

FOOD INSECURITY: A MARKETING PLAN FOR FOOD GARDENS AT TEXAS  
STATE UNIVERSITY

by

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## **ABSTRACT**

Imagine you looked in your bank account and had \$12 and no food in your home. You are not getting paid for another week. What do you do for meals? The United States Department of Agriculture defines food security as “access by all people at all times to enough food for an active, healthy life” (USDA). Currently, college students are suffering from food insecurity and colleges such as Texas State University are not doing enough to help them. Food pantries have limited hours, hoops to jump through, and provide inconsistent and random items. Yet college campuses do nothing to fix the issue of food insecurity for their students and continue to let individuals skip and ration meals. According to The Hope Center’s latest survey conducted at the end of 2020, over one-fourth of four-year college students in the United States report recently having experienced food insecurity.

What can colleges do to help their students overcome food insecurity? What is working at other large campuses and how can we implement these practices at Texas State University? If colleges continue to let their students suffer from food insecurity, a population of individuals will continue to suffer from a lack of food and nutrition. This leads to diminished sleep and overall health, thus resulting in worsening grades and overall performance.

I am proposing to implement Texas State Food Gardens; an inclusive gardening program that would address food insecurity on campus. This marketing plan would allow anyone affiliated with Texas State to be able to take whatever they needed. These gardens would also provide organic food to the campus food pantry for students to have easy access.

## **I. Introduction**

Food insecurity is faced by many people in the US and even on college campuses. This paper creates a marketing plan to start campus gardens at Texas State University that helps students and faculty suffering from food insecurity. I created a service design that will help those who are facing food insecurity because no matter who you are, you have the right to healthy food. To help overcome the issues that students and faculty may face regarding food insecurity, I developed a marketing plan to implement gardens around the Texas State campus.

These food gardens will utilize hydroponics in buildings that have the most student traffic, such as McCoy College of Business, Ingram Hall of Engineering, Flowers Hall, LBJ Student Center, Recreational Center, and Alkek Student Library. For the gardening beds, this plan repurposes several plots of campus landscaping and plants diverse types of vegetables and fruits that everyone will have access to when walking on campus. These will be primarily located around the middle of campus such as the LBJ mall and the quad. This is to make sure that these options are spread out and in areas where students and faculty travel most often to ensure that everyone has easy access and a quick opportunity to eat healthy food.

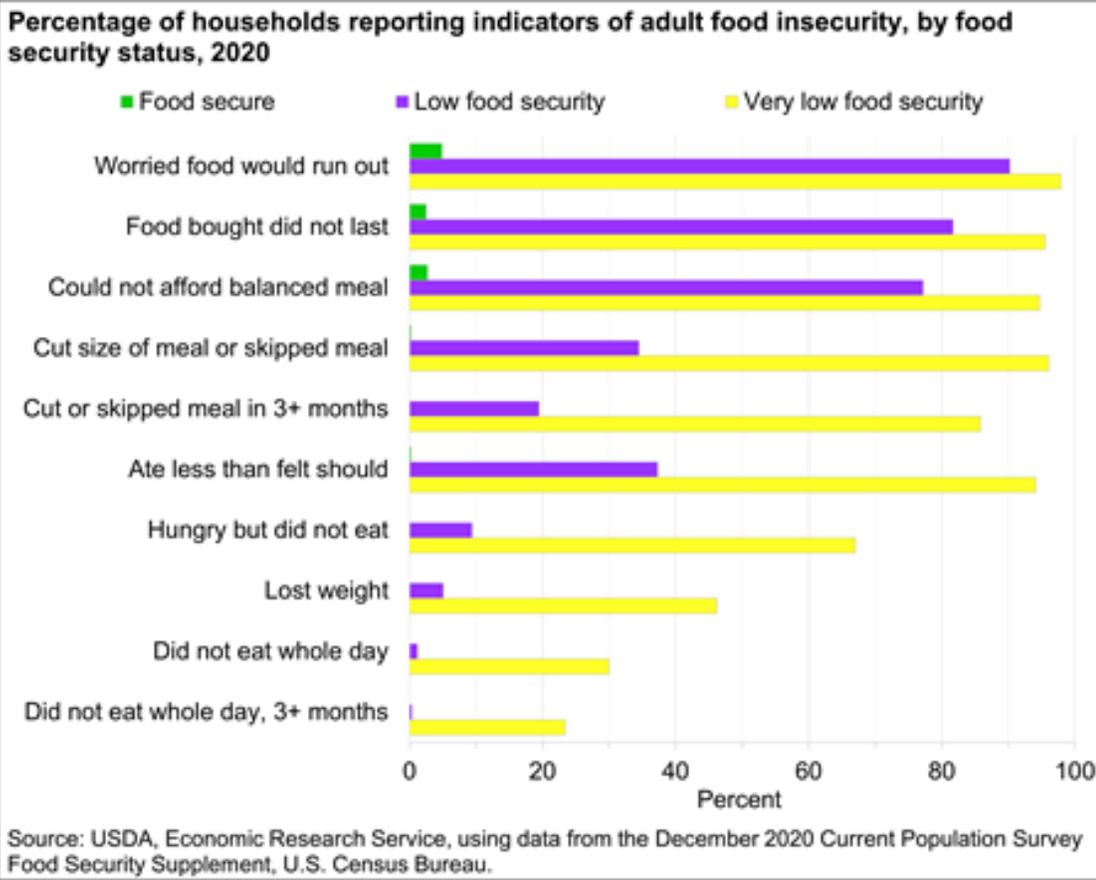
This paper begins by discussing the implementation of gardens at Texas State University to help those suffering from food insecurity. It will then talk about the current food insecurity situation across the US as well as college campuses. The paper will then describe what Texas State University currently has in place to help those suffering from food insecurity and show why it is not effective enough. Next, the paper will present three university case studies that exemplify what I would like to implement at Texas State University. Lastly, the paper will propose a marketing plan for food gardens that can be

