

6 Data findings

6.1 Introduction

This chapter presents the data gathered during the empirical-work phase of the case study research. The facts of the case will be presented without formal analysis as this will be presented in the next chapter.

The chapter opens with a presentation of the profile of the case study organisation, Kumba Resources. This background material will give a context for the investigation into the case study organisation and the Continuous Improvement Community of Practice (CICOP) within Kumba Resources. In the next section of the chapter there is a focus on knowledge management at Kumba Resources, including the role that knowledge management plays in the organisation as a whole as well as the specific activities and role of the Kumba Resources Knowledge Management team. The following section reports the data findings from the investigation into the maturity assessment of knowledge sharing and the use of stories and storytelling in the CICOP. This is followed in the next section by the findings from the series of interviews and observations which took place after the structured maturity assessments of the use of stories and storytelling in the CICOP.

The chapter will conclude with a brief summary of the data findings and serve as an introduction to the analysis chapter, which follows.

6.2 Profile of the case study organisation

6.2.1 Establishment of Kumba Resources

Iscor Mining's first mine was established in 1932 to supply iron ore to the Pretoria Works steel plant, where the first steel was cast in 1934. Iscor Mining was renamed Kumba Resources Limited and was split from its former parent company, Iscor

Limited, in 2001 and was listed on the JSE Securities Exchange South Africa that same year (Kumba Resources, undated).

Headquartered in Pretoria, South Africa, Kumba Resources is focused around four key commodities: iron ore (accounting for about 60% of revenue), coal (21%), base metals (13%) and, the newest contributor, heavy minerals (4%), and has small interests in other areas, such as industrial minerals (Kumba Resources, undated).

In December 2003 Anglo American PLC, a company listed on the London Stock Exchange, together with its wholly owned subsidiary, Anglo South Africa Capital (Proprietary) Limited, increased its total shareholding in Kumba Resources from 35% to 66.62% of the issued share capital of Kumba Resources (Kumba Resources, undated).

6.2.2 Kumba Resources corporate vision and values

The Kumba Resources vision and value statements have been identified since the time of the company's first annual report in 2002 and have remained consistent ever since, appearing again in the annual reports for 2003 and 2004, on the Kumba Resources web site and in the internal publication, 'Breaking Ground'. Kumba Resources has also encompassed its vision and values into a stakeholder charter that was published in the annual reports for 2003 and 2004 as well as in 'Breaking Ground'. This charter reads as follows:

“Our vision:

Kumba Resources vision is to outperform the mining and mineral sector in creating value for all stakeholders through exceptional people and superior processes

Our values:

- Integrity
- Respect
- Accountability
- Fairness
- Caring,” (Kumba Resources, 2003b, 12:23).

The stakeholder charter goes on to say that: “these values provide the foundation for our behaviour and embrace our commitment to people, teamwork, a bias for action, continuous improvement and performance excellence. Building on these values as motivational values that energise its people are

- People make it happen
- Let's do it
- We do it together
- We do it better every time,” (Kumba Resources, 2003b, 12:23).

Kumba Resources is an organisation that enjoys significant diversity across the business in a number of ways. There is diversity of race (to be expected in a multi-racial South Africa); diversity of culture (also in line with the multi-cultural nature of the country), and diversity of language (not surprisingly, as Kumba Resources operates in a country with 11 official languages, with English, Afrikaans and a variety of indigenous African languages being spoken on a day-to-day basis in the business).

6.2.3 Kumba Resources business strategy

The Kumba Resources business strategy can be found clearly stated in the internal publication, ‘Breaking Ground’, as well as the company’s annual report 2004 as follows:

“Our Strategy

To grow and prosper, we will:

- Build a balanced portfolio of globally-competitive commodity businesses
- Attract and retain a highly-skilled and motivated workforce
- Promote innovation and employ appropriate technology
- Nurture a culture of continuous improvement and operational excellence
- Reward our shareholders with superior returns and capital growth,” (Kumba Resources, 2003b, 12:23).

The strategy statement as it appears in the annual report for 2004 goes on to say that, “a key strategic focus is to maintain and improve international competitiveness, adopt international best practices and optimise current operations. At an operational level, the bulk of Kumba Resources' capital equipment has been upgraded to standards comparable to the best in the world and technical processes are continuously reviewed to improve quality assurance and reduce costs” (Kumba Resources, 2004a:15).

To fulfil this strategy, “Kumba [Resources] focuses on those commodities and investments that offer above average growth and returns, while minimising risk by investing in a diversified portfolio of commodities and geographies,” and, as a result, has initiated a number of projects, “from iron ore in Australia and West Africa, coal in southern Africa and Australia, heavy minerals in Madagascar to base metals in China, Namibia and the Democratic Republic of Congo” (Kumba Resources, 2004a:15).

6.2.4 The Kumba Way¹

The Kumba Way was launched in November 2002 and embodies commitment, teamwork, a shared vision, seeking better ways to do things and encouraging the aspirations of all. It is important in understanding the culture. The Kumba Way is a process that, “aims to achieve world-class performance throughout the organisation to create value for all stakeholders and a strong competitive advantage by focusing on the Kumba Way themes” (Kumba Resources, 2004a:5), which are:

¹ This is the official name of the initiative, despite the fact that the company’s name is Kumba Resources.

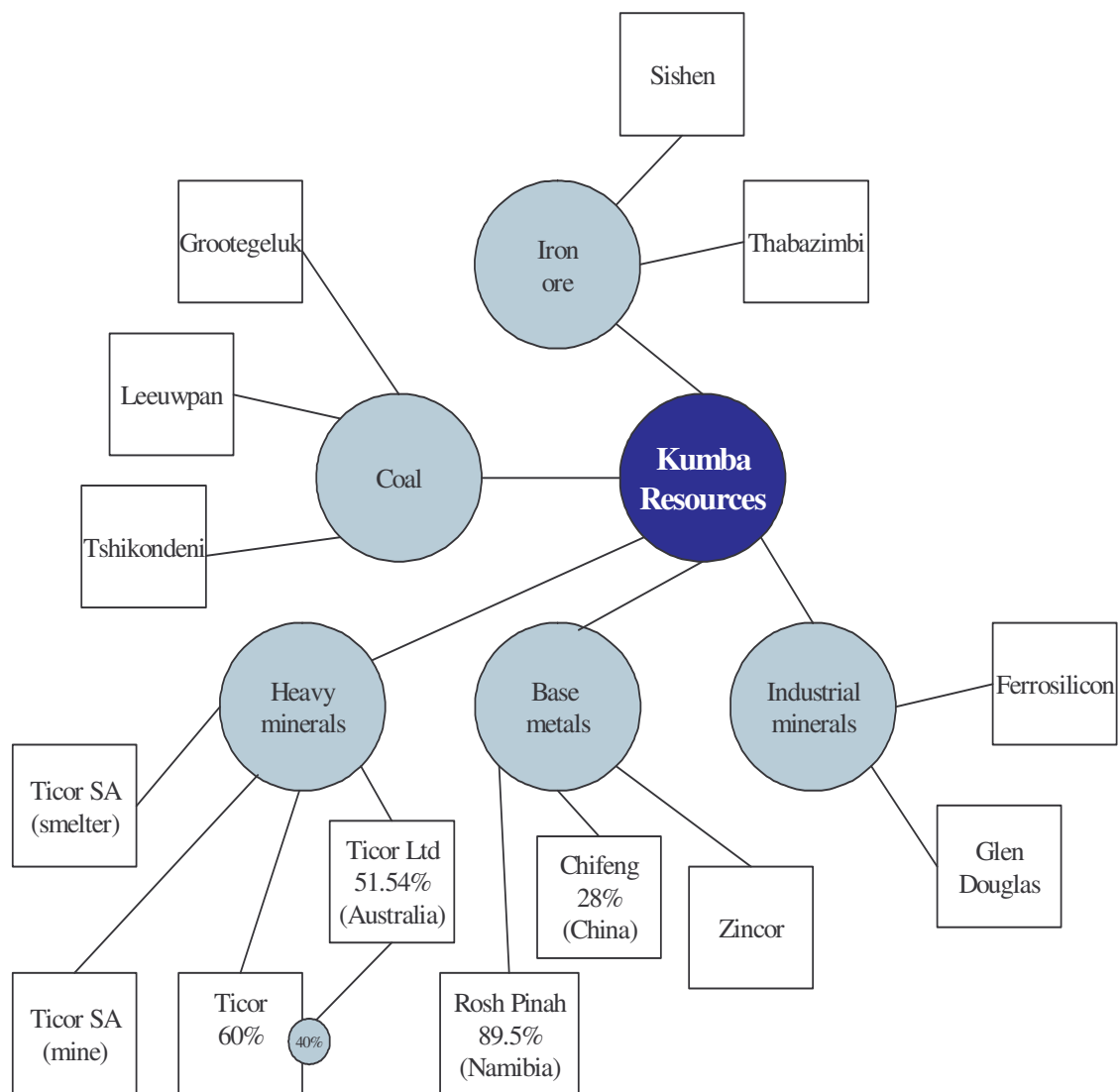
- A common vision and set of values
- Governance processes
- Operational excellence

The Kumba Resources values (as listed in section 6.2.2), represented in the form of a flying ant analogy, demonstrate commitment, teamwork, a shared mindset, seeking better ways to do things and encouraging the aspirations of all. “The analogy reinforces how we will further realise our vision by developing a champion blueprint for harvesting our success stories, defining our best practices, learning from others and sharing, and sustaining these best practices” (Kumba Resources, 2002b:12(11)). A year later the consistency of this approach could be found in the following statements: “the process of lifelong learning is embedded in the Kumba Way. The Kumba Resources value ‘we do it together’ is lived by ‘we share knowledge and involve others in solving problems’ and ‘we strive to succeed beyond existing benchmarks and standards’” (Kumba Resources, 2003b, 12:5).

The specific initiatives of the Kumba Way, include

- People performance management
- Continuous improvement
- Target setting
- Capital and project management
- Mineral resource management
- Physical asset management (Kumba Resources, 2004a:5).

6.2.5 Kumba Resources operations overview



**Figure 6.1 Kumba Resources group operational structure
(Source: Kumba Resources, 2004a:1)**

As at 30 June 2003, when the company was first identified as a potential partner for this case study research project, Kumba Resources had 10 574 permanent employees. Over the following two years, that number decreased until, by the end of 2004, there were just less than 9000. Table 6.1 shows the business areas, operations locations and types of products during the period from 1 January to 31 December 2004. Following

Table 6.1 is a brief overview of the key aspects of each element of the business operating sites.

Business area	Operations	Location by South African province unless otherwise stated	Products
Corporate services divisions	Various functions	Gauteng	Support services
Iron ore	Sishen mine	Northern Cape	Lump and fine ore
	Thabazimbi mine	Limpopo	Lump and fine ore
Coal	Grootegeluk mine	Limpopo	Thermal and semi-soft coking coal
	Leeuwpan mine	Mpumalanga	Thermal coal
	Tshikondeni mine	Limpopo	Coking coal
Base metals	Zincor refinery	Gauteng	Zinc metal and sulphuric acid
	Rosh Pinah mine	Namibia (outside SA)	Zinc and lead concentrate
	Chifeng	China (outside SA)	Zinc metal
Industrial minerals	Glen Douglas mine	Gauteng	Dolomite, aggregate and lime
	Ferrosilicon plant	Gauteng	Minerals processing plant
Heavy minerals	Ticor SA	KwaZulu-Natal	Various
	Ticor Limited	Australia (outside SA)	Various

**Table 6.1 Locations and product types
(Source: Kumba Resources, 2004a)**

6.2.5.1 Corporate Services Divisions

At the inception of Kumba Resources (and as reported in the annual report for 2002) the corporate services divisions were established to provide a set of services across the business. The structure of these divisions remained current in 2004 including:

- Kumba Resources technology
- Information management
- Continuous improvement
- Materials management
- Strategy and business development
- Human resources
- Group financial management (Kumba Resources, 2002a:40).

These operations are located at the corporate head office on the outskirts of Pretoria, and employ just over 700 people.

6.2.5.2 Iron Ore strategic business unit

The iron ore strategic business unit consists of two operations, Sishen iron ore mine and Thabazimbi iron ore mine.

Sishen iron ore mine was established in 1953 and employs 3318 people. Products of the mine are exported to ten countries. Sishen iron ore mine, one of the world's largest iron ore mines, is located in the country's Northern Cape Province. In 2003, Sishen completed a R700 million expansion programme to increase the mine's production capacity from 24 to 27 million tons per annum. Concurrent with the expansion of the operation, the rail and port infrastructure associated with the Sishen-Saldanha exports is also being upgraded. A further expansion of 10 million tons per year, known as the Sishen Expansion Project, is being investigated (Kumba Resources, 2004a).

Thabazimbi iron ore mine is one of the oldest in the group, having been in operation since 1932. As at September 2004, there were 889 permanent employees and 300 contractors on the mine. Thabazimbi mine, located in Limpopo Province, is a captive mine producing lump ore and fine ore, exclusively for Ispat-Iscor Limited's South African steel operations at the Vanderbijlpark Steel Plant, near Johannesburg, and the Newcastle steel plant in northern KwaZulu-Natal province (Kumba Resources, 2005a).

6.2.5.3 Coal strategic business unit

Kumba Resources coal strategic business unit is made up of three collieries: Grootegeluk, Tshikondeni and Leeuwpan.

The Grootegeluk coal mine in Limpopo province employs 2100 people and accounts for 90% of Kumba Resources coal total production. The majority (81%) of its production is in the form of power station coal and is supplied to the nearby Eskom Matimba power station.

