

# Food safety issues related to street vendors



## Introduction

Street food vending forms a very important segment of the unauthorized sector of food industry. As a result of rapidly growing economy and better employment opportunities in urban areas, urban sector attracts a large proportion of population for employment and results in settlement of this section in other areas of big cities and development of suburbs. This growth is expected to increase significantly with the increasing urbanization & population growth, especially in developing countries. Due to this transition, food habits of people are getting affected. In India during recent years there is an increasing trend in the sale and consumption of foods on the roadside. Though Street food vending is found around the world, but it has variations within both regions and cultures.

Nowadays street food is becoming very popular and is in demand because it saves one's time and energy as it is ready to eat, street foods reflect the traditional local culture and is one of the best ways to experience the real cuisine of any community. The Street vended foods include foods without any preparation, ready to eat food and foods cooked on the site. A part from this street food is appreciated for the taste, flavour they offer at low, affordable price to the general population. (Bhowmick, 2005) Street vended foods include foods as diverse as meat, fish, fruits, vegetables, grains, cereals, frozen produce and beverages. Street foods may be sold in places or found in clusters around public places, such as the market or fair, place of work, schools & colleges, railway stations, hospital and bus terminals and may be vended from roadside makeshift stalls, carts or small establishments by hawkers or vendors .

According to food and agricultural Organisation (F A O), 2. 5 million people eat street food daily. The national policy for urban street vendors/hawkers of India notes that street vendors, roughly estimated to be 10 million, constitute approximately 2% of the metro populations. FAO defines street vended foods as “ Ready – to – eat foods and beverages prepared and/ or sold by vendors and hawkers especially in street and & other similar public place (FAO 1988). According to National policy on urban street vendors, street vendor is broadly defined as a person who offers goods for sale to the public without having a permanent built up structure but with a temporary static structure or mobile stall (or head load). Street vendors may be stationary by occupying space on the pavements or other public /private areas or may be mobile in the sense that move from place to place carrying their wares on push carts or in cycles or baskets on their heads , or may sell their wares in moving trains, bus etc. (National policy on urban street vendors, 2004). The rising popularity of street food vending, besides its social support system for the under privileged urban population is it’s easily accessibility; variety in taste, low cost fresh and often nutritious attributes. People spend almost 50% of their income on food; among low income groups this figure may go up to 70% (Bhandari).

A study conducted in India in the city of Varanasi, observed that about 42% of working men and women in the age groups of 25-45 and 61% of the students in the age group of 14 -21 consumed food from the street vendors rather carrying foods from home to the workplace . About 82% of people of all age groups prefer to go to street vendors against 18% only who prefer to go to the restaurants in the evening (Mishra2007) FAO and WHO recognising

this spiralling Asian trend, has promoted documents on “ Food safety requirements for street vended foods” and also on “ Training aspects “ of safe food for small operator and inspectors. Presently countries like Singapore, Thailand and Malaysia have put together a structured national program to promote food safety in street vended food.

#### IMPORTANCE of street foods

The concept of traditional street food has acquired new dimensions in developed countries with food streets/ food centres emerging as new tourist attractions. Though street food culture pervades almost all countries of developed regions, the Asian street food is considered as the best in the world.

The Time magazine survey of 2004 and the CNN report of March 2012 find Asia’s 10 greatest street food cities and tell us how the street food make those cities economically bustling and socially charming. Malaysia’s Penang, Taiwan’s Taipei, Thailand’s Bangkok, Japan’sFuloka, Vietnam’s Hanoi, Korea’s Seoul, Singapore, China’s Xian, Philippines’s Manila and Cambodia’s Phnom Penh find their places in this list of 10 top Asian street food cities.

Street foods play a very important role in providing inexpensive and nutritious foods, particularly for millions in the middle and lower income groups. The FAO and the WHO have carried out several studies on street foods in different countries of Asia, Africa and Latin America. Besides their convenience and employment potential, the greatest factor in their favour is the fact that they can provide per capita calorie and protein requirements within a cost of around \$1(wilnaro). It also plays an important social-

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economic role in terms of employment potential and in serving the food and nutritional requirements of consumers at the affordable prices. It requires a low capital investment, offers a chance for self employment and provides business opportunities for developing entrepreneurs. It also contributes to local and national economic growth by supporting local agricultural producers and food processors. Thus the socioeconomic significance of street foods is immense.

