Hospitality and Cleanliness on Campus
Improving efficiency and capabilities at San Francisco Agricultural School

Submitted to
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Abstract

The San Francisco Agricultural School is a self-sufficient secondary school in rural Paraguay. This project sought to improve the efficiency and capabilities of two areas within the school: the morning campus cleaning routine and the front desk operations of Hotel Cerrito, the on-campus, student-run hotel. As a result of organizational improvements to the daily campus cleaning process recommended by the team, overall campus cleanliness improved. Similarly, the project's proposed recommendations for more efficient operations of the hotel provided the school with tools to improve administrative organization and guest experience.

Introduction

Paraguay has many unique characteristics that define its identity as a country, including its geography, economy, and social make-up. With these defining qualities come significant problems that also influence the state of the country. Perhaps the most pressing problems in Paraguay are widespread poverty and severe income inequality. For many years, very little was done to address these problems. In recent decades, however, the country's agricultural industry has seen promising growth While this has directed the economy onto a path of improvement, there still remains little social support in place to assist impoverished Paraguayans who wish to improve their situations and rise out of poverty.

One group that aims to change this is Fundación Paraguaya, an active and well-known organization that believes in arming rural people with the knowledge and skills needed to change their own lives for the better. Among their many successful programs are their innovative agricultural schools that provide education that pays for itself. These self-sustaining schools, such as the San Francisco Agricultural School in the Benjamin Aceval district, teach teenagers the intellectual and vocational skills necessary to succeed in the modern, small-scale agricultural and entrepreneurial industries. The adolescents can then bring this knowledge home to their families and villages, initiating improvements in economic standing and quality of life. The agricultural school model, however, relies completely on the profitable student-run work areas for the working budget of the institution.

This project improved the efficiency and capabilities of two areas at the school - the morning cleaning process and the hotel front desk operations. As a result of organizational improvements to the daily campus cleaning process recommended by the team, overall campus cleanliness improved. Similarly, the project's proposed recommendations for more efficient

operations of the lucrative on-campus hotel provided the school with tools to improve administrative organization and guest experience.

Concepts of scientific management secured this outcome. Such methods have long been industry standards for the improvement of manufacturing efficiency. Additionally, interviews, focus groups, and case studies broadened the scope of the project. Through these methods, areas for improvement became evident. These areas then became targets for recommendations to improve the student operations, facilitating organizational growth.

Background

Paraguay: General Information and the Economic Climate

Paraguay is a landlocked country located in South America; it is bordered by Brazil, Bolivia and Argentina. Unlike other Latin American countries, Paraguay has two official languages: Guarani and Spanish. The country is divided into seventeen departments and, as of 2015, holds a population of seven million people ("Paraguay: Panorama General", 2015). Of these inhabitants, ninety-five percent are mestizos - a mix of European and native Guarani descent (The World Factbook, 2015).

In Paraguay, a country surrounded by rivers and filled with natural resources, most jobs are centered on agriculture and livestock production. In fact, the Paraguayan economy relies on agriculture and has averaged a five percent annual economic growth rate over the past decade as a result of this dependence ("Paraguay: Panorama General", 2015). For example, Paraguay has developed into one of the largest producers of soybeans in the world. The economy has flourished as the demand for commodities increases and the weather cooperates. Given the subtropical to temperate climate, this is generally not an issue (The World Factbook, 2015).

Although many agricultural jobs have recently been created in the rural regions of Paraguay, approximately one-third of the nation still lives in poverty and experiences very poor living conditions. Though those below the poverty line may be employed, their income does not cover their living expenses. In an attempt to rapidly eliminate poverty, the Paraguayan government has formulated a National Development Plan to target salary growth for the poorest forty percent of the population ("Paraguay: Panorama General", 2015).

Fundación Paraguaya

Fundación Paraguaya was founded in 1985 by Martin Burt to eradicate poverty in the rural regions of Paraguay. Prior to its founding, there was minimal social support for those who desired to improve their economic standing. The Fundación's approach has been highly innovative, providing resources, knowledge, and skills that empower individuals and their families to overcome poverty through their own efforts. Some of these programs include micro-financing, the Poverty Stoplight, and self-sustainable agricultural schools (Fundación Paraguaya, 2016).

San Francisco Agricultural School

The history of the San Francisco Agricultural School did not always reflect its current status. The school was originally created by *Los Hermanos Misioneros Franciscanos,* when they purchased a farm in the Cerrito region of Paraguay using donations from German benefactors in 1963. The school opened in 1964, and was later converted to an agricultural school in 1978. The conversion focused on a vocational and practical education, using Paraguayan government subsidies to support the school's expenses. The school then changed ownership in 1980, as *The Congregation of the Brothers of The Christian Schools of La Salle* took over for the next twenty years. In 1999, political violence and instability in Paraguay ultimately led to a halt of the government subsidies. In turn, the brotherhood turned to Fundación Paraguaya for help, transferring ownership to them in 2002 (Godfrey, 2010).

Fundación Paraguaya's objective for the San Francisco Agricultural School was to provide an education that will empower students to "overcome poverty through economic self-reliance."(Godfrey, 2010, p.3) A new business model was developed to make San Francisco a self-sufficient agricultural school, transforming the curriculum to teach students to run income-

generating businesses. These businesses include field crop and animal production, as well as a dairy factory, vegetable garden, and hotel. Each business is teacher-led but student-run, and the income they generate covers the school's operating expenses. Students pay for their education through their technical, sales, and field work, using knowledge they obtain in the classroom. Initially, the school's expenses were covered by Fundación Paraguaya. Since 2007, San Francisco Agricultural School has achieved 100% financial-self sufficiency, with its students having 100% employability post-graduation (Fundación Paraguaya).

Each of the small businesses at San Francisco Agricultural School can generate its own income independently, but they are also set up to support each other. The field crops, vegetable garden, animal production and dairy factory generate income by selling their products at market price to third party vendors or through direct sales. They can also sell products to each other, for example using milk from the animals for the dairy factory or using vegetables as ingredients for the meals at the hotel. The hotel attracts groups and tourists interested in the innovative educational model, as well as local businesses and nonprofit groups seeking space for a retreat, training, or conference (Godfrey, 2010).

The school has approximately 150 students of ages 14-18 years old, spread across three grade levels. The students are split into two sections, A and B, having each section alternate on a weekly basis between learning in the classrooms and working in the various operations around campus. In each operation, there are student monitors who supervise other students and guide them with the work. The monitors are selected by the class, teachers, and administration, and are viewed as the student leaders on campus.