Tshikondeni colliery, also in Limpopo province and situated close to the Zimbabwe border, employs 574 people and is one of the only South African large scale producers of hard coking coal, producing 437 000 tons in 2004, all of which is consumed by Ispat-Iscor works.

The Leeuwpan mine, located in Mpumalanga, some seventy five kilometres southeast of Pretoria (the location of Kumba Resources head office), employs 360 people, 42 from Kumba Resources, the remainder from a contracting company, Archer Mining, and produces direct reduction coal and coal for pulverised injection to meet the growing demand by local steel works. It also produces power station coal that is sold to Eskom for its municipal power stations, as well as to local industrial users (Kumba Resources, 2004a).

6.2.5.4 Base metals strategic business unit

Kumba Resources base metals strategic business unit consists of the Zincor refinery, Rosh Pinah mine and Chifeng zinc smelter (China).

Zincor is located in Springs, a town 50 kilometres east of Johannesburg. The Zincor refinery employs just over 600 people and produced 107 000 tons of zinc metal and 142 000 tons of sulphuric acid in 2004. It also processes all the zinc concentrate from the Rosh Pinah (Namibia) mine. Of its total zinc metal production, more than 80% is sold domestically and the export market consumes the balance, the bulk of which is

used in the galvanising industry both locally and abroad. Zincor markets all of its sulphuric acid to domestic industries.

Rosh Pinah zinc-lead mine, located in south-western Namibia, has been in existence since 1970 and is 89.5% owned by Kumba Resources, the balance being held by Namibian empowerment companies. Rosh Pinah employs 470 people and in 2004 the mine produced more than 119 000 tons of zinc concentrate (all of which was supplied to Zincor) and about 12 000 tons of lead concentrate, all of which was exported to foreign smelters, predominantly in Europe and Asia.

The Chifeng operation, located in China, produced 12 000 tons of zinc metal and 17 000 tons of sulphuric acid in 2004. Chifeng has completed an expansion project to increase zinc production to 50 000 tons per year and sulphuric acid to 90 000 tons per year. Chifeng sells all of its zinc and sulphuric acid to local Chinese customers. The number of employees is not stated in the Kumba Resources annual report 2004 (Kumba Resources, 2004a).

6.2.5.5 Industrial minerals strategic business unit

The industrial minerals strategic business unit consists of two operations, Glen Douglas mine and Ferrosilicon plant.

Situated at Henley-on-Klip near Vereeniging, south of Johannesburg, the Glen Douglas dolomite mine is one of the smallest of the Kumba Resources mining operations, employing just 49 Kumba Resources people, as well as a number of contractors. It is a conventional open-pit mine producing products comprising metallurgical dolomite (50%), aggregate (43%) and agricultural lime (7%). The dolomite is sold to Ispat-Isco's Vanderbijlpark and Newcastle Works and the aggregate and lime to a wide range of customers in South Africa's Gauteng and Free State provinces.

Kumba Resources Ferrosilicon was established in 1996, close to the current Kumba Resources head office, when then-parent Iscor secured a licence from Osprey, a UK company, to produce gas-atomised ferrosilicon powder. Kumba Resources

Ferrosilicon currently employs about 120 people. Production in 2004 was 6000 tons. Approximately 75% of the production is used by Sishen and Thabazimbi mines in the process of separating iron ore from the run of mine material. The remaining 25% of the plant's production is sold locally for the beneficiation of heavy metal oxide ores (Kumba Resources, 2004a).

6.2.5.6 Heavy minerals strategic business unit

The heavy minerals strategic business unit consists of two operations, Ticor South Africa (Kumba Resources has a 60% investment in Ticor SA), and Ticor Limited, Australia (Kumba Resources has a 51.5% investment in Ticor Ltd).

In 2002 Kumba Resources began commissioning the first of two furnaces at the smelter complex at Ticor South Africa, situated in Empangeni, northern KwaZulu-Natal. Ticor SA along with Ticor in Australia employs nearly 800 people. In 2004 it produced 258,000 tons of a variety of products including titanium dioxide feedstock, which is used as a pigment in paints, plastics and paper.

This operation, combined with its significant investment in the integrated Australian mineral sands producer, Ticor Limited (which produced 469,000 tons of output of various products in 2004) will make Kumba Resources the world's third largest producer of titanium dioxide feedstock (Kumba Resources, 2004a).

All of the South African-based business units of Kumba Resources listed in Table 6.1 (with the exception of the Ferrosilicon plant) participated in the research project through their membership of the Continuous Improvement Community of Practice (CICOP) which was established in a key area of the Kumba Resources operations (already mentioned in this chapter in section 6.2.2 under the stakeholder charter; in section 6.2.3 under the Kumba Resources strategy, and in section 6.2.4 under the Kumba Way). The CICOP will be discussed further in section 6.3.5.

6.2.6 Performance indicators at Kumba Resources

Kumba Resources reports its financial performance in line with its duties as a public listed company through its annual report as well as periodic (interim) updates. In addition, there are a number of other performance measures which are used internally in the business. Both the financial and other performance measures will now be reviewed.

6.2.6.1 Financial performance

The following are the key financial indicators as reported in the Kumba Resources annual report for the period 1 July 2003 to 31 December 2004, published in April 2005 (the latest available at the time of writing, with figures quoted in millions of South African Rands) (Kumba Resources, undated):

- Revenue: R12 599m, made up by
 - Iron Ore: R4 250m
 - Coal: R 1 878m
 - Base metals: R 812m
 - Heavy minerals: R1 662m
 - Industrial minerals: R 95m
 - Other: R 12m
- Net operating profit: R 1 855m
- Headline earnings: R1 0173m
- Headline earnings per share (18 months): 339 cents
- Total assets: R12 969m.

During 2003 and 2004 the Kumba Resources business had been under financial pressure, as a result of falling world commodity prices for certain of its products, as well as the strength of the South African Rand. As a result, an item appeared in the South African business press on 8 October 2004, commenting that, “in early August, Kumba Resources announced that it would seek to achieve sustained savings of R800

million in earnings before interest and tax terms. Yesterday Kumba Resources again said that its business improvement project running throughout the group, is on course to achieve in the R800 million improvement in net operating profit by December next year,” (Loss of 400 jobs to help Kumba drive down costs, 2004:4). This business improvement project had in fact started in late 2003, and by December 2004, the Kumba Resources chief executive was reported, in the Kumba Resources official internal publication ‘Breaking Ground’, as saying that, “Kumba Resources business improvement project (KBIP) has enjoyed tremendous support from all divisions, however, with our figures still well below the R800 million savings target we set for ourselves, in November last year, we must continue to pull together to further increase efficiencies across the company,” (Kumba Resources, 2004b, 12:3). This financial situation provided the backdrop against which this research was conducted.

6.2.6.2 Other performance indicators at Kumba Resources

A key strategic focus at Kumba Resources is to maintain and improve international competitiveness (and in the process, adopt international best practices and optimise current operations). An example of this approach is to be found on the Kumba Resources website, where it is claimed that at an operational level, “the bulk of Kumba Resources' capital equipment has been upgraded to standards comparable to the best in the world and technical processes are continuously reviewed to improve quality assurance and reduce costs... and [Kumba Resources] boasts a portfolio of world-class assets spanning three continents rich in mineral resources: Africa, Asia and Australia,” (Kumba Resources: undated).

In the sub-sections that follow the world-class performance model as outlined in Chapter 4 will be mapped to Kumba Resources.

a) Best practices

Numerous references can be found to the adoption of best practices operations across the business. These references include:

- A specialised knowledge base, the application of international best practices and the implementation of operational efficiencies, which have all contributed to the quest for low cost production (Kumba Resources, undated).
- “Much value will be accrued from sharing best practices across and beyond Kumba [Resources],” (Kumba Resources, 2002b, 6:8)
- “We know that we use best practice in many respects. But elsewhere we can improve. How we identify and share best practice is the key issue,” (Kumba Resources, 2003b, 3:4).
- “The successful implementation of best practice principles for people performance and talent management that result in a high performing organisation through high performing people is what we want to achieve,” (Kumba Resources, 2003b, 3:7)
- “The Kumba Way will be about identifying Kumba Resources' existing best practices, translating them into clear processes, and ensuring that these are implemented at all business units and corporate services departments” (Kumba Resources, 2003b, 3:7)
- “One of the benefits of being a young company is that we were able, from the outset, to create a contemporary company, one that considered global best practice” (Kumba Resources, 2004a:15)
- “We will further realise our vision by developing a blueprint for harvesting our success stories, defining our best practices, learning from others and sharing and sustaining these best practices” (Kumba Resources, 2002b, 12:11)
- In implementing the Kumba Way, existing processes were examined and surveys conducted and the results analysed for an accurate understanding of existing practices. “A study of best practices, internal and external, was conducted to identify shortcomings in current practices. The processes were implemented at pilot sites and were closely monitored reviewed and refined, where necessary, and implemented across the group. Both progress and processes will be continually measured...the Kumba Way is founded on identifying best practices throughout the group or externally and using these to realise our goal and practice of continuous improvement” (Kumba Resources, 2003a:50).

b) Benchmarking

Examples of the extent to which Kumba Resources use benchmarking are:

- “By strategically focusing on key businesses, the company has... benchmarked our operations against the world’s best to make them low cost and efficient facilities,” (Kumba Resources, 2002b, 6:8)
- “We strive to succeed beyond existing benchmarks and standards,” (Kumba Resources, 2003b, 12:5)
- “Kumba [Resources] decided to benchmark with companies that had been implementing knowledge management from the outset... an intensive three-week education programme was undertaken as strategy-development session, which took place towards the end of September 2003.” This programme involved visits to other companies, such as South African Breweries, Eskom (electricity utility), National Electricity Regulator, Onderstepoort (animal research centre and hospital) and Sasol (petrochemicals)² (Sandrock, 2004:online).

c) Standards

Standards play an important role in the life of Kumba Resources. Numerous ISO certifications in a number of fields have been achieved by a cross-section of the operating units. According to the company, (Kumba Resources, 2004a), as at 31 December 2004 these include:

- ISO 14001 (international standard for environmental management) certification: six out of ten business units have already obtained certification, with the remaining four locations planned for certification by December 2005.
- OHSAS 18001 (South African Occupational Health and Safety Standard): seven out of ten business units have already obtained certification, with the remaining three locations planned for certification by December 2005.

² This company has developed a maturity model for knowledge management.

- Sishen mine has been awarded ISO 9002 status since 1994 and ISO 17025 since November 2002
- Zincor plant has been awarded SABS ISO 9001 status since 2003.

d) Quality

The focus on quality at Kumba Resources can be identified from a number of sources, including the annual report, website, and a number of internal publications, including Breaking Ground and SHEQ ('Safety, Health, Environment and Quality Vibes' - a quarterly internal publication).

One of the Kumba Way initiatives is a focus on operational excellence and these are measured in the areas of safety (including number of fatalities, lost-day injury frequency rate), health (occupational diseases and hearing impairment), and environment (air quality; land, water and electricity use; waste generation and disposal and biodiversity management). These initiatives are intended to identify the responsibility to comply with legislation as well as to ensure that the issues of safety, health, environment and quality conform to the overall Kumba Resources business strategy.

In addition, the corporate services divisions (including the corporate head office function), are themselves subject to compliance with an internally developed excellence model.

A further example of the use of the multi-level capability maturity model is in the implementation of the staircase approach to safety, health, environment and quality (SHEQ) issues. It is clear that the SHEQ team uses these maturity staircases which are to be found everywhere throughout Kumba Resources.

Further evidence of the achievements of quality on a broad front was reported as follows (Kumba Resources, 2004a:11):

- Kumba Resources was ranked first in the mining sector in the independent ratings compiled by Empowerdex
- Kumba Resources was also first in its sector in the Deloitte/Financial Mail survey of ‘Best Company to work for’
- Kumba Resources was one of the inaugural companies included on the Johannesburg Stock Exchange socially responsible investment index.

It was also mentioned (Kumba Resources, 2004a:10) that the chief executive, Dr Con Fauconnier, was named ‘Boss of the Year ®’ and re-elected president of the Chamber of Mines, evidence of the quality of the management of the company.

e) Capability Maturity Models

The use of the Capability Maturity Model can be found in what is known inside the company as the ‘staircase approach’, which has been adopted by the CICOP, amongst other operations in Kumba Resources. One employee said that, “if you go into Kumba [Resources] now you will see staircases everywhere. Six years ago it was non-existent and it started spreading, that is a good idea of knowledge spreading... I think the idea of the staircase started taking off because now as I say you'll find it everywhere.” The staircase referred to is an example of the Capability Maturity Model rating scale (see Appendix 2 for an example of this scale).

6.3 Knowledge Management at Kumba Resources

There is documentary evidence available from ‘Breaking Ground’, dating back to 2002, of the company’s commitment to a knowledge management initiative. The importance of knowledge management in Kumba Resources was covered in three articles during 2002, while the importance of knowledge sharing also received extensive coverage from that time until mid-2003. It was at this time that Kumba Resources management decided to appoint a full-time knowledge management manager and to formalise the structure of the Kumba Resources knowledge management team subsequent to this appointment.

6.3.1 Role of knowledge management in the Kumba Resources business strategy

Numerous examples can be found of the role of knowledge management in the Kumba Resources business strategy, such as: “through our quest for performance excellence, we have achieved success with continuous improvement, capital and resource management and knowledge management at several business units. Much value will be accrued from sharing best practices across and beyond Kumba [Resources],” (Kumba Resources, 2002b, 6:8) and, “we wanted to promote a culture that encourages the sharing of knowledge and ideas, because this inspires innovation. Innovation should be the cornerstone of any modern company and Kumba [Resources] is no different. Through the knowledge share process, modern leadership and a culture of innovation can be achieved,” (Kumba Resources, 2002b, 6:9). In addition, there was the statement that:

“Knowledge management supports strategy and business development’s role in realising the growth objectives of Kumba Resources, as well as operational and strategic information requirements of other divisions of the company... the purpose of knowledge management is to provide an integrated knowledge solution of current and future business environments for managers who need contextual information for strategic and tactical decision-making,” (Kumba Resources, 2002b, 6:18).

