

## STREET FOODS - A WAY OUT STRATAGEM TO ACHIEVE FOOD SECURITY AMONG LOW INCOME URBAN CLUSTERS

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### ABSTRACT

**Objective:** A study was conducted to assess the consumer base of the street foods as well as the factors driving the consumption of street foods.

**Methods:** For the purpose of primary survey, 250 consumers of street foods were chosen randomly at the rate of 125 each in Chennai and Coimbatore cities in Tamil Nadu state. Descriptive statistics were used to analyze the data.

**Results:** A majority of the street food consumers (52.40%) were mainly from economically weaker section (EWS) with the annual average household income of Rs. 82,631. Women consumers of street food were comparatively low (only 31%). Daily wage earners, such as construction workers, head loaders, cart pullers, hawkers, and truck drivers about 60% of the consumers, had only temporary jobs. Consumers preferred the street food due to its inexpensiveness (40.40%). About 57% of the people enjoyed eating in the vending site itself. EWS and low-income group consumers spent significantly (Rs. 1032 and Rs. 894, respectively) on traditional foods. It was understood that the cost of the street foods was about 45-50% less when compared to local restaurants a vast majority of the consumers were either fairly satisfied (42.74%) or satisfied (32.09%) with the existing practices and the cuisine provided by vendors.

**Conclusion:** The assessment showed that street food consumers were able to get the same level of nutrition as that of the consumers who dined in big restaurants or mess but at less cost. The results indicated that the absence of street food would have led to low intake of food by the consumers, whose purchasing power is low. Hence, there is a need for strenuous efforts to improve the working environment, hygiene, food safety, and the livelihood of street food vendors, so as to achieve and ensure food and nutritional security among the poor income clusters in the economy.

**Keywords:** Street food, Food security, Consumers, Nutrition, Traditional foods, Calorie, Livelihood.

### INTRODUCTION

Street foods play an important role in meeting the food demands of the low-income urban dwellers with a wide variety of foods. These foods are relatively cheap and an increase in the consumption of street foods is one of the dietary trends that have been identified as characterizing urban diets of the poor and middle households (HHs) until recently, the street food sector operated in a precarious state due to lack of legal recognition but now Food Safety and Standards Authority of India has initiated regulating activities binding the street food vendors.

#### Street food - importance

The Food and Agricultural Organization (FAO) of the United Nations defines street foods as ready-to-eat foods and beverages prepared and/or sold by vendors and hawkers, especially in streets and other similar public places. Street-vended foods are appreciated for their unique flavors and are also often essential for maintaining the food and nutritional security of the low-income urban populations. The WHO [1] in its report had indicated that in about 74% of countries, the street foods constituted a significant part of the urban food supply system. A study on the perception of street food vending carried out in Singapore revealed that the income the vendors earned was successful if they earned enough to survive for another day (12%); about 63% defined success as being able to accumulate savings and a quarter (24%) felt successful only when their trade expanded considerably [2].

Street food consumers mainly belong to middle-income groups (MIGs) and low-income groups (LIGs). Apart from them commuters and children are also important consumers of street foods. A large group of students and white collar workers from social strata other than MIG and LIG also consume street food. This shows that the street food vending activity had customers from all walks of life and from all age groups.

Children emerged as an important category of street foods consumers in some countries; in Senegal, 28% of all street food customers were children and adolescents [3]. Even children under a year old were consuming significant quantities of street foods. The proportion of total nutrient intake from street foods was the highest in pre-school children and lowest in pregnant mothers [4,5].

#### Preference of street foods

For the urban poor, street vendors provide goods including food, at low prices. Hence, one can find that one section of the urban poor, namely, street vendors, subsidizes the existence of the other sections of the urban poor by providing them cheap goods, including food. MIGs too, benefit from street vending because of the affordable prices [6].

Consumers are found spending a considerable amount on street foods. Studies in developing countries have shown that up to 20-25% of HH food expenditure is incurred outside the home, and some segments of the population depended entirely on street foods [7]. For the urban poor, street vendors provide goods, including food at low prices. Hence, it is found that one section of the urban poor, namely, street vendors, subsidizes the existence of the other sections of the urban poor by providing them cheap goods, including food. Street foods are popular among the MIGs too, as they are available at half the price of any restaurant food [8].

A study in Haitian school children's consumption of street foods found that most of them ate street food that provided the children with an estimated 400 kcal/day (Webb and Hyatt, 1988). In Bangkok during 1991, a comprehensive survey revealed that street foods contributed up to 80% of the energy, protein, fat and iron intake of 4-6 years old children. The same study showed that on an average for all age groups, 40% of the total energy intake, 39% of total energy intake, and 44% of iron intake originated from street foods [8].

The nutritional value of the food sold in the streets was assessed by FAO for some popular meals. An average 500 g meal contained 20-30 g of protein, 12-15 g of fat (vegetable fat), and 174-183 g of carbohydrate and provided approximately 1000 kcal. The meals cost between Rs. 4 and Rs. 8 (mean of Rs. 5). The analysis indicated that street foods had been the least expensive means of obtaining a nutritionally balanced meal outside the home, provided the consumer is informed and able to choose the proper combination of food. An amount of one rupee spent on street food provides approximately 200 kcal, of which 25 kcal are protein, 144 kcal are carbohydrate and 31 kcal are lipid (100% vegetable fat in a vegetarian diet; 80% vegetable fat and 20% fat of animal origin in a non-vegetarian diet [9].