implemented at Texas State University, which will improve the current food situation for those suffering from food insecurity. This paper concludes with recommendations for the next steps to be taken to ensure ideal outcomes for those experiencing food insecurity on campus.

## **II. Review of Food Insecurity Literature**

### ***Food Insecurity in the US***

The United States Department of Agriculture defines food security as “access by all people at all times to enough food for an active, healthy life” (USDA). A branch of the USDA is the Economic Research Service (ERS) which leads the research on food security in the United States. There is a range of food security: high food security, marginal food security, low food security, and very low food security. This paper focuses on the two that fall into food insecurity. Low food security is food insecurity without hunger which involves lower quality and undesirable foods. Very low food security is food insecurity with hunger which involves inconsistent eating patterns and diminished food intake (USDA). Below is a chart from the Committee on National Statistics (CNSTAT) showing households with very low food security, low food security, and food security:



As you can see, the numbers are drastically different. Over 95% of households that have very low food security said yes to five of these categories. There are children in these homes that are lacking critical nutrients because their families cannot afford balanced meals.

Food insecurity consists of three pillars, each growing in importance: utilization, access, and availability (Barrett). Utilization refers to making nutritional purchasing decisions and safely prepared food that is sanitary. Access, however, is about whether people have the financial means and resources to purchase these items for consistent meals, let alone healthy meal options. Advances in the agricultural sector have made it possible for most of us to have the foods we want available at the stores we shop at. This

can include strawberries out of season, avocados from a different country, and mutated hybrid plants that can withstand all types of climates (Barrett).

### ***Food Insecurity on American College Campuses***

Unfortunately, food insecurity is much more common among college students than many realize. According to The Hope Center's latest survey conducted at the end of 2020, over one-fourth of four-year college students in the United States (29%) report recently having experienced food insecurity and this number is even greater amongst 2-year students (38%) (Food Insecurity on College Campuses: The Invisible Epidemic). These numbers mean that in a class of 30 students, at least 9 of them might not know when, or if, they will eat that day.

Even with the outrageous number of students going without food, "only 14% of college and university presidents ranked food insecurity in their top five concerns for their school" (Food Insecurity in College: Fighting Student Hunger on Campus 2021). College students are at a higher risk of being food insecure and those in charge should be more concerned and ready to help. Minorities such as Black and Hispanic students as well as LGBTQ+ students are twice as likely to experience food insecurity when compared to white students and non-LGBTQ+ students. Further, 56% of first-generation students report experiencing food insecurity, and up to 75% of nontraditional students can face some level of food insecurity (Food Insecurity in College: Fighting Student Hunger on Campus 2021).

Food insecurity is a contributing cause of lower educational attainment. Those suffering from food insecurity are about half as likely to graduate college than students who are not. In addition to lower academic performance, students who are food insecure

are “more likely to develop serious mental health issues” such as anxiety, depression, and lower self-esteem (Food Insecurity in College: Fighting Student Hunger on Campus 2021). Since food insecurity is a widespread issue that impacts millions of students, it urgently needs to be addressed by colleges.

### **III. Food Services at Texas State University for Food Insecurity**

Currently, hundreds of college students at Texas State University (Texas State) face food insecurity or low food security. Texas State has a program called Bobcat Bounty that started in 2017. This is an on-campus food pantry that is student-run. Those looking to use Bobcat Bounty must first fill out an eligibility form to be able to pick up food items from the pantry. The form requires that you “have a household income at or below the 185% of the Federal Poverty Line” (and includes a chart), or “someone in the household participates in” SNAP, TANF, SSI, NSLP, and/or Medicaid. Due to the COVID-19 pandemic, Bobcat Bounty also included that people can be approved for a six-month period if they “have a temporary crisis need (loss of income, increase in bills, medical emergency, etc.).” Also due to COVID, Bobcat Bounty no longer requires documentation to prove that you are eligible to receive help and free food from the pantry (Bobcat Bounty).

