

To study the awareness of food security and need of portion control in quick service restaurants

¹ Dr. Nandkishor Sarode, ² Prachi Hajare Wani

¹ Director - Abhinav Education Society's, Institute of Management & Research, Mekarwadi, Maharashtra, India

² Ph.D. Scholar- Saviribai Phule Pune University, Pune, Maharashtra, India

Abstract

“Government may ask hotels to specify portion size to check wastage of food”, this news suddenly gave hoteliers a very alarming evening for sure. It came as a surprise to many people that how can now government start controlling the portion size which is served in the restaurants, but the need has arisen, as the food wastage has become not only an Indian but a global problem.

Food wastage and food security has unexpectedly become an important topic of discussion from the time Indian government has proposed a legal action to control the food portion that is served in the restaurant or in of the social events. The thought behind the proposal is very noble, but will it be really acceptable in India by consumers? Probably No.

Regrettably law should not be the only mode to control what people eat. It is important for consumer to understand the kind of wastage that is happening around us. A group of professors from University of Agricultural Sciences (UAS), Bangalore studied 75 Bangalore wedding halls for 6 months and found out that the 943 tons of good quality food was wasted which could actually serve to 2.6 crore people. Today it has become very important for people to understand the meaning of food security and a link in between the food security and food wastage.

The study aims to understand the awareness of food security and the importance of food portion control in the Quick Service Restaurant.

Keywords: food security, food waste management, food portion size

Introduction

Food wastage in various countries have given a disturbing message to all the world leaders. The figures of are food wastage are very alarming. According to a report published by, Rebecca Smithers food wastage is going to reach to, £194bn annually by 2030 which is around 19400 crores. One third of the food produced worldwide goes waste, either cooked or not cooked.

According to the Food and Agriculture Organisation (FAO), a shocking 1.3 billion tonnes of food is being wasted annually. The FAO report further states that one-third of the total global food production is wasted, costing the world economy about \$750 billion or Rs47 lakh crore. A report by the National Resources Defence Council (NRDC), stated that 40 per cent of the food goes uneaten in the US, whereas in Asia, India and China cause a loss 1.3 billion tonnes of food wastage every year. India ranks 7th when it comes to food waste (Poultry, milk and agriculture) and Russia tops the list.

Worldwide various government from different countries are or have tried controlling the food wastage by putting legal bracket. Scottish and French government has made compulsory to provide doggy bag in the restaurant which allows customer to carry leftover food with the customers. United Kingdom has food waste supermarkets which provides customers to buy food which is wasted by food business at pay as you feel rates.

Food wastage in India

India positions 63 among 88 nations in Global Hunger Index with 20 crore, Indians resting hungry on any given night, yet regardless of this, almost 21 million tons of wheat are wasted in India every year as opposed to reaching the needy. The Government has tried numerous endeavours to get control over nourishment wastage however plainly, the understanding of the

issue is with the end goal that the effect of these events is scarcely up to the stamp.

Food wastage actually starts from the harvesting till cooking. Reducing food wastage has to be a combined efforts of the government and the people of country. Recent study by IIM Kolkata revealed that only 10% of the food get cold store facility, so supply chain management is one of the reason which leads to tremendous food waste.

Food wastage makes the country's economy weak to an extent that most of us are unaware. If food is wasted, there is so much waste of water used in agriculture, manpower and electricity lost in food processing industries and even contributes to deforestation. Taking all of into consideration, the actual worth of money per year in India from food wastage is estimated at a whopping Rs. 58,000 crore.

According to Feeding India website, Hunger kills more people than TB and aids and malaria combined, this fact is very disturbing. India has 194,000,000 people undernourished, that takes India to the top most position in hunger list globally. Another disturbing fact is 1.3 million children die in India because of hunger.

India also ought to take a lesson from worldwide practices to handle wastage issue. For example, France has passed consistent enactment obliging stores to either give unsold nourishment to charity or send it to agriculturists for use as encourage and compost. Establishments in Canada are recouping unused and pristine sustenance from retailers, producers, eateries and food providers and sending them to philanthropies, in the process conveying elements for more than 22,000 dinners every day. We as country will have to focus on better storage facility, improved transport and a better food processing system.