**Objectives**

The overall objective of the study was to analyze the consumer base as well as the factors driving the consumption of the street foods. The specific objectives of the project are as follows:

- i. To examine the consumer base of the street food enterprise
- ii. To identify the factors driving the consumers to choose street foods in their dietary schedule
- iii. To quantify the expenditure made on street foods
- iv. To study the perception of street foods by the consumers, and
- v. To analyze the food and nutritional implications of street foods.

**METHODS**

The study assessed the consumers, habituated to street food and the reasons for the preferences of street food. Street foods are the more common in urban areas. Chennai and Coimbatore in Tamil Nadu state were selected purposively since the street food vending and consumption of street food were wide spread in these areas. For the purpose of primary survey, 250 consumers of street foods were chosen randomly at the rate of 125 in each locality. The total sample size was thus made to 250.

**Tools of analysis**

*Percentage analysis*

Percentage analysis was performed to study the general characteristics of the street food consumers, viz., age, education, occupation, family size and income, experience in street food vending, source of finance, etc.

*Income based classification of consumers*

Street food consumers were classified based on McKinsey's classification of Indian consumers (2007). Accordingly, the respondents interviewed were post classified into four groups based on their HH income as (i) Economically weaker section (EWS) with annual HH income <Rs. 90,000/-, (ii) LIG, whose annual HH income ranged between Rs. 90,000 and Rs. 2,00,000, (iii) MIG with an annual HH income between Rs. 2,00,000 and Rs. 10,00,000, and (iv) high income group (HIG) HHs having an annual income >Rs. 10,00,000 and the details are furnished in Table 1 (Note: Rs. stands for Indian Rupees [INR]. As of August 2015 one US dollar is equal to Rs. 66 [INR]).

*Likert's scaling technique*

This method was developed by Rensis Likert in 1932. In this approach, the customers of the street food vendors had been asked to indicate on a five-point continuum (Table 2) whether they were highly satisfied, satisfied, fairly satisfied, dissatisfied, and highly dissatisfied with the various attributes of street foods (utensils for preparing and serving food, method of preparation of food, quality of drinking water, waste disposal, usage of gloves, hoods and apron, taste, quality of food, cleanliness of the environment, hospitality and workers hygiene). The responses were recorded, and the scores were added to obtain the mean score toward the satisfaction level of the sample customers.

*Analysis of consumers' preference of street food*

The amount spent by the consumers on informal street food signifies the importance of the street foods. The basic model that was used in this study depicted the expenditure made by the consumer on street

food as a function of factors such as the age, gender, marital status, education, distance of travel, taste, and price of street food. The model used for this study was of the following form.

$$ASOSF (Y) = f \{AGE, GND, MAS, EDL, HHS, HHI, DST, EMP, FOV, TST, QLT, PCF\}$$

Where,

ASOSF (Y) - Amount spent on street food consumption (rupees/month),

AGE - Age (number of years),

GND - Gender (1 - Male, 0 - Otherwise),

MAS - Marital status (1 - Married; 0 - Otherwise),

EDL - Years of education (number of years),

HHS - Household size of the customers,

HHI - Household income (rupees/month),

DST - Distance traveled (Walking distance in meter),

EMP - Nature of employment (1 - If temporary; 0 - Otherwise),

FOV - Frequency of visit (number of visits/month),

TST - Taste (1 - If good; 0 - Otherwise),

QLT - Quality of food (1 - If yes; 0 - Otherwise),

PCF - Perception on the cost of food (1 - If high; 0 - Otherwise).

**Table 1: Income based classification of consumers**

S. No	Category	Standard HH income (Rs./year)
1	EWS	<90,000
2	LIG	90,000-2,00,000
3	MIG	2,00,000-10,00,000
4	HIG	More than 10,00,000

Source: McKinsey Classification of Indian Consumers, Global Institutional Report (2007). EWS: Economically weaker section, LIG: Low income group, MIG: Middle income group, HIG: High income group

**Table 2: Five point scale for the satisfaction level of consumers**

S. No	Performance level	Score
1	Highly satisfied	5
2	Satisfied	4
3	Fairly satisfied	3
4	Dissatisfied	2
5	Highly dissatisfied	1

**Table 3: Calorific value of food stuffs**

S. No	Name of the food stuff	Quantity (in g)	Energy (in calories)
1	Idli (two)	100	130
2	Roast (one)	100	192
3	Poori (one)	25	150
4	Boiled rice (one bowl)	100	110
5	Sambar (one bowl)	160	81
6	Curd (8 fl oz = one cup)	250	154
7	Tomato rice (one cup)	250	116
8	Curd rice	100	63
9	Chappathi (one)	35	85

**Cost of street food and nutritional security**

The cost and the nutritional security of the street food were evaluated by comparing with the costs of food items served in local restaurants. For that purpose, the average weight of major food served during breakfast, lunch and dinner as well as the cost of those food items were taken into consideration. The calorific values of various food items normally consumed by the respondents are reported in Table 3, and the costs of various food stuffs sold at both street food vending site and local restaurants are given in Table 4 for comparative analysis.

**Major findings of the study**

As discussed already, the consumers of street foods were post classified based on McKinsey's classification of Indian consumers [10]. The composition of the consumers interviewed is presented in Table 5. The results indicate that 52.40% of the consumers were from EWS with the annual average HH income of <Rs.90,000.

**Gender composition**

In Chennai, about 82% of the consumers of street food were male, whereas in Coimbatore it was about 57%. The overall percentage of women consuming street food was comparatively low (only 31%). A vast majority of the women were found taking either fast food (FF) or snacks and savories unlike men who preferred street food eateries for breakfast and lunch apart from regular coffee, tea and snacks. It was learned that the "shy away" nature of women had prevented them from approaching the road side eateries.