The weakness of Bobcat Bounty is that the pantry only takes place once a week on Thursdays for a two-hour period from 5 pm to 7 pm in the Family and Consumer Science (FCS) building (Bobcat Bounty). This time frame is very restrictive for most students who would benefit from free food. The location is also not ideal. Many students at Texas State rely on the bus or walking for transportation and the FCS is not in a high-traffic area. This means that people who need the food must go out of their way to get there and then lug the groceries back. Food pantries in general are also notoriously known for the randomness in the food items they provide, items may even be expired when donated. If the food that customers receive cannot help to feed them, then what good is the pantry doing? Yes, eating a bag of chips and a can of beans is better than nothing, but by how much? Another weakness is that not all college students receive help

from their families. Students may need help, but do not fit into any of the eligibility categories required by Bobcat Bounty because their household income still legally includes their parent's financials, even though the student does not receive any of that money. These students who are food insecure face the possibility of skipping school to work longer hours to earn money. When facing food insecurity, people must do what is best for them to survive, and school is often not a priority.

While some students at Texas State University are getting the help and food they need, others are slipping through the cracks and still going to bed hungry. Yes, Bobcat Bounty is an amazing program that helps countless numbers of people, but food gardens can help even more. There are still people suffering from food insecurity, and a campus garden being available for everyone at Texas State University would catch the people falling through the cracks, thus providing the help and food they need. These gardens will also serve as a preventative measure to ensure that people get fed before they resort to skipping meals or class.

#### **IV. Food Garden Case Studies**

When looking for gardens to use in this case study, it was crucial that there were some similarities between the case study school and Texas State University (TXST). The core requirements under consideration included a similar student population, being classified as a public school or state university, and a similar campus size. The student population at TXST's San Marcos campus is 33,175 and the campus size is 507 acres (US News Best Colleges 2021c). There was also a focus on TXST being able to learn from the gardening practices these case study schools had in place. For these reasons, the three food garden case studies are from Pennsylvania State University, The University of Georgia, and Portland State University.

##### ***Pennsylvania State University- Dr. Keiko Miwa Ross Student Farm***

The first of my case studies is Pennsylvania State University (Penn State). Penn State has a student population slightly larger than 40,000 at its main University Park campus location (Admission Statistics 2022). Their top enrollment programs are Engineering, Liberal Arts, and Business (Student Enrollment 2022). Penn State University Park has 5,617-acres and is located on the edge of a large city but is said to be more of a college town (College Data 2021).

Penn State has a 4-acre farm, hydroponic greenhouse, rooftop garden, and a pocket garden (Student Farm at Penn State 2021). This allows them to grow in the middle of campus and have a secondary location. The hydroponic greenhouse produces food to be sold to campus dining halls. The rooftop and pocket garden grows food harvested and donated to their campus food pantry for students. For Fall 2022, the student farm at Penn State has an event called "Cooking Collabs" planned, where students will be taught

“about creative and sustainable cooking” (Student Farm at Penn State 2022). They also host a Harvest Fest every year that includes food samples of fresh seasonal crops and multiple chances to participate in planting and gardening. The farm puts on a wide variety of events throughout the year to get all Penn State students involved through art, music, and other fun activities.

The student farm at Penn State has a slew of community partnerships. Pennsylvania has a State College Food Bank that Penn State partners with for a community harvest project. This event harvests “surplus produce from area farms and distributes it to food pantries and other emergency food providers” across their local county (Student Farm at Penn State 2019). The Lion's Pantry is Penn State’s official student food pantry on campus. The pantry only requires a valid Penn State University ID to access the pantry and is open every weekday with different hours every day of the week. Penn State also offers Cub Pantries located at 11 locations on campus. These locations “ensure food is even more accessible to students” and are open during building hours (The Lion’s Pantry 2021).

These gardens are managed by a combination of groups that include a paid farm manager/educator, Student Farm Club, Student Farm interns, volunteers, farm crew members (paid seasonal position), a steering committee, and four subcommittees co-chaired by students and staff (Hyslop 2015).

### ***University of Georgia- UGArden Club***

The University of Georgia (UGA) is in the center of Athens, Georgia, which is a large city of 3.6 million people. They have a full-time student population of 29,765 (Univ Stats 2021a). UGA’s main campus in Athens is 605 acres (Bulletin Archives UGA). The

University of Georgia has top enrollment programs in journalism and communication, engineering, and business (Univ Stats 2021b).

UGArden started in 2010 with funding from the Horticulture Department. They offer multiple courses ranging from internships to entrepreneurship to upper-level organic and sustainable food production (UGArden 2022a). The University of Georgia's garden, UGArden, shares the food they grow "with members of the local community who are facing food insecurity" (UGArden 2022b). UGArden has a partnership with the University of Georgia's Office of Service-Learning "to grow solutions addressing food insecurity and food waste through project-based learning activities, particularly through school gardens, cafeteria composting/food recovery, agriscience, culinary arts, and more" (Service Learning UGA 2022).

The University of Georgia does not sell most of their produce. This is because they are focused on helping those who struggle with food insecurity in the community. However, the UGArden does not donate their harvest to the university's food pantry (UGA Student Food Pantry 2014).

The University of Georgia has a Campus Kitchen. This is a program through the Office of Service-Learning that is student run. Campus Kitchen runs a weekly event where student volunteers create meals out of unused foods from grocery stores and farms. The meals and leftover groceries are redistributed to older adults in the city of Athens, Georgia (The Campus Kitchen at the University of Georgia (2016a). The Campus Kitchen was recently awarded a grant that allowed them to build a food trailer. This allows them to move around and diversify the people they are helping. They use food that is donated to them from local restaurants, stores, and the UGArden to cook meals to give out for free or inexpensively (The Campus Kitchen at the University of Georgia 2016b).

