

# **“Unleashing human potential – the New Denmark story”**

***Author/Speaker:***

**Ben Magara**

**Senior Vice President: Anglo Coal African Operations**

Ben Magara has a B.Sc. (Eng) Honours degree in Mining Engineering from the University of Zimbabwe and has done various management studies from UK's London Business School and South Africa's Gordon Institute of Business Studies and Damelin College.

Ben spent the first 4 years of his working life at Wankie Colliery. He joined Anglo Coal in 1994 and has worked from Miner to General Manager at New Denmark Colliery, New Vaal Colliery, Arnot Colliery, Bank Colliery, SACE – Landau Colliery and again at New Denmark Colliery. Ben was recently promoted to Senior Vice President: AngloCoal South African Operations.

He is Chairman of COALSAFE 2004 and outgoing Vice President of SACMA.

Ben is a keen sportsman and is married with a 4 year old son.

## BACKGROUND

New Denmark Colliery (NDC) is situated approximately 150 km south east of Johannesburg in South Africa. It is a mechanised underground coal mine using continuous miners for main and secondary development. The bulk of production is sourced from one total extraction unit, using longwall methods. NDC is the designated supplier of coal to Eskom's 3 600MW Tutuka Power Station. The mine exploits the No 4 seam which is bituminous steam coal. With a reserve in excess of 300 million tons, the expected life of the mine is more than 30 years, depending on demand rates. Production at the Colliery started in February 1983.

New Denmark Colliery went through a magnitude of challenges in recent years. These included, amongst others, safety, coal qualities, equipment reliability, low morale and anxiety as a result of retrenchments and poor customer relations. NDC retrenched approximately 60% of its workforce between 1998 and 2001. The current workforce is about one thousand including contractors.

## THE NEW DENMARK COLLIERY STORY

The story of NDC is a journey of epic proportions – from an operation which lost half of its workforce, was forced to reduce output by half and had a very poor safety record to further fuel the poor morale; to an operation where the energy and enthusiasm of the leadership is cascaded down through the management team resulting in drastic improvements in all areas. The improvements are most notably in safety, coal qualities, productivity, organisational culture and return on capital employed. These achievements were attained through a simple 5 step process:

*Phase 1 - An in-depth assessment of the as-is culture and expectations.*

The old NDC culture was characterized by rigidity and officialdom. It was a hierarchical "sir culture" with barriers between management and employees. There was lack of trust and good will between the different layers of the organisation. This led to insecurity and fear of victimisation which was exacerbated by the retrenchments in 1999 and 2001. This also led to negative perceptions in the local community. In fact the sustainability of NDC mining operations was now in question.

*Phase 2 - Strategy formulation by management team (March 2002)*

Although management lead strategy formulation, the major aspect of the process was involvement of all stakeholders, in particular the general employees. Management, unions and employees worked closely in formulating the strategic framework. In particular some of the initiatives were actually proposed by the employees themselves, for example the workers initiated the "Clean coal, No Blood, No contamination, and No Pollution effort" (Amalahle Ahlanzekile initiative).

*Phase 3 - Strategy guiding coalition (line management & unions) (April 2002)*

Once the strategy was formulated it was important to build a coalition involving line managers, and unions. This group's purpose was to refine and guide the strategic thinking, while ensuring continuous buy in from the employees through the unions.

*Phase 4 - Strategy consideration and buy in (all employees) (May 2002)*

For the turnaround to be totally successful, there had to be total involvement of all the employees. The employees had to review the strategy through focused groups and information sessions, and provide their suggestions and comments, to which feedback and responses were provided. In this way total employee buy in was achieved. As a dramatic illustration of this fact the employees decided to launch the strategy on May 1 2002, which was their workers holiday. They decided to sacrifice their rest in order to launch a strategic plan that they owned.

*Phase 5 - Action plans, implementation, review and monitoring (Ongoing)*

The action plans were developed, clearly articulated and continuously communicated to all employees. Time frames, roles, milestones, benchmarks, and implementation details were provided. Measurable/quantifiable metrics were developed in to determine and evaluate success.

The key to the success of the process is *glaringly* obvious: people-people-people, fun and energy. The people of the colliery are actively involved in the process and feel empowered to add their contributions. No contribution is considered too small. The buy-in from the employee representatives and the engagement by management of the total workforce on 1 May 2002 were the turning points in the process, aptly named **TSOSELETSO** ( a Sotho word meaning **REVIVAL**).

