



MASTERKEY

SERVICES LTD

African Leadership College

Report for Oct 2018 - Mar 2019

FINAL DRAFT

Quarter 1 - 2019

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Summary

There are currently no major operational challenges that jeopardise the daily functioning of the campus. However, there are critical issues that require the attention of the ALC administration. A brief summary of these critical issues is given in the points below, while a complete analysis is provided in this report.

- **Electricity trips in residences:** We have had recurring incidences of power trips in the residences. Some of the causes for these were identified to be high consumption devices purchased for personal use by students as well as the stoves installed in the shared kitchens. Consequently, all stoves have since been changed. A follow up included an educational session on the effects of different appliances and how they contribute to the power trips. This also led to a decrease in power trips. However, we still experience power trips and would recommend refresher sessions be done regularly.
- **Strain on residential kitchens:** The state of the kitchens is deteriorating and there appears to be no sense of individual or group accountability. There needs to be a strict policy of kitchen and locker management, ensuring that there is a sense of responsibility to those using the kitchens. .
- **Water leakages:** There have been several prevalent leakage issues throughout the campus. One of the causes is the toilet flushes which remain open after flushing, leading to large amounts of water being wasted. We are still in the process of finding a solution for the toilet flushes and are closely monitoring any irregularities in daily consumption rates to mitigate any high cost implications. Another cause for water wastage came from the taps in bathrooms taking longer to close after use. This was addressed by using cable ties to reduce how far the taps could be opened, reducing the amount of time it takes for the tap to close.
- **Petty theft within the residences:** There have been several cases of petty theft in the residences, ranging from personal belongings in rooms to food in kitchens. The RAs and security have recommended the installation of CCTV cameras in kitchens and corridors. However, this begs a huge budgetary implication and has therefore, been put on hold.
- **OPP issues:** We have had several issues of broken shower and toilet stall door knobs as well as window handles throughout the campus that had to be addressed by the supplier, OPP. OPP has agreed to repair all issues which were flagged within the warranty period and most of these have already been addressed.

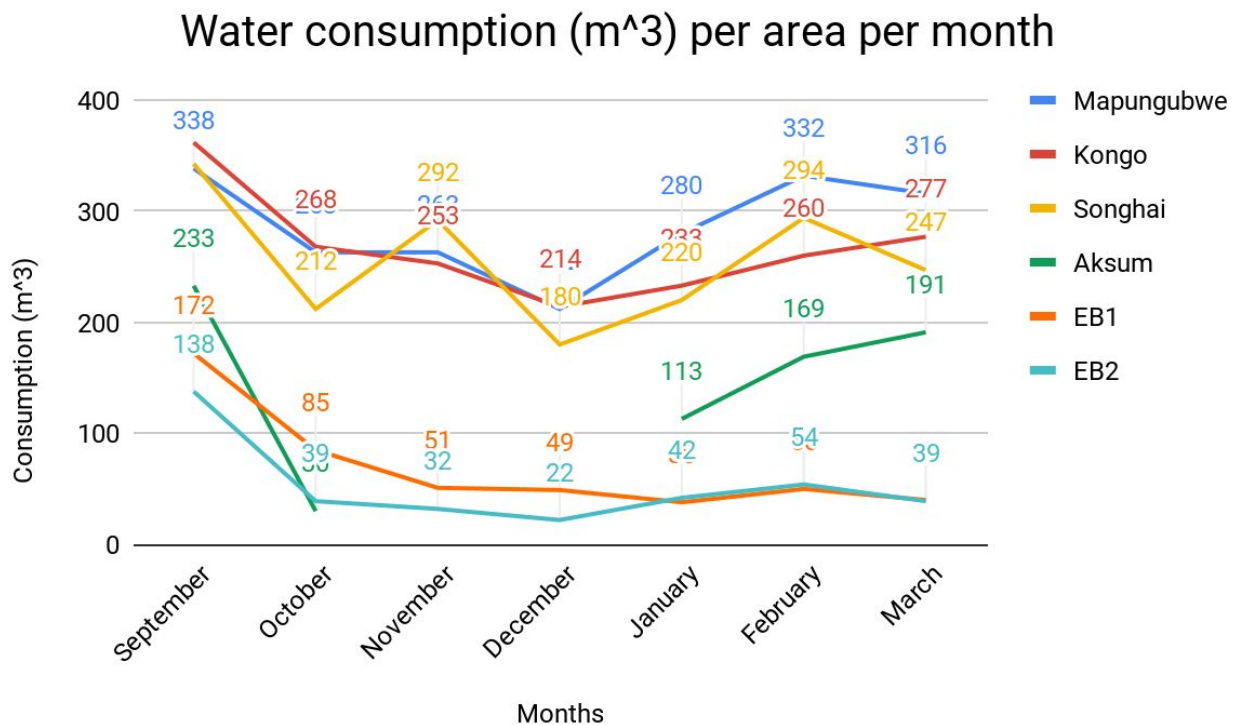
The rest of the report shows performance across departments. In certain sections, we have provided additional updates through qualitative data such as meeting minutes, observations and feedback from stakeholders, which help provide more well-rounded recommendations for ALC.