There are many small Non-government organisation who have

started coming together to help people distribute the food which is getting cooked and not used, like Robin Hood Army, Lets Feed Bangalore, Lets Spread Love, and Giftamealinindia are helping feed people by various means. Cutting down food waste is going to surly boost the efficiency, productivity and further the economy of any country.

Food Wastage and Hospitality Industry

India’s culture has lot of diversity when it comes to religion, language, dance, music, architecture, and food. Every state and further every city of the state has a special food to be offered, like Biryani in Lukhnow, Puran Poli in Maharashtra, Dal Bati in Rajasthan, Dal Khichdi in Gujarat, Rasam and Rice in South and the list goes on. India is a country where food plays a very vital role in the culture, as the food is directly linked to welcoming the god and also to guest. The number of preparations that are made to offer to god, guest and to everyone are also uncountable. Indian people serve a variety of food for every small occasion that they want to celebrate, and the celebration here are unlimited. Every festival will have minimum 5-6 preparation getting cooked. Weddings are extremely important for people to show how much they can offer to the opposite party and to all the guest. A simple wedding will have minimum 2 vegetarian and 2 non vegetarian starters, 01 soup, 02 non veg main courses and 3 veg course with assorted Indian breads, 03 salads, a dal and a rice preparation, to end the meal minimum 3 desserts are

offered. In addition to this the latest trend is to have various country cuisines and their live station s when a Chef cooks food according to the customer’s choice. This leads to having more than 10 types of courses on the plate at any given point.

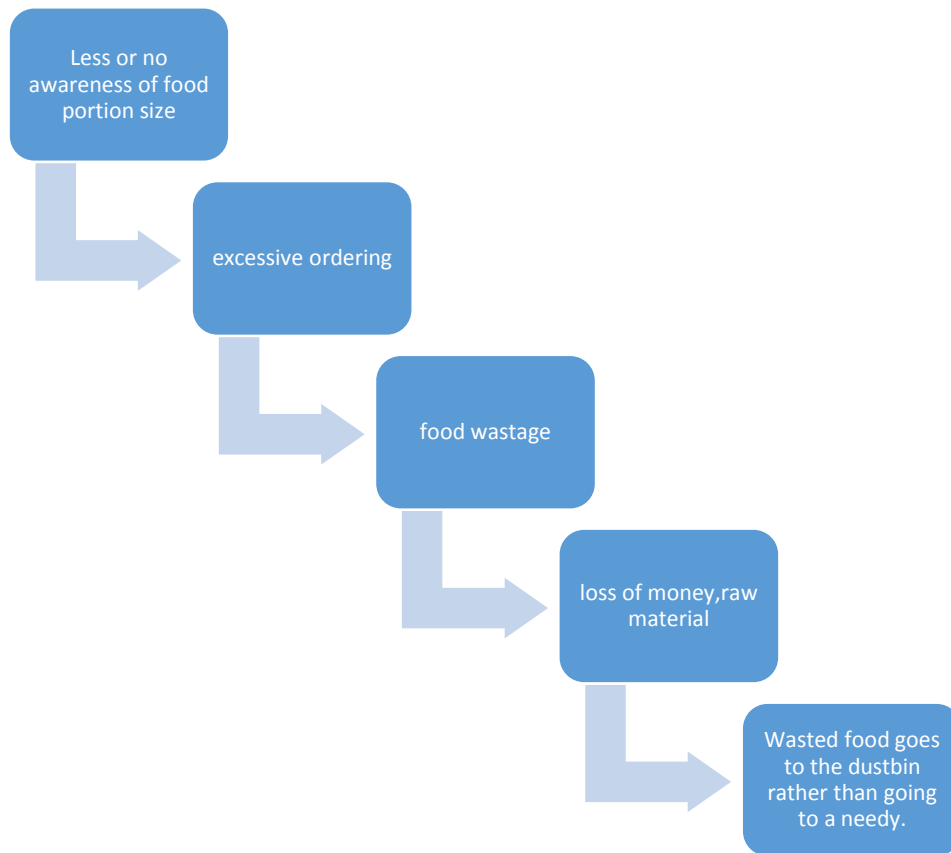
The same culture is adopted by Indian Hospitality Industry while serving customers in the restaurants. Every restaurant has a menu card which offers 20-30 varieties of starters which are veg and non-veg, 10-15 types of soup, 25-30 types of veg and non-veg preparations, 10-15 types of salads, and around 20 types of desserts. The number changes in every style of restaurant.