The UGArden donated to Campus Kitchen weekly. UGArden also teams up with a handful of elderly food donation locations in the area around their campus and “volunteers get a chance to sell some of the garden’s produce in onsite farmers markets” (UGA Research 2022). The UGArden involves “students, UGArden Club members, interns, Farm Manager, AmeriCorps Volunteers, Master Gardeners, student workers, and faculty” (UGArden 2022b). The garden “relies on public donations to cover the costs of seed, fertilizer, plants, and other supplies” as well as hundreds of volunteers that come out weekly to help (UGA Research 2022).

### ***Portland State University***

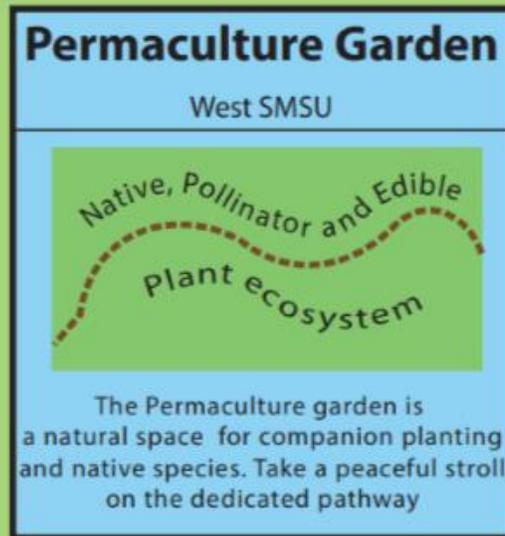
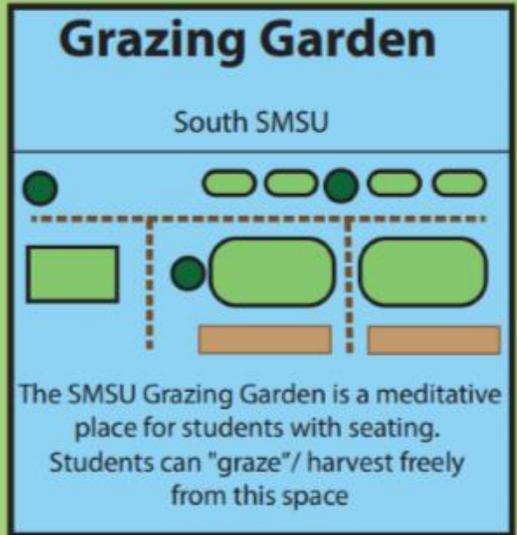
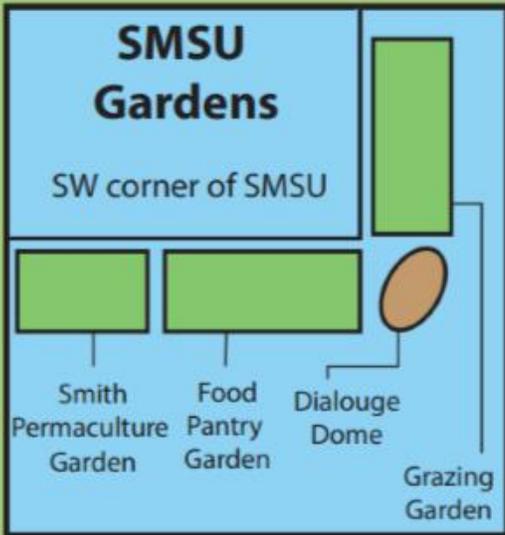
Portland State University (PSU) is in the center of Portland, Oregon. They have a student population of 23,640 and a campus size of 50 acres (US News Best Colleges 2021a). PSU has top enrollment for Business, Social Sciences, and Health Professions (US News Best Colleges 2021b).

Portland State University has a couple of gardens located throughout its campus with a variety of different purposes. Most of their gardens are dedicated to native vegetation. The Portland State Community Orchard “functions as a food forest, with over 30 fruit tree species... and multiple layers of plants and edibles such as: ground cover, shrubs, fruit trees, and vines” (Portland State University Campus Gardens 2015a). The Orchard is 1/8<sup>th</sup> acre and managed by the Residence Hall Association under the Student Sustainability Center. Another type of PSU student garden is the Smith Memorial Student Union Grazing Gardens. Students are allowed to “harvest freely” from this garden at any time (Portland State University Campus Gardens 2015a). Lastly, PSU has a Food Pantry

Garden. This garden consists of 12 garden boxes where all the produce grown is solely donated to the food pantry on campus at PSU.

In addition to the gardens and the food pantry, Portland State University offers Emergency Meal Vouchers to help students who are in a tight financial situation and working on getting access to long-term solutions. These vouchers last up to a week and can be used at a campus dining hall (Portland State University 2022). Portland State University Campus Gardens do not sell the produce that they grow. PSU also has a rooftop garden for students to grow and use native plants for medicinal and cultural purposes.

