

8 1982 – 1986 METAMORPHOSIS

DURING 1967, Tommy Stratten had predicted that one day Ngodwana would develop into the largest pulp and paper complex in Africa. Now the time was at hand, but the existing mill community was not looking forward to it. Ngodwana's oldest residents had lived in the valley for 15 years and took its tranquillity for granted, so were horrified by the idea of a hectic construction programme and the invasion of strangers that it would bring. Ever since the early days Ngodwana had seemed like an extended family, but the expansion would end all that. The old Ngodwana was doomed, and few who lived there held much hope for the future.

Nobody understood these anxieties better than Ngodwana's mill manager, Colin Kerr, who did all he could to cushion the community against shocks. On the bright side, he pointed out that the expansion would bring major benefits. New career possibilities were opening up; a large storage dam was to be built on the Ngodwana River; and a shopping centre was being provided. Even though the village was to be made three times as big, he ordered that when streets and house plots were laid out, no tree was to be chopped down except with his personal authorisation.

In a further measure, Kerr announced that as far as possible, all construction workers were to be accommodated where Sappi could control them, though well away from the village. Sappi would provide them with recreational facilities, but use of the Ngodwana club would be reserved for members and their guests. In ways like these Kerr tried to reassure the community that all was not lost. Besides, he was determined to head off any possibility of conflict between the residents and the outsiders. The existing mill would be expected to continue making pulp all through the construction period, and that might be difficult if the two sides were at loggerheads.

From an early stage, Kerr had to delegate actual management of Ngodwana as much of his time was spent in Johannesburg. There, Davy McKee and Zululand Construction had set up offices in a block located close to Sappi's head office. The Zululand Construction men were for the most part specialist engineers seconded from Alex Rodger's division to liaise with counterparts in Davy McKee and Charles T Main. Their primary job was to vet plans prepared by the Americans in accordance with Sappi's requirements. Once these were approved, the necessary equipment could be ordered.

By the early months of 1982, elements of the project were already taking shape. Sappi's management wanted the new plants up and running as soon as possible, to take full advantage of tax benefits and to lessen the effects of inflation. Everything was being done on a 'fast track' basis, meaning that the lead time between engineering and construction was cut to a minimum. Site clearance had begun when no more than 2,5 per cent of the 50 000-odd plans needed for the project were complete; and as the project progressed, it sometimes happened that plans reached Johannesburg from Boston only days before construction men were scheduled to put them into effect.

Some of the most basic construction was carried out by Sappi's own men; but once Davy McKee was on site, assignments were farmed out to 20-odd major contractors and 30 sub-contractors. Davy McKee supervised each stage while the project director, Peter Dixon of Zululand Construction, kept an eye on overall progress and made sure that every deadline was met. As the project advanced, several thousand men converged on the site. Most were accommodated in a large hostel located near the original Grootgeluk nursery or in a camp consisting of rows of mobile homes.

More than 20 separate nationalities were represented among the construction men, not least groups of Americans, Canadians and British associated with Charles T Main or Davy McKee. Many had their families with them, and in the earliest days some of the more senior were billeted in cottages at Elandshoek or Waterval Boven. As new housing was completed in the village, senior construction men and their families moved in. As expected, they proved a lively influence; but far from resenting the intrusion, most residents accepted it as a breath of fresh air. Many of the newcomers were elected to the recreation club, and Ngodwana social life had never been richer.

The first important landmark in the construction programme had come in March 1982 when the construction men began erecting steelwork for the huge machine house designed to accommodate not only the newsprint machine but also the kraft linerboard machine that was coming later. The building was to cover an area equivalent to the size of two rugby fields. Already, elements of the newsprint machine were arriving at Ngodwana by rail, and with them equipment for the asso-

ciated groundwood plant and open-air sections including the wood-yard, materials handling plants and lime-burning kilns which were scheduled for completion by the year's end.

So far all appeared to be going smoothly. A container packed with Ngodwana components had reportedly been washed overboard from a cargo ship in transit from Europe, and part of a drum debarker had been damaged when a truck driver took a wrong road and overturned his trailer in trying to turn around; but such mishaps were speedily remedied. So was a more serious setback. The newsprint machine was being built by an old friend, Walmsleys of Bury — or rather, Beloit-Walmsley, as it had been renamed. When the 44 drying cylinders reached Ngodwana, it was discovered that five had become corroded during the sea passage, and to make things still worse, two of them were dented.

All five cylinders needed regrinding — but if that was to be done,

Erecting the machine house designed to hold Ngodwana's newsprint and kraft linerboard machines (overleaf).

Construction of the Ngodwana dam wall.







the remaining 39 would have to be reground to the same diameter. Unless they matched, paper would break in the machine. Only one company in South Africa had the equipment needed for such an operation, and 42 of the cylinders were shuttled to its premises in Johannesburg and back aboard a fleet of special trucks. The dented cylinders were sent back to Britain, where Beloit-Walmsley produced two new ones. By the time they were delivered, the paper machine house was complete and the newsprint machine was being assembled.

Work in the woodyard and associated areas was on schedule and the drum debarkers, handling systems and other features were in place and approaching the commissioning stage. No matter how small, every element had to be checked by Charles T Main, Davy McKee and Zululand Construction and a series of coloured tags was attached as they passed successive inspections. In the groundwood plant, three of the five grinding units had been brought up from Tugela, while the other two were from Finland. Motors, drives, pumps, valves and other items were in place, and electricians were installing electronic controls.

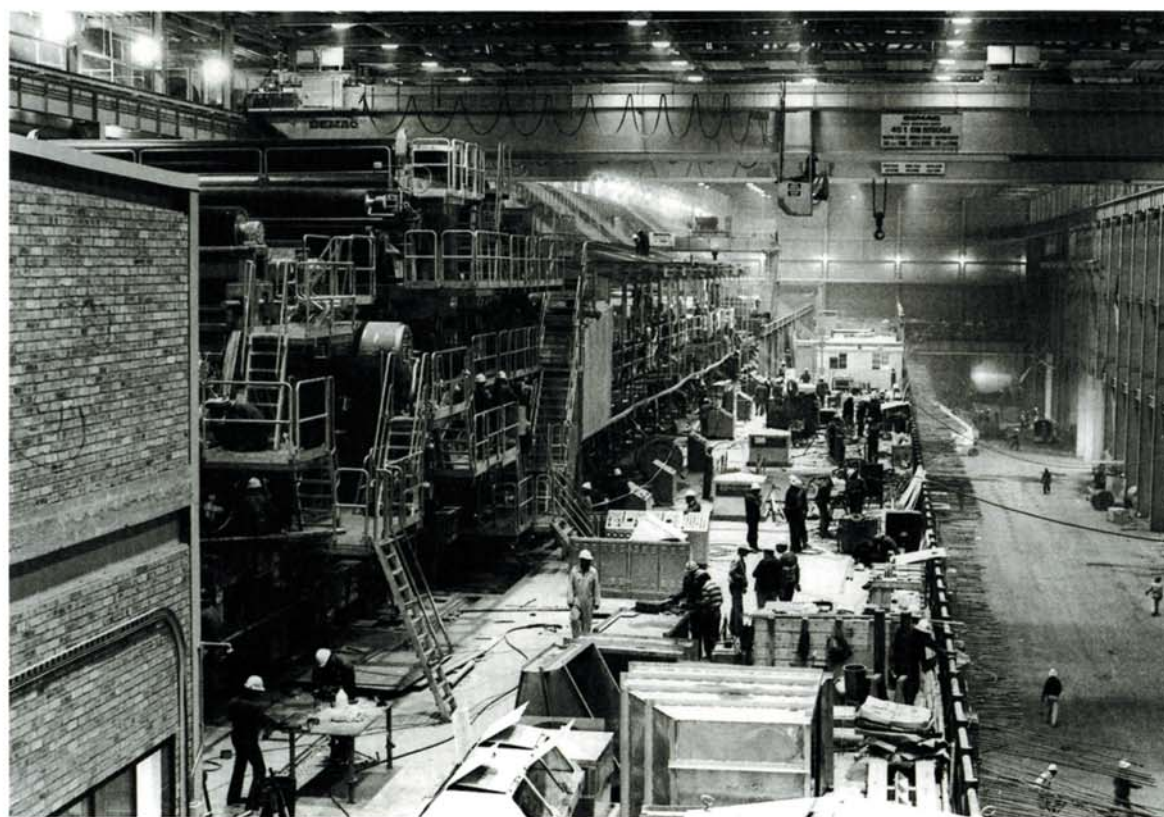
Two distinct electronic systems were involved, quite different from anything else in Sappi and signalling a major advance in the group's technology. One system was known as 'PLC,' short for 'Programmable Logic Control,' and was concerned with turning things on and off at the command of computer software. The second, at many points interfaced with PLC, was 'TDC' or 'Total Distribution Control,' a digital system run from computer consoles. Keyboards and monitors replaced whole banks of dials and buttons used in more conventional systems, and gave operators much tighter control over variables like volumes, speeds and temperatures.