The continued success of San Francisco Agricultural School can be attributed to increases in efficiency and output. In addition, the establishment of measurable accountability for each

business has allowed a continuous evaluation of goals and profits (Godfrey, 2010). In order to further improve upon the current operations, it is necessary to look deeper, analyzing work flows and systems to recognize additional improvements. The method of choice is scientific management.

Target Areas of Operation

This project applied the concepts of scientific management to two different areas at the San Francisco Agricultural School: the morning cleaning routine and the Hotel Cerrito.

Daily Cleaning

Each morning, the students at the San Francisco Agricultural School wake up at 5:45AM. After spending fifteen minutes to get ready, they work together to complete the daily campus cleaning tasks before gathering for breakfast at 7:00. The morning cleaning is done by the students who are in classes for the week, as well as the students working in marketing and general services. The students working in the other areas have a different schedule, depending on their work area needs. This results in approximately eighty students cleaning every morning.

The process begins with the taking of attendance at 6:00 AM. The students are then split up into their respective teams to clean various areas on campus. There are fifteen student monitors who supervise the cleaning process, each of them having charge over a respective area. This includes the dorms, bathrooms, patios, galleries, classrooms, and offices. Other areas of campus are cleaned either by the respective operation working in the area, or general services.

The cleaning process had been in place prior to Fundacion Paraguaya obtaining ownership of the school. The exact origin of the process is unknown. The students learn the cleaning process by watching and observing older students during their first year orientation. At this time, the students also receive a list showing all the tasks that are to be done (Appendix I).

This list, however, is only seen at the beginning of the year and is not used by the monitors as they supervise the other students throughout the year. This has translated into an inconsistent knowledge of what areas are to be cleaned, how to clean them, and how frequently to do so. In addition, there was no consistent standard for what a "clean" area was. The cleaning process has also changed slightly over the years, with some areas being removed from the process. Furthermore, students only clean what they are told to clean. This leads to lower priority areas, such as windowsills and ceilings, being left untouched.

This portion of the project had three main aims: to provide a standardized system for cleaning, to improve the consistency and standard of cleanliness on campus, and to develop methods for evaluation.

Hotel Cerrito

What is now Hotel Cerrito was previously a Spiritual Retreat House used by the La Salle Brotherhood. Fundación Paraguaya made an investment of $50,000 US to renovate and develop the space into a rural hotel in 2003. Today, the hotel generates the most revenue of all the school's work areas, generating 25% of the school's income as of 2010 (Godfrey, 2010). The hotel currently offers single, double, and triple rooms with private bathrooms. There are also bungalows of two to four bedrooms with a living room and fully-equipped kitchen. In addition, the hotel provides shared rooms and bathrooms for large groups. The maximum capacity of the hotel is 250 guests (Hotel Cerrito, 2016).

The hotel is run by students with leadership and guidance from teachers, consistent with the other businesses at the Agricultural School. The operations within the hotel include the front desk, check-in and reservation management, payment processing, and cleaning and maintenance of rooms and conference spaces (Godfrey, 2010). The quality and efficiency of these operations

are critical to the success of the hotel, as prompt and quality service is often key to maintaining guest satisfaction.

The area of the hotel covered in this project is the front desk operations and record keeping. Specific operations at the front desk are run by either students or teachers. Generally, reservations are handled by the teachers. If they are indisposed, the students take the contact information of the caller and one of the teachers will call back about the reservation when they are free. The students are the primary face of the front desk. They interact with guests, take orders for meals and laundry, sell various beverages and dairy products, and accept payment when a guest checks out. The students are taught how to do these things both in the classroom and on the job, in keeping with the school's theory and practice approach.

Currently, there are many inefficiencies within this process, in particular, record keeping, sales, and guest interaction. The school does not have a system for efficiently accessing and analyzing past guest data. Records of beverage and dairy product sales are inconsistent, with some students merely recording the total cost and failing to specify the items purchased. There is no standardized recording medium for laundry and meal orders. There have been instances where meals were ordered and the kitchen was not given sufficient notice by the students in order to have the meals prepared at the appropriate time. Though the school officially accepts credit cards, this service is often unavailable due to technical or other problems. Finally, the students do not have a clear direction for how to interact with guests. All of this significantly impairs the efficient and cost-effective operation of the hotel, as well as the experiences of some of its guests.

This project aimed to improve the front desk operation by creating consistent forms of record keeping and improving guest interactions and services.

Cleanliness standards and processes in schools

One standard of the professional janitorial industry is to use a list of ordered steps for each cleaning activity or area. The order is important for a proper cleanliness standard to be attained without jeopardizing the safety and health of those involved. These type of cleaning lists (Appendix II) served as examples for this project. Though not all of the specific steps were possible to include in the new cleaning routine for the school, their general setup and organization were useful in improving upon the current process.

Hotel record management and front desk guest interactions

Record management is crucial in the hospitality industry. It can catch or prevent a variety of losses and aid in restocking and inventory management. It can be necessary for legal reasons as well. There are several brands of specialty software available for this purpose. Cheaper alternatives could include the standard Microsoft Office, Open Office, Google Drive, and other similar database and spreadsheet tools.

Interacting with hotel guests is one of the most important aspects of the business. Interactions with the front desk, in particular, can be the difference between a good experience and a bad one. The front desk is a hotel's "front line for guest services" (Gioia, 2016). It is instrumental in both the first impression and continuing experience of the guest. Thus, setting appropriate standards of practice when it comes to front desk service is critical. The AAA Diamond Rating Guidelines provide a large list of such standards. A sample section of these is shown in Appendix III.

Scientific Management

The goal of the production theory known as scientific management, or Taylorism, originally pioneered by Frederick William Taylor, was to improve the efficiency of the

workplace using a scientific approach (Scott, 2014). Taylor proposed that by observing and analyzing production methods and the performance of different tasks, one could greatly improve their efficiency and capacity (Taylor, 1914).

Taylor and others, such as Frank Gilbreth, applied this scientific approach to many different tasks, including brick laying, shoveling, and manufacturing. These methods were used to analyze specific movements, plan worker positioning and flow, determine the appropriate tools and workers for a task, and account for the properties of different materials.

Conclusion

Though the school is a groundbreaking enterprise in rural Paraguay, it seeks to improve. Both the morning campus cleaning routine and the front desk operations of Hotel Cerrito lacked sufficient structure and consistency. This project used a systematic approach to improve the efficiency and quality of these two areas.

