AN EMPIRICAL STUDY ON SANITIZATION AND CLEANLINESS PRACTICES FOLLOWED BY STREET FOOD VENDORS OF BODHGAYA

*Shantanu Jain[1] and Sachin Anand[2]

[1]Teaching Associate, IHM Silvassa, [2]Teaching Associate, IHM Bodhgaya
jainshantanu1995@gmail.com

ABSTRACT

Background: *In the fast paced life of today, where dynamism and easy availability of 'next best' alternative is prevalent, one focuses on keeping himself on his toes every moment of the day so as to have a niche over the competition. Because of this cut throat reality, the individual can never focus on secondary activities that are required for a healthy lifestyle, and one of the most common activities in that would be eating nourishing meals. Rather than excelling in their professional fields by avoiding other activities like eating properly to save time, eating such unhealthy food creates diseases which get them to back away from their work and focus on their weakened immunity which results from such unhealthy eating. It is a very well known fact that about 40% of the people tend to eat more when they feel stressed. What quality of ingredients they use, what is the water quality, what are the storing techniques of raw as well as cooked food are some of the many questions which are better left to the unambiguous.* **Objectives:** *To elucidate the hygiene practices, if any, followed by the street food vendors. To Analyze the present trend of cleanliness and hygiene at street food carts. To study about the customer perception towards cleanliness.* **Methodology:** *This explorative study, intends to portray the sanitation procedures and practices followed by the street food vendors of the city Bodhgaya, which is in the state of Bihar.* **Results:** *The data analysis was done, it was found out that out of a score of 130 the average was 108, with 3 main parameters of Food, Water and other parameters with 13 sub headings. 20.25 was the average for water (out of 30), 33.6 were for water (out of 40) and general cleanliness and hygiene levels were at 49.6 out of 60.* **Conclusion:** *The parameters of hygiene were being adhered depending on the feasibility of the food handler this demands for increasing the awareness and quick checks by the governing body.*

Key Words: *Street Food, Sanitization, Cleanliness, Professional Life, Competition*

INTRODUCTION

With the millennial mindset setting upon, cleanliness has become of paramount importance for everyone, especially in regard to what they eat. Whether we observe in real life, or we follow something online, people are very much interested to know how something they eat is prepared, rather than just relishing the thing they ordered. Of course, it is a very cautious and protective to know how your food is handled and prepared, whether the chefs use gloves when using hands, whether the utensils they use are clean or not, whether the surroundings they work in are clean or not are some of the most common questions one asks whenever the two dependent variables of food and sanitization are asked.

Talking about the first variable in this study that is food, street food to be precise, Street foods are known to be ready-to-eat meals cooked and/or sold by street food hawkers and vendors, especially on, as the name suggests, on the side of footpaths and roads, and other public spaces, which are similar to them, most of which include parks, spaces outside study institutions, bus stops, railway stations, metro stations etc. Some more public places would include schools, markets and festivals. (Codex, 1999)

A street food seller is basically defined to be a person who sells self prepared food to the public, in a temporary built structure along with a temporary static structure which is pushed or pulled through handles, and usually cart wheels are attached for easy and convenient mobility. (Janie P, 2010) Foods prepared as well as sold from the streets provide the vendors with a steady source of income, and provides the buyers as well as the consumers with a stable source of cheap, hassle free source to get food and sometimes, nutritious food for a varied clientele, as dependent on the location which the street food vending cart is located; a source of different and exotic food for tourists that visit a newer environment, and finally a good source of earning money and becoming self reliant, for a vast number of women. To conclude, it is also a good business development because of low cost to set it up i.e. the amount of capital required is very less as compared to set up a proper fully fledged registered business. (Abdulkareem, 2014).

Food sold on the streets, if we look into it theoretically, is a very important part of an area's cuisine. These foods represent the local eating habits of the residents which signify the culture, which can be something new to the whole world. Besides, it plays an important role in preserving the social as well as cultural heritage of that particular area. Street food also attracts the tourists appetite for a different taste and experience, and by doing this the tourist plays a major role in contributing and supporting the country's tourism, as the word of mouth has a lot of power and potential to expand the experience that the tourist can spread. The benefits of such street food selling is two-fold, first it provides the seller with self sustained employment and seconds, it

supports the country's tourism. Such food items are highly in demand, both by the consumers, in the form of tourists, as well as sellers because of many factors, some being their tastes, low cost and easy availability (Barro, 2002)

As we talked about how street food business is specifically a very good source for earning income and becoming self reliant for women, this factor matches up with the fact that the city census of Gaya city, as per the 2011 census of India points out the population at a figure of 468,614; of which male and female factors are 247,131 and 221,483 respectively, so a city which is made up of about 47.26% women, it is not surprising to see more and more food stalls, opened and operated by females. A city with a population that makes up to a total 5% population of Bihar state, convenience and options' demand have increased. Also with a literacy rate of 63.67%, female literacy was recorded at 53.34%, which is just half of the total, it showed not only as an opportunity, but a necessity to find some sort of employment for women.

