



## “A STUDY ON COST ANALYSIS OF FOOD WASTAGE IN BIDAR FUNCTION HALLS”

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### Abstract

#### “RESPECT FOR FOOD IS A RESPECT FOR LIFE”

The purpose of the research is to throw light on the food wastage in function Halls in Bidar city and the cost of such wastage. Food is one of the main attractions of any party or celebration. India is often called as land of festivals. we passionately and frequently observe seasonal festival, religious holidays and life transition such as wedding, birth, and deaths etc. among all this social gathering, wedding is one of the most special occasions for us. We celebrate it with great enthusiasm. At the same time, staggeringly higher percent of food grain is being wasted at different stages of food supply chains. The Study is related to food waste in function halls of Bidar city and its management. Food is a basic human need, and therefore it is important to find ways to make food consumption patterns sustainable. It is important to aware the people about the amount of food waste which could be done by the help of educational system and by non-formal education. Indeed, even the amount of food wasted can be used for biogas generation. **Food losses** refer to the decrease in edible food mass throughout the part of the supply chain that specifically leads to edible food for human consumption. Food losses take place at production, postharvest and processing stages in the food supply chain. Food losses occurring at the end of the food chain (retail and final consumption) are rather called "**food waste**", which relates to retailers' and consumers' behaviour. Food consumption affects the environment in numerous ways for the duration of the life cycle of food, which includes agricultural production, storage, transportation, processing, preparation and waste disposal, resources are used and emissions are released to the environment about one-third of the food produced is lost or wasted. The analysis of cost of food wastage in function halls in bidar city with reference to a limit of 2 years. The estimation of food wastage in different occasion by different group of people at different function halls are mentioned. The analysis and interpretation throw light of the detailed discussion of the study. Even the study gives the instructions and steps to be followed to reduce the food wastage, and if wastage is maximum, what are the innovative steps are to be taken in this modern scenario.

### INTRODUCTION

We always used to enjoy variety of food items at functions, but we see many people throw half of the consumed food in the plate due to many reasons. Every day different types of food items are wasting from different function halls, restaurants, hotels, residential etc. Wastage of food in the function halls is common nowadays because of different reasons like no proper planning of preparation of food, no proper serving of food at functions, preparing more varieties of food items, over production of food etc. Food waste is food that is intended for human consumption that is wasted and lost, and can occur anywhere throughout the entire supply chain from farm stage to harvest to households. Although the term may be self-explanatory, two types of food waste are apparent. The first being **FOOD LOSS** which refers to the food that we loss at the early stages of its production process. The second being **FOOD WASTAGE** which refers to food that is perfectly fit for human consumption but it gets discarded for a different reason. **Food is wasted throughout the entire food supply chain from agricultural production to the household level.** This has negative impacts on natural resources and the environment. Food wastage is one of frequently identified topic in this scenario. Wastage of food does not only reflect the hunger and pollution crisis but is also indicative of economic problems of the country like inflation. The causes of food wastage are not only due to lack of government policies but also due to culture and tradition in India, like big Indian weddings that contributes to this huge waste. The survey relates to calculating the cost of waste food on the past two years details collected from function halls particularly related to bidar city.

#### OBJECTIVES OF THE STUDY: -

1. To know the percentages of food wastage in function halls specifically in Bidar city.
2. To find the reasons behind the food wastage in function halls.
3. To know what type of food is wasted commonly in function halls.
4. To calculate cost of food wastage in function halls in bidar city.
5. To find techniques to reduce food wastage.
6. How to disburse the waste food from function halls.
7. To assess the amount of food wasted in social gatherings like marriages, parties, etc,

8. To suggest policy guidelines to minimize food wastage in social gatherings.

## **I. METHODOLOGY OF THE STUDY**

1. Primary data
2. Secondary data

### **Primary data:**

During this project period, the primary data is collected through interview, direct communication with respondents in one form or the other form and survey from the different respondents & questionnaires targeted at Bidar functions halls. Sampling method is a part of primary data and I have collected the information from distributing questionnaire to the respondents. The methods of primary data collection which are being used in this project are;

- Observation method
- Interview method
- Through questionnaire

### **Secondary data:**

For doing this project the availability of some sort of secondary data is much needed. As it will help in telling the past perception of the people as well the items (food items being used in the function halls). The secondary data is collected from the books, magazines, journals and also from the internet websites etc.