**Age wise distribution**

The consumers were further classified based on age into four groups, viz., (i) <20 years of age, (ii) 21-30 years of age, (iii) 31-40 years of age and, (iv) more than 40 years of age. Consumers between 21 and 30 years of age accounted for about 37% in Chennai and 51% in Coimbatore (Table 6). They were followed by consumers, whose average age was more than 40 years. They constituted 27.60%. About 15% of the consumers were <20 years of age in Coimbatore while it was only about 6% in Chennai. They mainly preferred to have either snacks or FF on their way back home from school. Some of them had to go home only after attending tuitions and hence they depended on

street foods for a quick filling. However, the overall results indicated that the main consumers of the road side food were the young with the age group of 21-30 years.

**Educational status**

It is interesting to note that about 38% of the respondents in Chennai and about 43% of the respondents in Coimbatore were illiterates (Table 7). Overall, the illiterates constituted about 41% of the total. They were followed by consumers with primary level education (33.60% in Chennai and 19.20% in Coimbatore). In all, about 26.40% of the consumers had primary and 13.60% of the consumers had secondary level education. These consumers were mainly daily wage earners such as construction workers, head loaders, cart pullers, and truck drivers. About 12% of the consumers were diploma holders who were mainly industrial employees working in factories, workshops or service stations. Only 6.40% had collegiate education. It could be concluded that the educated elite kept themselves away from the street side eatery, which might be due to the obvious reasons like lack of hygiene and quality, congestion in the vending site, etc.

**Family size and HH income**

Family size and income play a key role in deciding the food spending habits of the consumers, and therefore, this information was analyzed. Overall, the average family size of the HIG and MIG was 3.00 and 3.83, respectively, while it was 3.81 and 3.96, respectively, for EWS and the LIG. The average annual HH income ranged between Rs. 82,631 for EWS and Rs. 13.36 lakhs for an HIG consumer (Table 8). Not much change was noticed in the income of the consumers across the two study areas.

**Type of family**

About 77% of the consumers in Chennai and 90% in Coimbatore had a nuclear family (Table 9). Overall, only about 17% of the consumers had joint family, which indicates the disintegration of the traditional joint family system.

**Marital status**

The married consumers were high (64.80%) in Chennai while they were only 48% in Coimbatore. In all, more than 50% of the consumers were married, which is contrary to the general belief that only unmarried used to depend on street food to a greater extent (Table 10).

**Occupational category**

The occupational distribution of consumers indicates that the daily wage earners constituted 48.80% in Chennai, whereas it were about 22% in Coimbatore. Daily wage earners included drivers of auto-rickshaws,

**Table 4: Cost of food stuffs of street food eatery and hotels**

S. No	Name of the food stuff	Standard weight (in g)	Cost (in Rs.)	
			Street food	Restaurant
I	Breakfast			
1	Idli	100	6	12
2	Roast	100	10	16
3	Poori	50	12	16
4	Idli+Roast	300	16	31
II	Lunch			
1	Meals	300	45	70
2	Tomato rice	150	20	35
3	Curd rice	150	20	38
III	Dinner			
1	Chapatti	150	10	19

**Table 5: Classification of consumers based on income**

S. No	Category	N (%)		
		Chennai	Coimbatore	Overall
1	EWS	64 (51.20)	67 (53.60)	131 (52.40)
2	LIG	33 (26.40)	35 (28.00)	68 (27.20)
3	MIG	27 (21.60)	21 (16.80)	48 (9.20)
4	HIG	1 (0.80)	2 (1.60)	3 (1.20)
	Total	125 (100.00)	125 (100.00)	250 (100.00)

EWS: Economically weaker section, LIG: Low income group, MIG: Middle income group, HIG: High income group

**Table 6: Age wise distribution of consumer**

S. No	Age (years)	N (%)		
		Chennai	Coimbatore	Overall
1	<20	8 (6.40)	19 (15.20)	27 (10.80)
2	21-30	46 (36.80)	64 (51.20)	110 (44.00)
3	31-40	26 (20.80)	18 (14.40)	44 (17.60)
4	>40	45 (36.00)	24 (19.20)	69 (27.60)
	Total	125 (100.00)	125 (100.00)	250 (100.00)

**Table 7: Educational status of the consumers**

S. No	Age (years)	N (%)		
		Chennai	Coimbatore	Overall
1	Illiterate	49 (38.20)	54 (43.20)	103 (41.20)
2	Primary	42 (33.60)	24 (19.20)	66 (26.40)
3	Secondary	12 (9.60)	22 (17.60)	34 (13.60)
4	Diploma/I.T	15 (12.00)	16 (12.80)	31 (12.40)
5	Degree	7 (5.60)	9 (7.20)	16 (6.40)
	Total	125 (100.00)	125 (100.00)	250 (100.00)

Table 8: Family size and HH income

S. No	Income group	Chennai		Coimbatore		Overall	
		Average family size (N)	Average HH income Rs./year	Average family size (N)	Average HH income Rs./year	Average family size (N)	Average HH income Rs./year
1	EWS	4.02	82,706	3.62	82,558	3.81	82,631
2	LIG	4.42	1,98,655	3.51	1,88,057	3.96	1,93,200
3	MIG	4.04	7,17,333	3.57	7,04,571	3.83	7,11,750
4	HIG	3.00	13,44,000	3.00	13,32,000	3.00	13,36,000

EWS: Economically weaker section, LIG: Low income group, MIG: Middle income group, HIG: High income group

Table 9: Type of family

S. No	Family type	N (%)		
		Chennai	Coimbatore	Overall
1	Nuclear	96 (76.80)	112 (89.60)	208 (83.20)
2	Joint	29 (23.20)	13 (10.40)	42 (16.80)
	Total	125 (100.00)	125 (100.00)	250 (100)