Following below is a pictorial representation as to why there is a direct relationship between poor sanitzation and safety practices related to food handling as well as safe preparing of food prepared as well as sold in streets. Factors such as additional costs, to source clean water, storage boxes etc hinders the hygiene factor, whereas the root cause of improper sanitization is the the vendors are illiterate as well as unaware of the present trends that are going around related to food as well as sanitization.
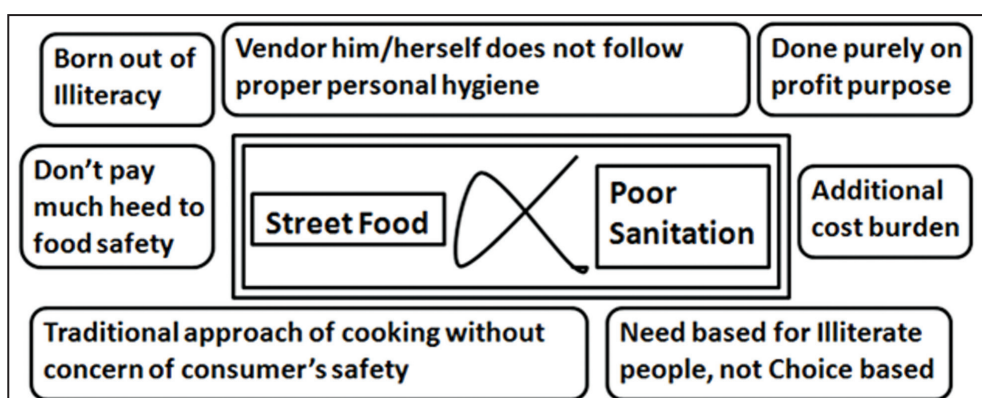

Figure 1: Relationship between street food and sanitation

The popularity of street food rose to the level it is today due to many factors. The migration of urban youth to somewhat rural areas, mainly because of big multinational companies are expanding their presence into less developed areas so as to tap the local resources, both human as well as natural. This foray into less developed areas can lead to development as well and thus demand for basic as well as convenience commodities increase. The illiterate population here thus takes up the business of selling street food. Newer employees in these multinationals thus are highly motivated to perform better and are not able to focus on any other activities than performing their

work. Street foods here thus can optimize their schedule and they don't have to focus that much on eating or cooking as a readymade solution is set in front of them. This here leads to problems of reduced efficiency of the immune system and other water and food borne diseases, as the food vendors, as discussed above are majorly illiterate and they do not think about factors like hygiene and cleanliness, or personal hygiene too for that matter and only work on the principle of cutting corners to earn maximum profit. They do not have a lot of money to invest, and prefer to select the most basic facilities, on the basis of need rather than comfort to run their business. The cooking Utensils, plates etc are sometimes even second hand bought and no proper record as to what those tools have been subjected to, when talking about proper maintenance and cleanliness. (Thakur, 2013)

As far as logic goes, there might not be even a single country that does not have a proper street food culture, or its own cuisine for that matter. Street foods are very popular everywhere and are preferred in a lot of countries by the people because they are available everywhere, are light on pocket, and finally, they have a lot of verity. Thus, consumption of such foods, cooked and sold on the street is pretty common all around the world. With such a hot topic of today's times, there have been many studies undertaken about the 2 variables: diseases and street food, but because of a massive learning gap about hygiene, which although is not very uncommon or for that matter surprising the researches have never been in a way 'point proving' when strictly talking about street food and hygiene and the measures taken by the street food vendor.

Street food in many ways reflect the traditional essence of a particular area and are consumed in as snacks and drinks which portray the ancient culture and the cuisine resulting thereof in countries, along with judgment parameters like how the street food vendor employs sales tactic to sell food, how it is actually prepared and what is the way to properly consume it. (Sert, 2010) But that being said, as in the case of all the businesses and start up, street food vending involves some level of risks. Some of these risks might be of Illegal sales, inviting heavy fines because of occupying pavement without permit, long queuing which might disrupt road traffic, causing accidents, being fined because of occupying the pavements, and far off worse, in the developing countries, child labor. As discussed before, the initial seed money or the capital invested into the business of street food is not too much, as compared to other businesses, it sure help the poor families in meeting their daily nourishment. Talking about the human tendency of getting attracted towards something that shouldn't be attracted towards, street food which isn't good for health, majority of the people cannot just stop consuming it. Especially, in the case of students, even when they know there is no proper nourishment in the food, they still go ahead and eat it, mainly because it does not take long to cook it up, and with their limited pocket allowance, they are cheap. Those researches which couldn't effectively prove the relation between hygiene and street food, one point was clearly

established that there appears a positive correlation amongst the how frequent people eat outside and prefer consuming street vended food. (Campbell, 2011)

As per (Chapman, 2010) about 70% of the total food related disease outbreaks are linked to the foods which are sold and cooked on the street, which was proved with supported evidence, presented by (Mensah, 2002), exactly point towards a principle, which honestly is not surprising, and that is that the street food is a strong source of enteropathogens. Approximations given out by the World Health Organization, points to the fact that illnesses which originate from food related shortcomings account for almost 2.2 million deaths per annum, out of which about 86% demographic belongs to children, of ages between 5-12. Street food business owners are most of the times, if not always blamed whole heartedly for the spread of food-borne diseases, cholera outbreaks in particular, across the area and so as to control the public outcry, are most of the times banned for a particular time period, as a desperate measure to control the outbreak. Thus, the need for cart seller owners to maintain highest possible ad feasible standards of hygiene as well as the environments where they do their business is of top priority. Such hot topic priority has initiated a lot of research work with scholars and authors tying to lay out some sort of problem statements which are of related nature. The results also have shown problem levels as well as common objections put forth, and to support that, also given out alternatives so as to control and reserve them. The objectives of the study were:

- To elucidate the hygiene practices, if any, followed by the street food vendors.

- To analyze the present trend of cleanliness and hygiene at street food carts.

- To study about the customer perception towards cleanliness along with preference variables of taste and hygiene.

METHODOLOGY

An exploratory research framing has been done to know in depth about the safety measures as well as hygiene practices followed by the street food vendors. of Bodhgaya city. The primary data was collected by field study as well as summarizing the recordings from the 14 point analysis scale, made to judge various parameters of the street food cart on the basis of 3 main headings, Food, Water and Generals. The secondary data was collected from research papers of the same topic, journals, periodicals and magazines and internet articles.