Today’s customers are getting very demanding with the globalization happening around and allowing people to explore the variety of international food with the domestic offers.

Indian fast food industry has evolved from 1996 from the time McDonald entered in Delhi. The current QSR market growth looks very bright with the domestic and international players capturing the market with low priced menu, accessible outlets, and heavy promotions.

The portion size in the QSR is either not sufficient or over sufficient. A burger can not may be suffice for one person, or a pizza is little too much for one person. A meal in the QSR may have a beverage, a burger or fries which might be too much to offer. No brand actually suggests the portion size looking a number of people in QSR.

A short cycle of how the food is wasted due to lack of awareness of food potion size



There is no definition for a right portion size, but this tends to lead over buying and further leading to wastage.

Review of Literature

1. Agarwal, Nag (2013), speaks about food security which means food availability and access to the same. The world

health organisation refers to threes facets of food security which are food availability, food access and food use. India faces all three problems. The food availability is unfortunately only with upper class, no accessibility to lower income class. The rich class is enjoying verity of food by throwing lavish parties. At Bangalore annually 943 tonnes of

food goes waste during wedding season, which is enough to serve 2.5 cr. people. It also studied an intuitive taken by centre for communication development Jaipur which helps in reducing the food wastage to zero percentage from wedding, temples, parties and restaurants.

2. Ngoc Bao Dung Thi, *et al* (2015), studied that developing countries have no full proof plan for control the food wastage, as there is no law which helps in keeping a tab on the amount of food getting waste. India and china have no roper infrastructure to support the collection and further treatment for the food. Both the countries have contributed maximum in food waste generation. Taiwan has a successful management system which helps reducing the food waste by using technology and a strict control by government. In 2002 Taiwan initiated a programme named total recycling for kitchen garbage which segregated food waste from house, restaurants and hotels. It was use as animal feed and fertilizer. The country aims to achieve zero wastage by 2020.
3. Alexandra Betz *et al* (2014), observed that food loss is directly, linked to the supply chain management and further linked to the operation of the food and beverages outlet. An important aspect identified was that if a portion size is decided by the customer rather than a chef food wastage was less, hence it was suggested to ask the customer about the portion size and further decide. It was also observed that food liked by guest was then not wasted or less wasted. There was no wastage with regards to the fruits and desserts.
4. K. Silvennoinen *et al* (2012), studied that roughly one third of food produced is wasted globally. Food waste in every restaurant is different, as it is linked to the type of restaurant and the kind of service it offers. During the study the restaurants representing this sector discarded 19% of all produced and served food. Of that 6% was kitchen waste, 5% service waste, and 7% leftovers. In the fast food sector food waste was only 7% of all handled food, 2% of this was kitchen waste and 3% leftovers, and 2% service waste+. One o the fact mentioned is that wastage during food cooking is less than the wastage during food service or after food service.
5. Sahithi Andoju (2017), mentions in her online article that a

team of 10 professors from the University of Agricultural Sciences (UAS), Bangalore, did a survey of 75 Bangalore weddings for 6 months and found out that that the wastage of over 943 tonnes of good quality food was done which will suffice 2.6 crore people a regular Indian meal. Hotels and restaurant also contribute lot to the kind of wastage.

6. Stuti Agarwal stated in an online article, that there are few steps a restaurant can take pertaining to preventing the wastage. The first thing is to reuse something which is not fried or which is half cooked. It is essential to calculate which is required which comes only when you are experienced. Appointing food controller for a chain will also help, as they have more technical knowledge about food cost and control. One more identified suggestion is to plan workshops related to food control, which are common in overseas. The food can be also given to employees once the daily operations is over for a day. Food distribution amongst the needy will help build brand also.