Methodology / Approach

This project sought to improve the efficiency and capabilities of the morning cleaning process and the hotel front desk operations at the San Francisco Agricultural School. Improving both of these areas resulted in a cleaner campus for students and a better guest experience at the hotel. The research and development, though performed separately for each area, employed a systematic approach guided by common objectives. The objectives are:

1. Assess the current system to determine its strengths and weaknesses

2. Determine needs and wants of students, faculty, staff, and administration

3. Design and test new system

4. Determine opportunities for improvement

To achieve these objectives, this project used scientific management concepts to analyze and evaluate current operations. In the first step, an operational review consisting of preliminary field observations and interviews directed the initial focus of the project. In the second step, a detailed observational study gathered and analyzed data on task processes. This data analysis then led to the creation and testing of recommendations for the improvement of the area in question.

In order to facilitate understanding of all details unique to each area, discussion of the project objectives has been divided into the two target areas of operation.

Morning Cleaning Process

Objective 1: Assess the current system to determine its strengths and weaknesses

Prior to restructuring the cleaning process, it was imperative to understand how the existing system worked and identify the areas needing improvement or reorganization. Interviews and direct observation provided this information. Initial interviews with the director

of student life and morning cleaning supervisor yielded logistical information about the process, including the number of students involved and how they divided the teams. They also offered their input on how well the existing process was executed. All existing documentation on the process was also collected and analyzed. The information provided allowed for more informed observations.

Two weeks were spent observing the morning cleaning process. This allowed ample time to observe all five weekdays and ensure that no areas were neglected. Direct observation was required to gain a first-hand understanding of the process. This included identifying the tasks done, making note of the tools and techniques used, and determining how effectively time was managed. In addition, specific areas requiring improvement were identified, and comparisons were made between the background information and the reality. There was minimal interaction with the students in order to reduce unnecessary stress and minimize potential bias. The only interactions were greetings and informal questions to the monitors.

Objective 2: Determine needs and wants of students, staff and administration

In improving the cleaning process, it was important to consider input from the school community. This input was gathered through weekly interviews with the staff and administration as well as focus groups with the students. These yielded feedback from all levels of the school hierarchy, enabling campus-wide involvement in the development of a new plan. The director of student life, the morning cleanup supervisor, the director of the school, and the former director of the school were all interviewed, regarding past and current challenges and possible changes to the current process. To obtain initial student insight into the morning cleaning, several students were also informally interviewed during the observational stage. Later, a focus group with third year students was conducted to gain further understanding, including what challenges they

currently faced and suggestions for additions and changes to the process. The interview and focus group questions can be found in Appendix IV.

In addition, the Personnel Distribution Survey was created and distributed among the student monitors to gather their input on creating a restructured plan. This survey involved redistributing 80 students in teams, and can be found in Appendix V.

Objective 3: Design and test new system

A restructured plan was designed and implemented for the morning cleaning process. This was developed based on information gathered from the previous objectives. Further meetings with the director of student life and the morning cleanup supervisor also provided opportunities to review the new structure and discuss the ideal way to implement the restructured process. Meetings with the two sets of student monitors were also held to go over the new process.

Prior to implementation, an evaluation rubric was created to rate the process and cleanliness of the morning cleaning tasks. The rubric provides a standard for both cleanliness and process technique towards which students should strive. The rubric scores each task on a scale of 0 to 3, with 1 being unacceptable and 3 being excellent. A score of 0 signifies that the area was not cleaned. The rubric was used to evaluate the cleaning process before and after implementation, acting as a measurement tool for progress. Appendix VI provides the rubric and further information about the scoring scheme.

The new structure was implemented and evaluated over a two-week period. This ensured that both sections had an opportunity to test the new structure, and allowed for evaluation and modification between the two weeks. For both weeks, observations were made at the beginning

and end of the week to collect information about how well the new system was received and executed.

Objective 4: Determine opportunities for improvement

Recommendations were generated for future development of the morning cleaning process. This was achieved by analyzing and compiling notes from observations and interviews throughout the project, both before and after implementation of the new system.

Hotel Operations

Objective 1: Assess the current system to determine its strengths and weaknesses

In order to improve the operations of the hotel, the team pursued a complete understanding of the current systems and determined which areas could benefit most from reorganization. Interviews and observations provided the project team with this deep level of understanding. Initial interviews with the two supervisors yielded logistical information about the hotel and its operations, including the number of students who work at the hotel, the current record keeping methods, and the current guidelines for guest interactions. They also offered their opinions on the effectiveness of the current systems and the quality with which students carried out their required tasks. This information provided the background necessary to conduct appropriate and productive observations.

Observations were conducted in the different areas of the hotel for two weeks. This allowed for a first-hand understanding of the process and effectively captured the nature of a service-based operation like a hotel. The observational studies focused on student interactions with guests, as well as student use of current record keeping instruments. Additionally, these instruments were examined and analyzed to determine their completeness, efficiency, and ease of use. As with previous observations, researcher interaction with students was kept to a minimum.

Objective 2: Determine needs and wants of students, faculty, staff and administration

Requests and suggestions from the hotel supervisors and student workers played an important role in improving the hotel operations. Their input was collected through regular interviews with the faculty and staff, as well as a focus group with the student workers. The co-directors of the hotel and the director of the school were interviewed to learn more about the challenges faced in the hotel and their ideas for improvements in all phases of hotel operations. To gain further insight, a focus group with student monitors was conducted. Here, the students discussed the challenges that they faced, their opinions on the record keeping systems, and their approach to guest interactions. The interview and focus group questions can be found in Appendix IV.

Objective 3: Design and test new system

The information obtained through observations and interviews spurred the development of a new record keeping system and guest interaction scripts and guidelines. Prior to initial testing, the new system and scripts were sent to the hotel supervisor for review and were altered based on her recommendations. The components of the record keeping system were given to the students for future use at the reception.

The scripts and guidelines were given to a Fundacion intern working as a student teacher at the school. He incorporated them into the curriculum of his tourism class and received feedback from the students. Taking that into account, the team went ahead with further testing. Once the scripts were finalized, the team rehearsed roles with the students currently assigned to hotel work.

Objective 4: Determine opportunities for improvement

Recommendations were also generated for future development of the hotel operations. This was achieved by analyzing and compiling notes from observations and interviews throughout the project, both before and after implementation of the new systems.