In all of South Africa only Sasol — the chemicals corporation founded to produce oil from coal — had a TDC system comparable to the one chosen for Ngodwana (though that was of an earlier generation), and a number of Sasol-trained technicians and operators were recruited to help pave Ngodwana's way. The PLC system had no counterpart anywhere in the country, and American training experts were brought in to introduce it to South Africans. From an installation point of view, electricians were expected to stick to the plans provided by Charles T Main; but when they encountered snags, they quickly gathered PLC expertise of their own.

By the early months of 1983 the end of the newsprint project was

Allie Albertyn (standing) and Oppie Opperman at the TDC console in Ngodwana's groundwood plant.

Assembling the Ngodwana newsprint machine, built by Beloit-Walmsley of Britain.





in sight, even though the lengthy process of commissioning 400 distinct control loops was still under way. Then it was realised that steel erection for the mill's new coal/bark boiler house was seriously behind schedule. The boiler — a massive, 20-storey unit supplied by a company in Tennessee — was already on the site, but could not be erected until the steelwork was in place. Without the boiler there could be no steam; and without steam there could be no newsprint. If the newsprint project was to be completed ahead of its tax deadline, it was a matter of urgency to complete the steelwork without delay.

No local contractors could promise rapid results, so Peter Dixon instead turned to the United States. An eight-man team of specialist 'steel fixers' was brought in from Colorado and undertook to finish the job in a fraction of the time expected. Their methods were a revelation. To speed up productivity, they used cranes to hoist heavy steel girders four at a time, strung one below another and quickly fixed into place. Intent on their work, the Americans fearlessly clambered about the rising steel framework as if oblivious to gravity; and when everything was in place after only 76 days instead of the nine months originally budgeted, they gathered on the top and unfurled a home-made Stars and Stripes.

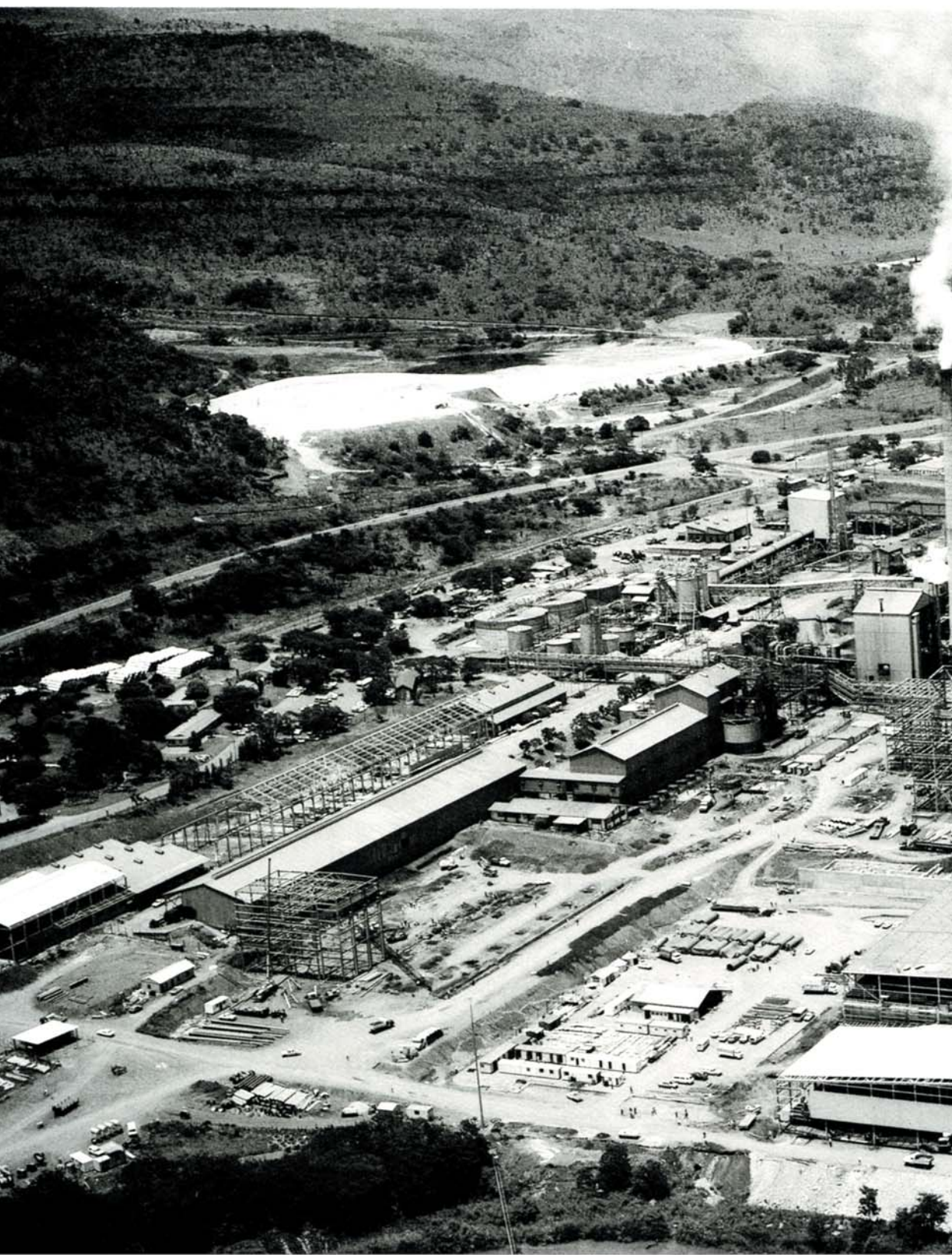
The crash erection programme had proved a leading spectator attraction at Ngodwana, and it was noticeable that other construction men learnt much from the Americans' approach. Families living in the township were even more delighted by progress on the dam, where the 40-metre high wall was nearly complete and water was already flowing in. An attraction of a quite different kind was the arrival of the largest items of equipment ordered for the expansion, sections of a Kamyrr-designed continuous digester which had been built in Britain. The cylindrical sections were shipped to Durban, then loaded onto 28-axle, 64-wheel trailers for the journey to the mill.

