ALAGAPPA UNIVERSITY

[Accredited with 'A+' Grade by NAAC (CGPA:3.64) in the Third Cycle
and Graded as Category–I University by MHRD-UGC]

KARAIKUDI – 630 003

DIRECTORATE OF DISTANCE EDUCATION

M.Sc. [Home Science – Nutrition and Dietetics]

365 23

FOOD SERVICE MANAGEMENT

II - Semester

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FOOD SERVICE MANAGEMENT

Author

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Units (1-14)

SYLLABI-BOOK MAPPING TABLE
Food Service Management

Syllabi	Mapping in Book
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INTRODUCTION

Food service management is an important area in the food servicing industry as it has various benefits. It helps in smooth operations, efficient resource planning and utilitization leading to minimization of costs. The food service management as an area also ensures that quality food products are in service and that the premium saefty standards are being followed for the production and service processes. Food service management in hospitals is a critical area since here patients, doctors, dieticians and the likes are also involved.

The study of food service management includes several topics like organization, management and scope of food service industry; the concepts of material management and food industry segmentation, menu planning, etc; the classification, purchase, storage and maintenance of food service equipment; the principles of effective management including human resource management as well as accounting; and the prevalent trends, standards and laws pertaining to the food service management.

This book, *Food Service Management,* is written with the distance learning student in mind. It is presented in a user-friendly format using a clear, lucid language. Each unit contains an Introduction and a list of Objectives to prepare the student for what to expect in the text. At the end of each unit are a Summary and a list of Key Words, to aid in recollection of concepts learnt. All units contain Self-Assessment Questions and Exercises, and strategically placed Check Your Progress questions so the student can keep track of what has been discussed.

BLOCK - I
FOOD SERVICE INDUSTRY, INFRASTRUCTURE AND MATERIALS MANAGEMENT

UNIT 1   FOOD SERVICE INDUSTRY

Structure

1.0   INTRODUCTION

The food service sector in India is seeing a progressive growth in this decade and continues to expand at an exponential rate. Increase in young urban population with globalisation and technological advancement has created a niche for novel services in the food industry. Better modes of transportation, storage, up-to-the minute food retail space, and enthusiastic skilled youth has improved the look and feel of the Indian Food Service Sector. A sector that once sprawled with home grown catering services or round the corner 'dhaba' joint is now a promising industry offering employment as well as economic boom to the GDP. This unit aims at analysing the functioning and changing trends of the food service industry.

1.1   OBJECTIVES

After going through this unit, you will be able to:

- Understand the food service industry in detail

- Explain the scope of the food service industry

- Discuss the segmentation in the food service industry

1.2 SCOPE OF FOOD SERVICE INDUSTRY

In India, the consumer market portrays a segregated market of urban and rural, which are adapting to brands from around the globe. Urbanisation has led to improved incomes and influence of the media marketing in the households. The domestic consumer is now more conscious of eating food at standard outlets across socioeconomic segments. The Indian food service industry is happy to entertain the enthusiastic, dynamic, and diverse food-loving consumers with a high disposable income. An increasing trend to 'eat out' along with a changing lifestyle has helped boost the food service sector in our country. Moreover, the encouraging contribution of women in the workforce and double-income families has motivated the need for quality, fast, pre-cooked, yet healthy meals, hence creating new opportunities for the food service industry in India.

The boost in food service industry in India is due to these contributors:

- Increasing economic growth
- Improving income and demographic profile
- Innate internet penetration
- Inherent focus on health and wellness
- Innovative technological advancements

Across the globe climate change is observable. Freaky weather, extreme temperatures, smog, etc. have caused an upsurge in health issues observable in the form of rise in respiratory disorders, skin diseases, food, as well as water-borne contaminations. Wellness coaches blame poor lifestyle choices, along with inadequate access to proper nutrition as primary contributors to heart disease and diabetes.

India is the diabetes capital of the world with the prevalence of diabetes in the country as high as 12–18 per cent of the total adult population, markedly observed in urban areas. Annually, about 5.8 million Indians succumb to heart diseases, lung diseases, stroke, cancer, and diabetes. Moreover, the youth in India are suffering more from these once old-age illnesses. This has pushed a market need for better health care services. The escalating development of hospitals and nursing home centres across the cities are trying to meet the demands of high quality health care services. This is also promoting a consumer driven need to offer standard food services in health care set-ups because people are getting more conscious of what they eat. This generation of consumers give importance to the taste of food as well as the quality, source of ingredients used in the food along with value to service.

Scope of Food Service Industry

We have to acknowledge that our food is evolving. Traditional menus are being modernized. Experimental cooking has developed fusion food using international ingredients. We are seeing a multitude of acceptance of global foods and foreign palettes adapting to traditional cuisines.

It is interesting to note that conscious consumerism is at peak with health and hygiene in food standards as a norm. Food service providers have to adapt to health food menu and maintain premium hygiene standards in preparation and kitchen.

Internet has penetrated the decision making factor of Indian consumer and online portals as well as food bloggers rule the food service industry.

1.2.1 Trends Encouraging Change in Food Service Industry

We have to now be prepared to cater to a health and wellness food service industry that meets demands from an Indian consumer who is in-control of his diet, wants to eat healthy, enjoys farm-to-table lunches, is interested in growing his own organic vegetables and herbs as well is willing to accept traditional millets and scrap junk food as much as possible.

Mindful eating practices or neuro nutrition is becoming the game changer. A popular concept doing the rounds is eating mindfully hence inculcating practices that help individuals not only reach satiety through stomach but allow management of moods through foods.

Going back to roots is also the popular mantra in gourmet industry this era. Individuals are willingly accepting heritage dishes with 'grandma made it easy' recipes that are relished as well as cherished for their nutritional benefits.

Another upsurge is in the trend of home chefs who have made a niche in the small food service sector by catering to small kitchens involving experimentation, entrepreneurship and quality control.

Looking at these evolving trends, three popular segments have flourished in these five years in Indian Food Service sector:

Online health food ordering and subscriptions. Popular examples are Cure fit Healthcare Pvt Ltd and Grow Fit.

How does it work?

To order food online involves two aspects:

    a. The supplier

    b. The customer

The supplier owns restaurants, fast food corner, home cooking venture or a catering base kitchen. The particular food venture is registered with one or more online food ordering app like Zomato, Swiggy, Cultfit, Uber eats.

These food production units after the registration display their dishes along with the prices.

The customer downloads food ordering app of choice and browses through the app to choose dishes or meals they wish to eat and order them at comfort of home or office.

Trends in Online Food Service Industry

The trend in downloading apps and ordering food online has tremendously increased, globally. As it can be seen that the online food industry is growing at a rapid pace throughout the world. Every year the number of people who order food online just keeps increasing.

In India, during last few years, there have been many start-ups in India. This is because many Indians have started straying from beaten paths. The attraction that conventional jobs have no longer appeals to them. One of the places where start-ups are popping up is the online food industry. People are now trying to replicate the success of apps like Foodpanda. The effect is such that many try to bring out a Foodpanda replicas.

In United Kingdom**,** the value of the online food retail market was 9.3 billion British pounds in 2016. This segment is growing at excellent phase. Such that its value is expected to see 68 per cent increase within the next four years. This is because the numbers of British who are choosing eat 'Out of Home' packaged food has increased. **Food ordering apps** like Just Eat have spurred the market forward. In fact the influence is such that many promoters want to build a Just Eat clone.

In The United State of America**,** Americans have started ordering food online due to the fact that it is easier for them to do so. The amount of business done in this sector in the year 2017 is said to have been around 43 billion US dollars and people are saying that by the year 2022 this number will be 76 billion dollars. That is how confident people are in the online food sector's growth possibilities.

Reasons for Growth of the Online Food Industry

Let's have a look at the reasons behind the growth in food industry.

(a) Urban population growth and change of eating habits

For the first time in history, it seems that the urban population is shunted the rural population. This expansion of urban population combined with the increase in income means that eating habits of the people are bound to change.

(b) Scarcity of time

The young professionals of today feel the desire to do many things. So, in order to do these activities, they decide it better to eat cooked food rather than cooking it themselves. But, finding a restaurant, ordering food and eating there also takes time. To cut short this time these people order food online.

(c) Change of preference

The people today are exposed to a number of cuisines and no longer restrict themselves to their native cuisine. For example, Indians have started moving from Indian and Chinese cuisine to other cuisines like Italian and Mexican.

(d) Easier to get food

Getting ready-made food is now easier than it was in the past. In fact, food outlets are providing people with meals throughout the day based on the monthly subscription. This arrangement is well suited for the young professionals of today.

Food For Thought

As per Forbes magazine, June 26, 2018; it is the time-deprived and comfort-seeking millennials who are the drivers of the increasing trend of food delivered at home. This behaviour may ring bell for fading behaviour of home-cooked meals and kitchen at residence being underutilized.

Investment bank UBS forecasts that delivery sales of food online could rise an annual average of more than 20 per cent to $365 billion worldwide by 2030, from $35 billion. As per a survey shared by UBS including a number of 13,000-plus consumers worldwide, it was concluded that food chains from McDonald's to Buffalo Wild Wings were tremendously boosting sales and delivery by signing up with apps like Uber Eats, which has shown the restaurant listings almost triple in the past year. Another notifying observation was also made that millennials are three times as likely to order in than their parents, or that food delivery apps are now on average in the top 40 most downloaded apps in major markets.

According to investment bank UBS report, there could be a scenario where by 2030 most meals will cooked at home are instead ordered online and delivered from either restaurants or central kitchens.

Check Your Progress

1. List the factors that contributed to the increase in food service industry.
2. What is experimental cooking?

1.3   SEGMENTATION OF THE FOOD SERVICE INDUSTRY

For learning about the segmentation of food service management, you will study the concepts of pre packaged and organic foods.

Packaged ready-to-eat health foods

Granolas, juices, breakfast, cereals, yogurts, smoothies have all taken a preference in Indian food retail industry.

The size of packaged food industry is expected to garner $3.03 trillion by 2020, registering a CAGR of 4.5% during the forecast period 2015 - 2020. Food can be described as any substance that is consumed to provide nutritional support to the body. Food contains carbohydrates, minerals, fats, proteins and vitamins to support the growth of the body. The concept of packaged food came into existence owing to factors such as easy cooking, consumption, handling, and safety from external tampering. Changing lifestyle, convenience of consumption and increased health awareness are the main factors driving the growth of the packaged food market. Packaging materials used for food should be convenient for carrying, displaying, opening and closing. Some of the major hindrances to the market growth are due to food contamination, government regulations and emergence of local brands. The leading players in the packaged food market have been focusing on mergers and partnerships as their key strategies to expand their market presence. For instance, Kraft foods partnered with ketchup giant Heinz to expand its business, while Tyson foods collaborated with Godrej foods in India. The Asia-Pacific region is expected to be the fastest growing packaged food markets due to the growing awareness and increasing adoption of packaged foods; thus, making it one of the lucrative markets for investments and expansions.

The global packaged food market is segmented on the basis of product type and geography. Based on product type, the packaged food market share analysis is categorized into sixteen major food products namely - ready meals, baked foods, breakfast cereals, soup, baby food, potato chips, nuts, instant noodles, pasta, biscuits, chocolate confectionary, cheese, yogurt, ice creams, 'sauces, dressings & condiments', and non-alcoholic drinks. The baby food market is expected to grow at the fastest CAGR of 6.4 per cent during the forecast period. The growth is imminent due to factors such as increase in the number of working parents, and safer baby food options for infants and toddlers. Geographically, North America is the largest market in the current scenario followed by Europe, APAC and LAMEA.

Breakfast is considered as the most important meal of the day and this widespread emphasis of consumers on the morning meal is driving the growth of the packaged food industry. Health concern, convenience, and

portability are increasing this demand. However, the main driving force of baked food market is the consumers' demand for products, which are more natural. The factor pushing the growth of the baked food industry is innovation and development in the baking industry. With the wide increase in health consciousness, the use of the baked food items is increasing, and the competition in the market is growing owing to the presence of various players manufacturing baked food products. The global players like Nestle, Kellogg's and Kraft Foods invest in product innovation and product development. In baked food market, Europe is the highest revenue-generating region amongst others. However, Asia-Pacific is expected to grow at the fastest CAGR of 8.0% during 2015 to 2020.

The key players operating in the packaged food market are Nestlé, General Mills, Kraft Food, Inc., ConAgra foods, Inc., Tyson Foods, Kellogg's, Frito-Lay, JBS Food, Smithfield Food, Inc. and Mars, Inc. Prominent players like Nestlé and Kraft foods are investing heavily in promotions and increasing brand awareness for aiding product differentiation.

The companies in this market are actively gauging the customers' insights and preferences to understand the market requirements and gain significant packaged food market share. Nestle was among the first companies to facilitate this process through its R&D centre in India. Moreover, in the processing food division, Tyson Foods had a tie-up with The Hillshire Brand Company, and collaborated with Godrej Foods India to develop new products. Kraft foods and the global ketchup giant, Heinz entered into a merger to expand their prospects in the packed food market.

Top Impacting Factors

Factors such as nutritious food, and innovative packaging technology affect the growth of the packaged food market positively. The top factors, which have an impact on the packaged food market, have been elaborated as follows in the descending order of their impact:

- **Nutritious Food**

Nowadays, consumers prefer food products, which have high nutrition value, less preservatives, low cholesterol and low fat. Major players in this industry are coming up with new food products that fulfill these requirements of the customers. There is a marked growth in the adoption of organic food. Some of the food products manufactured by the companies are positioned as 99 per cent lactose and gluten free. Therefore, awareness towards proper nutrition has led to an increased consumer inclination towards packaged food.

- **Innovative Packing**

A variety of packaging materials are available in the packaged food market in the form of paper packets, wooden packaging and stand-up pouches. Packaging

is an integral method adopted by the leading manufacturers to ensure full protection of food products from being contaminated by the presence of external agents such as temperature, humidity, and microorganisms among others. Packaging also ensures that perishable food products are not damaged due to transportation. The materials, which are used for packaging the food, should match with the food product, and durable, capable of withstanding the effects of external factors. With companies trying to fulfill the consumer needs, the packaged food market is expected to witness a surge in years to come.

- **Multiple Food Options**

Packaged food manufacturing companies offer a variety of options, from breakfast solutions to ready meals. The breakfast solutions include different types of breakfast cereals. The awareness among the consumers regarding the benefit and need of a healthy breakfast is affecting the multiple food options. In addition, companies are offering various snacks item for consumers such as Tortilla chips by General mills, which is marketed not as a dessert but as a healthy snack. The multiplicity of option for the consumers has therefore increased the target customer base in the packaged food market.

- **Social Media**

The impact of social media is another factor driving the packaged food industry. The social media also plays a vital role behind the growth of packaged food industry. Manufacturers are investing huge sum of money on digital marketing for promoting their products on the web. The digital marketing is keeping track on the customer's preferences and type of interest on the web. Through social media, companies are making a network of customers having same preference and taste. This helps the companies in building customer base and increase product awareness.

Key benefits of packaged food market

The study provides an in-depth analysis of the World packaged food market with current and future trends to elucidate the imminent investment pockets in the market. Current and future trends have been outlined to determine the overall attractiveness and single out profitable trends to gain a stronger foothold in the market. The report provides information regarding key drivers, restraints and opportunities with impact analysis.

Quantitative analysis of the current market and estimations during the period of 2014-2020 have been provided to highlight the financial appetency of the market. Porter's five forces model and SWOT analysis of the packaged food industry illustrate the potency of the buyers and suppliers participating in the market. Value chain analysis in the report provides a clear understanding of the roles of stakeholders involved in the value chain.

Organic products

Grocery stores and door-to-door sale merchandisers are now cashing in on organic produce ranging from fruits, vegetables, dairy to pulses as a popular demand by conscious eaters. Companies selling organic products are using cutting edge innovation and are launching new products every year. Some of them become full-fledged trends, spreading across the whole industry. These trends are primary drivers along with health coaches to boost sales of organic produce: Globally, everything is powered by the latest technology but our farmers are regressing back to age-old practices in agriculture for humanitarian good of life on this planet. It has been necessitated by a new breed of health-conscious consumers tremendously aware and informed about the harmful effects of chemicals and other additives in food. Therefore farmers are now forced to farming practices to produce what is known as organic food. From the seed to the soil or water and the final product, everything that goes into bringing organic food to the table is natural and free from pesticides, chemicals, and fertilizers.

The clean revolution

The "clean" trend (healthy, safe) is a strong marketing announcement which is prominent in all sectors and is likely to spread to all products. The primary ambition of this movement towards healthy and "clean" eating with is safety for oneself, one's family and friends, followed by the preservation of the environment.

Higher consumer awareness

The consumer is an intelligent eater, today. Consuming with responsibility is a holistic behaviour observed, globally. Organic holds a promise of health and meaning, important for active consumers. But brands now have to go beyond labelling or organic certification to prove their own individual commitment.

Being vegan, challenging a change

Animal non-cruelty is one of the leading concerns for consumers today. The horrendous images of animal torture and environmental consequences have prompted immediate reactions from naturalists to go vegan that is purely vegetarian and avoiding any product made from animal or tested on them. This trend is widely visible from food to cosmetics as well as fashion.

Quest for sensory excitement

Our lives are becoming ever more virtual, and a lot of us need to get a better grip on reality and sensations. We do not buy only to buy, but to experience something. Brands innovating capacities are challenged.

Dieter's buzz moves the market:

- **Moringa, the new antioxidant**

Topping the wellness charts at the moment, moringa is a real wellness winner. It comes in various forms, to delight every detox addict.

- **Exotic nuts**

No need to introduce the coconut, noticeable in food and cosmetics. But more unique nuts are emerging on shelves boasting as superfoods which are as exotic as brazil nut, tiger nut; they are part of the most saleable products of the year.

- **DIY To BIY: Blend it yourself**

The DIY trend (do it yourself) is stronger than ever, and now expands to food: healthy juices, homemade cosmetics, personalized products are now the key to healthy.

- **Raw and fermented, the new 'slow'**

Following the 'raw food' movement, fermentation is the new trendy process: vitamins and minerals are cooked at a low temperature to keep all their potential.

Massive Economic Booster: Organic Food Market

As per the TechSci Research report, Global organic food market stood at $ 110.25 billion in 2016 and is projected to grow at a CAGR of 16.15per cent, in value terms, during 2017 – 2022, to reach $ 262.85 billion by 2022. With Indian Organic Food industry growing in double-digit during 2013-2017, it would not be wrong to say that the industry will perform well in 2019. There are many factors that have contributed to this growth until now.

First and foremost, the rapid growth in e-commerce sector has acted like a facilitator for the organic food industry to reach out to the potential consumers in Tier II as well as Tier III cities. Second to observe is that with access to free/low-cost Wi-Fi from Internet everyone on the World Wide Web is reading about organic food. Therefore, the demand has gone up during 2018. Lastly, the industry landscape is becoming competitive with more and more players entering the industry.

Going by the trend in 2018, the organic food industry in 2019 will grow at a good pace. Here are a few factors that will accelerate the growth of the organic food industry.

Rapid Demand for Organic Food

As the digital literacy rate in India is growing, the demand for organic food in India will see good growth. People are becoming aware of the harmful effects of chemicals and fertilizers used during farming in India. There is a

great rise in awareness of organic farming methods, making the food more healthy and nutritious.

Larger Spending Capacity of the Middle Class

According to a research by the India Brand Equity Foundation, the spending capacity of the Indian middle class is anticipated to double by 2025. With the rise in disposable income and access to credit, the Indian middle class will have a high spending capacity on organic food.

Regulations by the Government

The Government of India is promoting Organic Farming in the country. Hon'ble Prime Minister, Mr Narendra Modi introduced Paramparagat Krishi Vikas Yojana (PKVY), under which 2 lakh hectares has been made suitable for organic farming thereby benefitting 5 lakh farmers. This step will further boost organic farming in India in 2019. According to the Agricultural and Processed Food Products Export Development Authority (APEDA), the demand for Indian organic food products is on the constant increase worldwide as India exported organic products worth $515 million in the financial year 2017-18, from $370 million in 2016-17. This trend will further accelerate in 2019.

Supply Chain Enhancement

One of the major issues in the organic food market is the mismanagement in the supply chain of organic fruits and vegetables. The main challenge is related to the cost and logistics which are included in the moving of locally or regionally produced organic produce. In the case of organic supplies, the time of reaching the fruits and vegetables from the time of the production to the end consumers matters the most due to its less shelf life. But since the demand of the organic products is rising, the need for solving the problems in the supply chain management is going to arise and the enhancement in the supply chain is expected in 2019.

As per the above trends, the organic food market is expected to boom in 2019. Since the organic market in India is still on an emerging stage, the space for growth is tremendous.

All of these trends increase the demand on food safety and hygiene. Packaging industry has to boost its innovation by stepping up its game in resourceful, environment friendly packaging, increasing shelf life of products and clarity on nutritional as well as ingredient information to the smart consumer.

Segmentation of Food Service Industry

1. Hotels, Restaurants, Cafes, Pubs
2. Institutional Catering in Schools, Colleges, Hostels, Offices, Hospitals, Airlines

3. E-Retailers

4. Food Producers and Manufacturers

5. Wholesalers and Retailers

6. Distributors and Storage Chain Holders

7. Importers and Exporters

Another way in which the food service industry is segmented in between commercial (restaurants, retail, airlines, catering) and non-commercial (hospitals, military, industry, etc.) segments.

Still another segmentation of food service industry includes: hospitality, travel and leisure, healthcare, on-campus dining and stadiums, etc. You will learn more about it in the succeeding units.

Check Your Progress

3. Mention a few packaged ready-to-eat health foods.

4. Name the key players operating in the packaged food market.

5. What kind of packaging materials do companies use these days?

6. What is process of food fermentation?

1.4 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The boost in food service industry in India is due to these contributors:
   - Increasing economic growth
   - Improving income and demographic profile
   - Innate internet penetration
   - Inherent focus on health and wellness
   - Innovative technological advancements

2. Experimental cooking is a modernized way of cooking traditional menus. This way of cooking has developed fusion food using international ingredients.

3. Granolas, juices, baked foods, breakfast cereals, baby food, potato chips, breakfast cereals, instant noodles, chocolate confectionary, pasta, biscuits, sauces, yogurts, smoothies are some of the have packaged ready-to-eat health foods.

4. The key players operating in the packaged food market are Nestlé, General Mills, Kraft Food, Inc., ConAgra foods, Inc., Tyson Foods,

Kellogg's, Frito-Lay, JBS Food, Smithfield Food, Inc. and Mars, Inc. Prominent players like Nestlé and Kraft foods are investing heavily in promotions and increasing brand awareness for aiding product differentiation.

5. Leading food manufacturers are using a variety of packaging materials these days are like paper packets, wooden packaging and stand-up pouches. Food manufacturers are focusing on packaging method in order to provide full protection to food products from being contaminated by the presence of external agents such as temperature, humidity, and microorganisms among others. Packaging also ensures that perishable food products are not damaged due to transportation.

6. Food fermentation is the new trendy process wherein vitamins and minerals are cooked at a low temperature to keep all their potential.

1.5　SUMMARY

- In India, the consumer market portrays a segregated market of urban and rural, which are adapting to brands from around the globe. Urbanisation has led to improved incomes and influence of the media marketing in the households.

- The Indian food service industry is happy to entertain the enthusiastic, dynamic, and diverse food-loving consumers with a high disposable income.

- Food service providers have to adapt to health food menu and maintain premium hygiene standards in preparation and kitchen.

- The trend of downloading apps and ordering food online has tremendously increased, globally. As it can be seen that the online food industry is going to at a rapid pace throughout the world. Every year the number of people who order food online just keeps increasing.

- In the United State of America, Americans have started ordering food online due to the fact that it is easier for them to do so. The amount of business done in this sector in the year 2017 is said to be 43 billion US dollars and people are saying that by the year 2022 this number will be 76 billion dollars.

- There are a few reasons for growth of the food industry like change of eating habits, urban population growth, scarcity of time, change of preferences, getting ready-made food easily.

- According to investment bank UBS report; there could be a scenario where by 2030 most meals currently cooked at home are instead ordered online and delivered from either restaurants or central kitchens.

- The size of packaged food industry is expected to garner $3.03 trillion by 2020, registering a CAGR of 4.5% during the forecast period 2015 - 2020.
- Food contains carbohydrates, minerals, fats, proteins and vitamins to support the growth of the body. The concept of packaged food came into existence owing to factors such as easy cooking, consumption, handling, and safety from external tampering.
- The leading players in the packaged food market have been focusing on mergers and partnerships as their key strategies to expand their market presence.
- The Asia-Pacific region is expected to be the fastest growing packaged food markets due to the growing awareness and increasing adoption of packaged foods; thus, making it one of the lucrative markets for investments and expansions.
- The global players like Nestle, Kellogg's and Kraft Foods invest in product innovation and product development. In baked food market, Europe is the highest revenue-generating region amongst others. However, Asia-Pacific is expected to grow at the fastest CAGR of 8.0% during 2015 to 2020.
- The top factors which have an impact on the packaged food market include focus on nutritious food, innovating packing, multiple food options, and social media.
- As per the above trends, the organic food market is expected to boom in 2019. Since the organic market in India is still on an emerging stage, the space for growth is tremendous.

1.6 KEY WORDS

- **Urbanization:** It refers to the process of making an area more urban.
- **Online food ordering:** It refers to the process of ordering food through the restaurant's own website or mobile application or through multi-restaurant's website or app.
- **Ready-to-eat foods:** These are the foods that you don't need to cook as they are already been cooked.
- **Stand up pouch:** It refers to a laminated bag which is made from several layers of plastic film, aluminum foil, and other materials.
- **Quantitative analysis:** It refers to an analysis of a situation or event, especially a financial market, by means of complex mathematical and statistical modelling.

1.7 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Write a short note on the scope of food service industry.
2. What do you understand by mindful eating practices?
3. Briefly mention the trends in online food service industry.
4. What are the key benefits of packaged food market?

Long Answer Questions

1. Discuss the current scenario of food service industry in India.
2. Write a detailed note on, 'The changing landscape of the retail food service industry'.
3. Why are food delivery apps gaining popularity? Explain.

1.8 FURTHER READINGS

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UNIT 2 FOOD SERVICE INDUSTRY: ORGANIZATION AND ADMINISTRATION

Structure

2.0 INTRODUCTION

The Indian food industry has witnessed an exponential growth over the past few years. After China, our country is the second largest producer of food and will be the biggest producer in forthcoming years. It is estimated that the total food production in India will increase by two folds by the next decade. The food service industry in India is presently worth ₹ 2,47,680 crore i.e. US$ 41.39 billion which was expected to grow at the rate of 11 per cent to reach ₹ 4,08,040 crore i.e. US$ 68.16 billion by 2018 as per India Food Service Report 2013 by the National Restaurant Association of India (NRAI).

India has emerged as the hub of processed food. With a surge in development of agriculture sector, livestock abundance and cost efficacy India has become a leader in food service industry. We have also observed an overwhelming response in organic food consumption by Indian consumers thus making our country a potential player in organic food industry as per the report submitted by RNCOS on 'Indian Organic Food Market Analysis'.

2.1 OBJECTIVES

After going through this unit, you will be able to:

- Understand the trends in Indian food service industry
- Discuss the different types of food service operators
- Categorize various commercial food service operators
- Describe the organizational structure and management of food service industry

2.2 INDIAN FOOD SERVICE MARKET: ORGANIZATION STRUCTURE AND MANAGEMENT

The Indian Food Services market space is attracting significant interest from domestic as well as international private equity and venture capital funds. The large number of investments can be attributed to the fact that the food services market is a domestic consumption driven story with great growth potential. In fact, private equity investments are seen flowing through the entire ecosystem, funnelling growth in front-end companies, back-end companies, food-tech companies etc. There have also been some key trends that are gaining traction in the food services space. As you have learnt earlier, virtual Kitchens and Ready to Cook players are gaining acceptance among urban consumers. Ordering food online has become an integral part of the eating experience and several logistics players are providing last mile delivery for restaurants. Food Services is emerging as a key contributor for the Indian economy, including employment generation, skill development, growth in the allied industries, entrepreneurship and tourism and creating experiences for the Indian consumer.

It is imperative for the Indian government and regulators to recognize the contribution and role of Food Services Industry and take measures to create positive policy framework for industry's growth.

What is Food Service? A food and beverage trade that includes preparation, packaging, serving, marketing and merchandise of food for people to eat is labelled as food service. The enterprise could be large or small scale. They can be found in hotels, cruise ships, schools, hospitals, airlines, trains and even employee cafeterias. The segment offering food to people to meet their need for a meal are known as Food Service Operators.

Food Service Operators can be categorized in two segments based upon following variables:

Customer Experience Variables	
➢ Food and drink available ➢ Level of service and other services ➢ Price range/value for money ➢ Cleanliness and hygiene	➢ Atmosphere (includes décor, lighting, air-conditioning, acoustics, noise, size and shape of room, other customers, attitude of staff)
Performance Measure Variables	
➢ Seat turnover/ customer throughput ➢ Customer average check ➢ Revenue per member of staff ➢ Productivity index ➢ Ratio of food and beverage sales to total sales	➢ Sales/profit per m²/per seat ➢ Sales analysis ➢ Departmental profit ➢ Stock turnover ➢ Stock holding ➢ Complaint levels ➢ Level of repeat business

Fig. 2.1 *Variables for Customer Experience and Performance Measurement*

1. Commercial Food Service Operators:

The commercial food service operators mainly consists of fast food and full service restaurants. These operators are available to all and their main goal is to make economic profits and create positive guest experiences. Fast food chains, dinners, clubs are commercial food service operators. These eateries prioritize financial expertise to be viable. They run on the model of churning out a limited menu at a very rapid pace. The operators compete with each other and the unique selling price of their business is 'food must be good and quick'. The business is most likely to fail if either of these criteria is not achieved.

2. Non-Commercial Food Service Operators:

Non-commercial food service operators are restricted to limited individuals and as commercial operators they are also interested in making profits but it is not their primary objective. Institutional catering services are non-commercial food service operators. In non-commercial food service operations the institution/organization/enterprise within business where the food service operator is located benefits from the service, the operator may offer services at subsidiary. Business runs on numbers.

2.2.1 Types of Commercial Food Service Operators

Commercial food service is market oriented. It is the largest food service operation around the world and accounts for more than 50 per cent food expenditures by the people outside their homes.

The purpose of a commercial food service enterprise is to offer meals and beverages to people for making profits in exchange providing a satisfying

and happy hospitality experience for the consumer as a guest. The commercial food service operators work with a vision of 'Customer is the King'.

Commercial Food Service is categorized as:

- Quick Service
- Full Service
- Catering
- Hotel and Club

Quick Service operators primarily focus on the singular goal of offering convenient meals to customers at fast speed and economical prices. They have limited menu and fewer employees. It is based on carry your own meals as drive-thru or to-go or meal in a tray self-service. McDonald's, Subways, Pizza Hut are common examples of quick food service operators. In India, the street food vendor is also more home-grown example of this service that is fast, fixed menu and ready to eat-n-go service.

Fast food eateries have one counter that serves multipurpose of place your order, as well as pay wait while the meal gets served to-go for carry back or eat at table. The drive- through service makes it faster and approachable at highways or busy junctions. Waiting time is maximum 5 minutes and dining areas are small.

Canteens, Cafeterias and Buffets are food services where the food is on a display along a counter or serving line. It is expected from the customers to walk along the counter in a queue and request the waiter/host/server to serve them and then they carry their plates or trays to the table.

Carryout restaurants specialize in preparing food for customers so that they can take with them to eat home or elsewhere. These provide limited seating. These include bakeries, grocery stores and pizza places. The carryout restaurants depend on delivery personal and online as well as telephonic orders.

Full Service Food Operators is a restaurant in which customers are acknowledged as guests and are offered exquisite dining experience.

These can be segregated as per the experience:

- **Fine dining restaurants** are the restaurants which emphasize on premium service, quality ingredients and exclusive ambience. More than one employee cater per customer. The restaurants vary in size and seating arrangements as per entrepreneur's discretion. Prior reservations and formal dressing codes are acceptable etiquettes. Cutlery and upholstery is chic and valet parking or guest relation executive is generally available in the premise. Professional chefs on staff, skilled customer support staff is a mandate to compete with other outlets.

Food Service Industry: Organization and Administration

NOTES

Self-Instructional Material **19**

- **Casual dining restaurants** are also dine-in service but are economical and involve casual set up. These include single item restaurants, family restaurants or ethnic restaurants. **Single Item restaurants** prefer to specialize in a single item of food such as south Indian meals or chaats. Sagar Ratna, Om Sweets, Haldirams are perfect examples of single item restaurants that serve other foods as well, but their genre is a particular delicacy.

Family restaurants cater to families and offer variety as well as comfort for family to sit and enjoy especially with children and elders. The menu is exclusive with variety and usually offers comfort foods and traditional Indian dishes and contemporary 'thaalis'. Moti Mahal is a perfect model to explain Family Restaurants.

Ethnic restaurants have a specific ethnic cuisine. Indian scenarios offer a range of ethnic restaurants from Chinese to Thai as well Kashmiri and Sindhi restaurants. Ethiopian, Mexican and Lebanese is now being explored by many adventurous palettes.

2.2.2 Catering Services: Meaning and Types

Catering is a commercial food service operation. It refers to the delivery of meals and service for a special event that usually involves feeding a large number of people at one particular time. This is a booming business venture in India where weddings and occasions are celebrated with pomp and galore. Catering is offered for business meetings and social events.

There are many other types of food service operations that fall under the domain of 'catering'.

Special Event Catering: This type of catering provides food for weddings, anniversaries, receptions and large-scale parties. The benefit of this type of catering is that it is a good space to form a solid word-of-mouth reputation. But it also has a drawback that it can be time-consuming and stressful.

Business Catering: In this type of catering service, business caterers provide food for business meetings, lunches, conferences, training sessions and corporate parties. Business catering is in demand year-round. But it demands businesses to compete with many fast-casual chain restaurants.

Mobile Catering: Mobile catering is done via moving from one place to another in a van or truck which are preferably designed to carry food and equipment. The mobile caterers enjoy low start-up costs due to the small scale operations. Though mobile catering can be easily managed but these businesses face difficulty in achieving brand awareness and develop a loyal customer base.

Catering is of two types

On Site/On Premise: Catering takes place at the caterer's place of business, such as a banquet hall with a kitchen, hotel, or restaurant.

Table 2.1 Advantages and Disadvantage of Conventional Commissary Catering

Conventional	Meal preparations are done on the premises itself.
	Advantages: Individual preference is prioritized, menu is flexible, cost of distribution is low, and freezer storage space is less
	Disadvantage: Labor cost is high and work stress is at peak at the production unit.
Commissary	The food production is done in centralized kitchen. The procurement of raw ingredients is done in a separate unit where it is cooked and stored as well as frozen. These food items are then transported to premises where these need to be served.
	Advantage: Quality standard maintained all across units and is economical for bulk cooking.
	Disadvantage: The cost of delivery is high and may involve food hygiene compromise due to handling outside central kitchen.

Assembly Service also called as kitchen less kitchen. In this service, the procurement and production of food takes place in a unit kitchen. The food is thawed, assembled and plated at the premise. The advantage of assembly service is the reduced labour cost. It is economical as area of food production and services are separated. The drawback of this type of service is that only limited menu can be prepared.

Ready-to-Eat or Pre-Prepared Meals

The meals are prepared in preparation units. They have to chilled and frozen in batches. Then these are distributed to units for reheating and serving. These meals are equipment dependent as there is a need for blast freezer and chiller. It is important to have a fixed process and a proper separation time between cooking and cooling is also essential.

Chilling of foods requires the temperature to be brought down to 37 degree Fahrenheit in 90 minutes or less.

There is a need to follow a specific process sous vide where food is chilled in plastic pouches after creating vacuum. To remove food from pouches these are reheated by placing in warm boiling water.

Advantage: Skilled labour, cost of production is low, less stress on cooks to prepare on demand orders.

Disadvantage: Large storage spaces, electricity dependent and cold storage freezers required.

On-Site management

Self-Operated Food Service: The self-operated operations are 'in house' i.e., the food service department is managed by organization's own staff.

Contract Management Company: Offers food services management to other organizations. Contracts vary depending upon requirement, tenure and demand.

Hybrid Model: In this the contractor offers management and staff to the event organizers where food is to be served.