Objectives

1. To study the awareness about food security in consumers.
2. To find out measures to control the food wastage.

Limitation of the study

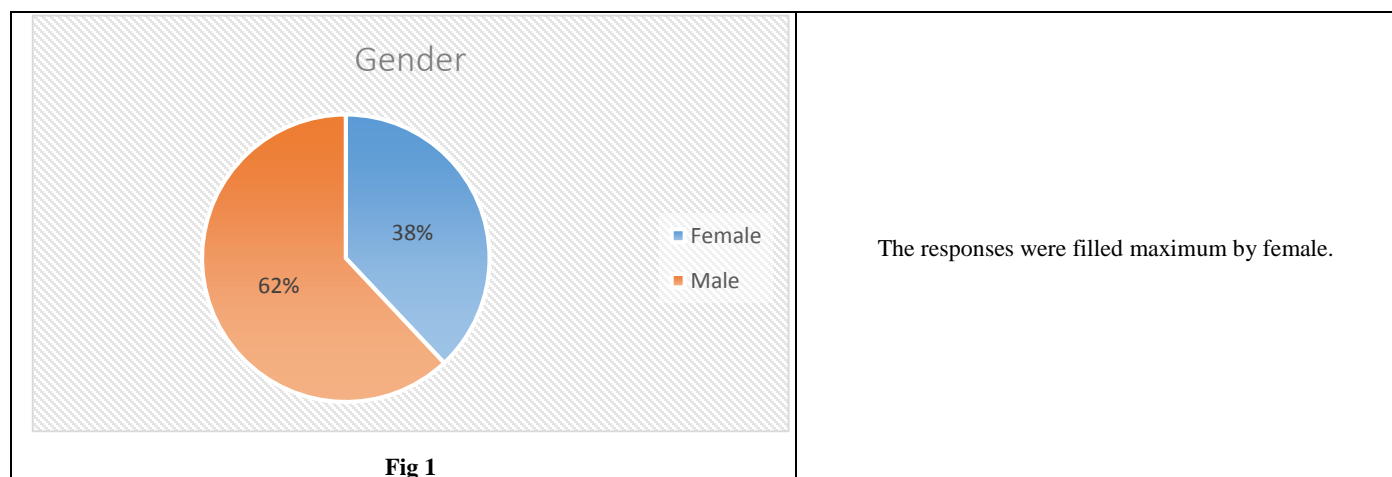
- The study was conducted amount the consumers of quick service restaurants. Also maximum respondents are in the age group of 16 to 25.
- The study is entirely based on feedbacks received from the respondents.
- All the respondents are from hospitality field, no other field is targeted.
- The study is conducted only in the city of Pune.

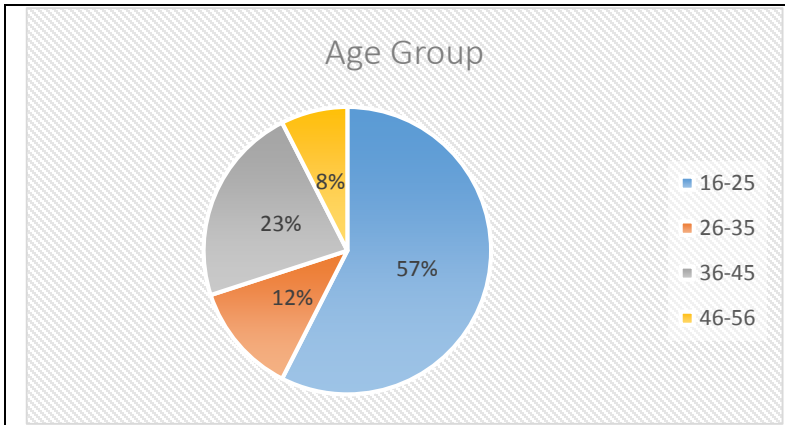
Research Methodology

Collection of Data

The questionnaire with open and closes ended questions were sent to the respondents. Total 50 questionnaire from hospitality background respondents were collected and further the analysis was done. Random sampling was done to collect the responses