Table 10: Marital status

S. No	Marital status	N (%)		
		Chennai	Coimbatore	Overall
1	Married	81 (64.80)	60 (48.00)	141 (56.40)
2	Unmarried	44 (35.20)	65 (52.00)	109 (43.60)
	Total	125 (100.00)	125 (100.00)	250 (100.00)

Table 11: Occupational category

S. No	Category	N (%)		
		Chennai	Coimbatore	Overall
1	Self employed	5 (4.00)	6 (4.80)	11 (4.40)
2	Government employee	6 (4.80)	12 (9.60)	18 (7.20)
3	Private employee	36 (28.80)	37 (29.60)	73 (29.20)
4	Daily wage earner	61 (48.80)	28 (22.40)	89 (35.60)
5	Job seekers	3 (2.40)	0 (0)	3 (1.20)
6	House wife	2 (1.60)	8 (6.40)	10 (4.00)
7	Student	12 (9.60)	34 (27.20)	46 (18.40)
	Total	125 (100.00)	125 (100.00)	250 (100.00)

trucks, call-taxis, construction workers, mechanics, head loaders, and other hawkers. The percentage of the private employees was 29.20% (Table 11).

#### Nature of employment

About 60% of the consumers had only temporary jobs. Daily wage earners, drivers, hawkers, head loaders, housewives, students, and job seekers were in this category. It is understood from Table 12 that not much variation was noticed among consumers of both the cities regarding the nature of employment.

#### Frequency of consumption of street food

It is revealed from Table 13 that 21.60% of the consumers in Chennai consumed street food at least twice a day followed by 18.40% of the consumers consuming at least once a day.

However, in Coimbatore 18% of the consumers stated that they had the habit of consuming street food once in a week. About 15% of the consumers in Chennai indicated that they used to approach road side eatery mainly for the tea and snacks. It was also noted that the tea/snack vendor also sold cigars and pawn and hence the working group, to overcome the "fatigue" mainly approached these eateries

Table 12: Nature of employment

S. No	Nature of employment	N (%)		
		Chennai	Coimbatore	Overall
1	Permanent	51 (40.80)	50 (40.00)	101 (40.40)
2	Temporary	74 (59.20)	75 (60.00)	149 (59.60)
	Total	125 (100.00)	125 (100.00)	250 (100.00)

Table 13: Frequency of consumption of street food

S. No	Frequency	N (%)		
		Chennai	Coimbatore	Overall
1	Daily			
	Once	23 (18.40)	9 (7.20)	32 (12.80)
	Twice	27 (21.60)	10 (8.00)	37 (14.80)
	Thrice	5 (4.00)	7 (5.60)	12 (4.80)
2	Only snacks	19 (15.20)	23 (18.40)	42 (16.80)
	Weekly			
	Once	13 (10.40)	23 (18.40)	36 (14.40)
	>Once	10 (8.00)	10 (8.00)	20 (8.00)
3	Monthly	12 (9.60)	11 (8.80)	23 (9.20)
4	Occasionally	16 (12.80)	32 (25.60)	48 (19.20)
	Total	125 (100.00)	125 (100.00)	250 (100.00)

for relaxation. In all, 9% and 19% of the consumers, respectively, had revealed that they consumed street food items monthly once or twice or occasionally.

#### Occasion of preference of street food

On what occasions the consumers preferred to have street food were also analyzed. Six major occasions were reported by the consumers. These occasions are listed out in Table 14. About 30% of the consumers in Chennai and 17% in Coimbatore stated that their house was far away from their working place, so they had to leave their home early which made it difficult for them to have homemade breakfast or lunch. They preferred the road side eatery due to its proximity to their work site, cost and less crowd when compared to a mess or a small restaurant.

In both the cities about 21% of the consumers interviewed indicated that they preferred to have street food (mainly snacks such as vada, bajji, bonda, and FF) on their way back home from school or job. In all, about 20% of the consumers opined that they preferred eating out when their spouse was out of station for the known reasons like lack of expertise in cooking and non-availability of sufficient time. About 5% in Chennai and 16% in Coimbatore, respectively, stated that they liked eating in road side eateries during weekends and also whenever they felt like relaxing. They also added that they could relish variety of foods in a road side eatery at an affordable cost.

#### Manner of visiting the vending site

It is interesting to note that 33.60% of the consumers in Chennai visited the eatery alone while their counterparts in Coimbatore (44.80%) were accompanied by friends (Table 15).

The high cost of living, speedy lifestyle, co-existence with multi-regional neighbors, the unique features of Chennai, should have developed a sense of "aloofness" among Chennaikars, resulting in lone/solitary behavior. However, in both the cities together about 15% of the consumers stated that they preferred to visit the eatery with their family. Only 2% of consumers opined that they preferred to visit the eatery with their relatives. This shows that the consumers are conscious in maintaining their status with their relatives, so they often preferred to take their relatives to a restaurant rather than to the road side eatery.

**Days of consumption**

Consumption of street food included both traditional and FFs. In both cities, days of consumption of traditional food (TF) seemed high (16.56 days) among EWS consumers followed by consumers of LIG (15.12 days). Consumers of the entire category preferred to have FF (3.42 days) on special occasions like weekends. The consumers preferred to have traditional snacks such as vada, bajji, or bonda at an affordable price more frequently compared to FF (Table 16). The consumption of FF was high among the consumers of both MIG and HIG compared to the other category.