OFF-Site / Off Premise Management: Catering occurs when the event is help away from the caterer's place of business, such as at churches, country clubs, picnics, businesses, and private homes.

1. Off-premise catering can mean serving thousands of lunch boxes to a group of conventioneers; barbecuing chicken and ribs for fans before a big college game, serving an elegant dinner for two aboard a luxury yacht, or providing food, staff, and equipment for an upscale fundraiser with hundreds of guests.

2. Off-premise caterers meet the needs of all market segments, from the low-budget customer who looks for the greatest quantity and quality for the least amount of money, to the upscale client with an unlimited budget who wants the highest level of service, the ultimate in food quality, and the finest in appointments-crystal stemware, silver-plated flatware, and luxurious linens. Between these two extremes is the midscale market segment, which requires more quality than the low-budget sector, but less than the upscale.

3. Off-premise catering is an art and a science. The art is creating foods and moods, as the caterer and client together turn a vision into reality. The science is the business of measuring money, manpower, and material. Successful off-premise caterers recognize the importance of both aspects-art and science-and are able to work at both the creative and the financial levels.

4. In off-premise catering, there is only one chance to get it right. Many events, such as wedding receptions, occur only once in a lifetime. Other events are scheduled annually, quarterly, or on a regular basis, and the caterer who fails to execute all details of such an event to the satisfaction of the client will seldom have another chance.

5. Unfortunately for some, off-premise catering can be like living on the brink of disaster unless they are experienced. Uninitiated amateurs may not recognize a volatile situation until it becomes a problem, later they realize that they should have recognized it earlier.

6. Catering off-premise is very similar to a sports team playing all of its games away from home, in unfamiliar surroundings, with none of the comforts of home to ease the way. There is no home field advantage, but there is a minefield disadvantage! As caterers plod their way toward the completion of a catered event, there are thousands of potential 'land mines' that can ruin an otherwise successful affair.

Some examples include

Already running late for a catering delivery, the catering van driver discovers that all vehicle traffic around the party site is in gridlock. The traffic has been at a standstill for more than an hour, the police say it will be hours before the congestion can be eliminated, and the clients and their guests are anxiously awaiting dinner.

The wrong hot food truck is dispatched to a wedding reception. The error is not discovered until the truck has reached the reception and the bride and groom are ready for their guests to be served. It will take more than an hour to send the correct truck with the food that was ordered.

A new customer places an order and asks that the caterer deliver to a home where family members and guests will have gathered prior to a funeral service. The caterer sends the food and, upon arrival, is told that the person with the checkbook is at the funeral home and is asked to please stop back in an hour for the money. The delivery person leaves without obtaining a signature. Upon returning, there is no one home and no one from whom to collect payment.

Advantages of Off-premise Catering

Off-premise catering generates additional revenues for existing operations like hotels, clubs, and restaurants. They can generate even more profit by providing other services like rental equipment, flowers, décor, music, entertainment, and other accessory services.

Both the client and the caterer have expectations regarding the outcome of the party. These expectations should be clearly spelled out in a written contract. Payment for an event is normally made directly to a manager or owner, eliminating a middleman, whether it's a wedding planner, on-site food and beverage director, or one of the caterer's own staff members. This form of direct payment provides better cash control and fewer folks to share the profit.

Advance forecasting is more accurate for off-premise caterers, because parties are generally booked weeks, months, or years in advance. Moreover, each part of the country has seasonal swings, which make revenue forecasting somewhat easier. For example, in the South the summer months are generally less busy, but in the North these are the busy months.

Off-premise events generate tremendous amounts of free word-of-mouth advertising, which can produce future business without the necessity of advertising. Many off-premise caterers feel that satisfied guests at one party

will either directly or indirectly book another party by speaking favorably to friends and co-workers about the event and the caterer. In other words, one party can create future parties.

Caterers also have the advantage of being somewhat selective about their clients. There are no laws that require you to accept every request to cater. If the job doesn't meet your standards, politely decline. In sticky situations where you've already begun to work with a client but find that your communication styles just don't mesh or as sometimes happens with weddings, the client is not heeding your advice and you can't even decide who's really in charge-you can walk away, as long as you do so within the terms of your written agreement.

Off-premise catering does have some disadvantages too: Catering managers, owners, and staff undergo periods of high stress during very busy periods. Deadlines must be met. There are no excuses for missing a catering deadline. Stress is compounded because the workload is not evenly spread throughout the year. For most off-premise caterers, 80 percent of the events are scheduled in 20 percent of the time. For most, weekends are generally busier than weekdays. Certain seasons, including Christmas, are normally busier than others. Of course, caterers must maintain general business hours too!

Many have left the catering field, burned out by the constant stress and high energy demands. The seasonality of the business makes it difficult to find staff at certain times. Revenues are inconsistent, making cash management very difficult, particularly during the slower periods when expenses continue yet revenues do not.

For those caterers who operate hotels, restaurants, clubs, and other businesses, the time away from the main business-spent on the off-premise business-can hurt. It is difficult for even the well-organized person to be in two places at the same time.

Many hoteliers and restaurateurs find the rigors of off-premise catering too great. Some quit after realizing the difficulty of catering away from their operations. They feel that the financial benefits are insufficient compared with the effort required to cater off-premise events.

2.2.3 Non-Commercial Food Service Operators

Institutional foodservice consists of meals provided to large number of individuals in an institution that can be a school, hospital, military, or even a prison.

The school food service operators in India generally prepare and serve meals in government aided Anganwadis, trust funded NGO's and privately owned elite boarding schools.

Foodservice that takes place in hospitals, nursing facilities, and assisted care residences for elderly or hospice are to meet special requirements of the individual and required skilled experts like dietitians.

Non-commercial food service operators serve to the following segments:

a. Hospitals

b. Schools

c. Colleges and Universities

d. Business Dining Zones

e. Military Units

f. Prisons

Non-Commercial Set up Of Food Service: Foodservice within a business is also a non-commercial set up:

Catering for the convenience of people who work at an organization, for instance employee cafeteria in an office building or factory space is a perfect example of the same.

Some food and beverage business are located in a consumer business. These are offered for the convenience to the customer.

Such operations can be categorized by their mode:

1. **Recreation** - Includes all foodservice offered as a part of a recreation business, such as sports arenas, zoos, movie theaters, and museums.

2. **Retail** - Quick meals or snacks offered at malls, individual retail stores, bookstores, grocery stores, gas stations, and convenience stores. Food courts are the perfect example of this set up.

3. **Transportation** - Transportation foodservice can be divided in 2 categories:

   a. Foodservice During Travel - Airplane food, dining on long distance trains and foodservice on cruise ships.

   b. Foodservice in the Station - Restaurants in airports and railroad stations. Usually are quick serve, but some are not.

Check Your Progress

1. What do you mean by food service?

2. Differentiate between conventional and commissary catering.

3. What are ready-to-eat meals?

4. What does Off-premise catering mean?

2.3   HOSPITAL FOOD SERVICE MANAGEMENT

Hospital food service does not operate single-handedly rather it requires the co-operation and integration of several disciplines to provide the ultimate patient experience.

Patient meals are an integral part of hospital treatment and the consumption of a balanced diet is also crucial to aid recovery.

This is a well-established fact that up to 40 per cent of the patients may be undernourished on admittance to hospital, a situation which is not always rectified during their stay (McWhirter and Pennington, 1994). The importance of hospital food service and the use of food as therapy is not a new concept and the belief can be traced back to one of the ancient Eastern medical system, the 'Hwang Ti Nei-chang Su Wen' (the Yellow Emperor's Classic of Internal Medicine, 722-721 B.C.) (Cardello, 1982). Many researches have observed:

- The presence of patient meal service as compared with many clinical activities in the hospital, is not necessarily appreciated and can be seen as an area where budgetary deductions will have least impact.

- The need for a food service system which optimizes patient food and nutrient intake in the most cost effective manner is therefore seen as mandate. The budget for hospital food varies per person per day, for three meals, seven beverages and snacks if desired. Notwithstanding, patient satisfaction shows no relationship to the cost of providing and the type of food service method adopted, using criteria of extent of choice, whether meals are appetizing and how they are served (Audit Commission, 2001).

- Hospital food service can present especially complex features and is often considered to be the most complicated process in the hospitality sector with many interrelated factors impinging upon the whole (Wilson et al., 1997). The placement of hospital wards, often at considerable distances from the kitchen, adds an additional logistics burden and in consequence, a long stream of possible delays between production, service, delivery and consumption (Kipps and Middleton, 1990).

This stretched, continuous and staggered food cycle has potential negative effects on the safety and quality of food (Barrie, 1996) and presents a challenge to any hospital food service manager. Access to a safe and healthy variety of food is a fundamental human right. Proper food service and nutritional care in hospitals has beneficial effects on the recovery of patients and their quality of life (Kondrup, 2004).

The number of undernourished hospital patients is a not accepted and can lead to extended hospital stays as well as prolonged rehabilitation that

leads to unnecessary costs to health care (Kyle et al, 2005). An essential component in successful catering management is customer satisfaction; however, in a hospital setting, this is a complex phenomenon and influenced by many factors. Generally, the public view hospitals as institutions and institutional catering has a reputation for being poor (Bender, 1984). The negative image of hospital food is widespread and is therefore not necessarily related to the food itself (Cardello et al., 1996). This was demonstrated by assessing the anticipated acceptability and the expected quality of twelve food items commonly served in institutional and other food service settings. Food prepared and served at home received the highest rating while responses to hospital food clustered at the lowest ratings along with airline food (Cardello et al., 1996).

Food presentation, food variety and physical setting were the primary factors contributing to consumers' negative perception and attitude towards institutional food. Hospitalization can be unfavourable and therefore personal interaction is important as opposed to simply having a meal 'dropped off' (Lavecchia, 1998). Positive attitudes expressed by staff can influence intake and significantly add or detract from a patient's mealtime experience (Engell, 1996). Bélanger and Dubé (1996) found that patients perceive and benefit from the emotional support they receive from staff. Moreover they transfer this 'added value' to their satisfaction judgments. Satisfaction is not a universal phenomenon and patients will derive differing amounts of pleasure from the same hospital experience. However, consumer satisfaction is in the customer's mind and may or may not conform to the reality of the situation. The hospitality product does not just comprise 'goods' and 'services' but is an amalgam and other components are present that could be described as 'quality factors'. It could be argued that satisfaction really comes from the peripherals that surround the core service (Pine and Gilmore, 1999). Some studies report that food quality is the most important indicator for satisfaction (Dubé et al., 1994; O'Hara et al., 1997; Lau and Gregoire, 1998; Hwang et al., 2003) while other studies suggest that 'interpersonal' or Gregoire, 1998; Hwang et al., 2003) (DeLuco and Cremer, 1990; Gregoire, 1994; 4 Bélanger and Dubé, 1996). In reality, satisfaction with a hospitality experience is a sum total of satisfactions with the individual elements or attributes of all the products and services that make up the experience. It could be said that consumers even make 'trade-offs', weakness in one attribute is compensated by strength in another (Pizam and Ellis, 1999). Hence, patient satisfaction is a complex phenomenon that is influenced many factors but is an essential component in successful food service management in this environment.

Patient satisfaction medical and catering staff have identified that patients are becoming more demanding and more critical. Generally though, patients thought the quality of food was better than expected and when asked to recount 'the best meal experience in hospital', answers reflected

the importance to patients of correct temperature and food quality, quoting a case 'My best hospital meal experience was where the food was just like at home, hot, and we ate it sitting around a table' said a patient. There was no mention in patient responses of empathy and/or service delivery attributes. The ward hostesses confirmed that the main complaints from patients refer to the temperature and texture of the food. Patients commented on their preference for traditional food, such as, 'chicken and mushroom pie, fish and chips and roast dinner' this was endorsed by the food service manager who said that a popular dish in this hospital is pilchard salad. Another idea under discussion within this hospital is the use of branded foods for items such as coffee and soup. 'patients would feel safe and secure, know what they were getting – rather like a comfort blanket, hopefully this would improve satisfaction.'

Patients were quite enthusiastic about this suggestion and felt that they would have trust in a known product. Those patients who had experienced both the plate and trolley system of food delivery commented that they much preferred the latter: 'There is usually sufficient choice. I much prefer this method of distribution to the menu system because you cannot foresee how hungry you will be'.

There was also endorsement from dietitians and nursing staff who agreed that the trolley system of delivery did allow for greater patient/server interaction. A common theme from patients was their inability and difficulty in providing feedback to the catering staff. The perception was that food was prepared some distance away by anonymous people who rarely came on the ward. Dissatisfaction was also expressed with the menu system where items were described without interpretation. The post of hospital food service manager was essential to oversee the whole meal process from kitchen to consumption. Financial constraints are a prominent part of the concern of the food service and facilities managers, with budgets continually being reduced and not 'ring-fenced' (protected). Patients are willing to make a payment towards the 'hotel facilities' that hospitals offer, if it would mean improved food provision. However, the food service manager is reluctant to agree as he felt that this would make the patient even more critical. The food service manager should be enthusiastic in the potential for dedicated food service staff who could be trained to, 'sell the product' 'reduce wastage' and 'tempt jaded palates'. Food wastage forms (ERIC – Estates Return Information Collection, 2001) (NHS Estates, 2001) are used as a measure of consumer satisfaction, and wards where there are hostesses, demonstrate less waste and greater patient satisfaction. Hostesses see their role as care takers and feel their allegiance is towards the ward, whereas paradoxically, the food service manager felt this role was 60 per cent food service and 40 per cent caretaker.

The monitoring of nutritional status should commence within the community with the Primary Health Care Team, to ensure 'medically fit'

patients on admission for 'routine', elective surgery. Conversely, it is also crucial that patients are discharged nutritionally robust and that this state is maintained within the community. Organized contact between hospital and community needs to be established and communication needs to be such, that the 'patient journey' is considered as a totality. The consideration of patient's expectations and perceptions should have particular significance in shaping the objectives of any food service operation. Expectations were matched by the trolley service of delivery and hence a corresponding level of satisfaction was achieved.

In hospital food services, food quality is unfortunately is a big problem, before even tasting it patients generally expect poor quality (Beck et al., 2001); previously described as 'institutionalized stereotyping' (Cardello et al., 1996). Food quality attributes, particularly temperature and texture have been demonstrated in this case study to have a critical effect on patient satisfaction. Food Service System Patients expressed satisfaction with the trolley style of delivery and certainly there is more opportunity for patient/staff interaction and nurture. If patients can choose their food just before they eat it, this greatly enhances their perception of the item's freshness and influences satisfaction; perceived control and patient empowerment have also been shown to strongly influence patient satisfaction with food services (Bélanger and Dubé, 1996; Faulkner, 2001).

Many researches support the suggestion that where patients have increased involvement with the process of food service such as in the trolley system of delivery, satisfaction is increased. The main problem, is the lack of structure and priority given to food service both pre and post-operative; clinical considerations taking precedence. In some hospitals, such as acute, prioritizing clinical care might be appropriate. However, for rehabilitation and elective surgery, food should gain a higher priority and become embedded in the concept of an integral part of treatment. Meal times need to be protected so that meals can be enjoyed, free from interruption as one would expect in any hospitality situation. Much was made by patients regarding food that was easily recognizable and traditional. When in hospital, there is a need for familiar meals that remind patients of home; complicated, sophisticated dishes are not well received.

Interactive Menu: Menus are an important tool for the food service manager as they are the first point of contact with the patient and can be used both for communication and marketing purposes. However, if not easy to read or interpret, a negative message can be portrayed. A touch screen facility with a direct link to the catering facilities is being considered at the case study hospital, as all patients have access to bedside televisions. This will enable patients to preview dishes available and then select as required.

Feedback and Communication: Hospital food service requires a policy, framework, manager and representation at Trust Board level. There

needs to be a continuum from kitchen to consumption, with emphasis on hospitality and quality. Feedback and communication in this hospital is fragmentary at best and not taken action is at worst. There is a dependence on informal dissemination of information without structure, reflecting the multi-disciplinary nature of the service and stakeholders. Ultimately, it is the patients who are disadvantaged; whose health ironically, is the focus of attention. Poor communication and relationship conflict have been identified in the literature as a cause for concern (Riddiford et al., 2000) and it has been suggested that organizational research should be conducted within hospital food service to assess and improve the communication between different staff disciplines (Council of Europe, 2003).

Hospital Food Service Manager: A lack of clearly defined responsibilities has been identified in the management of nutritional care together with fragmented cooperation between different staff groups (Council of Europe, 2001). There is insufficient description of responsibilities and as a consequence there is reliance on the task being achieved without a strategy in place for achievement. The uniqueness of hospital food service is that the primary objective is to provide direct, individualized, total nutritional care and as such it needs to be controlled and orchestrated. A failure at any point negates the system.

Fig. 2.2 *Dietary Service Management*

Collaboration and cooperation needs a central co-coordinator, a hospital food service manager who has remit for the entire process from kitchen to consumption, and a position or voice at least at board level. Greater emphasis has been given to the role of food in clinical outcomes and as such, needs to be reflected in the organization of hospital management (Council of Europe, 2003). Food service departments are usually seen as part of facilities in European hospitals rather than as an integral part of patient treatment and the trends are towards contracting this out. This emphasizes the requirement for a competent purchaser who can verbalize and describe what is required. Guidelines and standards need to be developed with sufficient detail in contracts to encompass the requirements of all patients (Council of Europe, 2003).

The factors impinging on hospital food service are considered holistically, there is a cyclical relationship, in that responsibility for nutritional status commences and concludes in the community with the primary health care team.

Admission to hospital is a temporary occurrence and a bridge between the two, and as such it is important that complete nutrition is maintained. A simple screening tool together with regular monitoring would ensure that patient nutrition should not deteriorate.

Towards this aim, a manager is required to orchestrate the process within the hospital environment and oversee the whole operation, if channels of open communication are to be achieved. Patient satisfaction and, therefore, morale is crucial in the healing process and, as has been shown, food quality attributes are important factors impinging on satisfaction together with the style of service. Other issues raised by patients during discussions are the welcoming of protected periods and branded products. Feedback is a perceived problem, not just from a patient's perspective but from other stakeholders too.

Communication needs to be more transparent and regular meetings held with representatives at an operational level. With more informed individuals and better hospital food service, the incidence of malnutrition could be decreased, the patient experience would improve and subsequently hospital stays could be reduced. A well-managed patient would be discharged into the community 'medically fit' leading to a reduction in cost to hospital and family (Cohen, 2000). It is suggested that this methodology is eminently suitable for hospitality research because of the potential arising from the diversity of application and the inherent strength in accessing data about complex social situations (Gibson, 2003).

Trends In non-commercial food service setting

Hospitals

1. Interactive menu
2. Room/Bed service
3. Tray service
4. VIP services
5. Unique customer satisfaction service
6. Healthy cafeteria menu available
7. Base kitchen necessary
8. Semi-skilled waiter staff required

Campus Dining

1. All you can eat meals
2. Variety
3. Ethnic cuisine
4. Local preference
5. Scatter design
6. Platform cooking
7. Eco-friendly infrastructure
8. Water conservation
9. Electricity conservation
10. Flexible meals
11. Non-resident meals available
12. Procurement from local or farmers market
13. Food allergy accommodation

Prison service

1. Inmate is utilized as labour and staff
2. Ethnic preferences accommodated
3. Large scale cooking
4. Local produce utilized
5. Low cost cooking skills accommodate

Ownership of the Businesses

Commercial eateries are usually either independently owned or are part of a chain. In the case of corporate-owned chain fast food restaurants, they operate with branded menu items and floor plans. For instance, you can

expect the bathrooms at most Burger King Restaurants to be located in the same part of the business, and you know that you will be able to get their signature sandwich. Full-service restaurants are sometimes owned by chains as well, and these operations, as well as the independent restaurant, must consider not only the food quality and service, but the dining experience. Sometimes a non-profit organization such as a school or museum owns the dining establishment with which it is affiliated. This kind of arrangement can be seen at the college of the Ozarks in Branson, Missouri, where the college operates a restaurant both as a teaching opportunity and as a way to support the school.

Differing Focus: The dining experience, sometimes a combination of food quality, food presentation and ambiance, is a prime consideration of commercial food service establishments. Non-commercial operations are concerned with putting forth a good tasting product in a short time because the consumer in these places is generally on a schedule. Some of the fast food and chain restaurants are showing up in traditionally non-commercial areas such as hospitals and schools. Some large hospitals, for instance, feature a Starbucks Coffee Shop. In these cases, the commercial operations take their cue from the non-commercial and provide rapid and easy access building plans. Sysco and Marriott are corporations that specialize in large, 'streamlined' non-commercial food service. Non-commercial services are learning from the commercial as well; many hospital and corporate dining rooms are employing chefs and turning out high-quality food in areas planned to enhance the dining experience such as terraced outdoor dining spots.

Consumers have an expectation of food quality and service in accordance with where they eat. If the service does not meet the expectation, it will not survive. Meeting that customer expectation is what defines the differences in commercial and non-commercial food service.

Check Your Progress

5. What is an essential component in successful catering management?

6. Name the primary factors that contribute to consumers' negative perception towards institutional food.

2.4 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. A food and beverage trade that includes preparation, packaging, serving, marketing and merchandise of food for people to eat is labelled as food service. The segment offering food to people to meet their need for a meal are known as Food Service Operators.

2. In conventional catering meal is prepared in the premises itself, while in commissary catering system the food production is done in centralized kitchen. In conventional catering system individual preference is prioritized, menu is flexible, cost of distribution is low, and freezer storage space is less. However, the commissary catering comes with an advantages of high quality standards which is maintained by all across unit and is also economical for bulk cooking.

3. The ready-to-eat meals are prepared in preparation units. These are chilled and frozen in batches and are distributed to units for reheating and serving. These meals are equipment dependent as there is a need for blast freezer and chiller. It is important to have a fixed process and a proper separation time between cooking and cooling is also essential.

4. Off-premise catering means serving thousands of lunch boxes to a group of conventioneers; barbecuing chicken and ribs for fans before a big college game, serving an elegant dinner for two aboard a luxury yacht, or providing food, staff, and equipment for an upscale fundraiser with hundreds of guests.

5. Customer satisfaction is an essential component in successful catering management.

6. Food presentation, food variety and physical setting were the primary factors contributing to consumers' negative perception and attitude towards institutional food.

2.5 SUMMARY

- Food Service is emerging as a key contributor for the Indian economy, including employment generation, skill development, growth in the allied industries, entrepreneurship and tourism and creating experiences for the Indian consumer.

- A food and beverage trade that includes preparation, packaging, serving, marketing and merchandise of food for people to eat is labelled as food service. The segment offering food to people to meet their need for a meal are known as Food Service Operators.

- The commercial food service operators mainly consists of fast food and full service restaurants. These operators are available to all and their main goal is to make economic profits and create positive guest experiences.

- Non-commercial food service operators are restricted to limited individuals and as commercial operators they are also interested in making profits but it is not their primary objective.

- Commercial Food Service is categorized as: quick service, fast food eateries, canteens, cafeterias, carryout restaurants, full service, fine dining restaurants, casual dining restaurants, catering, family restaurants and ethnic restaurants.

- Catering is a commercial food service operation. It refers to the delivery of meals and service for a special event that usually involves feeding a large number of people at one particular time.

- Special Event Catering provides food for weddings, anniversaries, receptions and large-scale parties. The benefit of this type of catering is that it is a good space to form a solid word-of-mouth reputation. But it also has a drawback that it can be time-consuming and stressful.

- Business Catering provides food for business meetings, lunches, conferences, training sessions and corporate parties. Business catering is in demand year-round. But it demands businesses to compete with many fast-casual chain restaurants.

- Mobile catering is done via moving from one place to another in a van or truck which are preferably designed to carry food and equipment. The mobile caterers enjoy low start-up costs due to the small scale operations.

- Assembly Service also called as kitchen less kitchen. In this service, the procurement and production of food takes place in a unit kitchen. The food is thawed, assembled and plated at the premise.

- In Ready-to-Eat meals, the meals are prepared in preparation units. They have to chilled and frozen in batches. Then these are distributed to units for reheating and serving. These meals are equipment dependent as there is a need for blast freezer and chiller.

- Off-premise catering can mean serving thousands of lunch boxes to a group of conventioneers; barbecuing chicken and ribs for fans before a big college game, serving an elegant dinner for two aboard a luxury yacht, or providing food, staff, and equipment for an upscale fundraiser with hundreds of guests.

- Off-premise catering generates additional revenues for existing operations like hotels, clubs, and restaurants. They can generate even more profit by providing other services like rental equipment, flowers, décor, music, entertainment, and other accessory services.

- Institutional foodservice consists of meals provided to large number of individuals in an institution that can be a school, hospital, military, or even a prison.

• Hospital food service does not operate single-handedly rather it requires the co-operation and integration of several disciplines to provide the ultimate patient experience. The objective of this research was to explore the antecedents to patient satisfaction and experience, including the service element.

2.6 KEY WORDS

• **Commercial Food Service:** It refers to the operations is to provide food and beverage to customers for profit and create positive guest experiences.

• **Virtual Kitchens:** It refers to a food service business that serves customers exclusively through phone order or online food ordering.

• **Sous-vide:** It refers to a method of cooking in which food is placed in a plastic pouch or a glass jar and cooked in a water bath for longer than usual cooking times.

• **On-premise Catering:** It refers to provide food that is prepared for the event in a kitchen at the same location.

• **Off-premise Catering:** It refers to provide food at a location away from the caterer's food production facility.

2.7 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Who are commercial and non-commercial food service operators?
2. What is the difference between quick service and fast food operators?
3. What are the different food service operations that fall under the domain of 'catering'?
4. Briefly mention the advantages and disadvantages of off-premise catering.

Long Answer Questions

1. How is commercial food operators categorized? Discuss.
2. Discuss the various types of full service food operators and their operations.
3. Analyse on-site and off-site catering management in detail.

2.8   FURTHER READINGS

Drummond, Karen E. and Lisa M. Brefere. 2013. *Nutrition for Foodservice and Culinary Professionals.* New Jersey: Wiley.

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NOTES

UNIT 3   KITCHEN IN FOOD SERVICE INDUSTRY

Structure

3.0   INTRODUCTION

In any organization the central kitchen is a main food producing unit which accounts for improving productivity in the food service industry and pursue scale-merit by aggregation of tasks in multiple stores into one particular place. It is noted that the central kitchen is the most labour intensive production center because it is flanked between quality and quantity food production management and so that the creative craft of skilled workers cannot be eliminated.

This unit will apprise you with the different size, types, and layouts of kitchen in food service industry. You will also understand the design and features of kitchen in detail like lighting, carpets, storage area, wall covering and various equipment required.

3.1   OBJECTIVES

After going through this unit, you will be able to:

- Describe the different layouts of restaurant kitchens
- Analyse the factors affecting the working performance of restaurants
- Understand restaurant staffing plan
- Discuss staff scheduling and labour cost for restaurants

3.2 KITCHEN: PHYSICAL FACILITIES AND LAYOUT

In every food production unit, there are number of part-time workers along with full-time dedicated employees. Thus, the operators have to be prepared for uncertain factors arising in the units. Predictability of customers' demand is also difficult which is not only susceptible to weather and seasonal variation but it can also influence from irregular events held around the restaurant. In this scenario, it is also difficult to plan proper facility layout of the central kitchen to achieve both optimality and adaptability to the complexity.

Functional productivity of food service industry is also relatively low among the service industries. Central kitchen is understandably the main food production unit which aims to improve productivity in the food service industry which pursuing economies of scale.

By producing high quality food while adapting with flexibility to the environmental changes of central kitchen internal and external, it is possible to achieve improved customer, employee and management satisfaction. From the above-mentioned complexities, daily productions of the current central kitchen are carried out by the experience and intuition of skilled workers.

Facility layout does not take into account the movement of workers as well as production flow. Moreover, the production is labour intensive because it is hand-made to create value, so that the load on the worker is large, reduction of the workload by improving the facility layout is also necessary.

3.2.1 Introduction to Commercial Kitchen

Commercial kitchens are large and equipped with bigger and more heavy-duty equipment than a home kitchen. These kitchens are found in restaurants, cafeterias, hospitals, hotels, workplace and educational facilities and similar establishments. Commercial kitchen may seem like an array of ranges, grills, fryers where a maybe an aggressive angry chef is in charge and yelling out orders. Well this is the case of a much disorganized kitchen but the true commercial kitchen is much more than just the equipment and personnel found in it.

A successful kitchen includes specific components organized in a particular pattern to optimize performance and efficiency where everyone works in a seamless manner carrying out instructions that are rightly laid out. Additionally, some restaurants may set up their kitchen a certain way to match their establishment's concept or design. Regardless of the style or layout, all commercial kitchens will have these components:

1. Cleaning/washing
2. Storage

3. Food Preparation

4. Meal Cooking

5. Service

Cleaning/Washing

Appliances and products like sinks, ware washing machines, and drying racks, among others are required in a commercial setting. Multi compartment sinks are installed for washing utensils, while crockery dish washers can quickly clean plates and other serving vessels to keep the kitchen functioning smoothly. This washing area in the kitchen is located near the kitchen entrance so servers can quickly drop off dirty dishes and near the storage area so cooks can easily find clean dishes.

Storage

The area where food is stored is generally split into non-food storage, cold storage, and dry storage. The non-food storage area can be split further into a section for disposable products, a section for cleaning supplies, and a section for the clean dishes from your cleaning/washing area. Remember, in order to avoid contamination, cleaning and sanitation chemicals cannot be stored above food, food equipment, utensils, dishes, or disposables.

Cold storage holds edible produce that needs to be refrigerated or frozen, while dry storage includes all nonperishable and other consumables. This area might also contain a receiving area for inventory shipments, shortening the distance new stock has to travel through your restaurant.

Food Preparation

The area where food is produced will also have a washing sink for rinsing all produce, chopping area as well as mixing areas. Typically, the food preparation area is split into a section for processing raw foods especially meat and a section for sorting foods into batches of vegetables, mixing salad dressings. This area should be ideally located near the storage area that allows cooks to efficiently grab fresh dishes, prepare plates and move them on to the cooking area quickly.

Meal Cooking

The meal cooking area is the hub of the commercial kitchen. This is where main dishes are prepared and is dependent on heavy duty equipment like fire ranges, ovens, and fryers. Like the food preparation area, the meal cooking area can be broken down into smaller sections like a baking station, grilling station, and frying station. Because meals are finished here, the meal cooking area should be near the front of the kitchen next to the service area.

Service

The service area is where the 'closing moment of action' occurs in the commercial kitchen. The serving staff picks up finished dishes to take to customers. In a self-serve or buffet-style restaurant, this is where foods will be displayed in warmers for customers to assemble their plates. This area needs to be located at the very front of the kitchen, just after the meal cooking area, to shorten the distance between completed meals and customers.

3.2.2 Restaurant Kitchen Layouts

It is noted that layout for a commercial kitchen is not set in a rigid rule. As each food production unit is unique and operates distinctly than others, one has to decide on the factors which will assist kitchen staff best to meet their kitchen goals. As a matter of fact there are several basic commercial kitchen design layouts to consider that succeed in blending solid kitchen design principles and kitchen components effectively.

(a) Island-Style Kitchen Layout

The island-style kitchen layout spaces the ovens, ranges, fryers, grills and other principle cooking equipment collectively in one module at the center of the kitchen, while other sections of the kitchen are placed on the perimeter walls in the proper order to preserve a circular flow (any section can be the 'island' depending on what best suits your needs). This layout is very open and channelizes interaction seamlessly along with convenient supervision. There is plenty of open floor space for easy cleaning. This layout works best in a large kitchen that is square in shape, but can certainly be modified to fit other shapes and sizes.
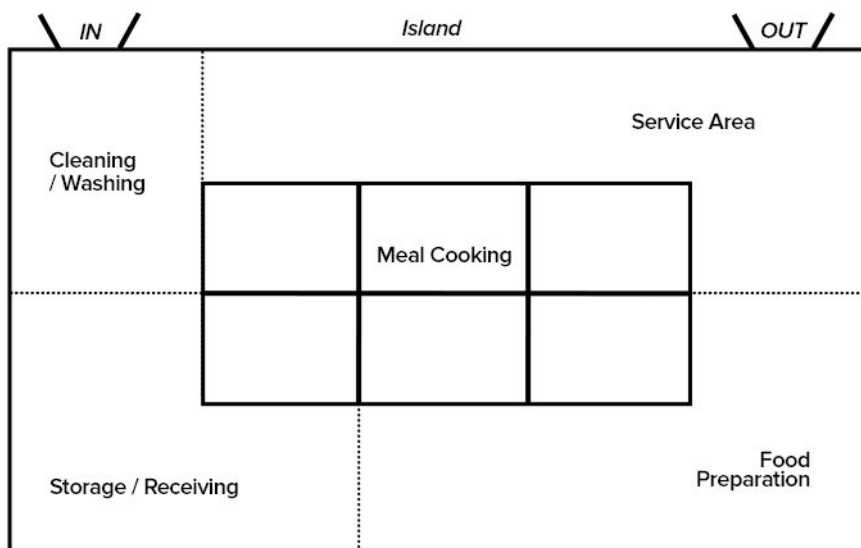
Fig. 3.1 Island-style Kitchen Layout

(b) Zone-Style Layout

The zone-style layout has the kitchen set up in blocks with the major equipment located along the walls. Again, the sections follow the proper order for increased flow, giving you a dishwashing block, a storage block, a food prep block and more. Communication and supervision are not difficult in this layout because the center of the space is completely open.

(c) Assembly Line Layout

The assembly-line configuration is ideal for kitchens that need to serve a large number of people quickly, like cafeterias or correctional facilities. This layout may work better for establishments with a limited menu that serve large quantities of the same foods, like a sandwich or pizza shop, but it is viable for any type of kitchen. In this layout, kitchen equipment is organized in a line with the food preparation area at one end and the service area at the other, allowing cooks to quickly send food down the line. The cleaning/washing and storage/receiving areas can be located behind the assembly line to keep them out of the way. This creates supreme efficiency, and keeps the kitchen open for excellent communication and flow. Often, kitchen equipment can be linked together, further eliminating wasted space.
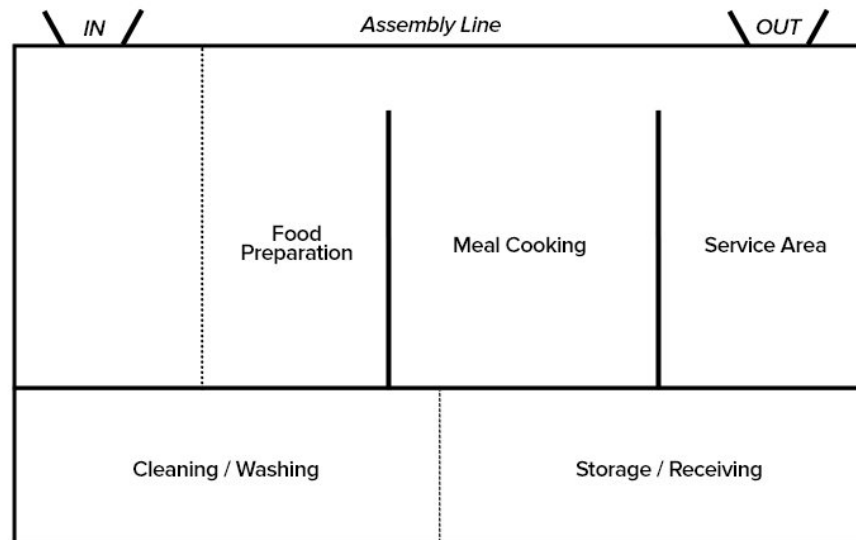
Fig. 3.2 Assembly Line Kitchen Layout

(d) Ergonomic Kitchen Design

Consider an ergonomic kitchen design layout incrementing carefully planned placement of every commodity of the kitchen with comfort and effectiveness in mind. Objective is to importantly make your kitchen most user-friendly. The basic principle of ergonomic design calls for employees to expend the least amount of energy to complete the most tasks in the shortest amount of

time. An under counter freezer, for example, might be placed right beside the deep fryer. This allows the fry cook to retrieve foods and place them in the fryer with little effort. Or, a kitchen may invest in taller prep tables to save chefs from bending over to cook. This cuts down on injury and physical exertion. Ergonomic design even extends to things like equipment selection and lighting. Having the right equipment for the job makes cooking easier and keeps employees happy, while good lighting allows employees to see what they're doing and do it safely. The one drawback of ergonomic design is monetary. It is not necessarily the cheapest option because it is not always energy-efficient, depending on what types of equipment are placed together.