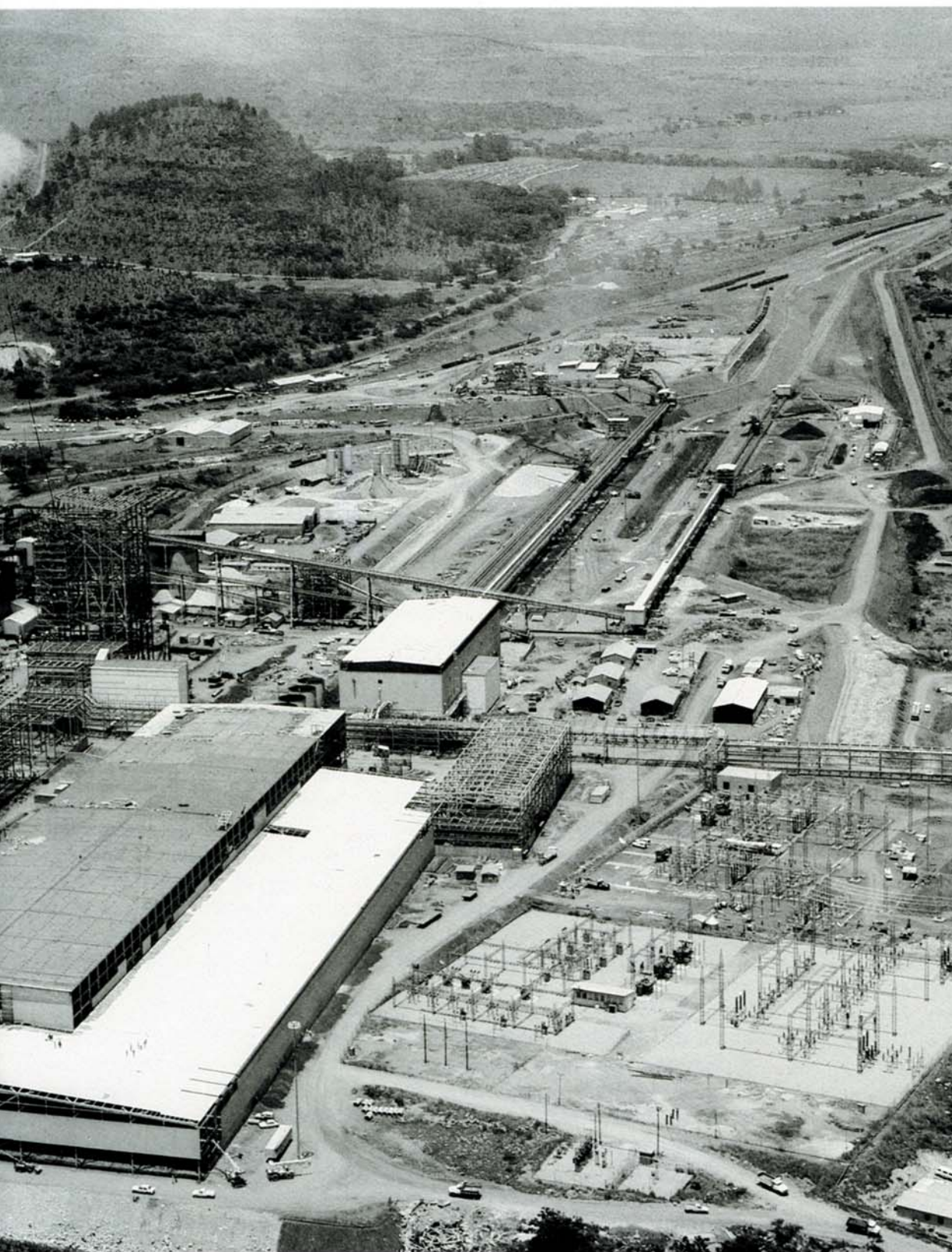
The route of the journey had been explored with great care, and a series of special lay-bys had been arranged for rest stops. The most daunting obstacle between Durban and Ngodwana was a 400-metre tunnel between Waterval Boven and Waterval Onder. The tunnel had a clearance of 7,9 metres, and for the larger of the two sections that allowed a margin of only 20 centimetres. A large contingent of Ngodwana residents was on hand as the heavy loads inched through

The Ngodwana site with construction well under way (overleaf).

American 'steel fixers' celebrate completion of their work on Ngodwana's boiler house.

Sections of Ngodwana's continuous digester, en route to the construction site.





the tunnel at a snail's pace, checked at every metre to make sure they would not become stuck. All went to plan, and the loads reached their destination without further difficulty.

Phase Two

ONE OF South Africa's treasured national productivity awards for 1983 was made to the Zululand division of Sappi Forests. Only four years earlier the Transvaal division had received a similar honour, and Sappi was the first company to win a second time. The award was made in respect of the productivity achieved over a three-year period, recognising effective use of labour, equipment, resources and energy. At a banquet in Johannesburg Dugald Black, the Zululand harvesting superintendent, received a commemorative plaque from the prime minister, P W Botha.

Everyone in Sappi agreed that the productivity award was well deserved. The Zululand division had been a dynamic force within Sappi Forests ever since its creation in 1977, largely through the efforts of Peter Stoker and other Rhodesians who had joined Sappi with greater experience of tobacco than of trees and had introduced novel approaches to everything they had to do. In particular they had realised the advantages of mechanising and had worked closely with the I A Bell company of Empangeni in developing relatively light-weight, highly manoeuvrable machines for felling, stacking and loading.

With the machines' help, Sappi Forests' labour productivity had improved by 160 per cent since 1978. Besides making loaders, the Empangeni company now offered tree harvesters which felled and stacked timber in one operation and tractor-trailer units for hauling timber to depots, replacements for the imported 'forwarders' that had been found cumbersome and expensive to operate. The new machines appealed to the Natal and Transvaal divisions as well, and were soon in general use wherever Sappi's harvesting teams were in action.

Sappi Forests was also looking at new concepts in silviculture, and again the Zululand Rhodesians had been prominent. Indeed, Peter Stoker was appointed managing director of Sappi Forests. In Stoker's view, it was best to plant trees as farmers planted tobacco, mechanically if at all possible and in that case watering and fertilising the seedlings as parts of the same process. The watering process sealed seedlings' roots and meant that planting could continue for ten months of the year. Besides, there was a 98 per cent survival rate, and there was less need to 'blank' growing plantations by replacing plants which had died.

Another change affected the standard planting grid, which was enlarged from 2,4 metres by 2,4 to three metres by three. Where the old measures had been used, stands had to be thinned twice on their way to full growth. Under the new arrangement foresters would have much more flexibility in deciding when stands should be harvested. Each year, more land was bought and by 1983 the group owned 130 000 hectares of which 80 000 were under trees. Where possible the holdings were consolidated by acquiring farms adjacent to the major plantations and disposing of smaller, more isolated areas.