A further example of the importance of knowledge management can be found in the statement that, “the company's employees are a major asset, and integrating and maintaining the company's intellectual capital is a priority for the company. The Professionals in Training symposium took place in October 2002 and was structured to serve as a platform to share knowledge, ideas and initiatives,” (Kumba Resources, 2002b, 12:22).

Some two years later, the importance of knowledge management was still being emphasised: “we had to prepare ourselves for an ever more challenging year regarding performance in safety, health, environment quality [SHEQ]. We can achieve this through continuous sharing of knowledge and experience, while ensuring

that we know what each party is adding to effective SHEQ management within the company,” (Kumba Resources, 2004c, 3:1). Further evidence of the role of knowledge management in the business strategy can be found in the following quotation:

“The objective of developing this learning culture is to integrate and align the various elements of a learning organisation within Kumba [Resources]. Once this objective has been achieved, the company will have a learning strategy that can be integrated at all levels. The end result will be a workforce that takes responsibility for its own learning, is knowledgeable about available learning opportunities and shares learning across boundaries,” (Kumba Resources, 2004b, 7:9).

6.3.2 Development of the knowledge management function at Kumba Resources

Within the Kumba Way there was an attempt to formalise knowledge management. As one member of the knowledge management team commented, “in the end that's where the knowledge management organisation was born from.” Another respondent said that, “knowledge sharing was part of the knowledge management drive which was part of the Kumba Way...but there was a delay of more than a year until the knowledge officer was appointed.” However, with the formal establishment of a knowledge management department and the appointment of its manager in September 2003, the focus on knowledge management at Kumba Resources increased.

Kumba Resources knowledge centre (staffed by the knowledge management team) has a vision to be the knowledge hub of Kumba Resources. Its mission is to link people with people, people with experience and knowledge, and people with information; its slogan is, “*your partner in knowledge and information,*” (Kumba Resources, 2005a:1).

6.3.3 Kumba Resources knowledge management team initiatives

In an article in an online publication (Sandrock, 2004), the Kumba Resources knowledge management team manager identified the following key initiatives:

- Holding an annual internal knowledge-management conference. The first of these conferences was also reported in 'Breaking Ground': "The first knowledge management conference...was attended by 120 delegates from Kumba [Resources] and partner companies with a focus on building and sustaining Communities of Practice... in Kumba Resources we have the collective knowledge of thousands of years, experience, and know-how. Sharing this knowledge can be difficult given the geographic expanse of our business, and this conference has been developed to help overcome the challenge," (Kumba Resources, 2004b, 4:26).
- Developing a support infrastructure for Communities of Practice. "This included launching new COPs, supporting the facilitators, measuring the health and success of individual communities and diagnosing and treating problems."
- Conducting an information and knowledge review. "The following questions were critical to this initiative: what key knowledge do we have within the business that we cannot afford to lose? What information do people need to have access to for effective decision making?"
- Building a knowledge map and populating an expert 'yellow pages'. "Kumba Resources' corporate colours are black and orange, so we chose the name 'orange pages' for our expert directory. The information gathered during the information review was invaluable when it came to populating the knowledge map and compiling the orange pages."
- Incorporating the corporate library and library services into the knowledge-management fabric. "A knowledge centre, which is to be the hub of knowledge and information management, has been formed. Identifying knowledge-rich documents and linking tacit and explicit knowledge sources."
- The development of a business-process approach to document management. "The knowledge management team has taken business-process ownership and holds workshops with those in the business who wish to implement a document-management system," (Sandrock, 2004:online).

According to the Kumba Resources knowledge management manager, her team's current group services in 2004 included:

- Orange pages
- Knowledge Centre
- Subscriptions
- Communities of practice
- Information services
- Knowledge management audits
- Physical knowledge map
- Physical library
- Virtual library
- Reading room
- Document management support
- Annual knowledge management conference
- Knowledge centre intranet sites (Sandrock, 2004).

Kumba Resources knowledge management team was made up of a total of eight people during 2004 as follows:

- Manager Knowledge Management
- Library manager
- Information specialist³
- Information officers⁴ (two)
- Information support⁵
- Library assistants (two) (Kumba Resources, 2005a).

³ Information specialist: supports Kumba Communities of Practice.

⁴ Information officer: carries out information searches, manages news clippings service, and provides knowledge database support.

⁵ Information support: provides training in knowledge management processes and tools; supports the Kumba document management system.

6.3.4 Importance of the Community of Practice to the Kumba Resources knowledge management approach

Of all the possible practices available to support its knowledge management strategy in the organisation, the most widely adopted, appears to be the Community of Practice (COP). Initiated in 2002, there are now over twenty COPs active in the company.

COPs already established (as at February 2005) include:

- Business governance
- Business process management
- Capital and project management
- Communication of crushing and milling
- Continuous improvement
- Environmental management
- Fatigue management
- Gravity separation and dense medium separation
- Jigging
- Mineral resource management
- Routine work management
- Safety, health and environment
- Supply chain management
- Sustainability
- Value in use (Kumba Resources, 2005b).

Communities of Practice planned but yet to be established (as at February 2005) include:

- Decision support
- Small project management
- High-performance culture
- Plant management (Kumba Resources, 2005b).

This research project had as its focus the use of storytelling for knowledge sharing in just one of these communities, the Kumba Resources Continuous Improvement Community of Practice (CICOP).

It has been reported that, “for a long time knowledge workers at one mine were sure that someone, somewhere else in the company must have tackled the same problem. But finding that person and being able to contact them easily was always the stumbling block. The formation of Communities of Practice has overcome this to a large extent, as knowledge workers have been able to meet others with similar expertise face to face,” and that, “as part of the corporate knowledge management drive within the company, the establishment of Communities of Practice is a critical component to enhance knowledge sharing,” (Sandrock, 2004:online).

The same article reported that to support the Communities of Practice, the knowledge management team provides the following:

- Promotion of the value of COPs to encourage new COPs and members of existing COPs, including articles in internal Kumba Resources publications, presentations and road shows
- Workshops to launch COPs
- Training of COP facilitators
- Support for leaders, facilitators and members of COPs in terms of their roles, community responsibilities, activities and success reporting
- Design of a shared repository in the document-management system. Kumba Resources has chosen Microsoft SharePoint to support its virtual communities.
- Assistance with community problem diagnosis and treatment
- Connecting different COPs at points of overlap and intersection. Members of the knowledge management team attend the COP meetings so that they are aware of the knowledge domains first hand, enabling any overlaps to be detected.
- A Kumba Resources COP Toolkit (developed in conjunction with Buckman Laboratories). The COP Toolkit is a physical toolbox, which contains a facilitator’s handbook, CDs with presentations, checklists, articles, icebreakers

and interaction tools for establishing values for the community (Sandrock, 2004).

In addition, it was reported that, due to, “the knowledge management team’s support of Communities of Practice, it is gaining popularity as more and more employees become fired up with the philosophy of sharing their knowledge.” It was also reported that, “a workshop held in July 2004, taught interested employees about Communities of Practice, explaining how they work and what the process is if anyone wants to join or form one. Candidates receive a handbook that explains the dynamics of a Community of Practice,” (Kumba Resources, 2004b, 7:28).

The knowledge management team recognises that the COP benefits both the organisation as a whole as well as the individuals who are members, and it was reported that, “the number of established COPs grows by the month with employees becoming increasingly excited by the idea of sharing knowledge and adding to the information resources that will propel Kumba Resources into the future,” (Kumba Resources, 2004b, 12:24).

6.3.5 Continuous Improvement Community of Practice (CICOP)

By mutual agreement between the researcher and the case study organisation sponsors, the CICOP was used as the focus of the research into the case study organisation. The CICOP was one of the first Kumba Resources communities established (in 2002) and the representation of members is as shown in Table 6.2 at the start of the empirical field research period for this case study in January 2004⁶:

⁶ Approval for the project was obtained in late 2003 and actual field work commenced in early 2004.

Business unit	CICOP membership⁷
Corporate Services Division	
CI function	Two members
Information management function	One member
Kumba Resources Technology	One member
Knowledge Management function (observer role)	Two members
Glen Douglas mine	Two members
Zincor refinery	Two members
Thabazimbi mine	Two members
Leeuwpan mine	Two members
Sishen mine	Two members
Tshikondeni mine	Two members
Rosh Pinah mine	One member
Grootegeluk mine	Two members

Table 6.2 Membership of the CICOP

The activities of the CICOP during the research period included:

- Business planning
- Operational improvement/facilitation
- Project optimisation
- Target setting and tracking
- Techno-economic analysis.

These activities were supported by the use of the continuous improvement capability assessment codebook that demonstrates the use of the capability maturity model.

Listed in this codebook (see Appendix 2) are the eight continuous improvement behaviours that give the CICOP its purpose and focus:

- Understanding continuous improvement
- Strategy deployment
- Leading continuous improvement
- Deployment and use

⁷ These are the numbers of permanent representatives: alternates may be appointed for meetings and others seconded for projects. In addition, as described in section 2.3.7, there are more than just permanent members: transactional members (supplying services to the CICOP) and passive members (receiving the benefits of work done by the CICOP) also exist but participate only on an ad hoc basis.

- Consistency in continuous improvement
- Cross-boundary, continuous improvement
- Sharing and capturing learning
- Continuous improvement on continuous improvement.

The achievement of these behaviours is measured by the use of a five level maturity model as described in the codebook. This approach is consistent with the section on world-class performance as presented earlier in this chapter (section 6.2.6.2 on capability maturity model deployment via the ‘staircase’ approach which uses the CMM five levels identified in Chapter 4, section 4.7.1), where it was identified that certain of the Kumba Resources operations have deployed the capability maturity model. In the case of the CICOP, this took the form of a performance staircase (see Appendix 2) for 2004, where the specific interests were:

- For the continuous improvement training Community of Practice to deliver their requirements within one year
- Systematically capture and share knowledge and lessons learned throughout the business
- To ensure a competent workforce that lives continuous improvement
- To coordinate continuous improvement on continuous improvement.

The community committed to meet on a quarterly basis throughout the year at a suitable Kumba Resources location, in addition to completing specific work items agreed at the meetings. Venues were selected on a rotation basis to allow for coverage of both the corporate services divisions’ functions (located on the outskirts of Pretoria) as well as at the mines and other Kumba Resources operational locations (located up to several hundred kilometres from Pretoria). The agenda for each meeting would vary but typically, as in the case of the meeting held at Glen Douglas mine, would include a presentation by the local CI team as part of their sharing of work practices with members of the CICOP.

Use was made of the Kumba Resources intranet and email (as well as informal meetings and telephone contact) to keep members informed of developments in

between formal meetings of the community. The members of the community would be, in any case, in regular touch with each other through the nature of the common interest they shared in the continuous improvement function.

This then was the composition, set of objectives, and modus operandi for the CICOP during 2004. It was this group, who would be the unit of assessment for the investigation into knowledge sharing and stories and storytelling in Kumba Resources.

6.4 Findings of the assessment of knowledge sharing and storytelling maturity in the CICOP

6.4.1 Knowledge sharing maturity in the CICOP

Fifteen individuals (all themselves permanent members of the CICOP, but not including *all of* the members of the CICOP) took part in the assessment of knowledge sharing and storytelling maturity assessments. The areas of Kumba Resources covered are shown in Figure 6.2.

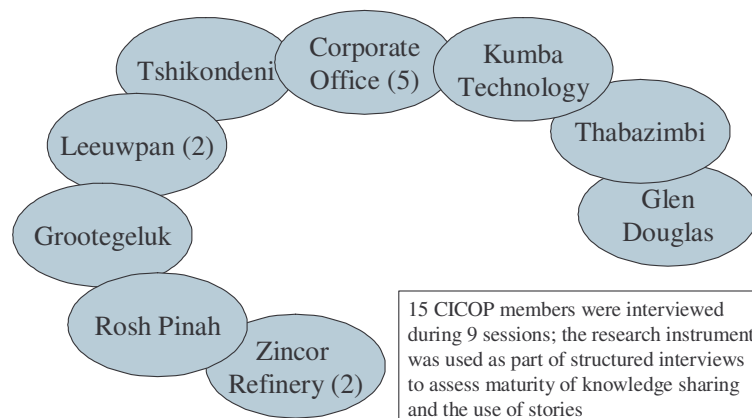


Figure 6.2 Participation in maturity assessment interviews

Table 6.3 shows the list of topics that were covered during the structured interview maturity assessment (see Appendix 1, Part Two, for a sample of the research instrument). These topics were derived as part of the non-empirical research. Indicated in the final column of this table are the overall maturity ratings for each question based on the responses to the structured interviews.

Structured interview topic number	Knowledge sharing maturity assessment topics	Overall maturity rating based on structured interviews
1	Ownership of knowledge sharing	1.00
2	Objectives of knowledge sharing	1.20
3	Tools & techniques for knowledge sharing	1.07
4	Training & education	0.60
5	Measures of knowledge sharing	0.53
6	Success stories of knowledge sharing	1.33
7	Benchmarking of knowledge sharing	0.60
8	Reward & recognition of knowledge sharing	0.27
9	Knowledge management strategy and role of knowledge sharing	1.00

Table 6.3 Structured interview topics (knowledge sharing)

This assessment was based on a six-point maturity rating scale for the nine questions interviewees were asked to answer (where zero indicated that activity was not being performed (see Appendix 1, Part Four, for the detailed description of the maturity rating scale).