The study took place in Bodhgaya City, a place very famous for its Buddhist culture and attracts a lot of international tourists, whose demands for the limited time period that they are visiting are different. As compared to Indians, who don't pay much heed to cleanliness or hygiene but are only

concerned with taste, westerners in general will prefer a clean and a hygienic place, regardless of how delicious the offerings are.

10 street food vendors were selected as samples for the study, by employing simple random sampling process. The general public opinion of public was recorded as well and added as anecdotes in the main analysis so as to have a varied analysis. The place where the study was undertaken was Bodhgaya City, a place very popular for its Buddhist culture and traditions, and thus inviting a lot of international tourists to experience the same.

The hygiene and cleanliness judgment was done using 14 point analysis scale, which allotted scores of 1-10, 1 being the lowest standard of hygiene maintenance and cleanliness and 10 being the highest. This was done through a visual inspection by a field study of the places, those carts were located. To get a varied and conclusive result, 10 carts were analyzed. To further strengthen the point a questionnaire was framed so as to know more about the customers of the particular street food cart, and what do they think about the hygiene and sanitization factors related to that cart. The questionnaire that was framed contained 10 straightforward questions which found outwhether the customers only care for taste or about hygiene as well. Sample of the analysis scale:

Table 1: Sample Analysis Scale

Food			Water				General					
Raw Food	Cooked Food	Oil Quality	Cooking	Washing	Drinking	Source	Cooking Utensil	Serving Plate Cleaning	Cart	Sunounding	Waste Disposal	Personal Hygiene

RESULTS AND DISCUSSION

It was noted that none of the street food carts scored below 7.5 and above 9, which in a general term, analyzed that the relative hygiene levels were above satisfactory, mainly because the place is a very popular tourist attraction for Buddhist Monks and followers all across the globe. Talking about personal scores, out of 130, the highest was 116.5 & the lowest was 104.5.

Table 2: Overall Comparative Analysis Scale

NO.	FOOD (A)			WATER (B)				GENERAL (C)						TOTAL
	I	II	III	I	II	III	IV	I	II	III	IV	V	VI	(130)
A.	9	8.5	8	8	8	8.5	8	7.5	8.5	8.5	8	7.5	8	106
B.	9	9	7.5	8.5	8.5	9	8	8.5	8	9	9	8.5	8.5	111
C.	8	8.5	8.5	8	8	8	8	7.5	8.5	8	8.5	8	9	106.5
D.	8.5	8	8	8.5	7.5	8	8.5	8.5	8	8	8.5	8.5	9	107.5
E.	9	9	9.5	9	9.5	9.5	9	9	9	9	8.5	8	8.5	116.5
F.	9	8.5	9	8.5	9	9	8	8.5	8.5	8.5	8	7.5	8	110
G.	8.5	8.5	8.5	9	8.5	8.5	8	8.5	8.5	8.5	8	7.5	8	108.5

NO.	FOOD (A)			WATER (B)				GENERAL (C)						TOTAL (130)
	I	II	III	I	II	III	IV	I	II	III	IV	V	VI	
H.	8	8	8	8.5	8	8	8.5	8	8.5	8.5	8	8	7.5	105.5
I.	8.5	7.5	8.5	8	8.5	7.5	8	8.5	8.5	8	7.5	8	7.5	104.5
J.	8.5	8	8.5	8.5	9	8.5	8.5	8	8.5	8.5	8	8.5	8.5	105.5

I(A)	:	Raw Food
II(A)	:	Cooked Food
III(A)	:	Oil Quality
I(B)	:	Cooking
II(B)	:	Washing
III(B)	:	Drinking
IV(B)	:	Source
I(C)	:	Cooking Utensil
II(C)	:	Serving Plate Cleaning
III(C)	:	Cart
IV(C)	:	Surrounding
V(C)	:	Waste Disposal
VI(C)	:	Personal Hygiene
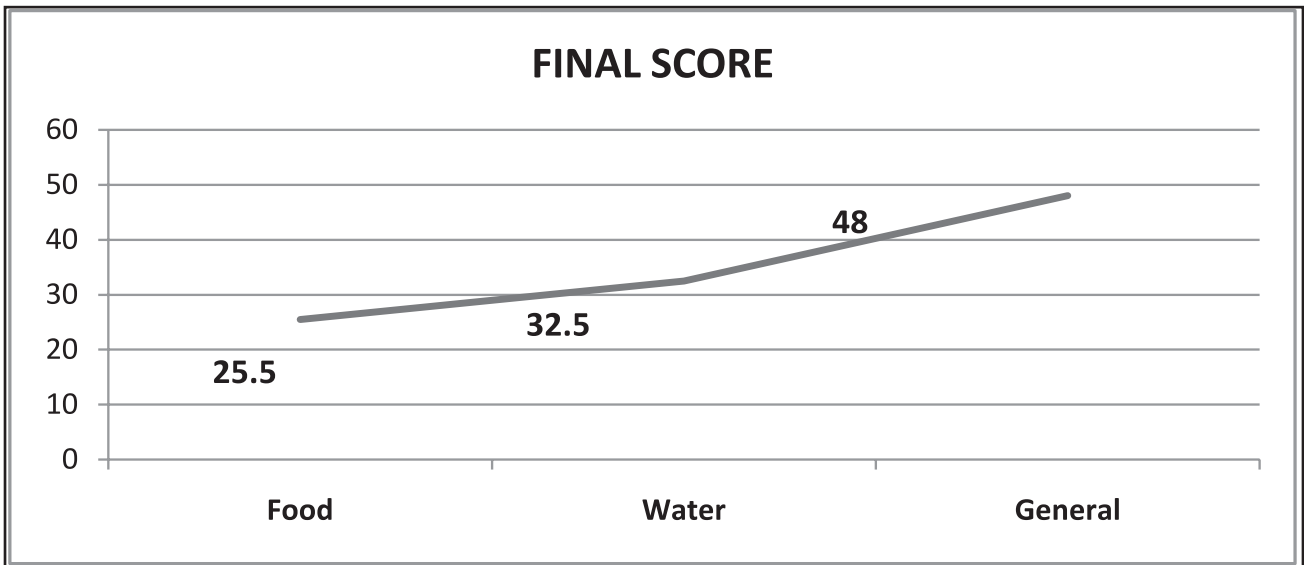
Figure 2: Overall Score of Cart A