**Most preferred street food items**

A wide spectrum of food stuff is available in a road side eatery. South Indian, North Indian, and Chinese cuisine are served in the road side

**Table 14: Occasion of preference**

S. No	Situation	N (%)		
		Chennai	Coimbatore	Overall
1	Returning from job/school/native	27 (21.60)	26 (20.80)	53 (21.20)
2	Unable to cook when family is out of station	32 (25.60)	17 (13.60)	49 (19.60)
3	House is away from office/long working time	38 (30.40)	21 (16.80)	59 (23.60)
4	At the time of shopping	14 (11.20)	22 (17.60)	36 (14.4)
5	Whenever feel like eating out	7 (5.60)	20 (16.00)	27 (10.80)
6	During week end	7 (5.60)	19 (15.20)	26 (10.40)
	Total	125 (100.00)	125 (50.00)	250 (100.00)

**Table 15: Manner of visiting vending site**

S. No	Manner of visiting	N (%)		
		Chennai	Coimbatore	Overall
1	Alone	42 (33.60)	15 (12.00)	57 (22.80)
2	With family	15 (12.00)	23 (18.40)	38 (15.20)
3	With friends	22 (17.60)	56 (44.80)	78 (31.20)
4	With relatives	1 (0.80)	3 (2.40)	4 (1.60)
5	Family + Friends	19 (15.20)	13 (10.40)	32 (12.80)
6	Family + Relative	9 (7.20)	6 (4.80)	15 (6.00)
7	Friends + Relatives	17 (13.60)	9 (7.20)	26 (10.40)
	Total	125 (100.00)	125 (100.00)	250 (100.00)

**Table 16: Days of consumption**

S. No	Category	Chennai			Coimbatore			Overall		
		TF	FF	Total	TF	FF	Total	TF	FF	Total
1	EWS	16.58	1.84	18.41	16.24	4.31	20.70	16.56	2.95	19.50
2	LIG	16.03	1.82	17.84	14.26	4.54	18.80	15.12	3.22	18.34
3	MIG	12.37	3.00	15.37	12.14	7.23	19.38	12.27	4.85	17.13
4	HIG	7.00	3.00	10.00	4.00	6.50	10.50	5.00	5.33	10.33
5	Overall	15.44	2.10	17.54	14.96	4.74	19.70	15.20	3.42	18.62

EWS: Economically weaker section, LIG: Low income group, MIG: Middle income group, HIG: High income group, TF: Traditional food, FF: Fast food

eateries. The majority of the consumers (79% in Chennai and 67% in Coimbatore) stated that their most favored food was chat items (Table 17). About 68% of the consumers in Chennai and 46.40% of the consumers in Coimbatore preferred the hot and crispy snacks and savories. In all, 35.60% of the consumers agreed that they preferred to have either tea or coffee just to relax them from their monotonous work schedule. Among the breakfast items, about 59% of the consumers preferred to have idly or dosa as they were "hunger quenching" and pocket-friendly.

About 19% of the consumers preferred to have poori for breakfast and either chapatti or parotta for dinner. For lunch, about 16% in Chennai and 22.40% in Coimbatore preferred to have variety rice meals such as tomato rice, tamarind rice, mint rice, garlic rice, lemon rice, and curd rice. Only about 17% of the consumers ate meals for lunch. About 8% of the consumers quoted that they relished the lunch along with egg gravy or with an omelet. Chinese cuisine, such as fried rice and noodles, were preferred by 9.60% and 8% of the consumers (mainly youth), respectively.

**Reasons for choosing street food eatery**

Among the various reasons quoted by the consumers for choosing a street food eatery, low cost of the food items (40.40%) was the major factor followed by homemade preparations (17.60%). About 8% of the customers in Chennai preferred to have street food since the quantity of food supplied was more and food stuff like idly was easily digestible. The transparent cooking process was the great advantage for these eateries. About 7% of the consumers stated that they were able to get many varieties like two or three chutneys, sambar, chat items, etc. About 5% of the consumers in Chennai and 7% of the consumers in Coimbatore opined that the food items prepared by the street food vendors were fresh and hot. About 5% of the consumers added that few items like chat varieties, samosa, and cutlets were not commonly prepared at home and hence they preferred to have those foods in the street food shops (Table 18).

**Place of food consumption**

It is interesting to learn that about 76% of the consumers in Chennai consumed the food in the shop itself. In Coimbatore, the majority (55.20%) of the consumers revealed that they consumed the food in shop as well as preferred to carry parcels (Table 19). Only about 5% of the consumers stated that they used to take home parcels instead of consuming the food in the shop itself. In all about 57% of the people enjoyed eating in the vending site itself and hence it is very important that the street food eateries should have good and hygienic environment, and this should not be compromised at any cost.

**Amount spent on street food**

In Chennai, an EWS consumer spends around Rs. 978 on TF and the maximum amount was spent for lunch. An EWS consumer in Chennai consumed street food at least 16 days a month. In Coimbatore, an individual from EWS was spending around Rs. 1085 (91.82%) toward TF and only 8.13% toward FF. The maximum amount was spent on lunch (Rs. 484/month) followed by breakfast (Rs. 354/month). The amount spent on tea and snacks was Rs. 268 in Chennai and Rs. 182 in Coimbatore. In all, about 89% was spent on TFs. For both traditional and FFs, on an average about Rs. 1042 was spent a month. It could be