- **Observation method:** Researcher gathers data by observing the behaviour, actions of the relevant respondents without asking any question to the respondents. The observation took place at the function halls during the function timings of gathering.
- **Personal interview:** Researcher also collected data from respondents through door-to-door technique. During this interview executive interview also took place which made the interviewer to wait for the respondents. Meanwhile telephonic interview also took place because of the time consideration and unavailability of respondents in their place.

### **SAMPLING DESIGN: -**

The research design adopted in this study exploratory research design. Exploratory research includes survey and fact-finding enquiries of different kinds. Research design is used to describe the state of affairs as it exists at present.

### **Project Instrument used:**

A structured design questionnaire is used for surveying the respondents. Both the open ended and close ended questions are included in the study to find the cost of food wastage in function halls particularly Bidar city which is the scope of the study of our project.

**Sample size:** - A sample size of 86 Function Halls in Bidar city was taken for the survey in this project. Out of 94 function halls 03 are newly started and 05 function Halls were closed.

**Sampling Method:** - Stratified sampling method was chosen to conduct the survey in which the sample was selected specifically.

### **LIMITATION OF THE STUDY**

1. The study is related to know the cost of food wastage in function halls specifically in Bidar city.
2. The study is limited to 2 years only and limited to function halls in Bidar city only.
3. The study is limited to find the cost of food wasted commonly in function halls.
4. Some respondents may not cooperative due to their behavior perceptions.
5. To calculate cost of food wastage in function halls in Bidar city.
6. The study is limited to where and how to disburse the waste food from function halls.

Background India has made rapid progress in food production and achieved near self-sufficiency in the food grain production but it is also a fact that India is home to the largest number of hungry people in the world and about 214 million people of the country are chronically food insecure. It is estimated that 46% of children below three years are underweight, 79% of children aged 6-35 months have anaemia, 23 per cent have a low birth weight and 68 out of 1000 die before the age of one year, and 33% of women and 28% of men have a Body Mass Index (BMI) below normal just because they do not have enough food to eat. Unfortunately, the problem of hunger and food scarcity becomes serious because a staggeringly higher percent of food grains is being wasted at different stages of food supply chains. Various studies have shown that the issue of food wastage in India is much more rooted in the actual handling, storage, transport of food grains and vegetables before they even reach the consumer Taking Bidar city as an example at many lavish marriages, more than 2,000-5,000 people are invited at the receptions where 100 to 150 dishes are served. It is impossible for anyone to taste this wide array of dishes. This is a social crime as millions in the country are malnourished and go to bed hungry. Therefore, now it is being argued that there must be some limit to these wasteful expenditures

and ostentatious behaviour during social functions should be curtailed. However, the problem is that there are no studies to assess the magnitude of the problem.

### **ABOUT BIDAR CITY: -**

**Bidar district** is the northernmost part of the Karnataka state in India. Geographically, it resembles the "**Crown of the State**", occupying its North-eastern tip. It is bounded by Kamareddy and Sangareddy districts of Telangana state on the eastern side, Latur and Osmanabad districts of Maharashtra state on the western side, Nanded district of Maharashtra state on the northern side and Gulbarga district on the southern side.

The Bidar district which is constituted by five (5) talukas earlier and presently it is with 8 talukas viz., Aurad, Basavakalya, Bhalki, Bidar, Humnabad, chitguppa, Huksur and Kamalnagar with Bidar being the Headquarters of the District.

### **GEOGRAPHY OF BIDAR CITY**

The total geographical area of the district as per the provisional figures computed by the Survey of India is 5,451 km<sup>2</sup>, while the reporting area of the district for land-utilisation purposes, as worked out by the State Department of Survey Settlement and Land Records and local bodies, is 5,448 km<sup>2</sup>.

