

* + - * + A Mobile Food Cart Venture Guide of Operations

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# Daily Operations (Penn State)

1. Travel from hotel to CYEC at 8am
2. Make kale and bean sauces in the morning (day of 🡪 100 servings)
   1. Put in sealed containers for transportation and storage
   2. Cooking will be done with the help of CYEC youth
3. Cut and prepare all ingredients (day of 🡪 100 servings)
   1. Put in sealed containers for transportation and storage
   2. Cooking will be done with the help of CYEC youth
4. Travel from CYEC to Nyeri Town to pick up pre-made chapatis at 10:30am
   1. With CYEC youth as cart attendants
5. Travel to cart and oven storage location
   1. With CYEC youth as cart attendants
6. Move and set-up cart (table) and oven at desired location with the help of attendants
7. Set up barriers with rope and stakes
8. Begin preparing pizza
   1. Keep minimum 5 pizza bases in the oven “warming” at all times
   2. Pizzas will be ordered on a per customer basis - they can chose the sauces and toppings they want
   3. Money is collected **before** pizza is given to customer
   4. Pizzas are handed to customers on a paper plate
   5. Bring additional toppings (uncut) as back-up
   6. Cart attendants bring in customers with their *tally cards*
9. Operations continue throughout the day following pizza steps
10. Purchase ingredients in the marketplace for the next day
    1. Bring additional bins for storage of these ingredients
    2. Daily marketplace purchase will only occur until partnerships are established with farmers
11. Return cart and oven to storage with the help of attendants
12. Return to CYEC where *tally cards* and daily profit is counted
    1. Profit is evenly divided among all who participated in daily operations
13. Leftover food is given to the CYEC
    * + - \* Make and can enough tomato sauce for one week

# Daily Operations (Employees)

1. Make and can tomato sauce for one week at partner kitchen
2. Prepare chapatis 80% cooked
3. Prepare kale and bean sauces in the morning (day of 🡪 determine servings based on sales)
   1. Put in sealed containers for transportation and storage
4. Cut and prepare all ingredients (day of 🡪 determine services based on sales)
   1. Put in sealed containers for transportation and storage
5. Travel from partner kitchen to cart and oven storage location
   1. With cart attendants
6. Move and set-up cart (table) and oven at desired location with the help of attendants
7. Set up barriers with rope and stakes
8. Begin preparing pizza
   1. Keep minimum 5 pizza bases in the oven “warming” at all times
   2. Pizzas will be ordered on a per customer basis - they can chose the sauces and toppings they want
   3. Money is collected **before** pizza is given to customer
   4. Pizzas are handed to customers on a paper plate
   5. Bring additional toppings (uncut) as back-up
   6. Cart attendants bring in customers with their *tally cards*
9. Operations continue throughout the day following pizza steps
10. Provide kitchen attendants with money to buy ingredients in the marketplace for the next day
    1. The kitchen attendants will have additional bins for storage of these ingredients
    2. Daily marketplace purchases will only occur until partnerships are established with farmers
11. Manager will count all *tally cards* collected 🡪 distribute commission to cart attendants
12. Manager will deposit money into bank
13. Return cart and oven to storage with the help of attendants
14. Leftover food is given to the CYEC

# CYEC Helpers: Daily Expectations

Youth from the Children and Youth Empowerment Center will act as our kitchen and cart attendants throughout the duration of the Summer 2014 trip. Zima Pizza holds high expectations for its workers and expects quality work and dedication from each of its attendants. If each attendant properly completes his/her work they will receive 100ksh at the end of each day + an additional profit based on the number of *tally cards* they bring in.

1. Attendants should arrive at the CYEC kitchens at 7am to begin preparing ingredients
   1. Boil water
   2. Start chopping ingredients
2. Zima Pizza team will arrive at 8am to help prepare ingredients
3. Everyone travels from CYEC to Nyeri Town to pick up pre-made chapatis at 10:30am
4. Everyone travels to cart and oven storage location
5. Attendants help move and set-up cart (table) and oven at desired location
6. Attendants help set up barriers with rope and stakes
7. Some attendants will remain at the cart to help prepare pizzas
   1. They will get water for washing
8. Some attendants will use their *tally cards* to bring in customers
   1. Each attendant will have a different color tally card
   2. Spread the word about Zima Pizza, and convince people to visit our cart
   3. Remind them to bring their *tally card* back
9. Some attendants will help the Zima Pizza team buy ingredients for the next day
10. Attendants will help return cart and oven to storage
11. Everyone returns to CYEC where *tally cards* and daily profit is counted
    1. Profit is evenly divided among all who participated in daily operations
12. Leftover food is given to the CYEC