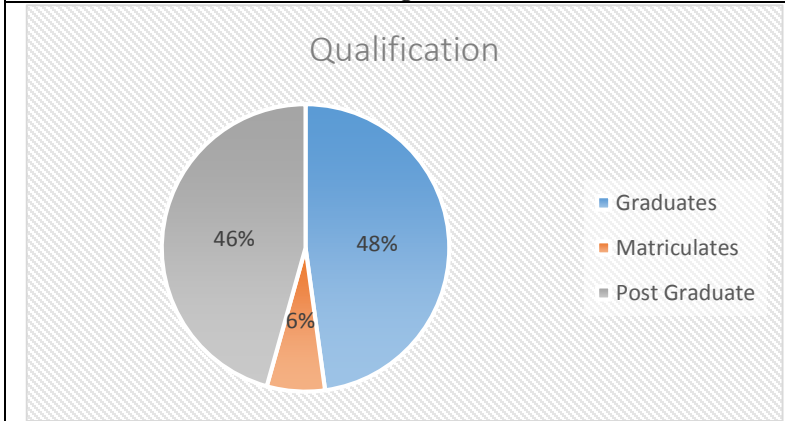
Analysis and Interpretation





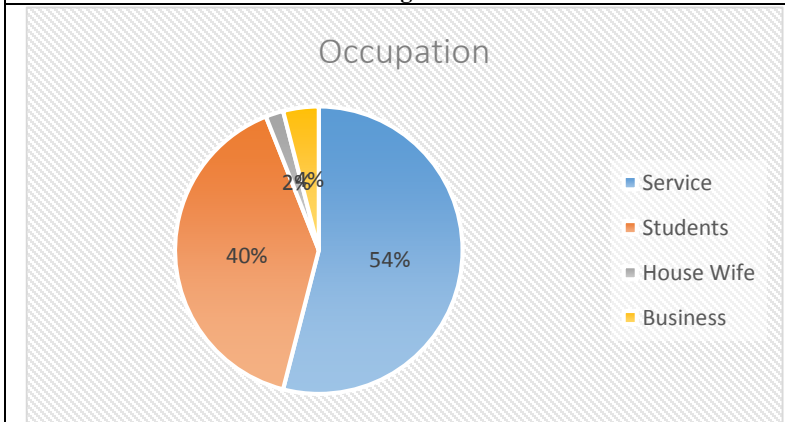
Maximum respondents are from 16-25 age group.

Fig 2



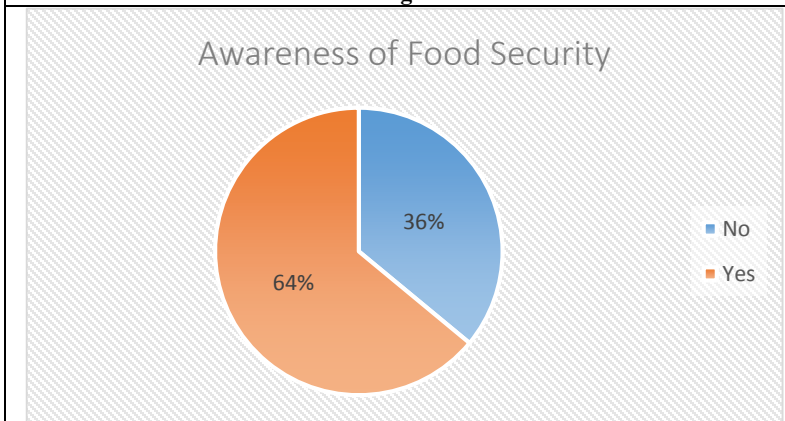
46% of respondents are post graduate, 48% are graduate and 6% are matriculates.

Fig 3



The maximum respondents which is 54 % are in service.40% are students and remaining 4% are doing business.

Fig 4



64% respondents are aware about the food security and out of which 13 respondents stated their perceptions which are mentioned below.

Fig 5

Perception about the food security, as stated below.