Cart A scored 25.5 out of 30 in food related parameters, which shows that they focus serving acceptable levels of quality to their customers. 32.5 out of 40 were obtained in water related parameters, which showed that water was sourced as per convenience and not on the basis of cleanliness and safety levels. To conclude, the remaining 60 mark part of general parameters had 48 marks, which again showed a lack of knowledge as well as intent
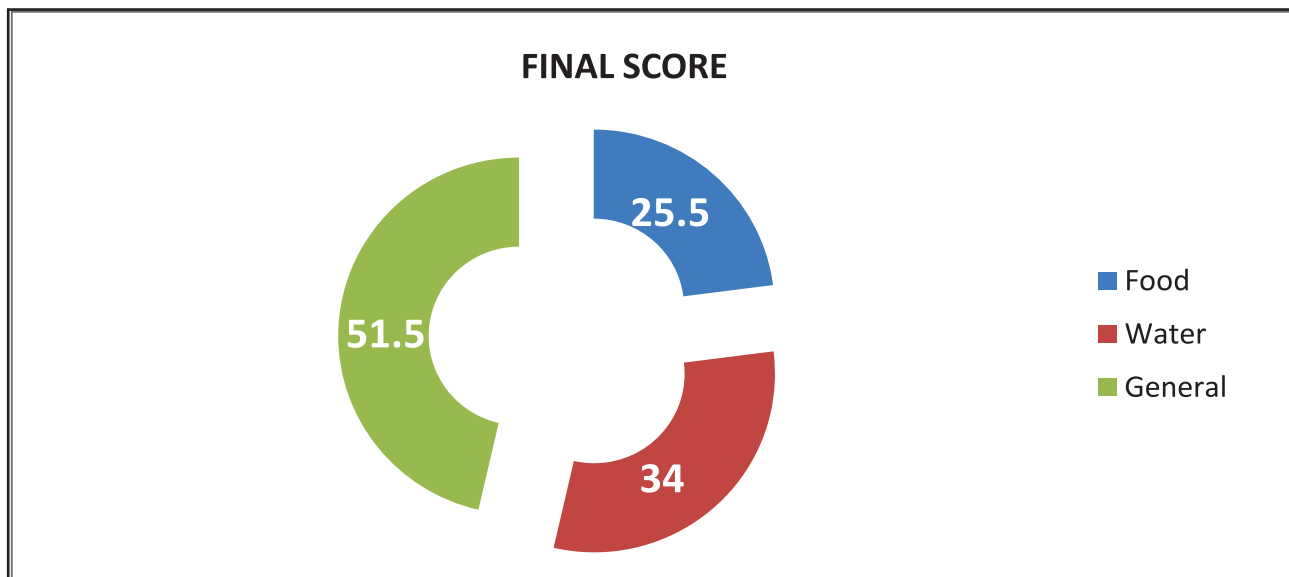

Figure 3: Overall Score of Cart B

Cart B again scored 25.5 out of 30 in its food related parameters. One thing to note was that it scored 9 out of 10 in both Raw material handling as well as cooked food handling, which showed its intent in serving fresh and quality food. 34 were obtained out of 40 in water related parameters, and finally 51.5 out of 60 was general natured, which again showed the intent towards cleanliness.
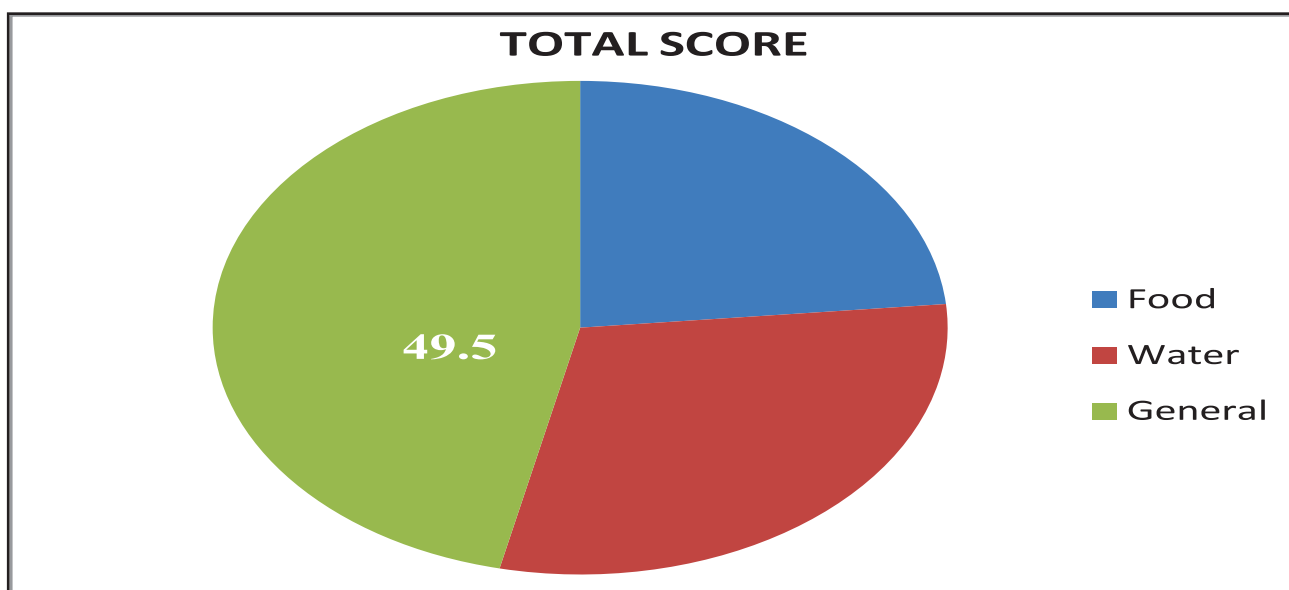
Figure 4: Overall Score of Cart C

