding the mine. In the same year the Community Development Association of Société d’Exploitation des Mines d’Or (SEMOs – representing the shareholders in Sadiola and Yatela) joined forces with a local entrepreneur, Mamadou Camara, to establish a community health centre in the village of Kourouketo.

In its role of building capacity in the area and contributing to the upgrade of local services, and in AngloGold’s response to the needs in the area, Yatela contributed some 50% towards the development of the clinic in Kourouketo. The clinic has been named the “Graham Harris Health Centre” in honour of the project manager in charge of the construction of the Yatela mine.

The clinic offers a range of primary health care services to the six villages close to Yatela mine. The services focus on addressing the most pressing local health concerns, including malaria, bilharzia and ante- and post-natal care. Since it opened in July 2001, the clinic has treated an average of 118 people per month. As a result, pressure on health care facilities in Sadiola and Keyes has eased off, and the need to transport patients for treatment elsewhere has declined.

The Sadiola and Yatela mines constitute the major economic engine in the Kayes region of Mali. Although mining development is relatively short term, it provides the opportunity for substantial and permanent improvement in the lives of local communities.

SEMOs recognised the need for stable and orderly development of the area, and the importance of integrating mining operations into the local economy to promote local and regional economic and social development. This led to the establishment of the SEMOS Community Development Foundation to ensure that local capacity to implement and maintain sustainable development initiatives is established before the mine eventually closes.

The Foundation’s targets are 12 villages near the mines, including three villages relocated as a part of the operations. SEMOS has adopted the World Bank standard that “all involuntary resettlement should be conceived and executed as Development Programmes”, with a focus on economic development, income restoration and generation, not simply replacement, of physical infrastructure.

The Foundation focuses on:

- **Macro-projects**, involving large community groups, entire villages or groups of villages, including an artisanal mining project and a project to improve local water supplies.
- **Micro-credit** facilities, involving the provision of small loans to individuals or groups for new or existing entrepreneurial activities.
- **Capacity-building in the community**, including literacy, and numeracy and basic planning and business management skills training.

Other community development initiatives include the provision of agricultural equipment, entrepreneurial projects such as local manufacture of protective clothing, installation of two millet-crushing mills, entrepreneurship opportunities at the mine, and recycling the company’s used materials for the manufacturing of various products.
In December 2000, AngloGold launched its pilot health care facility for families of rural-based mineworkers in Lusikisiki in South Africa’s Eastern Cape Province.

The AngloGold Medical Centre forms part of AngloGold’s Rural Health Initiative (RHI), which aims to bring basic medical care to those communities from which the company draws many of its employees. The Centre is a reflection of AngloGold’s objective of offering health care at an affordable cost to all of its employees and their families.

Funded and managed by AngloGold, the Medical Centre in Lusikisiki provides a range of primary health care services to the families of AngloGold employees, as well as to the community at large. With qualified nursing staff, the Medical Centre has the capacity to treat 100 patients per day and will serve a total of 10,000 dependants of AngloGold employees.

**Building Relationships and Partnerships with Communities**

Nandi Mbawu-Diliza comes from South Africa’s Eastern Cape Province, an economically depressed region which has traditionally been an important recruiting area for the mining industry. The province is also home to the University of Fort Hare, an academic institution which has over a number of years spawned many of Africa’s leaders.

It was here that Nandi obtained a BSc in 1980, before proceeding to Medunsa where she qualified as a medical doctor in 1985. Her years of practice in the medical profession, particularly in what was known as the Transkei area, and as Senior Medical Officer for the Cape Town City Council’s Primary Health clinics, have provided Nandi with the ideal background for managing AngloGold’s RHI.

In the short space of only two years Nandi has established for AngloGold a clinic service in the rural areas, with the ultimate aim of establishing health services wherever employees’ families live. This initiative, says Nandi, relies on lobbying to build relationships and partnerships. Nandi has played an advocacy role amongst indigenous communities, traditional leaders, trade unions and local government authorities. Ongoing discussions are held about various health education and promotion issues, as well as HIV education and care.

The first pilot clinic in Lusikisiki opened in October 2000. Nandi is currently planning a similar project in Lesotho – a not insignificant challenge, which, apart from the recruitment of staff and the building of infrastructure, requires close liaison with the consulate of that country.

Nandi’s dynamic personality plays an important part in her role as lobbyist and in interacting with a wide variety of stakeholders. Her enthusiasm is boundless.

“The health problems in this region are enormous and grave,” she says. “Both the public and private sector need to find each other in order to explore areas of co-operation and to share best practice for the benefit of all.”

AngloGold, in partnership with the Department of Water Affairs, is also involved in a water and sanitation programme that will address the public health aspect of primary health care. This project has been undertaken through the co-operation of the National Union of Mineworkers (NUM), The Employment Bureau of Africa (TEBA) and the Lusikisiki community.
The safety and health of employees is fundamental to the sustainability of any business. AngloGold management, in conjunction with representatives from trade unions and government, combine their efforts in working towards improving safety and health in the workplace. Considerable resources and efforts are dedicated to identifying and implementing best practice across the company.

Improving safety and health reporting is overseen by a board committee (established in 1999) and guided by an AngloGold Safety and Health policy approved by the board. This policy allows for country-specific guidelines to be developed in accordance with local legislation, but with the underlying proviso that systems and procedures in place strive towards global best practice.

A core team of health and safety experts, located at the corporate office in Johannesburg, reports to the board committee on safety and health and advises and assists on-site safety and health practitioners and mine management.

The overriding aim is to achieve best practice in safety, irrespective of the location and nature of the operations. However, the actual problems encountered, the nature of the operations (open-cast, underground, surface, plant), levels of mechanisation, and education all have a significant impact on the outcomes in various regions. Similarly, health issues vary from operation to operation, as well as from region to region. Whereas the incidence of TB as an occupational disease (frequently associated with HIV/AIDS) is a problem in developing countries, noise and dust remain key issues across the world.

Safety and health issues remain a priority in South Africa, with significant efforts focused on improving performance. A South African safety and health strategy session in November 2000 identified four key areas which resulted in most fatal and other accidents underground.