Each year, Sappi Forests aimed to plant 7 000 hectares with 12 million new saplings, most of them drawn from the nurseries at Ngodwana and Mtubatuba. Eight million saplings were planted in new forestry areas and the balance was used to reforest sections

Dugald Black (right) of Sappi Forests' Zululand division receives a national productivity award from the prime minister, P W Botha (centre), while Jan Visser of the National Productivity Institute looks on.





where harvesting had taken place. Besides raising seedlings under nursery conditions, Sappi's foresters were experimenting with cuttings from selected trees and also with 'tissue culture,' manipulating tissues from cuttings to enhance straightness, resistance to disease and other qualities.

As Sappi's plantations grew, so did the risk of fire. In 1981 there had been a major outbreak in Natal, and Sappi's management had agreed to experiment with aerial water bombing which had already proved its worth in the northern hemisphere. In Canada, floatplanes scooped water direct from lakes. In South Africa, the aircraft used was a Turbo-Thrush able to carry 2 000 litres per trip. Water was piped to a forest airstrip, then loaded into the aircraft by way of overhead tanks. The aircraft needed only 6,5 minutes to take off, dump its water and return for another load.

The experiments were a success, and in 1983 water bombing was introduced to the Transvaal. As in Natal, a number of airstrips were built at strategic points in the plantations, and both water bombers and spotter planes were chartered from the beginning of April to the end of October, the period regarded as the fire season. The network of fire towers was still in place, manned 24 hours a day in the fire season; and to provide access to ground crews, a grid of firebreaks was cleared of all vegetation.

A decade earlier, less than one-tenth of Sappi's timber had been supplied from its own plantations. Now the proportion was close to 30 per cent, with most of the balance drawn from government forests. Of the wood supplied from Sappi's estates, roughly 90 per cent was used to make paper and another eight per cent was sold as mining timber. Only a tiny portion went for sawmilling — but then, the Elandshoek operation was supplied from the government forest that surrounded it. Waste wood from Elandshoek was sent to Novobord.

In November 1983 Sappi's management acquired another particle-board plant, Timberboard of Wadeville near Johannesburg, which became part of Novobord. The concept of extracting maximum value from the group's timber resources was catching on, and in March 1984 Novobord and the Timber Products division were united in a new subsidiary, Sappi Timber Industries, with Ian Forbes as managing director. As yet the new subsidiary was tiny when compared with Sappi Fine Papers, Kraft and Forests; but it was sure to grow, and

A demonstration of water bombing carried out on a Sappi plantation near Pietermaritzburg.

A self-steering trailer in service with Sappi Forests, useful when negotiating tight bends.

was organised in four divisions — Novobord, sawmills, mining timber and ‘timber packaging,’ formerly Boxes & Shooks.

The new division was formed at a depressing time. South Africa was in the grip of one of the worst droughts in memory. Food had to be imported, there was spiralling inflation, the rand’s exchange value was slipping and the gold price was down. Sales of Sappi’s products had been sluggish for a year, and a few months earlier machines at Enstra, Cape Kraft, Adamas and Stanger had been put on short time or shut down altogether. That was an unpromising scenario, considering that Ngodwana was about to go on stream; but just in time, orders were picking up and Sappi’s turnover was the highest ever.

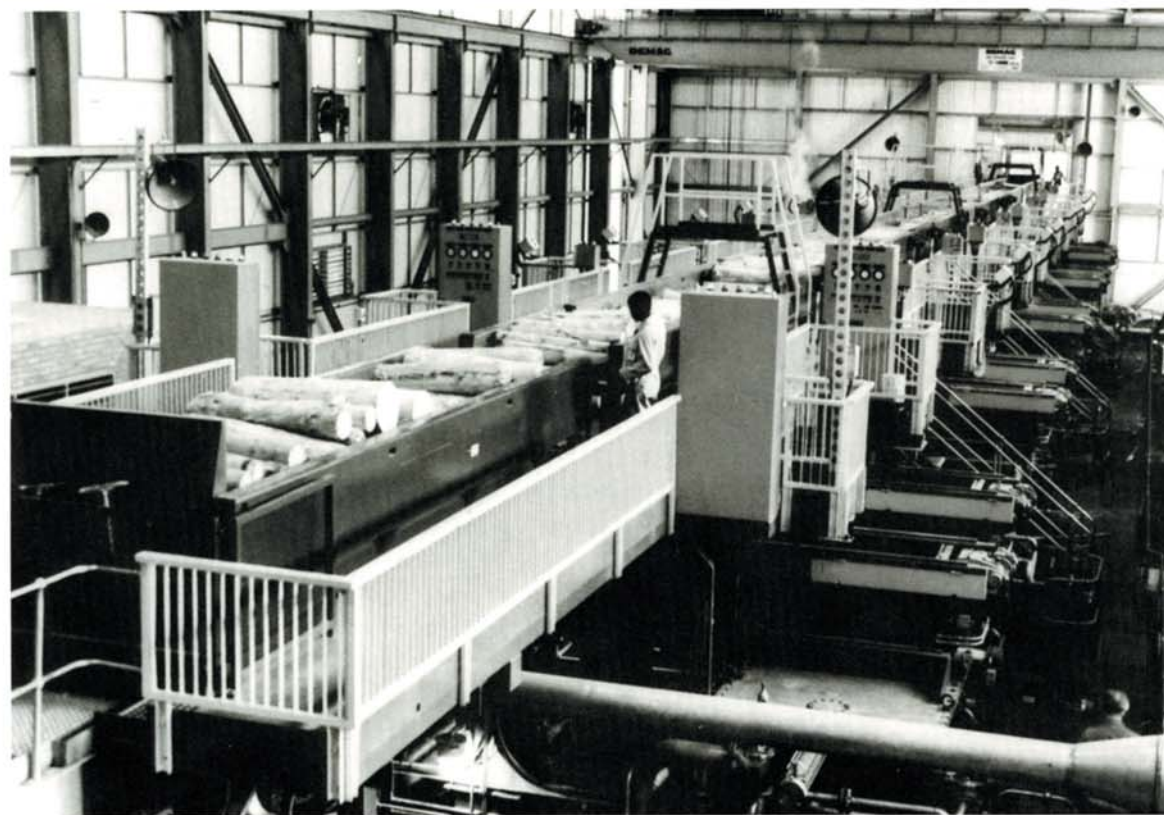
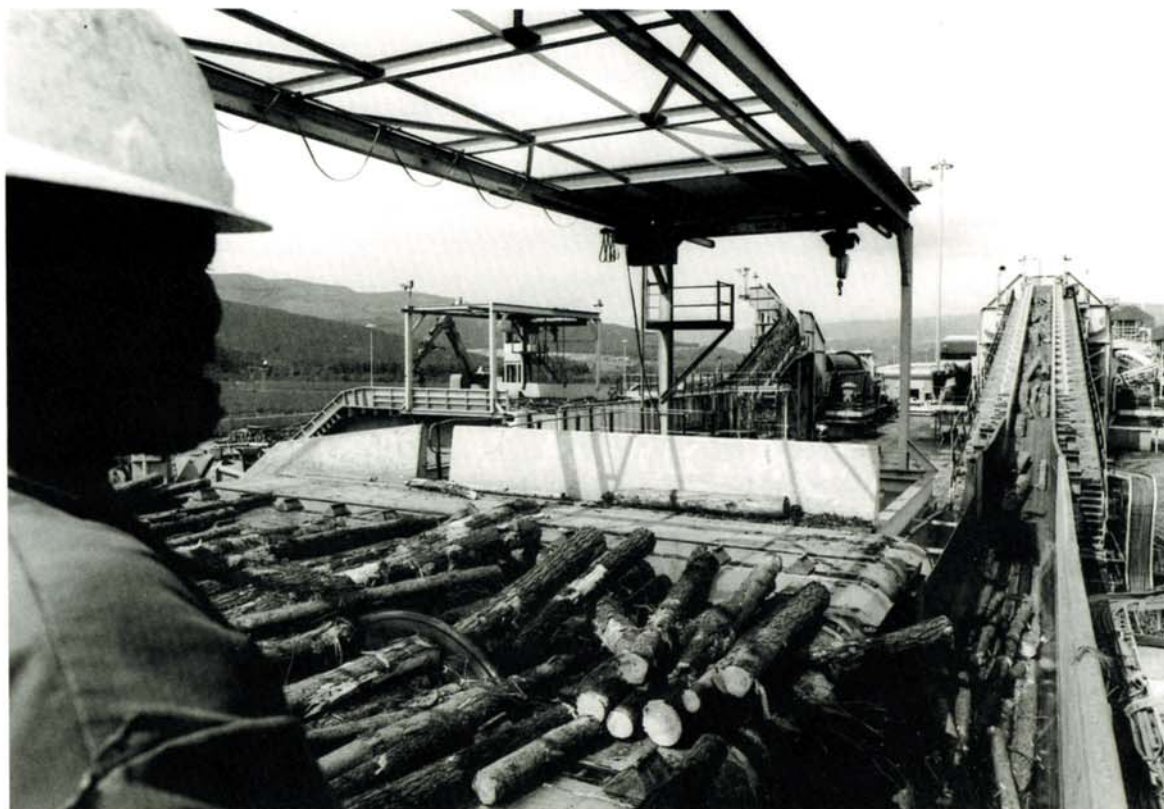
Only recently, Ngodwana’s construction teams had celebrated the completion of the newsprint project, in spite of last-minute problems with under-powered motors. The machine was the largest of its kind in the southern hemisphere and made paper in a novel way, in that pulp was sprayed upwards and sandwiched between two screens which compacted the fibres and discouraged linting. The first reel of Ngodwana newsprint was produced on September 1983 under the supervision of Colin Kerr and Attie Fourie, the manager of paper production; and while Ngodwana men broke out champagne, congratulations rained in from all around the group.