- Optimum utilization of food material avoiding wastage to maximum
- Ease of availability of food, access to food
- Food handling hygienically to avoid illness
- It is the right to every individual to consume hygienic and sufficient quantity of food to fulfill the daily dietary requirements.
- It relates to the fact that food is accessible at all times to people, especially nutritious and safe food.
- Provision of safe and healthy food.
- Clean and Safe Food
- The quality, standards and the hygiene maintained around and when the food is prepared and served to the guest.
- Act that has been implemented to make sure that every needy in this country gets the enough portion of food to survive.
- Very important to eliminate food borne diseases.
- Food security is about the food quality.
- Time, place, temperature to store as well as service n cooking.

<p style="text-align: center;">Awareness about Food Waste Managment</p>  <p style="text-align: center;">Fig 6</p>	<p style="text-align: center;">84% respondents are aware about the food waste management concept.</p>
<p style="text-align: center;">Food Wastage and Portion are related</p>  <p style="text-align: center;">Fig 7</p>	<p style="text-align: center;">Maximum % of respondent agree that there is a relation in between food wastage and portion control</p>
<p style="text-align: center;">Briefing about portion size while buying</p>  <p style="text-align: center;">Fig 8</p>	<p style="text-align: center;">Briefing about portion size is not very common as 56% of respondents were never briefed about the portion size that they were to buy.</p>

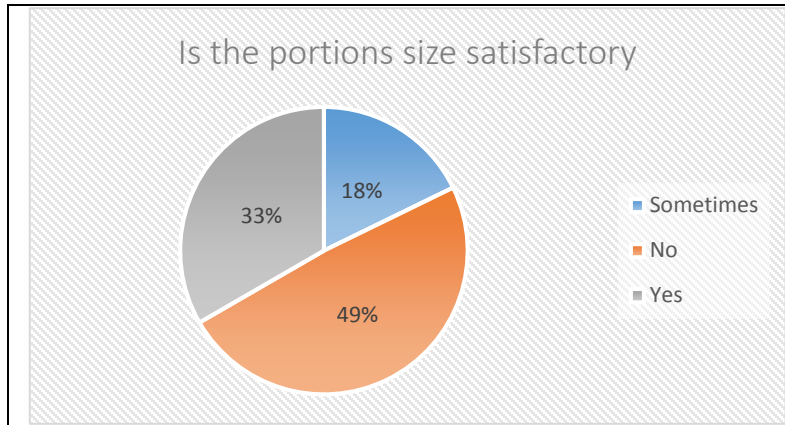


Fig 9

49% of respondents were not satisfied with the portion size served. the various reasons by consumers about the portion size are as below,

- Most often the images shown on the menu don't really reveal the actual portion size.
- Many times the accompaniments are more than the actual ordered food.
- Sometimes portion is very small
- The portion size is not sufficient and food like pizza, the portion size is more than required.
- Portion Size should be in an appropriate quantity that it should fulfill the appetite and should not go waste
- Proper quantity for the price being charged.
- They can explain how much enough for one person is.

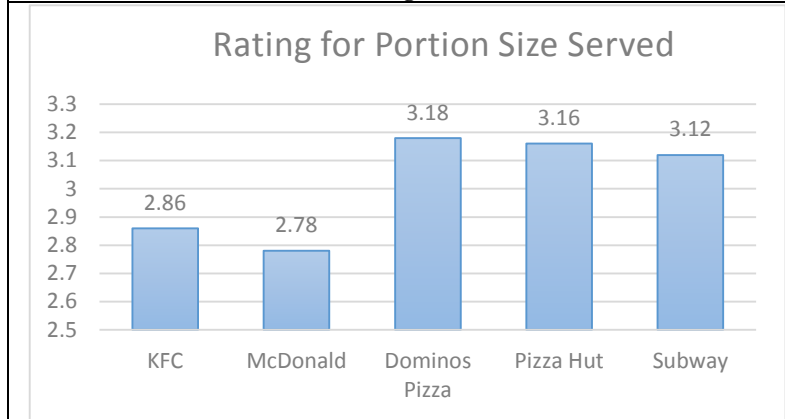


Fig 10

Domino's Pizza was rated for the perfect portion size followed by Pizza hut and subway which made consumers happy.