Four strategic thrusts were identified to deliver significant improvements during the years ahead, including:

- creating a mindset of safety amongst managers, supervisors and employees;
- continuing to develop and implement appropriate technology as part of the company’s drive to create a 21st century workplace;
- developing and implementing practical risk management systems; and
- developing and implementing a strategy for the management of occupational health.

A key area of focus as a result has been the effort aimed at preventing falls-of-ground (FOG) accidents, which remain the single most significant cause of occupational fatalities in the South Africa region. Another area which is receiving attention is making risk management more understandable and accessible to each and every employee.

In the East and West Africa and North America regions, safety and health issues remain a general priority, but success is more easily achieved in an open-cast environment, with relatively higher levels of mechanisation. Significant achievements have been recorded during the past two to three years, with the company achieving world-class performances at several operations.

The management of safety and health is receiving renewed attention in both Australia and South America, where despite continued good performance, further improvements are still being sought.
AngloGold recognises that excellence in the management of safety and health is an integral part of its business. The AngloGold safety and health policy provides the foundation for the company’s commitment to improving health and safety performance.

The board requires company-wide compliance with this policy which is monitored by regular audit reports to the board committee.

**ANGLOGOLD:**
- provides a working environment that is conducive to safety and health;
- makes the management of occupational safety and health a prime responsibility of line management from the executive through to the first line supervisory level;
- obtains employee involvement and consults with employees or their representatives to gain commitment in the implementation of the policy;
- provides all necessary resources to enable compliance with this policy;
- complies with all relevant laws, regulations and standards. In the absence of appropriate legislation, standards reflecting best practice will be adopted;
- adopts a zero tolerance approach to the implementation of standards and procedures;
- implements safety and health management systems based on internationally recognised standards and assesses the effectiveness of these through periodic audit;
- conducts the necessary risk assessments to minimise and control occupational hazards;
- promotes initiatives to continuously reduce the safety and health risks associated with the business activities;
- sets safety and health objectives based on a comprehensive strategic plan and measures performance against the plan;
- monitors the effects of the company’s operational activities on the safety and health of employees and others and conducts regular performance reviews;
- provides the necessary personal protective equipment;
- establishes and maintains a system of medical surveillance for all employees;
- communicates openly on safety and health issues with employees and other stakeholders;
- ensures that employees at all levels receive appropriate training and are competent to carry out their duties and responsibilities;
- requires contractors to comply with this policy; and
- seeks to influence joint partners to apply this policy and will promote it in other ventures.

A country-specific policy, where required by legislation, is available.
Sazi Jonas is a manager, Safety and Health in AngloGold’s South Africa region. Having worked as a health and safety co-ordinator for South Africa’s leading mining trade union, the NUM at a national level for four years, Sazi brings a fresh perspective to this critical area of the company’s business.

Prior to joining the NUM as a full-time official at the invitation of both the then union general secretary Cyril Ramaphosa and president James Motlatsi after the industry-wide strike in 1987, Sazi was a shop-steward at Western Deep Levels East Mine (today TauTona) within the AngloGold stable. So, in effect, Sazi has seen the organisation from a worker’s perspective, then as a trade unionist and now from the vantage point of management.

During his time at the NUM, Sazi faced a number of challenges, particularly in dealing with the government on health and safety matters, legal matters and, in turn, advising NUM national leadership of national developments in the area. Importantly, Sazi also co-ordinated NUM’s HIV/AIDS programme, negotiating with the industry on HIV/AIDS policies in the workplace.

Sazi believes that this background provides him with a distinct advantage in the workplace.

“I am able to balance both sides’ views, and I understand the way employees look at things, while at the same time being able to anticipate management’s approach,” he says.

One of the first things that he undertook when he joined AngloGold was a report on the human factor in safety across AngloGold’s South African operations, looking at the attitudes of workers towards safety. He has also been integrally involved in the Mindset Task Team, which was established following a safety and health strategy session held at the end of 2000 and updated early in 2002. The task team has undertaken an in-depth evaluation of the behavioural aspects of safety.

Sazi is by no means office-bound, spending his time at the operations talking to people at all levels – underground and on surface. In fact, if he is not underground at an operation at least once or twice a week he doesn’t feel in touch.

Sazi spends much of his time advising both parties on how to improve relationships, particularly in the area of health and safety, and has often been called on to intervene in certain situations. Typically modest, he says that although there have been some successes in this area he cannot call them his successes as he sees them as joint efforts where he plays the role of facilitator.
S A F E T Y I S A M I N D S E T

“If people are the mine’s best asset, safety cannot be negotiable.” These are the words of Danie Spies, manager at Moab Khotsong mine whose safety records lead the South African deep-level gold mining industry. Moab Khotsong has won the AngloGold Chairman’s Safety Shield three times since 1999 and is well within range of the Ontario benchmark, which is the performance standard for underground metalliferous mines in the Canadian province of Ontario.

These remarkable achievements at Moab Khotsong are largely attributable to Danie and his team’s unstinting passion for working safely, and the work he has done to change attitudes and mindsets among all levels of employees. Danie notes that the Leon Commission of Inquiry into Health and Safety was a turning point for the industry, and that safety issues have received much greater prominence since 1998. And he firmly concurs with Bobby Godsell’s commitment to bring to an end, “the ungodly era of people going to work to die”.

Falls of ground (FOG) have traditionally been a major cause of accidents in deep-level gold mines, something which Danie will not countenance. He says, “No rock will fall uncontrolled. You can bar, support, blast the rock or barricade the area to prevent people going there.”

The success of his fight against FOGs is proven when looking at the number of recorded incidents. In 1995 alone there were some 118 incidents of this kind. Since then, over a four-year period, this figure has been reduced to as low as 12. The last FOG fatality at Moab Khotsong occurred in March 1996 and the number of FOG lost time injuries per annum has since then been reduced from 24 to 6 in 2001. Further improvements in safety performance at Moab Khotsong have been recorded in areas such as the Lost Time Injury Frequency Rate (LTIFR) which since the end of 1997 has shown a constant and substantial improvement from 14.30. In 2000 and 2001, the mine performed better than the Ontario benchmark of 6.5 at 5.44 and 4.65 respectively.

