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| **SOUTH AFRICAN YOUTH WATER PRIZE COMPETITION** |

**DESIGN BRIEF**

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| **PROJECT****TITLE**  | How unhygienic/unsanitary street food is |
| **Name of supervising educator** | Mrs. Joubert  | **Mentor**  | N/A |
| **Category**  | Awareness  |

**PROBLEM STATEMENT**

The problem with street foods is that it is unhygienic/ unsanitary. A majority of people consume it because it’s cheap and delicious. Most people are unaware of how unhygienic the street food is, most street vendors rarely wash their hands or wear gloves, they exchange money with multiple customers and then they cook and serve you food those bacteria invested hands. A common bacteria found in street foods is E. coli, this bacteria can cause diarrhea/gastroenteris. The high temperatures which these street foods are stored in, can make the situation even worse, because these bacteria multiply, making you prone to falling ill.

**METHODOLOGY**

WHAT I AM GOING TO DO

I will identify a problem related to sanitation in South Africa, I will take action by initiating a project, and I’ll do research and recommend a solution that will solve this problem.

WHATMATERIALS AM I GOING TO USE

For the research paper I will need:

\*Stationary, such as: 1

-pen

-pencil

\*Papers

\*Laptop

\*photocopy machine

For the project display I will need:

\*2 Project display posters

\*printed images

\*printed information

\*stationary, such as:

-pen

-pencil

-color pencils

-scissors

-highlighters

The source and cost of materials I’m going to use:

\*stationery

-source: Walton’s

-total= R121, 94

\*laptop and photocopy machine= N/A

\*2 Project display posters sized 96cm (wide) x200cm (high)

-Source: Walton’s 2

-Total= R11, 99

\*Typek sappi white bond copy paper-A4 80 gms

-Source: Walton’s

-Total= R71, 79

Will I measure anything?

No, I will not measure anything.

What questions will I ask in my questionnaire?

**(The age range of people I will ask these questions is 10-60 years old)**

1. Have you ever had street foods before, if yes, how often do you consume street foods?

2. Why do you buy street foods?

3. Have you ever seen a street vendor wash his/her hands before serving?

4. Are you aware/do you ever ask the street vendor how long the food has been sitting out for?

5. Have you ever gotten food poisoning from street foods before?

How will I assess the questionnaire?

\*Through social media apps

-I will assess questionnaires through whatsapp and instagram.

-I will hand out printed questionnaires to the targeted people so they can answer them.

How long will it take for me to do my work?

Approximately 9 days, I will dedicate 2-4 hours each day to doing this awareness project, in total this project will require 18-36 hours depending on my speed. 3

What information sources I intend on using:

I will use the internet and newspaper articles.

**Results**

How will I represent and distribute my results?

-A table

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| PRELIMINARY MATTERS |

A summary of my project:

In this research project I have identified a problem related to sanitation, the topic I have chosen is “how unhygienic/unsanitary street foods are.” The main points in my introduction, my discussion and conclusion consist of me telling you that a majority of people are unaware of how unhygienic street foods are, most street vendors don’t wash their hands/wear gloves, and they exchange money with multiple customers and then cook and serve you food with those bacteria invested words. The high temperatures street foods are kept in allow bacteria to multiply, making you prone to falling ill. The title page, preliminary matters, references and annexure give you a brief idea of the contents in this research paper, the sources where I got my information from and a short biography of me. The materials and methods show you what I used and how I used it. The results are display in the form of a graph, a line graph and tallies, according to my results a majority of people consume street foods reason being because it’s affordable, delicious or there are no shops around.