Keeping Your Kitchen Up to Code

After all of the hard work you put into designing a kitchen, the last thing you want is to be shut down by the health department or suffer major fire damage because you are not up to code. Every state and local area has its own codes, so be familiar with them before you start designing a kitchen. A good place to start is with your state's department of health. Also, every piece of equipment has guidelines for installation and location, so make sure to read their instruction manuals. If you put in your due diligence, there should be no issues keeping your kitchen up to code.

3.2.3 Various Factors Affecting Working Performance

In addition to wide-ranging human resource management, other factors influence the required amount of labour. These factors include:

1. Menu items
2. Use of convenience foods
3. Type of service
4. Quantity of meals and number of meal periods
5. Facility layout and design and production equipment
6. Work environment and number of hours worked

Menu Items

Menu is the initiation code of any food production unit. It is the planner around which the whole kitchen functions. It is the foci of the system and without the menu or a planned menu the system will collapse. The number and complexity of menu items affects the production hours needed. If you have a menu with many items requiring difficult production techniques, you will require more preparation time per item. If your menu consists of a limited number of items requiring minimal preparation, you will require less time. Seasonal availability of raw produce, quality, vendors, speed of delivery all factors affect the menu planning along with acceptability of food of the customer. Chef's discretion and taste is not the sole factor of creating

a menu and personal likes and dislikes should be kept aside before panning a menu or meal plan. In a hospital the chief dietitian works in conjunction with the cook and vendors and need of clinical management of patients is prioritized to create menu.

Use of Convenience Foods

Foods prepared on site require more preparation than similar menu items made with convenience foods, such as pre-portioned meats or desserts. You can reduce your labour costs by using convenience foods. However, you must consider two other factors: convenience foods can increase your food costs and may affect the quality of your product.

The second factor affecting the quality of the product is not always evident. Convenience foods made with high-quality ingredients and prepared exactly as recommended by the manufacturer can provide uniform portions of very good quality.

Types of Service

A restaurant featuring complex dishes with multiple components will require more labour than a cafeteria-style operation or a fast-food restaurant. Also, a restaurant that requires a higher level of skill to prepare complex dishes will require more experienced staff, which in turn means higher wages.

Quantity of Meals and Number of Meal Periods

The volume of business will affect the amount of labour required. Each restaurant will have a minimum staffing level without which it cannot operate. If it serves fewer people than this minimum staffing level can handle, the labour costs will be very high.

The number of meal periods can affect the productivity of the restaurant if different menus for each period require set-up and tear-down time. As well, different menus will usually mean a larger number of menu items, also affecting labour.

Facility Layout and Design and Production Equipment

Restaurant kitchens are often designed last, after all of the seating area has been designed. As a result, the space may be awkward and inefficiently laid out. To work efficiently, all work surfaces and storage areas should have all required items located close together. This includes dry storage, refrigerated storage, freezers, storage for plates and glassware, work counters, grills, fryers, and ovens.

Poor kitchen layout can curb the competence of individuals who can work efficiently in a common space. It may require time-consuming trips to distant storage areas to obtain food items or dishes. If the layout of the kitchen is considerably big, the minimum staff needed to operate each station may

also increase. For example, if a salad preparation station is located away from the main kitchen, you may require a salad preparation person even when the restaurant is not busy.

The equipment required for production are mechanical peelers, choppers as well as mixers and grinders are required to minimize the amount of time spent doing these tasks. The key for selecting the appropriate facility design and equipment is to match these parameters to expected volume of business. For example, if you purchase too large a mixer for the volume of business, the work involved in cleaning the machine after use will not warrant the extra expense of purchasing the equipment. On the other hand, too small a mixer will reduce efficiency as you will be unable to mix the quantities needed in a single batch.

Similarly, if your kitchen layout is very compact and small, you may be able to run efficiently with only one cook. However, you may be unable to meet the demands of a high volume of sales because the kitchen is too small to accommodate more than a couple of staff.

Work Environment and Number of Hours Worked

A hot, humid, noisy environment reduces comfort and increases stress and may negatively affect performance. Long hours and hard work without reasonable breaks can lead to reduced productivity. The same is true if you are understaffed. Not having enough staff means that everyone else has to work harder or for longer hours, resulting in tired staff and reduced productivity.

Check Your Progress

1. What is a commercial kitchen?
2. Name the different types of restaurant kitchen layouts.
3. What is restaurant menu and why is it important?
4. List a few equipment required for food preparation in restaurant kitchens.

3.3 RESTAURANT STAFFING PLAN

The first step in determining staffing needs is to establish productivity standards. These standards must take into account the amount of time necessary to produce food of the required quality. The standards are based on procedures dictated by standard recipes.

Productivity standards are measured in labour dollars or labour hours. Labour dollars (or labour rupees in India) measure productivity in terms of the number of dollars that must be paid out in labour to generate certain revenue. The advantage of this approach is that budgets and financial statements are

also expressed in dollars so comparisons can be easily made. However, it can be very time-consuming to calculate the labour dollars given different wage and salary scales. Labour hours must still be calculated because the number of hours determines wages.

Labour hours indicate the number of hours of labour needed to produce a given number of meals or generate a certain amount of sales income. When you use labour hours as a standard, it is less time-consuming to calculate. As well, some simple tasks may take the same amount of time to complete, whether they are performed by a chef or a dishwasher.

Determining Requirements

The productivity standard is determined by comparing number of labour hours scheduled to meals served or to sales income generated. It can be produced by department, by shift, by position, or by position and shift. More detailed standards make it easier to pinpoint problem areas and take corrective action. The most detailed is to prepare productivity standards by position and shift. This allows you to examine the efficiency of each staff member.

It makes sense to look at each position and shift. For example, a breakfast cook working with a limited breakfast menu and items that are easy to prepare can produce many more meals in a hour than the cook on your evening shift who has a large number of menu items with more elaborate preparation needed. Generally, more servers are needed than cooks for a given number of meals. Fewer dishwashers may be required. If only a single labour standard is developed for the restaurant, it will be harder to pinpoint problems with labour costs.

Staffing Guide

A staffing guide tells the manager how many labour hours are needed for each position and shift to produce and serve a given number of meals in the given restaurant. It incorporates the productivity standards. It tells the managers what number of labour hours are needed for the volume of business forecast for a given meal period. The labour hours can be converted into labour dollars to establish standard labour costs.

The staffing guide serves as a tool for planning work schedules and controlling labour costs. The labour hours in the guide can be converted into labour dollar and standard labour costs by multiplying the labour hours for each position by the wage scale for that position. The staffing guide should be based on the performance of good employees. When scheduling new employees who have not completed an orientation training period, allowances will have to be made for their lower productivity.

This form of staffing guide is much more useful than industry guidelines that do not take into account the specific factors which affect the productivity

in your workplace. It may still be useful to compare your staffing guide to other properties in order to assess how competitive you are.

3.3.1 Staff Scheduling and Labour Cost for Restaurants

In this section, let's learn about the elements related to labour costs and staff scheduling.

Fixed Labour Costs

One factor that must be considered before developing a staffing guide is **fixed costs**. Fixed costs refer to the costs of running the operation that do not vary depending on the volume of business. For many businesses, the cost of the building, heating, lighting, insurance, and other similar costs are fixed. They do not change if the restaurant is busy or half empty. In fact, they continue even when the restaurant is closed.

Some labour costs are also fixed. If a restaurant has salaried employees, these costs are fixed and do not change depending on the volume of business. The business must pay the salary of these employees, even if the restaurant is not busy. In most restaurants, management positions, including the chef and sous-chefs, are salaried employees.

Variable Labour Costs

Variable costs must also be accounted for. These costs change in accordance with the volume of the business. Food costs are the most obvious example of variable costs. Provided that the restaurant has not overstocked food, food costs will increase in a direct correlation with the volume of business. Labour hours above the salaried staffing levels are also variable costs. As the volume of business increases, hourly labour costs will increase proportionately.

Peak Periods

When the staffing guide is used to develop a staff schedule, the supervisor needs to consider the peak periods. For example, if the volume reaches 150 meals, 10.5 labour hours may be needed in the kitchen. An analysis of sales shows that the busiest period is between 6 p.m. and 9 p.m. The supervisor might schedule the cooks so that the first cook comes in from 4:00 p.m. to 9:30 p.m. and the second cook comes in from 6:00 p.m. to 11:00 p.m. This would ensure that there are two cooks available to prepare meals throughout the busiest period.

Staff Scheduling

The scheduling of staff is based on the labour hours needed to meet the projected sales volume. The supervisor also needs to keep an eye on labour dollars by considering whether staff on a lower wage scale could be scheduled. For example, on holidays or other times when overtime rates must be paid,

it would be less costly to bring in a new employee who is not eligible for statutory holiday pay. Other factors to consider when developing schedules include the following:

- Staggered work schedules can be used to meet the demand over peak periods without incurring additional labour costs throughout the full shift.
- Part-time staff can be used to work short shifts of four or five hours to reduce overall labour costs.
- Full-time staff is usually used to cover all key administrative positions; sometimes full-time positions can consist of a mix of supervisory and front-line tasks in order to make up a full-time job.
- Temporary employees can be used to meet labour needs that are temporary in nature such as banquets, employee illness, or vacation relief.
- Legal considerations and provisions of the collective agreement must be kept in mind.
- Staff capabilities should be taken into consideration; some employees may thrive in a stressful dinner rush while others perform well under less stressful situations. Some employees may have additional skills (e.g., hosting, bartending), which can be used effectively when sales volume is low if collective agreements or staff policies permit.
- Employee's preferences should also be accounted for in the schedule. Policies should be in place for requesting shift preferences or exchanging shifts between staff members.

No matter how well you have planned the schedule, problems can arise. A staff member may fall sick or fail to show up without warning. The volume of sales may be lower or higher than anticipated. You must have contingency plans to deal with these problems. You could have a staff member (or a casual employee) on call in case he or she is needed. You also have to know the capabilities of your staff. On a night when you have mostly experienced, capable servers and cooks who can handle stressful situations, you may be able to get by with one fewer staff than your staffing guide calls for.

When demand is lower than expected, you must know what limitations there are on sending staff home early, while still maintaining the minimum staffing needed to remain open. Of course, you must comply with collective agreements and all legislation that affects your workplace.

Staying within Budgeted Labour Cost

A comparison of actual to budgeted labour costs can be used to plan future expenses. If your labour costs are higher than desired, you need to find ways to

reduce them. One method of analysing the labour costs is to look at the actual and budgeted labour cost percentage. The projected labour cost percentage is calculated by dividing labour cost by the projected volume of sales. The actual labour cost percentage is the actual labour cost spent for a given time period divided by the actual volume of sales. One of the best ways to improve productivity is to continually review and revise performance standards. Use the problem-solving process to identify the problem, generate alternatives, evaluate the alternatives, choose the best ideas, and implement them. Some questions you might ask yourself are:

- Can a particular task be eliminated?
- Is training needed to improve the skills of staff?
- Can a task be reassigned to a person who is not as busy (e.g., could the dishwasher assist with some pre-preparation of items early in the shift)?
- Can slow periods be utilized more effectively to prepare for high-volume times?
- Does the menu need to be simplified?
- Do menu or volume changes require changes in facility layout?
- Would convenience items reduce costs without reducing the required quality?
- Are the activities of another part of the operation affecting the performance of this department (e.g., the catering department has opened a new conference room some distance from the kitchen which requires food service)?
- Have there been changes in volume and peak times that need to be considered?

After considering all of these factors, you may still not be able to reduce your labour costs. You may have to raise your menu prices to improve the profitability of your operation. Of course, you need to consider the price the market will bear and the prices charged by your competitors before taking such an action.

It is often useful to look at both your food costs and labour costs when deciding whether a price increase is needed. If your labour costs are a little higher than anticipated and your food costs are lower, there may not be a problem. Some companies use a figure of 70 per cent to 80 per cent as a target for the sum of labour and food costs. Another strategy is to have lower contribution margins, but increase your volume. This makes sense because the more volume you have, the more money is contributed toward meeting your fixed costs of doing business.

Position Performance Analysis

Productivity standards are developed by considering the labour hours needed to perform assigned tasks. During a designated observation period, employees are asked to perform their jobs, adhering carefully to all established policies and procedures. They are carefully observed to ensure compliance. For example, cooks would be expected to follow all standard recipes, take scheduled rest breaks, and meet the required quality standards. This process of analyzing productivity is called a position performance analysis.

The employee is observed over several shifts. At the end of each shift, the supervisor completes a report, which indicates the name of the employee observed, the meal period considered, the number of meals prepared, number of hours worked, and number of guests per labour hour. The supervisor also records comments on workflow, adequacy of service, problems that arose, etc.

Recommended meals/labour hour for this position *30*

Performance review by:

Restaurant Manager

Tools like this can help you identify the productivity of each staff member. Perhaps one cook is capable of producing 40 meals to the same standard in the time it takes another cook to produce 30. The first cook is more productive, and therefore a better choice to schedule on the busier evenings. You may also use this analysis to set goals and identify development options.

All in all, food costs and labour costs make up the bulk of the costs in running a successful kitchen. Having a solid understanding of both and how to manage them will be key in running a successful food service operation, whether it be a food truck or a major hotel.

Check Your Progress

5. What is the significance of productivity standards in staffing plan?

6. What do you mean by fixed labour costs?

7. What is position performance analysis?

3.4 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Commercial kitchens are large and equipped with bigger and more heavy-duty equipment than a home kitchen. These kitchens are found in restaurants, cafeterias, hospitals, hotels, workplace and educational facilities and similar establishments.

2. The different types of restaurant kitchen layouts are as follows:
   (a) Island-Style Kitchen Layout
   (b) Zone-Style Layout
   (c) Assembly Line Layout
   (d) Ergonomic Kitchen Design

3. Menu is the initiation code of any food production unit. It is the planner around which the whole kitchen functions. A menu is important for a restaurant as it is the foci of the system and without the menu or a planned menu the system will collapse.

4. Some of the equipment required for production are mechanical peelers, choppers as well as mixers and grinders and to name a few are required to minimize the amount of time spent doing these tasks.

5. The establishment of productivity standards is the first step in determining staffing needs of a restaurant. These standards must take into account the amount of time necessary to produce food of the required quality. The productivity standard is determined by comparing number of labour hours scheduled to meals served or to sales income generated.

6. Fixed costs refer to the costs of running the operation that do not vary depending on the volume of business. For many businesses, the cost of the building, heating, lighting, insurance, and other similar costs are fixed. They do not change if the restaurant is busy or half empty. In fact, they continue even when the restaurant is closed.

7. Productivity standards are developed by considering the labour hours needed to perform assigned tasks. The process of analysing productivity is called a position performance analysis.

3.5   SUMMARY

- In any organization the central kitchen is the food producing unit to improve productivity in the food-service industry and pursue scale-merit by aggregation of tasks in multiple stores into one particular place.

- Commercial kitchen may seem like an array of ranges, grills, fryers where a maybe an aggressive angry chef is in charge and yelling out orders.

- Appliances and products like sinks, ware washing machines, and drying racks, among others are required in a commercial setting.

- The area where food is stored is generally split into non-food storage, cold storage, and dry storage. The non-food storage area can be split

further into a section for disposable products, a section for cleaning supplies, and a section for the clean dishes from your cleaning/washing area.

- The area where food is produced will also have a washing sink for rinsing all produce, chopping area as well as mixing areas.

- The meal cooking area is the hub of the commercial kitchen. This is where main dishes are created and is dependent on heavy duty equipment like fire ranges, ovens, and fryers. Like the food preparation area, the meal cooking area can be broken down into smaller sections like a baking station, grilling station, and frying station.

- The island-style layout spaces the ovens, ranges, fryers, grills and other principle cooking equipment collectively in one module at the center of the kitchen, while other sections of the kitchen are placed on the perimeter walls in the proper order to preserve a circular flow. This layout is very open and channelizes interaction seamlessly along with convenient supervision.

- The zone-style layout has the kitchen set up in blocks with the major equipment located along the walls. Again, the sections follow the proper order for increased flow, giving you a dishwashing block, a storage block, a food prep block and more.

- The assembly-line configuration is ideal for kitchens that need to serve a large quantity of people quickly, like cafeterias or correctional facilities. This layout may work better for establishments with a limited menu that serve large quantities of the same foods, like a sandwich or pizza shop, but it is viable for any type of kitchen.

- An ergonomic kitchen design layout incrementing carefully planned placement of every commodity of the kitchen with comfort and effectiveness in mind. The objective of this type of layout is to importantly make your kitchen most user-friendly.

- Menu is the initiation code of any food production unit. It is the planner around which the whole kitchen functions. It is the foci of the system and without the menu or a planned menu the system will collapse.

- Foods prepared on site require more preparation than similar menu items made with convenience foods, such as pre-portioned meats or desserts. You can reduce your labour costs by using convenience foods.

- Convenience foods made with high-quality ingredients and prepared exactly as recommended by the manufacturer can provide uniform portions of very good quality.

- A restaurant featuring complex dishes with multiple components will require more labour than a cafeteria-style operation or a fast-food restaurant.

- The first step in determining staffing needs is to establish productivity standards. These standards must take into account the amount of time necessary to produce food of the required quality. The standards are based on procedures dictated by standard recipes.

- The productivity standard is determined by comparing number of labour hours scheduled to meals served or to sales income generated. It can be produced by department, by shift, by position, or by position and shift.

- A staffing guide tells the manager how many labour hours are needed for each position and shift to produce and serve a given number of meals in the given restaurant.

- The staffing guide serves as a tool for planning work schedules and controlling labour costs. The labour hours in the guide can be converted into labour dollar and standard labour costs by multiplying the labour hours for each position by the wage scale for that position.

- Fixed costs refer to the costs of running the operation that do not vary depending on the volume of business. For many businesses, the cost of the building, heating, lighting, insurance, and other similar costs are fixed. They do not change if the restaurant is busy or half empty. In fact, they continue even when the restaurant is closed.

- Variable costs must also be accounted for. These costs change in accordance with the volume of the business. Food costs are the most obvious example of variable costs.

- The scheduling of staff is based on the labour hours needed to meet the projected sales volume.

- One of the best ways to improve productivity is to continually review and revise performance standards. Use the problem-solving process to identify the problem, generate alternatives, evaluate the alternatives, choose the best ideas, and implement them.

- Productivity standards are developed by considering the labour hours needed to perform assigned tasks.

3.6 KEY WORDS

- **Ergonomics Kitchen Design:** In Ergonomics Kitchen design, the interior designer must have a solid knowledge of ergonomics.

- **Assembly Line Layout:** In this layout, kitchen equipment is organized in a line with the food preparation area at one end and the service area at the other, allowing cooks to quickly send food down the line.

- **Convenience Foods:** It refers to a food, typically a complete meal that has been pre-prepared commercially and so requires minimum further preparation by the consumer.

3.7   SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. List the components of a commercial kitchen.
2. What are the benefits of convenience foods?
3. What is purpose of a staffing plan?
4. Differentiate between fixed labour cost and variable labour cost.

Long Answer Questions

1. Discuss the various factors that affect working performance of a restaurant.
2. Analyse the factors to be considered while staff scheduling.
3. Describe the ways to stay within budgeted labour cost.

3.8   FURTHER READINGS

Drummond, Karen E. and Lisa M. Brefere. 2013. *Nutrition for Foodservice and Culinary Professionals.* New Jersey: Wiley.

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UNIT 4   FOOD SUPPLY CHAIN MANAGEMENT

Structure

4.0   INTRODUCTION

Food industry plays an important role in providing basics and necessities for supporting various human activities and behaviours (Cooper and Ellram, 1993). Once harvested or produced, the food should be stored, delivered, and retailed so that they could reach to the final customers by due date. It was reported that about one-third of the produced food has been abandoned or wasted yearly (approximately 1.3 billion tons) (Manning *et al.*, 2006). Two-third of the wasted food (about 1 billion tons) is occurred in supply chain like harvesting, shipping and storage (Fritz and Schiefer, 2008). Take fruit and vegetables for example, such perishable food was wasted by 492 million tons worldwide in 2011 due to the inefficient and ineffective food supply chain management (FSCM) (Gustavsson *et al.*2011). Food supply chain refers to the processes that describe how food from a farm reaches to us. Food Supply Chain Mangement (FSCM) is significant to save our food.

The unit deals with the selection, specifications, procurement and importance of raw materials. It goes on discussing the functioning of food supply chain management and purchasing and storing process of food materials. In addition to this, the meaning and objectives of material management has also been discussed in the unit. Material management is an integral part of production which is performed by integrating external suppliers with internal departments in order to provide smooth product flow process.

4.1 OBJECTIVES

After going through this unit, you will be able to:

- Understand the functioning of food supply chain management
- Discuss the selection, specifications of procurement of raw materials
- Explain the purchasing process of food materials
- Describe the meaning and objectives of material management

4.2 FOOD MATERIALS MANAGEMENT

In this section, you will learn about the important elements of food supply chain management.

4.2.1 Importance of Receiving Raw Materials

Raw materials, including ingredients, processing aids, and packaging, are the foundation of finished food products. As such, they must meet regulatory requirements (safe and legal for your intended use) and your specifications (contribute to the functionality and quality of your process and product).

Historically, research and development worked alone when selecting a new raw material. But now a broad team of expertise is needed, due to increased access to unique and complex materials, global sourcing, handling methods, customer locations, and regulations. The team assesses if the material has limitations or may be too costly to handle, and determines if additional measures are necessary to prevent potential safety issues for the employees and product.

Traditional Roles

A description of team responsibilities helps in the understanding of the diverse expertise is required to identify key raw material characteristics.

- **Research and Development (R&D)**: Invents the finished product to meet the customer's expectations.
- **Quality**: Ensures that the programs and practices will result in finished product that is safe, is legal, and meets the company standards as well as specifications outlined by R&D.
- **Production (from receiving to shipping)**: Handles the raw materials and in-process and finished product in an appropriate manner (including equipment capability) to ensure the finished product is safe, is legal, and meets R&D's specifications.
- **Sales**: Works with R&D and the customer to define and negotiate an acceptable product with an affiliated price point.

Expertise in each area is necessary to determine the desired specifications for each raw material.

Raw Material Selection

R&D selects the appropriate raw materials based on functionality.

Functionality can encompass multiple areas:

- Such as providing identified characteristics of the finished product (binders, thickeners, type of resin for plastic packaging, etc.)
- Sensory characteristics (flavor, color, aroma, texture)
- Product safety characteristics (to lower the pH or water activity)
- Preservatives (extension of shelf life, color, or flavor retention, etc.)

Considerations in Selection

- Is there a raw material already in use that has the same or similar characteristics?

  If so: Don't add unnecessary complexity.

  Resource: List of existing approved materials and their specifications.

- Is this a raw agricultural item, commodity item, or one that has a standard of identity?

  If so: Develop a general specification that can be used between multiple potential suppliers.

  Resources: Supplier technical information, the standard of identity, food action defect level from regulations, comparison of different suppliers' specifications from the Internet.

- What are the limitations on the use of the raw material?
  - o No limits or qualifications, such as the Generally Recognized as Safe (GRAS) listing in the United States.
  - o Use has been limited to specific products.
  - o Limitations or ban on the use, such as genetically modified materials for organic products.

  Resources: Supplier technical information, regulations for the country of sale, e.g., U.S. Code of Federal Regulations (CFR), Canadian Food Inspection Agency, European Commission, etc.

- Are there legal, maximum levels for use, both in the country of manufacture and the country of sale/use?

  Resources: Same as previous.

- Does the raw material meet existing company or customer standards (e.g., kosher, halal, organic, gluten-free)?

  Resources: Company standards, customer requirements, supplier technical information, supplier-provided certificates.

Post-Trial Discussions

Flexibility in sourcing and cost

- Is the material a commodity-type item that can be purchased from multiple sources? If so, compare existing specifications from multiple suppliers; allow comparison bidding/purchasing.

- Can the tolerances for characteristics be expanded to be able to purchase from more than one source or a wider range of possible, existing materials (such as granulation size for materials that are going to be dissolved or melted)?

- Can purchasing find a similar functionality material that costs less or has fewer concerns?

Size and type of packaging based on forecast use

Typically, the larger the container purchased, the cheaper the cost-per-pound. However, if the forecast is for use of 100 pounds in a year, what is the appropriate-sized container to purchase? It would not make sense to purchase in 50 pound bags (multiple handlings of the package with resulting potential of damage or contamination) or in a Super-Sak (with destruction of, or potential use of, expired materials).

Raw Material Specifications

After the team has discussed and agreed upon the key characteristics for the raw material, the next step is to document these expectations. This can be as simple as using the dated Technical Data Sheet from the supplier. A purchase order should list the supplier's specific name and item number for the material. A recommendation is to include the revision date of the Technical Data Sheet (with associated specifications).

As a company grows, or your requirements become more complex, the supplier's information is expanded upon within your own specifications. At a minimum, the information should include technical and food safety information, including:

- The name of the product and the supplier's item number.
- Components or composition of the material.
- The presence of regulated or customer-recognized food allergens.
- Organoleptic information (appearance, flavor, and aroma).
- Pertinent physical, chemical, and microbiological information.
- Shipping and storage information.
- Shelf life.
- Handling directions.

Food safety parameters or tolerances could include biological, chemical, or physical characteristics.

- Biological – Microbiological limits for pathogens, such as *Salmonella* and *Listeria monocytogenes*.
- Chemical – Fortification levels, sulfite levels, heavy metal content, etc.
- Physical – Size and foreign material (rocks, glass, metal, bones, etc.)

Functionality or quality parameters would include characteristics that can impact the functionality of the material or adversely impact your product.

- Biological – Microbiological limits for spoilage organisms or indicators of poor sanitation, including total plate count, yeast, mold, and coliform.
- Chemical – Characteristics such as concentration levels or purity.
- Physical – Characteristics such as viscosity, color, granulation size, insect parts, crush strength, physical measurements, etc.

4.2.2 Purchasing of Food Materials

Purchasing is the vital function of materials management apart from stores keeping, inventory control, traffic and waste control. After the approval of the material plan and preparation of the material budget, it is the responsibility of the purchasing department to strictly follow the scheduled production plan and procure the material of good quality, in desired quantity and on time. Purchasing is not an end in itself. Material and supplies are purchased or procured for use in other departments and the purchasing department's role is to meet their needs. Purchasing is deeply involved in the management of material flow from the outside sources down to production through the inventory pipeline. S.N Chari calls purchasing manager external production manager. Material costs form the major part of the production costs. Therefore, production costs can be brought down by exercising control over the material costs which, ultimately, depends upon the purchase of material at a proper price. Material should be purchased in such a way that there is neither any overspending it nor any shortage, causing stoppage in production. Right quantity and quality purchasing will not only lead to reduction in. The production costs but the quality of production will also improve. Thus a purchasing manager has a pivotal role.

Principles of Purchasing: As stated earlier, purchasing is one of the most important functions of materials management. It is impossible to achieve the desired results for which the business exists without successful purchasing. Purchasing practices may vary according to the policy of management size and type of industry.

However, there are five well-recognized principles of scientific purchasing agreed upon unanimously by most authors and research workers.

They are as follows:

1. Right quality
2. Right quantity
3. Right time
4. Right price
5. Right place

Right Quality: A very clear specification of quality should be made in the terms of contract. The acceptable quality level and method of testing should be made discrete in the contract document. There should not be any compromise on the quality of the material at the time of purchase because it will reduce the quality level of the product if it is below the specification.

Right Quantity: The main objective of the purchase department is to ensure flow of materials to the production department without any interruption. This is the most important parameter in buying. The decision of right quantity is related to the period for which it is to be purchased and also to the minimum total cost which may prevent shortages. Excess purchases result in overstocking. Capital is unnecessarily blocked and inventory carrying cost goes high.

Right Time: Material should be purchased at proper time so that production costs can be kept under control. For determining the right time, the purchase manager estimates the lead time information for all components. Lead time is the total time that elapses between the recognition of the need of an item till the item arrives and is provided for use. While deciding upon the purchases, the buyer has to consider emergency situations like strikes, lock outs, etc. Which might add up to the lead time in exceptional cases? The right time for ordering of material is termed reorder level of materials, which s decided on the basis of demand during lead time plus safety stock. The responsibility for purchasing the material lies with the purchase department.

Good distributors, producers, restaurants and other food companies often split their attention between acquiring raw food materials and assembling or processing them into finished goods. The finished product is obviously important, but you also need to consider the safety, nutrition, and quality of the ingredients.

Accordingly, purchasing is a major area of strategic development for most food companies; choosing the right suppliers, the right ingredients and sustaining that relationship can drastically impact both the profitability and reputation of your company.

These are some of the most essential practices for purchasing ingredients:

Balance cost and quality

The most important choice you'll make in food purchasing is the balance between cost and quality (which includes a number of sub-factors). If you opt for the highest quality available, you might pay so much that you're no longer able to make money, but if you go too cheap, nobody will want to buy your products. Instead, strive to find some middle ground: suppliers who are able to give you a good deal on food products that fit the needs and desires of your target demographics. For some companies, that might mean shopping locally or through sustainable farms. For others, it may mean looking internationally to find the perfectly cultivated ingredient. Pay close attention to how the cost of each product will affect your bottom line.

Choose reliable suppliers

Next, you'll need to choose suppliers who are reliable in multiple dimensions. The suppliers need to ship your products on time, every time, without being reminded and without error, so you can plan your operations more efficiently. They need to maintain strict safety and health standards, so you never have to worry about tainted products. They also need to be available for communication at all times, in case something goes wrong or you need an emergency resupply. Work only with suppliers you trust—sometimes it's worth to pay a little extra for that relationship.

Check the details

Before closing a deal, make sure to check all the details. Visit the supply facility, if you can, to see their operational standards and equipment with you own eyes. Consider all the variables and investigate the history of the company to make sure you aren't missing something important.

Many food manufacturers set strict prices on their raw materials, but there is usually no harm in attempting to negotiate. If you're trying to get a better deal, they may be willing to offer you a discount based on bulk purchase quantities, or for a longer-term arrangement. Any wiggle room you get here will result in higher profitability for your business.

Prepare and check a contract

Informal agreements may seem easier, but for large-scale operations especially, you'll need a firm contract in place. Set a term for the relationship, set specific quality standards and operational procedures, and of course, list the prices you're agreeing on. Double check everything before signing.

Have a stock replacement procedure

Possibly within the contract, you should clarify exactly how and when your stock is going to need replenished. This is one of the most important operational considerations for a food manufacturer; without enough ingredients on the shelf, you won't be able to continue with production. You and your supplier need to have a clear and mutual understanding of when orders are going to be placed, when they're going to ship, and when they're going to arrive. Don't allow room for misinterpretation here.

If you can, try to simplify your purchasing relationships as much as possible. Working with five different suppliers may help you get the best prices, but it may also cost you hundreds of extra hours in additional paperwork (not to mention more stress in communication). Strive for minimalism in your supplier arrangements.

Maintain positive supplier relationships

It is also required to take extra measures to keep your supplier relationships positive and mutually beneficial. Communicate proactively whenever you can, remain cordial when things go wrong, and don't be afraid to give or ask for favours. Good relationships lead to smoother workflows, and faster conflict resolution; it also means your suppliers will stick with you longer, making your food products more consistent.

Harness New Technologies

It is also a good idea to choose partners willing to work with you via new technologies, which can improve communication and streamline food product tracking. JustfoodERP software, for example, can improve the tractability of your supply, not only making purchasing easier, but also improving the safety of each batch. Technology offers organization and more options for relationship management, so it's a factor that can't be ignored.

Remaining Adaptable

It's a good idea to keep your suppliers around for as long as possible, both to ensure the consistency of your products and to ease the stress of finding new partners. However, you also must understand that conditions will change over time. You'll likely have to update your food purchasing policies and suppliers multiple times throughout your company's operation, and in those cases, the more adaptable you are, the better.

All raw materials and processed food purchased for the kitchen operation should only be procured from approved vendors in order to assure the safety of food served to customers.

The Executive chef and hotel purchase manager should be responsible to purchase and receive all goods in a systematic manner and to ensure a consistently high specification of product sourced. The management should develop and implement written product specifications to ensure products purchased consistently meet restaurant expectations.

Kitchen Purchasing Standard Procedures

1. Ensure purchasing is carried out by authorized personnel:

- Roles and responsibilities within the purchasing function should be defined and clearly communicated.
- Only authorized personnel should be entitled to select vendors and make any purchase orders.
- All purchases, where appropriate, are made on the basis of agreed contracts only.
- Purchase specifications are used for all major goods purchased on a regular basis.
- Weekly quotations are sought, where appropriate, to ensure that the best value is obtained.
- Minimum/ maximum stock levels or par stocks should be maintained in the kitchen.

2. Purchase goods only from approved suppliers

- Approved suppliers are selected following systematic evaluations to ensure that the best product quality and terms and conditions are achieved.
- The food safety status of all suppliers is assessed on a periodic basis.
- Contracts are agreed with approved suppliers.
- Goods are only purchased from approved suppliers.
- Supplier performance is monitored regularly, corrective action is taken and relationships are evaluated annually.

3. Complete all purchasing activities in an efficient manner:

- The kitchen staff should adhere to predetermined purchase frequency.
- The Executive Chef or Sous Chef should use the volume forecasting techniques to assist in estimating purchasing requirements.
- Purchase requisition forms are used and written purchase orders are issued.

- All purchase requisitions should be entered on the Hotels Material Management System (MMS).

- Non-contract purchasing is supported by defined purchase specifications and conducted only by experienced and competent personnel.

- For non-contract purchasing, the price quotations should be always sought in advance.

4. Standard For Purchasing of pasteurized Dairy Products:

- Visit approved vendors to ensure that they maintain clean warehouses adhere to safe storage and handling practices.

- Observe the delivery vehicles to ensure that they are clean and temperatures are properly controlled.

- It's a good practice to request a photo ID badge of the delivery person when you don't trust is or have complaints.

- Use written product specifications to ensure that the vendor knows what is to be delivered.

5. Tips for the employees who are responsible for purchasing food must:

- The staff is knowledgeable to understand the regulations for specific foods.

- Coordinate delivery times with vendors/suppliers to ensure that deliveries are made when they can be stored immediately.

- Schedule receiving times when product quantity and quality can be checked, including product temperatures.

- Review orders and delivery information to ensure orders and product specifications are being met.

- When making direct purchases, buyers should ensure packages are clean and will maintain the integrity of the food item, as communicated through product specifications.

- Meat and fresh shell eggs may be purchased from local licensed producers, but because these foods are considered potentially hazardous, the products must be inspected for safety on a regular basis.

- Meat and fish package should always contain an inspected/checked on the package.

4.2.3   Receiving and Storing

Outline the appropriate conditions for shipping and storing the material. Include any special storage or handling directions, such as "do not freeze" or "store in a flame-resistant cabinet."

Following the supplier's storage recommendations, describe the product's shelf-life (the supplier's safety and quality guarantee for the product).

Determine if there are special directions for handling the material, such as if employees need to wear a face mask or other personal protective equipment (PPE) or if the material needs to be shaken before use.

Example: In a company making rotisserie chicken-oven design ; raw chicken is always loaded from the rear, and the cooked chicken is always removed from the front to prevent cross-contamination. Additionally, all store refrigeration is monitored 24/7 which is not a standard retail practice as it can be very expensive. To ensure that stores are conforming to the company's food safety standards, processes, conditions, and expected behaviors, every store is audited every month by a third party.

But simply putting design in place is just the start. From there, food safety needs to be driven into the culture so that it becomes the social norm. This means citing and focusing on that which is done right rather than that done wrong. For example, rather than saying 35% of the general public doesn't wash their hands prior to handling food, always say 65% of people do. By reporting in-compliance rates rather than out-of-compliance rates, you are incenting the positive and showing it as an accepted social norm.

- Implement more thorough documentation of their food safety risk assessment, prevention control plan, and checks.
- Feel that GFSI was beneficial to improving the safety of their products.
- Make significant investments in capital and staff time for improving food safety, including increased training.

Customer Facing Initiatives

Developing such a culture also means educating and informing the customer to help ensure food safety all the way to the fork. For examples at Walmart, this includes practices from the simple: including customer-facing use of the Food Safety High Five, such as printing it on the store's plastic meat bags, to the more complex, such as its collaborative Checkout TV Network and its recall lockdown and notifications.