6.4.2 Stories and storytelling maturity in the CICOP

Table 6.4 shows the list of topics that were covered during the structured interview maturity assessment for the use of storytelling as knowledge sharing practices in the CICOP (see Appendix 1, Part Three, for a sample of the research instrument). These topics, as for those in the assessment for knowledge sharing, were derived as part of the non-empirical research. As in the case of knowledge sharing in Table 6.3,

indicated in the final column of Table 6.4 are the overall maturity ratings for each question based on the responses to the structured interviews.

Structured interview topic number	Storytelling maturity assessment topics	Overall maturity rating based on structured interviews
1	Ownership of storytelling	0.13
2	Sponsorship of storytelling	0.00
3	Objectives of storytelling	0.27
4	Funding of storytelling	0.27
5	Tools & techniques of storytelling	0.73
6	Training and education for storytelling	0.07
7	Measures of storytelling	0.07
8	Success stories of storytelling	0.47
9	Benchmarking of storytelling	0.27
10	Reward & recognition of storytelling	0.13
11	Use of a storytelling model	0.33
12	Capture and reuse of stories	0.53
13	Catalogue of stories	0.13
14	Internal/external use of stories	0.73
15	Use of technology for storytelling	0.60
16	Where not to use stories	0.20
17	Storytelling COP	0.00
18	Story value rating scale	0.13

Table 6.4 Structured interview topics (storytelling)

As in the case of the knowledge sharing maturity assessment, this assessment was based on a six-point maturity rating scale for the nine questions interviewees were asked to answer where zero indicated that activity was not being performed (see Appendix 1, Part Four, for the detailed description of the maturity rating scale).

6.5 Findings on the use of storytelling for the sharing of knowledge in the CICOP at Kumba Resources

The findings contained in section 6.5 of this chapter are based on the semi-structured and unstructured interviews which took place once the maturity assessments of knowledge sharing and the use of stories and storytelling had been conducted with the members of the CICOP (see Table 6.2 for a list of the members). Also included are references to published material available from Kumba Resources (such as the in-house publication 'Breaking Ground', the Kumba Resources annual report and the Kumba Resources)⁸.

6.5.1 Corporate services divisions

6.5.1.1 Nature of storytelling

Over the period since 2002 the planned use of storytelling in the corporate services divisions had been based on two approaches: industrial theatre⁹ and a series of posters carrying a series of stories about corporate values. In addition, as identified in the maturity assessment interviews, there is ongoing use of oral storytelling as an informal means of communication.

6.5.1.2 Purpose of storytelling

The purpose of the storytelling in the corporate services divisions identified during the research project was as follows:

Kumba Resources Business Improvement Project (KBIP)

A storytelling initiative which impacted on the members of the CICOP was run by the knowledge management team (part of the corporate services divisions) who were

⁸ Where quotes are not directly referenced these have been sourced from interviewees and they have been used as anonymous quotes.

⁹ During the empirical research this was not a practice in current use and will therefore not be discussed further.

engaged in the ‘Kumba Resources Business Improvement Project (KBIP) Story Project’ carried out in conjunction with an external supplier in mid-2004. The objective of this project was to support the KBIP implementation. This project involved using the Cynefin methodology developed by Snowden (see section 3.4.1 and Kurtz and Snowden, 2003) and focused on collecting anecdotes for the construction of stories from across Kumba Resources’ operations, including from members of the CICOP. The project team gathered anecdotes on site at Zincor, Sishen, Grootegeluk, Thabazimbi, and in the Pretoria locations (which were also used to accommodate people from other smaller locations not visited by the project research team). This project was not complete by the end of 2004 (which marked the end of the empirical research period).

During the research project a number of other possible future uses of storytelling were identified by interviewees. These included:

Governance model

There is a requirement for the governance model used in Kumba Resources to be understood by stakeholders inside and outside the company. It has been identified that storytelling could be a powerful tool for future use to improve communications of the governance model. A suggested solution by one interviewee was, “if we build a proper storyboard it will explain the governance model...we need to build a storyboard around the Kumba [Resources] strategy and where the different business units fit in and have it represented pictorially...what we need to do is to overcome this ‘us and them’ and especially bringing in a shared services model, having an internal customer... pictures go a long way, one doesn't have to be illiterate to be able to understand [the value of] a picture [instead of text]... I think pictures say so much.”

Corporate brand and image

Kumba Resources has a strong brand and corporate image which so far has only seen the use of storytelling as a communication tool addressing the internal stakeholders. There was some discussion as to whether the storytelling tool could be used to take the corporate brand outside of the company. One member of the Kumba Way team commented on the extent to which the Kumba Way was not intended to interfere with the identity of an individual mine but recognised that there is a bigger “Kumba

[Resources] family”, a bigger sense of belonging, and that this needs to be communicated more completely: “we want to define what image or what stories we would like to project and link our corporate brand or corporate image with a storyboard.”

Performance management

It was identified that performance management of the corporate services divisions as a whole could be a valuable area for the use of storytelling, paralleling the work already being done in the operational (mine) units. For example, one interviewee identified that a presentation which lasted one and a half hours could have been done in 20 minutes by telling a few stories with a few pictures and that the whole presentation could have had much more impact.

Information technology policies

One member of the CICOP who was interviewed expressed an interest in being able to use stories as a powerful communication tool in helping to improve adherence to company policies in the information technology arena. He gave examples (anecdotes) of current stories about failure to adhere to policies and identified the potential to formalise these stories for wider use.

Project management

One of the interviewees, active in the project management field, identified an existing informal use of inter-personal storytelling amongst members of the project teams (working in areas such as Sishen) and the interviewee felt that there was much more potential to use storytelling as a knowledge sharing tool on a formal basis. An example was given of a feasibility study, which had taken 12 or 18 months on a project, and which could now be completed in eight months on a second project, through the sharing of the story of the achievement of the first project team (knowing what they had done, knowing how they had done it).

6.5.1.3 How storytelling is used

Posters

The Kumba Way communication included the use of a series of posters which carry a variety of themes associated with the Kumba Way values. The posters form a series of episodes in the story of the Kumba Way values, which each poster representing a different theme. The posters employ the device of a number of ant characters (who are not named on any of the posters and whose gender cannot be determined). An example set of the posters is found in Figure 6.3 (at the end of section 6.5.1). One interviewee pointed out that the reason that the ant story approach had been taken was “the fact that the guys in head office already were aware of the fact that storyboards are used at all the mines. I think that was just a natural way to progress; ‘let's just also communicate the Kumba Way through storyboards’.”

Screensavers and mouse-pads

The story of the Kumba Way ants is continued through the supply of screensavers and mouse pads depicting scenes from the posters, thus reinforcing the messages contained as part of the Kumba Way values communication. These items would only be distributed to members of the Kumba Resources workforce equipped with a PC, which excludes the majority of people in the mining operations, but includes members of the CICOP.

Writing skills for stories

One interviewee identified the difficulty of communicating through written stories, due to the challenge of expressing a story in writing. This challenge applies both to the literate, educated workers in corporate services divisions and even more so to the illiterate, less-educated employees at the operational units (mines) who would need significant help to capture their stories.

6.5.1.4 Benefits/value gained from storytelling

Multiple language support

The posters were available in the appropriate indigenous African language for the audience being addressed. This improved the potential for easy reception of the message being conveyed.

Visual impact high

It was reported that one of the benefits of using posters was that the visual component had a significant impact, as compared to other potential methods such as plain text. One interviewee commented that, “the impact of the web site or general email is zero,” when compared to the use of stories to carry the same message.

Easier to comprehend

Anecdotal evidence shows that it was generally easier to comprehend the key messages (know-what, know-why, know-how) because of the use of the storytelling approach. “When we communicate we should communicate in a story... by doing that you've achieved the goals of change management much easier. I think we can accelerate the understanding of what we want to create by this technique [storytelling].”

Improved recall

More than one interviewee reported having a clear memory of the storytelling events promoting a better understanding of the issues associated with the Kumba Way and HIV/AIDS. This was even after a gap of some two years since the presentation. After a brief story was told during one interview the response from the interviewee was, “because you've told us that story we'll never forget,” an example of the extent to which that interviewee believed their recall would be improved through the use of storytelling.

Trigger for creativity

More than one interviewee expressed enthusiasm for the use of stories as a spur to creativity. It was recognised that many of the people in Kumba Resources are of a

more technical disposition and that the use of stories and storytelling might, “trigger creativity of the people and bring them out of their cocoon and their strict way of thinking.”

Speed of learning

“I think we can accelerate the understanding of what we want to create by this technique [storytelling],” was the comment made by one individual who highlighted the extent to which the use of stories and storytelling can accelerate the ability to understand the message being communicated and as a result change behaviour.

Best practices transfer

It was found that there is a significant amount of movement of management level staff between the Kumba Resources mines (such as from Sishen to Zincor, from Grootegeluk to Thabazimbi) and between the mines and corporate services divisions. When these people get transferred from the one location to the other they take with them the knowledge acquired from their old location to the new location, thus providing a route for best practices transfer and that much of that transfer of knowledge happened through informal oral storytelling.

6.5.1.5 Other storytelling issues

Role of the strategic business unit in storytelling

Thus far, the corporate services divisions have rolled out the Kumba Way initiative across all of the strategic business units. At the operational level (the mines and Zincor processing plant) it has been only a local initiative to use storyboards to assist in storytelling. The strategic business unit level of management (iron ore, coal, base metals and so on) has played no coordination role in these storytelling initiatives.

Consistency of branding

More than one interviewee from the corporate services divisions commented on the extent to which the ant characters were (or were not) being integrated into the storyboards used on the mines. Until recently, few of the storyboards created on the mines had carried either the Kumba Resources corporate logo or the ant characters

(from the Kumba Way theme). This leaves open the question of alignment between the corporate divisions and the operating units.

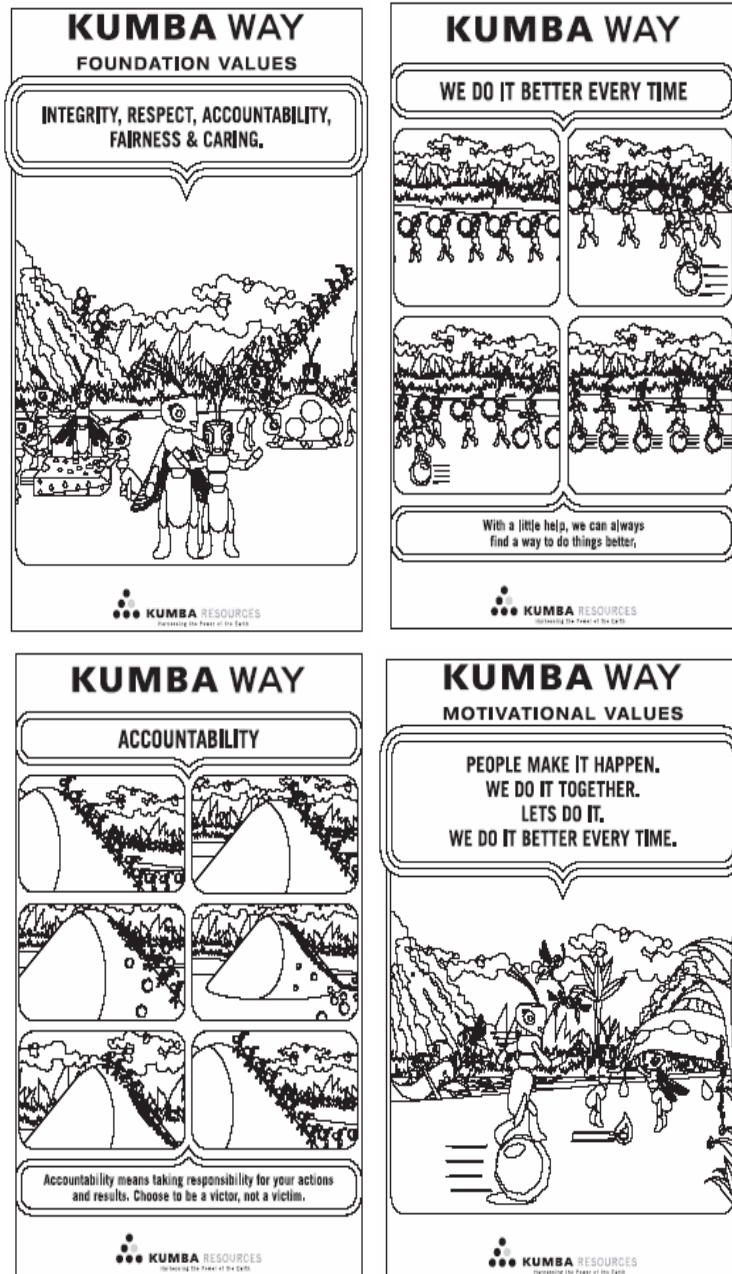


Figure 6.3 Kumba Way storyboards¹⁰

¹⁰ See Appendix 3 for a profile of these items.

6.5.2 Sishen iron ore mine

6.5.2.1 Nature of storytelling

As with all the Kumba Resources operational locations, the CICOP members (along with the rest of the employees) at the Sishen mine had been exposed to the Kumba Way posters and also their own unique mine storyboard. Sishen iron ore mine started to use stories to support knowledge sharing through the use of the storyboards in 2001.

6.5.2.2 Purpose of storytelling

Mine transformation process

Storytelling was used to create a sense of a journey, depicted on the first storyboard developed at the mine which use a series of characters based on the Bushmen (an indigenous tribal group well-known in the Northern Cape area). The three main areas to be communicated were collaboration, commitment and creativity.