But Danie does not concentrate entirely on measurables such as safety and production performance and statistics. He believes that by recognising and building on those intangible elements such as values, beliefs, attitudes and dignity among his colleagues, a mindset change can be achieved. And he believes that any example of bad workmanship can be attributed to a mindset problem. “If the correct mindset is in place, it will automatically deliver the positive measurables,” says Danie.

In drafting standard safety procedures the behaviour of the rock is used as a starting point. The environmental conditions are also addressed so that people can work safely and productively – once again acknowledging the human factor, in the firm belief that people make a difference.

Slogans are an integral part of Danie’s culture-changing approach. And they’re not just words, but are based on fundamental truths and experience. These slogans have become an important tool in Danie’s fight to improve safety. But they are used without creating offence or as an attack. Rather than admonishing, Danie relies on the challenges implicit in so many of the slogans to achieve these results.

Danie’s approach to instilling a culture of safety is to be visible among the workforce, and to lead by example. Forward planning meetings with a focus on safety are held not only with the mining and engineering staff, but also with environmental and ventilation staff – so as to foster the building of the safety element into every aspect of the operation and also to create synergies between the various disciplines.

A key aspect of the mindset change is a focus on communication and eroding sometimes hardened attitudes. Slogans and messages are cascaded to the various levels of the organisation, and just to check that the messages have not been contaminated, Danie sits in on progress meetings and scrutiny sessions at regular intervals.
CASE STUDIES

SAFETY EXCELLENCE IN NORTH AMERICA

Both of AngloGold’s North American operations were recognised for safety excellence during the past two years. In 2001, Jerritt Canyon’s SSX mine was selected by the US Mine Safety and Health Administration for the nation’s highest award – Sentinels of Safety – as the safest underground metals group mine for 2000. The Smith and MCE mines received Certificates of Achievement for the same period. The Nevada Mining Association named the Murray mine as the safest medium underground mine in Nevada, the SSX mine as the safest small underground mine and the Smith and MCE as the second safest of the small underground mines. The Jerritt Canyon mill site was awarded third place in the medium surface facilities category.

Jerritt Canyon safety professional Brian Still received honours as the Safety Professional of the Year.

The Cripple Creek and Victor Gold Mining Company (CC&V) received two safety awards from the State of Colorado, Division of Minerals and Geology. These awards recognised CC&V as one of the safest operations in the State. CC&V achieved over 13 months of operation without a lost time injury.

CC&V safety supervisor Larry Snyder was also recognised for his individual efforts in making CC&V one of the safest operations in the North American mining industry. Larry was presented with the State’s individual safety award for his implementation of the Five Point Safety System.

ANGLOGOLD AUSTRALIA PURSUES BEST PRACTICE IN FITNESS FOR WORK PROGRAMME

AngloGold Australia’s Fitness for Work programme has had a positive effect on safety in the workplace.

AngloGold’s Australian operations have instituted a best-practice system to manage drug and alcohol abuse which, if left unattended, can have both a negative impact on health and safety (as a result of impaired decision-making) and possible negative social consequences for the individual and his or her family and colleagues.

About three years ago, AngloGold Australia implemented a sophisticated health and safety information and training programme for employees. As part of this Fitness for Work programme, an Alcohol and Other Drugs Policy was developed. In addition to counselling, this involves regular screening for drugs and alcohol in the workplace.

The programme takes a commonsense approach, consistent with effective health promotion strategies designed to make healthy behaviour choices easier.

This programme has yielded encouraging results, with reductions across the board in areas where the programme has been implemented. Together with regular screening and, as an integral part of the programme, is a well-developed and easily accessible Employee Assistance Programme (EAP).

Not only has the programme had a positive impact on drug and alcohol abuse, but has also had a positive effect on safety in the workplace.
Items of mining equipment such as pneumatic rockdrills and heavy fans are often the source of constant noise in contained working areas. This exposure to noise remains one of the greatest challenges faced by employees in the mining industry. This is an area where AngloGold is making excellent progress, particularly on the South African operations, where a combination of labour-intensive operations and underground hard rock mining poses the greatest challenges. A major problem with hearing loss is that it is a painless but irreparable process.

AngloGold’s comprehensive hearing conservation programme has six key elements:

- **Surveillance**
  Noise-exposure surveys are conducted in noise-exposed occupations. These surveys indicate high-risk areas and attention is currently focused on rockdrillers, loco drivers and stope teams.

- **Administrative control**
  Systems are in place to determine high-risk zones and to ensure that appropriate measures are taken.

- **Education and training**
  Team members receive ongoing education and training about hearing loss and hearing conservation.

- **Personal Protective Equipment (PPEs)**
  The use of personal protective devices in required areas is enforced. Each employee is allocated and trained in the proper use and care of PPEs.

- **Engineering controls**
  Engineering controls are put in place in areas where equipment has been identified as noisy, to limit the noise at source.

- **Audiometric screening**
  A comprehensive audiometric testing programme is in place. Within AngloGold all noise-exposed employees are tested when they are employed, annually and during exit medical examinations. At the same time, employees are counselled regarding the need for hearing protection.

During 1999/2000 AngloGold, in collaboration with suppliers instituted extensive testing of PPEs available on the market to evaluate these for cost, efficacy and compliance. Trials at Tau Tona mine near Carletonville and at Tshepong mine in the Free State led to the approval of five devices within AngloGold – two ear-muffs and three insertable devices. Not only has this led to better cost efficiency, but also quality control, improved training materials and methods and overall management of the programme.

The silencing of rockdrills and fans is now a priority and forms part of AngloGold’s overall occupational health strategy to cost-effectively create a working environment conducive to good health, safety and productivity.

Stringent targets have been set to silence all of the pneumatic rockdrills and underground auxiliary fans on AngloGold’s South African operations by 2004. Good progress has already been made, with 95% of rockdrills having been silenced by end-2001. A standard is now being developed for all underground fans.