Maintenance

This section provides details regarding maintenance works undertaken on campus. Other areas covered include water and electricity consumption as well as the cost of each. We then close by providing some key updates, raising awareness of pending issues and providing recommendations on how ALC can address some of these issues.

Water Consumption

Figure 1: Water consumption per area per month



Observations

- Highest water consumption:** On average, Mapungubwe had the highest water consumption per month ($290m^3$ per month). Songhai had the highest consumption rate in November 2018 ($292m^3$) which could be due to multiple leakages from malfunctioning flushes.
- Lowest water consumption:** EB1 and EB2 have on average, the lowest water consumptions, average $68m^3$ and $52m^3$ respectively. This is because they are mostly used only during class times on weekdays and students spend most of their time in the residences.
- EB1 vs EB2 consumption:** EB1 has higher consumption as it is opened for longer hours: the library and learning commons are open till 1am whereas classrooms are only open until 10pm which means students use the bathrooms in EB1 more,

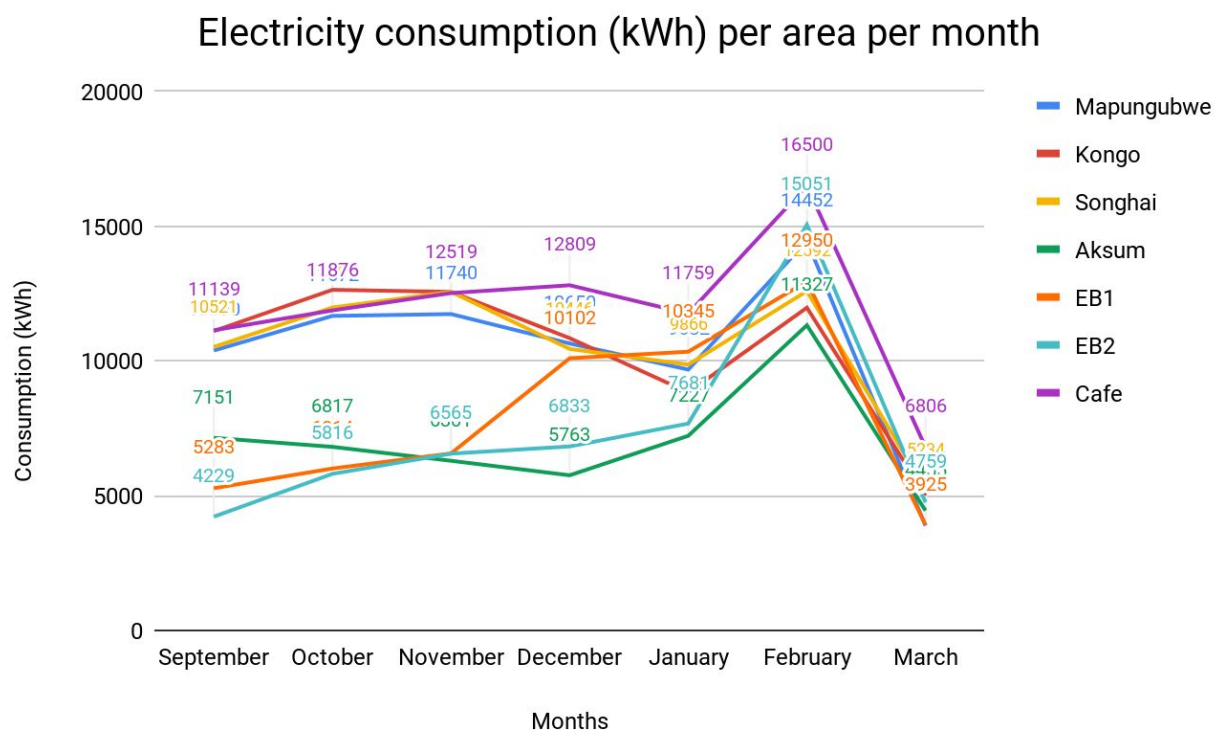
resulting in higher consumption. The high consumption in EBs in September was due to toilet flush issues as well as the tap taking a while to close after use. However, both issues have been resolved.

4. **February and March:** The consumption for these months shows the average consumption when the campus is at full capacity, with all four cohorts and staff members on the ground. Therefore, the sudden increase is due to the increase in number of students (double before January 15th) and staff.

NOTE: Student numbers between October and mid December were almost equal throughout the residences: Mapungubwe 73, Kongo 76 and Songhai 76. Therefore, although there may be slight differences in consumption (especially for the residences), we can not entirely attribute them to these numbers. We stopped taking meter reading for Aksum in November and December as the consumption was very low (avg 30 m³ per month).

