



# The First Word



The "NEW NORMAL"! 2020 has been dominated by the Coronavirus and its impact on the world. The good news is that South Africa has proved that through understanding and cooperation, we can manage the pandemic effectively. Our challenge is to maintain our resolve to social distance, wear a mask and maintain good hand hygiene until a vaccine is available. The latest thinking is that this will be towards the middle of 2021.

Prior to Covid-19, the sugar industry was in financial 'stormy waters', which gave rise to our vision to be the "LAST MILL CRUSHING". I am extremely proud of the USM team's response to Covid-19. We abided by all the protocols and never had to curtail our operations, although it was close at one point. We were extremely fortunate that as an essential food service, we were allowed to continue operating throughout. A number of other industries we not so lucky and have joined the sugar industry in financial 'stormy waters'.

The South African government put excellent policies in place to manage the effects and aftermath of Covid-19, however, it is saddening that these well-intentioned policies have been exploited by corruption. At USM, we have wanted to make a positive difference, and this edition of the Umbonowethu is filled with stories that illustrate this. These include the significant contributions USM made, in partnership with the Mtubatatuba Municipality, iSimangaliso, and others, to Covid-19 impoverished communities. It is wonderful to read the endearing stories from our outgoing interns, which give us a sense of the contribution USM is making to young peoples' lives. South Africa's future depends on our investment in our youth today. USM is able to make these investments because we are crushing performing well as a business. The article "Process Packs a Sweet Punch" describes the progress USM is making in producing large quantities of high-quality sugar in the shortest possible season length. USM is also making leaps and bounds in exporting more electricity, as captured in the article entitled "Full Steam Ahead for USM's Cogen Project". To achieve these levels of progress, circumstances dictate that we have to do things differently. The article entitled "USM Dashboard Drives Efficiencies" provides an insight into some of the areas in which we are relooking at the way we do things.

This very encouraging edition of the Umbonowethu showcases the USM team's resolve to tackle challenges head on and to attain our vision to be the "LAST MILL CRUSHING". Team USM has much to be proud of! Well done and thanks to every one of vou. Brilliant.

As always, work smarter, work together, have fun and be safe!



### **Covid-19 Control Measures**

Following the onset of the Covid-19 pandemic at the end of March, the South African government declared a national state of disaster and immediately implemented health and safety measures to curb the spread of the virus, not only for the general public but also for workplaces. This led to the implementation of the Consolidated Covid-19 direction on Health and Safety in the Workplace Regulation. Umfolozi Sugar Mill has been stringently adhering to the company's pandemic workplace policy of wearing a mask at all times, keeping a respectable social distance from each other, avoiding touching your face, the regular washing of hands and use of hand sanitiser. USM SHE Officer, Wandisa Qwela unpacks the mill's approach to Covid-19 and how we have managed to stay one step ahead of the pandemic to ensure the health and safety of all employees.

At USM we keep up with the latest news and legislation surrounding the pandemic and make sure to comply with the latest requirements as issued by the government. All the employees are extremely passionate about what we do, and we work together, getting everyone involved to do what is best for the whole

At the beginning of the pandemic, a Pandemic Committee was established to look at the effect of Covid-19, as well as other health and safety issues. The team is led by our CEO, Adey Wynne, and meets weekly to discuss any updates, other relevant information and actions to take for continuous improvement. Initially, we were not sure on the path ahead as this was all new to us and we were classified as an essential service. But as the meetings progressed, we ran with it, and through risk assessment we charted a course on how to implement the steps to conquer this pandemic. These steps included the screening of employees at the entrances, regular washing and sanitising of hands as well as regular circulation of Toolbox Talk so that we can continuously educate our people. These are just some of the things that we need to maintain and sustain for the foreseeable future.

Of course, defeating Covid-19 will take more than just reminding our employees here at the mill to stay safe and healthy during the pandemic. It is also their families at home and the people they travel to and from work with, as at some point someone in your circle may get infected. So, educate yourself properly and don't rely on social media for information. Which brings me to our onsite clinic. The clinic has been at the forefront since day one and all staff were tested for free. Rather than merely offering a health service, the clinic is a place where people feel comfortable asking difficult questions.

The last couple of months haven't been easy, but with the cooperation and dedication of all members of staff, we have managed to endure. I would like to thank all here at USM for keeping their heads high, and soldiering on through it all. Let's all continue to be safe.