The rockdrill-silencing programme involves advancing the normal reconditioning cycle of the drills in service and fitting a muffler. Although there is a slight decrease in the performance of the drill, the decrease in noise levels warrants this. A rockdrill fitted with a muffler will reduce a noise level to about 112dB from 117dB. (A decrease of 3dB is equivalent to halving the noise level). The aim is to ensure compliance with an exposure limit of 85dB, measured by means of a weighted average over an eight-hour period, which is achievable in conjunction with PPEs.

AngloGold is also undertaking research on developing a cost-effective electric rockdrill, a first in the field of mining. Some 100 of these machines are being tested in rigorous underground conditions in AngloGold’s South African gold mines. These drills rely on a cheaper source of energy and are more environmentally and operationally efficient than their pneumatic counterparts.

A rockdrill fitted with a muffler will decrease noise levels by more than half.
NEW METHODOLOGIES FOR DUST MONITORING

Pneumoconiosis, silicosis and miners’ phthisis have all been around since underground mining began, as have the methods to measure and monitor dust exposure to minimise the potential for these Occupational Lung Diseases (OLD). But, despite adhering to measurement methodologies required by the South African Department of Minerals and Energy (DME) which indicated that 98% of the overall workforce was exposed to less than half the occupational exposure limit for alpha quartz (which is the harmful component of dust), the number of employees displaying OLD showed that dust exposure needs to be further limited.

In February 1998, AngloGold initiated discussions with the DME to gain permission to improve the existing methodologies at the Vaal River operations. By the beginning of 1999 the new methodology was established across AngloGold’s South African operations and is now setting the standard for the industry.

AngloGold’s approach comprised three phases:

- The company’s occupational hygiene teams undertook research to determine dust concentrations associated with underground areas and activities.
- Next came the identification of critical occupations based on both reported cases of OLD and continuous dust monitoring.
- This led to the development of a new dust monitoring strategy and the development, with a local information technology company, of an automated computerised system to link measured exposures to employees’ medical records. The information is used to proactively identify areas where engineering controls may be required and allows a prioritisation of areas for corrective action. Finally, a new Code of Practice was developed.

AngloGold believes that every employee has the right to retire free of injury or occupational disease at the end of his or her working career. Dust exposure, and occupational hygiene in general, is an area of strategic focus. AngloGold has set itself the target of reducing current levels of dust in its South African operations by 50% by 2004, although an immediate improvement is being effected. Owing to the latency period of at least five years before exposure manifests as OLD, disease outcomes should not be used as the sole measure of the programme’s efficacy in the years to come.

With 30 years of occupational environmental engineering experience in deep-level gold mines, a period as president of the South African Mine Ventilation Society, director of the Mines Rescue Services and serving on related industry forums and committees, Des Wrigley is in a good position to manage the ventilation and occupational hygiene at AngloGold’s South African operations.

“This understanding of our mining business and processes is valuable,” says Des, “but of paramount importance is a real concern for the well-being of our people.”

“Health-related hazards presented by dust are difficult to deal with in view of its not being detectable to the senses; it is colourless, tasteless, and in the initial phases the resulting symptoms are largely painless. The challenge faced by the industry is to implement technology which can measure microscopic dust concentrations in real time. AngloGold has acknowledged the health hazard posed by dust. High-level attention is being paid to it, and a Dust Steering Committee has been established, with a chairman who reports progress to the South African operations executive on a monthly basis. AngloGold’s “Dust ModusOperandi” is considered to be pioneering and of world class.

Des points out that the tangible and visible hazards in mine working areas such as rockfalls and tramming are in themselves not insignificant. “Noise, however, apart from being clearly audible, has no other tangibles, and its effects are only manifested over time and with frequent exposure, thereby presenting even more demanding management challenges.”

AngloGold has reported encouraging decreases in the cases of noise induced hearing loss (NIHL). This is directly attributable to a concerted hearing conservation programme which includes rockdrill silencing, fan silencing and hearing protection devices. Des believes that the successes in reducing NIHL will soon begin to be mirrored in a reduction in dust-related diseases in the medium to longer term.
HIV/AIDS is the most critical economic, social and health care challenge facing companies and communities in southern Africa, with approximately 70% of the world’s HIV-infected infected population living in sub-Saharan Africa.

AngloGold’s research among its South African employees indicates a prevalence level of between 25% and 30%. This relates to a specific population comprising only sexually active, employed males. By way of comparison, the national South African prevalence level ranges from a low of 8.7% in Western Cape Province to a high of 36.2% in KwaZulu-Natal Province.

AngloGold’s AIDS education programmes were started in the mid-1980s. These have grown into a robust and comprehensive response to the epidemic by restricting the spread of HIV/AIDS, by caring for the infected and by conducting ongoing research. All these programmes have the overriding aim of extending the healthy and productive lives of employees.

**Restricting the spread of HIV/AIDS**

The spread of HIV/AIDS can only be restricted through a change in high-risk sexual behaviour and, ultimately, it is only the individual who can effect this change. Strategies that can be practically applied to reduce the risk of infection include education and training in the workplace and treating sexually transmitted infections (STIs). Peer education has emerged as an effective way of heightening awareness and changing behaviour, while treating STIs encompasses active STI identification coupled with counselling, condom promotion and partner notification.

AngloGold is also active in the communities surrounding its operations, since untreated infections are a constant source of employee reinfection. Support and funding is provided for community programmes aimed at both HIV/AIDS education, condom distribution and the treatment of STIs.

**Caring for those infected**

Employees have access to world-class medical facilities through the Anglogold Health Service (AHS). These facilities provide a Wellness Programme comprising Voluntary Counselling and Testing (VCT) and Wellness Clinics. These programmes deal largely with encouraging confidential testing, as cost-effective therapy can only be made available to those who know their HIV status. Employees who test positive for HIV are then referred to the Wellness Clinics, where the progression of the disease is monitored; where they receive counselling and preventative therapy to reduce the risk of acquiring opportunistic infections such as TB and bacterial pneumonia.

A compromised immune system is less able to resist and overcome these opportunistic infections, which ultimately give rise to the high rates of disease and death associated with HIV/AIDS. AngloGold’s long-standing and world-class TB programmes are in line with the standards for prevention and treatment set by the World Health Organisation. AngloGold has also begun the design of an appropriate anti-retroviral therapy (ART) programme to supplement its already well-established prevention and treatment campaign. The programme’s roll-out is expected to have a very positive impact on the lives of HIV positive employees.