# Recipes

|  |  |  |  |
| --- | --- | --- | --- |
| * + - * Dough | * + - * Kale | * + - * Tomato & Squash | * + - * Chipotle Bean |
| * + - * 1 cup wheat flour | * + - * 1/2 cup vegetable oil | * + - * 2-3 large cloves of garlic | * + - * 1 tbsp vegetable oil |
| * + - * ½ cup soy flour | * + - * 2 tsp salt | * + - * 1 medium diced onion | * + - * 1 onion, chopped |
| * + - * 1/2 cup white flour | * + - * 4 cups kale | * + - * 4 tbsp of vegetable oil | * + - * 2 cloves of garlic |
| * + - * 2 2/3 tbsp oil | * + - * 3 cloves of garlic | * + - * 3 cups of zucchini | * + - * 2 Tbsp mild green chilis |
| * + - * 1 1/2 tbsp yeast (with water) | * + - * 1/2 tsp of black pepper | * + - * 2 tsp of oregano | * + - * 3 cups of kidney beans, drained and rinsed |
| * + - * 1/2 tbsp. salt | * + - * 2 tsp lemon juice | * + - * 2 tsp of basil | * + - * 2 tsp salt |
| * + - * Water added as needed |  | * + - * 6 boiled tomatoes | * + - * 2 tsp ground cumin |
|  |  | * + - * Salt and pepper to taste | * + - * 1 tsp chili powder |

## Dough

* + - * **2 Servings**
      * Ingredients
* 1 cup wheat flour
* ½ cup soy flour
* ½ cup white flour
* 2 2/3 tbsp oil
* ½ tbsp. salt
* 1 ½ tbsp yeast (with water)
* Water added as needed

## Kale and Basil Pesto Sauce

* + - * **10 servings**
      * Ingredients
* 1/2 cup vegetable oil
* A sprinkle of salt (1 teaspoon)
* 4 cups (roughly chopped) Kale
* 3 small cloves of garlic
* 1 teaspoon of black pepper
* 2 teaspoon lemon juice
* Water
* ¼ Teaspoon Potassium Sorbate (for preservation)
  + - * Instructions

1. Rinse the basil and kale leaves
2. Place basil and kale in boiling water for one minute
3. Strain basil and kale leaves from the water
4. Once cool, chop kale leaves into small pieces
5. Mince garlic (cut into very tiny pieces)
6. Place all ingredients in a food processor
7. Process for 2-3 minutes until mix is smooth and evenly mixed
   * + - For Preservation
8. Fill glass jar completely with kale sauce, leaving no air at the top
9. Dissolve *Potassium Sorbate* into one tablespoon of hot water
10. Add directly to kale sauce

## Chipotle Kidney Bean Sauce

* + - * **10 Servings**
      * Ingredients
* 1 tablespoon vegetable oil
* 1 onion, chopped
* 2 cloves of garlic, pressed (or finely chopped)
* 2 tablespoon mild green chilies
* 3 cups of kidney beans, drained and rinsed
* 2 teaspoon salt
* 2 teaspoon ground cumin
* 1 teaspoon chili powder
* Water
* ¼ Teaspoon Potassium Sorbate (for preservation)
  + - * Directions

1. Bring water to a boil
2. Place dry beans in boiling water for 2 minutes, turn heat off and let sit for 1 hour
3. Once the beans have soaked, place in boiling water for 30 minutes
4. Finely chop onions
5. Mince garlic (cut into very tiny pieces)
6. Place 1 tablespoon of vegetable oil into a pan (over heat)
7. Sauté (cook) the onions and garlic in the heated pan with the vegetable oil (Step 6)
8. Once the onions have begun to brown, add beans to the pan
9. Mix the green chilies, salt, ground cumin, and chili powder into the pan
10. Let cook on high 1-2 minutes, then turn heat off
11. Place the ingredients into the food processor and blend until smooth
    * + - For Preservation
12. Fill glass jar completely with sauce, leaving no air at the top
13. Dissolve *Potassium Sorbate* into one tablespoon of hot water
14. Add directly to bean sauce

## Tomato Sauce

* + - * **10 Servings**
      * Ingredients
* 2-3 large cloves of garlic
* 1 medium diced onion
* 4 tablespoons vegetable oil
* 2 teaspoon of oregano
* 2 teaspoon of basil
* 6 boiled tomatoes
* Dash of salt (1 teaspoon) and pepper to taste
* Water
* ¼ Teaspoon Sodium Benzoate (for preservation)
  + - * Directions

1. Bring water to a boil
2. Cut small incisions into tomatoes and place the tomatoes in boiling water
3. Boil the tomatoes until skins loosen off (for about 1-2 minutes)
4. Dip the boiled tomatoes into cold water, take out, and remove the skins
5. Mince the garlic (cut into very tiny pieces)
6. Cut the onion into fine pieces
7. Place 4 tablespoons of vegetable oil in a pan (over heat)
8. Sauté (cook) the onions and garlic in the pan with vegetable oil (Step 7) until lightly crisped
9. Add the tomatoes, salt, pepper, oregano and basil to the pan
10. Mash the tomatoes as best as possible to evenly distribute sauce
11. Bring sauce back to a boil
12. Cover and let simmer at medium heat for 60-90 minutes, stirring occasionally
13. Heat until the sauce thickens to a desired thickness
    * + - For Preservation
14. Dissolve *Potassium Sorbate* into one tablespoon of hot water.
15. Add directly to Sauce
16. Following **Canning Procedure (page 10)**