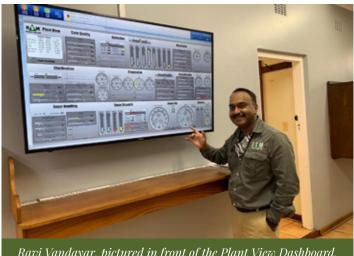
Sister Jeannine Rubikesan, Occupational Health Practitioner at USM Clinic

### **USM Dashboard Drives Efficiencies**

The Umfolozi Plant View Dashboard concept was conceived as part of Umfolozi Sugar Mill's digital transformation strategy. Technical Manager **Ravi Vandayar** tells us why USM's embracing of digital transformation is critical in ensuring that the mill stays ahead of the game.

Ravi begins by explaining why data is recognised as the new oil.

"The times have changed, and with better access to better information, we are able to make better decisions. When we started looking at the data and the way the factory was functioning, we realised that there were many different units of operations - from quality and extraction, through crystallisation, to sugar dispatch. The people working in each unit are responsible only for what they do, and as long as they operate like that, they do not see how their unit has an impact on the entire factory.



Ravi Vandayar, pictured in front of the Plant View Dashboard, which has been designed to ensure that USM remains competitive in the digital age

"When we started developing the dashboard, we looked at all these moving parts, and designed it to give Operations and Maintenance a bird's eye view of the entire factory. You want to have a look at each unit, and how the units balance with one another to ensure that we have an efficient operation.

"We created key operating parameters or standards. It works as follows. If you are within a set parameter which is grayscale, the dashboard will display gray and the operators and engineers will be able to see that there is nothing to worry about. But as soon as you start to move out of the parameter within a reasonable amount of time of receiving that information, you can quickly visualise it with yellow, amber or red tones. This allows you to act quickly and bring the levels back within the reasonable tolerances at which it needs to operate.

"We have also created an area in front of the dashboard called the bulletin board. The bulletin board tells you what your factory performance targets are for a day, week and month. Now every person knows where they fit in, and how everything they do influences and affects the system.

"My message is to not be afraid of technology. There are a lot of stories about artificial intelligence, and people are afraid they are going to lose their jobs. Do not worry about that. The world is changing, and we need to keep up. For us to survive, we must be able to move forward. Big data engineering, using artificial intelligence and a bit of imagination is what is required to be able to take all these technologies, put them together and make it work. So, rather than being afraid of technology, embrace and understand it."

### **Empowering Small-Scale Growers**

In supporting the efforts of small-scale sugarcane growers, USM's Cane Supply team performs a vital role that has far reaching benefits, both in the community and beyond. **Singobise Qwabe**, the team's Extension Officer, tells us a little more about the excellent work the Cane Supply team is doing.

Following the drought of 2015/16, USM partnered with the KZN Department of Agriculture & Rural Development Extension Services, South African Sugarcane Research Institute, South African Farmers Development Association and South African Cane Growers Association, to provide seed-cane to small-scale growers. The aim of the initiative was to re-establish cane fields that had been affected by the drought, thereby boosting yields, increasing the mill's cane supply, and ensuring the sustainability of rural livelihoods.

A group of farmers also came onboard, offering land for the establishment of the plots for two years. The land was managed by USM's Extension team. Once the soil types were established, 30.3 hectares of land was prepared and certified seed-cane variety of N58, N59, N49, N36 and N41 was planted. In the 2018/19 season, 1242 tons of cane were produced, and in 2019/20, this increased to 1372 tons. The USM SSG cane supply also saw an increase, from 87 825 tons to 138 836 tons. The proceeds from seed-cane sales are used for ratoon management, with the balance that is left over going to the growers on whose land the seed-cane was planted. On conclusion of the 2-year project in 2021, USM will carry out a final cutting. Thereafter, the growers will be able to send the harvested cane to the mill for their own financial benefit.

This initiative has provided an ideal opportunity to train small-scale growers in planting methodologies and sugarcane husbandry. With seed-cane sales for the 2020/21 season having commenced in September, the team is looking forward to further development projects aimed at unlocking the potential of small-scale growers.