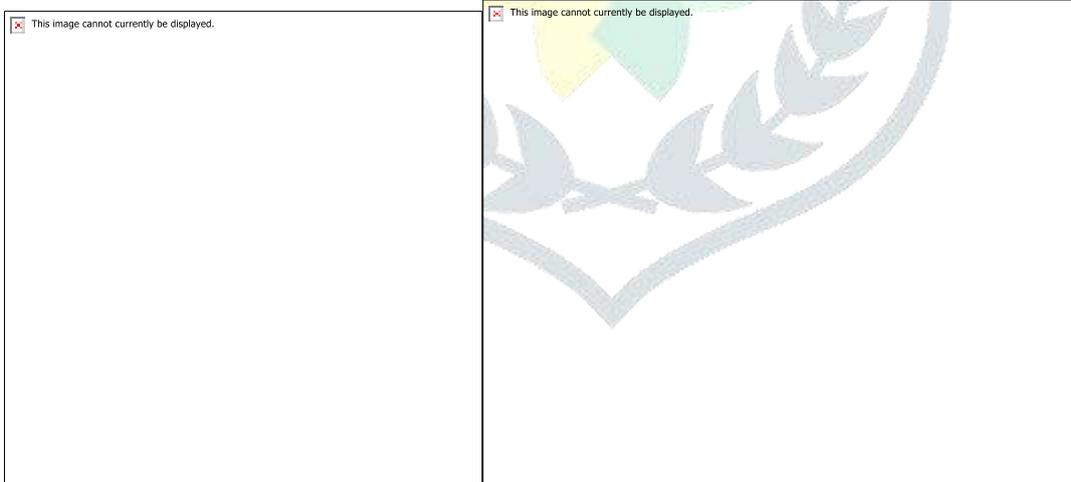
#### **Topography**

The district extends from latitude 17.35'N to 18.25'N and from the longitudes 76.42'E to 77.39'E which is located on the *northern maidans* of Karnataka which provides a mountainous treeless expansive plateau landscape.

### **FOOD WASTAGE: HOW & REASON BEHIND: -**

#### **HOW IS FOOD WASTED: -**

- Whether it is a marriage, housewarming, birthday or a reception party it will be always accompanied by lunch/dinner or snacks and generally large number of people are invited to such occasions.
- If we see the amount of food wastage happening in such parties, it is really alarming.
- If you notice the dish tub where the dishes are dumped after eating and the dustbins where the wet food items are disposed, you will notice a lot of wastage food thrown away.
- Sometimes outside the marriage halls when everything gets over you will see a lot of wastage food lying among the garbage piles.
- Why are people so insensitive towards food wastage? When on one hand there are people who are struggling for a grain of food it is really annoying to see such a wastage.
- But what are the factors responsible for the food wastage and what measures can be taken to avoid it? Let us see.



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### **REASONS FOR THE WASTAGE OF FOOD IN FUNCTION HALLS: -**

- Over production
- people unawareness
- Serving extra food by catering service
- Untrained cooks
- Lack of planning
- Spoilage of food
- People keep food in plate for showing their prestige
- People, take more **food**.