This same process brought out the core values of the colliery:

- **Excellence** – We strive for *excellence* in everything we do: safety, quality, relationships, costs, resource utilisation.
- **Empowerment** – We believe in *empowering* our people through participation and skills development. We *enable* each other.
- **Integrity** – We are ethical and *trustworthy*: we are fair, just, honest and open.
- **Innovation** – Our innovation drives us to think and act out of the box.
- **FUN** – We believe in having *fun* in everything we do.

**= 2E's, 2 I's and a beat of fun!**

These aspirations were realized. NDC achieved the following in 2002 with celebrations rolling over into 2003:

- Anglo American CEO's Safety Gold Award and Floating Trophy (for large operations).
- Anglo Coal Chairman's Safety Shield Award (first time in the history of the colliery).
- 1 000 fatality free production shifts award by the Department of Minerals and Energy.
- Lost Time Injuries were reduced by 83%.
- Coal qualities – contamination reduced from 13.2% to 5%.
- 60% productivity improvement from 2001 to 2002.
- Longwall average monthly production improved by 72%.
- Broke the monthly Longwall production record 3 times in one year.

In accomplishing all these outstanding achievements, a lot of credit goes to the high energy and passion in the management team. The SMARTY (Safety Must Always Relate To Yourself) initiative was introduced in 2002. Smarty was introduced to positively influence people's attitudes towards Safety, Health and the Environment. First introduced as a cartoon logo, Smarty is now a live mascot, spreading the safety message at every opportune occasion. TSOSELETSO then joined, the fairer of the crocodile pair, also spreading the word and emphasizing on the organizational culture for the revival process.

All these improvements were achieved amidst a lot of fun ...

- *Smarty Bingo* – a recent initiative where collective safety is incentivised through a competition whose prizes depend on the occurrence of no accidents. Thus the drive to work for a long time without an accident, becomes realistic and fun.
- *Soup days in winter* - each and every employee received a hot cup of soup, a warm handshake from a management team member at 5am on a bitterly cold Standerton morning;
- *Ice cream with smarties on a hot summer day in February* - music blaring out "**Stand up, Stand up, for the Champions, for the Champions**" by Right Said Fred;
- *Smarties handed out by SMARTY* - to a production section who had cut 96metres safely on their 12 hour shift with loud energetic music to motivate the team;
- *Casual Day* - Managers arriving at work dressed as nuns, ladies and matriarchs, the secretaries dressed as mafiosa;
- *The Occupational health Forum* - toyi-toying through the villages chanting anti-AIDS and pro-VCT slogans and displaying their "strike" banners.

The logical question was whether these successes are sustainable. The performance of 2003/4 indicate that they are:

- ISO14001 accreditation was granted in November 2003 (in record 15 months).

- Won the 2003 Anglo Coal Chairman's Shield for the second year running.
- Safety – TRCFR has dropped to below 1 and the 1000 workforce has so far had only 1 LTI in 2004. Achieved 113 Injury free days, 335 LTI free days, and 2000 Fatality Free Production shifts.
- More that 54% of employees know their HIV/Aids status.
- NDC was awarded “5 Platinum Integrated NOSA Stars” in January 2004.
- Coal qualities – contamination levels have been sustained below 3.5%.
- Longwall monthly production record of 464 563 tons was achieved in August 2004.
- ROCE improved from 24% in 2001 to 44% by 2003 and is forecast at 46% in 2004.
- BEE procurement was doubled to R35 million over 3 years.
- Relations with Eskom have improved remarkably.

The performance statistics for New Denmark Colliery for the past seven years are summarized below. The results show radical improvement over all key performance areas. Safety has improved ten fold, Coal contamination 75%, productivity 40% and ROCE improved by 400%.