USM Extension officer, Singobise Qwabe and Muntungani Mthiyane, a grower who made 1.5 ha of land available for the project, inspect recently planted seed-cane (top) and a crop that is ready for sales (bottom)





# Leading by Learning: Class of 2019

Umfolozi Sugar Mill is dedicated to providing a learning platform for the future leaders of industry. It is our obligation to contribute to the greater economic good, not only in the area where we operate, but for the country as a whole. Our in-service training programme for graduates across a variety of fields is the launching pad for those seeking to gain valuable experience in their respective areas of study. And the Class of 2019 is evidence of just that. From electrical, mechanical, process, cane supply and civil engineering to human resources and health and safety, they all echo the same sentiment - USM's experiential training programme has given them the right tools for their careers.



For **Hleziphe Fakude**, a student in Instrument Engineering: Light Current from the Durban University of Technology, her time as an instrumentation in-service trainee taught her to work in a team environment.

"The biggest project I worked on at USM was to connect the solenoid valve, level control and flow meter to the effluent plant's main

Distribution Control System (DCS) system. This enabled the operators to control the effluent in the control room."

She says it was good to put the theory from her studies into practice.

"Rodney Mayere was my mentor and I learned a lot from him. I want to thank USM for the opportunity to complete my in-service training as they always make a plan to open their doors to the local students."

Melusi Zulu says it is his aim to further his studies in Electrical Engineering upon completion of his electrical engineering in-service training.

"I'm inspired by my late brother Thembinkosi, who worked in USM's Cane Supply department. He used to tell me to work hard and educate myself, because it doesn't matter where you come from - what matters is where you are going."



Melusi found the flexure screen syrup to be a challenging project, but with the help of a mentor and colleagues, it was completed: "I can single out Deena Govender, our Engineering Manager. He spoke to me about everything in the mill in all the various departments, not only engineering. He told me to learn fast and ask a lot of questions, even if I think it is minor."



Mthembeni Myeza joined USM as an electrical engineering intern in November last year. He says he is looking forward to more challenging projects.

"The team has been really friendly and welcoming, and the working environment is inclusive of everybody. I've already learned a lot from Aubrey Rankin in the short time that I have been here. He understands people and has respect for everybody. He is also fair, and I think every person in his department has an opportunity for him to mentor them"

Mthembeni acknowledges that safety is of critical importance at USM: "During the maintenance in off crop period, we pay extra attention to working safe because we have limited time to perform maintenance and everyone is under pressure."

Nokukhanya Zulu is completing her internship training period in the Cane Supply department. This follows her studies in crop and agriculture production.

"The Cane Supply department is crucial to what the sugar mill does, as we are responsible for providing good quality, clean sugar cane with the right sugar content. I have learned that if cane supply is not able to produce, the mill cannot produce a final product. Agriculture and developing good quality crops are therefore very important."



According to Nokukhanya the development of USM's sugar cane growers is very important.

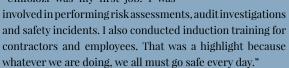
"We need to make sure that those who need assistance are helped in all aspects of growing and delivering to the sugar mill. I really enjoy the relationship with the growers, but it has its challenges because I am so much younger than they are. Growers are almost like our bosses because they are the customers, so I must always be respectful and be able to handle every situation."

It's been a rollercoaster ride, but all in all the learning process has been filled with fun and excitement: "Cane supply is the best place for you to learn about public relations, and my colleagues, especially my mentor, Thembeka Maseko, are such a good example. Thembeka is very punctual and work is work no matter how hard things get. The opportunities that USM provides for its students really make a difference in the lives of young people before they start their careers."

Noxolo Thusi completed a BTech degree in environmental health at the Durban University of Technology and worked as a health and safety graduate at USM.

She found the environment to be supportive of learning.

"Umfolozi was my first job. I was



According to Noxolo, the USM compliance team has had a positive impact on her career so far.

"They would always involve me in everything they do, and when I look at how they do things I think to myself 'I want to be just like them'. In terms of the environment, we should reduce our emissions and waste. In everything we do, we need to think about the next generation. What will we leave behind for them? So, whatever we are doing, let us make sure that we keep our environment beautiful and good at all times."



HR Training Officer, Zanele Nzuza (centre), who runs the USM Learnership Programme, pictured with Class of 2019 members



For **Ntando Mfeka**, a process intern graduate currently studying towards a BTech in chemical engineering at the Durban University of Technology, it has been an exciting journey so far.