Street foods are an attractive experience of varied foods for tourists. In developing countries, making and vending street food provides a regular source of income for vast number of men and particularly women, who lack education or skills. Also the street food vendors are valuable, because it is a large significant area supporting the livelihood of millions of the urban poor. Nothing represents the rich tapestry of India's multi cultural fabric better than street food. The cuisine of a place speaks volume about the weather; cultural life style and habit of the people. The convenience and low price make street food the most favoured choice. Many itinerant workers who do not have proper housing and cooking facilities have no option but to depend upon street foods.

#### Risk factors involved

Food borne illness associated with the consumption of street vended foods has been reported in several places in India. Multiple lines of evidence reveal that foods exposed for sale on the roadsides may become contaminated either by spoilage or pathogenic microorganisms (Bryans et. al 1992: A shenafi; 1995; WHO, 1984) Food can easily be adulterated to defraud the

consumer and deprive him of his money's worth. According to WHO (1989), Food handling personnel play an important role in ensuring food safety throughout the chain of food production and storage. Mishandling and disregard of hygiene measures on the part of the food vendors may enable pathogenic bacteria to come into contact with food and in some cases survive and multiply in sufficient numbers to cause illness in the consumer. Tamberker et. al, reported that poor hygiene of vendors resulted in higher contamination(66. 6%), reducing to (33. 4%) where hygiene was fare. This higher contamination can be due to dirty clothing, unhygienic handling and serving practices, contaminated hands and lack of knowledge of hygienic practices.

Many foods are highly perishable. They are easily contaminated when produced in an unhealthy and unclean environment. Microbiological contamination and spoilage of food needs to be prevented through good handling practice (Ham bridge). More often than not, the microbiological quality of street foods, especially that of prepared dishes and drinks is below standard, indicating inappropriate sanitary and hygienic practices during preparation and handling. Most of the foods are not well protected from flies, which carry food borne pathogens. Food borne pathogens are recognized as a major health hazard associated with street foods. Salmonella species is a post modern pathogen, which belongs to important food contaminating bacteria, causing a high number of human infections worldwide.

Consumption of raw or inadequately processed animal foods can have a significant public health risk as such foods are frequently contaminated with pathogens and occasionally with toxic chemicals. Similarly vegetables, fruits

and grains may carry hazardous contaminants. Further, unsanitary environmental conditions like proximity of the establishment to sewers or garbage dumps, pollution from traffic add to the public health risks associated with street foods. Additional hazards may also be in the form of use of improper food additives (often unauthorized colouring), mycotoxins, heavy metals and other contaminants (such as pesticide residues) in street foods. Infrastructure developments are relatively limited with restricted access to potable water, toilets, refrigeration and washing and waste disposal facilities.

#### Food Safety Practices—effects on public health

With the increasing pace of globalisation and tourism, the safety of street food has become one of the major concerns of public health. There is difficulty in controlling the large numbers of street food vending operations because of their diversity, mobility and temporary nature. Food safety issues have been the most wanted intervention in the field of nutrition all over the world. Safety of the street food is an important aspect in the field of nutrition security. Ensuring food quality and food safety is equally significant for the welfare of an individual, a community and a nation. Since this is an unorganised sector, there is felt need of generating government's initiation for its development. There is also a need of generating food and personal hygiene and ensuring an effective system of regular health examination of vendors and regular sample collection of food they are serving to the customers. In spite of numerous advantages offered by street foods, there are also several health hazards associated with this sector of the economy. Many human illnesses are food related, because of lack of basic

infrastructure and services, such as nutritional status and economic well-being are affected by food carrying pathogenic organisms and their toxins and by poisonous chemicals. Appropriate location and condition of vending stalls, observation of personal hygiene by vendors, employing washed and clean utensils, using potable water and proper drainage and waste disposal are some steps to be taken which can lead to hygiene and safe food. In India, traditional methods of processing and packaging, improper holding temperature, poor personal hygiene of food handlers are still observed during food marketing and sales. Consumption of raw inadequately processed animal foods can have a significant public health risk as such foods are frequently contaminated with pathogens and occasionally with toxic chemicals. Similarly vegetables fruits and grains may carry hazardous contaminants. There are also problems with the use of unauthorized food colours and some other additives, as well as chemical contamination from the environment.

Various studies have been also done to observe the personal hygiene, health and food handling practices like (vendors not wearing clean clothes, are dirty, chewing tobacco during food handling and do not wipe hands after every service of food.). Bhasker et. al (2004) reported that defective personal hygiene can facilitate the transmission of pathogenic bacteria found in environment and on people's hands via food to humans. Handling with bare may result in cross contaminants, hence introduction of microbes on safe food (FAO'1997). Paulson D. S (1994) also reported that outbreaks are generally caused by foods due to poor personal hygiene of the vendors, during preparation or storage of food. Unhygienic surrounding like sewerage,



improper waste disposal system and inadequate water supply attract flies and houseflies which further increase food contamination as reported by Chumber et. al, 2007. To instil professional face to street food operators, the street food safety management needs a Hazard Analysis Critical Control Point (HACCP) and the prerequisite system as good manufacturing practices (GMPs) and good hygiene practices.(GHPs). Following Table reports current hazards and critical control points observed at the main steps along the street food production chain.