Cart C scored 25 out in 30 in the food parameters. In water, out of 40, 32 were obtained in water parameters and finally 49.5 in general parameters, showing a lot of potential to improve from the current position that they stand upon, which was 4th from the bottom.
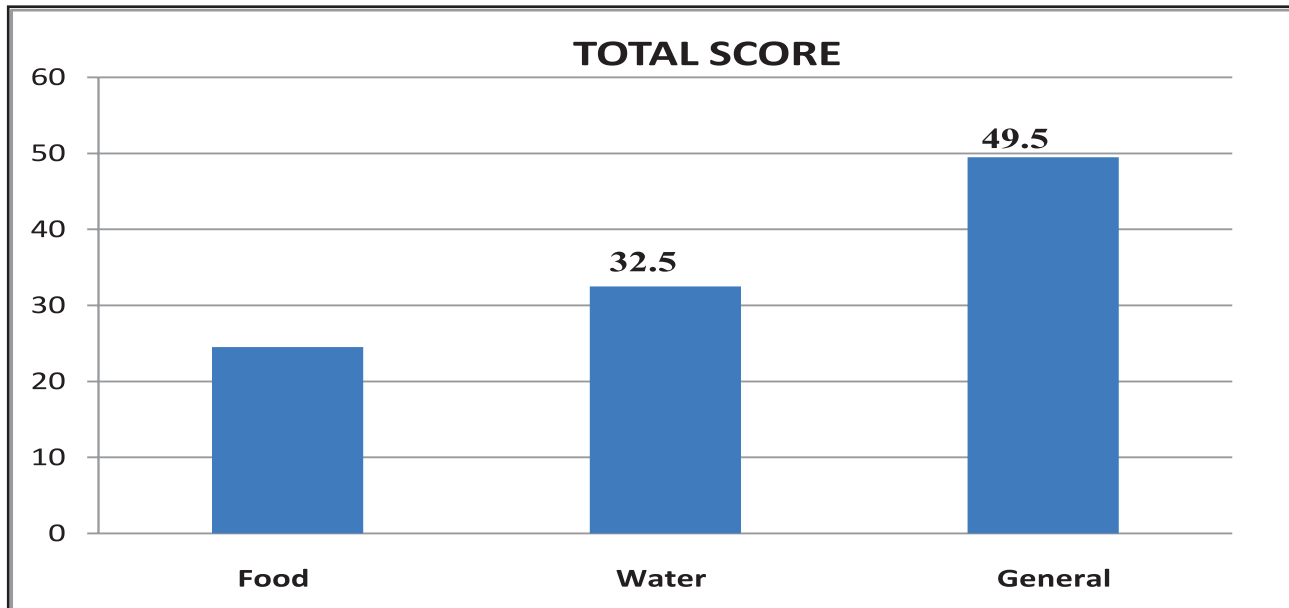
TOTAL SCORE

(bar chart: Food ≈ 24.5, Water 32.5, General 49.5)

Figure 5: Overall Score of Cart D

Cart D scored 24.5 out of 30 in food relared parameters, which showed that regardless of the fact they add "famous chat" in their name, the food handling was poor. 32.5 was obtained from 40 in water related parameters, again not showing anything over the top, and finally 49.5 ou of 60 in general hygiene levelm which oncluded this place as an unhygienic outlet.
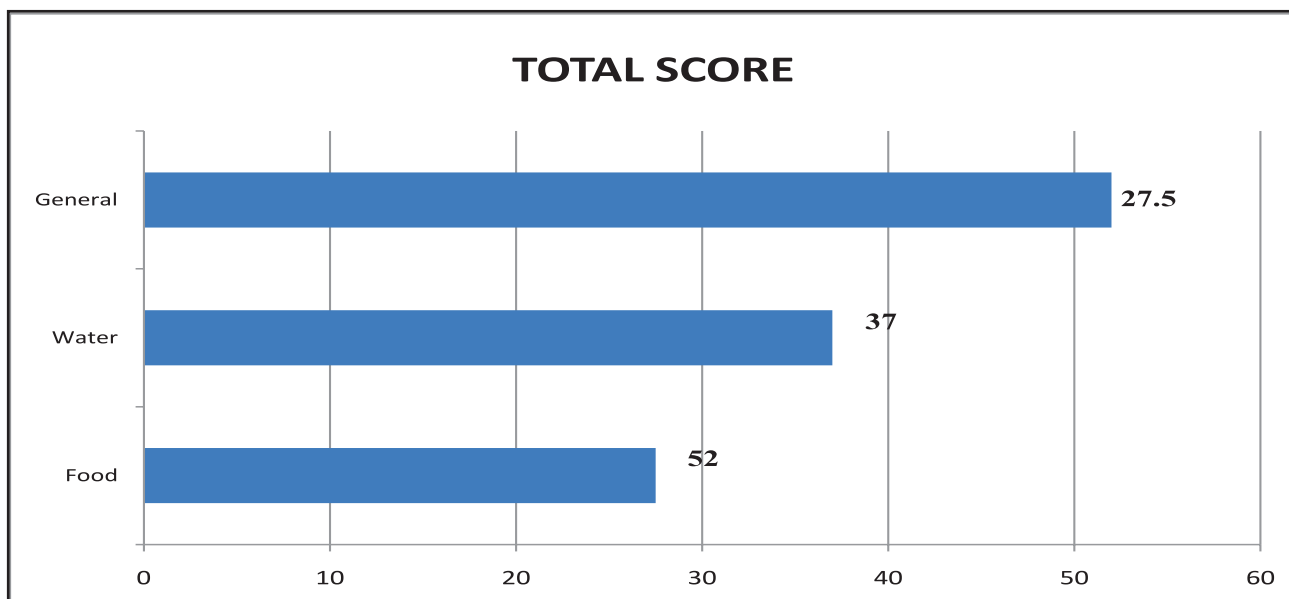
TOTAL SCORE