Project Timeline

	Tasks Completed
Week 1	Preliminary observations
Week 2	Observed morning cleaning routine, conducted interviews with administration and conducted focus groups with cleaning monitors
Week 3	Finished observing morning cleaning routine, sent out a survey to the monitors, interviewed administration, finished new plan
Week 4	Cleaning: Implemented the new cleaning routine, observed new cleaning routine Hotel: Started hotel observations, interviewed staff, conducted focus groups with hotel students
Week 5	Cleaning: Observed and evaluated changes to routine Hotel: Implemented new plan
Week 6	Cleaning: Observed changes; analyzed results Hotel: Observed changes; analyzed results
Week 7	Finished all analysis

Findings

In order to highlight the unique results derived from each project area, discussion of the project findings has been divided into the two target areas of operation.

Morning Cleaning Process

<u>Current Process</u>

Finding 1: The hour devoted to morning cleaning is more than adequate to complete the process

Several days of observation showed that the time allotted for the morning cleaning was 50% more than necessary. Though the students have from 6:00AM to 7:00AM to complete their responsibilities, it was found that all tasks were consistently completed by 6:40AM. Additionally, some groups of students were finishing as early as 6:15AM. Others were stopping to socialize during their work and yet were still able to complete all tasks with plenty of time remaining. This observational finding was supported by focus groups with the student monitors that supervise the cleaning process. On more than one occasion, the monitors discussed the possibility of adding new areas to the current cleaning process. Additionally, the supervising administrators often mentioned the cleaning period as being a "social hour" where students spend as much time socializing as they do cleaning. With this information taken into account, the current cleaning process was found to not be maximizing the productivity of the morning cleaning period.

Finding 2: The employment of students among tasks is unbalanced and inefficient

The distribution of manpower across the cleaning areas limited the efficiency of the cleaning process. It appeared to the team that many areas had too many students, while others did not have enough. For example, ten students consistently cleaned the set of small patios in fifteen minutes or less. In contrast, two students consistently required forty-five minutes to clean the

bathrooms. The quantitative results from the subsequent Personnel Distribution Survey (Appendix V) supported these qualitative observations. Specifically, the survey showed that the student monitors would prefer reorganized cleaning groups with changes to personnel distribution. This finding strengthened the team's impression that the current distribution of students was unbalanced and inefficient.

Finding 3: The cleaning methods used are inconsistent and generally inefficient

While observing the different student groups over multiple days, inconsistencies appeared in the cleaning methods used. These inconsistencies included the type of tools used, the order in which tasks were completed, and the physical techniques employed in the cleaning process. As a result, the final cleanliness of an area varied on a day-to-day basis. For example, students often cleaned gallery floors before cleaning the walls and roofs. Subsequently, dust and dirt fell onto the freshly-cleaned floors. As a result, the students either re-cleaned the floors or left them dirty until the next day.

Finding 4: There are inconsistencies in student knowledge of the plan

During the observation process, the students answered questions about their responsibilities in the cleaning process. While answers that dealt with the logistics of the cleaning process were generally consistent among students, answers that dealt with expectations and responsibilities varied considerably. For example, some students stated that roofs and walls were to be cleaned whenever visibly dirty, while others stated that this cleaning should take place every Tuesday. Similarly, some students stated that bathroom sinks and mirrors were to be cleaned every day, while others stated that they were instructed to do so only once per week. These student misunderstandings again led to inconsistencies in the final cleanliness of each area on a day-to-day basis.

Hotel Cerrito [this section is not yet complete]

Deliverables and Recommendations

In order to better explain the outcomes of this project, discussion of the project

deliverables has been divided into the two target areas of operation.

Morning Cleaning Process

Deliverable 1: Addition of new cleaning areas

Based on *Finding 1*, the team established four new areas, without adding additional time

to the cleaning process. This would help to maximize the productivity of the one hour of

dedicated cleaning each day. Both the student monitors and the teachers who supervise the

cleaning process suggested various areas to add to the process. In the end, based on feasibility

and potential benefit, the following areas were added: the church patio and lawn, behind the

female dormitories, behind the administrative offices, and general trash collection.

Deliverable 2: More efficient distribution of students among the cleaning areas

Based on *Finding 2*, it was determined that redistributing the students among the cleaning

areas would increase efficiency and productivity. This redistribution would increase the

likelihood that all areas would be effectively cleaned in approximately equal amounts of time.

Using the results of the observational studies and the surveys given to the student monitors, new

group assignments were established as shown in Appendix VII.

Deliverable 3: An organized checklist that defines the order of tasks

Based on *Finding 3* and *Finding 4*, student performance, efficiency, and consistency will

increase if students have an organized checklist that defines the order of tasks. With structured

guidelines for all students to follow, the final cleanliness level would be expected to increase

while its variability would decrease. Additionally, these guidelines would contain best practices

and the most effective ordering of tasks, ensuring that efficiency is optimized. With these goals

in mind, a new checklist was created as shown in Appendix VIII. This checklist was provided to

the student monitors for use in the daily cleaning.

Deliverable 4: Evaluation process to promote consistency

In order to ensure that the final cleanliness level of all areas was consistently high, the

new cleaning plan needed to include a method for evaluating both the cleaning process and the

ultimate cleanliness. Primarily, this would allow for the assessment of the new plan's

effectiveness. It would additionally provide a standard of cleanliness from which student work

could be continuously assessed, ensuring that levels of cleanliness would remain high. In order

to accomplish these two goals, an evaluation chart was created as shown in Appendix VI. This

chart will now be used on a weekly basis to evaluate the morning cleaning and help to identify

any weaknesses that should be addressed.

With these needs and the findings regarding the current process in mind, a comprehensive

new process was implemented into the morning cleaning hour and reevaluated on a regular basis.

Evaluating the Implementation of the New Plan

Once the recommendations were implemented, the work areas were re-evaluated using

the rubric in Appendix VI. As seen in the tables, there was significant improvement in certain

work areas such as the church and behind the girl's dormitory. There were also areas, such as the

dormitories, where the standard of cleanliness did not change dramatically after implementation.

In order to get a full evaluation, both cleaning group A and cleaning group B were

evaluated to obtain a general trend of results. After observation of group A, it was noted that

there were too many students cleaning the small patios and not enough people collecting trash.

So two people were moved from the small patio to the trash and leaf collection group, before

plan was implemented with group B. This made the smaller patios less crowded and trash collection more efficient.