Using the wireless system, associates conduct food safety checks to test the temperature of hot, cold, and frozen foods. If it is not in compliance with critical limits, the unit vibrates and issues an audible alarm. Additionally the system:

- Prompts corrective action, educating the user on compliance.

- Electronically captures data to provide real-time reports at both the store and corporate level.

- Provides alerts when it is time to conduct scheduled food safety tasks.

- Escalates missed or out-of-compliance checks.

4.2.4 Sanitation

A complete program involves a number of steps, starting with understanding the pathogen risk in your facility and ensuring you have robust GMP and sanitation programs with documentation. But once those are in place, environmental testing can be an effective tool for verifying that these programs are working.

The best way to begin an environmental sampling program is to look at it in steps:

1. Divide the facility into areas based on risk. Develop a map of the facility, noting all rooms, equipment, and usual traffic flow, then using the industry-standard zone designation, label areas as:

   - Zone 1 - food contact surfaces. It is most critical that these surfaces are free of pathogens.

   - Zone 2 - non-food contact surfaces that are close to zone 1, such as equipment housing, exterior of equipment, etc.

   - Zone 3 - floors, drains, walls, etc. where product is being handled.

   - Zone 4 - other parts of the facility where product should not be handled or stored (locker rooms, break rooms, etc.).

2. Next, further divide zones 1 to 3 by indicating if they are located within raw, RTE, or storage areas.

3. Now you are ready to create a sampling plan, identifying all the potential sampling sites in the zone. The plan should include all areas of the facility, and then, taking into account the level of risk, should identify frequency and type of testing (e.g., specific pathogen, indicator organism, etc.) for each site.

4. Before implementing the sampling plan, it is critical that an action plan be specified as to what is to be done if a positive result is found (e.g., recall or destruction of product, stop production, corrective action, etc.). It is for this reason that testing for indicator organisms can serve as a useful measure of the state of a facility. If high levels of indicator organisms are found, this is a sign that sanitation and perhaps other controls are not adequate. It is important to address these issues and document the actions taken (including retesting).

5. Finally, the plant must have full documentation, not only of the findings, but also that a risk-based environmental strategy is in place and is being followed.

Whether you choose to implement environmental monitoring and testing as a preventive control, a verification step or both, it is critical that if you do implement it that it be followed and documented. FDA is looking; the focus is increasing; and from a regulatory perspective, if you did not document it, you did not do it.

In the next section, you will learn about the concept of material management and standard procedures which must be followed.

Check Your Progress

1. What are the characteristics involved in food safety parameters or tolerances?
2. What are the responsibilities of purchasing department?
3. Why is it important to maintain good relation with your supplier?

4.3 MATERIAL MANAGEMENT

Material management is a principle area in production. Material management is done by integrating external suppliers with internal departments so as to provide smooth product flow process. The definition of materials management given above has been accepted by the International Federation of Purchasing and Materials Management. Included within this concept are the material functions of planning, scheduling, buying, storing, moving and distributing. These are logically represented by disciplines of production and inventory control, purchasing and physical distribution.

Historically the five M's of an industrial organization viz., Men, Machines, Money, Materials, and Methods. Each category in 5M's have shifted their positions from time to time in their relative importance.

'The objectives of materials management is to contribute the increased profitability by coordinated achievement of least materials cost. This is done through optimizing capital investment, capacity and personal, consistent with appropriate 64 customer service level". (International Federation of Purchasing and Materials Management). Materials Management deals with planning, executing and controlling the flow of material in relation to changes in variables like demand, price, availability, quality, delivery, schedules etc. Materials Management encompasses all activities concerned with the materials

Primary Objectives: There are at least nine primary objectives of Materials Management. Economic procurement, proper store keeping, a physical upkeep, timely distribution, store accounting, continuity of supply, consistency of quality, low payroll cost, favorable relations with suppliers, development of personnel and good records.

(a) **Low Prices**: Obtaining the least possible for purchased materials is the most obvious purchasing objective and certainly one of the most important. If the purchasing department reduces the prices of the items it buys, operating costs are reduced and profits are enhanced. This objective is important for all purchases of materials and services, including transportation.

(b) **High inventory turnover**: When inventories are low in relation to sales, less capital is tied up in inventories. This in turn, increases the efficiency with which, the company's capital is utilized so that, return on investments is higher. Also, storage and carrying costs of inventories are lower when the turnover is high.

(c) **Low cost acquisition and possession**: If materials are handled and stored efficiently, their real cost is lower. Acquisition and possession costs are low, when the receiving and stores departments operate efficiently. They are also reduced when shipments are received in relatively large quantities (thereby, reducing the unit cost of handling), but they are increased if the average inventories are boosted with the large shipments.

(d) **Continuity of supply**: When there are disruptions in continuity of supply, excess costs are inevitable. Production costs go up; excess expediting and transportation cost are likely, and so on. Continuity of supply is particularly important for highly automated processes, where, costs are rigid and must be incurred even when production stops because of in availability of material.

(e) **Consistency of quality**: As pointed out earlier, quality of the end product depends on materials that go into it. When materials purchased are homogeneous and in a primitive stage (e.g., sand and gravel), quality is rarely a problem for purchasing personnel. When a variety of items of different qualities are needed and meeting rigid specifications becomes a challenge to suppliers (e.g., components of satellite), quality may become the single most important materials management objectives.

(f) **Low payroll costs**: The objective of low payroll costs is common to every organization. The lower the payroll, higher the profits-all other factors being equal because, no department can do its job without a payroll, the objective of low payroll must be viewed in its proper perspective.

(g) Favorable supplier relations: Maintaining cordial relations with suppliers benefits the buying company in more than one way. In the first place, a company with good reputation in supplier relations is more likely to attract customers than the one with a bad name. Secondly, the product development and research efforts to suppliers are passed on to the company provided the latter maintains good relations with the former. Thirdly, the materials manager is often faced with the problem of last minute cancellation of existing commitments because of a sudden shift in the demand for materials. Co-operative supplies can do much to help the manager solve such problems.

(h) Development of personnel: 'If you want to plan for a year, plant com. If you want to plan for 30 years, plant a tree. But, if you want to plan for 100 years, plant men'. So goes a Chinese proverb. Every head of the department in the organization should understand this saying and take personal interest in developing the personnel working under him. Each department head should spot the potential leaders among the men and women employed in his department and encourage them to develop into future executives, and the company's future profits will depend on the talents of its managers.

(i) Good records; Good records are considered a primary objective of materials management, particularly in the procurement phase of the materials management. Buyers spend company money and can be subjected to tremendous temptation. Although, perhaps 99% of all buyers are above corruption, the opportunity does exist. Good records, along with well-planned administrative controls and periodic audits can discourage corruption. They also partly remove the onus of suspicion from a completely honest individual, working at a job that is popularly associated with graft and corruptions. Secondary Objectives Secondary objectives of materials management are not limited in number or

Let's see an example of statement of purpose for receiving of food and raw materials in the kitchen.

SOP For Receiving of Food and Raw Materials in Kitchen

SOP Number: Kitchen / F&B Production SOP – 7

Department: Kitchen / Food Production - Receiving Food and Raw Materials

Date Issued: 19-Sep-2018

Time to Train: 30 Minutes

Purpose of this SOP

All food should be checked for proper conditions when it is received in the hotels or kitchen facility, and assure that all foods come from approved vendors and sources only.

The Kitchen Staff/Chef's who is responsible for receiving of Food and Raw materials in Kitchen schedule deliveries for off-peak hours and make sure trained staff is available to receive, inspect, and store food promptly.

Receiving Food and Raw Materials Standard Procedures

1. General Points to note while receiving food and raw materials:

- Delivery times are agreed in advance with suppliers and meet business needs.
- Receiving area supervisor ensures that health and safety regulations are adhered to during deliveries.
- The supervisor should have the supporting order documentation to cross-reference with the delivery docket provided.
- Receive should be done in such a way that only one delivery at a time from approved suppliers and make sure to verify credentials of the delivery person.
- Record the date received on the outside of each package, and a use-by date if applicable.
- Remove potentially hazardous foods from the temperature danger zone (> 5° Celsius) and place in storage as quickly as possible.
- Accept only pasteurized dairy products.
- Assure that no home-prepared foods are accepted or used from third parties.
- When damaged items are found, the manager or designee should call the distributor so the product can be picked up and returned and a credit issued.
- Make a note on the invoice when any items are rejected.
- Reject potentially hazardous foods that are not at acceptable temperature and cans with swelled tops or bottoms, leakage, incomplete labels or with rust, dents etc.
- Evaluate the quality of products by odor, sight, and touch and reject unacceptable products.

- The received products must always meet the order specifications and the quality requirements.
- If any foods are deemed unacceptable, they should be rejected and put in a designated area for credit.

2. Checking the delivery docket against the order form.

- The supervisor physically checks each case for the correct quantity, quality and temperature is required for the received items.
- Items should be weighed where appropriate.
- Packaging should be of good quality and contains the required date and source data, where relevant.
- Any discrepancies should be noted, recorded and reported to the concerned manager.

3. How to Receive Frozen and Refrigerated Foods?

- Check to make sure that all frozen food is solid, and does not show evidence of thawing and re-freezing.
- Check to ensure that refrigerated foods are received at or below 5º Celsius.
- Check the temperature of the frozen items with a calibrated thermometer to assure that cold food is below 5° Celsius.
- Reject frozen foods that should be stored below 5° Celsius that are delivered above 5° Celsius.
- Eggs with shells can be at a temp of 7° Celsius if it is above then the same to be rejected.
- Check at random the temperature of three different refrigerated food items for each delivery.
- Record date, employee initials, vendor, product name, and temperature of these products in the Receiving Temperature Log.
- Place foods in the proper storage area (cooler or freezer) quickly to avoid potential bacterial growth.
- Proper deep chill storage temperatures are from 0º Celsius to -3,5º Celsius or below.
- Proper freezer temperatures are -18º Celsius.

4. How to Receive Dry Goods in the Kitchen?

- Check dry goods for leaks, flaws, or broken packages.
- Check for manufacturing & expiry date.

- Dry goods should be dry, free of mold, and free of insects.
- If the packages are flawed, they should be rejected and put in a designated area for credit.
- Visually inspect for leaks, dents, bulges, or other visible signs of damage, infestation or contaminants.
- Notify a manager if a damaged can is found.
- Date boxes and cans with receiving date.
- Always separate chemicals from foods and store them separately.
- Proper dry storage temperatures are between 10º Celsius and 21º Celsius at 50% to 60% of humidity.

5. How to ensure effective issuing and controlling of stock in Hotel Kitchen?

- Access to stores is strictly controlled and goods are only issued at defined times, on receipt of the appropriately signed requisition form.
- Items are only issued by the individual responsible for store management or designate.
- Stocktaking is regularly completed and results are recorded.
- Use the First In First Out (FIFO) inventory rotation of products in all storage areas to assure that the oldest products are used first.
- Products with the earliest use-by or expiration dates are stored in front of products with later dates.
- Mixing old food with new food is not acceptable.
- Keep products in original package until used.
- All discrepancies are investigated.

Storage

To store all goods in the appropriate hygienic and secured area, with all stock securely issued and regularly checked. All Kitchen staff should work together in order to achieve the kitchen hygiene standard.

The Executive Chef should be responsible to monitor and audit the freezer and storeroom management and hygiene in a systematic manner and to ensure a consistently high specification of product sourced. The hotel management should develop and implement written storage management specifications to ensure purchased products are stored and distributed correctly.

Kitchen Freezer and Storage Management Standard Procedures:

1. How to ensure the kitchen storerooms provide a hygienic storage environment?

- Storerooms and equipment should be kept clean on an on-going basis; regular deep cleaning is implemented.
- The storage area is always kept dry, cool and well-ventilated.
- All cardboard boxes/packaging are disposed of correctly.
- Correct temperatures are maintained at all times.
- Adequate pest control measures should be in place.
- Dry goods are stored at least 0.20 meters above the floor on pallets and shelving.
- Fats and oils are stored away from strong smelling foods.
- Goods are properly arranged and displayed.

2. How to adhere to safe storage conditions at Hotel Kitchen?

- Storerooms have sufficient space and storage shelving for the quantities of stock held.
- Storerooms have adequate lighting for safe access/use.
- Cleaning agents are stored in a safe, cool and dry place away from heat sources.
- Separate storage areas are allocated for toxic and non-toxic items.
- Cases are not stacked too high and are easily accessible.
- Storerooms are locked when not in use.

3. How to ensure efficient and effective storage of stock?

- All received items from the main store are stored by product.
- Stock rotation by following the FIFO method is strictly adhered to.
- All perishable goods are kept in a cool, dry place.

4. How to ensure that deep freeze storage is safe and hygienic?

- Deep freezers are maintained at or below -18°C, (ice cream at -12°C for up to one week).
- Deep freezes should be regularly defrosted and cleaned.
- Raw and cooked foods are stored in separate freezers to prevent cross-contamination.

- All frozen food should be wrapped with foil or plastic wrap, to prevent freezer burn.
- Temperature checks are taken regularly and thermometers are checked for accuracy.
- Freezers are not overloaded and the door is not kept open any longer than is absolutely necessary.

5. How to store refrigerated items safely and hygienically?

- Refrigerated stores are maintained between -1°C and 5°C (ideally less than 3°C).
- Fridges are deep cleaned regularly and tidied daily.
- Fridges are free from bad odors at all times.
- Fans are clean, free from ice and working correctly.
- Food is placed on labeled trays and properly stored.
- Fridge gas is checked every 3 months.
- Cooked or ready to eat foods are not stored in the same refrigerator as raw foods, unless covered and segregated.
- Raw food is not stored above cooked or ready to eat foods.
- High-risk foods and prepared vegetables are stored in the refrigerated storage or in a deep freezer.

How do you monitor incoming raw materials?

The quality and safety of your incoming goods and raw materials could mean the difference between your finished product being safe to eat and killing your customers. For this reason, it is of paramount importance that an adequate system is in place to monitor all incoming raw materials and goods that will have an impact on the safety and quality of your finished food product.

What to monitor

When deciding what parameters to monitor, you need to consider the overall food safety risk of the actual raw material. Hopefully you have completed a risk assessment of all of your incoming raw materials based on their physical, chemical, microbiological and quality status. Based on the outcome of your raw material risk assessment you may then monitor for:

- Presence of microbiological contamination eg. salmonella, E.Coli, Listeria
- Any visual contaminates on the external surfaces eg. dirt, dust, bird droppings

- The overall condition of packaging eg. are there any rips, breaks, torn and broken sections.

- Presence of chemical contamination eg. pesticides, herbicides

- Presence of undeclared allergens eg. milk, soy, peanuts

- Compliance to the raw material specification eg. quality attributes of size, color, weight, count

Undertaking monitoring activities

There will be different methods of monitoring based on what it is you are going to monitor. Some of the more common methods used to monitor the overall food safety and quality of incoming raw materials include:

Visual Assessment – this involves physically and visually looking at the raw material for any obvious defects. This method works well for assessing the level of visual or physical contaminates. A visual assessment can also be undertaken when assessing quality attributes of color, size and count against the raw material specification and also the shelf life / traceability coding of the raw material.

Laboratory testing (in conjunction with a hold and release program) – this involves taking a sample of the raw material and testing it for the targeted hazards. The most common testing completed on raw materials (that I see as a food safety auditor) includes Salmonella, E.Coli, various different Allergens, and Pesticides, protein and moisture content and illegal preservatives. In many situations, the supplier may provide the testing results of the actual batch that you have received. This is excellent when controlling your own individual food businesses food safety costs.

Indicator testing – undertaking a physical temperature check of potentially hazardous raw materials may indicate a potential for microbiological contamination. It may also be a legal requirement in your country of manufacture that only potentially hazardous foods are received within temperature control.

Frequency of Monitoring

Working out when or the frequency of monitoring incoming raw materials can be tricky. You need to find a suitable balance between ensuring compliance and not being cost prohibitive. Completing a frequency risk assessment is useful in this situation as long as it includes the compliance history of the raw material. You will also need to check what your certification standard and governing food safety legislation requires. For example, temperature monitoring may need to be completed for every product that comes into your business.

Responsibility for monitoring

For any program to be successful, responsibility needs to be allocated. This means that you should allocate a position or person who is responsible for making sure that all monitoring of incoming raw materials is completed. If you allocate one person, make sure that there is a back-up trained when your primary person is away or not available.

Verifying your incoming raw material monitoring system

Like any food business procedures, all raw material monitoring procedures should be documented in accordance with your local food legislation and your certification standard. Records of all monitoring activities are to be kept to verify the compliance and performance of this system. Additionally, all staff involved in this process should be adequately trained and deemed competent.

Check Your Progress

4. What is material management?
5. What are the five M's of industrial organization?
6. What is visual assessment monitoring activity?

4.4 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Food safety parameters or tolerances could include biological, chemical, or physical characteristics.
   - Biological – Microbiological limits for pathogens, such as *Salmonella* and *Listeria monocytogenes*.
   - Chemical – Fortification levels, sulfite levels, heavy metal content, etc.
   - Physical – Size and foreign material (rocks, glass, metal, bones, etc.)

2. Purchasing is the vital function of materials management apart from stores keeping, inventory control, traffic and waste control. After the approval of the material plan and preparation of the material budget, it is the responsibility of the purchasing department to strictly follow the scheduled production plan and procure the material of good quality, in desired quantity and on time.

3. A good and positive relationship with suppliers is essential for successful business setup. extra measures to keep your supplier relationships positive and mutually beneficial. Communicate proactively whenever you can, remain cordial when things go wrong, and don't be afraid to give or ask for favours. Good relationships lead to smoother workflows, and faster conflict resolution; it also means your suppliers will stick with you longer, making your food products more consistent.

4. Material management is pinciple area in production. Material management is done by integrating external suppliers with internal departments so as to provide smooth product flow process.

5. The five M's of an industrial organization are Men, Machines, Money, Materials, and Methods. Each category in 5M's have shifted their positions from time to time in their relative importance.

6. Visual assessment monitoring activity involves physically and visually looking at the raw material for any obvious defects. This method works well for assessing the level of visual or physical contaminates. A visual assessment can also be undertaken when assessing quality attributes of color, size and count against the raw material specification and also the shelf life / traceability coding of the raw material.

4.5 SUMMARY

- Raw materials, including ingredients, processing aids, and packaging, are the foundation of finished food products. As such, they must meet regulatory requirements (safe and legal for your intended use) and your specifications (contribute to the functionality and quality of your process and product).

- R&D selects the appropriate raw materials based on functionality.

- Food safety parameters or tolerances could include biological, chemical, or physical characteristics

- Functionality or quality parameters would include characteristics that can impact the functionality of the material or adversely impact your product.

- Food safety needs to be driven into the culture so that it becomes the social norm. This means citing and focusing on that which is done right rather than that done wrong.

- In designing the program, one needs to conduct a risk assessment from a behavioral angle; that is, understanding the participants' perception of the risk of a food safety issue (e.g., handwashing), prioritizing those that have been scientifically associated with foodborne disease.

- Food safety checks are also conducted to test the temperature of hot, cold, and frozen foods. If it is not in compliance with critical limits, the unit vibrates and issues an audible alarm.

- Sanitation is a complete program involves a number of steps, starting with understanding the pathogen risk in your facility and ensuring you have robust GMP and sanitation programs with documentation. But once those are in place, environmental testing can be an effective tool for verifying that these programs are working.

- Materials Management deals with planning, executing and controlling the flow of material in relation to changes in variables like demand, price, availability, quality, delivery, schedules etc. Materials Management encompasses all activities concerned with the materials.

- There are at least nine primary objectives of Materials Management. Economic procurement, proper store keeping, a physical upkeep, timely distribution, store accounting, continuity of supply, consistency of quality, low payroll cost, favourable relations with suppliers, development of personnel and good records.

- Purchasing is the vital function of materials management apart from stores keeping, inventory control, traffic and waste control. After the approval of the material plan and preparation of the material budget, it is the responsibility of the purchasing department to follow strictly the scheduled production plan and procure the material of good quality, in desired quantity and on time.

- Successful purchasing is important to achieve the desired results of a business. Purchasing practices may vary according to the policy of management size and type of industry.

- There are five well-recognized principles of scientific purchasing agreed upon unanimously by most authors and research workers, namely right quality, right quantity, right time, right price and right place.

- Purchasing is one of the most important functions of materials management. It is impossible to achieve the desired results for which the business exists without successful purchasing. Purchasing practices may vary according to the policy of management size and type of industry.

4.6 KEY WORDS

- **Food Supply Chain:** It refers to the processes that describe how **food** from a farm ends up on our tables. The processes include production, processing, distribution, consumption and disposal.

- **Raw Material:** It refers to a basic material that is used to produce goods, finished products, energy, or intermediate materials which are feedstock for future finished products.

- **Sous-chef:** It refers to the second in command in the kitchen or a chef's assistant.

4.7 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What are key areas of determining raw material characteristics?
2. What information should be included in a purchase order?
3. Why is it important to make a balance between cost and quality?
4. Briefly mention about the kitchen purchasing standards procedures.
5. Write a short note on Kitchen Freezer and Storage Management Standard Procedures.

Long Answer Questions

1. Discuss the things to be considered while selecting raw material.
2. Explain the principles of purchasing.
3. What are the nine primary objectives of material management? Discuss.
4. Discuss the common methods used to monitor the overall food safety and quality of incoming raw materials.

4.8 FURTHER READINGS

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BLOCK - II
FOOD SERVICE MANAGEMENT IN HOSPITALS

UNIT 5   HOSPITAL FOOD PRODUCTION

Structure

5.0   INTRODUCTION

Food production is the process of preparing food which involves the conversion of raw materials into ready-made food products for human consumption. The food production process incorporates various sections like cleaning, packing, segregating, sorting, preparing, adding required ingredients in proper proportions, presenting etc. The food we eat is produced by both plants and animals such as grains, spices, honey, fruits, vegetables, egg, meat, chicken etc. Therefore, our survival is solely depended on plants and animals.

In this unit, you will learn about different process, methods and styles of food production, menu planning and planning process in food production unit. Moreover, the unit will also explain the ways to hold various prepared foods items in restaurants and industries. You will also learn about the foods that need time and temperature control for safety known as TCS.

5.1 OBJECTIVES

After going through this unit, you will be able to:

- Understand the food production process
- Comprehend different kitchen objectives
- Analyse different methods of food production
- Describe the planning process in food production unit
- Discuss food production in hospital
- Explain Temperature Control for Safety (TCS) Foods

5.2 PROCESS OF FOOD PRODUCTION

Food production involves the conclusion of all process initiating from cultivation, selection, crop management, harvesting, crop production, preserving, baking, pasteurizing, pudding, carving, butchers, fermenting, pickling, drink and candy makers, restaurants and all food service units.

Key points to consider in food production are:

1. Food Preparation Hygiene
2. Quality procurements of raw food material
3. Clean storage of food ingredients procured
4. Proper preparation techniques of food
5. Reducing food wastage and gas consumption
6. Temperature regulation standards
7. Employees compatibity to standards and regulations

Different institutions /operators can have different styles of food production, depending upon:

(a) Location of food production premise
(b) Time involvement in food production
(c) The number of staff required
(d) Control of health hazard by maintaining to hygiene and sanitation standards
(e) Quantity of food produced

Main Objectives of the Kitchen Department:

(a) To provide safe meals for all consumers
(b) To provide quality meals for all consumers

(c) To meet or exceed the food needs of organization's target market

(d) To utilize food stocks in the best way possible

(e) To minimize stock wastages

(f) To achieve monthly financial food targets

(g) To create menus that will both attract and retain customers

(h) To prepare the right quality of food

(i) To prepare food in the time expected, to avoid customer waiting

Methods of food production

- Chopping or slicing of vegetables
- Curing food
- Grinding and marinating
- Emulsification
- Food fermentation
- Fermenting beer at brewing industries
- Boiling, broiling, frying, grilling, steaming and mixing
- Pasteurization
- Fruit juice processing
- Removing the outer layers either by peeling and skinning
- Gasification of soft drinks
- Preserving and packaging of food products by vacuum packs

5.2.1 Food Production in Hospital

The meals offered to the patient are an integral part of treatment hence the provision and consumption of a balanced diet, essential to aid recovery. Since the patient often suffers from anorexia (loss of appetite) due to illness, a tasty and healthy meal plays an important role in providing comfort from the symptoms.

Food production is a chain link between menu planning, meal services, appearance, palatability and nutrition requirements.

Standardized production practices originate from a well-planned menu and include purchasing guidelines, production planning, standardized recipes and portion control.

Achieving accurate and consistent purchasing practices that adhere to a planned menu is the process involved in food production unit in a hospital. While planning a hospital menu, products are selected considering patients ethnic preferences, cultural behaviours, nutrient profile, convenience of storage/preparation and prioritizing reduction in wastage and making the

process cost-effective. It is to be considered how well a dish holds during production and service to patients without spoilage.

It is to be noticed that product specifications determine the purchasing requirements that should match primary need. A forecasting system is an important part of a standardized food production system and should determine daily requirements for each menu item based on resident popularity and diet distribution. This system provides the information to scale recipes and to determine the appropriate quantities to purchase.

***Fig. 5.1** Menu Planning*

5.2.2 Menu Planning and Portion Control

Good nutrition is needed to ensure that the medical intervention and treatment the patient receives in hospital is as effective as possible for recuperation.

As an indicator of any hospital production unit the number of patients who have good nutritional status, will describe the quality of dietary care provided by the hospital. It must be recognized that providing nutritious and appetizing food is a key part of high-quality and effective hospital treatment.

Significant problems in the nutritional care and support of the undernourished and vulnerable patient include: limited food choice, the way food is served and lack of help for those unable to feed themselves properly. One major step in improving the food provided in hospitals is to ensure that hospital menus meet the needs of the patients; these menus should provide

sufficient choice to offer adequate nutrition for all patients. The focus should be moved away from the production and serving of specific diets. Instead more attention should be given to frequent provision of appropriate energy-dense meals for undernourished patients.

A hospital dietary service focuses on the menu. Menus are designed for ease of use in an institutional kitchen and include the basic information including quantity and type of ingredients, time and temperature for preparing and cooking, number and size of portions.

Menu planning also include identification of internationally recognized Hazard Analysis Critical Control Points (HACCP), principles of time, temperature management, and sanitation, which is a valuable tool for preparation of safe food.

Recipes are designed and tested for safety, cost effectiveness, nutrient and texture profile, ease of preparation and service in the home setting and most importantly to ensure they are liked by the patients.

Accuracy and consistency in preparing food items requires regular oversight, monitoring, communicating and follow up with food production staff.

Menu Planning

Estimations indicate that 80-100 per cent of patients in hospitals rely completely on food provided by the dietary service for their nutritional support. It is important to remember, many of the problems that arise in the provision of nutritionally balanced food are potentially preventable with good planning. Planning a menu effectively requires the collection of a wide range of information and input from numerous groups within a hospital.

A planning group is responsible for implementing local protocol for provision of food and fluid for patients. Core membership needs to include a senior member of catering staff, a senior nurse, doctor, a senior dietitian and allied health professionals and patient representative.

The planning group is responsible for:

- Menu planning, including the use of standard recipes.
- Ensuring food and fluid meets the requirements of the individual
- Setting meal times appropriate for patient groups.
- Analysing all dishes and menus for nutritional content by a dietitian at the planning stage.
- Consulting patient groups about new menus/dishes before they are introduced.

Menu is a prime factual document and as such should be reviewed and updated regularly in order to continue to meet the dietary needs of a

potentially changing hospital population along with season as well as financial effectiveness.

5.2.3 Menu Planning for Patients

Food provision should be planned in order to be receptive to patient's dietary needs along with harmoniously working with the medical, nursing and other healthcare staff. Hospital food production and service process should be integrated in the clinical care rather than a 'hotel' like function.

Assessment of patient dietary needs

The dietary staff has to consider that the food should be similar to that which is eaten at home as home is associated with better food intake and greater enjoyment of meals. Information about individuals' likes and dislikes physical disabilities that may affect their ability to eat and drink, social / environmental mealtime requirements, food allergies and need for therapeutic diet, cultural/ ethnic/religious requirements and the need for equipment to help with eating and drinking need to be considered in the menu and food service planning.

Assessment of each patient's dietary needs should form part of their individual medical and nursing care pathway. To assess the dietary needs of different patient populations, the details to following is required:

1. Age
2. Gender
3. Cultural, ethnic, social and religious diversity
4. Physical and/mental health needs
5. Food preferences
6. Length of stay
7. Nutritional risk

Considering clinical skills that are inter-related with diet also needs to be considered for provision of therapeutic diet. This information can be collected from health information departments, patient surveys, nutritional screening data, compliments and complaints, other hospital staff and anecdotally. Collated food services data such as menu item uptake and wastage information can also be extremely useful in the initial stages of menu planning.

The patients in a hospital can be described as:

'Nutritionally vulnerable' (normal nutritional requirements but with poor appetite and/or unable to eat normal quantities at mealtimes; or with increased nutritional needs).

'Nutritionally well' (normal nutritional requirements and normal appetite or those with a condition requiring a diet that follows healthier eating principles).

Special or personal dietary needs, e.g. religious or ethnic dietary requirements.

Requirement for a therapeutic diet e.g. modified texture diet, allergy-free diet and renal diet.

It is important to note that some patients will require a combination diet which meets their therapeutic and/or personal or religious needs. It is essential that the hospital is able to provide appropriate food and fluids to meet these individual's needs for example, gluten-free, texture modified diet, renal diet for a vegetarian.

There are some groups of the population whose dietary needs may need to be considered separately when planning a menu:

- Children
- Elder people
- End-of-life patients
- People with learning and physical disabilities
- Maternity patients

These groups of patients may have different dietary needs to the younger adult population and if these are not met, then they may end up in a 'nutritionally vulnerable' state.

Cost and Resources

Hospital catering budgets frequently drive food provision and need to be considered, however, patients' nutritional needs and the menus must not be compromised by budgetary constraints. Appropriate nutrition for hospitalized patients is effective in increasing body weight, reducing complications and mortality is hypothesized that this in turn can decrease overall costs in providing care and appropriate nutrition to patients.

Cost and resource constraints important to consider include

- Total budget per patient day/week
- Method of production
- Kitchen equipment and related budget
- Existing staff levels and rosters
- Staff skill level
- Food storage facilities
- Procurement and sustainability issues
- Method of distribution

Food-based menu planning guidance

Different foods provide different nutrients; some nutrients are only found in sufficient quantities if specific foods or food groups are included in adequate amounts in the diet. It is important that patients are provided with a diet that is made up of a combination and balance of foods from all of the five food groups, namely:

Carbohydrates: breads, other cereals and potatoes

Fresh Produce: fruit and vegetables

Dairy: milk, curd and cheese

Non-vegetarian foods: meat, fish and alternatives

Fats: foods high in fat, foods high in sugar.

The balance of each of these food groups in the diets of hospital patients will vary depending on the dietary and nutritional needs of the different patient populations. The provision of different types of foods or choices of food items within each food group needs to recognize the differing dietary needs that are to be catered for.

Avoiding undernourishment in patients is the focus on delivery of 'dietary service' via the oral route otherwise liquid feeds or supplemental support must not substitute the adequate provision of food and fluid by a hospital, unless there are clear clinical indications. Patients provided with food that they are familiar with and enjoy are more likely to consume it, ensuring that they receive the nutrition provided on the plate. Provision of greater choice is more likely to meet individual food preferences and individuals dietary needs.

The inclusion, preparation and cooking of a variety of foods specified in the five food groups needs to remain flexible if the diverse needs of the hospital population are to be met with 'regular food'.

In contrast to some other public sector catering services the exclusive use of low fat/sugar cooking methods and procurement of low fat/sugar products would limit the ability of a catering department to meet the nutritional needs of the 'nutritionally vulnerable' hospital population. Such patients' meals should still be based on starchy foods with wholegrain choices available, they should have moderate portions of meat, poultry, fish and alternatives, aim for five portions of fruit and vegetables per day, have full-fat foods and avoid low-fat versions, sugary foods can be eaten in moderation, but not at the expense of more nutrient-dense foods. Additional dietary needs, for example the need for a texture modified diet needs to be under-pinned by this menu planning guidance.

Healthy eating advice

For those individuals who have been identified unhealthy would benefit from a healthy balanced diet, the food provision and menu planning should follow guidance provided. The proportions of each of the five food groups that make up a healthy balanced diet, irrespective of a healthy individual's energy needs should be consumed. It applies to healthy individuals (individuals of normal weight and those overweight), individuals from different ethnic minority groups and also vegetarians. It applies to those individuals who have a normal appetite.

Ways to promote healthy eating habit

(a) Firstly, include plenty of starchy foods preferably whole grain such as brown rice, multi grain bread, whole wheat pasta and potatoes in a meal.

(b) Secondly, include seasonal fruits and vegetables; a minimum of 5 portions of a variety of fruit and vegetables every day.

(c) Thirdly, add low fat milk and dairy in diet. Children up to two years should use full-fat versions.

(d) Fourthly, include of protein-rich foods such as meat, fish, eggs, beans and non-dairy sources of protein, such as nuts and pulses.

(e) Fifthly, restrict to dietary recommendations of oil, ghee, sugar and salt a day.

Food group menu planning guidance

For all food groups, foods need to be provided in a way that is suitable to meet the dietary needs of different patient populations. The five food groups should be inclusive in the menu planning of therapeutic diets, for example texture modified diets, allergen-free diets, renal diets.

5.3 FOOD PRODUCTION METHODS IN HOSPITAL

Conventional: In conventional method, the food is prepared by traditional methods and local food material which is fresh and seasonal. In this method, all kinds of dishes can be prepared as food holding time is 2 hours within which it can be consumed or disposed.

As holding time is short, labour involved is skilled, expensive and work load is extensive. Wastage is more likely to occur in case of no consumption or spoilage.

Convenience: In this method, food is prepared with ready-to-eat ingredients and is easy to prepare.

NOTES

Centralized: In this system, food is prepared in a kitchen unit that is separate from where it needs to be served. Cooked food is held and distributed in satellite kitchen or food service units.

Cook-Chill: This is a food preservation method in which food is prepared, cooked and chilled to 3°C in a central kitchen. In this method, food is stored in special refrigeration unit to preserve its best qualities for long duration. Using cook-chill method, the food can be preserved for up to four days before reheating it for consumption.

Cook-Freeze: This is another food preservation method similar wherein food is prepared, cooked and chilled to -20°C in a central kitchen. Cook-freeze preserves food for up to eight weeks before it is reheated for eating. Blast freezers or cryogenic freezers are required to immediately freeze food. The process is labor intensive involving:

1. Cooking.
2. Cooling.
3. Portioning
4. Blast Freeze
5. Storage
6. Transport
7. Reheating

Assembly: In this method, food is prepared at a location that is at the base kitchen. The prepared food is then transported to other sites and other hospitals to serve to patients. Proper equipment is required to hold cooked food and ensure no spoilage or spillage. It requires less time and food is standardized all across the units. Holding equipments and heating plate system as well as cold storage trolleys required to maintain temperatures.

Serve Method

Pre- prepared food is purchased and reutilized. Foods is utilized as frozen or boil in bag type. Fast food chains, hospitals use this method. Cafeterias to use this method. Not too many utensils are required.

Commissary (Central Production Unit): Large central production unit with centralized food procurement and delivery of food that is cooked to different units all across. Large equipment and food trucks with storage facilities is required. Airlines catering system depends on this system. Schools, universities with boarding facilities and fast food chain outlets have this production process that is dependable, standard quality meets all necessary requirements of hygiene and sanitation.

Let us look at the case of Singapore Airlines and understand Large Food Production comprehensively:

Singapore Airlines is best airline in respect to experience in passenger satisfaction when it comes to dining. Singapore Airlines is the first airline to introduce in-flight entertainment and food options and proudly caters to serving about 50,000 meals a day. On its A380 flight, passengers will duly have more than 50 meal choices. It is very interesting to observe that food served on board is never frozen and almost always made from basic.

The airline has a contract with Gate Gourmet which is the world's largest independent airline catering company, which is headquartered on the grounds of Zürich Airport in Switzerland and has 122 kitchens serving five continents and making 250 million meals a year.Gate Gourmet staffs 30 people a day to work one Singapore Airlines flight. The kitchen has just five hours to cook 1,500 meals for a full flight, and offerings include Western, Asian, and special meals, each with their own team of chefs and recipe books. To ensure cultural authenticity, recipes include precise measurements for spices and ingredients. One mistake or deviation from the recipe could result in 33 pounds of food wasted at a time.