All produce from the orchard and the food pantry garden is donated to the Portland State University food pantry for all students to access (Portland State University Campus Gardens 2015a). The gardens are maintained by “an hourly student employee, the Garden Coordinator, who is supported by the Garden Leadership fellow, much like an intern, and a team of volunteers, called the Garden Task Force” (Portland State University Campus Gardens 2015a).



## **V. Marketing Plan for Texas State University Food Gardens**

### ***Introduction***

Texas State Gardens is designed to help students who are suffering from food insecurity by providing them easy access to free, healthy foods. Students who are not getting the proper nutrients suffer in all aspects of their life and Texas State Gardens can step in to stop the cycle. This marketing plan will provide Texas State University with the knowledge for taking the necessary steps to implement food gardens that give back to all students on campus.

### ***Relationship needs analysis***

Once a student realizes that their finances are low and they need to eat, the student will start to think about where their next meal is coming from. While students may be fine eating anything cheap that is labeled as food, what do the students at Texas State University need? TXST students need fresh food, a variety of food, high availability, and support.

Students need more than just ramen and frozen meals. The human body needs nutrition to function properly, nutrition that comes from fruits and vegetables that keep the body nourished and energized for longer. However, no one can eat the same foods every day forever, everyone needs a variety of options. This is both for preferences as well as being able to meet individual needs. Some students might have allergies or dietary restrictions that keep them from consuming certain foods.

Everyone has a different lifestyle with different schedules, so students will also need the food available when they need it and where they can easily acquire the food. Availability includes both location and time. Regarding time availability, most students

have part-time jobs that take up most of their free time outside of class. Students might go straight from classes to work or vice versa, leaving little to no room for healthy food. TXST is a large campus, and it is impossible to get inside any building without having to walk at least a few hundred feet. Students travel to and from the campus through the bus system, in their own car, on foot, or by someone picking them up.

Lastly, all students need support. This can be provided financially or emotionally in these situations. Obviously, food insecurity within college campuses can be reduced if students were to have additional financial support. Students in these situations facing food insecurity are at higher risk of mental health illnesses. They could potentially already be facing mental health issues when they come to college and not be able to find the time or energy to utilize free TXST resources while they are struggling to feed themselves and pay rent.

### *Situation Analysis*

#### *Proposed Texas State Service*

As discussed earlier, Texas State currently has a food pantry to help students who might need assistance. This pantry is completely student-run and helps hundreds of students every semester. Every week students utilizing this pantry can get a diverse number of items. For many students, any food is better than no food at all. Rather than going starving or having to skip meals, Bobcat Bounty is the only free food option for students at Texas State who are struggling.

However, there are always more students that need help. Something that Bobcat Bounty could improve upon is its availability. Being open for two hours a week is not enough to help all the students at TXST. But the responsibility should not fall onto just

one group to help all students. Texas State University needs to do more to help students who come from lower-income households before they even get to the point of needing a food pantry.

### ***Possible Collaborators***

Like the three universities in my case studies, the TXST gardens would build and utilize a community of students, faculty, volunteers, and others who want to help. There is already a Food Security Learning Community, The Office of Sustainability, a food pantry, and multiple agriculture courses that use garden plots on campus. The goal is simply to further the use and purpose of these resources. To have a successful and long-lasting food garden at Texas State University, there would have to be job positions fully dedicated to the upkeep and management of the gardens. This would ensure that there is always someone taking care of the garden outside of the long semesters. This role would also make the schedule for watering, weeding, fertilizing, and any other necessary actions. This schedule could be maintained by specific agriculture courses, campus organizations that want to help and get involved, and volunteers.

Additionally, there could be volunteer opportunities specifically for student organizations on campus. This would not only add more helping hands to the gardens, but it would also spread awareness of the gardens and resources to students throughout TXST. Bobcat Bounty gets most of its items from the Hays County Food Bank (Overview: Bobcat Bounty 2018). This partnership has significantly benefited TXST and its students since the opening of Bobcat Bounty in 2017.

### ***Possible Competitors***

Texas State University is in San Marcos, Texas which is a lower socioeconomic city. San Marcos currently has plots of land that individuals or groups can rent and grow produce if they want to. The San Marcos Neighborhood Gardens has two locations, the Dunbar Garden has 21 leased plots, two of which are “dedicated to growing food for the local Food Bank” (SMNG + FOOD 2011). The other location is the Alamo Garden which has 19 leased plots and two plots for the Food Bank. These gardens demonstrate what I would like Texas State to have by dedicating produce from plots of land to food banks. However, these gardens charge up to \$110 to rent the plot for a year (SMNG + FOOD 2011). While this might be less expensive for a group of friends to split, these plots are targeted to help families in the community. Families might not have the resources to pay \$110 to grow their own organic produce.

### ***Relevant Technology Trends***

Agricultural technology has advanced to grow anything from anywhere at any time of the year. We can have strawberries and other favorites out of their natural season. Hydroponics are an example of agricultural technology. Hydroponics can be as rudimentary or as advanced as the user desires. Homemade hydroponics can be so simple they do not use electricity or any mechanisms. Other hydroponic options can cost thousands of dollars but require less maintenance. There are even gardening systems that use a drip system. With this system, you can set a schedule for how much and how often you want to water plants. A drip system is eco-friendlier and more sustainable while also being more convenient.