# Canning Procedures

* + - * Tools
* (12) quart size glass mason jars
* Boiling water
* Canning rack
* Large pot for boiling water
* Jar lifter
* Timer
* 1 teaspoon of salt per quart (added BEFORE canning; in Recipe)
* Lemon Juice (added BEFORE canning; see **Acidification**)
  + - * Directions

1. Place the rack in bottom of large pot
2. Fill pot halfway with clean water
3. Center the pot over heat and heat to 180
4. Add food to jars, leaving 1/2 inch of space at top before sealing
5. Use the jar lifter to load the filled, sealed jars into the pot
   1. Keep the jar upright at all times
6. Adjust water level to be 1-2 inches over the top of jars
7. Cover pot with lid, increase heat to 212, and let water boil vigorously
8. Once boiling, set timer for 65 minutes
9. After time is over, turn off heat and remove lid from pot
10. Wait 5 minutes before removing jars one-by-one with the jar lifter
11. Place jars onto towel
12. Allow jars to cool for 12-24 hours
13. Wash jars and lids to remove any residue
14. Label jars and store in cool, dry place out of direct light
    1. Label Date and Time of canning procedure
    2. Use within 3 months
       * + Troubleshooting
         + \* If water level ever gets below jars, add more water! Pour any added water around the jars, not directly on them.
         + \*If water stops boiling, increase heat until vigorous boil and reset timer

**Acidification:** To ensure safe acidity in whole, crushed, or juiced tomatoes, add

* 2 tablespoons of bottled lemon juice or
* 1/2 teaspoon of citric acid per quart of tomatoes

**Add bottled lemon juice or citric acid to jars** after sauce has been poured in Add half to bottom of jar, half in middle of sauce, shake well. Add sugar to offset acid taste, if desired.