		1998	1999	2000	2001	2002	2003	2004ytd
<b>SAFETY</b>	<b>TRC</b>	249	180	91	55	16	21	10
	<b>TRCFR</b>	9.92	6.20	4.88	3.16	1.43	1.63	0.90
	<b>LTI's</b>	40	45	33	27	3	7	1
	<b>LTIFR</b>	1.21	1.56	1.81	1.58	0.27	0.60	0.11
<b>COAL CONTAMINATION</b>		12.4%	13.4%	14.6%	13.2%	5%	3.5%	3.2%
<b>PRODUCTIVITY (t/umpa)</b>		4995	4496	4750	4271	6483	6856	7150
<b>ROCE</b>		10%	12%	16%	24%	32%	44%	46%

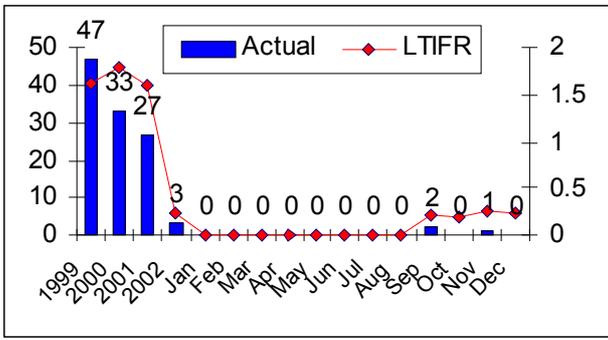
#### 1.1.1 *Table 1. New Denmark Colliery performance statistics.*

In the work environment there is an enormous amount of steel powered with 320 Bar hydraulic pressure in very cramped conditions with many potential hazards. Even though the working conditions are high risk, each person knows exactly to do safely. One cannot but think about the 3 lost time injuries for the total operation in 2002 and the three months accident free(Dec 2003 to Feb 2004) – that's really inspirational. The mood of the people in the sections and everywhere on the mine is very upbeat and they are extremely positive about the future of NDC. The New Denmark team believes that zero injuries “OTTO” is achievable for a whole year.

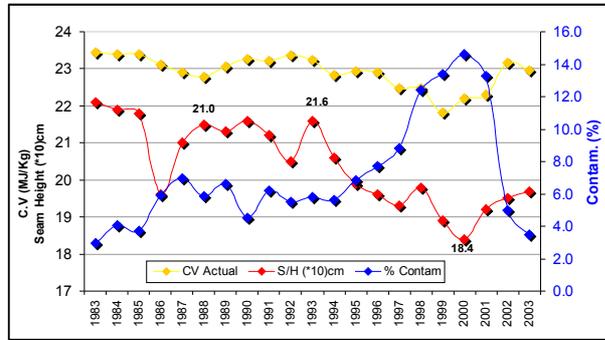
### **DETAILS OF NDC ACHIEVEMENTS**

The NDC results (safety, product quality, productivity, employee relations, customer relations, cost savings, profitability) have been outstanding and are summarized below. There is a seamless flow from improved safety performance and employee communications into product quality, improved productivity and finally much improved ROCE. Production costs decreased while cash flow improved. There is a strong correlation between improved safety and increased profitability. In fact improved safety performance is an effective proxy indicator or metric for overall mine performance.

The details of the NDC results are illustrated in the charts below; Figures 1 to 8. Figure 1 demonstrate and quantify the improvement in safety in 2002. Lost time injuries are reduced by 90% and there are 10 months with no LTI's at all. As a result of improved qualities, contractual penalties of R10million per year were eliminated, see figure 2. In Figure 3 and 4 steady increase in productivity is outlined. Between 2001 and 2002 the monthly average Longwall production increased by 72%, and there is also a peak increase in productivity of 60% in 2002. Figures 5 to 8 illustrate the improvements in employee relations, organizational culture, and community involvement. Figure 9 shows results from a Mckinsey Anglo Coal study. It is clear that NDC is ahead of the game in all aspects such as alignment, leadership, innovation, and organization.



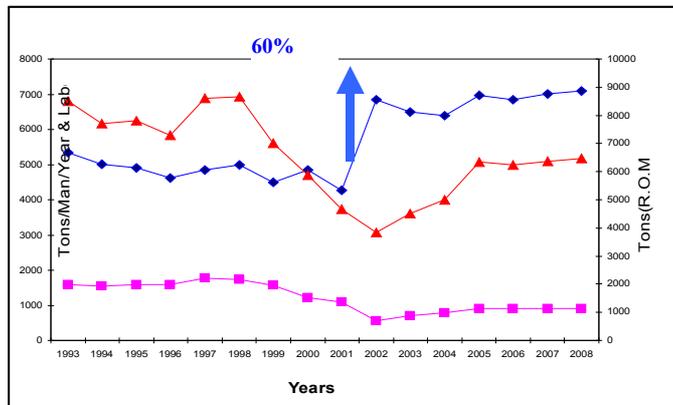
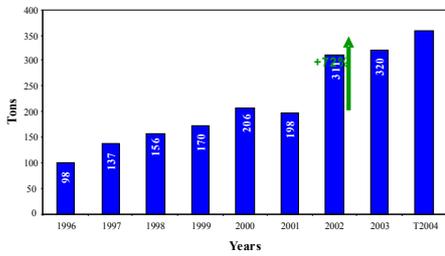
**Fig.1** LTIs dropped from 2001 to 2002 by 90% - 10 out of 12 months were LTI free