### ***Relevant Economic Trends***

While inflation is an economic threat for students, it becomes an opportunity for food gardens to help Texas State students even more during these trying times. Two of the main necessities are food and gas, both of which have been affected by inflation. With gas prices higher, students may have to choose saving gas money by not visiting a friend or family. With grocery bills climbing, students cannot afford to be wasteful. Instead, each food item must be carefully planned for how it can turn into meals to last.

Food pantries are being forced to reduce the number of items they can buy for the pantry due to inflation. For example, imagine a \$100 donation used to be able to buy enough produce for a week at a food pantry, now, that same amount of money can only buy two-thirds of what it used to because grocery stores raised their prices.

As for the student garden, seed prices have also been affected by inflation. While we will eventually be able to use the seeds from the produce we grow, the initial cost will be high depending on whether we are still facing high inflation. Some plants can also take years to bear fruit, for these items, it might be more beneficial to buy already-matured plants.

### ***Relevant Society Trends***

In recent years, there has been an increase in demand for organic foods and buying locally. In general, consumers are simply searching for healthier food options. There has also been an increase in knowledge and awareness of healthy eating. Consumers want to know what is in their food so they can make the best decision. There is also a concern for highly processed foods, such as most snacks and frozen meals.

Additionally, there is a trend towards less meat usage, specifically red meat. Eating less red meat and less processed meats lowers people's risk of heart disease,

stroke, and diabetes. Consuming red meat is also seen as harmful towards the environment.

### ***Marketing Strategies to Serve Students' Needs***

To reach and provide help for as many as possible, the garden plan will cover how open to TXST students the garden will be. This plan will also cover how to increase availability to serve the needs of food insecure students at TXST. With the students' needs and situation analyzed, the paper will now give a detailed overview of how the garden plans to fulfill these needs. The first section will cover the traditional marketing mix of the four Ps: product, price, promotion, and place. The second section will cover the additional three Ps of the service mix: participants, physical evidence, and process.

### ***Marketing Mix***

#### ***Product***

I am proposing Texas State Food Gardens as an inclusive gardening program that would address food insecurity on campus. This would include at least one hydroponic garden and/or small-scale food pantry set up in a handful of major buildings on campus. The hydroponic gardens would be located indoors and take up no more than 10 square feet while placed against a wall to take up less space. The hydroponics used would also be technologically advanced so that we could grow produce year-round. This would ensure that every college major and student's background is included while also reaching the greatest number of students. These would include McCoy College of Business, UAC (Undergraduate Academic Center), Performing Arts Center, Flowers Hall, LBJ Student Center,

Recreational Center, Alkek, and the Agriculture Building. These buildings were chosen based on the distance from each other, while also being spread out across campus for all college majors to utilize resources from the gardening program.

Also, there would be 4-10 locations with varying numbers of garden beds placed strategically throughout campus and a large green space. These garden beds will be primarily located around the middle of campus such as the LBJ mall and the quad. Among these locations, each one would offer the same basic products as well as diverse options that would only be grown at that location. Anyone at Texas State would be able to take whatever they wanted. The gardens would promote availability and have signs announcing who the garden is for. This service would require students to hold each other accountable to be responsible for supporting the gardens and promoting growth and sustainability in each of the gardens. All leftover produce would be donated to the campus food pantry. I want to make sure that both of these options are offered in areas where students and faculty are around most often to ensure that everyone has easy access and a quick opportunity to eat healthy food.

### *Pricing*

TXST students will have zero monetary costs. However, students will still have time costs that require them to go slightly out of their way to find a location on campus for them to pick up food. To help with this, there will be locations to get food across the campus to minimize the effort substantially. Some students might also fear a loss of dignity by accepting free food. To help students who

might struggle with their sense of pride, we will keep the students' identities private.

### *Promotion*

The purpose of these gardens is to help students suffering from food insecurity, so every TXST student would need to be made aware of the gardens and the services provided. There would be a social media account on every social media platform to update everyone on foods available and where to access them. We would also send these updates through university-wide emails. The University Star would also be invited to write a story once the gardens are up and running. In writing their news story, they could take pictures and describe the gardens from a student's point of view. The gardens would also reach out to every student organization on campus. This communication would ask organization leaders to spread awareness of the services and ask for volunteers to help within the gardens.

Along with all these promotional methods, there will also be 20-40 students enrolled in a course and/or lab dedicated to maintaining all the various gardens throughout TXST's campus. The course would teach students about agriculture as well as food insecurity. Students enrolled in this course would be encouraged to teach their friends and organizations about food insecurity and share their knowledge of the food gardens.

Lastly, once the gardens are ready for student use, there would be an icon added to the TXST mobile app. This addition would mimic the "find a printer" icon that is currently in use. The app users would be able to see both a list and a

map of where they can graze a garden or access a food pantry. The app would also allow the user to filter the results based on the student's time availability. Students would then be able to find the best option based on their lifestyle. Push notifications via the TXST app would notify them when a new harvest comes in or a change in hours has happened.