# Sanitation Procedures (Adapted from FAO)

* + - * Section 1: General Requirements
      * 1.1 DISPLAY OF NOTICES
      * 1.1.1 Every licensed vendor shall at all times display conspicuously his/her vendor's License and any other notices that are required by the relevant authorities to be displayed.
      * 1.2 PEST AND ANIMAL CONTROL
      * 1.2.1 Every vendor shall at all times take appropriate measures to keep his/her stall free from animals and pests, including rodents, flies, insects or vermin infestation to prevent contamination of the food.
      * 1.2.2 Every vendor shall, on becoming aware of the presence of any such pest or harborage, immediately take all practicable measures to get rid of the pest or harborage and to prevent reinfestation.
      * 1.2.3 Any food found to have become contaminated by pests shall be appropriately disposed of in a hygienic manner.
      * 1.2.4 The contamination of food with pest control materials such as poisons must be prevented.
      * Section 2: Vendors
      * 2.1 HEALTH STATUS OF VENDORS
      * 2.1.1 Any vendor, helper or food handler who is suffering from jaundice, diarrhoea, vomiting, fever, sore throat with fever, discharge from ear, eye and nose, visibly infected skin lesions (boils, cuts, etc.) shall cease from handling food in any capacity and seek medical treatment.
      * 2.1.2 Any vendor, helper or food handler who has been identified as or is known to be or has previously been a carrier of food borne disease organisms, shall not be involved in any food handling activity until certified by a Medical Officer of Health or any other medical practitioner as a non-carrier.
      * 2.1.3 Any vendor, helper or food handler shall be required to be immunized against food and water borne disease such as typhoid, hepatitis A or any other food and water borne diseases as required by the relevant authority.
      * 2.2 PERSONAL HYGIENE AND BEHAVIOUR
      * *Every vendor, helper or food handler, during the conduct of his business, shall observe the following:*
      * 2.2.1 Wear an identification tag if issued and required by the relevant authority.
      * 2.2.2 Dress in clean and proper attire.
      * 2.2.3 Wash hands thoroughly with soap and clean water before and after handling food, after visiting the toilet, after handling unsanitary articles, touching animals, touching raw food, after handling toxic and dangerous materials as and when necessary.
      * 2.2.4 Finger nails should be kept short and clean at all times.
      * 2.2.5 Hair should be kept clean and tidy and should be covered during operation.
      * 2.2.6 Non-infected cuts shall be completely protected by a waterproof dressing which is firmly secured and routinely changed.
      * 2.2.7 Shall not smoke or chew chewing gum while preparing or serving food.
      * 2.2.8 Refrain from any unhygienic practices such as spitting and cleaning nose, ears or any other body orifice.
      * 2.2.9 Shall not sneeze or cough onto the food.
      * 2.2.10 The use of gloves is not recommended.
      * 2.2.11 No vendor is allowed to use the stall as a sleeping or dwelling place, or for any other personal activity.
      * 2.3 TRAINING OF VENDORS
      * 2.3.1 Every vendor, helper or food handler shall undergo a basic training in food hygiene prior to licensing and further training as required by the relevant authority. Training is to be conducted by the relevant authority or other institutions recognized or approved by the relevant authorities. Vendors should also be made aware of their responsibility to consumers and be informed of available credit facilities and other sources of finance to assist and improve their businesses.
      * 2.3.2 Simple posters illustrating the "dos" and "don'ts" of street food preparation and vending should be widely and prominently displayed in relevant places for the benefit of both vendors and consumers
      * Section 3: Design and Structure
      * 3.1 LOCATION
      * 3.1.1 The location of street food stall(s) should be suitable for the purpose of avoiding contamination of the food prepared and served or sold at or from the stall. Stalls shall be located in areas designated by the relevant authorities.
      * 3.1.5 The stall should have a convenient access to an inlet of a drainage system or any suitable means of disposing waste water in a sanitary manner.
      * 3.2 STRUCTURES
      * 3.2.1 Vendors' stalls shall be of a type approved by the relevant authority and shall be constructed from impervious materials that can be easily cleaned such as stainless steel, aluminum, glazed tiles or any other materials as approved by the relevant authority. It shall be properly constructed as to be readily cleaned and maintained in a good state of repair at all times.
      * 3.2.2 Food preparation areas and working surfaces should be made of a smooth and impermeable food grade material.
      * 3.2.3 All cooking ranges, washing equipment, working tables, shelves and cupboards on or in which food is placed should be at least 45 cm above the ground.
      * 3.3 SANITATION
      * 3.3.1 Water Supply: Vendors should ensure sufficient supply of potable water at all times. Where necessary, such as in the case of mobile vendors or where potable water supply is not yet available, potable water should be stored in clean water containers in conformance with Section 6.1.
      * 3.3.2 Waste Water Disposal: Vendors' stalls should have an efficient waste water disposal system which should be maintained in a good state of repair. The system should be large enough to carry peak loads and be provided with traps to ensure only liquid waste is discharged into the drain/sewer.
      * 3.3.3 Solid Waste Disposal: Solid waste material should be handled in such a manner as to avoid contamination of food and/or potable water. Waste should be removed from the working area of the stall as often as necessary and at least daily. All solid waste should be properly disposed into suitable containers which are secured with tight fitting lids or placed in rubbish bins or central rubbish bins.
      * 3.3.4 Cleaning: All working surfaces, table tops, floors and surrounding areas should be thoroughly cleaned at least daily, using one of the methods described in Section 6.5.
      * Section 4: Appliances
      * 4.1 The appliances should be kept clean. The equipment, including containers for storing drinking water, should be made of materials which do not transmit toxic substances, odor or taste, are not absorbent (unless its use is intended for that purpose and will not result in food contamination), are resistant to corrosion and capable of withstanding repeated cleaning and disinfection.
      * 4.2 Every cutting surface used in the preparation of food should be free from cracks and crevices, with only reasonable wear and tear, and should be cleaned using one of the methods described in Section 4.5 at least on the following occasions:
      * (a) before and after daily operations; and
      * (b) especially after having put unclean material or food on it if the surface is subsequently to be used to cut street foods or foods to be consumed raw.
      * 6.3 Cooked and uncooked food should be handled with separate utensils.
      * 4.4 Every vendor should ensure that all defective, damaged, cracked, rusted, chipped and unsuitable appliances and crockery are removed from use and discarded.
      * 4.5 All utensils should be regularly cleaned by thoroughly washing them in warm water containing adequate amount of soap or other suitable detergents and then rinsing them.