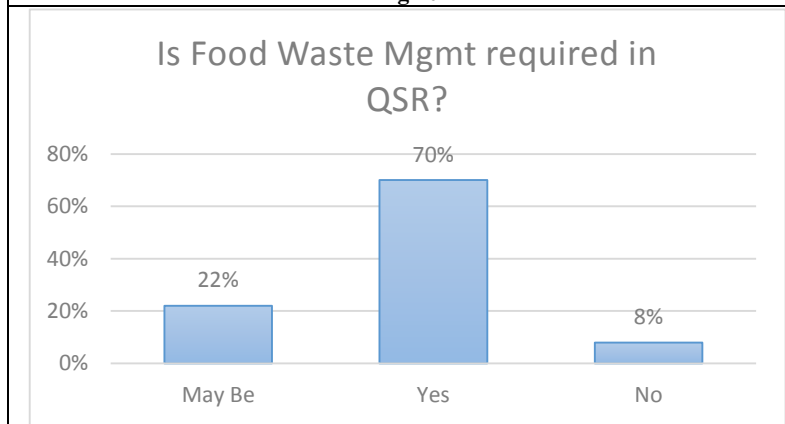


Fig 11

The need of food waste management was identified by 70% of respondent.

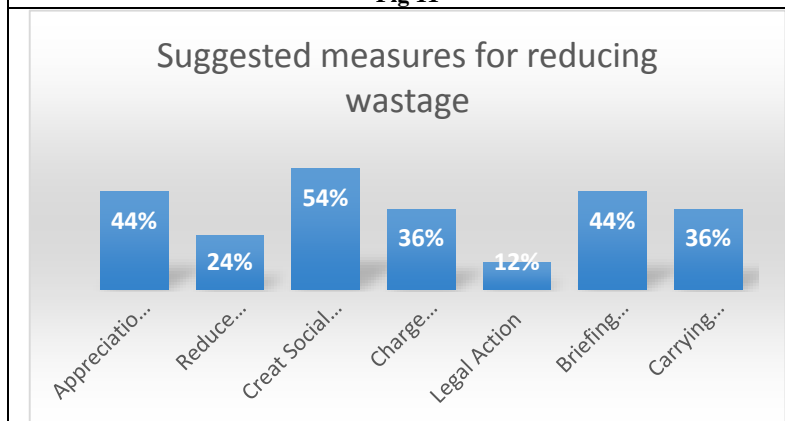
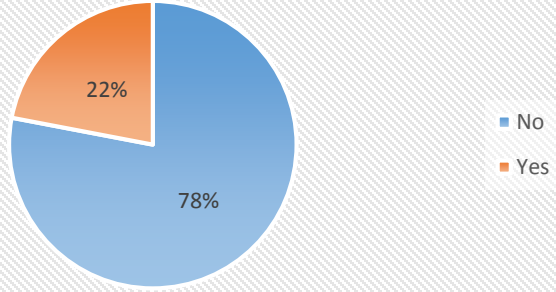
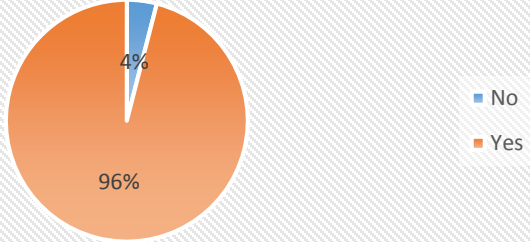
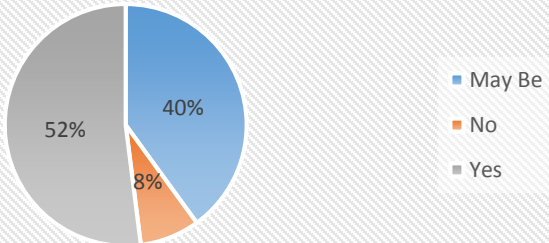
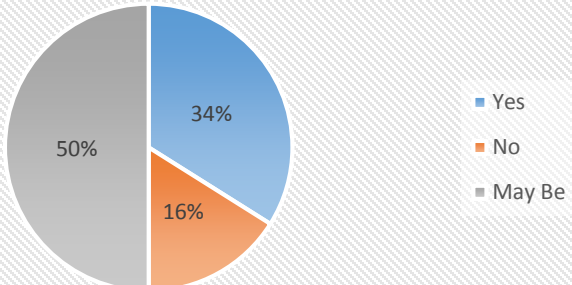


Fig 12

Creating social awareness about food waste and food security is rated the most suggested way of reducing the waste followed by briefing about the food portion and appreciating the consumers if no wastage is done from their side.