In one week on average, the kitchen goes through almost 1,300 pounds of beef tenderloin, more than 200 gallons of cream, and 96,150 bread rolls. Virtually every menu item, with the exception of pralines, are handmade in the premises.

Singapore Airlines will switch their menus around every month or two depending on the sector. It takes one to three months for chefs to develop new menu items. The development kitchen uses an airline convection oven to simulate the conditions on a plane. The one thing it can't simulate the low pressure on the plane. Pressure lowers our ability to taste salty and sweet foods. What's more, reheating food also lowers the salt. The kitchen compensates for this by putting a lot of punch in their food.

The food must be reheat able but also hygienic. That means the food isn't fully cooked so that when it's reheated it doesn't dry out, but it cannot be raw.. Certain foods are not good for reheating, like very fine fish, so the airline opts for the better option, in this case, more fatty fish.

Ingredients also have to smell good. Fondue and raclette may taste delicious, but because of their smell, they're a no-no on planes. Cabbage can also be an odor offender, so it has to be blanched, and the airline opts for lighter cabbage.

Once food is prepared, the kitchen has four hours to chill the food to the point that it has reached less than 50 degrees Fahrenheit. As a matter of food safety, the food needs to be chilled rapidly because bacteria grow most rapidly between 80 and 140 degrees Fahrenheit. If it takes longer than four hours to chill the food down, Gate Gourmet throws the meals away and starts over again.

The airline goes through 70,000 pieces of real cutlery a day. To clean all these knives, forks, and spoons, Gate Gourmet uses a special cutlery cleaning machine, which uses a combination of minerals and water instead of soap to get them all sparkly clean. People sort dirty trays for clean up or clean out in an assembly line, separating cups, plates, and cutlery. Another assembly line packages the clean cutlery for the next flight.

A separate team known as the portion team is dedicated to making sure meal sizes are exactly the same for each passenger. They have only 45 minutes to portion 1,500 meals, and the food must be kept below 60 degrees Fahrenheit the entire time.

Airlines portion their food meticulously for a number of reasons. First, there's the matter of not stoking the jealousy of neighboring passengers. Airlines also have strict weight requirements, so every ounce counts. Additionally, when you're serving 1,500 meals a flight, extra spoonfuls add up budget-wise.

Every class has different meal packaging. In economy class, meals are packaged in foil, heated, and served that way. In business and first class, meals are packaged with separations between sauces and other components, and flight attendants heat the containers this way. They then transfer the meal to a plate before serving, carefully following a plating guide.

For safety purposes, Singapore Airlines' cabin crew has their own meal options separate from passengers' options. Pilots and copilots must also be provided with different meals from passengers, as well as different meals from one another. No shellfish is allowed in the cockpit either.

Check Your Progress

1. What do you mean by food production?
2. On what factors does food production styles of different operators depend?
3. Who are the members of menu planning group in a hospital?
4. What should be the essential constituents of a patient's diet?
5. List the different types of food production in hospitals.

5.4 DIFFERENT METHODS OF HOLDING FOODS FOR SERVICE

In this section and the next, you will learn important details regarding holding foods which are ready for service.

Temperature Control in Kitchen

All hot food should be held hot at above 57º Celsius and cold food should be held cold below 5º Celsius. Temperatures of food should be checked routinely to ensure that proper temperatures are maintained through holding to ensure the safety of the food served to customers.

Any conflict between food quality and food safety must always be decided in favour of food safety and when in doubt about the safety of food, it should be thrown or discarded out.

Standard Procedures of Holding Prepared Foods in Kitchen

1. How to Hold Prepared Hot Foods in Kitchen?

- Always prepare and cook only as much food as is needed.
- Batch cooking is recommended as it is ideal for maintaining food temperature and quality.
- Use food warmers, food heating lamps or hot-holding equipment that can keep hot food at 57º Celsius or higher.
- Make sure to follow manufacturer's instructions in using the food warmer or hot-holding equipment.
- For food warmers using steam, indicate that the steam table wells need to be filled with hot water and at what level.
- Keep foods covered to retain heat and to keep contaminants from falling into food.
- Using a calibrated thermometer for measuring internal food temperatures once an hour.
- Record temperatures in the Holding Temperature Log and take required action accordingly.
- If temperatures are below 57º Celsius then reheat the food to 74º Celsius.
- Discard hot potentially hazardous food after four hours if they have not been properly held at or above 57º Celsius.
- Never mix freshly prepared food with food being held for service.

2. How to Hold Prepared Cold Food in Kitchen?

- Use cold-holding equipment or refrigerated counter that can keep cold foods below 5º Celsius.
- Using a calibrated thermometer for measuring internal food temperatures once an hour.
- Record temperatures in the Holding Temperature Log and take required action accordingly.

- If temperatures are above 5º Celsius, then refrigerate the food again or adjust the temperature.
- Protect cold food from contaminants with covers or food shields.
- Discard cold potentially hazardous foods after four hours if they have not been properly held below 5º Celsius.
- If there are no temperature controls, cold food held for longer then six hours must be discarded.
- Place cold food in pans or on plates first, never place them directly on ice.
- The only exceptions are whole fruits and vegetables that will be washed after holding.
- Ice used on a display should be self-draining.
- Make sure to wash and sanitize drip pans after each use.

5.4.1 Standard Food Holding Temperature Range Guide for Meat, Fish Poultry and Other Items

In the hotel industry chefs, cooks and other specialized food service personnel employ varied methods of cooking. The proper holding temperatures for a specific food product must be based on the moisture content of the product, product density, volume, and proper serving temperatures. Safe holding temperatures must also be correlated with palatability in determining the length of holding time for a specific product.

Mobile hot box or food holders used in the hotel kitchen and restaurants should maintain the maximum amount of product moisture content without the addition of water, water vapour, or steam. Maintaining maximum natural product moisture preserves the natural flavour of the product and provides a more genuine taste.

In addition to product moisture retention, the mobile hot box should be used to maintain a consistent temperature throughout the cabinet without the necessity of a heat distribution fan, thereby preventing further moisture loss due to evaporation or dehydration. Below chart shows the ideal food holding temperature for meat, poultry, fish, egg, baked and other food items.

Table 5.1 *Food Holding Temperature Range Guide for Poultry Products*

Poultry Products	Fahrenheit	Celsius
Chicken - Fried or Baked	160° - 175°F	71° - 79°C
DUCK	160° - 175°F	71° - 79°C
TURKEY	160° - 175°F	71° - 79°C
Other Poultry Items	160° - 175°F	71° - 79°C

Table 5.2 *Food Holding Temperature Range Guide for Fish / Seafood Items*

Fish/Seafood Product	Fahrenheit	Celsius
FISH — Baked/Fried	160° - 175°F	71° - 79°C
LOBSTER	160° - 175°F	71° - 79°C
SHRIMP	160° - 175°F	71° - 79°C

Table 5.3 *Food Holding Temperature Range Guide for Baked Goods and other items / Seafood*

Baked and Other Product	Fahrenheit	Celsius
CASSEROLES	160° - 175°F	71° - 79°C
DOUGH - Proofing	80° - 100°F	27° - 38°C
BREADS/ROLLS	120° - 140°F	49° - 60°C
EGGS - Fried	150° - 160°F	66° - 71°C
FROZEN ENTREES	160° - 175°F	71° - 79°C
HORS D'OEUVRES	160° - 180°F	71° - 82°C
PASTA	160° - 180°F	71° - 82°C
PIZZA	160° - 180°F	71° - 82°C
POTATOES	180°F	82°C
PLATED MEALS	180°F	82°C
SAUCES	140° - 200°F	60° - 93°C
SOUP	140° - 200°F	60° - 93°C
VEGETABLES	160° - 175°F	71° - 79°C

What are the points to note while holding food items?

In an enclosed holding environment, too much moisture content is a condition which can be relieved. A product achieving extremely high temperatures in preparation must be allowed to decrease in temperature before being placed in a controlled holding atmosphere.

If the temperature of the prepared food is not decreased, excessive condensation will increase the moisture content on the outside of the product.

Most Mobile Hot Box or Food Holders or Heat Holding Equipment is provided with a thermostat control between 60° and 200°F (16° to 93°C).

If the unit is equipped with vents, close the vents for moist holding and open the vents for crisp holding.

If the unit is equipped with a thermostat indicates a range of between 1 and 10, use a metal-stemmed indicating thermometer to measure the internal temperature of the product(s) being held.

NOTES

Adjust the thermostat setting to achieve the best overall setting based on internal product temperature.

5.5 TIME/TEMPERATURE CONTROL FOR SAFETY (TCS) FOODS

Some foods grow bacteria more easily and quickly than other foods. These foods are known as time/temperature control for safety (TCS) foods because they require certain time and temperature controls to prevent unsafe bacteria growth. These foods are sometimes called potentially hazardous foods (PHFs) because they become hazardous if their bacteria growth is not controlled.

Recognizing TCS foods and knowing how to properly handle them is an important factor of food safety. This article walks through all the basics of TCS foods to help you learn more about them and know how to keep your customers or guests safe.

Recognizing TCS foods and knowing how to properly handle them is an important responsibility for both food managers and food handlers.

What Qualifies as a TCS Food?

Some foods are more vulnerable to pathogen growth than others.

TCS foods are foods that

- Have high carbohydrate and protein levels
- Are neutral or slightly acidic
- Contain moisture

Most Common TCS Foods

The most common TCS foods include:
- Meat products
- Eggs
- Fish and shellfish
- Dairy
- Cream or custard
- Cooked vegetables
- Potato dishes
- Protein-rich plants
- Raw sprouts
- Cut leafy greens

- Cut garlic in oil
- Sliced melons and tomatoes

Why TCS Foods Can Be Dangerous?

Bacteria need just three things to grow: food, moisture, and warmth. Small amounts of bacteria growth in TCS food are not a problem, but too much can cause food borne illness. TCS foods have the nutrients and moisture bacteria need to grow. Add time and warmth to the mix, and these foods can become bacteria breeding grounds.

Time is an important part of bacteria growth. When bacteria have food, warmth, and moisture, their numbers can double every twenty minutes. After four hours, most TCS foods will have a high enough bacteria count that they become dangerous to eat.

The temperature of TCS foods can also encourage bacteria growth. The temperature range between 41° and 135° Fahrenheit creates conditions for rapid bacteria growth. This temperature range is so well suited for bacteria that it's called the temperature danger zone. TCS foods in the temperature danger zone will grow bacteria quickly and can easily become hazardous.

How to Keep TCS Foods Safe?

TCS foods can be kept safe by minimizing the time they spend in the temperature danger zone (41–135° F). When food is in the temperature danger zone, pathogens grow and multiply at a fast rate and can make food unsafe to eat.

In restaurant service, the two most common ways of controlling pathogen growth are time and temperature controls.

Time Controls

TCS foods that are ready-to-eat can be safely consumed in a four hour window. If they have not been temperature controlled, they should be discarded after four hours.

Hot held and cold held foods can be served for four hours without temperature controls if they are discarded after the four-hour time limit.

Cold foods can be served for six hours as long as the food temperature stays below 70° Fahrenheit.

Discard cold food that warm to over 70° Fahrenheit. If you do not regularly check the temperature of cold food that is not temperature controlled, you should throw it away after four hours.

Temperature Controls

To prevent dangerous growth, TCS foods are kept out of the temperature danger zone or moved through it quickly. Food temperatures are controlled

with freezing, refrigeration, or holding. Food is refrigerated or frozen until it is prepared for service.

If needed, cooked TCS foods can be safely cooled for later use by using the two-step cooling method. Ready-to-eat TCS dishes can be hot held above 135° or cold held below 41° Fahrenheit.

There are times when TCS foods will pass through the temperature danger zone, such as heating and cooling. In order to keep foods safe, do your best to minimize the time food spends in the temperature danger zone.

Cooling Foods

When cooling foods, the FDA Food Code recommends a two-stage cooling process. First, the food should be cooled from 135° to 70° degrees Fahrenheit in two hours or less. Second, the food should be cooled from 70° to 40° Fahrenheit in four hours or less. Total cooling should not exceed six hours.

Large batches of food, such as a large pot of stew, should not be cooled in one large container in a refrigerator. Doing so does not allow the food to cool fast enough and keeps the food in the temperature danger zone for too long and allows pathogens to grow to an unsafe level.

An inexpensive way to properly cool large batches of food is to divide it into smaller containers. Keep the containers uncovered while cooling to prevent extra moisture, but be sure to cover it when it has finished cooling.

Heating Foods

When reheating foods that will be hot held, the food should be heated to 165° Fahrenheit or higher. Foods should reach 165° F in two hours or less. Because foods must be reheated in a quick manner, it is important to use appropriate cooking such as a microwave, stove, or oven. Do not attempt to reheat food for hot holding in warming trays or other hot-holding equipment because these devices will not warm up the food fast enough and will allow pathogens to grow.

These methods of time and temperature control effectively prevent bacteria growth. With good controls, bacteria growth can be limited and TCS foods kept safe.

Check Your Progress

6. Why is temperature control of food important in kitchen?
7. What is proper holding temperatures for a specific food product?
8. What do you meant by Time/Temperature Control for Safety (TCS) Foods?

5.6 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The food production is the process of preparing food which involves the conversion of raw materials into ready-made food products for human consumption. The food production process incorporates various sections like cleaning, packing, segregating, sorting, preparing, adding required ingredients in proper proportions, presenting etc.

2. The food production styles of different institutions/ operators depends on various factors such as:

   (a) Location of food production premise

   (b) Time involvement in food production

   (c) The number of staff required

   (d) Control of health hazard by maintaining to hygiene and sanitation standards

   (e) Quantity of food produced

3. A menu planning group is responsible for implementing local protocol for provision of food and fluid for patients. Core membership needs to include a senior member of catering staff, a senior nurse, doctor, a senior dietitian and allied health professionals and patient representative.

4. Patients in hospitals should be provided with a diet that is made up of a combination and balance of foods from all of the five food groups, namely:

   • Carbohydrates: breads, other cereals and potatoes

   • Fresh Produce: fruit and vegetables

   • Dairy: milk, curd and cheese

   • Non-vegetarian foods: meat, fish and alternatives

   • Fats: foods high in fat, foods high in sugar.

5. The different types of food production in hospital include conventional, convenience, centralized, cook-chill and cook-freeze.

6. Temperatures of food should be checked routinely to ensure that proper temperatures are maintained through holding to ensure the safety of the food served to customers. All hot food should be held hot at above 57º Celsius and cold food should be held cold below 5º Celsius.

7. The proper holding temperatures for a specific food product must be based on the moisture content of the product, product density, volume, and proper serving temperatures. Safe holding temperatures must also be correlated with palatability in determining the length of holding time for a specific product.

8. Some foods grow bacteria more easily and quickly than other foods. These foods are known as time/temperature control for safety (TCS) foods because they require certain time and temperature controls to prevent unsafe bacteria growth. These foods are sometimes called potentially hazardous foods (PHFs) because they become hazardous if their bacteria growth is not controlled.

5.7 SUMMARY

- Food production is the process of preparing food which involves the conversion of raw materials into ready-made food products for human consumption. The food production process incorporates various sections like cleaning, packing, segregating, sorting, preparing, adding required ingredients in proper proportions, presenting etc.

- Food production involves the conclusion of all process initiating from cultivation, selection, crop management, harvesting, crop production, preserving, baking, pasteurizing, pudding, carving, butchers, fermenting, pickling, drink and candy makers, restaurants and all food service units.

- Food production is a chain link between menu planning, meal services, appearance, palatability, nutrition requirements.

- One major step in improving the food provided in hospitals is to ensure that hospital menus meet the needs of the patients; these menus should provide sufficient choice to offer adequate nutrition for all patients.

- Menus are designed for ease of use in an institutional kitchen and include the basic information including quantity and type of ingredients, time and temperature for preparing and cooking, number and size of portions.

- A menu planning group is responsible for implementing local protocol for provision of food and fluid for patients. Core membership needs to include a senior member of catering staff, a senior nurse, doctor, a senior dietitian and allied health professionals and patient representative.

- Different foods provide different nutrients; some nutrients are only found in sufficient quantities if specific foods or food groups are included in adequate amounts in the diet. It is important that patients are provided with a diet that is made up of a combination and balance of foods from all of the five food groups, namely: Carbohydrates, Fresh produce, dairy products, non-vegetarian foods, fats.

- All hot food should be held hot at above 57° Celsius and cold food should be held cold below 5° Celsius. Temperatures of food should be checked routinely to ensure that proper temperatures are maintained through holding to ensure the safety of the food served to customers.

- In the hotel industry chefs, cooks and other specialized food service personnel employ varied methods of cooking. The proper holding temperatures for a specific food product must be based on the moisture content of the product, product density, volume, and proper serving temperatures. Safe holding temperatures must also be correlated with palatability in determining the length of holding time for a specific product.

- If the temperature of the prepared food is not decreased, excessive condensation will increase the moisture content on the outside of the product.

- Some foods grow bacteria more easily and quickly than other foods. These foods are known as time/temperature control for safety (TCS) foods because they require certain time and temperature controls to prevent unsafe bacteria growth. These foods are sometimes called potentially hazardous foods (PHFs) because they become hazardous if their bacteria growth is not controlled.

- TCS foods can be kept safe by minimizing the time they spend in the temperature danger zone (41–135° F). When food is in the temperature danger zone, pathogens grow and multiply at a fast rate and can make food unsafe to eat.

5.8 KEY WORDS

- **Hazard Analysis Critical Control Points (HACCP):** It refers to a systematic preventive approach to food safety from biological, chemical, and physical hazards in production processes that can cause the finished product to be unsafe and designs measures to reduce these risks to a safe level.

- **Collated food:** It refers to a light meal which is allowed on fast days in place of lunch or supper.

- **Food Fermentation:** It refers to the process of controlled microbial growth and enzymatic conversions of major and minor food components.

5.9 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Mention the key points of food production.

2. What are the responsibilities of menu planning group?

3. Why hospital menu list should be reviewed and updated regularly?

4. What is nutritionally vulnerable' hospital population?

5. What factors should be considered while holding food items?

6. Why TCS Foods can be dangerous?

7. Prepare a list of most common TCS foods.

8 .What are the ways to keep TCS foods safe?

Long Answer Questions

1. Describe the patients in a hospital as per their dietary requirements.

2. Discuss the standard procedures of holding prepared foods in kitchen.

3. Explain how TCS foods can be hazardous to health.

4. Analyse different types of food production procedures in hospitals

5.10   FURTHER READINGS

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UNIT 6   HOSPITAL FOOD SERVICE MANAGEMENT

Structure

6.0   INTRODUCTION

Hospital food service management involves meals that are considered as an integral component in the management of inward patients, which facilitate recovery and improve patient satisfaction regarding the overall treatment experience. Providing nutritionally appropriate and microbiologically safe food that also satisfies the patient's appetite should be the aim of every hospital food service. However, scanty attention is given to food service in many health care settings which results in meals of inferior quality, excessive food wastage and even health risks for patients.

In addition to explaining the working of hospital food service management, this unit also discusses managerial ethics and social responsibility, principles and techniques of effective management, the abilities of a manager and the prominent role a manager plays in an organization or in an institution. The unit also introduces you with the responsibilities and duties of hospital food service manager.

6.1   OBJECTIVES

After going through this unit, you will be able to:

- Detail the working of hospital food service management
- Understand the value of managerial ethics and social responsibility

- Discuss the principles and techniques of effective management
- Describe the significant roles and responsibilities of a manager

6.2 FOOD SERVICE SYSTEMS IN HEALTH CARE SETTINGS

The food service system in a hospital involves a specialized as well as a customized process to provide meals in a hospital. The differentiation in process is based primarily on the methods of preparation and distribution as well as delivery of meals in hospitals. The conventional food service systems are based on delivering 'freshly cooked meals' prepared in the hospital kitchen using locally obtained raw ingredients along with fresh produce. The modern hospital production methods involve the use of pre-cooked, frozen or chilled products which need to be re-heated upon delivery at the point of use or delivery of pre-assembled, microwavable plated meals. The customary methods of food delivery in a hospital are plated meal services and bulk meal services.

Plated meals are cooked and served in the kitchen on plates and the bulk meal system delivers food to the wards. In addition to patient meals, some hospital catering systems may provide food for employees and visitors as well.

The traditional hospital food services have the disadvantage of not being 'efficient and patient focused' as meals are distributed according to set-schedules, disregarding patient preferences.

As a solution, health care institutions aiming for higher service standards have moved to more patient-driven meal systems such as using a 'room service' approach where patients can order meals from a diet specific menu. 'Snacks between meals' and 'out-of- hours' services for patients who could not have a meal during normal meal times are some other steps used to provide choice meals for patients. Café and health food stores are small retail units that are set up within the hospital institution and are allowed to send small food items to patients admitted in the hospital. Although, nursing staff requires supervision and everything cannot be consumed for a patient in medical scrutiny.

Multiple food service systems are used for providing meals in a hospital institution. The variant in processes is based primarily on the methods of preparation and distribution as well as delivery of meals. The traditional food systems are based on delivering regional and freshly cooked meals that are prepared in the hospital kitchen using locally sourced ingredients. There are newer methods including the use of pre-cooked, frozen or chilled products which need to be re-heated upon delivery at the point of use or delivery of pre-assembled and warmed in microwavable plated meals.

Fig. 6.1 *Hospital Diet Service Management*

The diagram above represents the process of hospital diet service management which involves the procurement of raw materials to preparation, serving and waste management. This is a cumulative team effort.

Careful consideration given to nutritional quality and safety of the meals, from the point of medical officer ordering the diet down to the level of the food suppliers, administrative staff responsible for procurement and quality control of raw materials, kitchen staff and nursing staff of wards, can contribute towards patient satisfaction and fulfillment of the objectives of prescribing a meal.

6.2.1 Managerial Ethics and Social Responsibility

Food service directors are challenged with moral virtues and social responsibility as they need to balance the organization's principles along with the privacy requests of employees and cultural and ethical behaviours of a diverse workforce and customer satisfaction to ensure that the organization is working in a socially responsible manner.

What are Ethics?

The term ethics includes the principles of behavioural conduct that govern an individual or business or the views, attitudes and practices about what is right or wrong. Ethics involve all that concerns moral standards and basic values.

There are professional or business and personal ethics. Organizations such as the American Dietetic Association and the Dietary Managers Association have written codes of ethics that are guidelines for members of the organization. In India, similar work has been done by the Indian Dietetic Association.

These codes are laid out to promote and maintain the highest standards of food and nutrition services and personal contact among its members. The written ethics code talk about professionalism, integrity, competence and social responsibility or all those in the field of nutrition. Most organizations have a bill of rights comprehensively compiled for employees that assist managers in dealing with employees while ensuring the rights of employees.

Loyal

Responsible for self conduct.

Honesty, Trustworthiness, Adherence.

Compliance with all laws, regulations, rules, policies.

Respect for all individuals and their religion, culture and beliefs.
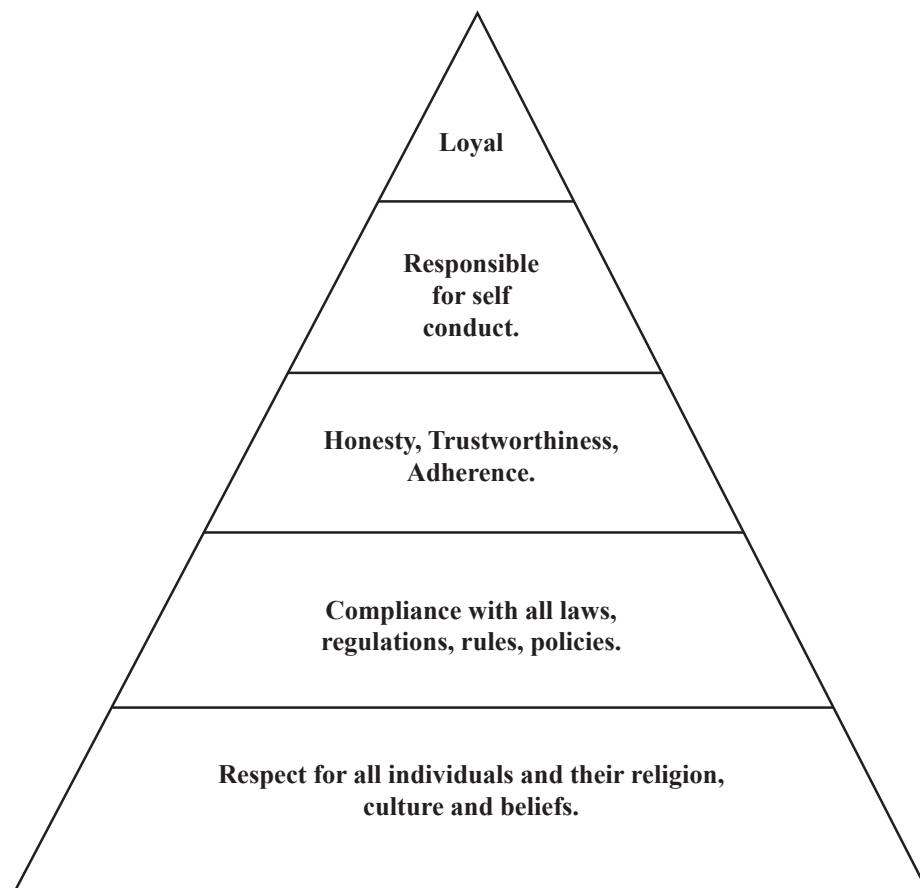
***Fig. 6.2** All Food Service Directors Develop a Personal Code of Ethics for their Unit that Specifies These Traits*

Social responsibility in organizations is always altering. Organizations must operate to provide services to achieve the greatest benefit for the maximum number of people. This can be achieved by an organization's support of charities or events of public interest or issues and time off for employees to participate in events such as health care fairs, wellness events, and environmental activities. Social responsibility also includes the

promotion of equal rights of all groups, a fair wage for work performed, and the avoidance of favoritism. Employees should be protected in freedom of speech and assembly. Employees should have the right to cordially associate. Employers should provide a safe environment that prohibits alcohol, drugs and smoking tobacco for wellbeing of all.

Check Your Progress

1. What do you understand by conventional food service systems?
2. What is the difference between plated meal system and bulk meal system?

6.3 PRINCIPLES AND TECHNIQUES OF EFFECTIVE MANAGEMENT

Management is a series of processes that involve steps through which activities are initiated and resources are utilized for achievement of preset milestones.

Principles Of Management

i. Division Of Work
ii. Authority and Responsibility
iii. Discipline
iv. Unitary Command
v. Unitary Division
vi. Individual goals subordinate to establishment goals
vii. Remuneration
viii. Hierarchy
ix. Orderliness
x. Loyalty and Devotion
xi. Work Stability
xii. Initiative
xiii. Unity
xiv. Control

Let's discuss each of these principles in detail in this section.

i. Division of Work

Specialization in task is the skill required for division of work in food service organization. Distinct performance skills are required for dividing roles as

per abilities of staff in food production unit and service sector. Each task is performed in monotony to sharpen speed and dexterity that increases production and also confidence in skill by staff as individual's USP. As the size of establishment grows, the division of labor for work as per skill is more practical solution to avoid chaos. Delegation of tasks as per individual speed, skill, dexterity improves performance of whole establishment as a unit.

ii. Authority and Responsibility

The principle of authority works in two ways:

- **Formal:** Authority is defined as per designation in an institution and is exercised because of position in the organization, through the chain of command formally laid out.
- **Casual:** The authority is attributed to the individual intelligence, experience and morals he/she brings forth to the institution.

It is noted that both types of authority complement each other. A work situation involves that the official authority (formal) may be delegated along with the responsibility (casual) a task carries.

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Flow of Authority

Manager Understands the Need for Authority and Task to be Transferred.

↓

Manager Identifies the Most Quipped Individual to Handle the Task.

↓

Individual Either Accepts or Rejects the Offered Task.

↓

*Upon Acceptance of Task by Individual the Manager Transfers Formal Authority,
Shares Responsibility, Delegates, Trusts the Individual for Accomplishment
and Profit Sharing of Task.*

</div>

Fig. 6.3 *Chart Representing Flow of Authority*

iii. Discipline

A thriving enterprise requires regulated environment to avoid chaos in the instructional; structure. Discipline involves staff punctuality, obedience, courtesy, adherence to rules and regulations as these virtues are essential for smooth functioning of operations within an establishment where a number of individuals are involved and working towards accomplishment of common goals.

iv. Unitary Command

The hierarchy is simple as it is linear. The chain of command is such that one employee reports to the one at the top and so on so forth. This principle goes a long way in the establishment of loyalty to the senior individual in command

in the organization. The scope of confusion is reduced and communication through understanding of particular personalities. Where more that one person gives different instructions, loyalties get divided and subordinates take advantage of conflicting situation to evade work. The result is that time gets wasted and the work gets disorganized and performance and efficiency are affected negatively.

v. Unitary Direction

The staff is engaged together in achieving a single goal to ensure unity and coordination in the enterprise. There can be no command without direction. Undirected or multidirectional goals only lead to confusion and unachieved goals.

Individual goals subordinate to establishment goal: This principle is a must for success of any establishment, because if every individual starts working so achieve his own goals first and then those of the establishment, there is no doubt that the organization will have to close down. This is because there is no end to individual needs and when one is satisfied another will crop up, at the cost of the food service.

vi. Subordination Of Interest

This principle indicates that general interest of entire team is superior to the individual interest.

The manager makes an effort to amalgamate the individual goal with the organizational goal in such a manner that both the objectives are accomplished with efficiency and effectiveness.

The manager directs the employees in such a manner that they work for their objective and ultimately the organizational primary milestone is achieved.

Everyone joins the organization with certain expectations and personal goals. All are working at their own pace of work to acquire self motivated goals.

If the objectives of the individual employee are in the direction of the success of the overall organization, it is a great thing! On the other hand, an employee with a mindset that drives him in the opposite direction from that of the organizational objective, the manager must try to reconcile the goals of both, the individual with the organization so as to achieve the objectives.

The manager must try to achieve the organizational objective in such a manner that the individual objectives are also achieved.

All this leads to satisfaction among the employees which helps to maintain a cordial relation among the employees and the management. This also facilitates to increase the efficiency of the employees, and leads to harmony in the organization.

Profitable Goals Achieved By The Unit

Co-ordination between Individual and Organization's Goals

Harmony in the organization

Increase in employee's respect for the organization
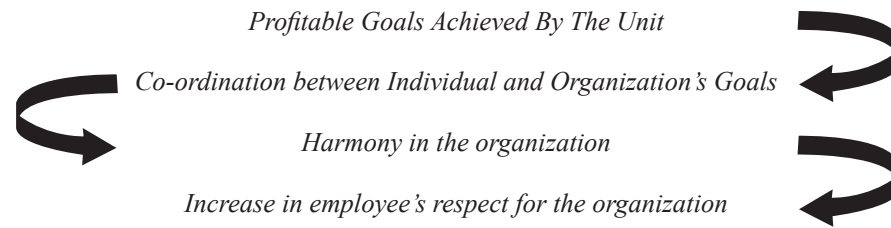
Fig. 6.4 *Positive Outcome of Subordination of Interests in a Food Production and Service Unit*

Negative Impact Upon Defiance

- Setbacks in achievement of organizational goal
- Conflicting events within personal in the organization
- Inefficiency in productivity due to wastage of efforts, time and resources
- Delay in work.

Management thus has to sensitively yet firmly male efforts to iron out the individual differences and should not allow such differences to block the fulfillment of general goals of the organization. This principle is important for the promising achievements of any establishment, because if every individual starts working to achieve personal milestones first and then those of the establishment, there is no doubt that the organization will have to close down. This is due to lack of self regulation on individual desires and when one is dissatisfied valuable food service will be affected.

vii. Remuneration

All work must be paid for in order to motivate people to do their best. The methods of payment agreed upon should satisfy employees and the organization, the term in principle being, as far as possible, impartial.

viii. Hierarchy

This refers to the chain formed by staff placed at different levels in an organization and corresponds to the various levels of management-line, middle, and top management.

ix. Orderliness

This principle is most applicable to catering establishments which are constantly handling materials, heavy equipment and working with steam and other fuels. Material orderliness is of utmost importance because perishables need to be kept for different periods of time in raw, partly prepared and prepared forms. Orderliness helps to avoid cross contamination, saves time looking for materials and equipment when required and ensures safety for all concerned.

x. Loyalty And Devotion

This principle ensures an atmosphere at work which is bound to generate a unified attachment to the organization and its interest and goals. While it takes a lot to build a sense of loyalty and devotion in employees, it is the managements prerogative to work towards this goal, through the development of harmonious relations at work and that the staff is in the right place at the right time is a reflection of good organization.

xi. Work Stability

Employees work better if job security and career progress are assured to them. An insecure tenure and a high rate of employee turnover will affect the organization adversely.

xii. Initiative

Allowing all personnel to show their initiative in some way is a source of strength for the organization. This helps may raise morale develop initiative to generate new ideas and increases deficiency and standards. For example, if a recipe idea offered by an assistant cook is accepted and prepared by the head cook, initiative develops in the staff.

xiii. Unity

A team that is in sync with each other represents the spirit of unity. The group works to establish streamlined communications that develops a healthy team bond and positive group behavior.

xiv. Control

This principle suggests that limiting the area of control a leader or supervisor to cover the work of only 5 or 6 people having related jobs, bring about greater efficiency. This is often referred to as the span of control. Thus, principles used with good judgment enhance the chances of achieving set goals, increase understanding between people, help in decision-making encourage better use of resources.

Functions of Management

    i. Planning

   ii. Organising

  iii. Directing

  iv. Coordinating

   v. Controlling

  vi. Evaluating

    Let's discuss these concepts in detail, in this section.

1. Planning

Planning involves the process of verbalizing the vision in written format and replicating instructions to achieve those milestones.

Decisions are involved in the future course of actions.

Planning involves meetings amongst leaders to brainstorm on strategies involving the vision, mission, values, objectives, strategies and policies of the institution and its employees.

Planning is done for immediate, short term, medium term and long term periods.

It is a measure to check the effectiveness and efficiency of an organization.

The three main steps involved in planning are:

- Data collection for laying out the official policies for infrastructure, finance, human resource, processes and standardizations.
- Processing and creating a blueprint of the structures, arrangement of spaces and activity details that can be conveniently translated into action from the data gathered.
- Goal setting in a target achievable duration of time.

Why Is Planning Necessary?

Planning helps minimize time taken to accomplish a task. In food production unit a well planned organization will not involve waiting for instructions or ingredients because of last minute purchasing.

Leading to an indefinite cycle of uncertainties of what is to be done next and so on. See future possibilities making managers alert to changes in trends that may affect the activities of the department. Organize and integrate activities in proper sequences, match skills to jobs and increase overall efficiency by helping to see the interrelationship of the various activities in the light of total objectives of the organization, and of individual. Eliminated confusion if the plan is communicated well to those involved in its implementation. Provide an important basis for control through budgeting of time, energy, space and money, while forming targets for achievements. Direct subordinates effectively towards the goals at all levels of management.

2. Organising

Organizing is a process to organize a business is to provide it with everything useful or its functioning i.e. raw material, tools, capital.

Steps in Organization: Each activity is broken down into specific action units. Each action unit is then allotted to a manageable group of people, and authority delegated to a group leader for task performance. Staff

are allocated to each action unit and placed in position according to their skills with levels of authority clearly defined. Adequate resources are then allocated for each activity. Work load is equally distributed to avoid stress areas and fatigue.