Well before the start-up, operating crews had been trained in TDC with the help of specially-written training manuals and an on-site simulator. Old job titles like ‘machineman’ and ‘dryerman’ were to be retained, but duties and procedures were light years away from those used at the older mills. Operators soon became accustomed to working with keyboards and monitors, but found it difficult to adjust to the sheer speed of the new machine. As normally happened there were teething problems, but operators slowly sorted them all out. When things went wrong — as they often did — they blamed the PLC system and accused the electricians of tinkering with it.

There was a further setback for the newsprint project when two units in the groundwood plant burnt out and a third was found to be faulty. That left only two in working order and newsprint production had to be cut because of a shortage of pulp. In time, pulp production was restored; but because of the problems, the rebuilding of Enstra’s No 6 machine was delayed until February 1984. The rebuild took two months and by the end of it the machine was equipped for long runs of fine papers. At the same time Enstra’s No 4 machine was shut down for a well-deserved rest, and Nos 1 and 2 were reprogrammed to concentrate on speciality grades.

Mechanised timber handling in Ngodwana’s woodyard.

The groundwood plant at Ngodwana.



The Enstra rebuild marked the conclusion of Phase One of Sappi's major expansion, and Phase Two was progressing well. Even before the newsprint commissioning, Sappi's directors had decided to proceed with Phase Three, and equipment was already on order. Peaking interest rates, inflation, the declining rand and sharp rises in general sales tax were making the project more expensive than anticipated; but all were confident that John McManus's financial arrangements were sound. So-called 'suspensive sale' arrangements by which equipment for Ngodwana became the property of banks, retail chains and other organisations which leased it to Sappi, had been specifically approved by the Commissioner of Revenue.

Suspensive sales enabled Sappi to take advantage of the outside organisations' under-utilised tax allowances and was perfectly legal. Several other large projects were being funded through similar schemes. Then the government realised it was losing too much money. It was announced that emergency legislation was being pushed through to bar the use of third-party tax bases. A number of Sappi's leasing schemes were already in force and would not be affected, but others lay in the future. If they had to be abandoned, then Sappi would have to raise money by other means, paying interest at commercial rates, then the highest in South Africa's history.

When the measures were announced, John McManus was on holiday in Plettenberg Bay. Eugene van As telephoned him and said he was sending an aircraft and wanted McManus to go straight to Pretoria. Once there, he was politely received by officials of the Department of Inland Revenue, who listened attentively as he put Sappi's case. The department had originally accepted that Sappi's arrangements were in order, said McManus. The group had gone ahead with the Ngodwana scheme on that understanding, and it was too late to stop. The officials promised to pass on the comments, but in the event the legislation went through.

Just when the crisis broke, Ngodwana construction crews were approaching the culmination of Phase Two of the project, the commissioning of the Kamy continuous digester at the heart of the pulp section. Several elements of the section — the washing and screening plants, the Sapoxal bleaching reactor and the bleached pulp uptake plant — had already started up, treating pulp supplied from the old plant. The section was nothing if not cosmopolitan. For instance, the pulp uptake machine had a wet end from Italy, a dry end from the United States and a cross-cutter from Finland. The chlorine dioxide line attached to the bleaching plant was from West Germany.

The new pulp section had been built alongside the existing mill but was divided from it by a high wire fence. Earlier in the project, Sappi's men had complained about slovenly housekeeping on the part of uncaring contractors, and Colin Kerr had decided to keep the op-

erations quite separate. In the village, the construction men more than compensated for any irritations on the site. Besides enlivening the tennis and bowls they played rugby and soccer and introduced baseball. In two successive years Americans invited all comers to celebrate the Fourth of July; and construction men keen on theatricals laid on two full-scale pantomimes and an old time music hall.

At the height of the expansion programme, construction workers had swelled Ngodwana's population by about 7 000; but now that most of the structural work was in place, there was a steady exodus. Meanwhile, the village's permanent population was increasing as Sappi employees and their families arrived to help operate the new plants. The new shopping centre was open; the Elandshoek primary

A section of Ngodwana village with the recreation club on the hill behind (overleaf).

The Ngodwana dam, a valuable recreational asset for the mill's community.







school had moved to new quarters near the recreation club; and the club itself had been enlarged and upgraded. To beautify the new streets, hundreds of new trees were being planted. Even the most sceptical inhabitants had to admit that things could have been a lot worse.

Woody and Friends

DURING 1984 Sappi's management had introduced two group-wide campaigns aimed at boosting morale and encouraging quality of effort. One was a poster campaign featuring a cheerful cartoon character named 'Woody' who was wearing a Sappi hard hat and giving a thumb's up sign. Woody had a message: 'Let's do it right; let's do it now; in fact, let's do it right now.' Woody and his message were included on posters urging everyone to 'be part of a team — pull together' or to 'do today's work today — you'll feel better.' Above all, Woody asked everyone to 'Smile.'