**Compassionate ill health retirement**

Employees who, on the grounds of ill health, are no longer capable of performing their jobs and who cannot be placed in alternative employment, receive benefits through a compassionate ill health retirement system. AngloGold recognises that employees and their families cannot be expected to cope on their own and is committed to putting in place support systems, some of them in partnerships with other organisations.

**Health research**

The development of an effective HIV vaccine is crucial in overcoming the epidemic. Aurum...
Health Research, a wholly owned subsidiary of AHS, is investigating becoming an HIV vaccine unit as part of a South African AIDS vaccine research initiative. Should an effective vaccine be found, it would give AngloGold’s workforce rapid access to that vaccine at an affordable price. The scale of the AIDS tragedy is immense and as the epidemic moves into the symptomatic phase – where people become sick with AIDS-related illnesses – without a significant and affordable medical breakthrough, the death of 7 million people can be anticipated over the next ten years and more.

Although the costs of dealing with HIV/AIDS for AngloGold will be significant in the short to medium term, it will not have an impact on the prosperity of the company. AngloGold’s extensive intervention programmes, at work and in communities, in restricting the spread of the epidemic and in caring for those infected, will increase the time lag between HIV and AIDS and, in so doing, minimise the cost to the company and increase the healthy and productive lives of many employees.

AngloGold’s efforts will not stop there, however. The company is committed to continuing its efforts to reduce the rate of HIV infection, to working at both international and national level in conducting vaccine trials and developing other therapies, and to promoting and supporting a national response to this crisis by reaching out into the communities to lessen the suffering of all those infected and affected.

Although Petra Kruger only has a year’s experience with AngloGold’s AIDS programme, she says the experience has been life-changing for her, and has altered her view of medicine.

“It’s not that I question the effectiveness of medical interventions,” she says, “but it brings home the urgency of sound education programmes, particularly in rural areas and communities where many people just struggle to survive.”

Petra, who heads up AngloGold’s HIV/AIDS programme, graduated as a medical doctor in 1992 and holds a diploma in Occupational Health. Many years of work in this field, mostly in the mining industry, have provided an ideal platform for the work she does in the field of HIV/AIDS among AngloGold employees. But Petra regards HIV as much larger than just a problem for employers. She says emphatically, “Interventions need to focus on bringing about the most effective change in the bulk of the population.

“Based on the mental metamorphosis I had to go through in the past eight months, I think the challenge lies in needing to bring about a complete paradigm shift away from the prevailing narrow viewpoint that HIV/AIDS is purely a medical problem. The key to halting the spread of this disease is prevention of new infections, and, in the absence of a vaccine, prevention requires a change in risk behaviour, which, in turn, requires education.”
AngloGold set up its Small and Medium Enterprises Development Initiative (SMEDI) to assist with the establishment of small and medium businesses from which the company could source products and services. The objectives are to stimulate economic growth, mainly in the areas in which AngloGold operates, and to empower disadvantaged people and communities.

SMEDI operates a development and equity fund called Masakhisane (which means “Come, let’s build together”). With less stringent requirements than those set by banks and financial institutions, the fund enables would-be entrepreneurs with limited capital to get started. SMEDI also assists small enterprises with the drafting of business plans, negotiating contracts and raising loans.

Since AngloGold’s formation in 1998, SMEDI has been involved in the setting up of 93 small businesses with an accumulated turnover of more than R423 million. In the process jobs have been created for 1,989 people.

In 2001 AngloGold introduced a formal Black Economic Empowerment (BEE) Procurement Strategy to serve as a guide to its Commercial Services Department in obtaining goods and services from BEE companies. In the same year goods and services to the value of R194 million were purchased from BEE companies, and even higher targets have been set for 2002.

**Supporting Small and Medium Enterprises**

AngloGold’s focus on core business has also spawned other unlikely opportunities. A blacksmithing shop in South Africa’s Free State Province was suffering financially; a decision taken in 1998 to close the shop would have led to the loss of 21 jobs.

The workshop’s artisans and foremen approached AngloGold’s SMEDI for assistance in motivating an outsourcing proposal. This was followed by an investigation into the feasibility of the project. After extensive market research and financial forecasting, a business plan was presented to the Masakhisane board, who accepted the proposal and invested a 50% equity stake in the business. The balance of the share capital was provided by the entrepreneurs. An empowerment share structure was introduced to the entrepreneurs by Masakhisane pledging to sell 60% of its shares to the previously disadvantaged individuals employed by the business. In March 2000 the entire shop was outsourced to the affected employees, giving birth to Pro-Forge (Pty) Ltd.

Pro-Forge’s board of directors is representative of Masakhisane, management, artisans and workers. The company’s direction is overseen by the board, which has the mandate to appoint certain key management positions, including that of managing director.

A further indication of Pro-Forge’s success is Masakhisane’s intention to sell its remaining shares to a US investment group. This development could prove to be strategically vital in exporting Pro-Forge’s products to the United States.

The printing department at AngloGold’s Vaal River operations. The department was privatised in December 2000. It is one of many small businesses that SMEDI has helped to establish to provide products and services to AngloGold.
**Equal Opportunity in Australia**

AngloGold Australia’s community investment activities complement its training programme which heightens awareness of aboriginal traditions.

In a similar way in which the AngloGold Employment Equity and Development Committee tackles these key issues in southern Africa, AngloGold Australia does the same, but under a different banner.

The company is committed to promoting an organisational culture of open communication and personal participation which provides all employees with equal opportunities. Guided by an equal opportunity policy, this philosophy aims to ensure that the best person is employed for each job and that, once employed, employees are provided with sufficient opportunities to develop and effectively utilise their skills and competencies. At the same time the policy ensures that behaviour, innuendo or harassment in any form that could create an intimidating, hostile or offensive work environment, are eliminated.

**Employment Equity a Focus in South Africa**

Employment equity and development is the focus of a separate AngloGold board committee chaired by deputy chairman James Motlatsi.