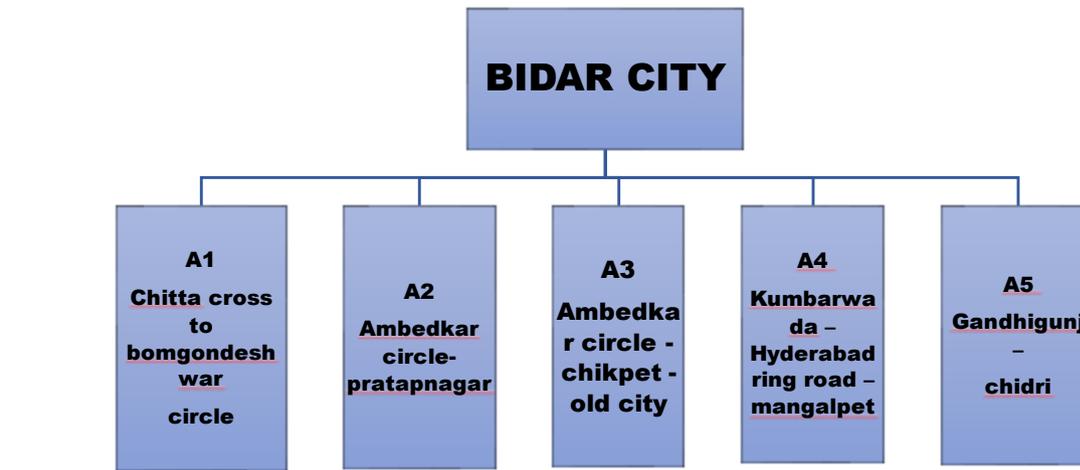
**FOOD WASTAGE IN BIDAR FUNCTION HALLS: -**

Survey relating to Food waste can be differentiated into four groups:

- a) Original food,
- b) partly used food,
- c) leftovers (plate waste) and
- d) Preparation residues.

The quantum of original food waste is being analysed by different countries, organizations and researchers. They could also be potentially prevented by different measures. Rest of the three occurs at consumption level which can further be divided into two groups:

- a. Food wastes at household level and
- b. Food wastes at social gatherings.

**Statement showing preparation of cost of food for 500 guests: -**

Particulars	Amount (Rs.)	Rs.
Groceries		19,930
Vegetables		3,390
<b>PRIME COST</b>		<b>23,320</b>
<b>Add: Preparation expenses: -</b>		
1) Food preparation cost	6,000	
2) Mixer grinder charges	1,200	
3) Utensils rent to prepare food	3,200	
4) Cylinder cost (2 cylinder)	2,400	12,800
<b>COST OF PREPARATION OF FOOD</b>		<b>36,120</b>
<b>ADD: Serving cost</b>		
1) Utensils Rent to serve the food	7,600	
2) Server charges	3,000	
3) Rent of dining hall	4,000	14,600
<b>ADD: After end of function cost</b>		
1) cleaning charges		<b>50,720</b>
2) Electricity charges		
	2,000	
	1,500	3,500
<b>TOTAL COST OF FOOD FOR 500 GUESTS</b>		<b>54,220</b>

In the above statement shows the cost of grocery items and vegetable items. Food preparation cost is Rs. 6,000/- is labour charge of cook, Rs.1,200 is cost of mixer and grinder and ginger & garlic and green chilly, carrot and others Rs.3,200 being the rent of UT utensils requires to prepare food. After preparation of food serving in a systematic manner, it requires other types of

utensils, it includes plates, glasses, pure drinking water etc. to serve the food, extra labours (minimum of 6) required such cost being Rs.3,000. The function hall rent being the capacity of 500 guest in Bidar, the rent charged becomes an average of Rs. 4,000 searches to the dining hall.

**Cost of food is being considered as:**

When food prepared for **500** guest **total cost** would be **Rs 54,220**  
the cost of per plate of food becomes = **Rs. 54,220/ 500 = Rs. 108.44 per guest.**

**In luxurious functions**, the cost per meal to served becomes more than the above price. We considered an average function through our study and also everything in average manner. According to our survey, number of marriages held in Bidar City during our study period is more than 1800 in all function halls. While estimated the number of Guest appearance on an average in marriage functions, it may be the marriage of rich people or poor they may become 1000 guests per marriage function. Therefore, the total guest appearance in marriage becomes  $1800 \times 1000 = 18,00,000$ . It shows horrible figure, but it is true according to our survey. While estimating the food wastage in every function, it may be more or less 10% of food prepared. The said figure is predicting food left in the plate and left over food thrown in the municipal garbage. Remaining leftover food that is eatable food distributed in some other way.

As per the calculation, during the year in marriages, 10% of prepared food becomes wasted out of 18,00,000 plates of prepared food. That, it would be  $18,00,000 \times 10 / 100 = 180000$  plates of food becomes waste in every year.