3. Directing

While planning and organizing require mental effort on the part of the manager, directing is the function that initiates actual performance of tasks and requires greater interaction between people.
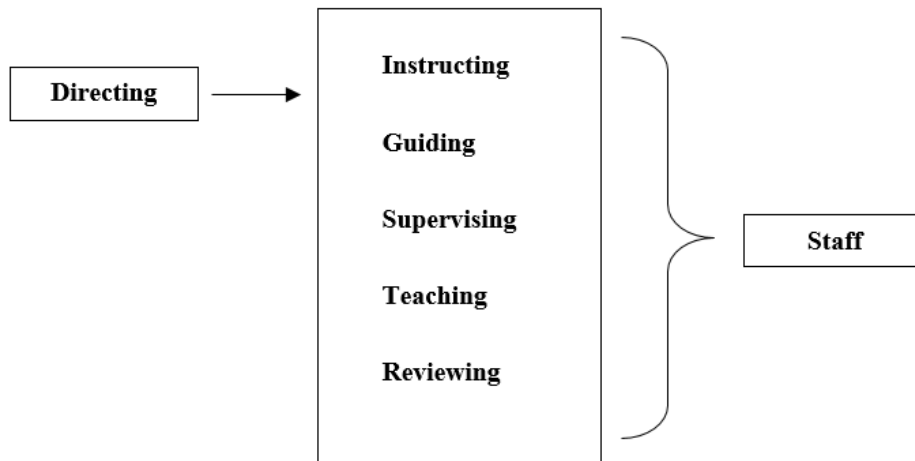
Fig. 6.5 Flow and Functions of Directing

Activities involved in directing people at work

- **Instructing:** Good people's manager will have to work out a perfect plan of activities indicating who is to do what. All instruction is clearly written out in a language understood by the staff.

  It is important to hold a team meeting or individual meeting and verbally communicate the required instructions to the staff so that any queries arising from them can be clarifies before the work actually starts. A good organization will print copies of the written instructions that are displayed on notice boards and at suitable points in the kitchen and service areas to reinforce the instructions communicated. Instructions must ensure that each member understands how his work fits into the total scheme of work to be achieved at the end of the day, week and month and so on.

- **Guiding:** The task of directing people involves guiding them in their jobs in a manner that will help them to achieve the standards of performance desired and also gradually develop themselves their jobs.

- **Supervising:** Supervision involves keeping a watch on what is going on at the production, service and other related activity levels.

- **Teaching:** The person responsible for motivating people to achieve goals has got to be able to demonstrate methods of work which will relieve stress situations in the production and service centers.
- **Reviewing:** Reviewing the effect of every activity on individual and total performance is the job of every food director.

4. Coordinating

Coordination involves making different people or things work together for a goal or effect to fulfill desired goals in an organization. Coordination is an integral element or ingredient of all the managerial functions.

- **Coordination through Planning**: Planning facilitates coordination by integrating the various plans through mutual discussion, exchange of ideas.
- **Coordination through Organizing:** Money considers coordination as the very essence of organizing. In fact when a manager groups and assigns various activities to subordinates and when he creates department's co-ordination uppermost in his mind.
- **Coordination through Staffing**: A manager should bear in mind that the right number of employees involved in various positions with right type of education and skills are taken which will ensure right men on the right job.
- **Co-ordination through Directing**: The purpose of giving orders, instructions and guidance to the subordinates is served only when there is a harmony between superiors & subordinates.
- **Co-ordination through Controlling:** Manager ensures that there should be co-ordination between actual performance & standard performance to achieve organizational goals.

5. Controlling

Controlling is a systematic exercise which is called as a process of checking actual performance against the standards or plans with a view to ensure adequate progress and also recording such experience as is gained as a contribution to possible future needs. Controlling has got two basic purposes. It facilitates co-ordination. It helps in planning.

Following are the characteristics of controlling function of management:

- Controlling is an end function: A function which comes once the performances are made in conformities with plans.
- Controlling is a pervasive function which means it is performed by managers at all levels and in all type of concerns.

- Controlling is forward looking because effective control is not possible without past being controlled. Controlling always look to future so that follow-up can be made whenever required.

- Controlling is a dynamic process since controlling requires taking reviewable methods; changes have to be made wherever possible.

- Controlling is related with planning. Planning and Controlling are two inseparable functions of management. Without planning, controlling is a meaningless exercise and without controlling, planning is useless. Planning presupposes controlling and controlling succeeds planning.

6. Evaluating

Evaluation is a process of determining how well people performs their functions, by ascertaining and comparing actual results with expected ones, over a period of time.

Check Your Progress

3. What is casual authority attributed to?

4. What does the subordination of interest indicates?

6.4 LEADERSHIP AND MANAGERIAL ABILITIES

The management responsibilities of food service managers or directors are the same as those of other professional managers. All managers and directors plan, direct, control, and organize the tasks or activities of subordinates within their respective department or organization. These managers or directors may be classified as first-line or middle managers. Some managers or directors may have responsibilities for other departments besides food service. All managers or directors have the responsibility for planning, organizing, leading, controlling, communicating, making decisions, motivating subordinates, handling complaints, setting performance standards or outcomes, improving quality, satisfying customers, controlling the environment and its resources, marketing, and managing fiscally. All managers must possess a personality who can multi task and has an aptitude to handle many skills in varying degrees, in particular conceptual, interpersonal, technical as well as political domains.

Leadership Characteristics for Effective Management

A successful health care food service manager needs to be prepared for changing needs of the future trends. Current literature and expert opinion

lean towards having technical knowledge and good interpersonal skills that promote a participative, enabling environment for employees.

Being flexible is the key ingredient for dealing with the rapid change that will permeate health care food service throughout the twenty-first century. External environmental changes will alter both work methods and performance of the workers. Flexibility allows food service managers to plan, organize, and lead according to the dictates of the work situation and employee diversity. Flexibility in leadership style also helps employees deal with change.

The two key attributes, technical proficiency and interpersonal skills, are discussed as the qualities of a leader that can make or break a food service unit.

Technical Expertise and Knowledge Technical proficiency

A leader's technical skills include the ability to use administrative knowledge and tools to carry out basic management functions. They also include the ability to develop and implement standards and policies and procedures, to process in an orderly manner as well as to manage the work of the unit or department with the resources allocated. The food service manager is required to coordinate work and elicit the cooperation of employees and others within the organization. Administrative skills are used most often by top-level managers and least often by first-line supervisors. Managers on all levels are responsible for processing paperwork, whereas the responsibility for implementing standards falls primarily on first-line supervisors. Technical skills are used frequently by first-line supervisors who have daily contact with employees and must spend a large portion of their time training, evaluating performance, and answering task-related questions. First-line supervisors in smaller organizations may be expected to perform tasks that in larger organizations are assigned to non- managerial employees or they may be expected to act as lead workers on employee teams. Evaluation of technical skills should be one consideration given to employees who show supervisory potential. Although technical skills are important, an employee highly skilled in task performance but lacking the administrative and interpersonal skills required by the position may not be a good candidate for a supervisory position. At the same time, an otherwise competent manager who lacks technical skills may be less than successful if the position requires monitoring the performance of production-level employees. Put simply, both are needed. Effective leaders must view development for themselves, for their employees, and for the organization as a continuous process. Technical knowledge for food service managers, for example, may be enhanced through trade shows, which provide information on the latest equipment, supplies, and food items.

Continuing or higher education classes and professional organization meetings also may provide an ongoing flow of information to manage a department effectively.

Demand from future leaders will include technical expertise and knowledge in the following areas:

1. Regulations to protect environmental
2. The political environment
3. Marketing skills
4. Customer satisfaction
5. Continuous quality improvement
6. Work design
7. Improvising productivity
8. Innovative cost-containment measures
9. Understanding food consumption behavior
10. Food and equipment technology
11. Human resource trends
12. Food and water safety
13. Disaster and emergency planning
14. Cultural diversity in the workplace

This knowledge will be important to establishing the strategic direction for a department that is in tune with the vision of the larger organization.

Interpersonal Skills

An effective leader will rely on basic interpersonal skills which include communication, empathy, understanding, ethical conduct, motivation, interpersonal skills, mentoring, and delegating.

This influences the attitude of whole team with a positive vibe and ensures peak performance.

The higher the level of management, the less emphasis is placed on technical skills and the more emphasis is placed on interpersonal skills.

Middle-level managers expend nearly 50 percent of their time applying their interpersonal skills. These skills also depend on a manager's conscious approach towards various beliefs, needs, and attitudes of group members and of their perceptions of themselves, their work, and the organization.

According to experts, interpersonal skills make the difference between effective and ineffective leadership. Interpersonal skills are important to managerial success in a food service department because they promote harmony among food service workers and try to fit the needs of individual

workers into the operating requirements of the department. They also enable food service directors to develop a network of positive relationships with administrators and other team members.

Leadership

In many organizations it is seen that managers work towards self professional goals rather than fulfillment of the organization's objectives. Whereas, successful leaders must prove their authenticity to employees, that is, that they are persons of character and integrity. Employees need to know that their manager can be trusted and that they consistently will be treated fairly. Managers who remain above reproach win their staff's respect and dedication. Department leaders must enforce rules that protect the safety and security of employees and customers. Employees come to know a leader's values through his or her actions and interactions with others. The behaviour exhibited by managers when interacting with employees, peers, and vendors says more about their leadership style than does any verbal rhetoric.

Effective leaders consistently promote an environment or culture that fosters learning, innovation and risk taking as well as believing that employees are the most important resource in the department and treating them accordingly. In this nurturing environment, a manager has an open-door policy to ensure that employee needs are met and he or she most likely will find employees doing things right and will offer praise accordingly. Effective communication is perhaps one of the most important interpersonal skills, helping to instill in employees a department's vision and departmental objectives as well as being attuned to their needs and providing performance feedback.

Identifying how a department fits into an organization's vision and clearly articulating this to employees is a necessary characteristic of an effective leader.

6.4.1 Role of a Manager

Current and future managers must view their role in light of changes and trends that dictate the need for strong leadership. The application of leadership can be seen in the traditional roles of management.

The three roles that makes a manager from good to great are: the interpersonal role, the informational role and the decisional role. Let us have a detailed overview of all these roles.

The interpersonal role involves building and maintaining contacts and relationships with a variety of people both inside and outside the department. This role requires the manager to act as a symbol representing the department; to function as a liaison with others outside the department and to provide supervision in hiring, training, and motivating employees. The importance of

interpersonal skills for a leader manager involves effective management. As the demands for quality, customer satisfaction and employee empowerment continue to evolve, a manager's interpersonal skills take on added importance.

The informational role requires a manager to monitor operations through data collection and analysis, to disseminate information to employees and others, and to act as a spokesperson outside the department.

A manager must:

1. Keep up-to-date on events by attending organizational and professional meetings, reading current literature, and networking.
2. Disseminate relevant information to other department members acting as the department spokesperson, information conduit and negotiator persuading others to buy into plans for additional resources or policy changes that affect patients and coworkers. In this spokesperson role, a manager keeps others up-to-date on changes within the department.

The decisional role requires a manager to be innovative to handle conflict and problem resolution along with allocating resources. An innovative manager must identify and interpret trends so as to anticipate and plan for future service opportunities and improvements. He or she must proactively seek new business or program possibilities and discover new approaches to effective problem solving.

Conflict management occurs at all levels of management and frontline supervisors are required to deal decisively with disruptions that can arise daily in a health care environment. In general, the higher the level of management, the less time is spent in dealing with conflict.

Because the decision-making role also involves the allocation of resources, a manager must set priorities for departmental functions and how resources from department personnel to food and equipment, time, information and money are used.

Decision-making responsibilities can be closely controlled by a manager or shared with supervisors and frontline employees, depending on the matter being decided and on the leadership style. Decision making relates to individuals, teams and a participative work environment.

These three management roles are interdependent.

A manager gathers data as well as information by using interpersonal skills and accordingly utilizes decision making skills in applying the information to determine how work is planned and executed within the department.

The roles of management need not be the sole responsibility of a manager. In fact, it is through sharing of these roles and responsibility that a participative work environment is created and fostered.

Managers of health care food service departments do fulfill their roles within the context of providing food and nutrition services to the organization's customers.

To accomplish these goals they must use specific functions of management planning, organizing, staffing, leading and controlling to ensure that a department's resources are used efficiently and effectively.

Improving nutritional status in any country is a challenge. It has been well documented that poor people are at increased risk for specific health conditions and diseases given their financial situation, lack of education, poor nutrition and health status.

In this way, nutrition is a factor in exacerbating inequalities in health. Hospitals also have an important nutritional role in preventing illness and maintaining the health of their patients this produces a constant need to improve their efficiency and productivity.

However, achieving hospital efficiency is not easy, particularly nowadays when there are many hospitals suffering from the absence of administrative and financial autonomy and also have budgets that ignore the actual services provided by them.

Thus, nutrition is an important determinant of health for any patient. Adequate patient meals are an essential part of hospital treatment and the consumption of a balanced diet is crucial for a patient's recovery.

Although diet is just one of the lifestyle factors that influence quality of life, a proper diet combined with aftercare and nutritional education may influence the quality of the patient's future health and life. The importance of hospital food and its benefits have been well studied.

However, the provision of hospital meals is a difficult process aggravated by the potential of the patient's malnutrition.

People tend to forget the importance of hospital food services when comparing other clinical activities. Meal services are more prone to be subject to a budgetary cut than other services.

Therefore, it is difficult to find the balance between delivering quality food services and appropriate costs mainly because of the lack of competencies required to perform this task and tools to enable proper management of the services.

In addition, the quality of hospital food services has a critical effect on patient satisfaction, which influences the patient's perception of the quality of the services provided by the hospital.

The potential impact on both health status and patient satisfaction emphasizes the need to achieve quality in the food and nutritional services provided, which is not independent of the decision of how to allocate limited resources.

In any hospital it is a challenge to control health care expenses. In fact, escalating health care costs due to changes in the age distribution of the population increases in the levels of expectation for health care services, and the application of new technologies for health care delivery urge governments towards cost containment solutions.

As a result, there is a need for more accurate data on health care services costs, which is useful for policy making as well as internal management decisions.

In view of producing more accurate cost estimates, health care organizations have started to invest in sophisticated management tools, including costing systems.

The Hospital Catering Services involves an organized Dietetic Service that promotes optimum nutrition for every individual in medical therapy. Quality food services and nutritional requirements are the objectives of this unit in the hospital.

Basic Principles of Food Service Management

Commercial kitchens have a big impact on our economy. More than that, the food they provide impacts the health and wellbeing of patrons. To ensure that influence is as positive as possible, food service managers plan their work and cuisine around certain basic principles.

- **Food Safety**

Food-borne illnesses and contamination sicken thousands of people every year. Food service personnel enforce sanitation rules to prevent the spread of sickness. This includes making sure cook lines, dining rooms, and storage spaces are clean, in good repair, and free of debris that could fall into containers. They also ensure the proper rotation of stocked items to prevent spoiled goods from reaching their customers plates.

- **Value**

Modern restaurant patrons want flavour at a reasonable price. Food service managers work with chefs to develop menus that satisfy the palate without breaking the establishment's budget. Service is also included in the value measurement. Servers, hostesses, bartenders, even bus staff are an integral part of the dinner's experience. Food service managers are there to make sure service staff always treat their customers professionally. When customers are unhappy, the food service manager is responsible for restoring their faith in the eatery.

- **Cost Control**

Restaurant budgets are heavy with food and labour costs. One of the biggest responsibilities food service managers face is providing high-quality service,

food, and drinks while maintaining a profitable operation. This means managing budgets, analyzing business patterns for scheduling purposes, and keeping the track of ingredient inventory and other supplies.

- **Laws and Regulations**

Commercial kitchens are subject to a variety of national, state, and local legal requirements. Food service managers train their staff on the laws that affect the specific role. They also monitor employees to ensure full compliance with all necessary regulations. Obtaining and renewing licenses, book keeping, payroll and paying government taxes and fees are other functions that food service managers fulfill.

These basic principles build the foundation of a successful commercial kitchen operation. Food service managers use these rules to inform their daily actions and decisions.

Why Food Service Managers Need a Formal Education?

Many food service manager positions require little more than a high school education. However, there are many advantages to getting a degree before starting your career.

- **Higher starting wage**

While length and quality of work experience are important factors in determining salary, having an accredited degree can make a huge difference too. Employers are often willing to pay higher starting wages to degree holders. Because they have already proven their knowledge and ability, hiring managers know they are ready to contribute with little additional training.

- **Greater career flexibility**

A formal training program teaches you how to work in a variety of commercial kitchen settings, from store bakeries to 5-star steakhouses. If you are depending on your past experience to qualify for a position, you may find yourself stuck in the same type of establishment. Getting a degree gives you more control over the direction of your career.

- **Validation**

You may have great experience and stellar references but employers need verifiable facts. A formal, accredited degree validates your experience and gives potential employers a solid way to measure your abilities.

- **Hands-on experience**

Those who have not worked in restaurants before can gain similar experience in a training program. Cooking schools use real commercial kitchens to teach students the procedures they will use every day in their careers. Students

gain practical experience with the added benefit of expert guidance from instructors.

6.4.2 On-the-Job Requirement for a Hospital Food Service Manager

Hospital food service managers are a part of the leadership team in private and public healthcare facilities. They handle administration and responsibilities relating to preparation of food, managing the staff, inventory, maintaining operational standards and more. The dietetics professionals are dedicated in planning of menus with the assistance of the each patient's clinical manager along with kitchen staff. This is aimed at ensuring that the meals are adequately varied, nutritious, and suit the specific needs of individual patients.

The managers are also responsible for directing the presentation of food for staff cafeterias in addition to public and private wards. Unlike managers in fast-food chains and restaurants, professionals employed in institutional food service settings generally work regular hours.

They occasionally encounter delicate situations, particularly when it comes to handling complaints. A good food service manager must demonstrate exceptional interpersonal skills in their duties.

Expected Duties for Food Service Managers in Hospital

Food service managers are responsible for dealing with suppliers to ensure that the hospital kitchens are well-stocked at all times. They also might have to find specific preference ingredients for patients with special dietary needs.

It is customary for the managers to help staff serve patients during demanding days. This is aimed at maintaining high standards of service and ensuring satisfaction. They also arrange regular maintenance and cleaning services, inclusive of pest control.

Food Service Managers are expected to do the following tasks:

- Ensure compliance with relevant health and safety standards
- Investigate and resolve customer complaints
- Assign duties and compile the roster
- Keep budgets and payroll records
- Ensure accuracy of the business records
- Interview, hire and train employees
- Reprimand staff for any misconduct

Hospital food service management includes catering high quality food along with meeting nutritional needs of the patients, individually. Effective communication is required in maintaining a balance between catering staff, diet team and food service manager. Continuous improvement in food production, service and delivery along with customer satisfaction is a priority.

Audit management is necessary to keep a check on food production and delivery.

Credentials of a Food Service Manager: Possessing a bachelor's degree gives candidates a competitive advantage on the job market. The qualification makes it easier to receive high salaries at leading private hospitals and other healthcare facilities. Many top food service professionals start their career by participating in internship programs run by non-healthcare organizations.

The majority of food service management training programs focus on food preparation, sanitation, nutrition, and business administration subjects. The coursework allows students to familiarize with the intricacies of running a successful food service outlet.

Important qualities for Food Service Managers

- Leadership skills: the ability to lead by example with the aim to boost productivity and employee morale
- Communication skills: managers are required to communicate effectively with both customers and staff to ensure clarity
- Physical stamina: the role is demanding and entails working long hours, some of which are spent standing and walking
- Organizational skills: managers must plan budgets, schedules, and inventory effectively to ensure operations run smoothly
- Problem-solving skills: the ability to investigate and resolve customer complaints or personnel issues is vital for success in the field

Skills of Successful Food Service Managers

The food service industry is a challenging, high-energy environment. The job will not only be in an office; it will be in the middle of a kitchen, center stage of a dining room, a festival cookout, or taking inventory in a subzero environment. You will need to know the many facets that make a food service operation function and it could profit you to do so.

Communication

Being an effective manager requires one to give directions, clearly and concisely. Knowing your employees, and being able to discern whether they understand the instructions, or not, is one of the things that the most successful food service managers know. This may seem like a small thing, but it could be the difference between something being done timely and correctly or throwing a wrench in the works because messages were conveyed poorly or misunderstood.

Training/Positive Reinforcement

Taking the time, and having the patience to train employees, lessens the frustration for the employee and management. Well-trained employees are happier because they are more effective and communication is more fluid between everyone. One of the things the most successful food service managers know is to let their team know when they are doing a good job.

Staff Meetings

Tell the team how the business is doing. Giving them this knowledge can make them feel better about themselves, the company, and the customers. Knowing what is expected from management helps employees perform better in the work place, thereby increasing morale.

Procedural Knowledge/ Consistency/ Attitude

Using standard operating procedures is another of the things the most successful food service managers know and use with great success. Employees like to know what is expected of them and as a manager it is your job to let them know these expectations. Policies and procedures that are adhered to, aid in this objective when training employees and help keep everyone on track.

Consistency in your behaviour as a manger is also important and one of the things the most successful food service managers know. Managers set the tone in a business. Whether this is a good tone or a bad one is up to the managers themselves.

A manager's attitudes and behaviours are often reflected in the employees.

Multi-Tasking Skills

Go into any restaurant or food service facility during rush hour and observe what is going on. In a well-run facility, you will see the manager orchestrating the event from either the sidelines or right in the middle of the action. Multi-tasking skills are required and highly recommended in the food service industry and are one of the most important things the most successful food service managers know.

Many chains, as well as other food service facilities, require that their managers have the ability to take over any station in the restaurant before they can advance to the position of manager. This requires that managers in training work every position and learn how it works.

Product Knowledge

Having knowledge of products and storage requirements in a food service operation often requires the employment of a chef who works with the food service manager. However, in many chain restaurants, the manager performs

this duty. They know that much of the product that is used in a restaurant is perishable and knowledge of the safe handling and proper storage is their responsibility.

Time and Tempo Management

A sense of urgency is required when you have a group of people to feed in a short time frame. Much of the preparation for meals is done before guests arrive and the manager is the cheerleader, the mover and shaker and the get-it-done maker. This sense of urgency must come from the top and is another thing that the most successful food service mangers know.

Operations and Management Skills to Mention

Food service supervisors handle a variety of managerial tasks on daily basis without actually holding a manager title. As you prepare your resume, think about the tasks that you regularly execute and how those tasks can be translated into clear skills on your resume.

Performance Monitoring and Assessment

While your supervisor position may not involve direct managerial duties, chances are you've spent some of your time assessing the performance of other team members. Highlight specific projects you may have led that involved managing other employees or monitoring tasks other than those you regularly perform.

Time Management

Bosses expect outstanding time management skills from every member of the team. If you have implemented a new technology or process to improve efficiency, be sure to include it on your resume perhaps you suggested a better way to schedule employee rosters or fill out and place bulk orders. It's important to show potential employers that you value efficiency and good time management because you can bet that they do.

Cost Effectiveness

If you're committed to taking your food service career to the next level, you're probably already the type of employee who constantly seeks out cost-savings measures at work. Perhaps you noticed a new way to conserve electricity in the kitchen or researched a technique to decrease food wastage. Demonstrating that you care about saving money as much as a potential manager does will go a long way toward increasing your chances of being hired.

Problem Solving

Food service operations are fast-paced with little room for error, and superstar supervisors need to be able to solve complex problems on the fly, creating

solutions that improve workflow while maintaining also ensuring a high-quality customer experience. If you've solved a problem at work (or even thought about ways to solve one), highlight it on your resume, and include specific examples if possible.

Technological Expertise

When technology breaks down at your food-service operation, do people look to you for solutions? If your tech skills make you the unofficial go-to person for fixes, that shows that you're not only a team player, but also an employee who understands the importance of evolving technology in the food service workplace. List specific technological skills, but also make clear that you're able and willing to learn and adapt to new technology. Many managers and supervisors are actually behind their employees when it comes to understanding technology, so you'll already have a leg up.

Check Your Progress

5. What does the term 'ethics' mean?
6. List a few responsibilities of a manager.
7. What kind of interpersonal skills an effective leader should possess?
8. Name the three roles of a manager that transform him/her from good to great.

6.5 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The conventional food service systems are based on delivering 'freshly cooked meals' prepared in the hospital kitchen using locally obtained raw ingredients along with fresh produce.
2. Plated meals are cooked and served in the kitchen on plates and the bulk meal system delivers food to the wards. In addition to patient meals, some hospital catering systems may provide food for employees and visitors as well.
3. Casual authority is attributed to the individual intelligence, experience and morals he/she brings forth to the institution.
4. The principle of subordination of interest indicates that general interest of entire team is superior to the individual interest.
5. The term 'ethics' includes the principles of behavioural conduct that govern an individual or business or the views, attitudes and practices about what is right or wrong. Ethics involve all that concerns moral standards and basic values.

6. All managers or directors have the responsibility for planning, organizing, leading, controlling, communicating, making decisions, motivating subordinates, handling complaints, setting performance standards or outcomes, improving quality, satisfying customers, controlling the environment and its resources, marketing, and managing fiscally.

7. An effective leader should possess some basic interpersonal skills such as communication, empathy, understanding, ethical conduct, motivation, interpersonal skills, mentoring, and delegating.

8. The three roles that makes a manager from good to great are: the interpersonal role, the informational role and the decisional role.

6.6 SUMMARY

- The food service system in a hospital involves a specialized as well as a customized process to provide meals in a hospital. The differentiation in process is based primarily on the methods of preparation and distribution as well as delivery of meals in hospitals.

- The modern hospital production methods involve the use of pre-cooked, frozen or chilled products which need to be re-heated upon delivery at the point of use or delivery of pre-assembled, microwavable plated meals.

- In plated meals the food is cooked and served in the kitchen on plates and the bulk meal system delivers food to the wards. In addition to patient meals, some hospital catering systems may provide food for employees and visitors as well.

- 'Snacks between meals' and 'out-of- hours' services for patients who could not have a meal during normal meal times are some other steps used to provide choice meals for patients.

- Multiple food service systems are used for providing meals in a hospital institution. The variant in processes is based primarily on the methods of preparation and distribution as well as delivery of meals.

- The **traditional food systems** are based on delivering regional and freshly cooked meals that are prepared in the hospital kitchen using locally sourced ingredients.

- The term ethics includes all the principles of behavioural conduct that govern an individual or business or the views, attitudes and practices about what is right or wrong. Ethics involve all that concerns moral standards and basic values.

- Social responsibility in organizations is always altering. Organizations must operate to provide services to achieve the greatest benefit for the maximum number of people.

- The management responsibilities of food service managers or directors are the same as those of other professional managers. All managers and directors plan, direct, control, and organize the tasks or activities of subordinates within their respective department or organization.

- A successful health care food service manager needs to be prepared for changing needs of the future trends. Current literature and expert opinion lean towards having technical knowledge and good interpersonal skills that promote a participative, enabling environment for employees.

- The two key attributes, technical proficiency and interpersonal skills, are discussed as the qualities of a leader that can make or break a food service unit.

- Technical Expertise and Knowledge Technical proficiency uses the knowledge, tools, and techniques of a particular profession or job.

- Administrative skills are used most often by top-level managers and least often by first-line supervisors. Managers on all levels are responsible for processing paperwork, whereas the responsibility for implementing standards falls primarily on first-line supervisors.

- First-line supervisors in smaller organizations may be expected to perform tasks that in larger organizations are assigned to non-managerial employees or they may be expected to act as lead workers on employee teams.

- Effective leaders must view development for themselves, for their employees, and for the organization as a continuous process.

- An effective leader will rely on basic interpersonal skills which include communication, empathy, understanding, ethical conduct, motivation, interpersonal skills, mentoring, and delegating.

- Effective leaders consistently promote an environment or culture that fosters learning, innovation and risk taking as well as believing that employees are the most important resource in the department and treating them accordingly.

- The three roles that makes a manager from good to great are: the interpersonal role, the informational role and the decisional role.

- The interpersonal role involves building and maintaining contacts and relationships with a variety of people both inside and outside the department. This role requires the manager to act as a symbol representing the department; to function as a liaison with others outside

the department and to provide supervision in hiring, training, and motivating employees.

- The informational role requires a manager to monitor operations through data collection and analysis, to disseminate information to employees and others, and to act as a spokesperson outside the department.

- The decisional role requires a manager to be innovative to handle conflict and problem resolution along with allocating resources. An innovative manager must identify and interpret trends so as to anticipate and plan for future service opportunities and improvements.

- Conflict management occurs at all levels of management and frontline supervisors are required to deal decisively with disruptions that can arise daily in a health care environment. In general, the higher the level of management, the less time is spent in dealing with conflict.

- Food service personnel enforce sanitation rules to prevent the spread of sickness. This includes making sure cook lines, dining rooms, and storage spaces are clean, in good repair, and free of debris that could fall into containers.

- Food service managers work with chefs to develop menus that satisfy the palate without breaking the establishment's budget.

- One of the biggest responsibilities food service managers face is providing high-quality service, food, and drinks while maintaining a profitable operation. This means managing budgets, analysing business patterns for scheduling purposes, and keeping the track of ingredient inventory and other supplies.

- Hospital food service managers are a part of the leadership team in private and public healthcare facilities. They handle administration and responsibilities relating to preparation of food, managing the staff, inventory, maintaining operational standards and more.

6.7   KEY WORDS

- **Plated meal services:** It refers to a meal service where each course of meal is prepared on individual plates and served to each guest on their respective tables.

- **Managerial ethics:** It refers to the set of moral principles or beliefs that affect the behaviour of employees.

- **Interpersonal skills:** It refers to an ability to communicate or interact well with other people.

- **Food service manager:** It refers to the individual responsible for the day-to-day operations of the food service establishment.

6.8 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Why are traditional hospital food services considered inefficient in handling patients?
2. Mention the areas of expertise of a successful manager.
3. Write a short note on leadership characteristics for effective management.
4. What is meant by good interpersonal skills?
5. Briefly mention the qualities and responsibilities of hospital food service managers.

Long Answer Questions

1. Discuss the principles and techniques of effective management.
2. What are the roles and responsibilities of a manager? Discuss.
3. Explain the basic principles of food service management.
4. Analyse the skills of successful food service managers.

6.9 FURTHER READINGS

Drummond, Karen E. and Lisa M. Brefere. 2013. *Nutrition for Foodservice and Culinary Professionals.* New Jersey: Wiley.

Sethi, Mohini and Surjeet Malhan. 2018. *Catering Management: An Integrated Approach*. New Delhi: New Age International Private Limited.

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UNIT 7   TOOLS FOR MANAGEMENT IN FOOD SERVICE

Structure

7.0 Introduction
7.1 Objectives
7.2 Principles of Management
     7.2.1   Functions of Management
7.3 Tools of Management and Food Management
     7.3.1   Organizational Chart of the Food Service Team in Hospital
7.4 Answers to Check Your Progress Questions
7.5 Summary
7.6 Key Words
7.7 Self Assessment Questions and Exercises
7.8 Further Readings

7.0   INTRODUCTION

Management, whether in food service industry or elsewhere is extremely important as it is the source of all the core activities guiding majority of the activities of the organization. The proper identification, and use of tools of management as per the needs of the relevant organization is crucial to ensure that the production and service is efficient. This becomes all the more complex in the context of food service in hospitals because here not only the general visitors, but the staff working at the hospital as well as more importantly the patients who are already in a critical state. In this unit, you will learn about the tools of food management as well as the organizational chart of the food service team in hospitals.

7.1   OBJECTIVES

After going through this unit, you will be able to:

- Explain the tools of food management
- Describe organizational chart of the food service team in hospital

7.2   TOOLS OF MANAGEMENT AND FOOD MANAGEMENT

The major elements of food service management area includes factors like: Diet and menu planning, quality control, financial management, personal

management, food management, equipment management, raw material management, area management, etc.

You have already learnt about the basic principles of management and principles of food service management in the previous unit. Food management as an activity of food service management is concerned with the selection, preparation, presentation as well as the preservation of food. The managers engaged in this area are required to oversee and make sure that the all the aforementioned activities are in compliance with safety standards, are of top quality with good taste. The food managers answer questions like how the kitchen is to be set up, where the equipment are placed, is the degree and freshness of food appropriate for the receiver, are the raw materials preserved in the best manner. While the applications might differ, the tools of food management are the same as that of general management.

Tools of management refer to materials which have been developed by managers in the past and used as an aid to effective management. Tools of management can be distinctly classified into two categories namely, tangible and intangible tools.

Tangible Tools

Tangible tools are an important aspect of management that are developed by experienced team of leaders in varied settings and organizations. These tools are a representation of a collection of tools that have assisted in past successful accomplishments and are modified or implemented as such for current goals.

TANGIBLE TOOLS

Production Plans
Standard
Costing sheets
Menu plans
Menu cards
Price lists
Ready reckoners
Production sheets
Sales records

Staff appraisal forms
Duty lists work schedules Job evaluation forms
Job analysis sheets
Recruitment lists
Leave records
Retirement plans
Medical records
Staffing plans
Profiles

Inventory records
Stock records Order sheets
Requisition Slips
Issue forms
Bin cards weighing
Equipment Storage
Equipment

Budgets
Master
Capital
Operative

OTHERS
Benchmarking
Organization chart Job description
Job specification
Contract of employment
Computers
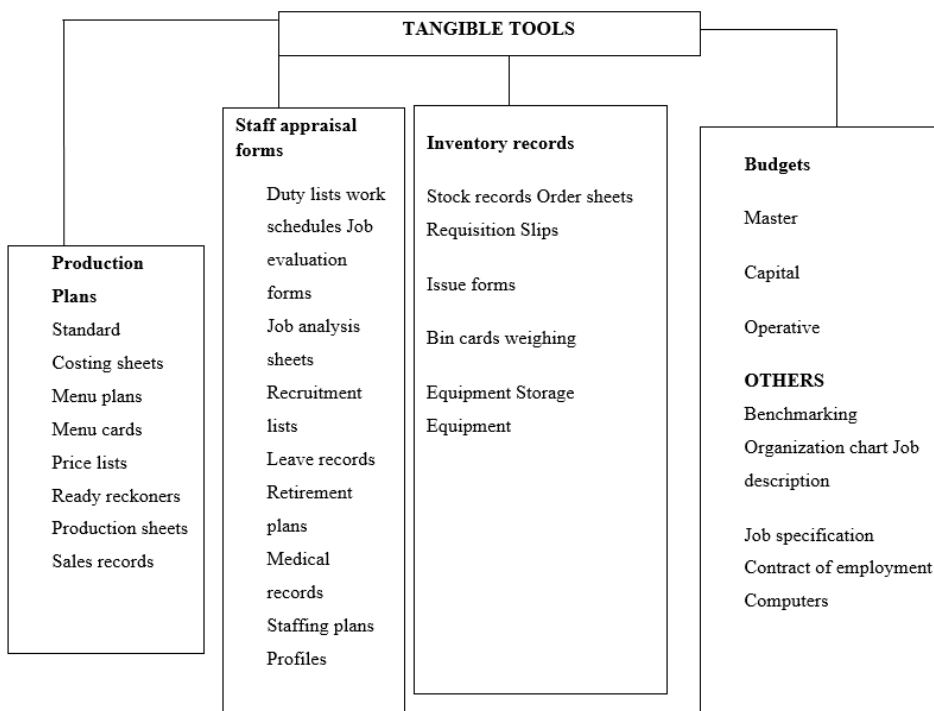
Fig. 7.1 *Tangible Tools of Management*

You will only learn about certain tangible tools of management in this section.

Organizational Chart: An organization chart tells us about the subordinate-superior relationships and the lines of decision making authority that exist in an establishment, in other words who reports to whom.

Job Description: It refers to the definition of a job in a precise manner indicating exactly what is to be done by people who are occupying or would be occupying a job position in an establishment.

Job descriptions need to be more detailed, clear cut and expressed in a language and form which can be understood by less educated workers. At higher levels people have a better knowledge of the work for which they are appointed and are expected to have a higher mental caliber.

Job Specification: It is a statement indicating standards to be achieved for a particular job. It also covers duties expected to be performed, working conditions in which the job would be carried out and the qualifications required.

Job Title: Cook Department/ Kitchen Supervisor: Catering Manager

Job summary: As under job description

Education: Craft course in catering

Experience required: At least two years experience in an institutional kitchen

Knowledge and skills: Knowledge of Indian and continental cooking

Personal standards: Clean appearance and habits

References required: One at work and one personal

Hours of work: 40 hours a week

Promotional opportunities: To head cook, and with extra qualification to kitchen supervisor.

Ability tests: Actual performance tests to be passed to expected standards.

Fig. 7.2 *Sample Job Specification*

Work Schedule: An indication of outline of the work requirements from the employee.

A specification of duration of involvement required indicating a time schedule it is referred to as a time and activity plan.

Job Analysis: This is a task analysis and indicates how jobs and situations including a number of variables are involved Job Analysis is performed on the Job and not on the person involved in recruitment.

While Job Analysis data may be collected in office through interviews or questionnaires, the product of the analysis is a description or specifications of the job, not a description of the person.

Budget: A budget is a projected plan for the operation of a business. It is sometimes expressed in terms of money but at other times may also be expressed in units or percentages.