      * 4.6 Disposable crockery shall be used only once and properly disposed of. In the case where non-disposable crockery is used, the crockery is to be cleaned after each use using the method described for utensils in Section 6.5.
      * 4.7 All appliances are to be maintained in good state of repair.
      * 4.8 All washed and clean utensils and crockery should be handled, stored or transported separately from unclean and used utensils and crockery and other sources of contamination. They shall be stored in a clean and protected area which is not accessible to pests or vermin.
      * 4.9 Only containers made of food grade material, not previously used for non-food use, shall be used.
      * 4.10 Wash basins and sinks for cleaning utensils and washing hands should always be clean and maintained in a good state of repair.
      * 4.11 Towels used for wiping crockery should be clean, handled in a sanitary manner and only be used for that purpose.
      * 4.12 Containers used for table side condiments should be kept clean and maintained in good condition and protected from pests.
      * 4.13 All hand service articles such as napkins, towels and hand wipes should be of the disposable type.
      * 4.14 Hand washing facilities such as hand wash basins, disposable towels and soap should be provided at all times.
      * Section 5: Food Preparation
      * 5.1 REQUIREMENTS FOR INGREDIENTS
      * *Every vendor should ensure the following:*
      * 5.1.1 Supply of ingredients, including ice, must be from known and reliable sources.
      * 5.1.2 The food handling method employed should be such as to minimize the loss of nutrients.
      * 5.1.3 Freshness and wholesomeness of ingredients to maintain quality and safety of food.
      * 5.1.4 Transportation of ingredients should be made in a manner so as to prevent exposure to the environment, spoilage and contamination.
      * 5.1.5 Only permitted food additives should be used and the amount added should follow the specifications provided.
      * 5.2 COOKING AND HANDLING
      * 5.2.1 Soak and thoroughly wash fresh vegetables and fruit whether for cooking or consuming raw, with sufficient running potable water, to remove adhering surface contamination.
      * 5.2.2 Where appropriate, wash raw food before using in food preparation to reduce the risk of contamination. Never wash perishable raw food with other foods that will be consumed raw or in a semi-cooked state.
      * 5.2.3 There should be an area for handling, storing, cleaning and preparing raw food ingredients, separate and apart from the cooked, street food display, handling and serving areas.
      * 5.2.5 The time and temperature of cooking should be sufficient to ensure the destruction of non-spore forming pathogenic micro-organisms.
      * 5.2.9 Utensils used for tasting food should be washed immediately after each use.
      * 5.3 SERVING FOOD
      * *Every vendor should observe the following:*
      * 5.3.1 All vendors purchasing street foods for the purpose of serving or selling must assure that such food is from licensed and reliable sources.
      * 5.3.2 Cooked street foods should not be handled with bare hands. Clean tongs, forks, spoons or disposable gloves should be used when handling, serving or selling food.
      * 5.3.3 All crockery used should be clean and dry and not handled by touching the food contact surfaces.
      * 5.3.4 Plates filled with food should not be stacked one on top of the other during display, storing or serving.
      * 5.3.5 Food grade packing materials should be used.
      * 5.3.6 Printed material should preferably never be used to serve food. Only food grade aluminum foil, waxed paper, food grade plastic and any other suitable material should be used for packing and serving food.
      * 5.3.7 Never blow into plastic bags, wrappers or packages used for food.
      * 5.3.8 All beverages offered for sale should be dispensed only in their individual original sealed containers or from taps fitted to bulk containers and made of food grade plastic or other suitable material. Bulk containers should be covered with tight fitting lids.
      * 5.3.9 Cut fruit or other foods ordinarily consumed in the state in which they are sold may be set out in an enclosed display case, cabinet or similar type of protective device and should be displayed in a manner which will not affect the wholesomeness and cleanliness of such foods.
      * 5.3.10 Food handlers should avoid handling money. If this is unavoidable, the food handler should wash his hands after handling money and before handling food again.
      * 5.3.11 Ready-to-eat foods intended for continuous serving should be protected from environmental contamination and kept at the following holding temperatures:
      * (a) for food served hot...... 60°C or above
      * 5.4 UNSOLD FOOD
      * *All unsold cooked food and prepared beverages that cannot be properly preserved should be disposed of in a sanitary manner at the end of the day.*
      * 5.5 TRANSPORTATION OF STREET FOODS
      * 5.5.1 Street foods which require transportation to the point of sale should be placed in a well-protected, covered and clean container to avoid contamination
      * 5.5.2 Any vehicle used in transporting food should be clean and in good condition, appropriately equipped to accommodate any special requirements of the food being transported and provide protection from environmental contamination.
      * 5.5.4 Street foods should not be transported together with raw food and ingredients, animals, toxic substances and any other materials which may contaminate the food.
      * 5.6 FOOD STORAGE
      * 5.6.1 The food should at all times be kept clean and free from contamination, and be adequately protected from pests, environmental contaminants and stored at proper temperatures where appropriate.
      * 5.6.2 Readily perishable food should be placed or stacked so that it is not likely to be contaminated by contact with raw food, pet food, toxic materials or any other materials which may cause contamination. The bulk of readily perishable foods should be stored in clean containers placed in a clean ice box or refrigerator in which the food should not exceed a temperature 10°C. Quantities displayed for continuous serving should be handled according to the requirements listed in Section 7.3.11.
      * 5.6.3 All dry ingredients should be stored and maintained in their original labelled commercial container or subsequent containers and should be properly labelled as to the content and designed to prevent moisture absorption.
      * 5.6.4 All non-perishable food should be stored in a clean, protected and closed container/cupboard to prevent cross contamination by pests.
      * 5.6.7 All enclosed spaces, cupboards, shelves and racks used for the storage of food should be constructed so as to be easily cleaned and to protect the food from pests.
      * 5.6.8 All food stored in bulk should be stored in an orderly fashion and should be placed so as to facilitate ventilation, inspection and the detection of pests.
      * 5.6.9 All food should be stored and handled separately from toxic, poisonous, deleterious and injurious substances.
      * 5.6.10 The principle "First in, first out" should be applied to stock rotation.
      * 5.6.11 Date marking on all food containers shall be checked before the food is used. Expired food shall not be sold or used for the preparation of food.