 4

**TABLE OF CONTENTS**

1. **Design brief**………………………………………………………..1

 1.1 Problem statement …………………………………………….1

 1.2 Methodology…………………………………………………..1

 1.3 Results…….…………………………………………………...3

**2. Preliminary matters**……………………………………………....4

2.1 Summary of project……………………………………………4

 2.2 Table of contents………………………………………………5

 2.3 List of abbreviations and acronyms used in report…………….5

 2.4 Acknowledgements……………………………………………6

 2.5 A short biography of me, my school and the community I come from...…6

 **3. Introduction**………………………………………………………6

 **4. Materials and methods**…………………….……………………..7

 **5. Results**…………………………………………………………….8

 **6. Discussion**…………………………………………………………8

 **7. Conclusions**…………………………………………….………..12

 **8. References**…………………………………………….………….13

**9. Annexure**………………………………………….………………13

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| **LIST OF ABBREVIATIONS AND ACRONYMS**  |

N/A = Not adequate

 5

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| **ACKNOWLEDGEMENTS**  |

I would like to express my special thanks of gratitude to my science club teachers, Mrs. Joubert, as well as our principal Mr. Zwane who gave me this golden opportunity to do this research project on the topic “Why street food is unhygienic/unsanitary,” which also helped me bin doing a lot of research and I came about so many new things, I am really thankful to them. Secondly I would like to thank my parents and friends who helped me lot in finalizing this project within the limited time frame.

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| A SHORT BIOGRAPHY OF ME, MY SCHOOL AND THE COMMUNITY I COME FROM |

My name is Thapelo Lindelwa Tlou, I’m a 14 year old Sotho girl, and I’ll be turning 15 on the 30th of June. I’m a grade 9 pupil; I attend the lovely school Empangeni High School. My hobbies are hockey, cricket, volleyball, soccer and dancing, I’m interested in science and I enjoy helping others. My whole life I’ve lived in a beautiful, quiet, small suburb also known as Empangeni. I live with my parents and my 2 siblings.

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| INTRODUCTION  |

Yes, we’ve always known that street foods are unhygienic and unsanitary, but then who can’t resist these magiacal vetkoeks and biltongs, those mind blowing bunny chows and roti and don’t get me started on the freshly made boerewors rolls with some braai meat, chakalakka and pap on the side from easy snacks to complete meals. Street foods are affordable, delicious and easily available around the country.

 A majority of people consume street foods but they are unaware of how unsanitary/unhygienic it is. Most street vendors rarely wash their hands or wear gloves; they exchange money with multiple customers and then serve you with those bacteria invested hands.

 6

I further emphasize my statement that street food is unhygienic/ unsanitary because there is an alarming rise in food- borne diseases due to street foods, reason being because a majority of street vendors lack an adequate understanding of the basic food safety and health issues. Major sources contributing to microbial contamination are the place of preparation of food, utensils used for cooking and serving, raw food, lack of access to portable water, time and temperature abuse of cooked foods, inadequate solid waste management systems and the personal hygiene of street vendors.

Most food-borne diseases if not all, can be prevented by applying the basic principles of food hygiene throughout the food chain. While street foods are an important source of ready-to-eat nutritious, low cost meals for the urban poor, the health risks posed by such foods may outweigh their benefits.

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| **MATERIALS AND METHODS** |

Materials

\*Stationary

\*Papers

\*Laptop

\*Photocopying machine

Methods

1. Identify a problem in South Africa related to sanitation.
2. Take action by initiating a project.
3. Do research.
4. Recommend a solution that will solve this problem.

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| **RESULTS** |

I assessed questionnaires to 120 people of different ages, ranging from 10-60 years old.

 7

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| Questions  | Answers  |
| 1.1 Have you ever had street foods before? | No= 18,33 %, 22 people  | Yes= 81,67%, 98 people |
| 1.2 How often do you consume street foods? | Not often=32,5%, 39 people  | Often= 67.5%’ 81 people |
| 1. Why do you buy street foods?
 | I don’t =25%, 30 people | It’s affordable, tastier or there are no shops around=75%, 90 people |
| 1. Have you ever seen a street vendor wash his/her hands?
 | No=85,83%, 103 people | Yes= 14,17%, 17 people |
| 1. Are you aware or do you ever ask the street vendor how long the food they are serving you has been out for?
 | No= 70 %, 84 people  | Yes= 30%, 36 people  |
| 1. Have you ever gotten food poisoning from street foods before?
 | No=74,17%, 89 people | Yes=25,83%, 31 people |

According to my results, a majority of people consume street foods because it’s relatively cheap, tastier than store bought food or there are no shops around. People are aware that street food is unhygienic or unsanitary but they do not how unhygienic or unsanitary it is, most people are unaware that street foods put you at the risk of getting food poisoning or getting food borne diseases.