**Cost of food wastage in marriage alone** would be

=  $180000 \times 108.44 = \text{Rs.}1,95,19,200$  this figure shows how much of amount of food we are wasting.

**Second luxurious function** is that, now-a-day people are arranging engagement functions and even it became prestigious to organize such functions in functions halls. As per our survey, on an average of 1,000 number of such type of functions are organized in all the function halls in Bidar city. A few small function halls they meant for this kind of functions only. Though, such function is a small type of function, but people organize it in such a way that, it seems like marriage function, likewise they invite guest in large number (average number being 500 guests).

Therefore, number of Guest appearance to this engagement function becomes  $= 1,000 \times 500 = 5,00,000$ . Hence, the guest appearance being large in number and the food wastage being on an average of 10% & the wastage being  $= 5,00,000 \times 10 / 100 = 50,000$  plates of meals become waste.

If we calculate cost of such Waste food =  $50,000 \times 108.44 = \text{Rs.}5,42,20,000$ . It would be a big amount of wastage.

Another kind of functions arranged according to Hindu system are **shawl and kiruguini**. These types of functions are arranged to children whose age is less than 14 years. As per our survey, the number of such functions arrange in Bidar city are 710 including all the function halls in our survey. The number of guest appearance in this type of function would be from 200 to 1500.

We considered in an average of 500 guest appearance, then the number of guest appearance would become  $= 710 \times 500 = 3,55,000$ . As we are considering the wastage of food in every function at 10%. So, the food wastage being  $= 3,55,000 \times 10 / 100 = 35,500$  plates of meals would become waste.

The cost of such food wastage will be

=  $35,500 \times 108.44 = \text{Rs.} 3,84,9,620$ . It is alarming us, how much cost of food we are going to waste to show our prestige.

When we come to **naming ceremony** to newborn child, it is also increasing now-a-day to celebrate in function halls. As per our survey, in 86 function halls in Bidar, they are conducting on an average of 575 number of such functions in function halls. The number of guest appearance in such kind of functions also vary by 200 to 1,000. We considered an average number of guest appearance in such kind of functions may be 300. So, the number of guest appearance in all functions becomes  $= 575 \times 300 = 1,72,500$  guests and the food waste is 10% which comes to  $= 1,72,500 \times 10 / 100 = 17,250$  plates of food will be wasting in this kind of functions. The cost of food wasted will be  $= 17,250 \times 108.44 = \text{Rs.}1,87,0,590$ . It is also too much.

Today, it become fashion to celebrate birthday function in function halls. As per our survey, the number of birthday functions celebrated in function halls during the year 2022 was 480 in various function halls. The number of guest appearance in this kind of functions may be more than 200 and less than 500. Sometimes the number of guest appearance may be more than 500 numbers. Such type of the birthday party is commonly conducted by a politician or business man. We estimated on an average of 300 number of guests appearance to such kind of celebrations. So, the number of guest appearance to such kind of function will reach to  $480 \times 300 = 1,44,000$ . As per our standard set up food wastage being 10% will be  $= 1,44,000 \times 10 / 100 = 14,400$  plates of meals. If we calculate such wastage in amount, it would be  $= 14,400 \times 108.44 = \text{Rs.}1,56,1,536$ . See, how we are wasting food to celebrate birthday functions, which comes every year in our life.

Lastly, apart from the above kind of functions some other kind of functions also arranged in functions halls like retirement functions, marriage anniversary, Annual general meeting of business and so on. As per our survey, we found 230 general functions are arranged in function halls. The number of guest appearance, may vary from 200 to 500, sometime it may be more than 500 also, but we considered on an average of 300 number of guest appearance. And the number of guests would be  $= 230 \times 300 = 69,000$ . If food wastage in such kind of functions being 10% than  $= 69,000 \times 10 / 100 = 6,900$  plates of food. When it converts into cash =  $6,900 \times 108.44 = \text{Rs.}7,48,236$ .