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# Employment and Salaries

* + - * **Summer 2014**
      * *Employees*

1. (5) Zima Pizza team
2. (5) CYEC youth
3. (1) chapati maker
   * + - *Salaries*
4. Chapati maker 🡪 daily stipend (150 ksh)
5. CYEC youth 🡪 daily stipend (100 ksh)
6. Additional profit 🡪 divided between CYEC youth and Zima Pizza team

**After Summer 2014**

# 

# Estimated Expenses

|  |  |  |
| --- | --- | --- |
| * + - * **Assumptions** | * + - * Ksh | * + - * USD |
|  |  |  |
| * + - * Price per pizza | * + - * 150 | * + - * 1.875 |
|  |  |  |
| * + - * Number of Customers/Week Per Cart: |  |  |
| * + - * Conservative | * + - * 200 |  |
| * + - * Realistic | * + - * 600 |  |
| * + - * Optimistic | * + - * 800 |  |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| * + - * **Startup Costs** | * + - * Ksh | * + - * USD |
|  |  |  |
| * + - * Cost of the Cart |  |  |
| * + - * Cart | * + - * 34,500 | * + - * 431.25 |
| * + - * Oven | * + - * 16,000 | * + - * 200 |
|  | * + - * 1,200 | * + - * 15 |
| * + - * **Total** | * + - * 51,700 | * + - * 646.25 |
|  |  |  |
| * + - * Materials |  |  |
| * + - * Pizza trays | * + - * 1,200 | * + - * 15 |
| * + - * Spatulas | * + - * 800 | * + - * 10 |
| * + - * Storage bins | * + - * 6,000 | * + - * 75 |
| * + - * Cutting boards | * + - * 2,400 | * + - * 30 |
| * + - * Knives | * + - * 2,000 | * + - * 25 |
| * + - * Rope | * + - * 400 | * + - * 5 |
| * + - * Food Processor | * + - * 8,000 | * + - * 100 |
| * + - * Measuring cups | * + - * 1,600 | * + - * 20 |
| * + - * Pots and pans | * + - * 8,000 | * + - * 100 |
| * + - * **Total** | * + - * 22,400 | * + - * 280 |
|  |  |  |
| * + - * **Total** | * + - * 74,100 | * + - * 926.25 |

|  |  |  |
| --- | --- | --- |
| **Salary Assumptions** | Ksh | USD |
|  |  |  |
| Zima Pizza Revenue (monthly) | 64000 | 800 |
| Manager salary (monthly) | 16000 | 200 |
| Vendor salary (monthly) | 14000 | 175 |
| Cart attendant stipend (monthly) | 12000 | 150 |
| Chapati maker stipend (monthly) | 12000 | 150 |

|  |  |  |
| --- | --- | --- |
| * + - * **Operational Costs (per month)** | * + - * Ksh | * + - * USD |
|  |  |  |
| * + - * Payables (1 month) |  |  |
| * + - * Rent (in town) | * + - * 8655 | * + - * 108.1875 |
| * + - * Rent (CYEC) | * + - * 12982 | * + - * 162.275 |
| * + - * Location permits | * + - * 250 | * + - * 3.125 |
| * + - * Charcoal (200 pounds) | * + - * 4200 | * + - * 52.5 |
| * + - * **Total** | * + - * 26087 | * + - * 326.0875 |
|  |  |  |
| * + - * Marketing (1 month) |  |  |
| * + - * Attendant cards | * + - * 1300 | * + - * 16.25 |
| * + - * Flyers | * + - * 6480 | * + - * 81 |
| * + - * **Total** | * + - * 7780 | * + - * 97.25 |
|  |  |  |
|  |  |  |
| * + - * Maintenance/Incidentals (1 month) |  |  |
| * + - * New parts, etc | * + - * 3462.39 | * + - * 43.279875 |
| * + - * **Total** | * + - * 3462.39 | * + - * 43.279875 |
|  |  |  |
| * + - * Cost of Materials: |  |  |
| * + - * Soap | * + - * 2000 | * + - * 25 |
| * + - * Paper plates (2400 plates) | * + - * 6900 | * + - * 86.25 |
| * + - * **Total** | * + - * 8900 | * + - * 111.25 |
|  |  |  |
| * + - * **Total** | * + - * 46229.39 | * + - * 577.86738 |