Electricity Consumption

Figure 2: Electricity consumption per area per month



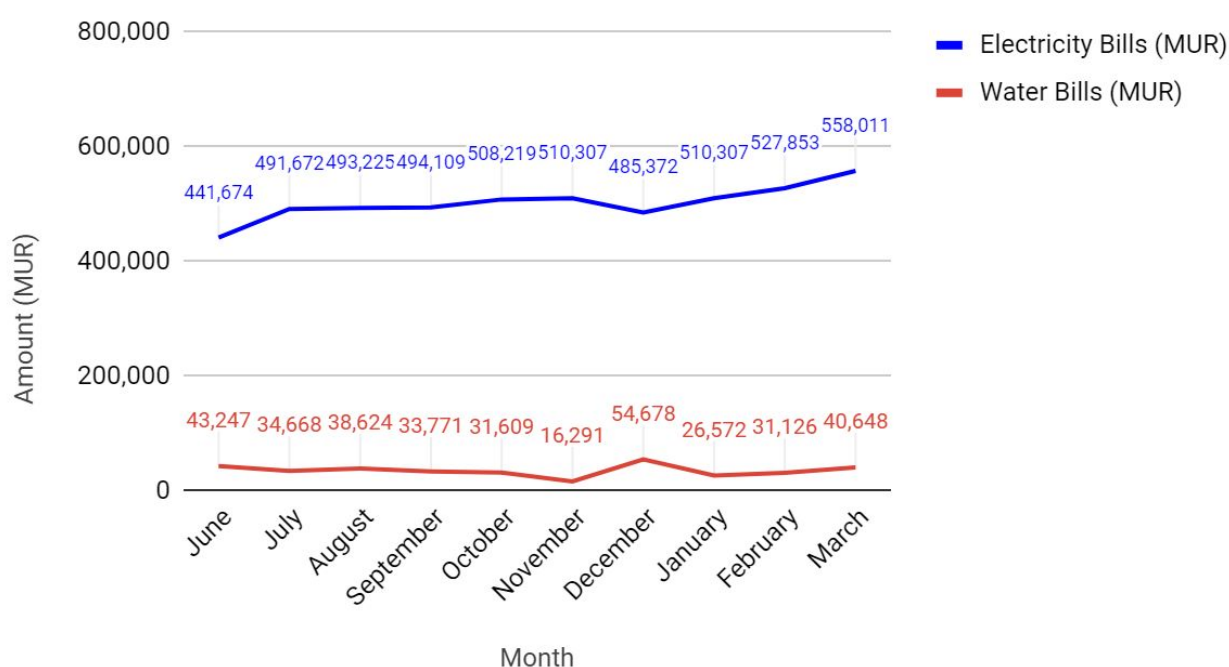
Observations

1. **Consumption range:** Consumption ranges between 10,390 kWh to 14,452 kWh per residence per month, with Aksum being an outlier with a consumption range of 5,700 to 7,000 kWh per month between September 2018 and January 2019. The overall consumption range for January to March 2019 is relatively higher than the previous quarter. This could be due to the fact that we had more opt-out students cooking and students were using their fans more as we were now in the Summer. We then see a jump for all areas from January 2019 as the number of students has doubled in the residences and the EBs were used for more classes.
2. **Aksum consumption:** Aksum used relatively high electricity (average 6,301 kWh) given the low number of occupants (around 3) between October and December. This may be due to laundry machines and extractors being on 24 hours a day. The consumption then jumps to over 11,000 kWh in February as more students occupied the residence (about 60).
3. **Highest consumption:** The cafeteria has the overall highest consumption due to the increased number of students and staff being cooked for. For the residences, Kongo and Songhai have the highest consumption rates. This could be attributed to the large number of opt-out students in these residences.
4. **February & March consumption:** The hike in February is due to the fact that there was the B.O.L.D event which increased consumption. In addition, the readings for February include until the 11th of March, which then resulted in the low readings in March as they accounted for only the remaining 19 days.

Water and Electricity Costs

Figure 3: Trendline for electricity and water costs

Trend line for water and electricity bills (MUR)



Observations - Water costs

1. **Water costs range:** The chart indicates that the water costs have been fairly consistent, ranging between MUR 26, 572 and MUR 43, 247.
2. **Highest cost:** The high cost in December is due to a mistake made by the Central Water Authority (CWA) in November's billing that was carried forward to December. In addition, we had a leakage from the main water tank where multiple solutions were tried but unsuccessful. Eventually the ball valve was replaced and the leakage has since stopped.
3. **Lowest cost:** The low cost (MUR 16, 291) in November is due to a mistake in the made by the Central Water Authority (CWA).