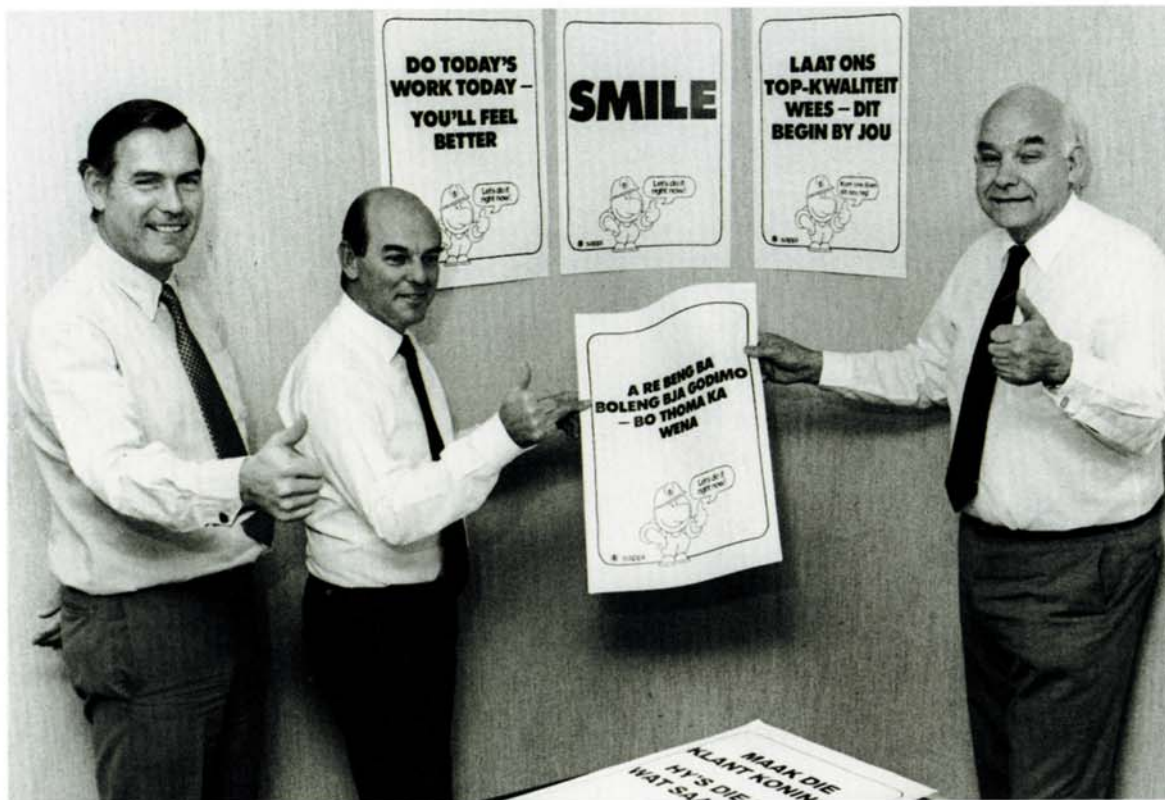
The second innovation was the Sappi Excellence in Achievement Award, to be made in three categories. Bronze awards were to be made monthly to people nominated by their supervisors for excellence in their own area of activity. Silver awards were to be given quarterly on a divisional level, with winners selected from those who had earned bronze awards. At the end of the year Sappi Limited was to make a gold award to an overall winner adjudged to have made the greatest contribution to excellence in his or her field. It was stressed that the award could go to anyone — an unskilled worker, a researcher, a production man or an executive director.

Quality of effort was becoming all the more important as the group prepared to market the increased output from Ngodwana. In the near future, Sappi would be exporting to the world, and international customers would compare its standards with those of the great pulp and paper companies of other countries. The group's head office needed more space and Eugene van As tried to persuade another major tenant in Rennie House to move, offering to pay any difference in rent. The offer was refused, so Sappi bought a site across the street and set out to build an eight-storey, six-sided, glass-walled head office block.

The new building was ready for occupation by February 1985 and

Launching the Woody campaign in 1983: (from left) Ken Lechmere—Oertel, Eugene van As and Quintin Stubbings.

Excellence in Achievement: Eleanor Myburgh of Sappi's head office receives an award from Eugene van As.





the move from the old offices took place over a weekend. 'Sappi Limited' was given the sixth and seventh floors, and the three major operating subsidiaries were allotted floors of their own with plenty of room to spread themselves out. Sappi Fine Papers was still headed by Ken Lechmere-Oertel, Sappi Forests by Peter Stoker and Sappi Timber Industries by Ian Forbes, while Andre Vlok had taken over at Sappi Kraft. Alex Rodger remained head of Sappi Limited's technical division; a Human Resources department was run by Quintin Stubbings; and Eugene van As and John McManus and their staff were near neighbours.

Of the management team, Van As, McManus, Lechmere-Oertel, Vlok and Rodger were executive directors. Basil Landau remained chairman and the other Gencor nominees on the board were Ted Pavitt, Tom de Beer, Trevor Rees and Hugh Smith. Peter Stratten was still a director, and the board also included two distinguished outsiders: Dr J G H Loubser, who had spent a number of years as chief executive of South African Transport Services, which included the railways; and Derek Keys, by profession a chartered accountant, who had joined Sappi's board in 1981 and was non-executive chairman of several other companies.

At the start of 1985, neither Sappi's board nor the management team could take much comfort from the group's situation. South Africa was still in the grip of drought and the ongoing recession, and on top of that there was persistent political unrest. There had been a sharp fall-off in orders following the removal of import controls which opened the way to paper 'dumped' by outside producers. Even so, the board was confident that the new operating units at Ngodwana would soon begin to earn their keep and had no qualms about maintaining the dividend at 86 cents per share.

By February 1985 Ngodwana was producing saleable bleached pulp. At the same time, work on the kraft linerboard machine—Phase Three of the scheme—was nearly finished. The machine had an odd background in that its wet and dry ends came from quite separate sources. Originally Sappi had intended to order both from one company, but then it became clear that to obtain the ideal result, it was better to split the contract down the middle. The wet end was ordered from Tampella of Finland and the dry end from Mitsubishi of Japan, working to a Beloit design.

Sappi's management wanted quick results, so Ngodwana's linerboard project had been undertaken six months ahead of the original schedule, and the machine was ready for commissioning by March 1985. Quite apart from being a hybrid, the machine was unlike those at Tugela in that it produced a three-ply board, each layer formed on