"There has been so many process equipment that I have been able to learn about. And thanks to people like Vis Pillay and Sabelo Gcabashe, I've been able to learn a lot. My time here at

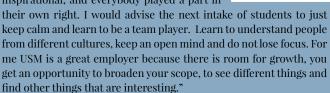
USM has been an opportunity to put to practice what I have been learning about in books. I would really love to be working as a process engineer since I am dealing with the process here at USM."

Ntando says her grandmother has been a great inspiration throughout.

"I am a real granny's child. Her name is Khethabahle Mfeka and she is a very strong woman. She does everything, she loves farming and she always has an idea. Even in winter she decides to plant. One of her famous sayings is that I will not buy veggies if I have two hands. She inspires me a lot, she is my everything.

"If I have to sum up my experience here at USM in one word, it would be growth. The atmosphere has been amazing. The employees do not judge you and are very willing to teach and assist." Sakhile Xulu is an in-service trainee in civil engineering, having completed his studies in this field at Mangosuthu University of Technology and Umlazi College in Durban. He says he learned a tremendous amount while working on the dam revival at the effluent plant.

"The Civil Engineering team has been so inspirational, and everybody played a part in



Getting involved in USM's corporate social investment programs has also been a blessing, says Sakhile.

"The exposure to the community was just on another level because I saw new things and learnt to interact with other people. I think it is a great thing, it gives us hope for the future, for kids to see that someone is paying attention to them. There is a spark of hope."



"You are fresh out of school, and have only your theory to back you up and nothing else. You learn a lot of things, starting with the minor things like your personal employee, personal files and so on. So, everything was from scratch for me, from how you conduct yourself and how you are with other people."

Sinayo says sitting in on meetings was part of the learning process.

"It is nerve-wracking when you have to speak up in front of a lot of people, especially when they are older and much more experienced than you. So, you must pluck up the courage to speak up and just take whatever you have learned from before and apply it."

The Mtubatuba Sugar Tournament was Sinayo's first big project. "I had to pack little bags of sugar for the children for after their sports matches. It was like a full circle, as I was once a beneficiary. I always used to wonder who packed these little bags of sugar. USM is a great employer because it has taught me everything and given me plenty opportunities to learn."





**Xolile Cele** says the exposure to various duties as an intern in the Human Resources department has prepared her for the future.

"I've been exposed to the whole HR recruitment process, starting from the advertisement for the vacancy to the filling of the position. And now I can do it on my own. There are many facets to HR, and I think communication is key to working with people."

For Xolile the time at USM was a sign that the company is serious about developing the youth of South Africa.

"Do not give up on your career. Push harder and study more. During the difficult or challenging times, remember that gaining experience and getting more confidence are part of the puzzle." **Zinhle Msane**, a mechanical engineering inservice trainee, says she learned a lot from Jacques du Preez and his team.

"One of the most challenging projects that I was involved in as part of the PowerGen department was when we had to come up with a plan for one induced draft fan to fit all three boilers. It was a challenging project, and I had to go back to my old books and check all the formulas."



According to Zinhle, remaining focused was part of the learning process and for her, this is the trademark of a successful person.

"USM is a pretty amazing place to work. Of course, there are going to be difficult times and things won't always go according to plan, but then there will always be positive things as well. For me it has been a great platform to nurture my career."

# **Process Packs a Sweet Punch**

Undeterred by the many challenges the Covid-19 pandemic brought with it, the Process team set the bar high during this year's crushing season. Vis Pillay tells us how the records that were achieved in 2019 were surpassed in 2020.

The mill started crushing on 25 March, and the dry weather during the first 3 weeks of the season supported ideal crushing conditions. In the 26 weeks up to 20 September, a crush of 954 687 tons of the total budget of 1220 000 tons (78.25%), and sugar produced of 106 467 tons of the total budget of 135 500 tons (78.57%) had been achieved. The cane quality has been good, and the Process team is gearing itself to cope with viscous products (dextran) that are associated with cane harvested in rainy weather. The sugar quality has also been excellent, and the good off-crop work enabled packing to commence in the second week of crushing.

Despite the challenges of Covid-19, the team was motivated and adhered to the pandemic policy, especially in control rooms where team members frequently engage in process optimisation.



Following the successful dumping of a bulk sugar load, it's thumbs up allround from Foreman, Gabriel Myeni, Bagging Plant Supervisor, Cyprian Mngadi and Bulk

In June, the team packed 3250 tons of sugar in 25kg bags for the export market. Despite the stringent requirements for the export sugar quality, the required volume was produced in the stipulated period. Unfortunately, Covid-19 restrictions impacted on the sale of the sugar during this period.