Table—Hazards and critical control points identified at different steps of street food production chain

Step	Hazards ( Biological)	Critical control points
Primary Production: Raw food stuff	Initial Contaminat ion	Raw food stuffs from illegal sources and bad quality. Contaminati on of raw food stuffs by different elements

Storage: Growth of bacteria from initial contamination on

Storage in inadequate containers or stores without protection from rodents and flies.

Contamination by excrements and other food wastes

Fragmentation and conditioning

Further contamination via hands

Addition of illegal ingredients.

Processing : Cross contamination and separation of raw

Precooking/ preparation

Bad

products  
 with cooked  
 foods.  
 survival of  
 bacteria  
 Initial  
 contaminan  
 ts occur in  
 unlock  
 foods  
 products  
 with cooked  
 foods.  
 survival of  
 bacteria  
 Initial  
 contaminan  
 ts occur in  
 unlock  
 foods  
 Inadequate  
 washing of  
 raw food  
 before  
 preparation  
 Inefficient  
 cooking or  
 reheating  
 Survival of  
 pathogens  
 & spores.  
 Production  
 of toxins  
 Inefficient  
 holding  
 temp.

	Contaminat	
Exposure /	ion and	Bad
Vending:	growth of	protection
Serving /	bacteria	from file
Consumptio	and spores.	and dust.
n	Production	Bad
	of toxins	handling.

Source: Chirag Gadi

Microbial hazards and their solution, critical points, practical control processing measures and monitoring procedures as well as principles of food microbiology and food safety need to be incorporated for the safe street food preparation.

Standards or Criteria to maintain while handling the food.

The standards of street food safety can be upgraded by the vendors through implementation of some basic good practices with respect to hygiene and food handling. Standards for food handler requirements such as hand-washing, working attire, personal hygiene and personal behaviour should be maintained. Standards for food-vending equipment; which must be food grade , easy to clean and sanitize, standards for food serving such as safe food cover and packaging, regular hygiene and sanitation inspection and monitoring of good food handling practices should always be maintained. Kinton and Ceserani(1996) recommended that food stuffs of all kinds should

be kept covered as much as possible to prevent contamination from dust and flies.

The food safety and standards Authority of India (FSSAI) has started engaging with the national association of street vendors of India in systematizing and professionalising street foods across cities in the wider interests of ensuring public health and protecting livelihood of street food vendors. Also FSSAI is in the process of developing guidelines and regulations to ensure food safety and safe street foods for state governments to implement. The Food safety and standards Authority of India has prepared a checklist, guidelines and prerequisite for registration of medium to small food –vending establishment to ensure food safety and upgrading of existing conditions of eating establishments. Several agencies at the level of the state governments, the department of public health, commerce, consumer affairs and food processing, the local municipalities and the police administration have identified roles and responsibilities in these guidelines and regulations that are expected to be executed to ensure safe street foods.

Microbial hazards and their solution, critical points, practical control processing measures and monitoring procedures as well as principles of food processing microbiology and food safety need to be incorporated for the safe street food preparation. Appropriate location and conditions of vending stalls, observation of personal hygiene by vendors, employing washed and clean utensils, using potable water and proper drainage and waste disposal are some steps to be taken which can lead to hygiene and safe food.

## Policy issues for provision of safe food

Adapting the five keys to safer food to address the street food sector (WHO, 2011). WHO has developed few measures for street food vendors based on the principles of five keys to safe food. These can be incorporated and taught in Indian scenario. These are:

Key 1: keep clean

Key 2: raw and cooked food should be kept separated.

Key 3: destroy hazards when possible.

Key 4: keep microorganisms in food from growing.

Key 5: use safe water and raw material.

The Ministry of Food processing industries has proposed schemes for “Safe Food Towns” and safe food streets”. These schemes aim to upgrade the quality of street food by promoting Indian cuisines at affordable rates in locations of tourist importance through upgrading and creation of common

## Conclusion

Keeping in view the scale of operation of such enterprises, it is quite a challenge to bring about improvements in the street food scenario. Policing action has to be coupled with training. Local bodies have also to provide facilities for safe water supply, garbage disposal etc. The HACCP approach can be applied to keep down hazards to consumers.(Raj. k. Malik)