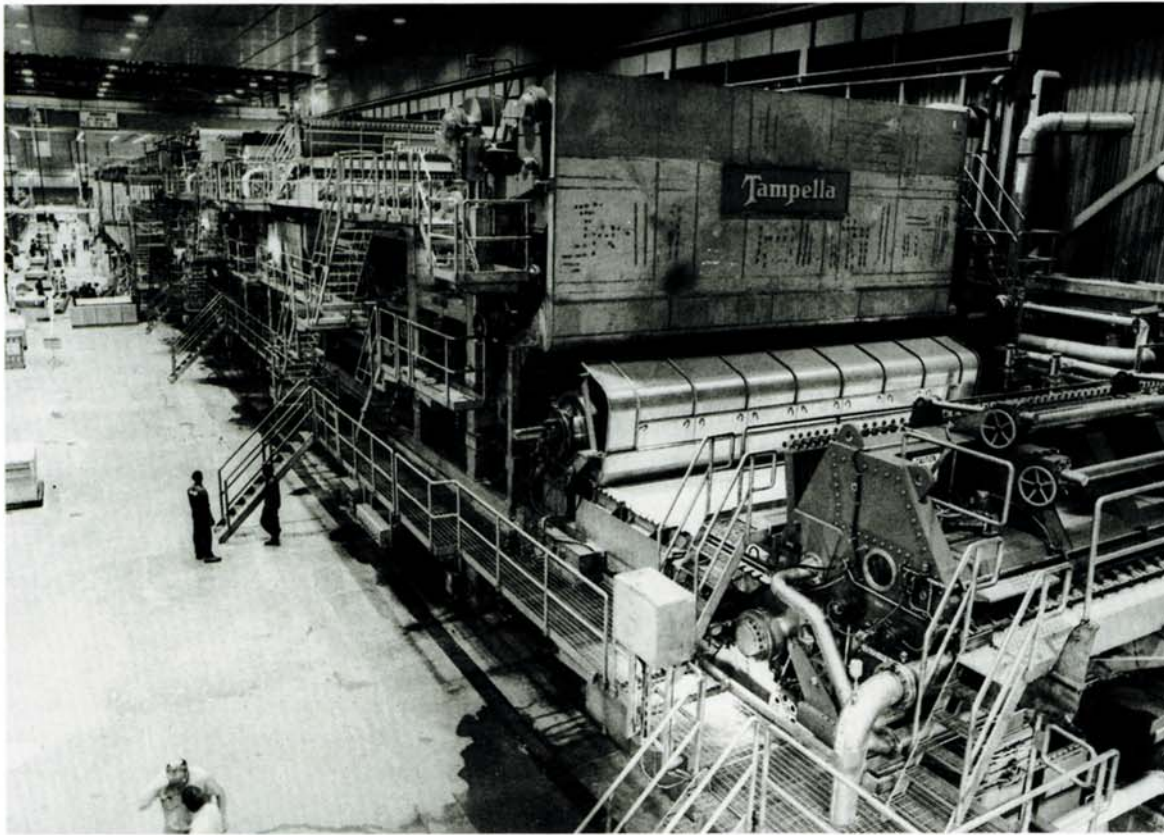
a separate wire screen. When bonded together the three plies formed paper that was stronger than conventional linerboard. Only a day after producing its first paper the linerboard machine had to be shut down because of breakdowns in the mill's boiler, but production resumed at the end of April.

It had been expected that Sappi's output of kraft would be increased overnight as soon as the Ngodwana linerboard machine was in operation. It was ironic, then, when in April 1985 there was a serious explosion in one of Tugela's recovery boilers after a tube ruptured over a length of two metres. A stream of water flowed into the white-hot chemicals in the boiler, and the contents exploded. There were no casualties, but the boiler casing ballooned and the whole thing had to be rebuilt. Repairs took six months and the breakdown cost the group R30 million. In the meantime Tugela's pulping capacity was reduced by two-thirds and replacement pulp had to be brought in from Ngodwana, Swaziland and other sources.

There was further bad news from the newsprint side of Sappi's business. Newspapers had been noticeably thinner ever since the introduction of commercial television, as much of the available advertising revenue was diverted to the new medium. Then advertising was made subject to general sales tax, and several newspapers either closed or were merged with others. That might have made things difficult for Ngodwana, though from the outset much of its output had been reserved for export. Besides, operators were still finding it difficult to cope with the machine's high speed, and it was performing at only two-thirds of its capacity.

Throughout the Ngodwana expansion, other mills in the group had been generating income to help pay for it and Sappi Forests had stepped up its tree-planting programmes. At the same time, Sappi Timber Industries was expanding its sawmill capacity. A plan to close down Elandshoek and to build a modern, high-speed mill near Ngodwana had been dropped; but the division was in the process of closing Epsom, selling a second mill and merging Elandshoek with a large family-owned operation, Barberton Sawmills, which specialised in structural timber and would increase the group's sawmilling capacity by 70 per cent.

At head office, the chief worry was the group's growing burden of debt. Actual construction costs at Ngodwana and Enstra had been R947 million, only eight per cent higher than the target set in 1980; but peaking interest rates coupled with adverse foreign exchange movements, increased sales tax and higher commissioning expenses had pushed finance charges to R328 million, more than twice the amount foreseen. Another R218 million had been swallowed in costs incurred to improve the group's long-term financial leverage. The most obvious remedy was to turn to shareholders.

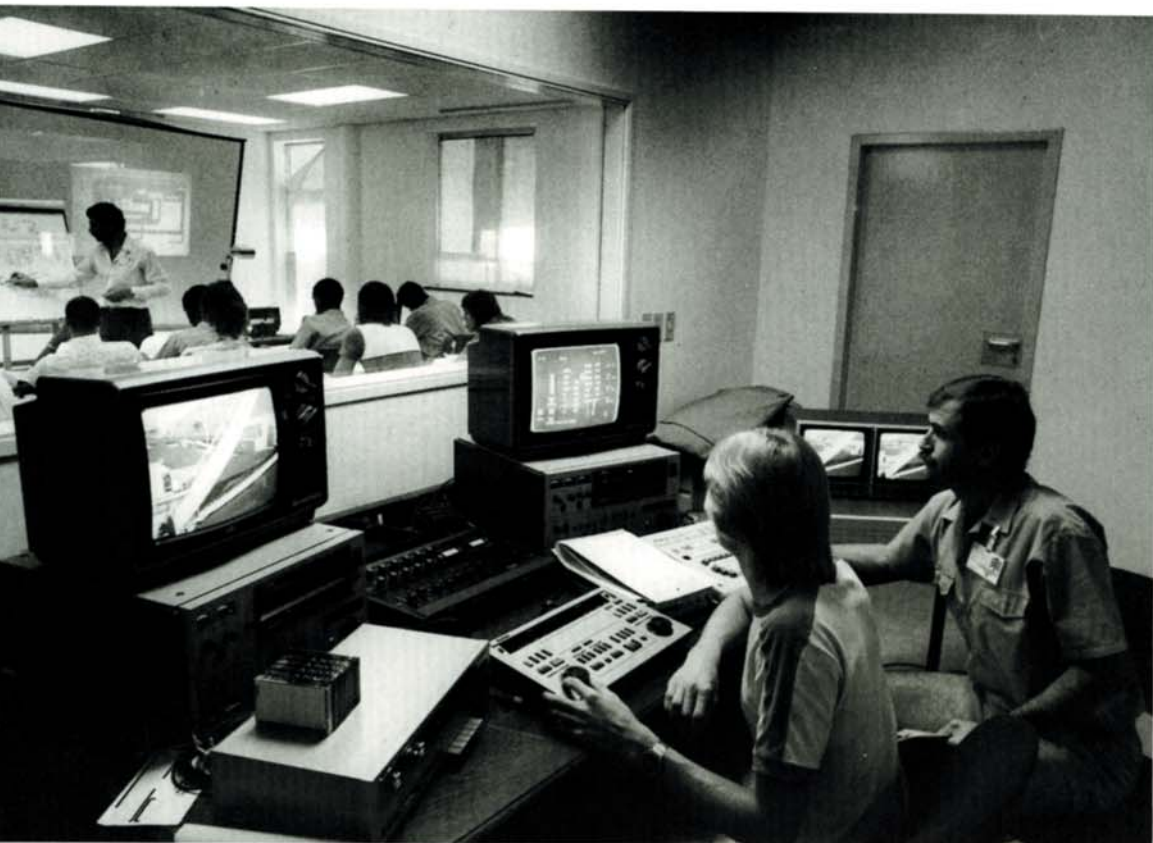


The wet end of Ngodwana's kraft linerboard machine, built by Tampella of Finland.