Observations - Electricity costs

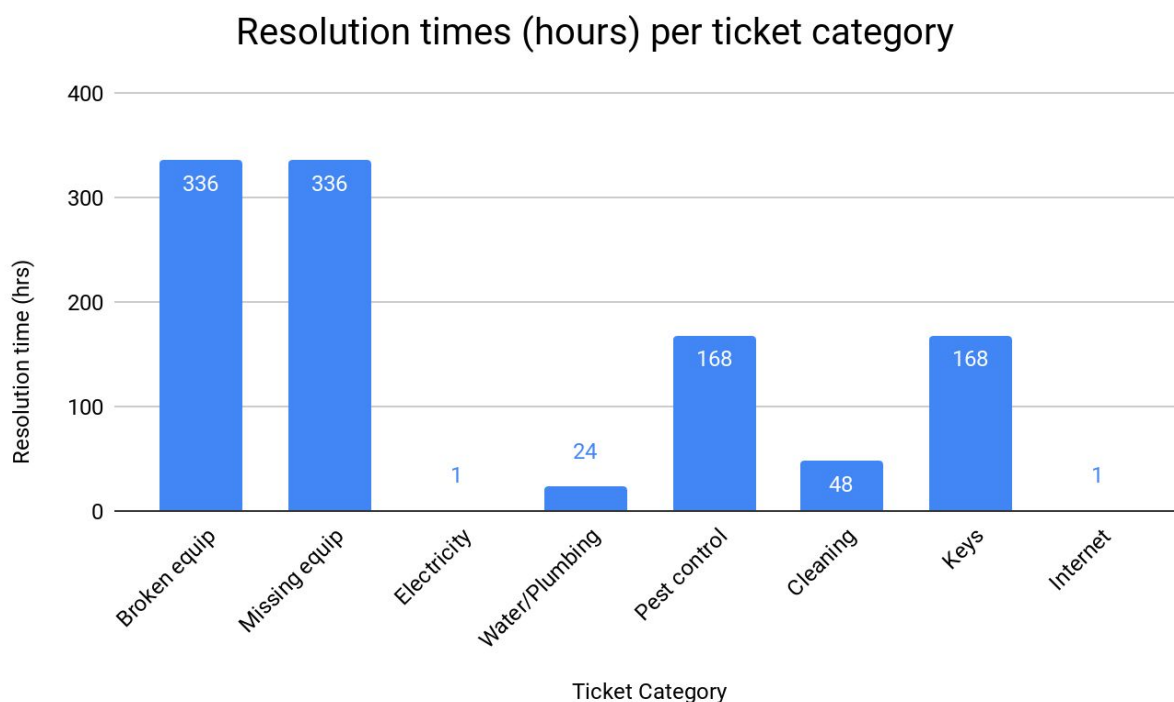
1. **Electricity costs range:** Overall, the electricity costs range from MUR44,674 in June to MUR558, 011 in March. The chart indicates that the electricity costs were fairly stable between June and December 2018 (average MUR 490,000), with the exception of an MUR 50,000 jump from June to July 2018. This could be due to students using the laundry machines at any time of the day, as opposed to the case before July 2018 where usage was restricted.
2. **Highest cost:** There was an increase of about Rs72,639 from January to March 2019. One of the reasons for this is that the number of students in the residences

doubled, which meant more lights and fans in the rooms were being used. In addition, EBs were being used more with more classes taking place and more staff, which meant more usage from ACs. Furthermore, the cafeteria had to cook meals for more students (double the number in December) and staff. Finally, the B.O.L.D event which took place in January caused a spike in charges due to the usage of the big fans in the tent and cafeteria.

3. **The dip in December 2018:** The lower consumption led to the low cost in December. This is due to the decrease in number of students as most went home for Christmas and the ACs in EBs were used less as there were no classes taking place.

Snags and Resolution Time

Figure 4: Resolution time per ticket category



Observations

1. **Shortest resolution time:** Internet issues have the shortest resolution time as they are usually reported in person and resolved as they occur. This also applies for electricity issues where power trips are attended to immediately by the maintenance team or by the security guards if reported outside Masterkey's working hours.

2. **Longest resolution time:** Broken equipment usually takes a while to resolve as this is the highest category of tickets opened and the Masterkey team usually has to address the backlog first. In addition, some of the issues may require that some equipment be ordered or purchased to resolve them.
3. **Pest control:** Urgent cases such as flies infesting an area are treated immediately with off the shelf products such as insect spray. However, most cases are treated during the pest control company's weekly interventions, hence the 168 hrs resolution time.
4. **Keys:** We had several cases where rooms had a single key and students requested that duplicates be made. This was resolved by changing all lock cylinders, with each room occupant being issued a new key. However, we have had new cases of students losing keys again. We will require assistance from ResLife in order to retrieve all the keys that do not currently have a duplicate. It was decided by ALC that this retrieval and duplication process can be done after the term.

NOTE: The resolution time does not include emergency power outages and plumbing issues that occur outside of normal operating hours. These cases are dealt with by security through training by the Masterkey team, or by our maintenance team who are on call if the issue is too technical to be handled by security. The two weeks for missing keys and broken equipment was mainly due to dealing with backlog. However, we are iterating the ticketing process to make it more efficient so that we deliver a 48 hours resolution time.