(horizontal bar chart: General 27.5, Water 37, Food 52)

Figure 6: Overall Score of Cart E

Cart E 27.5 out of 30 which were the highest food parameter score out of all the subject food carts. 37 was judged out of 40 in respect to water parameters, again the highest score, and finally 52 were scored out of 60, for general cleanliness. A point to be noted is that this food outlet scored the highest amongst all, with a total score of 116.5 out of 140 and highest individual scores under all 3 judgment parameters.
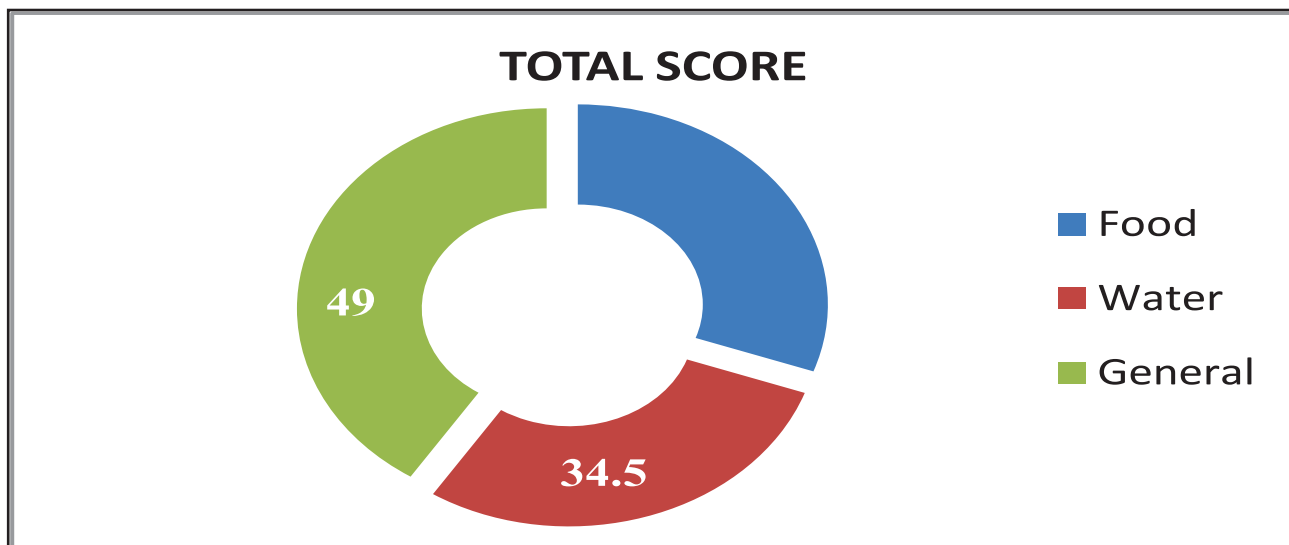

Figure 7: Overall Score of Cart F

Cart F scored 26.5 out of 30 in food parameters which as compared to others, was very good. 34.5 was scored out of 40 in water related parameters, again a good score but it slipped to 49 out of 60 in general related parameters, thus placing cart F in 3rd highest score. Despite of the fact that this technically was a sweets shop, saving a lot of points on cleanliness, food handling as well as hygiene, they failed to maintain even the basic hygiene.
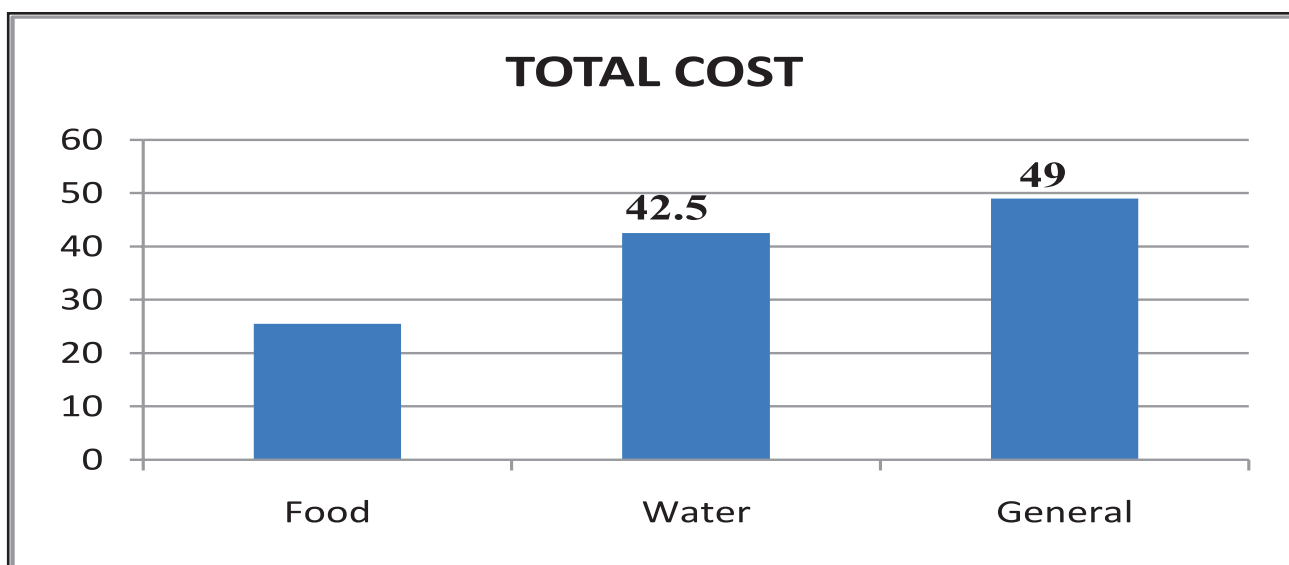