<p>Appriciation given if no wastage</p>  <p>78% 22%</p> <p>No Yes</p> <p>Fig 13</p>	<p>Appreciation offered if there was no wastage is experienced by 22% of respondents.</p>
<p>Do Promotional activities have impact on buying behaviour?</p>  <p>96% 4%</p> <p>No Yes</p> <p>Fig 14</p>	<p>96 % respondents think that Promotional activities have an impact on buying behaviour of consumer's.</p>
<p>Wastage Control= Sufficient Food Supply</p>  <p>40% 52% 8%</p> <p>May Be No Yes</p> <p>Fig 15</p>	<p>52 % of responds felt that if food wastage is controlled then the food can be reached to all the needy.</p>
<p>Need of law enforcement</p>  <p>34% 50% 16%</p> <p>Yes No May Be</p> <p>Fig 16</p>	<p>Need of law enforcement is felt only by 34% of consumers, and 50% of consumers are not sure about the same.</p>

Suggestion and Conclusion

The study indicates very surprising facts about the food security and the food waste management.

- It concluded that the perception of maximum percent people is right about food security and they are aware about food waste management, but an awareness drive has to be undertaken to prevent the wastage.
- Perception about food security is very limited amongst the respondents.
- Consumer are not happy with the portion size served in the outlet hence it needs to be looked at very closely but the brands to keep the consumer aware about what they are paying for and the quantity they will be receiving. Consumers also feel that portion size and the image displayed does not match.
- Creating social awareness about food wastage management is highly suggested measure followed by food portion size briefing.
- Maximum number of consumers do not agree with law enforcement.
- Domino's Pizza serves a satisfactory portion size which consumers thinks, is perfect.
- Maximum consumers do feel that promotional activities has an impact on their buying behaviour. Buying tendency do increase if the promotions are floated.
- Author suggests that appreciation in some form should be given to appreciate consumers who finish the portion that is served, which will help in brand building and will increase the brands goodwill.

References

1. Ngoc Bao Dung Thi, *et al.* An overview of food waste management in developing countries: Current status and future perspective. *Journal of Environmental Management*. 2015; 157:220-229.
2. Betz, *et al.* Food waste in the Swiss food service industry – Magnitude and potential for reduction, Elsevier, retrieved from, 2014.
3. https://en.fhuenster.de/isun/downloads/141111_Veroeffentlichung_Waste_Management.pdf
4. Agarwal, Nag. Sustainable Food Waste Prevention Strategies to Achieve Food Security in India, ISSN 2249-3050, 2012, 2013; 4(3):189-194 © Research India Publications <http://www.ripublication.com/ijafst.htm>
5. K Silvennoinen, *et al.* Food Waste Volume And Composition In The Finnish Supply Chain: Special Focus On Food Service Sector, Proceedings Venice 2012, Fourth International Symposium on Energy from Biomass and Waste Cini Foundation, Venice, Italy, 2012.
6. <https://www.theguardian.com/world/2015/may/22/france-to-force-big-supermarkets-to-give-away-unsold-food-to-charity>
7. <http://www.independent.co.uk/news/uk/home-news/first-food-waste-supermarket-uk-leeds-real-junk-food-project-a7317906.html>
8. <https://www.feedingindia.org/why-hunger>
9. <http://thecsrjournal.in/food-wastage-in-india-a-serious-concern/>
10. <https://www.theguardian.com/environment/2015/feb/26/world-leaders-urged-to-tackle-food-waste-to-save-billions-and-cut-emissions>

11. <http://www.telegraph.co.uk/news/earth/earthnews/4223106/McDonalds-waste-makes-up-largest-proportion-of-fast-food-litter-on-streets.html>
12. <https://www.qsrmagazine.com/sustainability/waste-not-win-big>
13. <https://www.youthkiawaaz.com/2017/03/what-you-can-do-about-food-wastage-in-india/>