Also, while observing group B, it was noted that general services had completed a larger clean-up operation behind the secretary's office and girl's dormitories. This greatly improved the aesthetic appeal and allowed the students to include those areas in the morning cleaning routine. As seen in the evaluation charts, these two areas started off with a 0 before implementation of the new cleaning plan. After implementation, they improved to a 3.

However, other areas were not as well-improved. In fact, there were some inconsistencies between the cleaning processes of the two groups in certain areas. For example, the male bathrooms were cleaned on a level of 1 for group A but on a level of 2 for group B. Similarly, the student lounge was cleaned on a level of 2 for group B but was at a level of 3 for group A. These difference can be attributed to variations in student motivation and mindset. In fact, it is possible that these observation were made on days when the students were tired or had had a subpar day. Since these differences were not drastic, the new structure was not re-adjusted.

Recommendations for Further Improvements

Through the preliminary observations and analysis of the implemented results, further recommendations were developed that would allow the cleaning process to continually improve over time. First, the administrators at the school could gather together a "special operations" (or "special ops") team to take care of larger, immediate tasks. For example, on trash collection day, certain students may be selected, based on merit, out of their normal work areas in order to take the trash to the front of the school. These students could wear special hats or bandanas in order

to stand out from their other classmates. This could serve as incentive since the hard-working students get recognition as well as a change of pace from their normal routine.

Communication between the teachers, monitors, and students could also be improved. The monitors should be able to communicate any problem areas with the students and the teachers. A way that the students can directly communicate with teachers could be through a suggestions box. This box could be placed outside of the administrative office. If the students notice any problems or have any ideas on how to improve the cleaning, they would be able submit these anonymously. In order to make the process of submission and analysis of the comments easier, the students could indicate specific areas. This way, the teacher could contact the monitors and students that are solely responsible for that area to inform them of the suggestion.

The execution of the other recommendations made by the project team depends on the priorities of the administration, the assets of the school and the Fundacion, and the willingness of the school community to implement change. One area that could be greatly improved is the general trash area. Right now, the trash is being dumped in an uncontained area behind the general services building and accumulates throughout the week. If the school has enough resources to purchase a dumpster or similar piece of equipment, disposal could become much more organized and sanitary, protecting the students from associate health risks and preventing animal intrusions.

Another area that has the potential to greatly improve the efficiency of the cleaning process is increasing the tool inventory, possibly through purchases. An inventory of the tools available for used during the morning cleaning was taken, as seen in Appendix IX. This number was cross referenced to the number of tools that would be required if the new plan was

implemented permanently (Appendix IX). More tools are necessary in order for all the students to have the appropriate amount for their specific tasks. If the school obtained more tools, it can train the students in tool maintenance preventing further inventory issues in the future. Monitors can also be assigned to keep track of any missing or broken tools that need to be replaced.

Essentially, these recommendations should help improve the cleaning process immediately and over time. However, some of these recommendations may not be feasible or desirable for the school at the current moment due to financial concerns. The suggestions that do not require money such as the special ops team and the improvement of communication are practical for the school and can be implemented without much difficulty, if the school so chooses.

Hotel Cerrito [this section is not yet complete]

Conclusion [this section is not yet complete]

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Appendix I: Existing Morning Cleaning Documentation

- ❖ Monitor guidelines
- ❏ Task not completed
- ● Task inconsistently completed
- ★ Task always completed

Monitores de la limpieza de la mañana
Características:
- ❖ Estar de guardia en la semana
- ❖ Capacidad de organización
- ❖ Sentido de responsabilidad
- ❖ Desarrollo de iniciativa
- ❖ Proactivo
- ❖ Capacidad de dialogo y delegación de tareas
- ❖ Capacidad de evaluar al compañero
- ❖ Demonstrar conocimiento respecto al que hacer para enseñar al compañero
- ❖ Visión panorámica
- ❖ Asumir el rol de monitor siendo líder positivo y no abusivo.
- ❖ Capacidad de informar a sus superiores del desarrollo de las actividades de rutina y situaciones extraordinarias

Funciones
- ❖ Supervisar que la limpieza se haga correctamente y la optimización del tiempo
- ❖ Control del depósito de elementos de limpieza, el buen uso de los mismos y su retorno
- ❖ Apoyar al jefe de guardia de la levantada, informando si algún compañero está enfermo, o por quedarse dormido
- ❖ Organizar la limpieza de la escuela los sábados y los domingos

PREDIO DE LA ESCUELA
- ★ Barrida general de patios central, octógono, camino a académico, canaletas, patio de iglesia y escalinata.
- ★ Recolección de basura orgánica e inorgánica de todos los basureros en zona de dormitorios, aulas, patios.
- ★ Vaciar basureros de todas las zonas.
- ❏ Corpir por zona
- ❏ Sacar yuyos de camineros pisos
- ★ Escobillar por sector:
  Patio central
  Atrás de dormitorios A
  Patios de C y B

ZONA DE AULAS
- ● Limpieza de techos, paredes, puertas, ventanas, pupitres, sillas, estantes, pizarras y escritorios.
- ❏ Limpieza de baño, retirar papel, reponer si hace falta papel y jabón
- ★ Barrer y tirar los papelitos en el basurero
- ★ Ordenar y sacudir los muebles
- ★ Repasar con agua limpia y lavandia
- ❏ Limpiar la biblioteca (sacudir, ordenar, barrer, repasar)

PARA DORMITORIOS Y PASILLOS
- ● Limpiar telas de arañas de las paredes, puertas, ventanas, esquina y techos
- ● Limpiar marcos de puertas y ventanas de polvo u otra suciedad
- ● Limpiar vidrios con limpia vidrios, hoja de diario o agua con vinagre
- ★ Barrer debajo de las camas y casilleros
- ❏ Retirar chicles del piso
- ★ Repasar el piso con agua limpia y lavandina
- ❏ Baldear el piso por lo menos cada fin semana
- ★ Limpiar de yuyos y papelitos la galería de ladrillo
- ★ Limpiar las canaletas frente a los dormitorios.

ARREGLO DE CAMAS Y ORDEN EN DORMITORIOS
Tendido de camas
- ★ Tender las sábanas
- ★ Meter los colgantes bajo el colchón estirando bien la sábana
- ★ Doblar la frazada o manta y tender sobre la cama o poner sobre la almohada
- ★ Cubrir la cama con la colcha o cubre cama institucional.
- ❏ Se deben cambiar 1 vez por semana las sábanas, toallas, fundas
- ❏ Al menos 1 vez al año se deben lavar las mantas
- ❏ Se deben desinfectar los colchones o sacar al SOL al menos 1 vez al mes.