The new 200-ton sugar storage bin provided additional storage capacity and improved transport logistics, while strengthening our relationship with our outbound logistics partners, Unitrans.

The Process team synchronised operations with the Extraction and Power Generation teams to ensure that while the cane allocation was crushed, sucrose recovery was optimised and power generation maximised. This resulted in daily cane crush and Daily/Weekly power generated records. 100 MW was consistently

generated per day, with a daily record of 111 MW achieved on 19 September. In excess of 600 MW was generated over 10 weeks. These record figures bode well for USM's future of adding value to every stick of cane, and hence the potential for cogeneration on a larger scale, to supplement the national grid. This certainly is an enabler for USM to be the Last Mill Crushing.



The acronym, Together Everyone Achieves More (TEAM) was appropriate as the weekly targets for tons cane crush, crush rate and LTA (lost time % available) were achieved numerous times, and everyone worked towards the chicken incentive! After 26 weeks of crushing as at 21 September, 40,000 tons of cane was crushed per week on 12 occasions; LTA of under 2% was achieved 7 times, and tons of cane crushed per hour (TCH) was in excess of 280 tons on 10 occasions.

The Clarification automation was partly commissioned in July, due to imported equipment being delayed because of Covid-19. Once this is completed, the process costs will be further reduced in



The packing station team celebrate the arrival of their new stretch wrapper and forklift

our drive towards LEAN manufacturing.

The recoveries are not as good as the past season; however members are focused to achieve improved Exhaustion and Undetermined Loss. A huge benefit has been achieved in operating the evaporators over a 3-week cycle, compared to a 2-week cycle in the dry months.

While we slipped back from our number 3 position to number 6 in the industry for Boiling House Recovery, the passion and zeal displayed by the Process team will allow us to claw our way back into the Top 3 positions with the focus on Undetermined Loss.

The packing team produced 1-ton sugar for Illovo in August; a total of 7883 tons was produced between 5 and 29 August, despite the challenges in plant availability. Full credit to the teams for the continuous improvement shown in this initiative, and for recording a daily record 410 tons of 1-ton sugar packed. Further opportunity for packing 2000 tons in 1 ton Union co-op Limited (UCL) bags is planned for end September.



The Warehouse team living our slogan "Every Day is an Audit Day"

The 5S culture is being inculcated in team members and the new capital acquisitions of Forklifts and Stretch wrapper will further help consolidate our LEAN manufacturing efforts. With the move to 4IR (4th Industrial Revolution), the packing station is equipping itself with Visual Management Dashboards with real time information and who knows - Robots in future?

The extension of our FSSC certification till January 2021 shows the confidence our customers have in our sugar quality and food safety standards - our immediate customer being Mandla and his team members, Thokozani and Innocent. The quality and pristine Sunshine product will ensure USM is sustainable and THE LAST MILL CRUSHING.

### Full Steam Ahead for USM's Co-Generation Project

Power outages or load shedding have become an uncomfortable part of the South African business landscape. A more effective way to harness additional energy to power machinery when the national grid is under pressure has therefore become a necessity. Here at Umfolozi Sugar Mill, we have identified co-generation as a strategic project, as the factory needs steam to operate. Engineering Manager **Deena Govender** tells us more about the Co-Generation project.

"The first phase of the project, which we are currently in, required the installation and completion of additional electrical infrastructure to contain the co-generation to feed power into the grid. Now we are going into the next phase, which means that when the factory is down for steam stop, we will still be generating power.

"So, we will be generating, and it is a double saving if all goes well, because on stop-days we normally import power to do the maintenance and parts of the factory. But if we do co-generation on the steam stop days, we will use our own power. So, we will save the Eskom cost coming in, and the additional power that we generate back into the grid is an added saving benefit.

Either way, to satisfy the environmental aspect of this factory with the emissions we must burn, we must steam the boilers. By co-generation, we are running the boilers at MCR (Maximum Capacity Rating), which makes the boilers more efficient and drives down the particulate matter. We do this by



running the boilers at desired temperatures so that you get better combustion. It is the combustion that helps you burn out in your fuel. Running the boilers on this ultimate level is a bit of a mission, but once we get it set it up and run at a constant flow, MCR is more beneficial for us than boiler swinging loads. We have two 80-ton and one 60-ton boiler, which we look after like you would look after your mother.