Updates

1. **Updated student lists and numbers:** Masterkey conducted room checks in order to confirm the room allocations and found some discrepancies in the ResLife list and the actual rooms in which students live in. The list compiled during these checks can be found [here](#).
2. **Paid laundry system:** Masterkey commenced the implementation of the paid laundry system on the 15th of January 2019. Students now pay for tokens with the ALC finance office on a trimester basis and collect them from the Masterkey office. However, this has been handed over to RAs due to ResLife wanting to manage this internally.
3. **Zendesk management:** Masterkey has limited the management of Zendesk to their internal team only. This has helped us have more control and consistency on how and when communication is sent out regarding logged tickets. We are frequently assessing and iterating on the process in order to improve the response time to those who log the tickets. The RAs still have visibility on tickets in order to be able to answer students' queries.

4. **Replacement of faulty electrical appliances:** All faulty stoves that were marked as part of the cause for the electricity trips in the residences were successfully replaced with new ones. Some microwaves that had rust issues were also replaced by the supplier.
5. **Broken chairs:** We have encountered several cases where the chairs on the students' study tables were broken at the hinges. All the chairs were collected from the students and taken to the supplier for repairs and have been returned.
6. **Bed bugs:** We have encountered a couple of cases where students' mattresses have been infested with bed bugs. An inspection has been done and the pest control company has attended to the issues. We are also closely monitoring this issue to check its severity and prevalence so that all cases are attended to early.

Pending Issues

1. **Electricity trips:** Songhai currently holds the highest number of electricity trip cases. This is due to damaged electricity wires, which are currently being addressed by Masterkey. This affects opt-out students' cooking as well as the overall students' experience as it results in cuts in internet connectivity and we have had a few cases of damaged laptops.
2. **The use of student-owned appliances:** Students have been informed on several occasions not to make use of personal appliances such as stoves, rice cookers, panini machines, inside their rooms. However, this continues to be an issue.
3. **Toilet seats:** We are still encountering cases of toilet seat breakages, with the highest number of cases being in Songhai. The supplier did a survey and came to the conclusion that these were removed intentionally by the students, resulting in ALC having to bear the cost of these repairs. The intentional removal of toilet seats is recurrent and Masterkey is fixing this on a weekly basis.
4. **Broken blinds:** We have encountered several cases of rooms with missing blinds, blinds dropping from their hooks and some malfunctioning, resulting in them not being able to open or close. Although this has been attended to by the supplier previously, this is still a recurrent issue throughout the campus.
5. **Moving of ALC assets:** There have been several cases of students hosting parties on residence balconies and leaving out ALC equipment such as tables, chairs and bean bags. This has resulted in damage due to exposure to harsh weather conditions such as heavy rain and intense sunlight. In addition, students also take common room equipment to their rooms, resulting in missing equipment during asset registry.

6. **Check-in/check-out process:** Although a check-in/check-out process has been implemented, we noticed some gaps such as students not mentioning when they will be arriving or leaving the campus, which results in them not being checked in/out. Another issue is that of students changing rooms throughout the term without following due process. This creates discrepancies between the ResLife room allocation list and the actual students' living arrangements, resulting in issues if students are to be penalised for damages caused in their rooms.
7. **Malfunctioning solar system in Mapungubwe:** Although students still have hot water in the showers, the solar system in Mapungubwe currently has some technical issues whereby although the six boilers have been attended to and are working, one RCD is still out of order. The service provider is working on this.

Recommendations

1. **Regulation of student-owned appliances:** We recommend that ALC implement a way to regulate student-owned appliances as this will help in preventing electricity trips and avoiding the use of high consumption appliances which would curb electricity costs. Another solution could be quarterly educational sessions during reorientation regarding which appliances to use within the students' rooms.
2. **Reinforcing the check-in/check-out process:** There is a need for a more rigid check-in/out process in order to ensure that the room allocation lists are updated and consistent. This will help in holding students accountable for returning their room keys as well as paying for damaged equipment in their rooms. These not only affect the state of ALC's assets, but also have implications on the experience of the next set of students occupying the rooms.
3. **Enforcing policies regarding student-behavior:** We recommend that ALC enforces policies that hold students accountable for any ALC property they move and that students be billed for any damages incurred as a result.

Tech Support

This section covers issues regarding internet connection as well as tech-related maintenance, installations and requests.

Updates

1. **ID cards:** The installation of access controls around campus and attendance monitors in classrooms has been completed. Remote configurations are in

progress and the contractor is in contact with the Registrar's for data to be collected for the classrooms. This will enable the use of ID cards for access control around the campus.