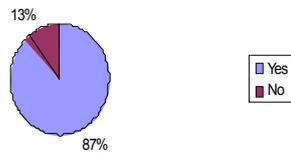
**Fig 2** Contractual Penalties of R10m/year eliminated.

**Fig.3** This graph shows improvement on Longwall production average

**Fig4.** Peak increase in productivity in 2002 by monthly 60%



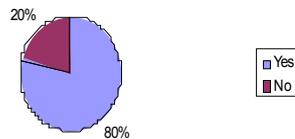
Managers listen to people



NO=40% (2000)

**Fig.5** Local community involvement survey results, Feb 2003 (1)

We have FUNatwork



**Fig.6** Local community involvement survey results, Feb 2003 (2)

NDC involves the local communi

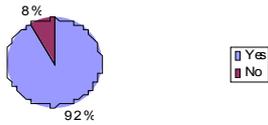


Fig.7 Local community involvement survey results, Feb 2003 (3)

Positive about future of NDC

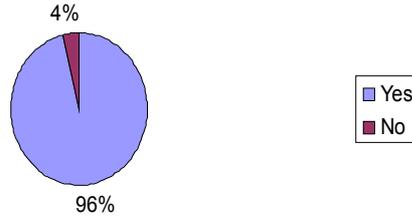
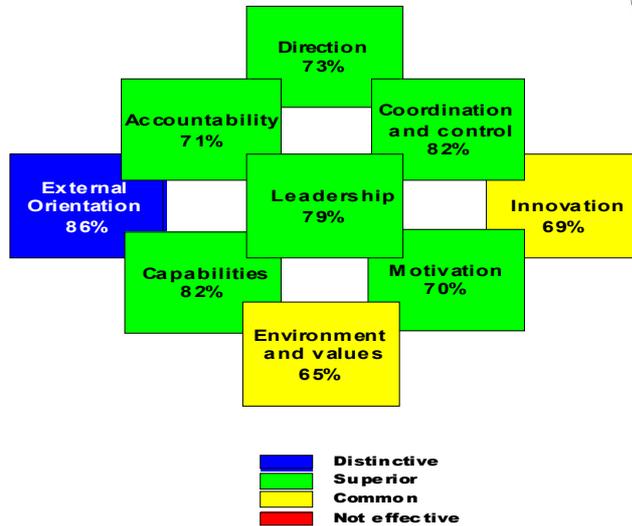


Fig.8 Local community involvement survey results, Feb 2003 (4)

## McKinsey Survey Results

### Good news...

- "Right now, the atmosphere on our mine is very good—its 300% better."
- "Recently there's been a total change in the climate. The mine manager made a big difference. The guys from the old school you had to address as Mister, and they would communicate with ordinary employees. Now people are recognised as people, there's empowerment."
- "In the old days when you came to New Denmark you thought Siberia—now people want to come here."
- "In the old culture you made a mistake and you were dead. Now they tell you how you're doing."



### Challenges...

- "It's been a fantastic achievement turning around this operation. The challenge will be to sustain this."
- "My concern is that the new culture is fragile."
- "There are clouds on the horizon. I'm concerned that to maintain energy levels is going to be very hard—its draining for the people in the management office. We keep preaching to the guys 2 levels down, but we're not doing it right—we're not empowering them. As we perceive it, if we don't keep pushing, they don't do it."
- "We're pulling something behind us—we've got this lag. The legacy is still here."

Fig. 9 The New Denmark culture survey results, June 2003.

### SAMPLE OF FEEDBACK FROM VISITORS

Excerpts from letters received by NDC from some of the people who have visited New Denmark Colliery in 2003.