Master Budgets

Capital Budgets

Cash Budget (Fixed assets, Debtors, Stock, etc.)

Operating Budgets

Sales Budget

Labour Cost Budget

Overhead Cost

Office and Administration

Maintenance

Food and Materials

Budgets In Food Services

A master budget gives a complete picture of its financial activity and health. The master budget combines factors like sales, operating expenses, assets, and income streams to allow companies to establish goals and evaluate their overall performance, as well as that of individual cost centers within the organization. Master budgets are often used in larger companies to keep all individual managers aligned.

An operative budget forecasts and analysis of projected income inclusive of expenses over the course of a specified time period. Creating an accurate picture, operating budgets must account for factors such as sales, production, labor costs, materials costs, overhead, manufacturing costs, and administrative expenses.

Operations of budgets are generally created on a weekly, monthly or yearly basis. A manager might compare these reports month after month to see if a company is overspending on supplies.

Benchmarking: It one of the methods of structured learning of good processes or techniques from other similar establishments and implementing them in one's own system.

B. Intangible Tools

Intangible tools are the qualities with which people are naturally endowed or to some extent acquired through training and conditioning. Intangible

tools help to motivate and carry a work force from diverse backgrounds towards preset goals of an organization, by utilizing them in decision making processes.

Intangible Tools

- Personality
- Trust
- Experience
- Social and interactive skills
- Self confidence
- Knowledge
- Communication skill
- Leadership quality
- Goodwill
- Appreciation
- Training
- Decision making

Personality: This is the sum total of a manager's physical stature, mental and emotional status, social habits, outlook or vision with respect to his total work and the environment.

Trust: It is used effectively in situations when work along with authority and responsibility needs to be transferred to colleagues or subordinates in order to get work done efficiently and on time.

Experience: When any organization thinks of appointing new employees, experience counts, as evidenced through any qualification request seen in employment advertisements of various job positions.

Social And Interactive Skills: People vary in the ways in which they interact with others at work depending on their inherent nature. This can surface in the form of being extrovert or introvert, the former being more easily able to approach people irrespective of their position in the hierarchy, than the latter. Social skills may be used effectively as a tool by managers in the form of getting together informally with their employees over tea.

Self Confidence: It is the ability to express oneself without hesitation because one is sure of one's own capabilities.

This trait shows in a manager's personality, posture, voice and conviction in what is said or done in different circumstances.

Knowledge: It is a very important tool of management because degrees alone do not impart decision making abilities, and people with more book knowledge do not necessarily become good managers.

Knowledge is acquired generally by interest and interaction with ones environment through informal and formal training.

Communication Skills: Communication is the most important tool of management when dealing with people, yet it is the most difficult to achieve effectively, because it involves much more than just sending and receiving messages.

Leadership Quality: Leadership quality makes people look up to a manager for advice, feel motivated to work for him and respect, loyalty and love are generated in the work environment.

Goodwill: Goodwill is the feeling of oneness with people whether colleagues at work or customers who visit an establishment.

It is an important tool for harmony at work as it inhibits ill feelings or jealousy in an otherwise competitive environment. It is that quality which makes customers come back to an establishment repeatedly because they feel at home, being served with quality food in an atmosphere infused with love and consideration, exhibiting good manners in a happy comfortable environment.

Appreciation: All managers are quick to criticize even if a small mistake is detected, but the tendency to praise employees for work well done and appreciate their talents is generally absent or very infrequent.

Training: With catering becoming more and more competitive, professional training of employees at all levels is becoming an indispensable tool for the management of operations.

This is because training imparts knowledge of the various aspects of the operation, and skills to deal with the influences of the ever-changing environment.

Decision-Making: Decision-making (DM) is the ability to forecast changes in the organization and its external environment and react in advance or be prepared to react in any eventuality. No work at any level can be performed without making decisions.

7.2.1 Organizational Chart of the Food Service Team in Hospital

Organizational chart of the food service team in hospitals will vary with the type of hospital as well as other factors like the management policy, the budget, the resources and the needs of the hospitals. Hospitals have a unique characteristic in terms of the patient as well as non-patient services. This brings in another criteria of importance: the serving of nutritious food

especially for the patients. So the food service team might also consult with the ditecians and doctors who prepare a specific diet for the patients.

Fig. 7.3 *Types of Food Services in Hospitals*

There may be numerous or singular posts of medical superitendent, dieticians, assistant dieticians, medical officers, cooks, etc., which changes the organizational strcuture. The staff comprising the food service team includes several other people like nursing staff, housekeeping staff, portering staff, etc. So for example, the organizational chart or organogram for a food service team at a hospital might look like this:
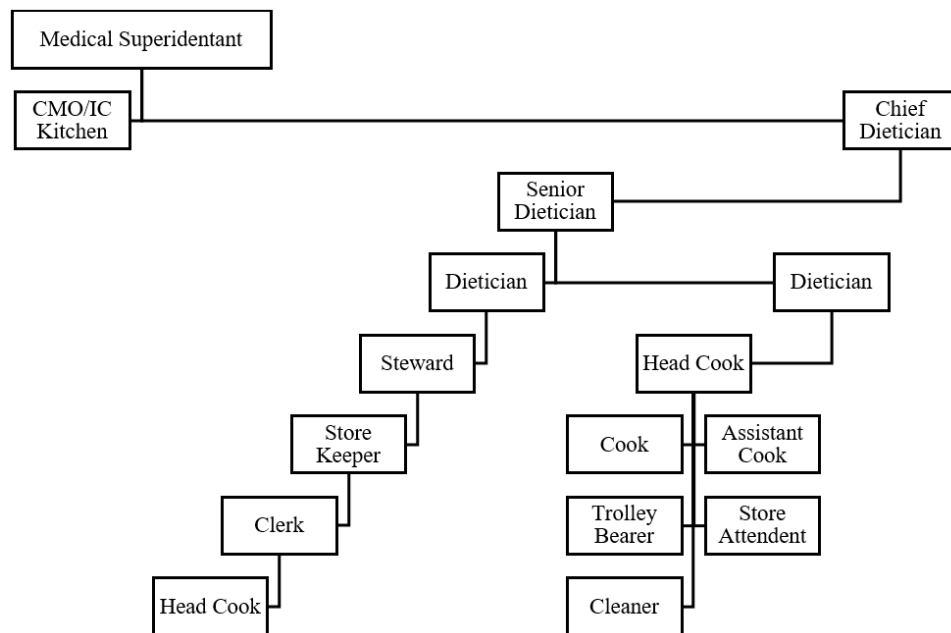
Fig. 7.4 *Sample Organizational Chart for Food Service Team in Hospitals*

1. What are the major areas of food service management?

2. What is job specification?

3. Define operative budget.

4. How is goodwill an important intangible tool of management?

7.3 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The major elements of food service management area includes factors like: Diet and menu planning, quality control, financial management, personal management, food management, equipment management, raw material management, area management, etc.

2. Job Specification is a statement indicating standards to be achieved for a particular job. It also covers duties expected to be performed, working conditions in which the job would be carried out and the qualifications required.

3. An operative budget forecasts and analysis of projected income inclusive of expenses over the course of a specified time period.

4. Goodwill is the feeling of oneness with people whether colleagues at work or customers who visit an establishment. It is an important tool for harmony at work as it inhibits ill feelings or jealousy in an otherwise competitive environment. It is that quality which makes customers come back to an establishment repeatedly because they feel at home, being served with quality food in an atmosphere infused with love and consideration, exhibiting good manners in a happy comfortable environment.

7.4 SUMMARY

- The major elements of food service management area includes factors like: Diet and menu planning, quality control, financial management, personal management, food management, equipment management, raw material management, area management, etc.

- Food management as an activity of food service management is concerned with the selection, preparation, presentation as well as the preservation of food. The managers engaged in this area are required to oversee and make sure that the all the aforementioned activities are in compliance with safety standards, are of top quality with good taste.

- Tools of management refer to materials which have been developed by managers in the past and used as an aid to effective management. Tools of management can be distinctly classified into two categories namely, tangible and intangible tools.

- Tangible tools are an important aspect of management that are developed by experienced team of leaders in varied settings and organizations. These tools are a representation of a collection of tools that have assisted in past successful accomplishments and are modified or implemented as such for current goals.

- Intangible tools are the qualities with which people are naturally endowed or to some extent acquired through training and conditioning. Intangible tools help to motivate and carry a work force from diverse backgrounds towards preset goals of an organization, by utilizing them in decision making processes.

- Organizational chart of the food service team in hospitals will vary with the type of hospital as well as other factors like the management policy, the budget, the resources and the needs of the hospitals.
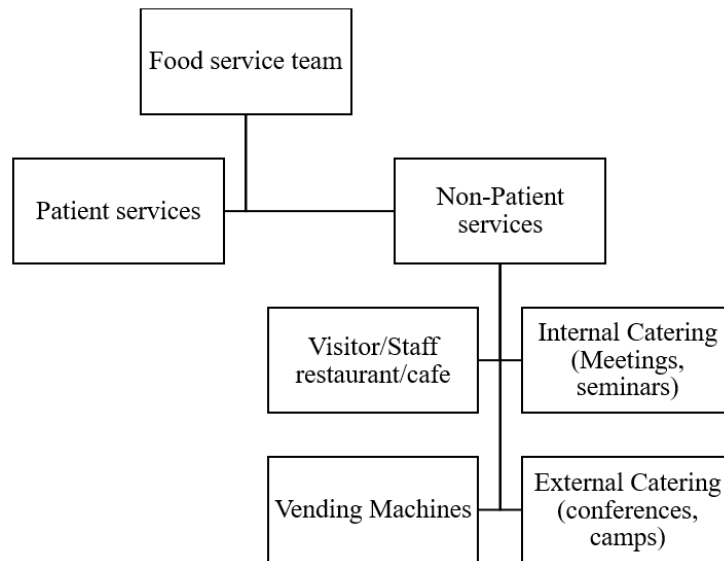
- There may be numerous or singular posts of medical superitendent, dieticians, assistant dieticians, medical officers, cooks, etc., which changes the organizational strcuture. The staff comprising the food service team includes several other people like nursing staff, housekeeping staff, portering staff, etc.

7.5 KEY WORDS

- **Food management**: It is an activity of food service management is concerned with the selection, preparation, presentation as well as the preservation of food.

- **Tools of management:** It refer to materials which have been developed by managers in the past and used as an aid to effective management.

- **Organization chart:** It tells us about the subordinate-superior relationships and the lines of decision making authority that exist in an establishment, in other words who reports to whom.

7.6 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Write a short note on the types of budgets in food services.
2. Give a brief outline of an organizational chart for a food service team in hospitals.

Long Answer Questions

1. Discuss the tangible tools of management.

2. Explain the intangible tools of management.

7.8 FURTHER READINGS

Drummond, Karen E. and Lisa M. Brefere. 2013. *Nutrition for Foodservice and Culinary Professionals.* New Jersey: Wiley.

Sethi, Mohini and Surjeet Malhan. 2018. *Catering Management: An Integrated Approach*. New Delhi: New Age International Private Limited.

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https://job-analysis.net/G000.htm

UNIT 8 OVERVIEW OF FOOD SERVICE EQUIPMENT

Structure

8.0 Introduction
8.1 Objectives
8.2 Classification of Food Service Equipment
8.3 Selection and Purchase of Food Service Equipment
8.4 Care and Maintenance of Equipment in Food Service
8.5 Answers to Check Your Progress Questions
8.6 Summary
8.7 Key Words
8.8 Self Assessment Questions and Exercises
8.9 Further Readings

8.0 INTRODUCTION

In the previous unit, you learnt about the tools of food management including the concept of organizational chart. In this unit, you will study about all about the food service equipment. These are the core element which aids the food production and therefore the questions related to its selection, purchase, care and maintenance are of paramount importance. A sound knowledge in this area is the prerequisite efficient management of resources and achievement of quality service. All the aspects of food service equipment are discussed in this unit.

8.1 OBJECTIVES

After going through this unit, you will be able to:

- Discuss the concept classification of food service equipment
- Describe the selection and purchasing of food service equipment
- Explain the care and maintenance of food service equipment

8.2 CLASSIFICATION OF FOOD SERVICE EQUIPMENT

Regardless of the production demands of the food service system, grouping tasks by functional areas provides benefits to the food service operation.

Some of the benefits include:

- Individual pieces of equipment can be put to multiple use.
- The flow of food from the receiving through preparation to service becomes more efficient.
- Small equipment and utensils can be stored within ready access.
- Inefficient task of back tracking can be avoided.
- Its supports food safety principles.
- Its supports in service education of the food service assistants.

In this section, you will learn about the classification of food service equipment as per area or nature of work.

Equipment Design and Installation

Equipment and containers that come in direct contact with food (including food contact surfaces) and used for food handling, storage, processing, packing should be located, designed and fabricated so that it permits necessary maintenance and periodic cleaning. These should be kept in good condition as to minimize any risk of contamination. This includes checks such as ensuring that the equipment is free from cracks, crevices, open seams etc., made of impervious, corrosion-free material which does not impart any toxicity to the food material and is easy to clean. These should be placed to achieve easy and effective cleaning of adjacent areas like floors, walls, ceilings and other surfaces.

Equipment, containers and piping should be clearly labeled and identifiable. All openings such as manholes, inlets, outlets, draining out of points, etc. should be made such that they can be locked and/or effectively sealed.

Manufacturing vessels, pipe work and material handling equipment are well bonded and smooth to prevent material build up and promote sanitary conditions.

Hygienic design features

- Pipes should be sloped with no dead-legs or right-angled bends.
- Domed tops, curved sides, conical bases for vessels/tanks.
- Flexible hoses should have a smooth (not ribbed) internal surface and have fittings which are sanitary and easy to connect/disconnect hoppers.
- All utensils/ container containing food products should be covered with a properly fitted cover/lid or with clean gauze net/ any other material. This helps to completely protect food from dust, dirt, flies and other insects.

NOTES

- In case, the equipment and utensils are also used for purpose other than preparation of health supplements/nutraceuticals, adequate control measures should be implemented such as cleaning, sanitization etc to ensure avoidance of cross-contamination.
- There should be appropriate facilities for cleaning and disinfecting the food contact equipment and instruments and wherever possible Clean-In-Place (CIP) should be adopted.
- Defective equipment should, if possible, be removed from production and quality control areas. If the equipment is such that they cannot be removed, they should be clearly indicated with their status.

The Food Processing and Handling (FP&H) sector provides the equipment and solutions to produce, process and distribute food to billions of households around the globe, and it services a multi-faceted value chain from farming to logistics. The sector has become increasingly important as the world's population has grown and dietary preferences have evolved, reflecting higher incomes and a shift to value-added products. This in turn has boosted demand for equipment and solutions to process, store, package and cook food.

Commercial food service equipment which comprises restaurant preparation, heating/cooling and finishing equipment was approximately $37 billion market in 2016. The top-ten players account for approximately 25 percent of the sub-sector. (Reference: McKinsey on Food Processing & Handling Food service equipment, March 2018 report is largely categorized by the end-market use of the machinery.)

The FSSAI has operationalised the Food Safety and Standards (Licensing and Registration of Food Business) Amendment Regulations, 2018 and has made it mandatory for restaurants to display food safety board's listing the dos and don'ts with respect to hygiene, sanitation, good manufacturing practices (GMP), etc. prominently, besides employing trained food safety supervisor on their premises.

Under the new operational set of rules for obtaining licenses and registrations, the Food Safety and Standards Authority of India (FSSAI) have revised the conditions for restaurants to obtain licenses. The new rule prescribes that a food safety display board needs to be displayed at a prominent place in the premises along with the employment of at least one technical person or food safety supervisor trained by the country's apex food regulator in case of restaurants.

However, giving relief to the restaurants, FSSAI has reduced the burden of documentation. Under Section 2 of the regulations regarding documents to be enclosed for new application for licenses to the Central or State Licensing Authority for restaurant, the list has been revised.

Accordingly, restaurants do not require submitting the blueprint/layout plan, the name and list of equipment and machinery, the list of food category, the copy of certificate obtained under

Co-operative Act, the no-objection certificate (NOC) from the manufacturer and the recall plan while applying for a Central or state license states the new regulations. These revised regulations will allow the simplification of the process involved in licensing and registration.

Equipment placement decides a lot of different factors related to the maintenance of the food service equipment. In this section, let's learn about the checks that should be done as per the different equipment location in food service.

Receiving Area

The equipment in this area should be equipped to receive the raw material in possible best physical state and minimize spoilage during offloading.

The activities of the receiving area include:

- Inspect all the items entering the kitchen to identify the signs of contamination or damaged containers.
- Check the date of packaging and expiration.
- Count boxes and counter checked with the invoice those not delivered, shortages are noted.
- Check the product number against the purchase order or receiving ticket.
- Only accept approved brands.
- Check substitutions for approved brands.
- Check temperatures and record on chart.
- Remove any loose staples or fasteners.
- Reject unacceptable goods and note on invoice.
- Sign the invoice and retain a copy.

Suggested equipment for the receiving area in a conventional kitchen includes:

- 2-wheeled hand truck and/or 4-wheeled platform hand truck
- Utility carts
- Table/desk for paperwork
- Scales
- Thermometers
- Fly fan

Before moving on to learn about other work area, let's learn about the major types of commercial food production equipment.

Commercial Food Production Equipment

Here are some basic food production equipment.

Burners

They are used for cooking, boiling, and steaming. They often operate on Liquid Petroleum Gas (LPG). Now induction burners and hot plates are available, which operate on electricity. They come with open top, mesh top, or flat top.

Fig. 8.1 *Types of Burners*

Cooking Ranges

Cooking range is the most versatile equipment operating on either LPG or electricity.

The name implies, it can perform a range of functions such as cooking, frying, boiling, grilling, and baking.

It comes in two basic versions:

Restaurant range − Less expensive, good for less food volume, and is stand alone.

Heavy duty range − Expensive, suits a large volume of food production, and can be banked with other ranges using a battery.

Fig. 8.2 *Different Cooking Ranges*

Cooking ranges come with multiple burners usually 4 to 8, depending upon the volume of food to be handled.

Ovens

They are used for cooking, baking, roasting and browning. They operate either on LPG or electricity. There are various oven models such as Rack with the option of rotating or steady racks, Deck and Tunnel depicting their shape and working style.

Fig. 8.3 Different Types of Ovens

- **Rack Oven**

It contains a set of stacked racks often placed equidistant, one above the other in a tall stainless- steel frame. This oven is good to produce large volume of food items such as breads, cookies, and croissants.

- **Deck Oven**

It contains racks or rotisseries that can cook various meats such as chicken, duck, lamb, etc. simultaneously and evenly. They also come in baking deck and pizza deck variants. The number of decks is generally up to four.

- **Tunnel oven**

It comes in direct heat and indirect heat variants. It is suitable for high temperature baking.

There are myriad number of ovens available in the market, which vary according to the energy they consume, the manner of heating food, sizes and shapes.

Griddles

They are flat plates made of iron, stainless steel, or aluminum, which transfer heat to the food. Griddles are prone to heat loss when the plate is partially unused.

Grill top, Gas operated   Flat top, Electric

Fig 8.4 Types of Griddles

They are mainly used for preparing breakfast items such as omelets, scrambled eggs, patties, sandwiches, burgers, and pancakes. Normally, the residual grease needs to be wiped out occasionally from the surface to prevent tempering. In case of steel griddles, caramelization occurs if the surface is not kept clean. Teflon surface griddles are more durable and efficient.

Pans and Cooking Spoons

There are a wide range of pans, pots, and spoons used for cooking.

Pans: Depending upon the type of cooking, the cook selects a pan. The pans serve the purpose of shallow frying, boiling, and stir frying.

Pots: The pots are used for cooking and preparing stocks. They are generally accompanied with lids. The steamer is used to prepare steamed food such as rice, momos and idlis (fluffy rice dumplings). There are two variants: shallow and deep.

Frypan   Wok   Saucepan

Steamer   Stockpot   Double Boiler

Fig. 8.5 Different Pots and Pans

Spoons: The spoons help to check the thickness of liquids, tenderness of solids, stir, and turn the food in the pots and pans. Various spoons used during cooking are skimmer, turner, masher, ladle, fork-spoon, and utility spoon.

Fig. 8.6 Different Types of Spoons

Kettles: The kettles are used for cooking, warming, and storing food. They are two layered pots one inside the other with a gap in between for steam. They are usually jacketed, agitator tilting for better view and food handling. The kettles also have a product discharge valve that provides an efficient transfer of kettle product to a service area without damaging delicate food items.

Fig. 8.7 Different Types of Kettles

Deep kettles are best for soups, gravies, spaghetti sauces, pie fillings, and puddings as the quality of these food items remains the same irrespective of their volume and frequent stirring. Lentils, beans, and pasta can be cooked in deep kettles.

The shallow kettles are best for cooking and warming stews, patties, steamed vegetables, where this kettle offers better view and less food handling.

Vegetable Cutters/Choppers

The cutters or choppers are used in cutting, dicing, shredding, and slicing vegetables in various shapes and sizes. They are also used to cut bread into

small pieces for puddings or soups. The handheld cutters are used for cutting fruits, salads, etc. for presentation.

Cutters are made of either plastic or stainless steel. Some cutters come with single or multiple wheels with zig-zag or plain edge. Some cutters have round small bowl-like shape to cut round pieces of fruits.

Fig. 8.7 *Different Types of Kettles*

Mixers

The overhead motor vertical mixer is most commonly used in commercial food production units. Mixers are used for mixing and blending. There are broadly two types of mixers − table mounted and floor mounted.

Fig. 8.8 *Different Types of Mixers*

Mixers have the following standard accessories:

- Flat beater: Mashing and beating foods of medium consistency such as boiled potatoes.
- Wire whipper: Whipping cream, eggs, frosts and other light foods that contain air. It works on high speed.
- Dough arm: It handles heavy and bulky ingredients such as bread dough at low speed.

Mixers

The mixer is considered a valuable and versatile piece of equipment because of the variety of attachments. There are numerous manufacturers and models of mixers on the market. Planetary action mixing provides thorough blending and mixing action by repeatedly turning the mixed product into the center of the bowl. Mixers range from table top to 140 quart models geared to high volume institutional use. Mixers have a wide application with standard and optional attachments to meet the needs of changing and expanding food service menus. Mixers come in a variety of sizes/capacities, ranging from 5 quart to 140 quart, indicating the bowl size. The applications determine the correct size needed.

Slicer

Slicer is designed to slice high volume amounts of meat and cheese quickly and efficiently. Slicers vary in size, depending on the need. Smaller manually operated models with 10" knives are ideal where occasional slicing is done. Larger models with 12" knives are best when large volume slicing is done. Most models are operated in either a manual or an automatic setting. Blade sharpeners are built in, some are easier to use than others depending on the brand and model. Most are designed to dismantle for easy cleaning and sanitation. The slicer (manual or automatic) may be used for: slicing hot or cold meat in uniform thickness slicing cheese in uniform thickness slicing vegetables with optional accessories

Standard features: gear driven or belt driven blade sharpeners, some removable, other not, push button, top mounted lift off top covers, for ease of cleaning/sanitizing permanent ring guard knives are either stainless steel, chrome plated, or carbon plated steel adjustable thickness regulator

Cookers and Steamers

Commercial cookers and steamers largely operate on electricity. The cooks use these for cooking rice, lentils, and vegetables.

Fig. 8.9 *Different Types of Cookers/Steamers*

The steamers are used for preparing steamed food such as Idli (a type of fluffy rice dumpling), momos, and dhokla.

Fryer

Some food items are prepared by immersing them in heated oil in a fryer. There are two basic versions of a fryer: Electric fryer and Gas fryer. The frying time and oil temperature varies directly with the food type and the size of the fryer. It consists of a fryer basket and heating element and a thermostat controls a fryer.

Fig. 8.10 *A sample Fryer*

The fryers are used to fry potato chips, *Pooris* (fried Indian bread), doughnuts, bagels, onion rings, shrimp, fish, chicken, okra, and zucchini.

Juicer

Juicers extract juices and pulps from fruits and vegetables. It operates on electricity and speeds up the juice production process. The fruits are added in the juicer from the top. It separates the juice and left over peels and unused fibers from the fruits. There are three types of juicers:

- Centrifugal: It works by crushing fruits. It is quick and yields plain juice.
- Masticating: It works longer to yield juice of specified texture and consistency.

- Twin-gear: It uses various gears and membranes to yield best quality juice of almost any fruit, carrot, tomato, or leafy vegetables. It also helps to prevent oxidation of the juice.

Fig. 8.10 Different Types of Juicer

It is very useful in preparing juices and pulps for breakfast, for meals as appetizers, and for using them in cocktails, mocktails, and smoothies.

Now that you have learnt about the types of commercial food equipment, let's get back to classification as per area of functioning in the kitchen.

Dry Storage/Chemical Storage

After receiving food and supplies the food service assistant moves the goods to dry, refrigerator, and freezer storage. This is the second functional area. Most CNPs should turn their dry inventory regularly for quality and cost control. Dry storage and chemical storage, although similar in function, must have all contents stored separately. Food must never be mixed in a storage area with chemicals or cleaners.

The dry storage area should be clean, dry, well ventilated, and temperature controlled. The recommended dry storage temperature is between 50° F 70° F.

Shelving selection will impact air circulation, pest prevention, and first-in first out (FIFO). There are a variety of shelving options. Style and finish of shelving should be consistent with storage application and budget.

Style examples include: open wire louvered embossed or raised steel solid vented, steel reinforced plastic polymer composite Finish examples include: galvanized solid, embossed or louvered zinc chrome zinc plating and organic coating NSF requires shelving systems to be non-rusting, and approved for direct contact with food.

For example: polymer composite (ideal refrigerator, pot and pan, meat, and fish storage) polymer reinforced stainless steel.

Boxes and cases should be discarded so only clean and marked cans, tubs, and bags are stored on shelves in the dry storage area. Organize these shelves with like items together to facilitate inventory and promote food issues to the production area.

Types of shelving systems: Stationary put in place and remain for a period of time, lacks versatility mobile similar to stationary but has casters track also known as high density or active aisle shelving, derivative of mobile system with mount or guided on a track (floor or ceiling) wall mounted adjustable cantilever shelving - adjust to various heights, ease of cleaning. The CNP planning for a shelving system should include: analyze typical goods stored size of can(s) (or other type container) space allowed for aisle (walk both sides, carts) specialty shelving like bag-in-the box delivery schedule. Suggested equipment for the dry storage area in a conventional kitchen includes: shelving system, racks can storage rack (optional) utility carts. Food and chemicals are stored separately to prevent any possibility of chemical poisoning. Your local chemical supplier can make recommendations for chemical storage organization. Suggested equipment for the chemical storage area in a conventional kitchen includes: shelving system, janitor sink, washer/dryer (optional).

Cold Food Production

Cold food production is a functional area that requires refrigeration, equipment, water, and a work area. A variety of activities take place in this area from washing produce for preparation to slicing, chopping, mixing, and plating. The cold food production area is to produce the menu in a timely and efficient manner ensure food safety which includes thoroughly washing produce and adequate refrigeration of ingredients and completed recipes provide a work flow that is efficient and safe for employees. The equipment described for cold food production in a conventional kitchen includes:

- Refrigerator/freezer
- Blast chiller
- Ice machine
- Mixer
- Slicer
- Cutter/mixer

Employee competence to operate a slicer, cutter/mixer, or other equipment should be certified before the equipment is used.

Cooling Units: Most refrigeration and freezer systems have a compressor, a condenser (air or water cooled), an evaporator, and a fluid called refrigerant. This system moves heat out of food via moving air. There are a wide variety of refrigerator units found which include:

The **walk-in refrigerator or freezer** is designed for bulk storage. Virtually any size is available. Most walk-ins today are pre-engineered (prefabricated) panelized construction which makes them flexible within the space available. Rule of thumb for sizing is a cubic foot (15.24 cubic cm) of usable storage space per meal served.

Reach-in refrigerator/freezer (near production area): versatile reasonable cost storage efficiency.

Refrigerator/Freezer Temperatures or Storage Temperature Ranges

- Dairy 34° 40° F
- Frozen -10° to 0° F
- Ice cream -10° F
- Meat / Poultry 34° F
- Fruits 38° F
- Vegetables 38° 40° F

Pass-through refrigerator is under the counter roll-in soft serve ice cream cabinet display refrigerator. The purpose of the refrigerator is to keep food cold reduce the rate of deterioration by diminishing enzyme activity control the growth of microorganisms that potentially can cause foodborne illness maintain food quality.

Hot Food Production

Hot food production is a key area in the conventional food service system. Activities that take place within the cooking area are grouped according to the type of treatment required. For hot food that includes: seasoning mixing shaping breading panning cooking. The selection of type of equipment is affected by factors like: food to be processed (menu) type needed (bake, fry, steam) labor availability and skill serving schedule.

Heat is applied to food to increase digestibility and customer appeal. Nutrient retention and food safety are always considerations.

Heat is transferred to/from a product in these ways:

- Conduction molecule to molecule. Example: pot or range top.
- Steam convection where heat transmitted through liquid or gas to food.
- Radiant wave's induction raises heat because pan is subjected to alternating electromagnetic field. With this process the operator must use stainless steel cookware.

In the hot food production area, attention to internal cooking temperature, time-temperature monitoring, and minimum time in the danger zone are all important.

The following equipment described for hot food production in a conventional kitchen includes:

- tilting braising pan
- steam jacketed kettle
- direct steam kettle
- convection steamer
- pressure/pressure less steamers
- pressure steamers
- high pressure steamers
- combination oven/steamer
- convection ovens
- fryers
- range

Ware Washing

The functional area of dish and tray washing is important within the food service system. It is here that soiled dishes, glasses, flatware, and trays are visibly cleaned and sanitized. Within the ware washing area there are a number of tasks that must be completed like, scraping, racking, prewash, wash, rinse, sanitize.

Dish machines

The dish machine is a major investment and commitment. There are a number of considerations when selecting dish machine features: proper ventilation otherwise there is excessive humidity and possibly poor/unsafe working conditions, adequate lighting allows staff to see broken glass and excess water accumulation, proper utilities, available inadequate power can damage machine or there can be non-performance, drain size and location walls, floors and ceiling should resist moisture, absorb sound, easy to clean booster heater capacity based on number of meals clean ability.

Dish Washer

It can wash multiple dishes and bowls simultaneously. It is an automatic machine but needs human interaction for loading used dishes into dish racks and unloading clean dishes after wash cycle. It eliminates a great effort required for traditional dish washing. There are two basic types of dishwasher:

- Door-type: It is large machine. It can clean from 50 to 125 dish racks depending upon the size of the machine.
- Under-counter: It is smaller and can fit under the kitchen platform.

***Fig. 8.11** Different Types of Dishwashers*

Glass Washer

It washes and dries almost 2000 glasses per hour. There are two types of glass washers: rotary and pass-through. They are mostly used at bars for washing glasses of various shapes meant for various beverages.

***Fig. 8.12** Different Types of Glasswashers*

Dish Warmer

It can dry as many as 1800 dishes an hour and eliminates the possibility of contamination caused by conventional drying methods. It conducts speedy washing of dishes. It also keeps the micro organic particles depositing at bay for long time.

***Fig. 8.13** A sample dishwarmer equipment*

Special Equipment in Commercial Kitchen

There are a few special equipment used in commercial kitchen to make the tasks easy.

Nut cracker

It is used to crack the shells of hard nuts such as almonds, walnuts, hazelnuts, pine nuts, palm nuts, and pistachio. Some machines are also capable of shelling watermelon and pumpkin seeds, and peeling peanuts, cashew nuts and almonds.

***Fig. 8.14** Different Types of Nutcrackers*

Shredders

A shredder cuts the fruits and vegetables into string-like fine pieces, which are useful in salads and vegetarian cookery.

***Fig. 8.15** Different Types of Shredders*

Kitchen Knives

Knives are used across various small volumes dicing, cutting, slicing, carving, and filleting. There are various knives used for different cutting and carving purposes:

- Paring knife: It is used for fine cutting work, removing onion skins, and cutting small fruits.
- Utility knife: It is used in general purpose cutting and scraping.
- Steak knife: It is used for cutting steaks.
- Santoku knife: Originated in Japan, this knife is used for cutting, dicing, and mincing. (Santoku = Three virtues)
- Chef's General knife: It is a multi-purpose knife used on multiple commodities such as vegetables, fruits, meat, and poultry.

PARING KNIFE   UTILITY KNIFE   STEAK KNIFE   SANTOKU   CHEF KNIFE   BREAD KNIFE   BONING KNIFE   FILLET KNIFE   CARVING KNIFE   SLICING KNIFE   CLEAVER

- Serrated knife (Bread Knife): It has a long thin blade with serrated edge that provides sawing-like motion. It is used to slice certain foods with firm skins or outer layers such as bread, tomatoes, and capsicums.
- Boning/Filleting knives: They come with a narrow, sharp, and flexible blade and a protruding heel near the handle. They can run along the bones of flat fish or ribs smoothly.

- Carving knife: This knife comes with a long, thin and sharp blade to ensure neat and accurate cutting.

- Slicing knife: It has a long sharp blade that tapers at the end and helps slicing fruits and vegetables finely.

- Turning knife: It is an essential component to present the food in a unique way. This knife has a small curved blade that is used to carve the vegetables into the shape of a container.

- Cleaver: It is a butchers' knife. It is very strong and sharp to cut through large pieces of meat such as pork and beef.

Check Your Progress

1. Which list of dos and don'ts has been made mandatory for display by commercial restaurants by the FSSAI?

2. List the different types of spoons used during cooking.

3. What are the different equipment described for cold food production?

4. Define the functional area of the ware washing in food service units.

8.3   SELECTION AND PURCHASE OF FOOD SERVICE EQUIPMENT

You have already learnt about the concept in unit 4. Some of those ideas will be recapitulated along with the introduction of new elements. The functions of selecting and purchasing are discussed here with special reference to food service equipment.

Purchasing is the function concerned with the search, selection, purchase, receipt, storage and final use of a commodity in accordance with the catering policy of the establishment. The person employed to purchase foods and beverages for an establishment will be responsible for not only purchasing, but also for the receiving, storage and issuing of all commodities as well as being involved with the purpose for which items are purchased and the ultimate use of them. In many organizations this job role may come under the heading of procurement and be a function of the finance department.

The receiving department would only be able to check on quantity and not on quality. The work in the stores and preparation departments would be difficult with the quality of produce varying greatly. Finally, it would be difficult to measure satisfactorily the performance of departments if they were continually being provided with non-standardized commodity items. Many of the responsibilities of the purchasing manager have been subsumed into other job roles particularly in smaller organizations. Typically, the senior chef or the chef 's clerk will place orders with suppliers or in the case of liquor

stocks the restaurant manager or cellar manager will place orders. In the vast majority of cases, other than perhaps the small owner-operator establishments, orders would be placed with approved suppliers with terms and conditions pre-approved by management and usually controlled by the finance function.

In larger organizations a purchasing clerk or procurement officer within the finance office may cover the purchasing role:

- Maintain and adequate supply since customer service is really the only thing sold, running out of a key item frustrates an operator's customer service goals, so adequate stock that prevents running out is crucial to good management.

- Minimize investment as an objective seems to be in conflict with the first, however buyers must find some kind of trade-off between the investment level and the risk of running out, a compromise between the investment level and ensuring a continual flow of products.

- Maintaining quality is not the same as establishing a quality level. Some buyers have little control over the quality they must purchase but do have a major responsibility to maintain the level of quality once set by management. The ability to maintain quality will vary amongst products, branded goods are relatively straightforward, fresh produce may vary drastically.

- The buyers' responsibility is to ensure adequate strategies are in place to overcome any difficulties.

- Obtain the lowest possible price which may not necessarily be the lowest price quoted.

- Buyers need to be aware that the price comparison should reflect the yield of the product.

- Maintaining the company's competitive position may be viewed as attempting to gain better prices than the competition. In reality better prices are often the prerogative of companies with higher buying power either though their size or perhaps through belonging to a consortia.

The duties of the purchasing function will vary between establishments but however this role is covered and it will usually include aspects of the following:

- Responsibility for the management of purchasing/procurement and keeping purchasing records, recording the receiving and correct storage of goods.

- The purchasing of all commodities within their responsibility.

- Ensuring continuity of supply of those items to user or departments.

- Finding cheaper (for same quality) and more efficient sources of supply where this forms part of the job role.