2. **EBs & residences entrance door access:** We have installed door closers for the entrances while the doors are being configured. We are currently working on aligning the door frames so that the doors lock automatically.
3. **Additional WiFi network:** A new wifi network called "call_center", has been installed on campus. This is to prevent the overload on either the staff or student network. Data will be collected going forward to monitor the impact and to advise on next steps.
4. **Dehumidifying bathroom cabinets:** We are currently using a blower to deal with the humidity in the tech team cabinets located in the residences' bathrooms. This is currently done on a monthly basis, as part of our preventative maintenance, and ALC will be notified of any concerns.

Pending Issues

1. **Mobile network within residences:** There is currently spotty to no access to mobile network within all the residences. This represents a security risk as it makes it difficult for security to contact students or RAs during emergencies, especially if there were to be a case where the wifi is down.

Recommendations

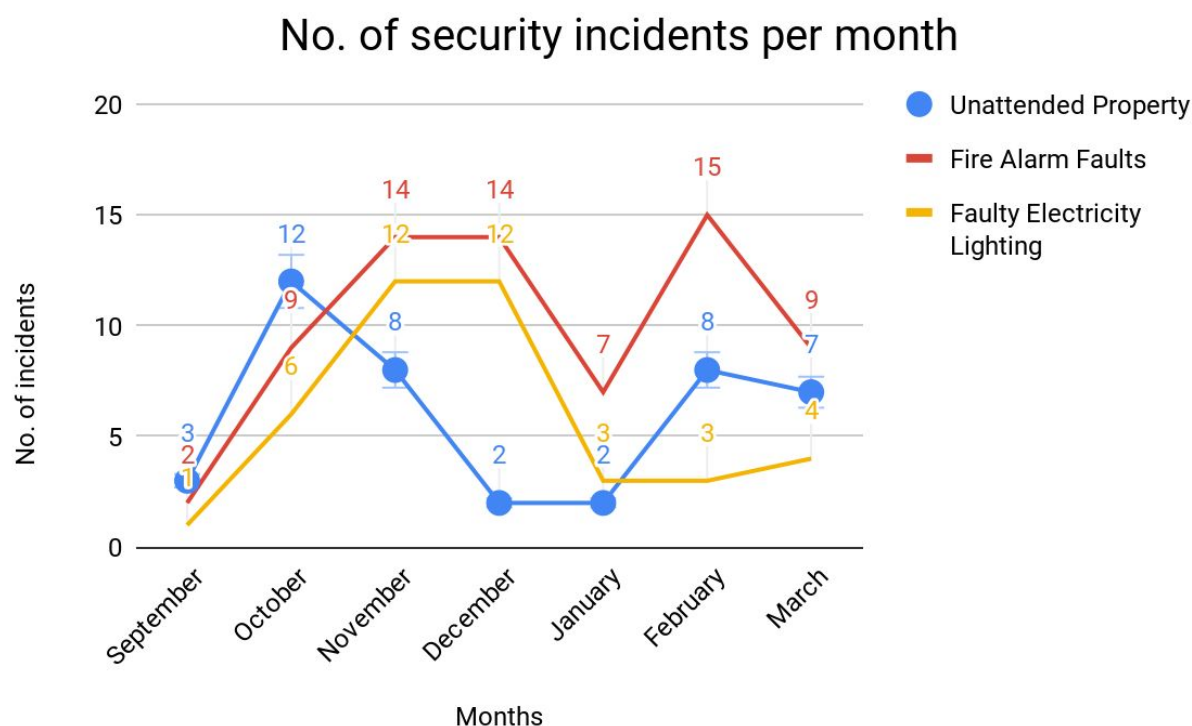
1. **Review internet contract:** We recommend that ALC review the current bandwidth subscription contract. The new dedicated contract will allow the tech team direct access to the usage dashboard which will allow for live updates on bandwidth usage and better reporting.

Security

Security Breaches

In this section, we identify major and minor security breaches that may have occurred on campus, and highlight specific security loopholes that warrant the attention of ALC. The security team keeps an incidents book where all security breaches that occur on campus are recorded. The figure below shows the frequencies of breaches between September 2018 and March 2019.