"I have visited many of our business operations in the course of my 28 year career with the Anglo Group and .... I was really inspired by the motivation and commitment demonstrated by you and your team...." - Mr. A.J Trahar

"I have been using New Denmark as an example of how the team effort, creativity and discipline which can deliver results in SHE also delivers results in other areas .... "Everyone becomes an ambassador to the local community" - Sir Mark Moody-Stuart.

## LESSONS LEARNT

The huge improvement in safety, coal qualities and productivity at New Denmark can largely be attributed to the maximisation of a scarce resource which is mostly taken for granted – this is a real live case of “unleashing the human potential”. Below, are a few of the drivers identified which assisted in this process:

- Clear and regular communication of the direction and values whilst listening to and acting upon suggestions from employees at all times.
- Energy and focus from the management team to lead the workforce in a direction where there is no turning back.
- Employees are made to feel that they have contributed to the change process, thereby applying their skills more enthusiastically to the tasks at hand.
- Meetings with the total workforce regularly to discuss their concerns, suggestions and challenges and ensuring that feedback is given timeously.
- Involving the local community in the operation's business and advising them through the local media of the colliery's progress (e.g. comic strip).
- During the tough times, “If you want people to have peace of mind and to trust everything you say as a leader, you must show up in person.” This is clearly reference to the visible, felt leadership style employed by Ben Magara and the management team at New Denmark to drive safety and the triple bottom line (profitability, social responsibility and environment).
- Timing is everything – the introduction of SMARTY Bingo recently has provided a further boost to the safety programme and made it even more exciting. When people believe they can work for a long time without an accident, it becomes realistic and fun.
- Union relationships develop positively when you ensure that their trust is earned before resorting to the disciplinary process.
- “People are most engaged whilst they are having fun” – this maxim is applied fully at this operation, and the results speak for themselves.
- In an restructuring, reorganisation, and strategy formulation it is important to make survivors part of the solution and break through the culture of fear
- In the triangular safety organisational dependence framework: *dependence* provides safety by use of management systems, standards and procedures; *independence* guarantees individual safety through personal responsibility; and *interdependence* (“brothers keeper”) ensures that OTTO is achievable where such initiatives as SMARTY BINGO have been used to foster sustainable collective safety.

## THE KEY DRIVERS OF NDC SUCCESS

There are a number of drivers that enabled the initiatives (SMARTY, TSOSELETSO, OTTO, SOEFY, EEZI, Golden Rules) implemented at NDC, to succeed. These drivers fall into three broad categories: **Culture**, **Organizational structures and systems**, and **Leadership**.

**Culture:** The key NDC cultural elements are employee ownership of strategic initiatives, a fun organizational culture, informal networking, internalizing company values and also the bringing alive of strategic initiatives. This last aspect is of particular significance in the way imagery; artefacts, symbols and stories were collectively used to immortalize SMARTY, TSOSELETSO and SOEFY in the minds and activities of employees thus enabling NDC to bring alive and live the new improved safety paradigm. Extensively involving employees, made them feel they have a say, thus enabling them to passionately believe in their activities and execute with infectious enthusiasm. Further key elements of the new NDC culture include flexibility, high levels of trust, involvement of employee families, engaging the local community, and acknowledgement of success (from a sheer handshake, through the award of food items, to winning a prestigious refrigerator prize). Such acknowledgement hugely motivates employees as they feel that management cares about their activities. An all-inclusive culture that does not distinguish between contract workers and permanent employees, management and employees, skilled and semi-skilled employees, helps to create a safe environment for everyone, thus driving up productivity and profitability. The fun disposition (music, food, sports, dance, comic strips, imagery, games) that says we must enjoy ourselves while we are executing our NDC tasks and responsibilities is the cornerstone of the NDC success story. In summary the organisational culture at NDC generates the will to win in each employee, thus driving a highly successful safety-based mining model.

**Organizational structures and systems:** In terms of structure the key components are internal control systems, performance metrics, management information systems and creative reward systems. The reward systems that NDC implemented involved linking personal incentives to company safety values and also emphasized collective responsibility. The success of one employee is linked to that of rest the employees. Thus, it is in the interest of each employee that no employee is involved in accident. This phenomenon is exemplified by the SMARTY BINGO initiative. In this scheme the prize to be won depends on the occurrence of no accidents. If any accident occurs everyone's winning opportunity is damaged. Thus each employee becomes their brother's keeper! Such a framework is critical because collective reward systems effectively generate and sustain behaviours consistent with the organisation's strategic objectives. As a result it is evident from most of the employees that OTTO is achievable and realistic. Furthermore, the establishment of communication forums, feedback sessions, focused groups, information sessions formed the foundation of effective information flow within the organisation. Employees are not only motivated by systems that allow them to have their say. They also want feedback, engagement, and actionable decisions with respect to their expressed views.