After extensive consultation with trade unions, the company submitted a five-year plan in compliance with the Employment Equity Act promulgated in 1998. Aspects of the plan include:

- the development of AngloGold’s philosophy;
- setting targets for the promotion of historically disadvantaged people;
- an analysis of employment policies, procedures and practices, and
- Monitoring of the implementation of the plan.

AngloGold has set itself extremely optimistic targets and has made good progress in achieving these. The company reported substantial advances during the past two years at all levels of management.

Skills development committees, comprising representatives drawn from management and unions, have been established at all operations and meet on a monthly basis to review progress. Regular meetings are also held with unions to discuss both progress and problems.
When interviewed by a leading Johannesburg newspaper recently on his role as deputy chairman of AngloGold and as chairman of the company’s Employment Equity and Development Committee, James Motlatsi said unequivocally that a part of his role was “making the lives of mineworkers better than they used to be”.

Born in Mohales’ Hoek in Lesotho, traditionally a labour recruitment area for the South African mining industry, James joined the Western Deep Levels mine in 1970. He rose to prominence in the then fledgeling NUM during this time and played a leading role in the industry-wide strike in 1987. From 1982 to 2000 he was the president of NUM, today the largest union in the country, and from 1985 he was a member of the Executive Committee of the Confederation of South African Trade Unions’ (Cosatu). Cosatu is a vigorous and vocal player in the country. James is currently the CEO of TEBA, the South African mining industry’s recruitment and development service provider and has been a director of AngloGold since its inception in 1998.

“My job as chairman of the Employment Equity and Development Committee is not only to formulate policy which will ensure that employment equity happens in the company, but also that it can and does happen,” he says.

“An employment equity and development policy has been developed and handed over to management for negotiation with organised labour and there are now structures in place on each and every business unit within South Africa to make it work.”

Not satisfied with leaving it to be implemented within the company, James took it upon himself to visit AngloGold operations. He has recently been to TauTona, Mponeng and Tau Lekoa – to satisfy himself that the policy was accepted and is being put into practice.

“When I go underground,” he says, “I simply stop people in the haulages and at the stope face. I ask them how long they have been with the company and what they have learnt over the years. And I find out what they are doing now and if we are using the experience that they have gained. I can honestly say that we are doing the right things and that we are making progress.”

James is adamant that the work of his committee must reach workers at all levels within the company, and that is why employment equity cannot be seen in isolation, but needs to be undertaken as part of an overall development plan.

There are two key elements to the policy, he says. The first is the management trainee programme, whereby promising individuals are selected and awarded bursaries, followed by appropriate career and mentoring opportunities. The second is a huge focus on Adult Basic Education and Training.

“You will note that we recently changed the name of our committee and added the word “development” to it, he notes. Education alone will not make a manager. He or she needs experience and that is not something that happens overnight.

“The South African mining industry still suffers from the legacy of the apartheid system. At board level it’s relatively easy to find the few individuals who are appointed and who can play a constructive role. But it is at executive and senior management level that we really struggle. We simply do not have sufficient black recruits with both the necessary education and experience. And, what’s more, when we do manage to develop such a person, we struggle to retain them.

“We need to create a climate where trainees coming into the company want to make mining their career. Our competitors outside of the mining industry operate from a very different, more conducive environment, that is often more attractive to young people.”

“Employment equity and development is about balance,” he concludes, and it’s not just something we have to look out for in South Africa. “It is about making the company representative of the people in the country and regions in which we operate. In the so-called developing countries, this is often about foreigners versus citizens. But the same principle applies round the world,” he says.
In the planning, design and operation of its business, AngloGold is committed to sustainable development. This means, in an environmental context, ensuring that our mining and gold recovery activities are developed and performed in such a way as to minimize their negative impact on our environment and that we take a responsible, long-term view of the consequences of our work on the land, air and water around us. An AngloGold-wide environmental policy (which allows for specific guidelines in accordance with local legislation and requirements) was approved by the board committee on Safety, Health and Environment in 1999 (see overleaf).

A core team of environmental specialists, led by an executive officer of the company, and reporting to the CEO, operates at the international, national and regional levels. This team directs environmental practices and manages issues in terms of best practice and strategy, and participates in global, international and local environmental policy debate and development and supports line management in fulfilling its environmental obligations.

A highlight during 2001 was the receipt by AngloGold of the award for the Sustainability Leader in the precious metals sector by the Dow Jones Sustainability World Indexes (DJSI World). AngloGold achieved the highest total score of any of the companies included in the precious metals sector. This rating was based upon AngloGold’s high level of performance across the three dimensions of corporate sustainability: economic, social and environmental. Achieving at least compliance with legislation and striving towards international best practice is the role of operational management.
When AngloGold took a decision to investigate and implement best practice in cyanide management on its operations, Basie Maree was the obvious choice to lead the project. Basie, who is head of Metallurgy in the South Africa region, has more than 25 years of experience in gold extraction, having worked at all of the company’s South Africa operations during his career.

“I have been involved with cyanide safety since early on in my career, and have experienced some minor incidents with cyanide,” says Basie, “I issued a cyanide safety code back in 1997, but it never really got off the ground. In 1999, I decided to put a small team together to rework the document. Unfortunately, we then had a number of serious accidents at Ergo which resulted in an increase in our efforts to produce and implement very stringent cyanide safety measures.”

Basie then set about putting together a competent team of specialists – in-house and external – bringing together a variety of disciplines from mining and metallurgy, to safety, risk assessment, occupational health and environment.

“It soon became very apparent that although we had embarked on this project for safety reasons, the environmental aspects were as important.”

Says Basie, “The team then began a search towards best practice, locally and internationally and was exposed to very interesting issues/people in this search. As a result, its members also served on both the national (Chamber of Mines) and international task teams. The AngloGold code was well advanced at this stage and a lot of our work (detail, layout, concepts) could be and was used to develop wider codes.

“Our work is unique in that we are doing research on the full life cycle of cyanide and, as far as I can gather, this has never been done at mine/production level before. A lot of good academic research has been done – but has not really been followed through to implementation phase – and now we are doing that.”