|  |  |  |
| --- | --- | --- |
| * + - * **Monthly Cart Revenue** | * + - * Ksh | * + - * USD |
|  |  |  |
| * + - * Food Income (per month) | * + - * 360000 | * + - * 4500 |
|  |  |  |
| * + - * Salaries (taken out) |  |  |
| * + - * Zima Pizza | * + - * 64000 | * + - * 800 |
| * + - * Manager | * + - * 16000 | * + - * 200 |
| * + - * Cart attendant | * + - * 12000 | * + - * 150 |
| * + - * Chapati maker | * + - * 12000 | * + - * 150 |
|  |  |  |
| * + - * Operational (taken out) | * + - * 46229.39 | * + - * 577.86738 |
|  |  |  |
| * + - * Food Expenses (taken out) | * + - * 195756 | * + - * 2446.95 |
|  |  |  |
| * + - * Final Revenue (Vendor Revenue) | * + - * 14014.61 | * + - * 175.18263 |

|  |  |  |
| --- | --- | --- |
| * + - * **Pizza Cost (actual)** | * + - * Ksh | * + - * USD |
|  |  |  |
| * + - * Food Income (per month) | * + - * 360000 | * + - * 4500 |
| * + - * Operational (taken out) | * + - * 46229.39 | * + - * 577.86738 |
| * + - * Food Expenses (taken out) | * + - * 195756 | * + - * 2446.95 |
| * + - * Salaries (taken out) | * + - * 64000 | * + - * 800 |
|  |  |  |
| * + - * **Actual price of 1 pizza** | * + - * 22.506088 | * + - * 0.2813261 |
|  |  |  |
| * + - * **Revenue per 1 pizza** | * + - * 127.49391 | * + - * 1.5936739 |

|  |  |  |
| --- | --- | --- |
| * + - * **Total Initial Investment** | * + - * Ksh | * + - * USD |
|  |  |  |
| * + - * (Startup + operational) | * + - * 169,268 | * + - * 2115.8549 |
|  |  |  |
| * + - * Zima Pizza payback (months) | * + - * 2.644818594 | |

# Sensory Evaluation

While traveling to Nyeri, Kenya in May 2014, the Zima Pizza Team will conduct informal sensory evaluations with local individuals. The purpose of these sensory evaluations will be to ultimately determine if consumers like the pizza, would purchase the pizza, and if there are any possible improvements to the pizza or business concept. This sensory evaluation will consist of close-ended and open-ended question listed under categories such as taste, appearance, texture, price, possible improvements, and further discussion questions. We will provide small samples of the pizza to various participants and ask them a series of questions until we have saturated the information we are seeking. By using open-ended questions, participants will have the opportunity to elaborate their opinions in their own words without being limited to close-ended answers.

This sensory evaluation will be conducted in locations such as the CYEC, nearby universities and churches in order to maintain selective participants. By conducting these sensory evaluations at the above listed sites, there is a less chance of bias because we will seek individuals who are already present at these locations for prior reasons. Whereas, if we conducted this sensory evaluation in the open public where there is a higher concentration of people, there is also a higher chance of bias because more individuals might take the survey after seeing other participants receiving free food. We hope that this sensory evaluation will provide us with a stronger basis of knowledge for the best ways to adapt our business to the food cart industry in Nyeri, Kenya.

\*See the Sensory Evaluation on the following page

How often do you eat from food carts?

Once every 2 months\_\_\_\_\_\_\_\_\_

Once a month\_\_\_\_\_\_\_\_

Once every 2 weeks \_\_\_\_\_\_\_

1-2 times a week\_\_\_\_\_\_\_\_

Everyday \_\_\_\_\_\_\_\_\_\_

1. Taste

Do you like the taste of this pizza? (Yes/ No) Why?

Which base is your favorite /least favorite?

2. Appearance

Does this pizza look appealing to you?

What is appealing?

What is not appealing?

3. Texture

Do you like the texture of this pizza?

If yes, what do you like about the texture of the pizza?

If not, what don’t you like about the texture of the pizza?

4. Price

Is this price of this pizza \_\_\_\_\_\_\_ ?

A) cheap B) acceptable C) too expensive

5. Possible Improvements

How could this pizza be better?

What would make you more likely to buy this pizza?

6. Further discussion questions:

How do you think the concept of a Westernized pizza stand might play out in Kenya?

What can we do to make consumers be more compelled to buy our pizza?

Does our pizza stand and pizza fit in with social norms in the context?

What might turn people off from wanting to buy our pizza?

Would you or someone you know buy our pizza without any persuasion from outside factors?

# Summary of Papers

## Trends in Current Street Foods and Opportunities for Incorporating More Nutrition in Kenya

Approximately 2.5 billion people around the world rely on street food every day to fulfill their dietary needs. However, a majority of foods offered on the streets are unhealthy, high in fat, and contribute to high malnutrition rates. Healthy, affordable, and accessible street food meals are feasible when the supply chain, operational costs, food prices, and nutritional content are properly balanced. However, these products are not getting into the hands of producers or consumers for various reasons. This paper examines what drives street food businesses to offer unhealthy foods, how this trend affects consumers and producers, and how healthy street foods can be better implemented into future street food businesses. Through observation and focus interviews, this paper discusses what constitutes a healthy street food, which street foods are currently available in Kenya, and opportunities for future sustainable nutritional foods that can be implemented into the street food industry. Analysis of street foods currently selling in urban and semi-urban markets provides contextual information into the socio-cultural influences on food consumptions. Optimization of nutrition, price, supply chain, and practicality of operations indicate the opportunity to develop a sustainable business. This information will serve as valuable knowledge for future entrepreneurs who seek to produce a healthy street food, as well as organizations and non-profits that directly work with individuals and groups with similar interests.