**Leadership:** The fundamental issues are visible felt leadership, walking the talk, triple bottom-line, employee consultation/surveys/feedback, community involvement and clarity of and commitment to turnaround strategic plan. The NDC senior management, led by the dynamic Ben Magara, is very central in living and exemplifying the safety paradigm. Magara's affable, approachable, dynamic, hands-on, and truth- driven personality was fundamental to the NDC turnaround strategy. Subordinates and the entire organisation always follow the culture and disposition of the leader. The NDC management team play a critical role in championing the NDC initiatives and effectively broke the barrier between different company hierarchical levels. In particular by leading from the front, on the ground, at the operations level they applied effective visible felt leadership. For example in the event of an accident or problems underground the management team is right at the site irrespective of time of the day, working with the general employees to resolve the issues. Furthermore, employees feel free and empowered to telephone senior managers from underground at any time, when need arises. There are no bureaucratic chains of command. In decision making and execution, employee views and involvement are given serious and sincere consideration within the framework of a robust turnaround strategy. Having created such a trusting environment, workforce alignment to the same vision becomes easier. This commitment to the triple bottom-line (profitability, the environment, social responsibility) has led to effective community involvement, a sustainable and safe mining environment, and dramatic improvement in financial performance.

## **CONCLUSIONS AND FUTURE CHALLENGES**

The NDC story highlights a number of important key learnings. First, improvement in safety standards is important not only for the well being of employees but also as a powerful driver of financial performance. Consequently, safety becomes a proxy indicator of profitability. To achieve enhanced safety, innovation and creativity are essential. In this respect NDC has been spectacularly successful in bringing the safety paradigm alive by use of mascots, imagery, visuals and stories. This enabled the employees to live and internalise the safety strategy whilst having fun in the process. A fun culture is critical in breaking down barriers while making the achievement of targets pleasurable. Central to the assessment and management of the NDC turnaround strategy was the role of quantifiable and measurable metrics. Underpinning the effective implementation of all these initiatives is strong, visible, accessible, and felt leadership that sets direction, and is supportive of change and undoubtedly a lot of energy from every member of the operation.

Going forward, the first challenge for NDC is to maintain the great successes that they have scored. Secondly, there is need to raise the expectations and aspirations to higher levels, for example achievement of ISO18000, OTTO, 100% HIV/AIDS knowledge status, 10% dust reduction, 10% noise reduction, 80% recycling of gear oil, and 8% reduction in power consumption. In order to address these challenges NDC has to ensure that their enhanced safety based business model is sustainable. This involves anticipating and accommodating any implications of change, and ensuring that the model is dependent on institutions and systems rather than personalities.

Efforts are underway to consolidate and institutionalize the new NDC culture and value system, develop decentralized centres of excellence, encourage more employee ownership of initiatives, improve training of supervisors, harmonize and standardise the bonus payment system for all employees, and enhance strategic and operational planning. It is apparent from the McKinsey culture survey that the development and coaching of supervisors require innovation and creativity in order to improve role clarity, effectiveness of execution, and work place management.

There is also need to resolve issues relating to diversity and black economic empowerment (BEE) because it makes business sense and also in keeping with the requirements of the mining charter. Central to this challenge is appreciating that there is, in fact, a strong business case for BEE which requires innovation and creativity in order to unleash and unlock the latent value and synergy. The issue of equity with respect to historically disadvantaged groups is being addressed without equivocation or delay. For example, there is total transparency in recruitment, selection and promotion processes, and aggressive up-skilling and promotion of

previously disadvantaged employees. In particular, the middle management and Frontline supervisors are going through personal transformation workshops. These workshops also emphasize the required working behaviours of leaders in the new Yebo Siyaphambili culture.

All these activities help to ensure that management continues to earn and keep trust from the employees. This leads to an increased sense of belonging and commitment, hence increased safety and productivity. As already eluded, NDC has a pleasurable task to ensure that all its efforts and activities are in total alignment with Anglo Coal's "YEBO SIYAPHAMBILI ! – *yes we are going forward together*" values.