“One of the most notable successes,” says Basie, “is that the company now has a greater commitment and understanding amongst its workforce regarding the issues relating to the use of cyanide. We have developed and implemented safety and training protocols never done before – and our in-house audits are proof of our success. What is different this time round is that we are doing it and not just talking about it.”

AngloGold recognises that the long-term sustainability of its business is dependent upon good stewardship in the protection of the environment and efficient management in the exploration and extraction of mineral resources. AngloGold will:

- ensure that its employees and contractors are aware of this policy and their relevant responsibilities;
- conduct environmental audits to evaluate the effectiveness of its management systems;
- communicate and consult with interested and affected parties on environmental aspects of its activities;
- work to continually improve its environmental performance; and
- participate, through a managed public affairs process, in debate on environmental matters at international, national and local levels. Country-specific guidelines to implement this policy will be developed where appropriate.
Cyanide is used extensively within the gold mining industry to dissolve gold in ore. The discovery of the cyanide-in-pulp (CIP) process revolutionised the gold recovery process over a century ago and today cyanide is still the optimum lixiviant for the recovery of gold owing to its availability, effectiveness, cost and manageable risk to people and the environment. Untreated cyanide exposed to the environment will decompose naturally and so, once captured within containment facilities, poses minimal risk.

About 1.4 million tonnes of hydrogen cyanide is produced annually worldwide, of which only about 13% is converted into sodium cyanide for use in the extraction of gold and silver. Most of this cyanide is produced, transported, used and consumed without incident. In recent years, however, accidents and environmental incidents (most notably in Europe and Papua New Guinea) have resulted in both public outrage and intense debate at an international level about the hazards associated with the delivery and use of cyanide.

AngloGold has been at the forefront of the international debate through its participation in the United Nations Environmental Programme’s (UNEP) Paris Working Group and in conjunction with the International Council on Mining and Metals (ICMM). Initiated in May 2000, the UNEP working group comprises 40 representatives from industry and other interested parties around the globe. A Voluntary Cyanide Management Code is being developed and overseen by a steering committee in which AngloGold participates. A Draft Cyanide Management Code was circulated to all parties in June 2001.

AngloGold has driven the development of the South African Chamber of Mines protocol for the use, storage, transport and handling of cyanide.

In addition, AngloGold’s dedicated cyanide task team is establishing best practice for cyanide and possible alternatives across its global operations, by utilising worldwide centres of excellence and by conducting local research. Three fundamental principles underpin AngloGold’s approach, namely:

- control at source;
- training; and
- emergency preparedness.

Good progress has been made in developing a second revision of the AngloGold Best Practice Guidelines, which looks at aspects such as:

- chemical stewardship;
- environmental stewardship;
- closure;
- emergency preparedness;
- people awareness; and
- management systems and training.

The most immediate priority is the setting of standards and procedures, together with an analysis of consumption and controls. Next in line is the potential for cyanide recovery, with a longer-term view to pursue alternatives. Already in place is a cyanide emergency treatment protocol, which includes emergency response and communications as well as first aid and medical treatment facilities and training at each of the company’s operations. AngloGold is setting up at every cyanide-using site a cyanide emergency mobile unit. (which includes the necessary medical protocols) to be used in the event of an emergency. Over the last year, AngloGold’s South Africa region has conducted a review of its programmes to improve cyanide management and use within its operations.
The Geita Gold Mine (GGM) in the north-west of Tanzania is jointly owned by AngloGold and Ashanti Goldfields. The mine employs some 1,000 people in a remote area just to the south of Lake Victoria.

When Geita put out the tender for its camp and catering management services, it included, as a prerequisite for all applicants, the initiation of a project which would contribute to the welfare of the local communities in the area. This is a mechanism used by GGM to provide sustainable development activities for local communities in and around the Geita district.

The Nyakabale Community Agroforestry Project was born from this initiative, and is jointly funded by GGM and All Terrain Services (ATS), the camp management contractors who were the successful tenderers for the job. The project relies on the produce demand from the catering contractor, who also provides Nyakabale with the requisite technical expertise and day-to-day management. Funding comes from Geita and the mine is also responsible for the coordination with the village government.

Vegetables produced by the project are sold to Mchauru village, and the first harvest of the Moringa Olifeira trees (the agroforest component of the project) is scheduled for late in 2002.

These developments have already flowed through to the community; an agronomist provides local farmers with advice and training in sustainable development practices and business-management skills. The community has benefited from both full-time and casual employment opportunities. Support is provided to small-scale businesses, while a co-operative environment is also encouraged so as to assist local farmers and to provide a centralised market for their produce.

Cathy Reichardt is AngloGold’s environmental manager for the Africa region – a function which has become all the more important given the company’s growing profile in Africa. Having worked for 17 years as an environmentalist in Africa, the Asia-Pacific region and Europe, Cathy can draw on a wealth of experience in facing the challenges of establishing internationally acceptable environmental standards in locations which are remote and with very little in the way of infrastructure.

All five mines in Africa are open-cast operations and Yatela is AngloGold’s only heap leach operation outside North America. These operations have relatively short lives, compared with the deep-level South African mines. The transient nature of mining activity therefore needs to be communicated to, and accepted by, the local community to minimise the risk of dependency. As such, social and community development projects need to focus on projects which will be sustainable beyond the life of the mining operations.

“In order to facilitate mine development, we have had to relocate sizeable communities at Sadiola, Yatela and Geita, which is a complex and protracted process. Throughout mine life we need to undertake ongoing socio-cultural monitoring to determine whether the social impacts of involuntary resettlement have been adequately addressed, and, if not, to identify and implement appropriate mitigative measures,” says Cathy.

In spite of sometimes weak and/or poorly implemented environmental legislation in developing countries, AngloGold has committed to complying with internationally accepted environmental standards. This commitment was rewarded in mid-2001 when Geita received ISO 14001 certification.
Limiting the use of fresh water and limiting the pollution of water are major challenges faced by the mining industry around the globe. This is no less the case for AngloGold’s South African operations where innovative ways of treating water are constantly being evaluated.