Figure 8: Overall Score of Cart G

Cart G scored a meager 25.5 out of 30 in food related parameters, 42.5 out of 50 in water related parameters which was a satisfactory performance, give that they scored an average of 8.25 out of 10 having majority of 9's in there along with a couple of 8.5's and this showed they were aware of the water safety and hygienic consumption. Finally a 49 out of 60 mark was recorded when talking about the general upkeep and hygiene. This parameter had 6 sub-parameters in them, and overall, an average of 8.16 which was again a satisfactory score.
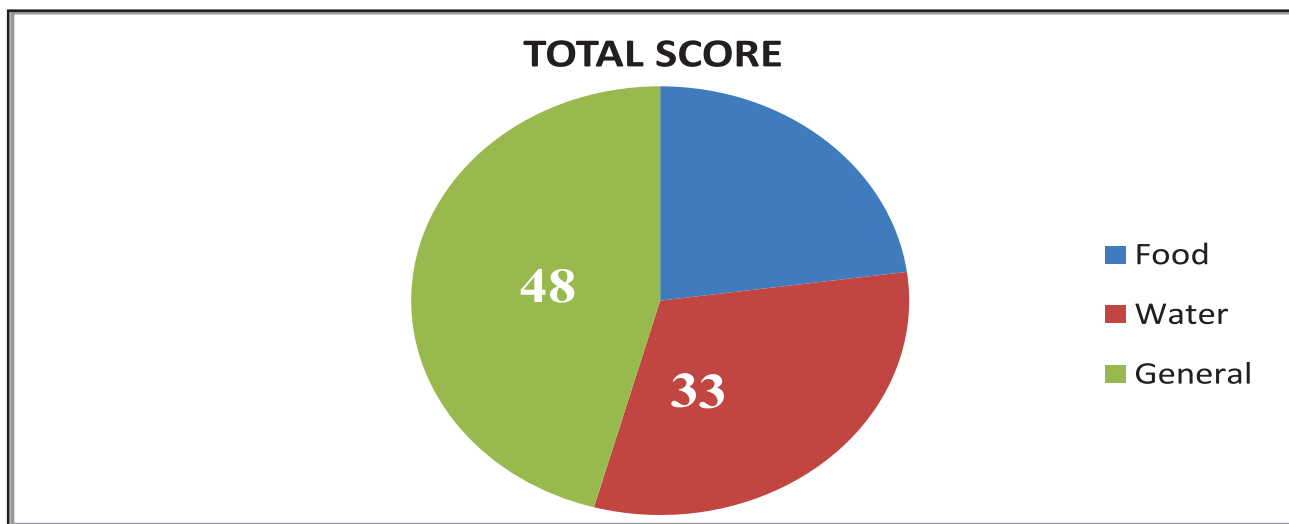

Figure 9: Overall Score of Cart H

Cart H scored 24 out of 30 in food parameters which averaged 8, a decent score, and 33 out of 40 in the water related parameters, which averages to around 8.25, which is again a decent score. While the data pointed out towards a satisfactory food and water handling, the general parameters indicted towards a 48 out of 60 score, again reflecting a satisfactory provisions given for general hygiene as well.
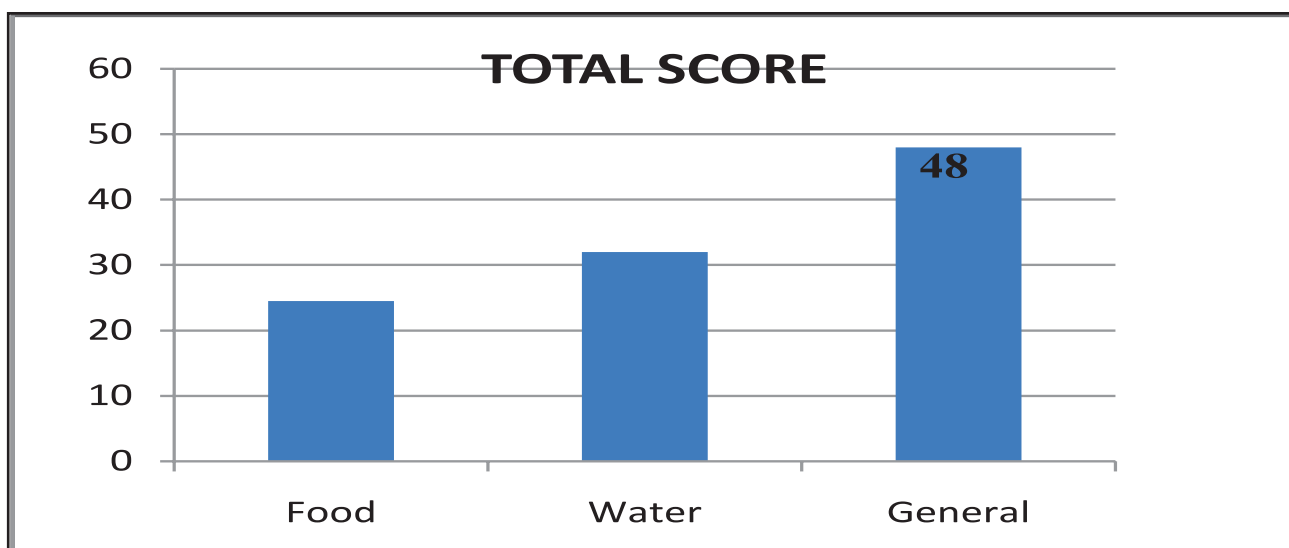