Figure 5: Number of security incidents per month



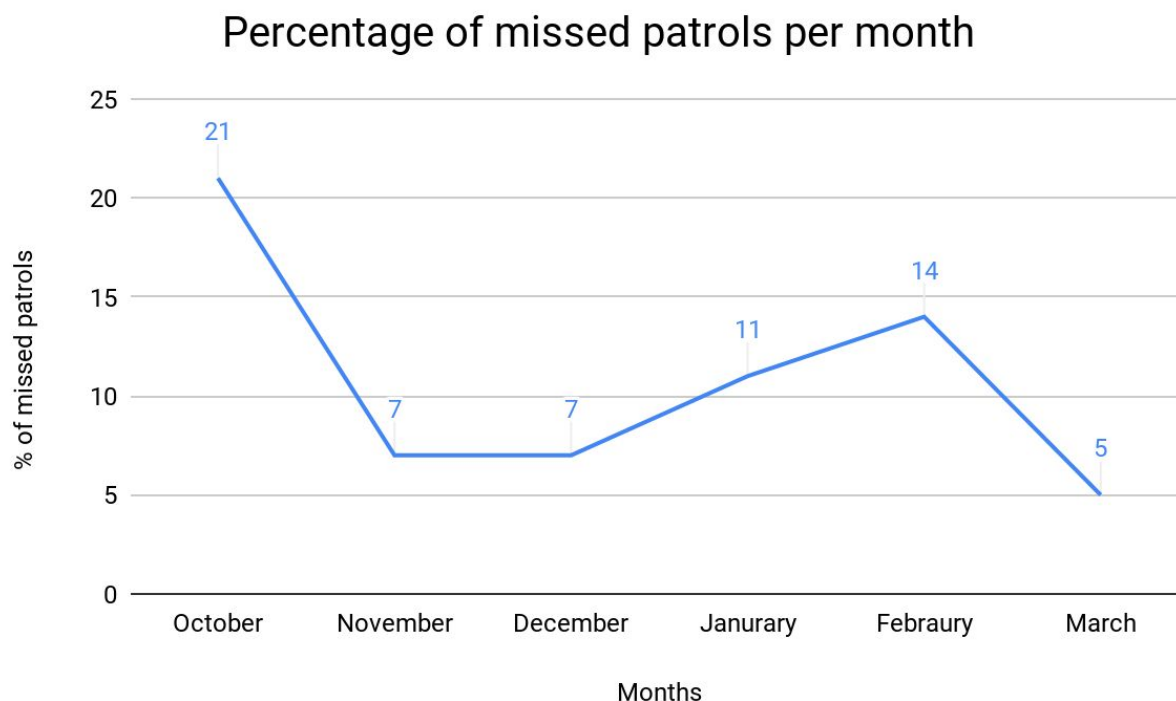
Observations

1. **Highest frequency:** Fire alarm issues hold the highest frequency. This was due to students smoking in rooms as well as false alerts caused spider webs growing in detectors, which affected their sensitivity and created false triggers.
2. **Faulty electric lighting:** There have been a series of faulty lights throughout the campus, including many external lights in residences, emergency lights and outdoor lights on stairs and around the piazza. Many of these have been attended to and the supplier is waiting for spare parts in order to attend to those still remaining.
3. **Unattended property:** Cases of unattended property include any property that is delivered to the security office after being found left unattended around campus. Due to multiple petty theft issues, students are often reminded to take caution and leave their belongings in their rooms or with friends.

Patrol Data

We have installed various checkpoints around campus to ensure that all night guards perform their patrols appropriately. We have allocated specific timings on when clocks should be completed for a given area and we monitor this on a daily basis to determine which clocks have been missed. Missed patrols are then recorded and aggregated on a weekly, then monthly, basis. This is shown below:

Figure 6: Percentage of missed patrols per month



Observations

1. **Highest percentage:** October 2018 had the highest number of missed patrols as the previous security company guards stopped performing patrols after being notified that their contract was being terminated. The spike in missed patrols in February 2019 was due to heavy rains that hinder the guards from performing the patrols.
2. **Other missed patrols:** The number of missed patrols reduced in November 2018 after we outsourced to a different security company. Most of the existing missed patrols is due to the difficulty caused by mud on rainy days that the guards face when walking to the checkpoints behind Songhai and Aksum.

Updates

1. **Crisis simulations with ResLife:** Masterkey, alongside the health and safety expert, Mosaic and ResLife, carried out crisis simulation sessions which covered

cases such as level 3 cyclone, fire on campus, and no water on campus. Documentation was then created, covering points such as actions to be taken, the responsible parties, people to be informed and what needs to be procured in order to be best prepared for such situations. ResLife has the RACI for these.

2. **Building of guard house:** We have installed a guard shed by the Sewerage Treatment Plant (STP) to have visibility behind Mapungubwe, Songhai and Aksum.
3. **Iron signals:** We have installed bulbs that light when the iron is on, acting as a signal and reminder for students to switch off the irons after use and hence avoid fire hazards.
4. **Installation of burglar bars:** Due to students leaving windows in the lower ground floor open and the associated petty theft cases, lower ground floors were previously cleared out and could no longer be used for room allocations. However, Masterkey has installed burglar bars in all windows on these floors and hence students can now occupy the rooms.
5. **Structural changes to fencing:** We have installed an extension of the boom gate in order to assist the guards in detecting unauthorised entries under the boom gate, especially at night. We have also installed a gate behind the cafeteria for extra parking which is essential, especially during events.
6. **Students' guests policy:** As confirmed with ResLife, the guest policy has been amended so that that ALC-registered students, who wish to stay beyond 10pm, need a host who will sign them in. For non-ALC guests, the host also needs to alert their RA.