Table 17: Most preferred street food items

S. No	Foods	N (%)		
		Chennai	Coimbatore	Overall
I	TF			
1	Idly/dosa/appam	97 (77.60)	50 (40.00)	147 (58.80)
2	Pongal	29 (23.20)	2 (1.60)	31 (12.40)
3	Poori/chapathi/ parotta	31 (24.80)	16 (12.80)	47 (18.80)
4	Sevai/Kitchadi	7 (5.60)	00 (0)	7 (2.80)
5	Snack items	85 (68.00)	58 (46.40)	143 (57.20)
6	Variety meals	20 (16.00)	28 (22.40)	48 (19.20)
7	Meals	42 (33.60)	1 (0.80)	43 (17.20)
8	Biryani	5 (4.00)	1 (0.80)	6 (2.40)
9	Non-vegetarian	3 (2.40)	14 (11.20)	17 (6.80)
10	Egg/omelet	19 (15.20)	0 (0)	19 (7.60)
11	Tea/coffee	63 (50.40)	26 (20.80)	89 (35.60)
12	Soup	1 (8.80)	1 (0.8)	2 (0.80)
II	FF			
1	Chat items	99 (79.20)	84 (67.20)	183 (73.20)
2	Egg/vegetable fried rice	22 (17.60)	2 (1.60)	24 (9.60)
3	Noodles	7 (5.60)	13 (10.40)	20 (8.00)

TF: Traditional foods, FF: Fast foods

Table 18: Reason for choosing street food eatery

S. No	Reasons	N (%)		
		Chennai	Coimbatore	Overall
1	Low cost	52 (41.60)	49 (39.20)	101 (40.40)
2	Homely prepared food	15 (12.00)	29 (23.20)	44 (17.60)
3	Taste	9 (7.20)	7 (5.60)	16 (6.40)
4	Variety	11 (8.80)	6 (4.80)	17 (6.80)
5	More quantity	10 (8.00)	8 (6.40)	18 (7.20)
6	Use of less oil	4 (3.20)	2 (1.60)	6 (2.40)
7	Easy to digest (steamed items)	10 (8.00)	11 (8.80)	21 (8.40)
8	Freshly prepared	6 (4.80)	9 (7.20)	15 (6.00)
9	Non preparation of certain items at home	8 (6.40)	4 (3.20)	12 (4.80)

noted that while majority of the consumers belonging to EWS and LIG spent significantly on TFs, the MIG and HIG consumers did not spend much due to obvious reasons (Table 20).

#### Consumer's preference toward street food over foods sold in restaurants

The various reasons as quoted by the consumers for their preference toward street food over food supplied in regular restaurants are presented in Table 21. About 42% of the consumers in Chennai and 36% of the consumers in Coimbatore stated that the cost of the food supplied in a road side eatery was very low when compared to the food supplied in a hotel. In a road side eatery, the cost of one idli weighing 100 g ranged between Rs. 2.50 and Rs. 5, whereas in a hotel an idli slightly bigger in size weighing about 150-200 g costs around Rs. 12-15.

In a street food eatery, one can have a wholesome lunch for Rs. 40 and by spending Rs. 10 extra he could have an omelet (Rs. 8.00) or egg gravy (Rs. 10) or some other non-vegetarian side dish like fish fry, whereas in a hotel lunch costs around Rs. 60-80. Apart from this, in many hotels taxes are also levied extra which further shoots up the price, which are not affordable due to their poor purchasing power. About 28% of the consumers were of the view that the waiting time was much lower in a street food eatery compared to hotels. 6% of the consumers were of the view that the foods prepared were fresh, and the process is transparent in a road side eatery compared to a hotel. A street food consumer, apart from saving money could also save time as street foods were easily accessible and waiting time for street food was relatively less.

Table 19: Place of street food consumption

S. No	Location	N (%)		
		Chennai	Coimbatore	Overall
1	In the shop itself	95 (76.00)	48 (38.40)	143 (57.20)
2	Taking home	6 (4.80)	8 (6.40)	14 (5.60)
3	Both (1 and 2)	24 (19.20)	69 (55.20)	93 (37.20)
	Total	125 (100.00)	125 (100.00)	250 (100.00)

#### Consumers' perception versus expectation

Consumer's satisfaction for the services offered by vendors is largely a function of perception and expectations of the services provided. If consumer expects a certain level of service and service provided by the street food vendor fails to match the consumer's expectations, the service would be perceived as poor. Dissatisfaction with services provided was largely observed from the difference between expectations and perception about what was actually provided. This is the basic premise for understanding the gaps that arises in consumer service. 12 statements about service quality had been used to analyze the expectation and satisfaction of the consumers and the gaps were analyzed.

The gap analysis of the overall operations of the street food vending operation as perceived by consumers of street food quality was studied by comparing the expectation mean score and the perception mean score of each of those items. If the gap was positive and high, then services provided did not meet the expectation of the consumer, leading to dissatisfaction. If the gap was negative, the service provided was greater than the expectation of the consumer and thus the consumer was more satisfied. The analysis of the results of gap analysis presented in Table 22 highlighted that the gaps in all the factors were positive. From the gap estimated, higher difference of 3.63 was shown against the use of gloves, apron, hood, etc., and it was the first and foremost gap and hence attentions of the vendors are expected on this aspect. It was followed by the cleanliness of the vessels used for the preparation of food. It showed a gap of 1.05. Hygiene and neatness of the workers, and disposal of waste, cleanliness of serving vessels and drinking water showed a gap of 1.04. It is very obvious to note from the analyses that very less gap of 0.88 was observed for taste. Hence, it could be interpreted from the results that use of gloves, apron, hood, etc., needs more attention, whereas taste of street food requires relatively less attention for improvement by the street food vendors.

#### Consumers perception toward street food

Likert's scaling technique was used to measure the level of satisfaction of the consumers about the street food. A vast majority of the consumers opined that they were either fairly satisfied (42.74%) or satisfied (32.09%) toward practices of street food vendors and the cuisine provided by them. Only about 3% of the consumers were highly satisfied with the street food, and these consumers were mainly from the EWS category. Only about 5% of the consumers were not satisfied with the various attributes pertaining to street food (Table 23).