BAÑOS	Orden
★ Retirar los papeles de baños en bolsa, depositar en el depósito de basura ● Limpiar con esponja o un material rugoso embebido con detergente y lavandina o ácidos los azulejos, lavatorios, piletas, mingitorios e inodoros. Los inodoros se lavan las partes interno y externo con cepillito. ★ Lavar las papeleras ❏ Limpiar los espejos con hojas de diario húmedo ❏ Limpiar los techos por lo menos una vez a la semana ★ Repasar el piso con agua limpia y dejar bien seco.	❏ Guardar las ropas en los casilleros bien doblados ❏ Las ropas y zapatos de trabajo se deben dejar en los lavaderos ★ Los zapatos se dejan bajo las camas en forma ordenada. ❏ Las toallas se deben colgar fuera de los dormitorios ❏ Las ropas mojadas se deben tender en el tendedero ❏ Los bolsos o maletas deben estar ordenados encima de los casilleros ❏ Las herramientas se deben guardar en sus depósitos y bajo las camas ❏ Se deben respetar los horarios de ingreso en los dormitorios.

Appendix II: Example room cleaning procedures

Example general room cleaning procedure (Plattsburgh, 2009, p. 79)
<u>Procedure</u>

1) Put on Personal Protective Equipment
2) Gather supplies
3) Inspect equipment for any necessary repairs
4) Fill pail with general cleaner
5) Fill Mop Pail with floor cleaner (at correct dilution) if cleaning hard floors
6) Place Wet Floor Sign by door if floor is to be mopped
7) Move furniture as necessary to accomplish cleaning
8) Remove trash
9) Set up ladder making sure it is steady
10) Starting at ceiling level – clean light fixtures (replace bulbs if necessary)
11) Dust all high areas
12) Wash windows
13) Dust all furniture
14) Sweep or dust mop hard floors
15) Dispose of dirt and debris collected from sweeping or dust mopping
16) Mop hard floors
17) Vacuum Carpets
18) Empty mop pail and rinse mop
19) Replace vacuum bag if necessary
20) Return all supplies/equipment used to their proper areas
21) Wash rags
22) Dispose of gloves properly
23) Wash hands thoroughly

Example restroom cleaning procedure (Plattsburgh, 2009, p. 267 - 268)
<u>Procedure:</u>

1) Put on Personal Protective Equipment
2) Gather all supplies
3) Put wet floor sign by entrance door
4) Dust all high areas (partition tops, lights, door tops, etc.)
5) Sweep floor
6) Spray disinfectant on all contact surfaces (sinks, toilets, etc.). Let disinfectant dwell at least ten minutes.
7) Remove all trash
8) Replace soap and paper products
9) Wash mirrors and door handles
10) Clean sinks
11) Clean toilets
12) Mop floor with disinfectant
13) Rinse mop thoroughly with clean water
14) Empty mop pail
15) Rinse mop pail thoroughly with clean water
16) Return all supplies/equipment used to their proper areas
17) Properly dispose of gloves
18) Wash hands thoroughly

Appendix III: Example front desk service standards (American Automobile Association, 2012, p. 32)

4...Bell Services (Check In)

- Attendant extends an appropriate greeting
- Attendant uses guest's name as appropriate for the manner of the guest
- Attendant takes the initiative in providing information about all facilities
- Attendant anticipates guest's needs or offers a personalized recommendation
- Attendant exhibits a sincere desire and compliance to all guest requests
- Attendant places luggage on luggage stand or in appropriate area
- Attendant explains features and functions of room
- Attendant offers to fill ice bucket
- Attendant is efficient and sensitive to the manner of the guest
- Attendant extends an appropriate closing
- The guest feels well served

Appendix IV: Interview and Focus Group Questions

Interview questions for Director of Student Life and Morning Cleaning Supervisor
1) Is there a written plan for the current cleaning process?
2) How many students participate in the morning cleaning everyday?
    a) How is this decided/assigned?
    b) How many students are assigned to each area?
3) How many monitors are there?
4) How do students learn the cleaning process?
5) Are you aware of any areas that need improvement?
6) Have there been any changes in the cleaning process in the past?
7) What would be the best way to implement changes?

Focus group questions for morning cleaning monitors
1) What area do you each work in?
2) How many students work in your area?
3) What steps go into cleaning your area?
4) Which tasks are the most difficult?
5) Which tasks are the most time consuming?
6) How long does it take to clean your area?
7) Are there things that can be improved upon?
8) Do you have any suggestions for additions or changes to the process?
9) Do you think the time is used efficiently?

Interview questions for Hotel Managers
1) How many students work at the hotel?
2) How are they divided?
3) What are the different operations at the hotel?
4) Which areas of the hotel do you feel need improvement?
5) Do you have statistics for the comedor? Generally, how many people eat there for breakfast, lunch, dinner?
6) What is the official way for guests to request a meal?
7) What does a meal include for a guest (meal, drink, sides)?
8) Is there a lists of task for preparing a meal, setting up the table, service, etc?
9) How frequently is the comedor cleaned?
10) What is the schedule of guests for this week? (4/4/2016)
11) How often are the rooms that are not occupied cleaned?
12) If the guests are not in their room, is there a cleaning process for occupied rooms?
13) Is there a list of tasks that the students already have for the cleaning?
14) For general and everyday cleaning, how many students clean the different parts of the hotel?
15) How many students clean each bedroom?
16) Do you have statistics for the hotel? How many people stay each year?

17) What are the current processes for:
    a) Answering phone calls?
    b) Managing reservations?
    c) Handling meal requests?
    d) Laundry service?
    e) Managing purchases at the lobby store?

18) How do students learn these processes?

19) What is covered in the tourism class?

20) Are there regular staff meetings?
    a) How often?
    b) What is discussed in these meetings?

Focus group questions for the hotel monitors
1) What area(s) do you work in?
2) What are your main responsibilities?
3) What are the main tasks of your area?
4) How did you learn to do these tasks?
5) Which tasks are most difficult?
6) Which tasks are most time consuming?
7) Are there areas that need improvement?
8) Do you have suggestions for any changes to your work area?
    a) The hotel in general?
9) Are you happy with the current processes for:
    a) Record management?
    b) Store management?
    c) Reservations?