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| **DISCUSSION** |

Sanitation refers to public health; the importance of sanitation is to protect human health by providing a clean environment that will stop the transmission of disease. I have chosen the topic “Why street food is unhygienic/unsanitary,” because street food is a new way of

 8

experiencing the age-old relationship between society and its food. It has its own roots and reinvented every day in new ways that are innovative, surprising, practical, it’s affordable and delicious.

Street food refers to ready-to-eat foods or drinks sold by a hawker or a vendor in a street or other public areas, such as a market or fair. Most street foods are classed as both finger foods and fast foods; they are cheaper on average than in restaurant meals. Nowadays street food has gained its own share of fame and fortune, through worldwide through globalization and worldwide media attention. People travel around the world just to have a great opportunity to have these dishes. Although these dishes may look and taste great, in some cases they can be very unhygienic or unsanitary.

A majority of street vendors rarely wash their hands or wear gloves, this simple method of washing your hands is an effective way of preventing infections, when the street vendors don’t wash their hand before serving you or wear gloves, the bacteria and germs left on their fingers or palms from exchanging money with multiple customer, now your being cooked and served food that is infected with germs and bacteria which will now be transferred to the inside of your mouth this can lead to illnesses and infections such as: salmonella and influenza.

Street foods are sold outside meaning that the food will be stored in high temperatures, which will lead to the bacteria’s multiplying, making you prone to falling ill. According to a study conducted by Institute of Hotel Management (IHM), a common bacteria found in street foods is E. coli, there is an alarmingly high volume found of this bacteria in street foods, these bacteria’s are known to cause diarrhea and gastroenteris.

According to my results, a majority of people consume street foods because it’s relatively cheap, tastier than store bought food or there

are no shops around. People are aware that street food is unhygienic

 9

or unsanitary but they do not how unhygienic or unsanitary it is, most people are unaware that street foods put you at the risk of getting food poisoning or getting food borne diseases.

Not all street foods can make you sick, nether less food safety is a concern we can no longer ignore. Street foods can be safe/cleanly if street vendors keep the vending unit and location clean, working surfaces should be made of water-resistant, easy to clean material and they should be well above the ground. Vending location should be away from rubbish, toilets, open drains and animals. Waste bins with lid should be used and emptied on a regular basis. Basic infrastructure to promote sanitation, e.g. toilets, hand washing facilities, safe water supplies and drainage should be accessible. Food should be protected from dust, insects, dirt and direct sun.

Raw and cooked foods should never be placed together; separate utensils (knives and cutting boards) should be used for handling raw and cooked food. Street vendors should wear gloves or wash their hand with soap and water before serving a customer, after going to the toilet, after touching contaminated objects, for example, money, leftover food, garbage and handkerchiefs, after touching hair, nose or other parts of the body. Vendors shouldn’t use dirty wiping clothes to wipe their hands, they should wear a clean light colored apron, avoid wearing accessories, such as, rings, bracelets and watches, adopt good personal hygienic practices, such as, short fingernails, taking a daily shower, keeping short hair or gathered into a cap or a scarf, refraining from preparing/handling food when showing symptoms of diseases such as skin rash, boils and cuts, running nose, eye and ear infections and diarrhea. Street vendors should avoid bad habits during preparation/serving food, such as, smoking or chewing tobacco, nose picking, coughing and sneezing, spitting over food, tasting food with your fingers.

 10

Raw food, such as meat poultry and seafood and their juices as well as

live animals and food waste, often contain disease-causing microorganisms. These micro-organisms can be transferred to other foods during food handling, preparation and storage. Thus, proper hygienic behavior, particularly frequent and thorough hand washing, remains the first line of defence in preventing food-borne disease.