Assisting with training

Mine management reported that using the storyboards provided significant assistance in meeting training objectives. The author of the Sishen storyboard explained in an article (Communicating the change, 2004:13) that, “every detail on the storyboard symbolised a business lesson.”

General use in meetings

The storyboards and stories about the scenes depicted on the storyboards were used during meetings to assist as a means of communication to help people to understand what they had to do, how they had to do it and know why they had to do it.

Building teamwork

Management reported significant assistance with their objectives in building teamwork through the use of the messages conveyed on the storyboards. The Communicating the change (2004:12) article also explained that, “the storyboard,

designed to explain the journey the mine had to embark upon, became a powerful communication tool. We used it to call out blockages to success, things like disrespect, deceit, lack of understanding and negligence.”

Making values better understood

The storyboards were used to make the values of Sishen mine more easily understood by the audience. Through the use of stories and storytelling they could identify with the indigenous bushman characters depicted on the storyboard and better understand as a result.

Improving productivity

The storyboards were used to increase productivity on the mine by helping individuals understand how they could better perform their jobs through more closely identifying with the business objectives and challenges.

6.5.2.3 How storytelling is used

Leveraging of management structures

The storytelling approach was used by senior management on the mine, who themselves made use of the storyboard and then ensured that the use of the practice was passed on down the management line until the story reached every one of the mine’s 3000 people. This included the members of the CICOP in the continuous improvement function.

Development and use of the original Sishen storyboard

The value of the mine’s own storyboard (see Figure 6.4, found at the end of section 6.5.2) was explained as, “a pathway moving across the picture to the right-hand side, symbolising the part of the mine’s journey moving towards competency, continuous improvement and creativity. On the extreme right-hand side of the storyboard, one finds a promised land,” (Communicating the change, 2004:12). On the storyboard this was depicted as a clean green and safe world, with plenty of housing, trees, animals and water. The section in the middle, the apparent wasteland represented a road the mine must travel. The storyboard started off with a foundation of values, and used

strategic business goals and operational strategies to build a bridge that would enable the mine to get to the Promised Land. Additional features included geese flying, which represented teamwork, because when they fly, they do so in formation. The leader, “reduces a lot of the strain on the rest of the geese, and when the leader tires, he simply falls back, and another one takes his place: in this way the geese can cover 72% more ground than any other way,” (Communicating the change, 2004:13). This gives a strong reference to the type of teamwork that was being encouraged through the use of the messages on the storyboard used at the mine.

According to the Sishen manager involved, the development and fine-tuning of the storyboard took a few months. Once it had been finalised, a presentation manual and package (that was flexible enough to convey the same message to the entire mine, and be pitched at different educational levels) was developed and in this way consistency in the message was achieved.

Copies of the storyboard were spread around the mine to serve as a constant reminder of the transformation the mine was embarking upon. It was referred to on a daily basis during training sessions and in meetings.

Whilst at many of the mines the owners of the storyboard initiative sit squarely in the continuous improvement area, at Sishen mine it was found that Human Resources owned the storyboard, so at this mine members of the CICOP were customers for (on the receiving end of) the storyboard, whereas at other locations they were the suppliers of the storyboard (such as that Grootegeluk or Thabazimbi).

Storyboard updated in 2004

Two generations of storyboard have been used at the mine. The original storyboard (see Figure 6.4) was updated (see Figure 6.5, found at the end of section 6.5.2) to keep it current in line with the business objectives and issues to be addressed in the original version of the storyboard. These changes included the move away from the bushman-like representations on the first storyboard to the more commonly used Smurf-like characters (compare Figure 6.4 and 6.5).

6.5.2.4 Benefits/value gained from storytelling

Reports of benefits gained from using storyboards at Sishen mine include the following:

Constant reminder

Because of the prominent display of the storyboard at multiple locations around the mine, there was a constant visual reminder of the story on the storyboard, encouraging informal gatherings to allow scenes depicted on the storyboard to be told on a peer-to-peer basis by employees at the mine.

Improved understanding

Management reported an improved understanding of the issues being communicated through the use of the storyboard. In particular, Sishen's workforce is 70% Tswana-speaking (an indigenous South African language) and in order to overcome this potential language barrier the artwork and storyboard depicting the mine's journey of transformation was created with a minimal use of text, along with storytellers using a language appropriate to the listener.

People feel involved

It was reported that the degree of involvement felt by the employees of the mine increased significantly once they had the opportunity to listen to and understand the messages contained in the story on the storyboard (to know what the objectives of the mine were, to know how they were going to be achieved, to know why they were going to be achieved). This involvement included structures such as the trade unions that were involved with management in development of the storyboard and ensured that the final product was capable of being delivered within the context of the individual's own culture and language.

Learning from past experience

By the time the storyboard practice was in use at Sishen, others had already been used within the wider Kumba Resources family. This allowed the benefit of learning from prior experience within the organisation. It was reported by one interviewee that

because a member of the Sishen management team was previously working at Kumba Resources' Tshikondeni mine, and there he had been exposed to the use of storyboards and that another member of the same Sishen management team was a former mine manager at the Kumba Resources Thabazimbi mine, they were both persuaded of the value of the format of storyboard used at their former locations in terms of also using them at Sishen (an example of best practice transfer). This was actually achieved by meetings between members of the management team at Sishen mine and at Kumba Resources' Leeuwpan mine (where the storyboard concept was first introduced to Kumba Resources, through Archer Mining, a major contractor at Leeuwpan).

6.5.2.5 Other storytelling issues

Cultural sensitivity issues

It was found that the Sishen management team had designed an essentially different style of storyboard to that in use at other Kumba Resources mines. They heard about the Leeuwpan storyboard (which used the 'Smurf' type characters, an example of this character type is in Figure 6.5) and decided to develop their own storyboard (replacing the 'Smurf' character set with a 'Bushman' character set, an example of this character type is in Figure 6.4) One of the interviewees said that, "we made the culture of the Northern Cape part of our storyboard and one of the ladies in the library decided she would use her art skills to draw up the storyboard and that's the way we communicated." But the feedback after the launch of the original storyboard was that the employees (in Sishen) did not want to be associated with Bushmen. The developer of the most widely used format of storyboard in Kumba Resources reported that from the beginning the intention was to create a sexless, raceless type character that was not going to cause harm or offence to anybody. He claimed that judging by the reaction of the Sishen employees the choice of the Bushmen characters for the original storyboard did not meet these criteria. The second generation of storyboard used at Sishen was therefore not based on the Bushman character but rather the neutral symbolic characters as shown in the graphic in Figure 6.5.



Figure 6.4 Sishen mine original storyboard (Source: Communicating the change, 2004)

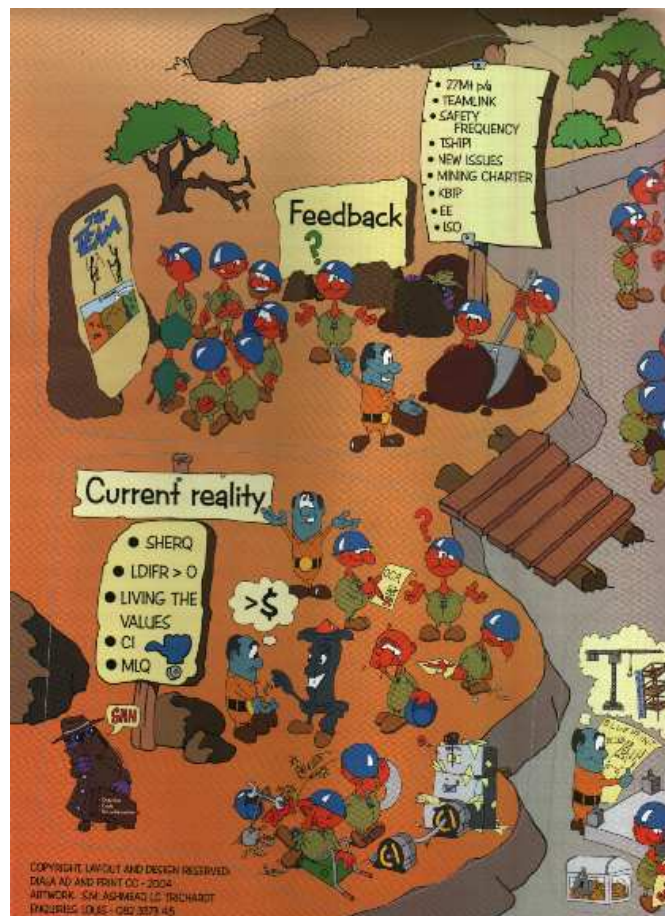


Figure 6.5 Sishen mine revised storyboard 2004¹¹

¹¹ See Appendix 3 for a profile of this item.

6.5.3 Thabazimbi iron ore mine

6.5.3.1 Nature of storytelling

Members of the CICOP were customers for the Kumba Way rollout using posters but were also suppliers of the storyboards used on the mine to help to communicate key messages from the continuous improvement team. In addition, a member of the CICOP circulated certain stories by the use of e-mail. Thabazimbi iron ore mine started to use stories to support knowledge sharing through the use of the storyboards in 2001.

6.5.3.2 Purpose of storytelling

The purpose of storytelling identified at this mine included the following:

Supporting the change process

This mine had been through some difficult times in the late 1990s and needed to implement a turnaround process. This included the requirement to help employees on the mine to know what needed to be done in order to achieve a turnaround, to know how to do it, and to know when the results had been achieved. “Use [of a] specially designed storyline [represented on the storyboard] was developed to foster understanding of the overall strategic process by all stakeholders,” (Kumba Resources, 2003b, 3:18).

Facilitating improved leadership

Management on the mine had a specific focus on improving their leadership skills and sought to use the storyboard and storytelling as a means to increase their visibility with their employees and to increase their ability to transfer their own explicit knowledge.

Generating action plans

Management on the mine reported using the storyboards to help to generate action plans for the future based on a clear understanding of the current situation, the business imperatives, and how to achieve them.

Continuous improvement

Specific mention was made of the use of the storyboard to help with the activities of the continuous improvement function at the mine. The goals of continuous improvement included improving operational efficiencies and reducing costs, both of which are highly dependent upon employees at the mine learning how to change the way that they operate. The storyboard was seen as a key tool to assist in this initiative.

Safety and health

Storytelling methods were used to help improve safety issues on the mine, as well as meeting targets in terms of the health of the individuals working on the mine. In this case, HIV/AIDS awareness issues were complimented by the use of the mine's storyboard.

Customer relations

One of the business objectives on the mine was to improve customer relations. This theme was built into the storyboard (know-what was needed) and how to achieve the improved performance in managing customers (know-how to do it).

Financial impact

The storyboard was used as a tool to help to improve an understanding of the financial performance of the mine. This included an appreciation (know-how) associated with operational efficiency and cost reduction, as well as the impact (know-what) of lost production because of whatever means (equipment breakdown, labour hours lost and so on).

Performance tracking

Members of the CICOP reported experience of seeing the storyboards used as a tool for communications in understanding the performance of the business unit. The

storyboard carried a sense of journey, and it was the progress on this journey that was used by the management team to measure their performance: “I know one of the departmental heads at Thabazimbi used this [the storyboard] to track, every time he had a session with them he said, ‘Guys, where's our department on this,’ so he used it as a tracking measurement.”

Improving teamwork

Improved teamwork was one of the key objectives of the turnaround at the mine when the storyboard was first introduced. Management wanted to ensure that through the storytelling mechanism and the graphical presentation afforded by the storyboard, they could help the employees understand how to improve teamwork (know-what and know-how).

6.5.3.3 How storytelling is used

Figure 6.6 (found at the end of section 6.5.3) is an example of the storyboard in use at this mine. It depicts elements of the strengths of the mine’s operations as well as the objectives which are part of the mine’s operations. The series of scenes depicted on the storyboard allow a story to be created around each scene with contributions from the audience as well as the storyboard designers: “the storyboard was created where people would identify themselves in the whole mine situation: from the desert, across the river to a greener new country, more prosperous, where we could all identify with the targets, of the costs and safety statistics. In the end of that storyline [the flow of the story depicted on the storyboard] there was a rainbow with a pail full of money or whatever and we all worked towards that rainbow.”

Storyboards are republished in line with the business cycle

The mine storyboard has been updated to reflect changes in the business cycle and the individually removable sections lend themselves to replacement as and when business requirements change, allowing the story to be dynamic in nature.

Local anecdotes are used to complement the storyboard

One interviewee specifically mentioned that local anecdotes are used to complement the storyboard both by the storyteller and by the people listening to the story.

Background theme as per mine setting

Care was taken in the design of the storyboard to ensure that the background theme reflected the setting of the mine (the geography of the area).

Multiple levels of management involved

The messages contained in the storyboard are rolled out through various levels of management, moving down from the senior through junior management until it reaches the operational level of people. “Once the management team has done it a few times for the departments they expect the departments to take over, at Thabazimbi that's how it works. The departmental head then has to take it to the next level. That next level guy has to sit in, listen, observe, he gets the leader's guide, he knows ‘listen, you are going to communicate this further, so you had better listen and see what's happening here’.”

Storyteller's guide developed

One interviewee explained that the job of the storyteller was made easier by the availability of a guide designed to assist in the telling of the story. This was used in a series of dry runs, with the assistance of experienced observers, as a way of training the storyteller.

Storyboards aligned to corporate Kumba Way values

Since 2002 care has been taking to ensure that the values reflected on the storyboard include those of the corporate Kumba Way values: “Thabazimbi has replaced its existing values on its storyboard with the Kumba [Resources] values,” (Kumba Resources, 2002b, 12:11). Interestingly this did not extend to the use of the Kumba Way theme character, the ant. “We initially used figures, a little Mannetjie¹², a character and we will carry on using the characters. I don't know how we are going to

¹² This was the term used by the interviewee. It means a little ‘character’ of no particular age, gender or race.

integrate with the ant of Kumba [Resources], later on probably; we'll get the ant into the story to see the integration [with the Kumba Way values].”