Cogen does not cost us anything, all our equipment is already installed so there are no additional costs to generate power. Phase two of the Co-generation project will see us resurrect two old evaporators in which we will sink (store) steam on stop days when we do not need power to run the plant. The water that we use to sink the steam will in turn produce condensate which will go back to the boilers.

Deena is an advocate of lean living and encourages the mindful use of electricity at home and at work, "In today's day and age, electricity has become a scarce resource. If you look at the sustainable supply in South Africa, more companies should embark on Cogen projects, even if just to minimise the ongoing load shedding."

## **Your Cost Saving Survival Guide**

Under normal circumstances, saving costs without cutting corners is vital to any company's financial survival. During these uncertain times of Covid-19, being economically sustainable is even more important. Cost Accountant, **Bongani Xaba**, shares some cost saving tips to help you navigate the New Normal.



Bongani Xaba demonstrates how each of us can make a difference when it comes to mimimising wastage

There are various measures we can implement here at Umfolozi Sugar Mill to cut wastage to a minimum, while remaining profitable. Let's take a look at the practical yet important aspects of USM's survival guide when it comes to saving costs:

- Think before you print.
- Switch off lights and electrical equipment if not needed.
- Fix issues before they become expensive problems.
- Replace outdated equipment with more advanced equipment which will result in future cost savings and better efficiency.
- Avoid unnecessary repairs and replacement of equipment due to negligence.
- Practise the concept of asking 'Why?' when problems occur, so as to get to the root of the problem without wasting time.
- Before placing an order, assess whether the expense is justified and not merely part of a culture of 'That's how we have always done things'.
- Always deliver service of the highest standard because honesty and integrity are signs of efficient workmanship.
- Come to work wearing the 'I want to be the last mill crushing' USM cap as this will change your thinking pattern.

### Umfolozi Sugar Mill Covid-19 Community Relief Programme

The trail of economic and social fallout the coronavirus pandemic has left in its wake has devastated local communities and the most vulnerable of citizens. In responding to this crisis, Umfolozi Sugar Mill stepped up its CSI efforts, launching an intensive Covid-19 Community Relief Programme to assist local communities.

The programme was rolled out in July and August, with the assistance of USM's strategic partners. It involved the donation of 6,000 litres of hand sanitiser, 10 tons of sugar and 40,000 seedlings, a substantial financial contribution for food parcels, and the implementation of a public sugar sales project.



Staff at Zitike Primary School in KwaMsane (above) and nembers of the SAPS (below) take delivery of their hand sanitiser



Durban's RB Logistics generously transported and distributed the hand sanitiser to beneficiaries from Richards Bay, Kwamsane, Hlabisa, Hluhluwe, Mtubatuba and St. Lucia. The 20 beneficiaries included schools, police stations, small–scale growers, Mtubatuba Municipality and the iSimangaliso Wetland Park. USM's small–scale growers, Mtubatuba Municipality and the iSimangaliso Wetland Park were also the recipients of the 10 tons of sugar that were donated.



USM team members and beneficiaries with some of the 40,000 seedlings that were donated

In consultation with Ward 5 councillor, Ndumiso Zuma, USM donated 40,000 cabbage, spinach, onion and tomato seedlings to community members from Wards 1, 2, 3, 4, 5 and 20 in Mtubatuba.

CPS Seedlings of Pongola kindly sponsored the transport of the seedlings from Pongola to Mtubatuba.

In response to a request from Caiphus Khumalo, the iSimangaliso Wetland Park's Executive Manager of Socio-Economic Development, USM donated much needed food parcels to the residents of the remote Mabibi area. Along with basic staple foods, each parcel contained sugar and hand sanitizer.



iSimangaliso Wetland Park Executive Manager , Caiphus Khumalo (left) and USM CEO Adey Wynne distribute food parcels

USM's Sugar Shop was launched as part of the Programme's economic relief component. As a direct sugar sales project, it affords local entrepreneurs the opportunity to earn a vital income during these tough economic times, through direct purchase from USM.



Seen at the USM Sugar Shop on opening day are USM's Mandla Mfeka (left), shop manager Nduduzo Mbuyazi (centre) and the shop's very first customer. Vusi Mngomezulu (right)