### *Place*

Accessibility to garden products is not limited to one location. Due to TXST's large campus, it is crucial to have options spread out across the campus for students. Students can access fresh produce from one of the gardening beds or hydroponic gardens on campus. If this option is too public or the student does not know the proper way to harvest, they can instead go to a list of possible buildings in the office or dedicated room. Here, there will be a small-scale pantry with daily produce harvest items as well as other pantry staples and other potential necessities.

Our outdoor gardening beds will be accessible 24/7 for students to freely grab any items they need. Our small-scale pantries will be open during the building's hours, most of which are 8 am-5 pm. This ensures that there is always someone to help if needed.

### *Service Mix*

#### *Participants*

Among the participants would be students in need of help with food. Depending on where the students access our products, they could choose to have

no interaction or little interaction. If the student in need was to go to a garden area directly, they would have no direct interaction with other students. However, if the student in need went to the garden during a busy time of day, they might be seen by peers. When the student in need goes to one of the food pantries, they will interact with the individual who is there to help. This individual can be a paid staff member or a volunteer.

Along with the gardens, there would be the creation of a course within the agriculture department that would plant and maintain all the gardens. The course would provide easy tracking of watering and food inventory, and consistent student and faculty support. There would also be an organization on campus that would provide volunteers and interns to support the gardens. During the start of each growing season, the students would work in the outdoor gardens and plant a variety of fruits and vegetables that students or faculty would need to feed themselves if they found these gardens necessary. The indoor gardens would be able to grow fruits and vegetables year-round and can provide individuals with food on a more consistent basis.

### *Physical Evidence*

While walking through campus, there would be signs in the dirt of the garden to inform students about that specific garden bed. Whether they can graze the produce from the garden bed or if the product is designated to go to the campus food pantry. Within the garden bed, there would be labels sticking out to let students know the items. This will help with produce that look alike and help students avoid foods they are allergic to.

If a student walked into a building with a food pantry inside, there would be signs on the door and inside. These signs would direct the student to where they can access a food pantry as well as provide additional information such as hours of operation. Once they get to the room where the food items are kept, the student would be met with fresh produce and in-demand shelf-stable foods. All items would be labeled as they appear in a grocery store for simple organizing and clear findability.

### *Process*

The process for the Texas State Gardens is relatively simple. If a TXST student is struggling for food, they could go to one of the pantry locations between 8 am and 5 pm and take what they need to feed themselves for the week. The student could use the TXST app to find the most convenient pantry based on their location and the items they are looking for.

If the student is looking to get food outside of the pantry or building hours, they would still have access to fresh produce in our outside gardens. Here, the student could also use the TXST app to find where a food garden is located. The student would go to the garden and just grab the items needed.

In either scenario, once a student has found the food they need to avoid hunger issues, they would then use the fruits and vegetables to feed themselves or their families. They could either have fruits and vegetables as a snack or utilize them to create a healthy meal. With hunger no longer a pressing issue, students can focus on bettering themselves, improving performance in their college

classes, doing their job, and continuing to work towards bettering their lives with the support of Texas State Gardens.

Controlling inventory would be a critical factor in determining the success of Texas State Gardens. If we have no control over how much is being taken out of our gardens daily, we will have no system of planning how much food we need to grow in the future to make our project sustainable. Therefore, a simple system of our workers writing down exactly what is being produced and consumed by the garden would be a great method to maintain and sustain our project for years to come. This process would maintain student confidentiality when in public and save them time and effort. Also, by relying on the full-time garden workers or even the students in the courses to take inventory, they can take responsibility and pride in what they grow and produce to help students in need.

## **VI. Conclusion**

The Texas State Gardens could significantly help the Texas State University community ensure food security for all Texas State students while they are enrolled. It will provide fresh fruits, vegetables, and herbs to anyone affiliated with Texas State University.

On a personal level, I learned how many of my close friends and classmates are currently facing food insecurity and are not even aware. Many college students accept the fact that money is scarce and skip meals, a lot of us even joke about it. However, through my research, I realized that no college student should skip meals to make rent. Instead, college leadership should intervene to help feed students in need. When one-third of college students are suffering from food insecurity, schools should recognize the issue and provide resources. I chose this topic for my thesis because I hope that many others will be inspired and motivated to implement real change at TXST. I did not want to research such an important topic without also presenting a proposed solution. So, I wrote a marketing plan for Texas State Gardens to implement food gardens to help hungry students. Now it is simply a matter of who will step up at Texas State to solve this problem for future hungry students