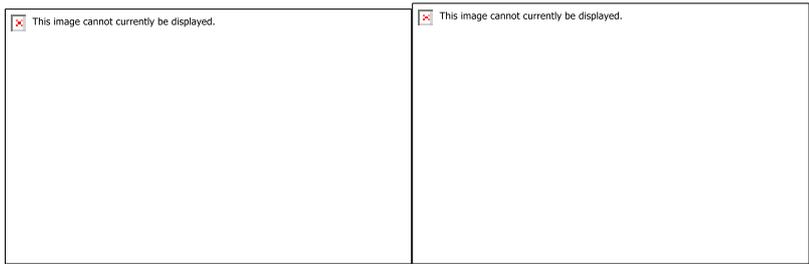
With all of the above functions the

**Total value of food wastage: -**

**HOW TO PREVENT FOOD WASTAGE IN FUNCTION HALLS? :**

- Distributing leftover/ residual food to needy peoples.

- b) Making proper planning before preparing food:
- c) Distributing food in slum areas

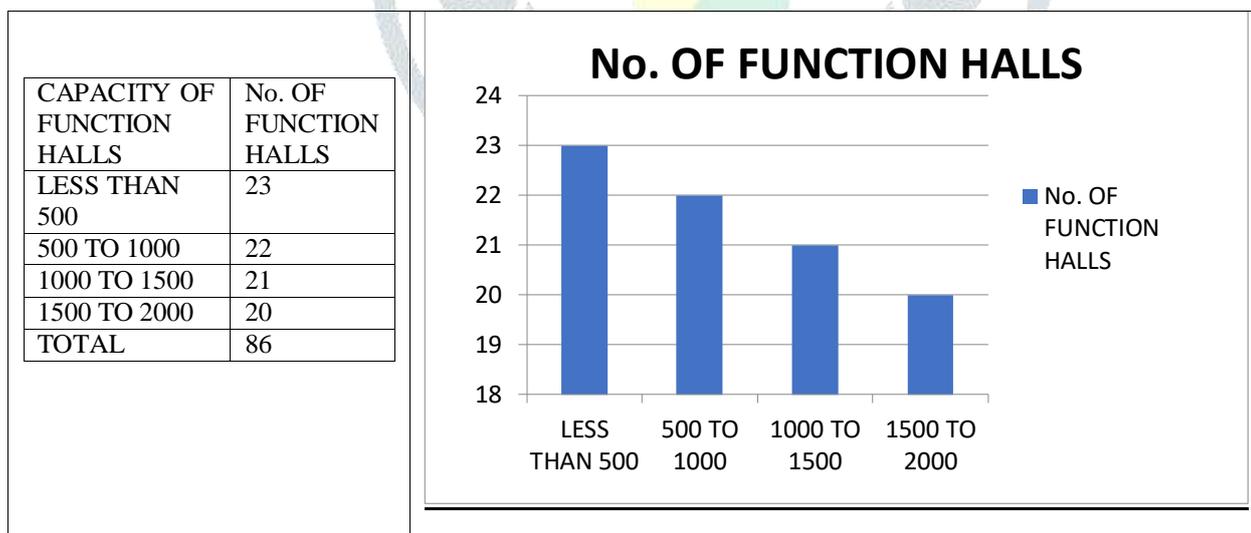


- d) Give the leftover food to any NGO'S
- e) Sent it to any Orphanage homes and old age Homes
- f) Store it properly or freeze It and make It tomorrow's lunch
- g) Measures your hunger
- h) Monitor the children
- i) Instruct the caterers
- j) Do not fill your plate
- k) Keep the waste bins manned
- l) Apply some innovative ways

**ANALYSIS & INTERPRETATION OF THE DATA: -**

- I. **DATA ANALYSIS:** - Data analysis is the process of bringing order, structure and meaning to the mass of collected data. It is a messy, ambiguous, time-consuming, creative, and fascinating process. The purpose of analysing data is to obtain usable and useful information. The analysis, irrespective of whether the data is qualitative or quantitative, may describe and summarise the data identify relationships between variables, compare variables, identify the difference between variables, forecast outcomes
- II. **INTERPRETING THE INFORMATION:** - Numbers don't speak of themselves; interpreting is the process of attaching meaning to the data. While doing the interpretation of the data, I have gone through fair and careful judgement. Although the same data can be interpreted in different ways. Therefore, I have taken their consideration of interpreting the data with different angles.