Additional graphics support

In addition to using the general mine storyboard, management supplemented this with monthly themes which were displayed on comic strips for communication of short-term issues.

Professional graphic artists used

Although the ideas for the contents of the storyboard came from the mine management (in particular members of the CICOP) the actual production of the storyboard was outsourced to a professional graphic artist, who became a transactional member of the CICOP.

Episodic telling of the story

The storyboard was designed in such a way that sections of the board could be removed or added individually (through the use of a Velcro backing). This allowed the use of the storyboard to happen in an episodic way, thus facilitating easy discussion of elements of the story without revealing the whole story ahead of time. “At Thabazimbi they have a facilitator and while he's telling them the story he takes each picture and puts it on.”

6.5.3.4 Benefits/value gained from storytelling

Positive attitude of the people

It was reported that there was a significant improvement in the attitude of people working on the mine once the storyboard was used to help them to understand what, how and why they had to change their behaviour.

People identify with the objectives presented

One interviewee reported that the people on the mine identified much more closely with the objectives being presented than from more traditional means of presentation.

“Our storyboard created lots of energy and commitment from the people; everyone could identify himself somewhere in the storyline.”

Creativity improved

Another benefit of the use of the storyboard was that people's creativity improved once they were asked to start thinking for themselves about how to interpret the story.

Better way to share success stories

It was found that success stories were far more easily communicated through the use of the storyboard medium. “Storytelling and the storyboard is a way to get the issues top of mind. That's why I'm going to use it [the storyboard] in safety... I've realised we don't get breakthroughs [in safety]. One of the reasons is we don't use enough of creative stories [to share success stories in the safety area].”

Integration of local and corporate themes

The storyboard made it easier to incorporate Kumba Resources corporate themes into a story setting with which the employees were already familiar. This was achieved by the integration of the Kumba Resources corporate values in 2002.

Improved teamwork

Because of the communal nature of the storytelling and use of the storyboard, it was found that teamwork among the people increased. “You can go there now [Thabazimbi] and really experience the positiveness of the people.”

Improved business performance

The following results were reported and attributed to the use of the storyboard (as a means to help people understand what they need to do, how they need to do it and why):

- Production levels have gone up over the last three years, output is stable, quality variances reduced
- Improvement in quality of product
- Significant decrease in injuries; improvement in safety

- Significant increase in the level of employee satisfaction with communication practices (Kumba Resources, 2005b, 3:18)

One interviewee reported that, “it is probably most correct to say that the successful implementation of this strategy led to a work environment and climate where it became possible for a large number of employees to better perform all aspects of their work, leading to improved organisational performance,” and that this could be attributed to the use of the storyboard approach.

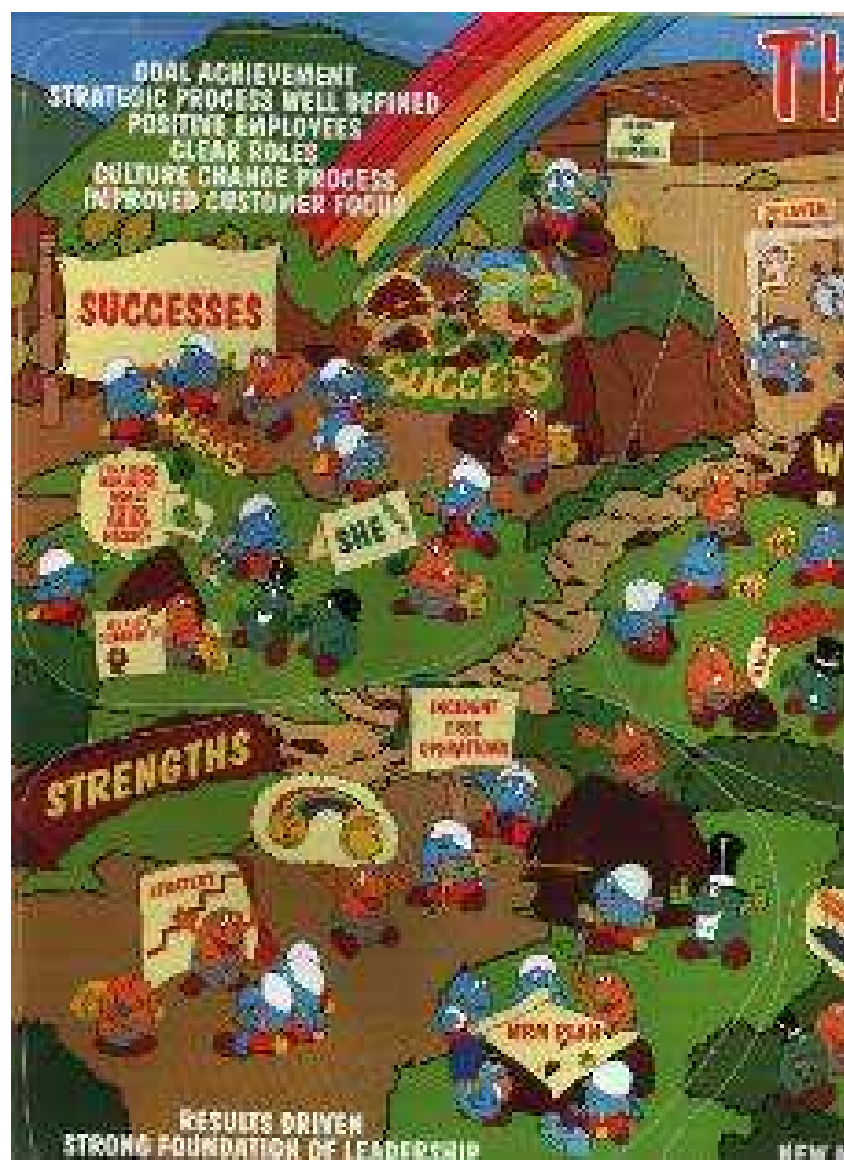


Figure 6.6 Thabazimbi mine storyboard¹³

¹³ See Appendix 3 for a profile of this item.

6.5.4 Grootegeluk coal mine

6.5.4.1 Nature of storytelling

Members of the CICOP at this mine also experienced storytelling through the Kumba Way posters but interestingly had also developed two different sets of storyboards for use on the mine, both of them originating within the continuous improvement area, but directed at different audiences (the first mine storyboard was implemented in 2002).

6.5.4.2 Purpose of storytelling

Create a visionary focus

The issues of vision, mission and strategic objectives were high on the list of priorities at the mine. This was mentioned in particular by one of the senior management team members as well as being depicted on the mine storyboard. “The story includes most of the key elements of the business planning process, including determining a vision, mission and strategic objectives in an easy to understand format that all employees can follow,” (Kumba Resources, 2002b, 12:5).

Share knowledge

Specific mention was made of a requirement to share knowledge of how business processes work: this included an understanding of knowing what the purpose of a vision and mission statement might be, and how they could be achieved.

Management communication tool

Management at the mine identified the storyboard as being a valuable communications tool. “We felt the line manager must take the responsibility to share with their own people... not all of them are artistic or drama people so you get a toned down version... but the fact that the leader is presenting it is still best.”

Understanding of the planning process

Another reason for the use of the storyboard at the mine was to help with an understanding of the planning process; what it was and why it was necessary.

Understanding business fundamentals

It was identified that some of the lower-level, less-educated members of staff struggled to understand even the basics about business and so the marula tree story was developed. “You don't just say ‘you've got a bonus, we made a profit’, there's a lot of questions around that and you can't explain that to them if they don't understand the meaning of shareholders, the growing of the business, job creation and all that stuff, so that is where the marula tree story all starts off.”

Improving teamwork

Teamwork was high on the list of priorities for the mine, as part of the core values, and was one of the reasons for using the storyboard approach in terms of improving teamwork: “so stories are there to assist, to let people understand each other...the same language gets through.”

Improving safe working conditions

Creating a safe working environment is a high priority on the mine, and this provided an additional reason to use the storyboard as a means to ensuring safer business practices.

Idea generation activities

One interviewee specifically mentioned the use of the storyboard assisting in idea generation activities.

6.5.4.3 How storytelling is used

Original mine storyboard

This mine started using storyboards as an aid to knowledge sharing through the CICOP in 2002 and the storyboard was updated the following year (see Figures 6.7

and 6.8 found at the end of section 6.5.4). Plans were underway during 2004 for a further update in 2005. The issues mentioned on these storyboards were:

- SWOT analysis (strengths; weaknesses; opportunities; threats); values; achievement (2002 version)
- Achievement of vision, values and the five thrusts (SHEQ; high-performance culture; client relationship management; Kumba Resources Economic Value Add; corporate citizenship) (2003 version).

Marula tree storyboard

Although there was already a storyboard in use (to communicate from the mine general management with the support of continuous improvement function to the rest of the mine), it was identified by the CICOP members that there was a gap in understanding of even some of the fundamental business principles. “The Grootegeluk [mine] storyboard is for a higher level. You can't use the same story for all the levels in the organisation, and this one [the marula tree story, see Figure 6.10, found at the end of section 6.5.4] is suitable for the very lowest level, to communicate this message.” The marula tree, in particular, was selected as the focus for the story because it is something, “that is very common in Ellisras so people could identify with the role of the tree in the story very easily.” The origin of the story was based on the need to communicate the annual performance bonus. When asked about the purpose of the marula tree story, one of the interviewees replied that, “it's about understanding what drives the business... sustainability, so its applicable to all of the mines... why are we here, what do we want to achieve and bringing it to the person himself... if the mine benefits, he benefits, it's the strategic link.” The story is told through the use of a series of twelve flip chart sized paper scenes which taken together make up the whole story.

By involving the employees in the development of the story

When it came to the development of the marula tree story this happened in conjunction with the people the story was intended to address. The person who developed the marula tree story “was very clever, he didn't think out the whole thing by himself, he got guys on the floor level to think about it.”

Professional graphic artists used

As with the other mines (with the exception of Sishen, who used an internal person), it was recognised that the services of a professional graphic artist would be required to produce a storyboard of the appropriate standard for the original mine storyboard. Later, for the marula tree story, all the pictures were originally hand-drawn by the CI team, and when they saw that the marula tree story was working well, they developed a more durable, professionally produced set of posters (through the same graphic artist as is used for the main mine storyboard).

Written storytellers guide

Facilitators telling both the main mine story and the marula tree story have access to a written storyteller's guide. This had been developed to assist new storytellers in improving their understanding of how to tell the story, as well as ensuring consistency across the different number of storytellers used.

Dedicated storyteller as well as line managers as storytellers

The frequency with which the storyboard approach is used at this mine has prompted the local management to consider the appointment of a dedicated full-time storyteller equipped with the appropriate language skills (capable of speaking English, Afrikaans, Tswana), to communicate with a culturally diverse audience.

Size of group of listeners

When asked about the size of the group listening to the story, the response was, "we would usually be 20 to 25 to 30 people," and a further comment was added that, "it depends on certain departments, I've had more like between 10 and 15 people...how we base it is on when we can get them together and the size they are able to put together...usually because it's shifts that's how we end up with 20 to 25 people."

Location of a group of listeners

The location is in a natural setting that, "we try to make it in the conference area but for the shift workers we usually do it in their tea room, anywhere where we have enough space to put up the charts and get everybody together." This applies for both

the main mine story and marula tree story. See Figure 6.9 (found at the end of section 6.5.4) for an example of a storyboard on display in an office on the mine.

6.5.4.4 Benefits/value gained from storytelling

Change in employee performance

It was reported that there was a noticeable change in the performance of employees who have been exposed to both types (Grootegeluk mine and marula tree) of storyboard as a knowledge-sharing tool. These employees demonstrated a clearer understanding of what they needed to do, and how they needed to do it, which they were able to translate into improved performance, resulting in an overall increase in performance for the mine.

Learning improved

It was reported that employees exposed to the storyboards created by the CICOP significantly improved their understanding of a number of the issues involved in the life of the mine. “Grootegeluk employees are learning about strategic process and business principles from the unlikeliest of sources: the marula tree. The business unit’s continuous improvement team created a story centred on a group of unemployed people who use the only tree in their area to start a thriving business,” (Kumba Resources, 2002b, 12:5).

Ease of use

Since both types (Grootegeluk mine and marula tree) of storyboard are largely graphical in nature, it is a suitable vehicle to reach those who are not literate. “I think it’s the easiest way to reach everybody, for me storytelling is the best vehicle to use...to people, for instance, who can't read or write...it comes across.”

Assists with Best Practices transfer

Because the storyboard as a tool is becoming widely used within Kumba Resources, it is becoming easier to transfer best practice through a commonly understood and familiar tool. One of the interviews that took place at the Grootegeluk mine was with a senior member of the management team (and peripheral member of the CICOP), a

person with a great deal of experience within the company and who had seen the use of storyboards at the Thabazimbi mine and assisted in bringing the use of the storyboard to this mine.

Clearer communication

The marula tree story was developed as a simplified version of the mine storyboard, to assist in understanding just a few key concepts about how a business works.

Deeper understanding

Both types (Grootegeluk mine and marula tree) of storyboard were found to achieve a deeper understanding in the audience of the knowledge being shared. “When you are standing in front of a group of people and you see those workers, sometimes they come in there and they think, ‘oh God, this is another thing coming from the top and I’m not interested in it,’ but as you start speaking you see lights going on and with the type of questions that they ask you afterwards, now they start making the link of what our vision is... and they start talking about starting their own businesses and things like that so you can see now they’re starting to get an understanding... we are talking to the lower level people, workers and operators and stuff and the type of questions that you get show that they are understanding the concepts...my guys even understand EVA¹⁴ now.”