#### Food and nutritional implications of street food vending

The street foods often help in achieving the food security of the EWSs, (low- and middle-income consumers), who depend on street food. The energy (in calories) and cost of the street foods prepared both by street food vendors and big restaurants were compared. The volume and weight of the food stuffs sold in restaurants were almost twice the weight of street foods while the cost was more than four times higher when compared to street foods. The energy level and cost of the selected food items served for breakfast, lunch, and dinner were compared separately.

#### Breakfast

Breakfast such as idly, roast and poori were the highly preferred food stuffs by the consumers in hotels as well as in street food vending site.

Table 20: Consumer's spending on street foods (Rs./Month)

S. No	Category	TF					FF	TF+FF
		BF	L	S	D	Total		
I	Chennai							
1.	EWS	228	400	298	51	978	90	1067
2.	LIG	224	341	267	49	880	112	992
3.	MIG	184	163	205	46	599	184	783
4.	HIG	120	100	50	50	320	200	520
	Average	216	331	268	49.73	865	117	982
	Percentage to total	22.08	33.70	27.28	5.06	88.11	11.89	100.00
II	Coimbatore							
1.	EWS	354	484	196	50	1085	96	1181
2.	LIG	295	371	188	54	907	136	1043
3.	MIG	270	380	134	25	810	159	969
4.	HIG	188	275	125	40	628	340	968
5.	Average	321	431	182	47	981	122	1103
	Percentage to total	29.10	39.08	16.50	4.25	88.94	11.06	100.00
III.	Overall							
	EWS	293	443	246	51	1032	93	1125
	LIG	260	356	226	52	894	124	1019
	MIG	222	258	174	37	691	173	864
	HIG	165	217	100	43	525	293	818
	Average	269	381	225	48	923	119	1042
	Percentage to total	25.82	36.56	21.59	4.61	88.58	11.42	100.00

EWS: Economic weaker section, LIG: Low income group, MIG: Middle income group, HIG: High income group, BF: Breakfast, L: Lunch, S: Snacks, D: Dinner, FF: Fast food, TF: Traditional food

Table 21: Consumer's preference toward street foods over regular hotels

S. No	Reasons	N (%)		
		Chennai	Coimbatore	Overall
1	Low cost	53 (42.40)	46 (36.80)	99 (39.60)
2	No waiting time	37 (29.60)	34 (27.20)	71 (28.40)
3	More varieties	8 (6.40)	26 (20.80)	34 (13.60)
4	Good quality and taste	4 (3.20)	8 (6.40)	12 (4.80)
5	Freshness of food	9 (7.20)	7 (5.60)	16 (6.40)
6	Personal attachment	14 (11.20)	4 (3.20)	18 (7.20)

Table 22: Expectation versus perception of consumers: Gap analysis

S. No	Statements	Expectation mean score (E)	Perception mean score (P)	Gap (E-P)
1	Utensils used for the preparation of food	4.23	3.18	1.05
2	Serving vessels	3.78	3.24	0.54
3	Method of preparation of food	4.26	3.24	1.03
4	Drinking water	3.98	2.94	1.04
5	Disposal of waste	3.76	2.73	1.04
6	Cleanliness of vessels	4.07	3.03	1.04
7	Use of gloves, apron, hood, etc.,	5.06	1.43	3.63
8	Taste	4.90	4.02	0.88
9	Hygienic environment	3.97	2.96	1.02
10	Food quality	4.56	3.55	1.02
11	Hospitality	4.54	3.61	0.93
12	Hygiene of the workers	4.18	3.14	1.04

Hence, these food stuffs were selected for the assessment. In general, by consuming two idlies weighing 100 g one could able to get 130 calories of energy. If a consumer prefers four idlies for Rs.12 in street food eateries then in restaurants one could consume only one idly for the same cost. A roast weighing 100 g would give 192 calories of energy. Similarly, a street food consumer takes one roast (with a diameter of 12 cm) in road

side eateries it would cost him Rs. 12, while in big restaurants one has to spend Rs. 13-20 more for a roast with a diameter 12 cm. Likewise, 150 calories of energy could be gained by consuming 25 (i.e. 4-4/5" dia) of *poori*. In street food vending site, set of two *poories* costs only Rs. 12 whereas in a restaurant, one has to spend Rs. 26 more for the same level of calorie intake. When a consumer preferred to have a combination of two idlies with one roast, in road side eatery he could avail by spending Rs. 16 and at the same time in a restaurant to consume the above said combination of breakfast one has to spend Rs. 30 (i.e. Rs. 14 more for the same level of energy from food stuff).

#### Lunch

Food stuffs like meals, tomato rice and curd rice are mostly preferred by the consumers for lunch. Meals with sambar and curd are the preferred food of the south Indian consumers. One bowl of boiled rice weighing 100 g provide 110 calories of energy. Similarly, 81 calories of energy could be obtained from consuming one bowl of sambar weighing of 160 g. By consuming one cup of curd (8 fl oz (fluid ounce) = 250 ml), 154 calories of energy could be provided. Through consuming meals, energy obtained by a person would be 345 calories. This meals costs Rs. 30 in the roadside eatery and Rs. 60-80 in a restaurant. It is about 2-3 times higher than the cost of street food. In case, a consumer who would like to have a combination of variety rice like tomato rice (250 g gives 116 calories of energy) and curd rice (100 g = 63 calories of energy), the consumer would be spending Rs. 40/- in a road side eatery, while one can get the same level of energy when he spends Rs. 73/- in a big restaurant only which is about 1.8 times costly.