**Table showing capacity of guest in function halls**

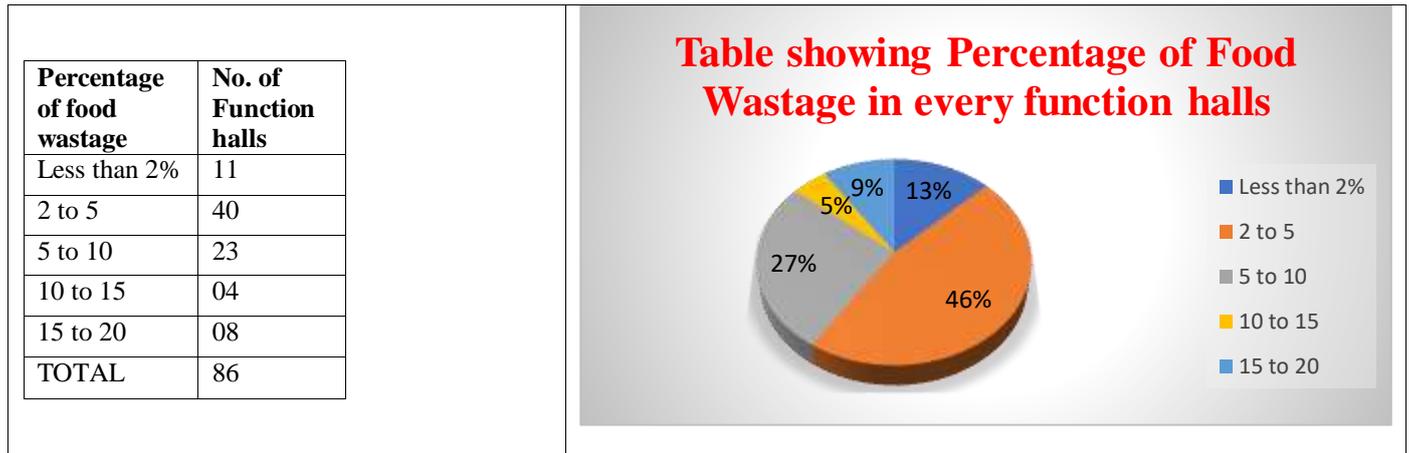


**INTERPRETATION: -**

- a) From the above table we found that there are 86 function halls presently running with various capacities. There are 23 function halls in Bidar having guest capacity of less than 500, in these function halls small function like engagements, shawls, birthday and naming functions were arranged, where few guest are to be invited and marriage functions also be conducted, if guest are in less numbers.
- b) Nearly 22 function halls are there in Bidar with the seating capacity of more than 500 guests and less than 1000 guests, in this type of function halls usually marriages will be conducted. Other function will also be conducted when the number of guests fits for this function hall, small and medium size families whose guest are less in number will arrange the marriage ceremony.
- c) There are 21 function halls in Bidar whose capacity to seating is more than 1000 and less than 1500 guest usually in this type of function halls marriage ceremony will be arranged.

d) A few rich people were also be arranged engagement and other programs and there are 20 function halls are having seating capacity of more than 1500 guest in such type of function halls rich people arrange the marriage and other type of functions so this table reveals the number of functions conducted in Bidar function halls.