Pending Issues

1. **Petty theft issues:** We continue to experience issues of petty theft in residences, most of which are in Mapungubwe. These include theft of various items such as money, shoes and clothes. It has also been reported by RAs that student food theft in kitchen fridges is becoming more recurrent.

Recommendations

1. **Health and safety procurement:** The health and safety specialist has recommended that ALC should consider investing in at least one stretcher and one wheelchair in case of any physical injury of students or staff on campus.
2. **Communication to students regarding fire extinguishers:** It was reported that some students are breaking the security seals for the fire extinguishers in the

residences. This act may have an impact on the fire certificate that our health and safety officer is renewing. Therefore, it is recommended that communication be sent to students regarding the implications of this and that there should be consequences for students found responsible for doing this.

3. **Keeping personal belongings safe:** Students are advised to be more vigilant when it comes to their safety. This can be achieved through closing windows, locking their rooms and not leaving their belongings unattended in open spaces and shared common rooms.
4. **Pursuing the bus stop:** Despite not gaining much traction for the addition of a bus stop, ALC should continue this pursuit with the District Council. The absence of a bus stop presents a safety concern, but more importantly it hinders the movement and commuting of students to and from the campus.

Cleaning

Updates

1. **Fan cleaning:** Several students flagged the issue of dirty fans in their rooms which resulted in them catching flu and worsening their sinusitis. Masterkey went residence by residence and has completed the cleaning of all the fans in the four residences.

Pending Issues

1. **Granite stains in bathrooms:** Since moving to the campus, there have been stain marks on the granite counters as a result of acidic products that were used by previous contractors. This issue was discussed at length with the landlords and the decision was made to leave these as is.
2. **Mosaic cutlery:** Students still take Mosaic cutlery and crockery from the cafeteria to the residences. Through our walking tours, we find these cases recurrent in residential common spaces. There is also a possibility of students storing Mosaic property in their rooms, though this cannot be verified without room checks.
3. **Unattended property in common areas:** Despite several reminders, some students continue to leave clothes unattended in laundry rooms, as well as shoes in corridors, balconies and under bathroom basins. These affects the presentation of these spaces and hinders the cleaning done by the cleaning ladies.
4. **Kitchen capacity issues:** With more and more students opting out, it is important to note that there has been an increase in cases of overstocked fridges, poorly stored food in fridges, as well as food theft. ResLife will be drafting a policy

to be shared with relevant stakeholders in order to hold students accountable for the state of the kitchens.

5. **Stray dogs:** We have had a recurring problem with stray dogs since our move to the campus. We have tried to work with several partners including an independent company and PAWS which have helped in sterilising some of the dogs. However, the dogs continue to pose a great risk, especially to the cafe area and are also posing a challenge to our cleaning ladies as they excrete on the walkways and paw marks are recurrent on walls and flooring everywhere.
6. **Absence of clean up days/'Garde Lakaz Propre' for students:** Although ResLife, with the help of RA's tried implementing monthly community clean-up days, there has not been traction and students still do not clean their spaces.

Recommendations

1. **Building the 'Garde Lakaz Propre' culture:** We recommend that ResLife carries on working towards building the culture of monthly community clean-ups so that students develop a mindset of being responsible for keeping their surroundings clean.
2. **Enforcing positive student behaviour:**
 - Students should be made aware of all issues concerning food hygiene and the use of fridge.
 - Students should also be made aware of the impact of removing strainers from sinks and removing Mosaic cutlery from the cafeteria.
 - Students should be reminded that any laundry, or unattended items of clothing, that are left unattended for more than 24 hours will be placed in donation boxes and given away.
 - Students need to understand that there are rules and regulations for having a residential party and that they are responsible for cleaning any mess and that there are consequences for any issues incurred due to such events.
 - ResLife is advised to implement a solid system so that there are consequences for non-compliant students.

GLOSSARY

General	
EB 1	Educational block 1 (Alexandria). This includes the Library, Learning Commons, Faculty Lounge, Faculty Office.
EB 2	Educational block 2 (Sankore). This includes the 6 classrooms and classroom toilet areas.
Cafeteria	Includes the eating space, kitchen, offices below the cafeteria, and the engineering lab.
Common areas	This comprises of the parking area and spaces between the residences as well as the road from the gate to the main road.
Student residences	Mapungubwe, Kongo, Songhai and Aksum
SA 1	Mapungubwe
SA 2	Kongo
SA 3	Songhai
SA 4	Aksum
STP	Sewerage Treatment Plant which is located behind Aksum
TB 1	Technical Board 1 which is located near Kongo where the generator, Central Electricity Board transformer and server rooms are located.
TB 2	Technical board 2 which is within security post where water pump and tank are located.
Kitchen water store	Situated outside the cafeteria near the ALC signage
Waste room	Situated behind the cafeteria and near the loading bay
Cleaner store	Situated in EB 2 Ground Floor near the toilets