Hazards should be destroyed; you can destroy hazards by cooking food thoroughly, mainly meat, poultry, eggs and seafood, it should be cooked at 70° C, when cooked; meat and poultry should be colorless without a pinkish appearance. Soups and stews should be boiled for at least 2 minutes or more, cooked foods should be piping hot until served, reheat cooked food thoroughly if needed. If food is cooked long enough almost all dangerous microorganisms in the food are killed and certain toxins are also killed. Studies show that cooking food to a temperature of 70° C can help ensure it’s safe for consumption.

To prevent micro-organisms in food from growing, you shouldn’t leave cooked foods at high temperature for more than 2 hours, Refrigerate all cooked and perishable food (best below 5° C, best above 60° C ); in situations where refrigeration facilities are limited it’s ideal to prepare food in small quantities to reduce the amount of leftovers. Microorganisms can multiply quickly if food is stored at room temperature. By holding at temperatures below 5° C or above 60° C, the growth of microorganisms is slowed down or stopped.

 If a street vendor has doubts about the water supply, they should boil it before adding it to food. If you use ice for drinks, make sure the water is from a safe source. Ensure that food supplied is from safe and reliable sources, if you use food additives make sure they’re authorized and used in the proper amounts. Select undamaged fresh foods. You should avoid moldy food and pay attention to expiry date. Street vendors should wash (and peel if necessary) fruits and

 11

Vegetables, especially if they are to be eaten raw or with little cooking/preparation.

Raw material may be contaminated with dangerous micro-organisms and chemicals. Toxic chemicals may be formed in damaged and moldy foods. Care in selection of raw materials and simple measures, such as washing and peeling may reduce these risks.

Street food vending has become a serious health issue and a great concern reason being because a majority of street vendors lack an adequate understanding of the basic and hygiene issues. In the meantime, there are things that you can do to ensure that you’re eating from a vendor that won’t make you sick; if you’re eating utensil or plate is dirty or there are traces of oil, ask for a new one or at least wipe the plate/eating utensils clean using a disinfectant wipe or tissue. Be aware of where the food is being cooked, where the ingredients are being picked, where the street vendor is preparing the food. Observe the vendor when their making the fruit or vegetable juice, make sure s/he pours it into a clean jug, if the jug is dirty ask her/him to wash it out with fresh water; avoid adding ice to your juice because the source of water is questionable. During the summer season avoid cut fruit, reason being because cut fruits need to be refrigerated and stored at the right temperature to prevent the fruits from being contaminated with bacteria.

Food safety is crucial to reducing the risk of food-borne illnesses that may cause through biological hazards such as pathogenic bacteria, viruses and parasites or chemical hazards or natural toxins.

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| **CONCLUSION** |

The aim of this study/research project is to recommend a solution that will

 12

result in street foods being more cleanly/hygienic/sanitary. My hypothesis

was that a majority of people are unaware of how unhygienic street foods are, the findings were unexpected as the results stated that a majority of people are aware of how unsanitary street foods are but the still consume them anyways because it’s affordable and delicious. In conclusion, I believe that we can make street foods hygienic/sanitary by taking action with others because it’s more effective to work together than to work alone; to faster the exchange and reapplication of practical food safety knowledge.

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| **REFERENCES** |

\* <https://www.cosmopolitan.com/uk/body/health/a31873/unhygienic-everybody-things/>

\* <https://food.ndtv.com/food-drinks/how-unhygienic-is-the-street-food-we-love-767051>

\* <https://www.dailymail.co.uk/indiahome/indianews/article-3101342/I-never-eat-street-food-reading-report-Scientists-appalled-tests-Delhi-food-stalls-high-levels-faecal-matter-golgappa-momo.html>

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| **ANNEXURE** |

**SOUTH AFRICAN YOUTH WATER PRIZE COMPETITION**

1. **Learner’s name:** Thapelo Lindelwa Tlou
2. **Year:** 2019
3. **Email address:** tlouthapelo05@gmail.com
4. **Name of school:** Empangeni High School
5. **Project topic:** Why street food is unhygienic/unsanitary
6. **Province:** Kwa-Zulu Natal

 13