Recently this quest led to the operation and evaluation of a 500 litre-per-day pilot plant utilising a novel desalination process for the treatment of underground water in the Klerksdorp area. The aim was to understand the process operating conditions and costs, to produce different qualities of product water and to develop design parameters for upgrading to an industrial-scale plant.

Large variations in the input water quality were observed daily, especially sulphate concentrations which ranged between 500 and 1,000 parts per million. Despite this, the pilot plant produced potable and high quality industrial water, demonstrating that allowable discharge and potable water quality could be achieved over extended periods of time.

The process proved to be cost-efficient. Taking into account all aspects (including reagents, labour costs and maintenance), the costs associated with treatment were 30% lower than fresh water prices in the same region. In addition, it is believed that the plant could supply much-needed water to local communities, thereby making a positive contribution towards a broader environmental goal.

As part of the company’s ongoing environmental programme, AngloGold is constantly examining water treatment processes so as to determine the most appropriate way of treating water affected by mining-related activities.
In December 2000, the Brocks Creek mine, part of the Pine Creek operations in Australia’s Northern Territory, ceased mining and milling operations. This surface mine, which came into production in 1995, produced about 281,000 ounces of gold from 5 million tonnes of ore over its five years of life. Significant rehabilitation of the mine area and revegetation of overburden storage facilities was performed, including:

- rehabilitation of the Faded Lily and Alligator overburden storage facilities;
- closing of mines;
- rehabilitation of haulroads;
- removal of infrastructure; and
- plant decontamination.

The second year of the mine’s closure plan (2001) saw:

- ongoing management of recognised heritage sites such as the Brocks Creek Cemetery, Township and Chinese Temple;
- capping and vegetation of the tailings storage facility;
- further revegetation of outstanding disturbed areas; and
- ongoing closure monitoring and management.

The Brocks Creek Mine Closure and Decommissioning Plan has been submitted to and accepted by the Northern Territory government. Rehabilitation should be completed by 2003, with formal closure approval expected by 2007.

One of the highlights of Faye Lawton’s career was the successful closure and rehabilitation of Brocks Creek gold mine and where the team, led by Faye, won a recognition award from the Northern Territory’s Minister for Resources and Development for their efforts in integrating the closure into the business plan, and achieving a profitable and environmentally sound outcome.

Faye is the Environmental Co-ordinator for AngloGold Australia, with responsibility for the Northern Territory operations at Pine Creek, which incorporated the Brocks Creek and Union Reef Gold Mines. Armed with a Bachelor of Science degree, Faye commenced her working career in the agricultural land care field.

When asked about a typical day in her life, Faye responds that a year is a more accurate description. “The Northern Territory is typically a monsoon climate area where the bulk of the rainfall occurs during the months of October through to May. During the wet season we mainly co-ordinate wastewater discharges and sample and monitor surface water. We also work hard towards completing rehabilitation.

“In the dry season, we commence our annual reports for the government and start planning for the next wet season. We have a substantial controlled burning programme from May to July, on ground and by helicopter to prevent “wild” fires entering our lease areas and also for habitat protection.

“The dry season also allows us to start with rehabilitation earthworks. Then at the start of October the cycle starts all over again.”

“Although AngloGold is fairly new to the Australian mining scene, the professionalism in its environmental management and support programmes has been extensive. The company has shown a willingness to incorporate different approaches to environmental protection.”
Internationally there has been an intense focus on identifying a global standard for sustainable development. In AngloGold’s quest to sustain and expand the industry’s social licence to mine gold, the company has participated in this debate in the global arena but has also pursued this vigorously within the company. Two key drivers of this debate have emerged, namely conservation and development.

AngloGold believes that the traditional view of the environment – wildlife, land, air, water – must be integrated with the economic, social and cultural needs of the communities in which it operates. This new view demands that the company understands the traditional and cultural values of people, locally, regionally and across the globe, and considers and reflects these values in its mine planning and in managing operations. It is within this framework that mining project evaluations and planning are approached at AngloGold.

In many parts of the world where the company operates, the ability of people to satisfy even their most basic food, shelter and clothing requirements is perhaps the most serious challenge. Operations in these areas, therefore, will be influenced by their ability to satisfy the critical, short-term human needs. Even these basic requirements will, however, need to be balanced with the longer term concerns for sustainability.

When the company enters into an area it will be as respectful as possible of the people, their tradition and culture. This may lead to a change in approach or to the adoption of a different set of standards from those which might otherwise have been employed had it merely transferred values and standards used elsewhere in the world. Community difference and values will be embraced to achieve the goals in support of the values of the company and the local communities themselves.

As a minimum AngloGold is committed to complying with all applicable laws and regulations. But, if the laws and regulations are non-existent or inadequate, then it will adopt an appropriate set of standards, developed in line with its global standards in environment, safety and health and social investment, for the specific locale. Such a set of values will reflect the local conditions and address the risks in order to ensure that important values are reasonably protected.
At the heart of sustainable development is the principle that business must meet the needs of the future without compromising the ability of future generations to meet their needs.

In light of its commitment to both sustainable development and to adhering to a global environmental standard, AngloGold will continue to conserve environmental resources and to approach development in a sustainable way.

AngloGold believes that all new projects must adequately address and balance key economic, social and environmental values. To accomplish this, six elements must be present in every new project undertaken. These are:

- Gathering baseline data, identifying the major values and risks at the early project-planning stage.
- Developing plans, operating practices and closure designs that protect community values and mitigate risks to acceptable levels.
- Incorporating those plans, practices and designs into life of mine operations, beginning with construction, through operation and into final closure and reclamation.
- Identifying and quantifying the full cost of the project design, operating and closure requirements into project planning and evaluation.
- Developing and implementing environmental management systems to ensure that the project is built, operated and closed in accordance with the planning and design documents.
- Communicating the planning, operations and closure activities with interested stakeholders and soliciting their input throughout the process.

These six elements allow the company to develop a comprehensive understanding of the economic, environmental and social values at issue and the mechanisms that are necessary to see that they will be protected, mitigated and incorporated into the project design and operation.

AngloGold’s aim is not only to leave as light a footprint as possible on the landscape and cultures, but to also have a positive impact on the people and communities in which it operates.
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