Appendix V: Personnel Distribution Survey Results

Group	Area(s) to be cleaned	Survey 1	Survey 2	Survey 3	Survey Average	Initial Estimate
1	2 large bedrooms (male) and surrounding galleries	4	6	4	5	6
2	5 small bedrooms (male) and surrounding galleries	5	6	5	5	6
3	First year female bedroom and surrounding galleries	3	3	3	3	3
4	Second year female bedroom and surrounding galleries	3	3	3	3	3
5	Third year female bedroom and surrounding galleries	3	3	3	3	3
6	Bathrooms (male) and surrounding galleries	8	9	8	8	12
7	Bathrooms (female), locker rooms (female), and surrounding galleries	3	7	8	6	8
8	Classrooms and surrounding galleries	10	9	10	10	6
9	Small patios and leaf pile collection	8	10	8	9	6
10	Central patio and church area	10	12	10	11	12
11	Behind administrative office and behind female dorms	6	2	6	5	6
12	Student lounge and surrounding galleries	8	6	6	7	2
13	Trash collection	5	4	4	4	6

Appendix VI: Evaluation Rubric and Results

Key for the Evaluation Rubric

0: This area was never cleaned.
1: This area was cleaned unacceptably; a major part of the area was not cleaned adequately; a major part of the area was not cleaned in the correct order.
2: This area was acceptably cleaned; the area was mostly clean; Most of the tasks were completed in the correct order.
3: This area was cleaned in a perfect manner; all of the tasks were completed and in the correct order.

Evaluation Results for Level of Cleanliness

Cleaning Areas	Before the changes	4/7/2016	4/14/2016
Large Male Bedroom 1 + Gallery	2	2	2
Large Male Bedroom 2 + Gallery	2	2	2
Small Male Bedroom 1 + Gallery	2	2	2
Small Male Bedroom 2 + Gallery	2	2	2
Small Male Bedroom 3 + Gallery	2	2	2
Small Male Bedroom 4 + Gallery	2	2	2
Small Male Bedroom 5 + Gallery	2	2	2
First Year Female Bedroom + Gallery	2	2	2
Second Year Female Bedroom + Gallery	2	2	2
Third Year Female Bedroom + Gallery	2	2	2
Male Bathroom 1 + Gallery	1	1	2
Male Bathroom 2 + Gallery	1	1	2
Male Bathroom 3 + Gallery	1	1	2
First & Second Year Female Bathroom, Lavandero + Gallery	2	2	2
Third Second Year Female Bathroom, Lavandero + Gallery	1	2	2
Classroom 1 + Gallery	2	2	2
Classroom 2 + Gallery	2	2	2
Classroom 3 + Gallery	2	2	2
Secretary's Office	2	2	2
Small Patio 1	2	3	3

Small Patio 2	2	3	3
Octagonal	2	3	3
Leaf Pile Collection	2	3	2
Central Patio	2	2	2
Behind Secretary Office	0	3	0
Behind Girl's Dormitory	0	3	3
Church Area	0	2	1
Student Lounge + Gallery	1	2	2
Trash Collection	2	3	2

Evaluation Results for the Process

Cleaning Areas	Before the changes	4/7/2016	4/14/2016
Large Male Bedroom 1 + Gallery	2	2	2
Large Male Bedroom 2 + Gallery	2	2	2
Small Male Bedroom 1 + Gallery	2	2	2
Small Male Bedroom 2 + Gallery	2	2	2
Small Male Bedroom 3 + Gallery	2	2	2
Small Male Bedroom 4 + Gallery	2	2	2
Small Male Bedroom 5 + Gallery	2	2	2
First Year Female Bedroom + Gallery	2	2	2
Second Year Female Bedroom + Gallery	2	2	2
Third Year Female Bedroom + Gallery	2	2	2
Male Bathroom 1 + Gallery	1	1	2
Male Bathroom 2 + Gallery	1	1	2
Male Bathroom 3 + Gallery	1	1	2
First & Second Year Female Bathroom, Lavandero + Gallery	1	2	2
Third Second Year Female Bathroom, Lavandero + Gallery	1	1	1
Classroom 1 + Gallery	1	2	2
Classroom 2 + Gallery	1	2	2
Classroom 3 + Gallery	1	2	2
Secretary's Office	2	2	2
Small Patio 1	2	2	3
Small Patio 2	2	2	3
Octagonal	1	2	3

Leaf Pile Collection	2	3	2
Central Patio	2	2	2
Behind Secretary Office	0	3	0
Behind Girl's Dormitory	0	3	3
Church Area	0	2	2
Student Lounge + Gallery	1	1	3
Trash Collection	2	3	3

Appendix VII: New Group Distributions

Group	Area(s) to be cleaned	Number of People Assigned	Distribution of people within area
1	2 large bedrooms (male) and surrounding galleries	6	3 people for each large bedroom
2	5 small bedrooms (male) and surrounding galleries	6	1-2 people for each small bedroom
3	First year female bedroom and surrounding galleries	2	N/A
4	Second year female bedroom and surrounding galleries	2	N/A
5	Third year female bedroom and surrounding galleries	2	N/A
6	Bathrooms (male) and surrounding galleries	12	3 people for each bathroom
7	Bathrooms (female), locker rooms (female), and surrounding galleries	8	4 people for each bathroom
8	Classrooms and surrounding galleries	6	2 people for each room
9	Small patios	4	N/A
10	Central patio and church area	12	8 people for the Central Patio 4 people for the church area
11	Behind administrative office and behind female dorms	6	4 people for each area
12	Student lounge and surrounding galleries	2	N/A
13	Trash collection and leaf pile collection	6	N/A

Appendix VIII: Organized Cleaning List

Bedrooms

1. Make the beds.
2. Organize personal items.
3. Check ceilings, fan and walls for dirt.
    a. If necessary, use a dry duster to clean off the dust.
4. Check the windows for dirt.
    a. If necessary to clean, use window cleaning solution and a rag to clean.
5. Check window stills, dresser surfaces, table surfaces, etc. for dirt.
    a. If necessary, use a duster to clean the surfaces and then wipe down with a wet rag.
6. Pick up large trash off the floor.
7. Sweep the floor using a broom from back of the room to the front, including under the beds.
8. Mop the floor using a mop and cleaning solution from front of the room to the back.
9. Pick up all the trash and put in the trash.
10. Take out trash.