#### Dinner

For dinner, chapatti was selected as a standard food for assessment. A chapatti weighing 35 g provides 85 calories of energy. Consumer can have four chapattis for Rs. 32 in a road side eatery while in restaurants a set of chapattis costs around Rs. 38 (i.e. one has to spend Rs. 76 in big restaurants for consuming same four chapattis). If it is assumed that a consumer takes 2 idlies and one dhsa for breakfast, full meal for lunch, and four chapattis for dinner in a street food eatery, one may spend Rs. 84 and Rs. 176 needs to be spent if it is in big restaurants for getting the same level of energy. Hence, a consumer of LIG and MIG, who totally depends on street food may be able to save about Rs. 70-80 daily. For a

Table 23: Consumer's perception toward street food: Percentage analysis (percentage)

S. No	Parameter	Highly satisfied	Satisfied	Fairly satisfied	Dis satisfied	Highly dis satisfied
1	Utensils used for the preparation of food	0.40	32.40	55.20	10.80	1.20
2	Serving vessels	0.80	37.60	47.60	12.40	1.60
3	Method of preparation of food	1.60	32.40	54.00	10.80	1.20
4	Drinking water	2.40	17.60	54.00	24.40	1.60
5	Disposal of waste	2.00	11.60	48.40	34.40	3.60
6	Cleanliness of vessels	1.60	21.60	58.40	16.80	1.60
7	Use of raw materials	0.80	34.00	47.20	11.60	6.40
8	Use of gloves, apron, hood, etc.,	0.40	4.40	12.40	48.40	34.40
9	Taste	17.20	68.40	12.40	0.40	1.60
10	Hygienic environment	0.40	23.6	47.6	25.2	3.2
11	Food quality	4.40	52.40	37.20	3.60	2.40
12	Hospitality	11.20	53.60	24.40	7.20	3.60
13	Hygiene of the workers	1.20	27.60	56.80	10.80	3.60
	Overall	3.42	32.09	42.74	16.68	5.08

Table 24: Comparative analysis of costs of food stuffs

S. No	Name of the food	Number	Road side eateries		Restaurants	
			Quantity (g)	Cost (Rs.)	Quantity (g)	Cost (Rs.)
1	Idli	2	200	6	400	24
2	Roast	1	100	10	200	38
3	Poori	2	50	12	100	38
4	Idli + Roast	2+1	300	16	600	62
5	Meals	One plate	300	45	300	70
6	Tomato rice	One bowl	150	20	300	35
7	Curd rice	One bowl	150	20	300	38
8	Chapatti	2	150	10	300	38

Table 25: Amount spent on street foods by consumers

Variable	Coefficients	t statistics
Intercept	785.147***	4.056
GND	-52.382	-0.841
HHS	-55.661**	-2.374
HHI	-0.003**	-2.349
DST	-7.357***	-5.534
EMP	44.235	0.798
FOV	43.350***	12.988
QLT	191.391	1.734
PCF	-111.327**	-2.118
R <sup>2</sup>	0.509889	
Adjusted R <sup>2</sup>	0.49362	

\*\*Significant at 5% level, \*\*\*Significant at 1% level, GND: Gender, HHS: Household size of the customers, HHI: Household income, DST: Distance traveled, EMP: Nature of employment, FOV: Frequency of visit, QLT: Quality of food, PCF: Perception on cost of food

family size of four, an HH will be able to save an amount of Rs. 320/day. It is not only the issue of savings but also the question of affordability and purchasing power.

A street food consumer, apart from saving money can also save time as street foods are easily accessible and waiting time in street food is also comparatively less. Big restaurants not only collect high charges for the food stuffs but also levy tax like VAT which further adds to the cost of the food items. The assessment showed that street food consumers are able to get the same level of nutrition as that of the consumers who dine in big restaurants but at less cost. The results further showed that the absence of street food would have led to low intake of food by the consumers, whose purchasing power is low. This would have ultimately resulted in food insecurity among the low- and middle-income urban people. The costs of food stuffs sold at road side eateries and restaurants are compared in Table 24.

#### Analysis of consumers' preference of street food

Respondents' preference for street food was analyzed by modeling the amount spent on street foods as a function of gender, HH size, HH income, distance traveled, nature of employment, frequency of visit, quality of food, and perception on the cost of food. The relationship between dependent variable and independent variables was estimated using ordinary least square method, and the results are presented in Table 25.

The fitted model was a significant at 1% level and the coefficients of the variables, viz., distance traveled by the respondent and the frequency of visit were significant at 1% level. HH size, income and the perception on the cost of street food was significant at 5% level. All the coefficients exhibited the expected sign in accordance with the theory.

It is observed that the per unit raise in HH size would reduce the average expenditure of a respondent toward street foods by Rs. 56 a month. This explains the fact that more the number of HH members, lesser would be the preference toward the consumption of food outside. HH income had negative influence on the dependent variable. This indicates that preference for street food would be less among HIGs. Distance traveled by a respondent to avail street food is an important factor toward decision making on consumption. The fitted model explains that per unit increase in the distance traveled would reduce the expenditure on the consumption of street food. Thus, the result supports the proximity concern of the respondents.

The frequency of visit is positively influencing the expenditure on street foods. From the model, per unit raise in frequency of visit will raise the expenditure on street food by Rs. 43. Respondent's perception toward the cost of street food has a negative influence on street food expenditure. This attribute was introduced as a dummy variable (high cost - 1; otherwise - 0) to capture the rational behavior of the respondents. The model explains that when a consumer thinks that the cost of the street food is relatively high (D=1) then their expenditure would be reduced significantly.

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