Figure 10: Overall Score of Cart I

Cart I was the least scored outlet which was selected as a sample for the study. Talking about the food, 24.5 out of 30 was given, which averages to 8.16, not a very good score the water parameters were adjudged 32 out of 40 which averages to a 8 in total, and lastly the general parameters were tabulated at 48 out of 60, which tabulates to a total average of 8 again. A very important point to be noted here is also that this sample was scored the least; out of 130 it scored 104.5, showing a lot of discrepancies in hygiene.
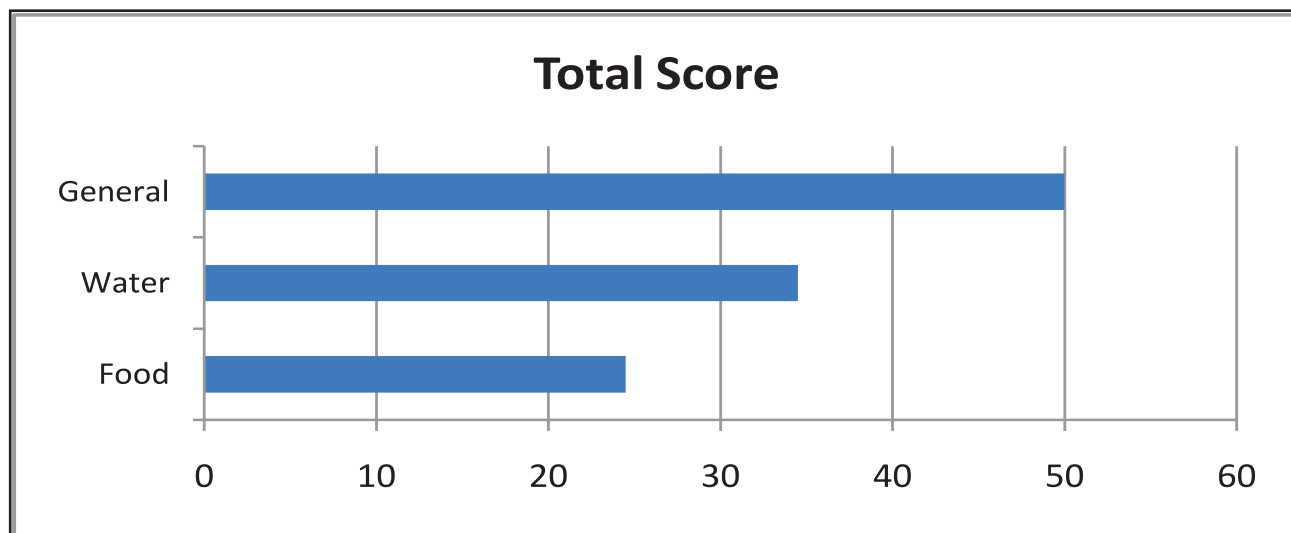

Figure 11: Overall Score of Cart J

Lastly, Cart J scored 24.5 out of 30 in food parameters, 34.5 out of water related parameters like drinking water and washing water and finally the general related parameters were scored at 50 out of a total 60 mark test. This cart fared better than the rest but again, it could have been better as there was scope to improve beyond what was analyzed.

The study recommends a little education towards proper sanitization and storage procedures which already have been started at IHM Bodhgaya under "Tourism Awareness Program" and "Skill Development Program" This co-relates to Sesgin's study which stated that Microbial and air pollution are big threats to proper Sanitization maintenance and cleanliness. The study also depicts about the un-availability of strict legal laws which govern the preparation and selling of sea food, which has increased the rise requirement of education and awareness on the topic.

CONCLUSION

Bodhgaya city, popularly known for Buddhist culture and monasteries, which attracts a lot of foreign tourism as well, and has a lot of street food options to avail from, right from Chaats to Pakodas. The study focused on Sanitization arrangements at the street food stalls as well as the awareness and mindsets of the street food vendors. 10 places were selected, on the basis of variety

and convenience for the analysis study and judged on 13 points, using an analysis scale which had main 3 parameters of Food, Water and General. Out of 130, the highest score recorded was 116.5 and the lowest score was 104.5. The average score of food related parameters for all 10 places were 20.25, water related parameters were 33.6 and general cleanliness and hygiene levels were at 49.6. The overall average of these 10 places were 108.6 out of 130, thus showing there was a little awareness of hygiene and sanitization procedures, but again as all street food business minds focus on profit more than anything, hygiene factors were conveniently avoided. At the on-Field analysis, it was also found that there was no balance between the selected samples, some were very clean and some were very dirty, thus depicting that as per the convenience, and not as per compulsion factors, the owners kept their surroundings clean.

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