## VIII. References

- Admission Statistics (2022). PennState Undergraduate Admissions.  
admissions.psu.edu/apply/statistics/. Published 2022. Accessed October 20, 2022.
- Barrett, Christopher B. (2010). “Measuring Food Insecurity.” *Science*, vol. 327, no. 5967, 2010, pp. 825–28, <http://www.jstor.org/stable/40509899>. Accessed 27 Apr. 2022.
- Bobcat-Bounty (2022). “Bobcat Bounty.” *Texas State University*, Texas State University, 7 Apr. 2022, <https://bobcatbounty.txstate.edu/>.
- Bulletin Archives UGA. Athens Campus.  
bulletinarchives.uga.edu/BulletinFall2014/Bulletin\_Files/univ/resources.html.
- The Campus Kitchen at the University of Georgia (2016a). Student-Powered Hunger Relief. <https://www.ckuga.org/>. Published 2016. Accessed October 23, 2022.
- The Campus Kitchen at the University of Georgia (2016b). CK Food Trailer | ckuga. <https://www.ckuga.org/single-project>. Published 2016.
- College Data (2021). Penn State University Park Overview.  
<https://waf.collegedata.com/college-search/penn-state-university-park>. Published 2021.
- Food Insecurity in College: Fighting Student Hunger on Campus (2021). EduMeb.  
<https://www.edumed.org/resources/food-insecurity-in-college/>. Published 2021.  
Accessed November 7, 2022.
- Food Insecurity on College Campuses: The Invisible Epidemic. The Press Free. <https://thepressfree.com/food-insecurity-on-college-campuses-the-invisible-epidemic/>. Published January 31, 2022. Accessed May 11, 2022.
- Hyslop, Theresa (2015). “Exploring Student Farms: A Look at Student Farms at Ten Universities Across the United States,” chrome-

extension://efaidnbmnnnibpcajpcglclefindmkaj/http://agriurban.rutgers.edu/Documents/Student%20Farm%20Research.pdf. Published August 2015. Accessed October 21, 2022.

The Lion's Pantry (2021). Cub Pantries. <https://thelionspantry.psu.edu/cubpantries/>. Published 2021. Accessed October 21, 2022.

Overview: Bobcat Bounty (2018). Texas State University: School of Family and Consumer Sciences. <https://bobcatbounty.txst.edu/About-Us/Overview.html>. Published 2018. Accessed October 28, 2022.

Portland State University (2022). Committee for Improving Student Food Security | Emergency Meal Vouchers. <https://www.pdx.edu/student-access-center/vouchers>. Published 2022. Accessed October 25, 2022.

Portland State University Campus Gardens (2015a). SSC Gardens- Community Orchard, Lot 3128 & Smith Grazing Gardens. <https://sites.google.com/pdx.edu/campus-gardens/ssc-gardens?authuser=0>. Published 2015. Accessed October 25, 2022.

Portland State University Campus Gardens (2015b). Other Campus Green Spaces. <https://sites.google.com/pdx.edu/campus-gardens/other-campus-green-spaces>. Published 2015. Accessed October 25, 2022.

Service Learning UGA (2022). Community Engagement | Grow It Know It. <https://servicelearning.uga.edu/community-engagement/grow-it-know-it>. Published 2022. Accessed October 23, 2022.

SMNG + FOOD (2011). Sustainable San Marcos. <https://ssmtx.org/smng-%2B-food>. Published 2011. Accessed October 28, 2022.

Student Enrollment (2021). PennState Data Digest. <https://datadigest.psu.edu/student-enrollment/>. Published 2021. Accessed October 20, 2022.

Student Farm at Penn State (2019). Community Partnerships. <https://www.studentfarm.psu.edu/community-partnerships/>. Published 2019. Accessed October 20, 2022.

Student Farm at Penn State (2021). Our Gardens | Growing engagement with our food. [www.studentfarm.psu.edu/our-garden/](http://www.studentfarm.psu.edu/our-garden/). Published 2021. Accessed October 20, 2022.

Student Farm at Penn State (2022). Blog. [www.studentfarm.psu.edu/blog/](http://www.studentfarm.psu.edu/blog/). Published 2022. Accessed October 20, 2022.

UGArden (2022a). History and Organization. <https://ugarden.uga.edu/history-of-ugarden/>. Published 2022. Accessed October 23, 2022.

UGArden (2022b). Welcome to UGArden!. <https://ugarden.uga.edu/>. Published 2022. Accessed October 23, 2022.

UGA Research (2022). UGArden: More than just a farm. <https://research.uga.edu/news/ugarden-more-than-just-a-farm/>. Published August 2, 2022. Accessed October 23, 2022.

UGA Student Food Pantry (2014). UGA Pantry. <https://ugapantry.weebly.com/about.html>. Published 2014. Accessed October 23, 2022.

Univ Stats (2021a). University of Georgia Student Population and Demographics. <https://www.univstats.com/colleges/university-of-georgia/student-population/>. Published 2021. Accessed October 23, 2022.

Univ Stats (2021b). University of Georgia Student Population and Demographics. <https://www.univstats.com/colleges/university-of-georgia/area-of-study/>. Published 2021. Accessed October 23, 2022.

“USDA ERS - Food Security in the U.S.” USDA ERS - Home, <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/>. Accessed 27 Apr. 2022.

US News Best Colleges (2021a). Portland State University. <https://www.usnews.com/best-colleges/portland-state-3216>. Published 2021. Accessed October 25, 2022.

US News Best Colleges (2021b). Portland State University Academics. <https://www.usnews.com/best-colleges/portland-state-3216/academics>. Published 2021. Accessed October 25, 2022.

US News Best Colleges (2021c). Texas State University Student Life. [www.usnews.com/best-colleges/texas-state-university-3615/student-life](http://www.usnews.com/best-colleges/texas-state-university-3615/student-life). Published 2021. Accessed October 25, 2022.