**TABLE SHOWING PERCENTAGES OF FOOD WASTAGE IN EVERY FUNCTION HALLS: -**

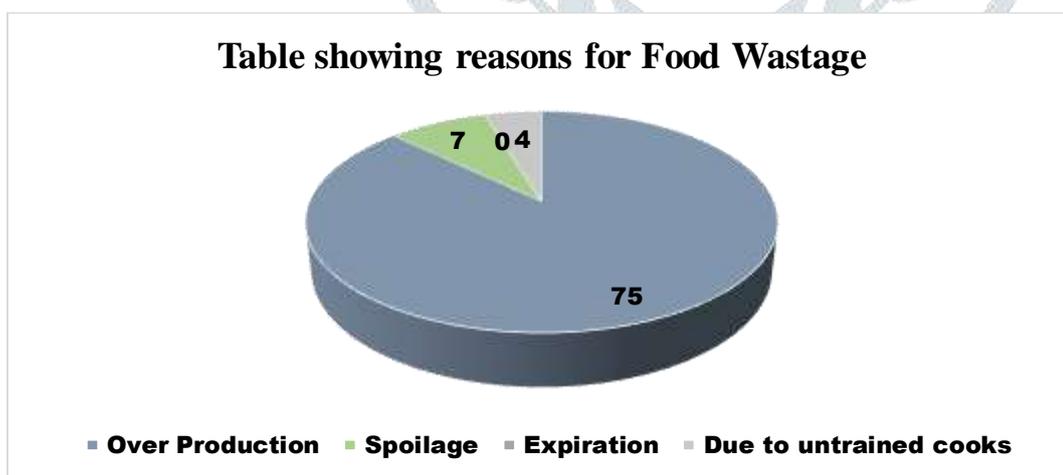


**INTERPRETATION: -**

- a) Food wastage means national waste, we visited all the 86 function halls and collected the data by meeting personally the managers of each function halls, and they were giving this data with very carefully.
- b) 11 function hall managers say, that food wastage will not occur in their function halls sometimes it may be less than 2% of the total food preparation. This type of less food wastage we seen in those function halls where the function arranged with non-veg food around 2% to 5% of food wastage occurs in 40 function halls.
- c) This seems that nearly 1/4th of the total function halls done food wastage from 5% to 10% and around four function hall managers say that the food waste in their function hall will be 10% to 15% in every function.
- d) Lastly, it is very horrible that 08 function halls manager says that the food waste will be more than 15% in every function. So, on an average we may say that 10% of the total food preparation goes wasted in every function.

**TABLE SHOWING REASONS FOR FOOD WASTAGE: -**

	Reasons for food wastage	No. of function halls
1	Over Production	75
2	Spoilage	07
3	Expiration	00
4	Due to untrained cooks	04
	<b>TOTAL</b>	<b>86</b>



**INTERPRETATION: -**

- a) From the about table, we would like to represent the reasons for food wastage. It seems to be 75 function halls; managers replied that the main reason of food wastages is due to over preparation of foods in every function.
- b) The function organisers feel that, there may not be food shortage when all the guests attended the function.
- c) They want to prepare food in more quantity but sometimes, the expected guests were not attended the function, unfortunately wastage of food becomes more.

- d) The function organisers may be rich or poor they don't want to show shame of food shortages in their functions. That is why; they prepare excess food instead of actually needed. It may become one of the main reasons for the wastage of food in function halls.
- e) Another reason of food wastage is spoilage and expiration. Such type of food wastage will be in small quantity because food has been prepared on the day of the function arranged.
- f) If unskilled cooks are engaged to prepare the food, then they may not prepare food in tastier way or more or less salt or chilli.
- g) In case of sweet items prepared in functions halls, neither it's too much sugar nor too may less sugar contained in sweet items not be eatable by the guest. In such a situation, the prepared food may not be eatable; this may be reason for food wastage.
- h) In all this situations, prepared food will not be taken away by the customer nor will it be distributed to the Anathashram or beggars. Instead, it should be thrown away in Municipal garbage vans. Hence, it reveals that maximum food will be wasted because of over production of food in function halls.

Marriage functions	1,95,19,200
Engagement functions	54,22,000
Shawl kiruguni functions	38,49,620
Naming ceremony functions	18,70,590
Birthday functions	15,61,536
General functions	7,48,236
<b>Total cost</b>	<b>3,29,71,182</b>

Reference: -

1. Bidar District Gazetteer and Wikipedia
2. Assessment of Wastage of Food and Ostentatious Behaviour during Social Gatherings by Govt. of India
3. Field visit