More entertaining learning tool

The storyboard tool was proving to be much more engaging than other more traditional means of communication (such as a PowerPoint presentation): “it’s energising, it’s fun.”

Creating buy-in

One interviewee was most enthusiastic about the benefits of using a consistent story to create buy-in to the achievement of objectives for the mine: “people see themselves in the story.”

¹⁴ EVA is an abbreviation for Economic Value Added, a term used in measuring the performance of an organisation.

Receiving a common message

One interviewee said one of the strengths of the storyboard approach is that a consistent message can be put across, regardless who is telling the story, through the use of the story training materials and storyteller guide.

6.5.4.5 Other storytelling issues

Moving the story outside of the mine

In relation to sharing the marula tree story with other Kumba Resources locations, there was a concern that other Kumba Resources locations may not accept the story. “I think there exists a sort of competition between the centres [mines]. I don't think they want to use the story because, ‘hey, look this is Grootegeluk's story,’ they would rather use their own.” A suggested solution was for the story of the marula tree to be successful at other locations was that it should be, “sponsored by Kumba [Resources] head office.”

Role of the Community of Practice

An alternative suggestion about how to spread the marula tree story to other Kumba Resources mines involved the role of the CICOP. “At a COP something like this should come up ... those guys there should drive it, it should not be the head office people. We have a lot of head office proposals and we have seen how that works, people just feel like it is being forced on them, you want it to come out of the COP where they say ‘look Grootegeluk is doing this and now let's tailor it for us’, I think that would work a lot better.”

Role of the knowledge management team

A third alternative that was discussed about how to distribute the marula tree story involved the set-up of a task group with the help of the knowledge management team to tailor the story to the other mines. One comment was that “it would go a lot faster” through the knowledge management team than through any other mechanism.

Measurement of benefits

It was recognised that measuring the benefits of using storyboards and stories was not easy. One interviewee did not express any suggested approach about how to measure the benefits but seemed clear that the benefits exist: “we had a very big debate about how to measure it, it's a difficult thing to measure, to go out to all those people and ask them, but what I can say is that, from my personal experience, it works.”

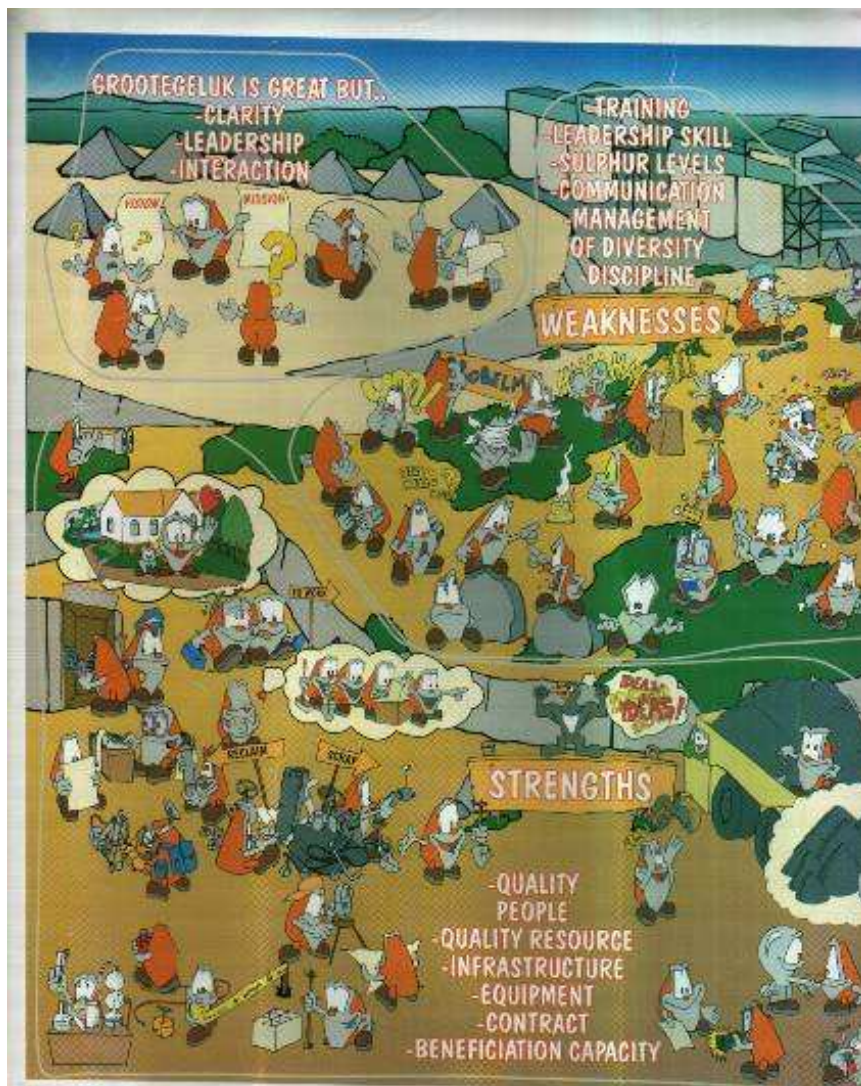


Figure 6.7 Grootegeluk mine storyboard¹⁵
(current 2002)

¹⁵ See Appendix 3 for a profile of this item.

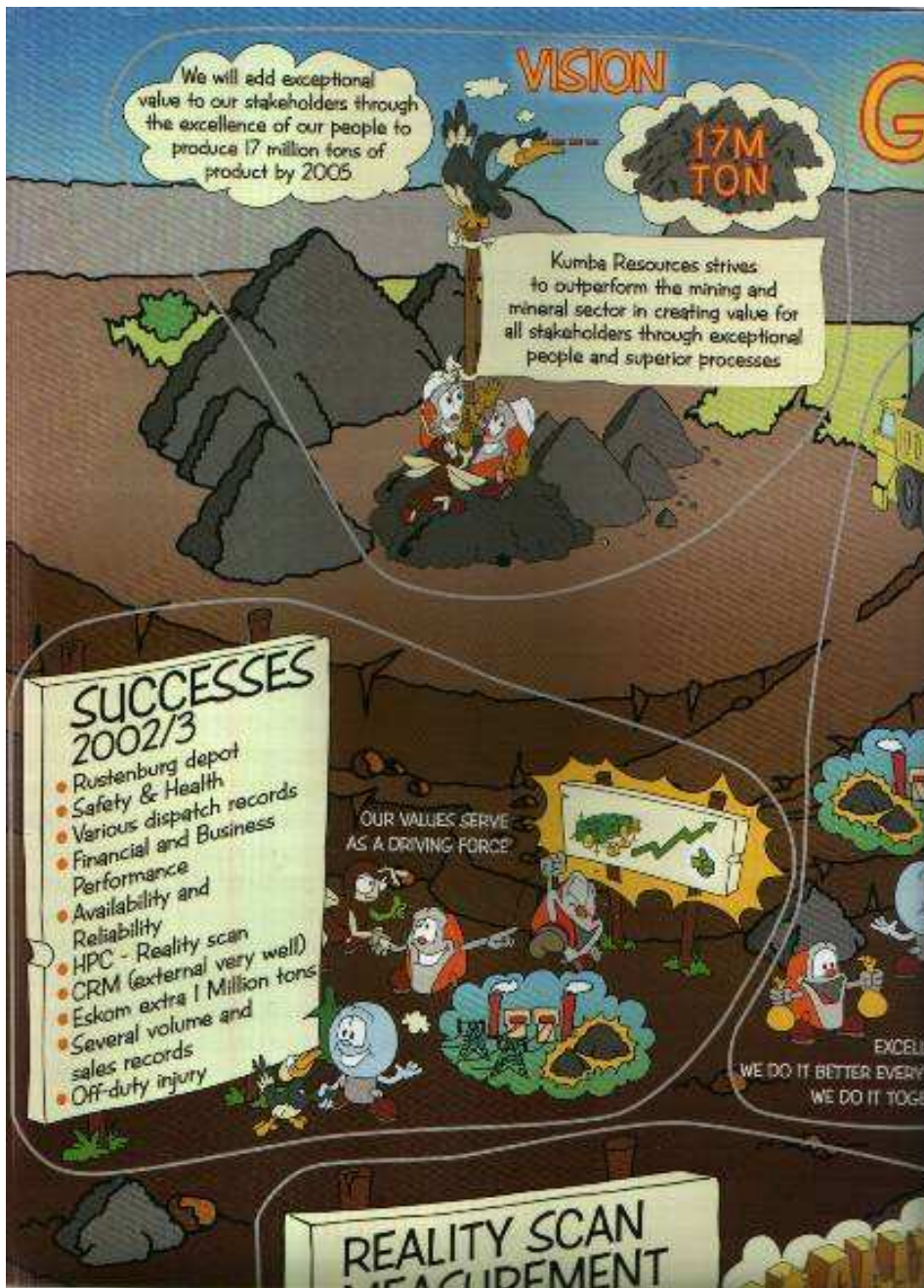


Figure 6.8 Grootegeluk mine storyboard¹⁶
(current 2003 to 2004)

¹⁶ See Appendix 3 for a profile of this item.



Figure 6.9 Grootegeluk mine storyboard



Figure 6.10 Grootegeluk mine marula tree storyteller and storyboard posters¹⁷

¹⁷ See Appendix 3 for a profile of the marula tree story posters.

6.5.5 Leeuwpaan coal mine

6.5.5.1 Nature of storytelling

As with other locations the CICOP members at this mine had been customers for the storytelling activities of the corporate services division in the rollout of the Kumba Way and HIV/AIDS projects. In addition Leeuwpaan mine was the first location in the Kumba Resources group to be using a formal, planned, storytelling approach (since 1998), but interestingly not specifically in the interests of the permanent employee population on the mine. The storyboards were deployed at the contracting company at this mine, Archer Mining (who provide over 90% of the mine's workforce), although those activities had full visibility to the continuous improvement function members at the mine (this predated by several years the foundation of the CICOP). As Kumba Resources management closely identify with their contractors, and the continuous improvement function at the mine is responsible for performance improvement of the contractors employed, the assessment of the use of the storyboard as a knowledge sharing tool at Archer Mining will be included in this research.

6.5.5.2 Purpose of storytelling

Development of a future vision

There was a requirement to develop a future vision to ensure alignment with the development of the overall Kumba Resources business. The overall approach was to help through the use of the storyboard to identify the current situation, the desired future state, and how that gap would be closed.

As part of the initiation process

Storytelling and the use of the storyboard applied to the initiation (induction) process, at a time when employees are being recruited. The use of the storyboard was intended to allow them to be quickly integrated into the team.

As part of reorientation process

Once employees returned to the mine after a period of leave the storyboard is used once again to reiterate the key business objectives.

6.5.5.3 How storytelling is used

Used in small groups

The storytelling on the mine takes place in relatively small groups. “The storyboard was used to communicate with small groups of between eight and ten people.”

Careful selection of story themes and symbols

It was recognised that a number of the employees who would be listening to the story have a different cultural and experience base compared to other employees in Kumba Resources. It was therefore important to use symbols appropriate to their environment (few, for example, would have experience of flying, so that would not make a suitable symbolic reference). Interviewees commented that in seeking a relevant symbol, storytellers should: “find stories they can relate to, use cows or whatever” or “if you want something universal a mealie [corn cob] could work.”

Senior management dress up as chiefs

Not content to merely tell the story, members of the senior management of Archer Mining at Leeuwan mine actually put on fancy dress costume, dressing up as Native American Indian chiefs, a pun on ‘archer’, adding additional creativity to the way in which the storyboard is used.

Music used to enhance the message

An additional innovation was the use of music to accompany the use of the storyboard. Where possible, specially selected lyrics designed to tie into the theme of the message on the storyboard. This had the effect of creating a vibrant, involving experience.

6.5.5.4 Benefits/value gained from storytelling

Meaningful

It was recognised that the use of storyboards presented a means of communication that carried much richer meaning than other alternatives (such as written communications and traditional management presentations).

No need for literacy

The storytelling mode is associated with eliminating the need for literacy, an important consideration given the relatively low levels of education in the workforce: “with English as a second language, and among who levels of illiteracy were high.”

Cost-effective

The use of the storyboard approach was found to be particularly cost-effective when compared with another alternative (professional story script writing) that had been evaluated at this mine.

6.5.5.5 Other storytelling issues

Benefit not actually measured

There was no evidence that any formal approach to measure the success of the storyboard had taken place at this mine, although management in the CICOP appeared convinced that the storyboard approach was a successful one (based on informal and anecdotal feedback).

Geographical dispersion an obstacle to best practices transfer

The geographical dispersal of Kumba Resources’ operations was identified by one interviewee as a possible impediment to the easy sharing of ideas. It was not so much the physical distance as the cultural, environmental and language issues associated with the different regions that could mitigate against ideas moving from one location to another.

6.5.6 Tshikondeni coal mine

6.5.6.1 Nature of storytelling

As with the other locations, CICOP members here had experience with the Kumba Way and implemented their first storyboard at the same time as the Grootegeluk and Thabazimbi mines in 2002.

6.5.6.2 Purpose of storytelling

Kumba Way values

The members of this mine also participated in the countrywide rollout of the Kumba Way initiative.

Improved communications

The use of the local mine storyboard was seen as a key element in improved communications across the mine. “The Tshikondeni storyline course was implemented in April 2002, with the aim of pooling employees’ ideas on teamwork, communication and team spirit,” (Kumba Resources, 2002b, 6:13).

Continuous improvement culture

One of the key objectives of the storyboard that was introduced in 2002 was, “the development of a culture of continuous improvement... at the mine,” (Kumba Resources, 2002b, 6:13).