Two years earlier Sappi had raised R150 million in two rights issues consisting of convertible and redeemable preference shares respectively. Now Gencor's board agreed to underwrite a fresh rights issue of R200 million — a considerable encouragement, considering that real economic recovery might still be years away. The new shares were offered in the ratio of one preferred ordinary share for every two existing ordinary shares, and one preferred ordinary for every five existing participating preference shares. In the event the issue was 98,3 per cent subscribed.

Up to Date

EXCLUDING Carlton Paper, the Sappi group had a workforce of very nearly 12 000 — not many more than in the 1970s, though individuals' productivity was much higher. The range of employees reflected the remarkable diversity of South Africa's heritage. Xhosa, Indians, Italians, English, Zulu, Coloureds, Afrikaners, Tswana, Sotho and others — all had parts to play, and many were taking full advantage of changing attitudes within Sappi and in South Africa as a whole



which were giving rise to new opportunities, not least through taking courses at the group training centres located at Tugela, Enstra (the most versatile, opened in 1983) and Ngodwana.

Training courses were a preparation for the future. For the present, Sappi faced a storm over the group's results for the half-year to the end of June 1985. At the annual general meeting in May, Basil Landau had warned shareholders that the group's position was unpromising and that they should not expect an interim dividend in respect of ordinary shares. The chief problem was that Sappi had to pay heavy finance charges which cancelled the benefits of a 50 per cent leap in operating profits. When preference dividend payments were taken into account, the group had to report a bottom line loss of more than R20 million.

The results were worse than even the gloomiest forecasts. The only consolation was that as a result of the rights issue, the group stood to make profits in the second half of the year. In the circumstances, many financial analysts thought it was significant when Gencor offered to take over Sappi's 39 per cent holding in Carlton Paper in return for R41 million in cash. In fact, Sappi was little affected. The group had never exercised managerial control over the tissue company — Carlton's closest ties were with Kimberly-Clark — but was to continue supplying pulp as before.

In South Africa as a whole there was an anxious feeling of uncertainty about the future, and lack of confidence in the rand was undermining the whole economy. From Sappi's point of view, domestic kraft and newsprint sales were down and fine papers sales were not much better, even though the group's output was steadily increasing. Fortunately the international paper market was stronger and Sappi was earning money from exports. By a strange quirk of fate South Africa's weak rand gave Sappi a considerable advantage over competitors, even Canadian, American and Scandinavian companies which had long been regarded as the international front-runners.

Both Sappi Kraft and Sappi Fine Papers mounted ambitious export marketing efforts to take full advantage of the rand. At first it was supposed that the currency's weakness was only temporary, but months went by without a change, and in the meantime international commodity prices steadily increased. During 1985 as a whole exports

Ngodwana by night: the largest pulp and paper complex in Africa (overleaf).

Training facilities at Ngodwana, complete with a much-used video recording studio.

Precision paper-cutting in Enstra's finishing house.





accounted for one-fifth of Sappi's output, compared with less than one-tenth in earlier years. By the end of 1985 the proportion was higher than one-third, and would have been still greater had more paper been available.

Tissue from Stanger, computer paper from Enstra, fibreboard from Adamas, particleboard from Sappi Timber Industries — all were finding customers in the international marketplace. Even Ngodwana pulp was arousing interest. In the past Sappi had been a 'spot market' exporter, prepared to sell surplus paper as and when it was available. Now that the output was so much greater it was important to project a more serious image, a conviction that Sappi was in the export business for keeps. Accordingly the management established a new operating subsidiary, Sappi International, with Ian Forbes as managing director.

Besides launching Sappi International, the group's management decided on an extensive rationalisation of Sappi Kraft and Sappi Fine Papers. The two were involved in quite different markets — Sappi Kraft dealing with bulk commodities like pulp, linerboard, fluting and sack kraft which were normally produced in long runs, and Sappi Fine Papers in a much greater variety of products, made in smaller quantities but with greater added value. As a result, responsibility for Ngodwana was transferred to Sappi Kraft, for newsprint had always been regarded as a bulk commodity. In exchange, Sappi Fine Papers took over Adamas and Cape Kraft.

Even before the rationalisation, Ngodwana had begun experimenting with a new bulk product not previously made in South Africa: board for liquid packaging, the sort converted into cartons for milk, fruit juice or sorghum beer. The board was notoriously difficult to make and even though there had been an obvious market among local converters Sappi had not had suitable equipment. In planning the Ngodwana linerboard machine, Sappi's technical men had made provision for liquid packaging board — indeed, the modifications had made the machine more expensive. It could be expected that the local market would absorb all the board produced.

Before commercial production could begin, Ngodwana had to overcome two obstacles. One was the steam boiler, which was turning out to be too big for what it had to do so was difficult to control. The second was the Escom power supply, or rather the way in which lightning strikes on power lines tripped the mill's sensitive control systems. In some cases, Ngodwana was vulnerable to strikes which occurred hundreds of kilometres away. Even a modest power dip was enough to shut down the steam boiler and thus the whole

Sappi newsprint for export: loading a shipment in Durban docks.

mill, and when that happened it took hours to restart the various units. Worse still, shutdowns halted the 14-hour pulp cooking cycle in the continuous digester, and the pulp's quality was uneven.

During the lightning season there were sometimes three or four trips per day, and production was seriously hampered. In February 1986 it happened 59 times. Part of the problem was that towers supporting the Escom power lines were not properly earthed, and that was put right. Even then, the ultimate solution was for Ngodwana to generate its own power — in fact, for Sappi to implement an unofficial Phase Four of the expansion, which had been included in the original plan but had been postponed indefinitely in a bid to cut costs. A pass-out generator able to supply about 65 per cent of Ngodwana's power was ordered from the Toshiba Corporation of Japan.

The generator was eventually commissioned in September 1986, and those in charge of Ngodwana's operations looked forward to a change in its fortunes. Already there was talk of installing a second generator which would utilise surplus steam from the boiler and allow it to function at full capacity. Once it was in place, Ngodwana would be more than self-sufficient in power and would be in a position to feed the surplus into Escom's grid. Everyone at Ngodwana could sense that success was close, and even those who had been most sceptical had to admit that the expansion was proving much less disastrous than they had predicted.

The mood of optimism was shared at Sappi's head office. Domestic sales were increasing and exports continued to grow, to the point where Sappi was barely able to keep pace with orders. The group's prospects were healthier than in many years. As if to mark the beginning of a new era, there were major changes in the directorate. Ted Pavitt was stepping down as Gencor's chairman to be replaced by Derek Keys; and Basil Landau was giving up his Gencor directorships and was being succeeded as Sappi's chairman by Tom de Beer. With the group's 50th anniversary in sight, it could be expected that its second 50 years would be just as eventful.

Ngodwana veterans celebrate the twentieth anniversary of the day the mill first produced pulp: (front row, from left) Doep du Plessis, Fanie Coetzee, Sandy Paul, Nick Bruyns and Albie Verster; (back row, from left) Koos Naude, Attie Dormehl, Daan Pauw, Arthur Westerman, Manie van Niekerk, Ertjies Steyn and Jack Hooper.

The paper machine house at Ngodwana, with the Tampella-Mitsubishi kraft linerboard machine on the left and the Beloit-Walmsley newsprint machine on the right.