## An Interactive Nutritional Guide for Developing Low-cost Healthy Meals While Sustaining Indigenous Foods

In much of the developing world, indigenous crops are being replaced by non-indigenous varieties. Though potentially more profitable for large, commercial farms, these non-indigenous crops require unsustainable agricultural practices, are less resistant to pests and disease, result in less crop diversity and are less nutritious. This hurts local livelihoods and health while threatening the survival of culture. To encourage the adoption and use of indigenous ingredients, we have developed a framework for a software application: the Interactive Nutritional Guide. This application identifies crops indigenous to the user’s location, presents last-known pricing data, promotes recipes utilizing indigenous foods and suggests indigenous replacements for non-indigenous ingredients. With the intention of launching the application in East Africa, indigenous crops have been identified from literature and consultations with locals. A preliminary database of indigenous recipes and algorithms for ingredient substitution has also been developed along with a strategy for price updates based on user feedback.  The Interactive Nutritional Guide is transferable into a mobile application, of significant implication in the developing world where cellphones are increasingly popular.  In this article, we present our developments along with a vision aimed at empowering local entrepreneurs to consciously select local, nutritious, and environmentally friendly foods.

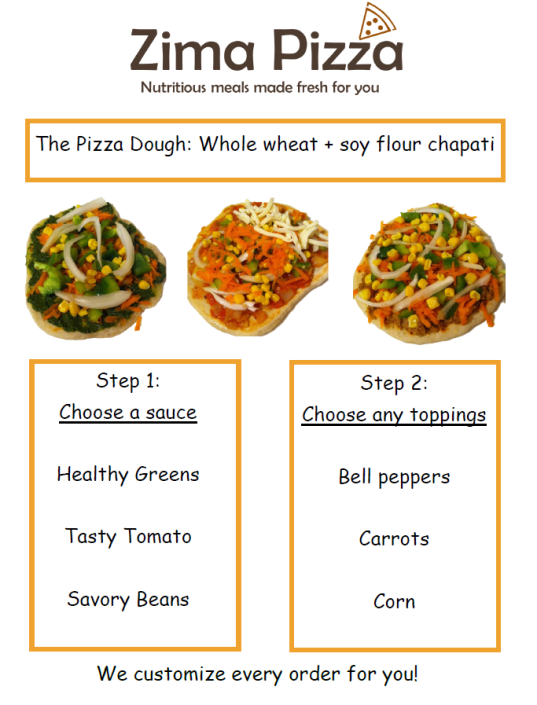
## Case Study of Zima Pizza Food Cart

Street food, an easily accessible food source, is widespread in both rural and urban areas around the world. Individuals and even their families depend on these products daily for snacks, and even meals. However, most street food is not nutritious. Although healthier street food options are now emerging, much progress remains to be seen and analyzed. This research study will follow a social entrepreneurial mobile food venture in Nyeri, Kenya. By measuring the venture’s success through observation, interviews, and data collection, the aim is to determine whether or not a foreign, Western food such as pizza can be successfully sold and established in a stale street food market (that already offers a variety of different street foods), and the potential barriers of the new food’s entry into the market. The matrix of success for the venture will be to achieve positive feedback and a noticeable revenue growth trend during the cart’s operation. Interviews seeking attitudes toward the nutritious pizza as a potential substitute for the local daily diet will be conducted among customers in Nyeri’s street food market. Moreover, the revenue collected at the end of daily operation, and any trends of the revenue will be used to analyze the success of the social venture. Further analysis will be conducted on the success/failure of the venture from cultural, economic, and scientific aspects and made available for reference for similar efforts in the future.

# Marketing

1. *Menu*

The menu will be used at the cart for customers to look at and order from. We will have several copies printed and laminated for use.



1. *Promotional Poster*

This handout will be used to show customers what we offer and provide them with a quick checklist and reminder that our pizza is healthy (as compared to current alternative lunch options). We will have several copies printed and laminated for use.



1. *Tally Cards*

These cards will be distributed to our cart attendants and are used to bring in customers. The attendants will promote our business by providing potential customers with one tally card, encouraging them to stop by our cart for lunch. These cards will be brought by the customer to our cart and on certain occasions they will receive a discount (left to our discretion). The cards will be color coded to each attendant. At the end of the day, the attendants receive a commission pay based on the number of their color cards returned to the cart.