Bedroom Galleries

1. Check the ceilings, walls, wall ornaments, etc. for dirt.
    a. If necessary use a duster to clean.
2. Sweep the galleria from back to front (wall of the dorm until edge of patio).
3. Mop the galleria using a mop and cleaning solution from back to front.
4. Pick up dust pile in one area and put in trash.
5. Take out trash.

Bathrooms

1. Clean walls and shower stalls using cleaning solution and a rag.
2. Clean toilets, sinks, mirrors, shower heads using cleaning solution and a rag.
    a. Use a new rag that was not used for the shower stalls – sanitary purposes.
3. Pick up large trash in all areas.
    a. Empty out the individual trash cans from each stall into larger trashcan.
4. Sweep the general floor area from back to front (not including stalls).
5. Mop the entire bathroom from back to front, including each stall using mop and cleaning solution.
6. Wash out individual trashcans and put back into respective stalls.
7. Pick up all trash into larger trashcan.
8. Take out the trash.

Bathroom & Shower Galleries

1. Check the ceilings, walls, wall ornaments, etc. for dirt.
    a. If necessary use a duster to clean.
2. Sweep the galleria from back to front (wall of the dorm until edge of patio).
3. Mop the galleria using a mop and cleaning solution from back to front.
4. Pick up dust pile in one area and put in trash.
5. Take out trash.

"Locker Room"

1. Organize personal items.
1. Check ceilings, fan and walls for dirt.
    a. If necessary, use a dry duster to clean off the dust.
2. Check the windows for dirt.
    a. If necessary to clean, use window cleaning solution and a rag to clean.
3. Check window stills, dresser surfaces, table surfaces, etc. for dirt.
    a. If necessary, use a duster to clean the surfaces and then wipe down with a wet rag.
4. Pick up large trash off the floor.
5. Sweep the floor using a broom from back of the room to the front, including under the beds.
6. Mop the floor using a mop and cleaning solution from front of the room to the back.
7. Pick up all the trash and put in the trash.

8. Take out trash.

Male Shower Stalls

1. Clean walls and shower stalls using cleaning solution and a rag.
2. Clean shower heads using cleaning solution and a rag.
3. Pick up large trash.
4. Mop the entire bathroom from back to front, including each available stall using mop and cleaning solution.
5. Pick up all trash into larger trashcan.
6. Take out the trash.

Classroom

1. Check ceilings, fan and walls for dirt.
   a. If necessary, use a dry duster to clean off the dust.
2. Check the windows for dirt.
   a. If necessary to clean, use window cleaning solution and a rag to clean.
3. Dust furniture surfaces using a duster and use a rag and cleaning solution to clean the surfaces.
4. Clean chalkboard using rag and water.
5. Put the chairs up on the tables and move the furniture out of the way for floor cleaning.
6. Pick up large trash off the floor.
7. Sweep the floor using a broom from back of the room to the front.
8. Mop the floor using a mop and cleaning solution from front of the room to the back.
9. Pick up all the trash and put in the trash.
10. Take out trash.
11. Put furniture back into place.

Classroom Galleria

1. Check the ceilings, walls, wall ornaments, etc. for dirt.
   a. If necessary use a duster to clean.
2. Sweep the galleria from back to front.
3. Mop the galleria using a mop and cleaning solution from back to front.
4. Pick up dust pile in one area and put in trash.
5. Take out trash.

Small Patios

1. Pick up large trash.
2. If hard surface, use a broom to clean.
   If grass, use a rake to clean.
3. Take out trash.
4. Take out trash to respective place.
   a. Organic: Put leaves in the compost pile.
      i. Separate out eucalyptus leaves into their own compost pile.
   b. Inorganic: Throw away bags.

Central Patio

1. Pick up large trash.
2. If hard surface, use a broom to clean.
   If grass, use a rake to clean.
3. Remove weeds from edges of the patio.
4. Take out trash.
5. Take out trash to respective place.
   a. Organic: Put leaves in the compost pile.
      i. Separate out eucalyptus leaves into their own compost pile.
   b. Inorganic: Throw away bags.

Behind Administrative Office

1. Pick up large trash.
2. If hard surface, use a broom to clean.
   If grass, use a rake to clean.

3. Remove weeds from edges of the patio.
4. Take out trash.
5. Take out trash to respective place.
    a. Organic: Put leaves in the compost pile.
        i. Separate out eucalyptus leaves into their own compost pile.
    b. Inorganic: Throw away bags.

Behind Girls Dorm

1. Pick up large trash.
2. If hard surface, use a broom to clean.
   If grass, use a rake to clean.
3. Remove weeds from edges of the patio.
4. Take out trash.
5. Take out trash to respective place.
    a. Organic: Put leaves in the compost pile.
        i. Separate out eucalyptus leaves into their own compost pile.
    b. Inorganic: Throw away bags.

Student Lounge

1. Check ceilings, fan and walls for dirt.
    a. If necessary, use a dry duster to clean off the dust.
2. Check the windows for dirt.
    a. If necessary to clean, use window cleaning solution and a rag to clean.
3. Check window stills, dresser surfaces, table surfaces, etc. for dirt.
    a. If necessary, use a duster to clean the surfaces and then wipe down with a wet rag.
4. Pick up large trash off the floor.
5. Sweep the floor using a broom from back of the room to the front, including under the beds.
6. Mop the floor using a mop and cleaning solution from front of the room to the back.
7. Pick up all the trash and put in the trash.
8. Take out trash.

Trash Collection

1. Collect trash.
2. Put away in trash area.
3. Maintain organization of trash area.

Leaf Collection

1. Collect leaves.
2. Put leaves in appropriate compost.
    a. Separate eucalyptus leaves from other leaves.

Church Area

1. Sweep staircase and gallery.
2. For patio:
    a. If hard surface, use a broom to clean.
    b. If grass, use a rake to clean.
3. Remove weeds from edges of the patio.
4. Take out trash.
5. Take out trash to respective place.
    a. Organic: Put leaves in the compost pile.
        i. Separate out eucalyptus leaves into their own compost pile.
    b. Inorganic: Throw away bags.

Semi-Weekly Cleaning
    Mondays & Thursday: Windows, walls, wall ornaments, ceilings, fans
    Tuesdays: Statues and seals
    Wednesday: Weeds

Appendix IX: Tool Inventory

Inventory Item	Current	Needed
Rakes	11	22
Squeegees	29	20
Buckets	15	16
Rags	15	25
Brooms	14	21
Tarps	2	4