Back to basics

This focus was one of the additional priorities on the mine in terms of ensuring that the business fundamentals were in place, thus allowing improved performance to be achieved from a solid base. “A storyline was used describing where the mine was going and how it planned to get there, spelling out everyone's role in the journey, where the themes of back to basics and teamwork were a focus for boosting production targets,” (Kumba Resources, 2002b, 6:13).

Teamwork

There was an emphasis on the importance of improving teamwork across the mine. “The Tshikondeni storyline course was implemented in April 2002, with the aim of pooling employees’ ideas on teamwork, communication and team spirit,” (Kumba Resources, 2002b, 6:13)¹⁸.

Increased production

It was believed that the messages containing the storyboard and the telling of the story depicted would result in increased production on the mine. “A storyline was used describing where the mine was going and how it planned to get there, spelling out everyone's role of the journey, where the themes of back to basics and teamwork were a focus for boosting production targets,” (Kumba Resources, 2002b, 6:13).

Safety concerns

One of the key concerns at an operational coal mine such as Tshikondeni, and it was believed that the use storytelling with the storyboard tool would assist in achieving the mine’s safety objectives.

6.5.6.3 How storytelling is used

Leaders guide translated into Venda

The mine storyboard was produced in English, but to assist in training the local storytellers, the graphic artist who was contracted to produce the storyboard (serving as a transactional member of the CICOP) reported that, “the manual we sent with it was translated into Venda.” This aspect proved to be a newsworthy approach: “[the message] was reinforced by presenting the message in English and Venda, and using a storyboard to highlight the Kumba [Resources] values,” (Kumba Resources, 2002b, 12:11).

¹⁸ Quotes are repeated where more than one concept has been mentioned and is listed separately.

Bicycle campaign

It was reported that the issue of safety on the mine was addressed using the analogy of safe use of a bicycle (around which a story was built), drawing parallels with safety practices at the mine. “I can use a brilliant example that happened to Tshikondeni I think it was a month or two ago, they identified that people are not proactively using safety...they actually made a campaign called the bicycle campaign.”

Specific training in use of storyboard

Specific training was offered in the use of the storyboard approach. “The Tshikondeni storyline course was implemented in April 2002,” (Kumba Resources, 2002b, 6:13).

6.5.6.4 Benefits/value gained from storytelling

Improved teamwork

When asked about the effectiveness of the use of the storyboard as a communication tool for knowledge sharing, it was found that at Tshikondeni, “people only started talking to each other once they had the medium [the storyboard] to help their discussion,” and that previously whilst they were polarised “in their own little beehives,” there was limited sharing of information: “everybody was living on their own islands.” This situation changed once they started to use the storyboard.

Cross cultural boundaries

The province of Limpopo in which Tshikondeni is located is an area where both English and Venda are spoken. The delivery of the storyboard story in Venda as well as English helped to address this localisation requirement.

Involvement of the workforce

It was also reported that one of the good things that came out from the storyboard usage is that the ownership of the story coming from the workforce began to be seen, “as they were not just being told the story, but also participating in the story.” This had the benefit of increased enthusiasm for the messages being told through the stories.

Improved performance

The storyboard approach has been in continuous use since 2002, where “the development of a culture of continuous improvement had begun to pay dividends for Tshikondeni and all the employees who work at the mine” (Kumba Resources, 2002b, 6:13).

6.5.6.5 Other storytelling issues

Sharing of practices across Kumba Resources

The idea of using a storyboard to assist in knowledge sharing was picked up from Thabazimbi and Grootegeluk, two of Kumba Resources operations most closely located to Tshikondeni mine, and whose continuous improvement team were also parts of the CICOP.

6.5.7 Rosh Pinah zinc mine

The CICOP member at this mine did take part in the maturity assessment interview (participating in both the structured and semi-structured parts of the interview). However, due to the geographical remoteness of the location (this mine is located in southern Namibia), it was not possible to visit the mine during the remainder of the research project, and there was limited participation by the CICOP representative from this mine at the various other discussions (such as at CICOP meetings) and interviews that took place during this project.

6.5.7.1 Nature of storytelling

Although it was also involved in the Kumba Way rollout, the use of the storyboard approach in a similar way to other mines (such as Sishen and Grootegeluk) had not been executed by the end of 2004. This situation was under review during 2004 and by August of 2004 the possibility of using a storyboard was under development and this would possibly be launched during 2005. There was no other evidence from the

semi-structured interview that any other form of planned approach to storytelling was in place at the mine.

6.5.7.2 Purpose of storytelling

There was no evidence of any current activity in terms of the planned use of stories for knowledge sharing at the mine.

6.5.7.3 How storytelling is used

No detailed investigation took place at this mine into the use of storytelling methods as the evidence from the maturity assessment interviews and semi-structured interview that followed was that there was no planned use of storytelling at the mine during 2004.

6.5.7.4 Benefits/value gained from storytelling

This issue did not arise, as stories and storytelling were not in use at the mine during the empirical research project.

6.5.8 Zincor refinery

6.5.8.1 Nature of storytelling

The employee base at Zincor refinery also participated in the 2002 and 2003 Kumba Way posters rollouts, and in addition management at the refinery were responsible for the development of two types of storyboards in use during 2004. Both of these types of storyboard involved the local CICOP members.

6.5.8.2 Purpose of storytelling

Zincor corporate storyboard themes

The Zincor refinery storyboard strongly resembles the type of storyboard in use at a number of other Kumba Resources locations (Thabazimbi, Grootegeluk, Tshikondeni), not surprisingly as the same graphic artist was used for all of these storyboards. The storytelling themes at Zincor illustrated on the storyboard were: Kumba Resources and Zincor visions; move to current reality; strategy; internal quality; satisfied employees; operational excellence; (creating) external value; satisfied and loyal customers; foundational and motivational values, and future intent.

Zimisele storyboard themes

The Zincor CI management team (including members of the CICOP) decided to initiate its own business improvement project, in order to remain competitive, sometime before the corporate-wide KBIP project was initiated. Zincor management instituted a business improvement project, at a board meeting early in 2003, called Zimisele (the nickname the workers came up with), which means ‘we are committed, we are ready.’ Having seen the success of storyboards at other Kumba Resources operations, it was decided for Zimisele to use a storyboard with a theme of making it easier for people to understand on the ground what management wanted to try to achieve with the whole project (see Figure 6.11 for an example of this storyboard, found at the end of section 6.5.8). Seven phases of the project are outlined on the Zimisele storyboard: the current situation; the challenge; discussions to resolve; collection of information and ideas; implementation planning; (new) reality, and future intent.

Continuous improvement behaviours focus

A further development that was under discussion during 2004 had a specific focus on the eight continuous improvement (CI) behaviours that form part of the CI staircase (or maturity model). The continuous improvement team at the Zincor refinery was looking at how to change the behaviours of the operational level staff, and they explored a number of possible themes, including the 2010 soccer World Cup. As at the end of 2004 this new storyboard project was still in the planning phase.

To cross cultural and literacy barriers

As is the case at each of Kumba Resources operations, more than one language is spoken at Zincor, in this case English is the primary business language and Zulu and Xhosa are more used on the shop floor. When using the storyboard, interpreters were used to tell the story in the employee's own language in addition to the use of the pictures on the storyboard. "The reason why we used pictures was to give a common ground of communication. I might speak English, the next guy would speak Zulu and the next guy Xhosa... people tend to interpret things differently and if you don't put words in as a guide you may lose the story eventually."

6.5.8.3 How storytelling is used

Practical use of the Zincor corporate storyboard

Business unit managers took the storyboard (see Figure 6.12, found at the end of section 6.5.8) and rolled it out within their departments. Specific assistance was planned for line management as part of the storyboard rollout, including a flip chart used to guide the storyteller through the process as a presenter of the actual storyboard. In addition, the story could be built up section by section, as the story was made up of a number of components, each of which could be told individually. The components were Velcro-backed, allowing the story to be built up, element by element (a technique in use at other mines).

Complementary tools with Zimisele project storyboard

A PowerPoint presentation with the same story characters was developed to support the main storyboard. Although there is a low level of Personal Computer access in the refinery, public displays are available at strategic places in the plant. A screen saver of the same theme as the storyboard was also made available.

Getting people to identify with the story

Ways were found to get people to buy in to the story: "there's the marketing clerk for example, that's you sitting there", a story listener would be told. As a result, people were helped to realise they were part of the process. This was not "something that

management have thought out and people are just expected to dive in and come along for the journey. They are keen to be part of the journey when they see themselves depicted in the storyboard, they see how they can add to the success of the company, to get to the ultimate goal of the land of milk and honey.”

Use of storyteller’s manual

The Zincor team also made use of a manual (storyteller’s guide) that was supplied with the storyboard. In the manual the storyteller has room for making notes: “that’s where you get your feedback from the storyboard.”

Size of listener groups

In contrast to the situation at some other Kumba Resources locations (such as Leeuwpan), the size of group addressed at Zincor refinery was found to be closer to 50 than 20. These groups were localised per operating unit in the refinery. The refinery had been broken up into twelve units, with a facilitator trained in the appropriate language for each unit.

Location of storyboards

The storyboards were located widely throughout the refinery: “we actually distributed the storyboard to each and every ‘toolbox talk’; the conference room or little tearoom that’s out there.”

Listener involvement

When asked about how to make the story in Zimisele effective, it was stated that for the story to be appealing, it must be interesting and be the type of story that gets the listener to start thinking.

6.5.8.4 Benefits/value gained from storytelling

Flexibility

The removable sections allow the story to be easily updated: “they can change the contents and keep the characters alive by just changing the content with the new information.”

Seeing the bigger picture

Stated benefits of the storyboard included the ability to get the operational level people to really relate to the total picture of what was happening in the business and understand the total picture, the current reality and the future intent. The use of the storyboard for knowledge sharing was said to be “really very powerful.”

Cost effective to make local storyboards

When investigating the best way to communicate the Zimisele initiative it was found that the cost of the storyboards represented a relatively low level of investment, which had a cost benefit to the management.

Easier to learn

The storyboard made it, “easier for people to understand on the ground what management wanted to try to achieve with the whole project.”

Evidence of innovation

The use of the storyboard tool at Zincor, for the first time proved to the whole team that management were not afraid to experiment: “I cannot see that any company can be without storytelling...for me storytelling is the way you communicate with people, is one of the most powerful tools... the great thing about leadership at Kumba [Resources] is they are prepared to experiment.”

Keep the ideas current

It was also found that the value of the storyboard was that it was not just a document to be filed away but rather it was a “live thing that you are expected to deliver on.”

Listener involvement

One of the benefits of using a story was that it “gets the listener to start thinking, you don't want to give the answer directly,” and that, “implications for his situation,” were what each listener was expected to develop.

6.5.8.5 Other storytelling issues

Strong management support

The management team at Zincor refinery were among the most enthusiastic of those in the operational units across Kumba Resources when asked about their views on the use of storytelling and storyboards to assist them in achievement of their business objectives.

No formal measurement

On the subject of measuring the effectiveness of the power of the storyboard, it was noted that, although no formal measures had been put in place, there was significant anecdotal evidence of the effectiveness of the use of the storyboard to assist in communicating with lower-level staff.

Learning through Communities of Practice

The management team also had the benefit of participating in the Continuous Improvement Community of Practice meetings. Through these meetings and an exchange of management between themselves and other of the Kumba Resources operations, they had become aware of the use of storyboards to support knowledge sharing in the business and were keen to try the tool at Zincor.



Figure 6.11 Zincor Zimisele project storyboard¹⁹



Figure 6.12 Zincor corporate storyboard

¹⁹ See Appendix 3 for a profile of Figures 6.11 and 6.12.

6.5.9 Glen Douglas dolomite mine

6.5.9.1 Nature of storytelling

The situation at Glen Douglas was in many ways similar to that at Rosh Pinah: the mine had been included in the experience of the rollout of the Kumba Way but there had been no planned use of stories or storytelling for knowledge sharing since then.

6.5.9.2 Purpose of storytelling

Although the CICOP members at Glen Douglas were well aware of the use of storyboards and the success they enjoyed at other Kumba Resources mines they had not made use of them themselves.

6.5.9.3 How storytelling is used

No evidence was found of planned use of stories during 2004.

6.5.9.4 Benefits/value gained from storytelling

No evidence was found of benefits from planned use of stories or storytelling, as this was not an activity at the mine during the empirical research project.

6.6 Summary

This concludes the presentation of the data gathered during the empirical field work phase of this project.

In summary, data was gathered about the following aspect of the case study organisation:

- Kumba Resources corporate profile
 - Origins
 - Current vision, values and strategy
 - Operations
 - Performance indicators
- Knowledge Management at Kumba Resources
 - Role and development of the knowledge management team
 - Importance of communities of practice
 - Profile of the Continuous Improvement Community of Practice (main focus of the research project)
- Findings of the investigation into the use of stories
 - Structured assessment of the maturity of knowledge sharing and use of stories which yielded quantifiable data
 - Semi-structured and unstructured interviews, collection of artefacts and observation yielded qualitative data.

The data gathered presented opportunities to gain a deeper insight into the use of stories and storytelling in line with the research project problem and was largely qualitative in nature. The most significant data arose from the interviews and collection of artefacts concerning the use of stories and storytelling at the various operational locations (mines and plants) across the Kumba Resources South African operations. This data revealed extensive use of stories and storytelling through two approaches, oral storytelling and the use of graphics (in particular storyboards).

As a result of the data gathering activities, it is possible to conduct an analysis of the findings in the next chapter. This analysis will be conducted against the background of the non-empirical research into three areas: the nature of knowledge management; the use of stories and storytelling for knowledge sharing; world-class performance. Once this analysis has been completed conclusions will be drawn and a summary of findings presented.