- Keeping up to date with all the markets being dealt with and evaluating new products.
- Researching into products, markets, price trends, etc.
- Co-ordinating with production departments to standardize commodities and therefore reduce stock levels.
- Liaising with production, control, accounts and marketing departments.
- Reporting to senior management usually through establish communication channels.

In large establishments the purchasing function may be responsible for a wide range of non-food items including small equipment, cleaning materials, linen etc.

The purchase of new food service equipment begins with a vision of the kitchen with the new equipment installed and operational. The purchasing process requires thought and planning to meet rapidly changing customer and community expectations. Your ultimate goal is to purchase food service equipment that: meets customer expectations, incorporates flexibility, addresses long-range needs of the food service system and facilitates regulatory compliance.

Define the guiding principles for purchasing food service equipment

Whether you are building a new kitchen, adding or replacing food service equipment, the guiding principles are the foundation for all decisions. They are:

- Knowing and meeting customer expectations.
- Building in flexibility to meet future needs of the program
- Building in flexibility to meet future needs of the school system.
- Making prudent use of taxpayer's money.

The procedure can be broken down into eight steps:

(i) Each section of the organization will have established stock levels and a procedure for stock replacement. This may be a requisition form from an authorized member of staff, for example, head chef, restaurant manager or from the storekeeper. With more sophisticated electronic point of sale (EPOS) systems currently in use many stock out or low stock alerts are raised automatically by the system. In larger organizations these systems may even generate an order and send it electronically to the approved supplier.

(ii) The selection of the source of supply is usually agreed in advance by the department manager or by head office so that contracts can be agreed, for example the price to be paid, delivery performance with particular reference to the time, date and the place of delivery.

(iii) The ordering process is electronic, telephone or written order.

(iv) The acceptance of goods ordered and the adjustment of any discrepancies in quality or quantity of goods delivered, checking delivery notes/invoices.

(v) Checking the temperature of the goods on delivery and recording this in writing.

(vi) Checking the condition of packaging or containers and rejecting those that is not in good condition.

(vii) Periodically checking the temperature of the delivery vehicle and recording this in writing.

(viii) The transfer of commodities to the ordering department or to the stores or cellar.

Whatever the establishment a sound purchasing policy and control system should be implemented if satisfactory standards are to be achieved. 'Purchasing is not a separate activity. What how and when you buy must always reflect the overall goals of your establishment. Trends change – so must you, the purchaser.

Use a simple five-prong purchasing strategy, you want to buy:

- The right product
- The right quality
- At the right price
- At the right time
- From the right source. (Brown, 2005; p. 396).

The selection of a supplier with global markets and competitive pricing selecting a supplier should be given careful consideration.

Seeking a new supplier requires caution and detailed enquiries need to be made in at least the following areas.

Initially larger organizations will carry out routine credit reference checks to ensure that companies are bona fide.

- Full details of the range of items they are selling.
- A copy of recent prices lists.
- Details of trading terms.
- Details of other customers.
- Samples of products.

In all cases of food purchasing a visit should be made to any potential supplier to see the size of the company, the full range of products, the size of processing and storage facilities, the size of their transport fleet and to meet members of the management team.

It is an essential process that should be recorded as part of the organizations policy and forms part of the due diligence criteria. Selected suppliers will be added to an approved suppliers list and will be periodically evaluated for their performance using performance criteria established for each range of goods.

Typically, this would include price, quality and delivery.

Price and Quality Performance

Whilst the price paid for goods are important it is value for money and fitness for purpose that guides most buying decisions. Essential to any business is continuity of supply and the building of a sustainable relationship with a supplier that are often greater importance than saving a few pence per item. The cheapest item is not necessarily the best buy; often a cheap item is of a low quality and may not perform well against purchase specifications, for example not obtained from an ethical source, genetically modified, not organically produced.

Delivery performance: This is the ability of the supplier to meet agreed delivery times and dates with the buyer. Prompt deliveries mean that the goods will be delivered when required and when staff is available to check them efficiently for quantity and quality.

Aids to purchasing are: Keeping up to date with what is available in all the markets in which they are dealing. Keeping up to date with the current prices for all commodities. This is very important, as it enables buyers to negotiate with suppliers more efficiently and to compare the prices that they are being charged. In order to reduce these difficulties, buyers need to be aware of what general information services are available that will help them.

These aids may be grouped under some six headings:

- The supply trade press: Trade journals are published weekly and cover most of the commodities to be purchased. They give valuable current general information and indications of future trends.

- The commodity trade organizations : These organizations will readily provide information to caterers about a particular commodity, such as the types available, how they should be stored and names of local and national suppliers.

- The catering trade press: These papers and journals contain items of commodity news and information of present and future prices.

- The national press: Leading newspapers publish commodity market news with details of the range of prices being paid in certain markets.

- Government publications: These are available from agricultural departments giving a variety of information such as a national food

survey response, availability of specific commodities and current food legislation.

- Published price indexes: These are produced by government departments, consumer associations and by trade journals. These indexes start from a particular date in time listing large groups of commodities and monitor the change in prices from that initial period, also recording changes on a yearly and monthly basis. This is of great significance to the caterer as it provides information of general and specific price trends and a comparison against the prices that he has paid for commodities recently.

Things to Consider When Purchasing Food service Equipment

Specifications

Various types of specifications will be described and a check list will be offered. This section is designed to help you gather and organize information from which the bid specification may be structured. Writing specifications may be the most challenging and important step in the purchasing process. Consider that a specification is a "city map" for purchasing. Without an accurate map the equipment purchasing efforts may fail. The primary objective of good specification writing is to assure the acquisition of what you want and need. There are two ideas to remember when developing specifications: The bidders cannot read your mind. The bidders are not going to provide any more than is asked for in the written bid specification.

Whether you're opening up a new space or replacing outdated units, purchasing food service equipment involves asking a few tough questions. Like a car, commercial-grade equipment comes with a hefty upfront cost, depreciates over time, and may eventually start racking up costly maintenance and repair needs. Choosing the right commercial refrigerators, stoves, ware washers, and more can make a difference in the future success of your business.

What's the Total Cost of Ownership?

Even though you'll benefit from the new technologies and features in today's food service equipment, they come with a higher price tag. Before settling for the economic options, take the time to calculate your total cost of ownership, which helps you define the cost of the equipment over its lifetime.

In addition to the initial purchase price, consider the anticipated utility costs, such as energy and water. You may find that spending more upfront on an energy-efficient unit pays itself back over time. Compare the life expectancy of the models you're looking at, which will help you decide if a more expensive unit will pay itself back by outlasting the competition.

Size and Functionality

Bigger isn't always better, especially when it comes to commercial food service equipment. If they're too large, they'll put an unnecessary strain on your utility usage and may not fit into your space. Pieces with multifunction options help you do more with less equipment, maximizing space and costs.

Warranties and Maintenance

With so many manufacturers to pick from, it's important to investigate the warranty and maintenance options. A consistent maintenance program helps you avoid unexpected problems and costly breakdowns, and warranties protect you from having to foot the cost of issues that result from the manufacturing process.

Equipment Distribution

Once food service equipment has been identified for specification, a source of distribution must be found. The channels of equipment distribution are changing. Traditionally, all food service equipment was purchased through a food service equipment dealer. Now other channels are available. For example, food service equipment can be purchased through a food distributor (broadline distributor) or directly from the manufacturer. If one of these channels is used, the dealer will be bypassed. The channel of distribution chosen by the school district will depend upon the specific needs of the purchaser, the accessibility of each option, and the experience of the buyer.

Service Agency

No matter which channel of distribution you choose, all purchases must be linked to a service agency. The primary function of the service agency is to repair faulty or inoperative equipment from many different manufacturers. They may also manage warranty claims. Most manufacturers train service agency personnel on the proper repair and maintenance procedures for all pieces of equipment they manufacture. In addition, manufacturers may employ service agencies to install their equipment or inspect installation done by other intermediaries. Expect additional costs if you are located in a rural or hard to access area. Be sure to discuss the role and expertise of the service agencies as you consider various channels of distribution.

8.4 CARE AND MAINTENANCE OF EQUIPMENT IN FOOD SERVICE

In this section, you will learn about the tips related to maintenance of food service equipment.

Stewarding and Equipment General Control and Maintenance

All food and beverage staff should be knowledgeable about all operating equipment: Chinaware, glassware, flatware, and hollowware. Ensure that their storage (par stock), cleaning, and usage are all according to set guidelines. All stewarding staff must familiarize themselves with the correct standard and procedures on handling the kitchen equipment.

The Executive Chef and Stewarding Manager should be responsible to ensure that appropriate kitchen equipment cleaning and maintenance methods are followed by the stewarding staff.

What are the general equipment control and maintenance?

Food and Beverage glass and chinaware are not to be used in any administration offices.

- All equipment requests will be monitored by the stewarding department and issuing / returning form will be used.
- Familiarize with the equipment available in your department by using operating manuals, photo books, or equipment's board.
- Only use the equipment for their designated purpose only
- Plates are for presenting food, not for tilting trays.
- The glass is for presenting beverage, not for holding a pen, paper, clip, etc.
- Cutlery is for eating, serving, and presenting food and not for wedging doors, drawers, opening bottles/can, cleaning surface, etc.
- Glassware / Chinaware / Flatware / Hollowware is cleaned with a designated product.
- Use dishwashing machine to soap and rinse Glassware / Chinaware / Flatware / Hollowware.
- Use hot water for polishing prior to usage of Glassware / Chinaware / Flatware / Hollowware.

Store equipment in the correct way:

- Does not stick out of shelves.
- Cupboards can be closed.
- Does not become an obstacle and creates accidents.

Proper Handling of kitchen equipment:

Glassware:

- Glasses are racked in appropriate racks.

- Glasses bowls should not be piled higher than 5 pieces.
- Glasses plates should not be piled higher than 10 pieces.
- Glasses are carried on trays.

Chinaware:

- Plates on shelves should not be piled higher than 25 pieces.
- Plate on trays should not be piled higher than 10 pieces.
- Plates are piled according to their corresponding sizes.
- Cups on shelves should not be piled higher than 4 pieces.
- Cups on trays should not be piled higher than 2 pieces.
- Bowls on shelves should not be piled higher than 4 pieces.
- Bowls on trays should not be piled higher than 2 pieces.
- Coffee pot and creamers should not be piled at all.

Hollowware:

- Chafing dish should not be piled at all.
- Put cutleries gently into a soaking tub in order to eliminate scratches.

Ventilation Cooking equipment in the hot food production area can be considered a generator of contaminated air.

The quantity of this air is developed by each piece of equipment based on temperature and size of physical cooking area.

Properly designed ventilation systems relate to a safe and efficient kitchen.

Proper kitchen ventilation is a complex application of the HVAC system:

- air conditioning
- fire safety
- ventilation
- building pressurization
- refrigeration
- air distribution
- food service equipment
- reasons for a ventilation system include:
- remove heat
- grease
- odor

- smoke

- steam

- flue gas by-products from the kitchen.

A kitchen whether working the commercial space or hospital has to ensure:

- Provide a comfortable and productive kitchen environment.

- Enhance safety of personnel.

- Provide fire protection in the kitchen.

Check Your Progress

5. List the guiding principles of purchase of food service equipment.

6. What are the routine credit reference checks that can be performed to check the authenticity of the companies while purchasing equipment?

7. What is the manner in which equipment can be correctly stored?

8.5 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

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1. FSSAI has operationalised the Food Safety and Standards (Licensing and Registration of Food Business) Amendment Regulations, 2018 and has made it mandatory for restaurants to display food safety board's listing the dos and don'ts with respect to hygiene, sanitation, good manufacturing practices (GMP), etc. prominently, besides employing trained food safety supervisor on their premises.

2. Various spoons used during cooking are skimmer, turner, masher, ladle, fork-spoon, and utility spoon.

3. The equipment described for cold food production in a conventional kitchen includes:

   - Refrigerator/freezer

   - Blast chiller

   - Ice machine

   - Mixer

   - Slicer

   - Cutter/mixer

4. The functional area of dish and tray washing is important within the food service system. It is here that soiled dishes, glasses, flatware, and trays are visibly cleaned and sanitized. Within the ware washing

area there are a number of tasks that must be completed like, scraping, racking, prewash, wash, rinse, sanitize.

5. Whether you are building a new kitchen, adding or replacing food service equipment, the guiding principles are the foundation for all decisions. They are:

   - Knowing and meeting customer expectations.
   - Building in flexibility to meet future needs of the program
   - Building in flexibility to meet future needs of the school system.
   - Making prudent use of taxpayer's money

6. Larger organizations will carry out routine credit reference checks to ensure that companies are bona fide.

   - Full details of the range of items they are selling.
   - A copy of recent prices lists.
   - Details of trading terms.
   - Details of other customers.
   - Samples of products.

7. Store equipment in the correct way:

   - Does not stick out of shelves.
   - Cupboards can be closed.
   - Does not become an obstacle and creates accidents.

8.6 SUMMARY

- Regardless of the production demands of the food service system, grouping tasks by functional areas provides benefits to the food service operation.

- Equipment and containers that come in direct contact with food (including food contact surfaces) and used for food handling, storage, processing, packing should be located, designed and fabricated so that it permits necessary maintenance and periodic cleaning. These should be kept in good condition as to minimize any risk of contamination. This includes checks such as ensuring that the equipment is free from cracks, crevices, open seams etc., made of impervious, corrosion-free material which does not impart any toxicity to the food material and is easy to clean. These should be placed to achieve easy and effective cleaning of adjacent areas like floors, walls, ceilings and other surfaces.

- The FSSAI has operationalised the Food Safety and Standards (Licensing and Registration of Food Business) Amendment Regulations, 2018 and

has made it mandatory for restaurants to display food safety board's listing the dos and don'ts with respect to hygiene, sanitation, good manufacturing practices (GMP), etc. prominently, besides employing trained food safety supervisor on their premises.

- Under the new operational set of rules for obtaining licenses and registrations, the Food Safety and Standards Authority of India (FSSAI) have revised the conditions for restaurants to obtain licenses. The new rule prescribe that a food safety display board needs to be displayed at a prominent place in the premises along with the employment of at least one technical person or food safety supervisor trained by the country's apex food regulator in case of restaurants.

- Equipment placement decides a lot of different factors related to the maintenance of the food service equipment.

- Receiving Area: The equipment in this area should be equipped to receive the raw material in possible best physical state and minimize spoilage during offloading.

- Commercial Food Production Equipment includes: Burners, Cooking Ranges, Ovens, Griddles, Pans and Cooking Spoons, Dishwashers, Knives, etc.

- After receiving food and supplies the food service assistant moves the goods to dry, refrigerator, and freezer storage. This is the second functional area.

- Cold food production is a functional area that requires refrigeration, equipment, water, and a work area. A variety of activities take place in this area from washing produce for preparation to slicing, chopping, mixing, and plating.

- Hot food production is a key area in the conventional food service system. Activities that take place within the cooking area are grouped according to the type of treatment required. For hot food that includes: seasoning mixing shaping breading panning cooking.

- Purchasing is the function concerned with the search, selection, purchase, receipt, storage and final use of a commodity in accordance with the catering policy of the establishment. The person employed to purchase foods and beverages for an establishment will be responsible for not only purchasing, but also for the receiving, storage and issuing of all commodities as well as being involved with the purpose for which items are purchased and the ultimate use of them.

- The purchasing process requires thought and planning to meet rapidly changing customer and community expectations. Your ultimate goal is to purchase food service equipment that: meets customer expectations,

incorporates flexibility, addresses long-range needs of the food service system and facilitates regulatory compliance.

- Keeping up to date with what is available in all the markets in which they are dealing. Keeping up to date with the current prices for all commodities. This is very important, as it enables buyers to negotiate with suppliers more efficiently and to compare the prices that they are being charged. In order to reduce these difficulties, buyers need to be aware of what general information services are available that will help them.

- All food and beverage staff should be knowledgeable about all operating equipment: Chinaware, glassware, flatware, and hollowware. Ensure that their storage (par stock), cleaning, and usage are all according to set guidelines. All stewarding staff must familiarize themselves with the correct standard and procedures on handling the kitchen equipment.

8.7 KEY WORDS

- **Cooking range:** It is the most versatile equipment operating on either LPG or electricity. The name implies, it can perform a range of functions such as cooking, frying, boiling, grilling, and baking.

- **Cold food production:** It is a functional area that requires refrigeration, equipment, water, and a work area.

- **Ware washing:** The functional area of dish and tray washing is important within the food service system. It is here that soiled dishes, glasses, flatware, and trays are visibly cleaned and sanitized. Within the ware washing area there are a number of tasks that must be completed like, scraping, racking, prewash, wash, rinse, sanitize.

8.8 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What are the benefits of classification of food service equipment to the food service operation?

2. List some of the important hygienic design features.

3. Mention the activities and equipment relevant to the receiving area of a food service unit.

4. Briefly explain the activities included in the purchasing role.

5. Write a short note on some special kitchen equipment used in commercial kitchens.

Long Answer Questions

1. Describe the important types of commercial food production equipment.

2. Discuss the important equipment and activities in cold and hot food production.

3. Examine the steps involved in the purchase procedure. Mention the aids to purchasing food service equipment.

4. Assess the things to consider when purchasing food service equipment.

5. Explain the points that must be followed for proper handling of kitchen equipment.

8.9 FURTHER READINGS

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UNIT 9 QUANTITY FOOD PREPARATION

Structure

9.0 Introduction
9.1 Objectives
9.2 Types of Menu and Menu Planning
9.3 Purchasing, Storage, and Production Management
      9.3.1 Production Control and Standard Portion Size
      9.3.2 Standardization
      9.3.3 Conventional and Non-Conventional Sources of Energy
9.4 Answers to Check Your Progress Questions
9.5 Summary
9.6 Key Words
9.7 Self Assessment Questions and Exercises
9.8 Further Readings

9.0 INTRODUCTION

Quantity food production involves preparing bulk meals and serving a large number of people in a specific time duration. Examples of quantity or bulk food preparation can be complete meals provided in hospitals, residence halls, old age home, schools and college institutions for welfare of residents or special meals delivered for specific cases as in medical institutions. Similarly, industries and factories need lunch for their workers on-site that is fresh as well as wholesome and at subsidized rate.

Quantity food production involves developing skills that ensure that the quality of food remains consistent throughout the entire production process planning through the analysis of all food processing steps from purchase to service. The flow of food is examined in kitchen throughout the entire process. Production planning is essential to have more time to devote to operations. Production is viewed as a sequential process. Production planning is vital for quantity food preparation since it has several benefits. It is highlighted that predicting raw product costs helps control cost of food served. Production planning in food service also involves guidelines of cooking techniques for meat, short-order, sandwich, breakfast, vegetable, salad, bakeshop

and special diet preparations. Further, issues like special food problems of flavor awareness, sanitation and microbiological control, preparation of manufactured and convenience foods and meeting special dietary needs are also examined (Reference: Powers, Jo Marie; AGRIS, 1979). In this unit, you will learn about several aspects of quantity food production involving menu planning, purchasing, storage, and production management, conventional and non-conventional sources of energy, standardization and portion control.

9.1 OBJECTIVES

After going through this unit, you will be able to:

- Discuss the types of menu planning,
- Explain purchasing, storage, and production management
- Describe the conventional and non-conventional sources of energy, standardization and portion control

9.2 TYPES OF MENU AND MENU PLANNING

You have learnt about the concept of menu planning in unit 5. Let's recapitulate some important concepts here. A menu is the foundation of a food service unit on which the entire food service unit depends.

> *Menu is the focal point of every food production and service establishment. The reputation processes and profits depend upon the menu.*

Menus are of different styles:

- A static menu is one that offers the same dishes every day. These menus are used in restaurants and other establishment where the clientele changes daily or where there are enough items listed on the menu to offer sufficient variety.
- A cyclic menu is one that changes every day for a certain period, after this period the daily menus repeat, in the same order, for example, a seven-day cyclic menu will have a different menu every day for a week and will repeat each week. This kind of menu is used in such operations as school and hospitals where the number of choices must be kept small. The cyclic menu is a way of offering variety to the repeated clientele.
- Some restaurants use a menu that is part cyclic and part static. This means that they have a basic menu of foods prepared every day, plus repeated series of daily specials to offer more variety without putting too much strain on the kitchen staff.

Functions of a Menu

Menu is the backbone of the hotel. It gives the basic structure on which the other aspects can be planned. It also gives the operating needs for the hotel organization i.e.; it dictates what must be done and how it must be done. It is the key focal point of the entire operation, in terms of selling it is very often, the best salesman in food service.

Menu is a concise, accurate and complete statement or list of all the items or dishes of the meal to be served or offered for sale for the customer and at the same time is hidden a list of tasks (jobs) to be carried out by the restaurant staff.

The menu tells (the staff) the following:

- The food or grocery items to be purchased.
- The staff requirement of the hotel, skilled/unskilled.
- The equipment needed for the production and service.
- The facility, layout and space requirements of the hotel (kitchen, restaurant, etc.)
- The facilities required in the services area or restaurant and its seating capacity etc.
- The total sales and profit that can be achieved by the establishment.
- The décor and design of the restaurant.
- Establishment of the cost control procedures.
- The financial success and popularity of the establishment.

Principles of Menu Planning

It is the term used to denote the planning in advance of a dietary pattern for a given period of time. By planning a menu we can come to know what are the food stuffs that we are going to consume and in what form at scheduled meal times such as breakfast, lunch, tea, dinner etc.

Menu planning is an art. It is compiled (collected from) rather than written.

Essentials of menu compilation are to provide:

- A comprehensive, concise and accurate statement of the meal to be served.
- A balanced meal so as to ensure proper and appropriate colors and ingredients which should be in proper order.
- Planning of the meal so that it may be correctly served.
- Proper pricing of the meals which matches the appropriate ratio of profit.

The factor affecting menu planning include: economy, prescriptions, nutritional adequacy, satiety value, facilities, customs, food trends.

9.3 PURCHASING, STORAGE, AND PRODUCTION MANAGEMENT

You have already learnt about the concept of purchasing and storage in the previous unit. In this section, only the production management will be discussed. But before, learning about food production, let's learn some of the basics of prepping the food preparation area.

Food Preparation Area

Natural Produce Section

Vegetables and fruits are prepared in three sections:

1. Peeling
2. Cleaning
3. Trimming/Chopping/Cutting

Cooking Section

The heart of the kitchen. High stress area and workers are most skilled as well as paid maximum for efficiency. Speed, strength and endurance to heat or cold is required by the staff. Boiling, broiling, frying, cooking in large steam pressures is required. Seasoning, mixing, baking also occurs here along with kneading and shaping.

The ceiling, walls, floor and all work surfaces of any food preparation area are required to be in condition that does not need repair and created so that they can be effectively cleaned.

Decorative finishes in a large production kitchen

Having things like plants, pictures or decorations in a kitchen is not advisable as they are high maintenance and require cleanliness.

Electric mains sockets

A sufficient number of electrical socket outlets are needed to avoid the use of long cable runs and extension leads. All electrical switches and fittings must not be exposed to water, or positioned close to a wet area, unless they are of the waterproof type. As an extra safety measure, emergency cut off controls must be available within the kitchen, for electrical equipment.

Important to ensure that no overload of circuits happen by using multiple plugs or extension cords. No placing of electric appliances near the sink or other water.

Extractor fans

The extractor hood filters and ducting on any fans must be free from grease deposits; otherwise they could block the flow of air.

Fridges

Do not position these next to sources of heat such as a radiator or direct sunlight.

Floors

Floors should be made of material that is durable, easy to clean and slip resistant.

Hand wash basins

Hand wash basins should be in a place where they can be conveniently used by anyone entering the kitchen. They should have adequate supplies of hot and cold water, and be at strategic locations i.e. close to toilets and the entrance to the kitchen.

Lighting

Good bright lighting that is glare free should be provided in food rooms, this will help to facilitate cleaning, avoid eye strain and make accidents less likely. Any glass lights in an area where food is handled should be protected with shatterproof covers.

Sinks

In areas where regular vegetable preparation is carried out, an additional sink might be required to separate this from cleaning activities. It is worth noting that a kitchen sink typically contains 100,000 times more germs than a bathroom or lavatory.

Movement Space

There should always be enough space to allow high-risk food to be prepared on separate work surfaces. There must be enough room for different activities, such as storage, preparation, cooking, service or display of food, as well as a space for staff changing.

Toilets

Toilets should not open or directly lead into the kitchen, they must also be accessible without the need to pass through any food rooms. The toilet cubicles must be properly ventilated and have suitable hand washing facilities. On top of this it is advisable to have toilets for food handlers that are separate form those for customers and other staff.

- Food handlers should not have to change uniform in an area containing a toilet.
- Mandatory posters advising staff to wash their hands should be displayed in the toilet.
- Toilets must be ventilated directly to the external air to prevent odors from entering the food preparation areas.

Ventilation

There must be adequate ventilation in a kitchen; it helps to reduce air temperature and relative humidity. This can be achieved by having easily opened windows (fitted with a fly screen if needed) or extractor fans. The amount of ventilation required can be determined by the amount and type of food that is to be cooked.

Air should not be drawn into clean areas from dirty areas. This means windows and ventilators should be positioned to prevent any air from refuse storage areas, pot wash areas and toilets to food rooms.

Some places in a kitchen should have mechanical ventilation, this can be used in those areas where moisture and cooking fumes are generated, for instance cooking areas, wash up areas, bakery ovens, fryers and hotplates.

Windows

Windows and other openings should be constructed in place that does not make them susceptible to accumulating dirt or grime.

Worktops

Work surfaces need to be suitably hard wearing and preferably constructed of stainless steel or high quality laminate. Heavily used work surfaces should be constructed of a material that is resistant to the formation of mould and has a finish that is not prone to flaking or the shedding of debris. They should be non-reactive to food ingredients, and be smooth, impervious, non-toxic, non-tainting, easily cleaned and durable. Continuous work surfaces are better than those that have joints between them. The use of wooden worktops should be avoided.

Example of a Kitchen Policy

The following policy shall apply in the determination and classification of a kitchen (food preparation area).

A kitchen exists where:

1. A permanently installed cooking appliance (kitchen range, oven, or cook top, etc.) is installed or designed to be installed. Installation of dedicated electrical circuits or fuel gas piping for these appliances shall indicate a design for installation.

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2. The cooking appliance is located in an area not designed as a laundry room, toilet room, bathing room, and/or utility room, etc. and the area contains a sink and a counter that are installed or which are designed to be installed as indicated by the design or placement of electrical outlets that are located within:

   a. 24 inches above the counter; and/or

   b. 12 inches below the counter or to either side of counter; and/or

   c. 8 feet of each other;

This revised policy shall supersede all other previous policies relative to this issue, shall take effect on June 10, 2015, and shall apply to all permit application submittals (or to revisions submitted to previously submitted permits and/or approved permits) submitted on or after this date. Where special conditions exist, the Director, Deputy Director or Chief Building Official shall be permitted to approve modifications to this policy.

Source: San Juan County Department Of Community Development, 2015

Types of food production

Food production is classified into different types including, cultivation, selection, crop management, harvesting, crop production, preserving, baking, pasteurizing, pudding, carving, butchers, fermenting, pickling, etc.

Methods of food production

As you have read before, it includes:

- Chopping or slicing of vegetables.
- Curing food.
- Grinding and marinating.
- Emulsification.
- Food fermentation.
- Fermenting beer at brewing industries.
- Boiling, broiling, frying, grilling, steaming and mixing.
- Pasteurization.
- Fruit juice processing.
- Removing the outer layers either by peeling and skinning.
- Gasification of soft drinks.
- Preserving and packaging of food products by vacuum packs.

Education plays a critical role in this profession. Food production is not just cooking and serving. Apart from this, they have to invent, assume, build and manage people.

Food Production Control

Production control means the controlling of the preparation of food which together should reduce over-production (and possible waste), loss from inefficient purchasing and processing, and loss from excessive portion sizes. The proper operation of the food control system should aid management in controlling food costs efficiently and maximizing the profitability of the operation. There are four major stages in production control:

- Volume Forecasting
- Standard Yield
- Standard Recipes
- Standard Portion Sizes.

Volume forecasting:

Volume forecasting is often referred to as production planning. It is a method of predicting the volume of sales for an establishment for a specified future period. The objectives of volume forecasting are:

- to predict the total number of meals to be sold in each selling outlet of an establishment at each meal period (e.g. the number of break-fasts to be served in the dining hall and the coffee shop and by floor service
- to predict the choice of menu items by customers
- to facilitate purchasing
- to ensure availability of all necessary ingredients
- to ensure that appropriate stock levels are held
- to control food costs in relation to sales
- to enable the food controller to compare the actual volume of business done by each of the selling outlet with the potential volume of business as forecast and for management to take action where necessary.

  Volume forecasting is generally done in two stages—an initial forecast and final forecast.

The Initial Forecast

It is generally prepared a week in advance and shows:

- The estimated total number of meals to be taken in each selling outlet
- The estimated total of each menu item; for each day of the following menu week.

The initial forecast itself would be based on the following factors:

- **Past Records (Sales Histories):** In particular one would look at the figures recorded for the same period last year, examine the graph

showing sales for last year to check if there is likelihood of a particular trend at this period on the year as well as looking the sales result for the last year. Also note the demand of different items of the menu and identify the items for which there has been no proportionate sale.

- **Advance Bookings:** A reference to the advance booking of the rooms and for the banquets would be valuable guide for the planning.

Current Events: Annual trade fairs, sports meet, cricket match, the boat show, motor race etc. all such functions have an influence on the business done.

Current Trends: What are the items on the menu which has increased or decreased demand? What are the items which you are not able to sell?

The predicted sale of each menu item is converted into quantities of foodstuffs.

The total of each food item required for each meal period are itemized and listed and are used for writing out the requisition notes to the stores and purchasing department. Frequently, to convert the predicted sales of menu items in to quantities of food stuffs, standard recipe and portion conversion charts are used.

The purchasing manager will use copy of the list together with the requisition order when placing the purchase order, taking into account at the same time, the economic ordering quantity for the item as well as the storage facilities for the establishment.

The Final Forecast

The final and more accurate forecast usually takes place the day before the preparation and service of the particular meal. This takes in to account the previous day's food production and food sales figures. If the actual food sales figures are in line with the potential food sales figure. At times food will be left over from previous day's business which is perfectly edible and suitable for sale. Any left-over should be sold as soon as possible before they become a complete write-off.

The weather conditions must be taken into account for the next day. As this forecast will be more accurate. A sudden change in the weather can affect the volume of business done eg. rain, snow, very hot. A change in weather will affect customer's choice. Bad weather also affects staff attendance.

- The staffing requirement may be worked out very accurately when fairly precise production requirements are known. This assists not only in the preparation of staff rosters of duty, days-off, holidays etc. but may result in the total number of staff being reduced, thus saving in the kitchen and restaurant wages.

- Waste is by far the leakage responsible for more financial failure of food operation than all other combined. To prevent waste avoid over-buying,

over preparation, improper use of materials, careless preparation of material. Leakages can be reduced by keeping close watch on kitchen pantry, dining room and back-door. Food waste may be due to the poor quality of food purchased and due to short weight or measures, improper handling and storage of food after delivery.

- Bad handling and bad storage of food promotes loss through dissipation of the value of a purchase; delay in using fresh vegetable leads to partial or complete deterioration; and even if utilized, such food assumes second hand value. Excessive stock held on storage deteriorates and affects the food cost adversely.

- Faulty and incomplete preparation in preliminary and final stages causes waste.

- Failure to standardize recipes, improper utilization of left-over foods, serving too large or too small portions and lack of adequate records on food cost or improper interpretation of such records all result in waste.

Standard Recipe

Standard recipe is the method of standardizing recipes in such a way so that there is tight control on cost and quantity. Standardization should not be allowed to stifle the individual chef's flair. A hotel can control quantities, quality and cost more easily. It is most useful to use standard recipe in a hotel where there are a number of chefs cooking the food. The standard recipe lays down all the ingredients, method of production and quantities used. It indicates the number of portions to be served. This will determine the size of portion or production control. A section giving variation can be added to reduce the total number of recipes required.

The main advantages in using a standard recipe are:

- A well tried recipe ensures a consistently good finished product.

- It controls portion size which is very important in costing a dish.

- It is easy to determine the food cost of a particular dish.

- It simplifies the pricing of a particular dish.

- It reduces the possibility of error.

A customer will continue to patronize a restaurant provided he gets correct weight of the product he has paid for. On the other hand, the hotel's return must be right and the price charged must be correct for the quantities of goods sold. The quantity is the portion size which the hotel has used in its costing in calculating the selling price. The quantity sold for a given price must be consistently the same; the hotel should control this size to ensure that his costing is not invalidated.

Production control means, the control of portion size to ensure those portions served are consistently of the same size as the portions costed. The main objectives of production controls are:

- To ensure guest satisfaction

• To serve fair portion of food/beverages for a fair price

• To maintain profitability on all portions sold.

Production control requires certain important things:

• *Standard Recipes*

The articles being prepared must consist of the same ingredients every time. This is possible by use of standard recipes. A portion cannot be consistent even if it is of the same weight. This is particular so in case of a garnish. An expensive garnish on impulse can ruin the cost of a dish.

• *Portion Charts*

The service staff must be thoroughly conversant with the proper production control. For their convenience and ready reference, suitable portion size charts be prepared and displayed at convenient points in the kitchen. The portion for costing purpose may be expressed in weight but from server's use it may be expressed in scoop.

• *Regular Checking*

Continuous and automatic supervision will develop habits and need no special efforts. Food and beverage controller should do regular spot checks on the food leaving the kitchen for quality, portion size and presentation. The number of portions should be cross-checked against the number of portions expected to be produced from the commodities used by the kitchen.

• *Staff Instructions and Display of Charts*

Portion charts should be displayed at convenient points in the producing centre as a constant reminder. Regular demonstration and visual training will encourage staff to be alert for variation in portion sizes.

• *Pre-packed Food*

Reproduced portion is yet another method of production control in which food is already made up into portion is served to customers. The individual production control concept is now very popular on almost all the food and beverage establishments.

The main advantage of pre-packed and individual portions is:

• Convenience

• Exact standard portions

• Accurate pricing

• No production necessary

- Time saver

- Labor cost saved

- No spillage or wastage

- Hygienic

- Dependable

- Accurate consistency and presentation improvisation good

Fish, meat, vegetables and other products such as jams, marmalades, honey, sauces and dressings, dairy products (butter, cheese, milk, cream/ condiments, salt, pepper, mustard, sugar etc.) are now being pre-packed in individual portions.

9.3.1 Production Control and Standard Portion Size

The menu price of food items is based on the cost of the standard portion of food required to prepare them. A standard portion size is the quantity of a particular food item that could be served to the guest. This quantity may be expressed in terms of weight (ounces) or in numerical figures. The standard size of food item may be determined by the management in conjunction with the executive chef and restaurant manager.

The chefs and supervisors should be responsible to instruct their staff on the correct use of equipment and explain why it is necessary to adhered to the correct portion sizes.

Large hotels and food and beverage units employ highly developed production control methods and ensure that portions served are consistent to the same size as the portion costed. The actual size of the portion is a matter of policy decided by the management. The main objective of the production control is to ensure that the decisions made by the management are adhered to consistently.

Determinants of Portion Sizes for Production control

Size of portions is to be decided according to the nature of establishment, the type of customers, and type of food and beverage items handled by the establishments. In brief following points should be considered:

- The type of customers

- The type of food and beverage operations

- Spending power of the consumers.

In case of hospitals, important stakeholders and such as authorities dieticians and doctors come into the picture while planning portion type and size for the patients.

Determination of Menu Price for Production Control

The menu price could be determined by using portion divider. For this purpose following information are required:

- Purchase Price
- Portion Size
- Yield Percentage
- Food Cost Percentage Desired or menu Price

9.3.2 Standardization

In the world of clinical nutrition management, it's crucial to provide hospital patients and staff with food that's healthy and tasty. Those working in a hospital food service need to ensure that meals have a certain nutritional content and are properly portioned, and that there's enough to go around without creating excess food waste. That's where recipe standardization comes in handy.

According to the U.S. Department of Agriculture, a standardized recipe is one that "has been tried, adapted and retried several times for use by a given foodservice operation and has been found to produce the same good results and yield every time when the exact procedures are used with the same type of equipment and the same quantity and quality of ingredients."

The benefits of recipe standardization

There are numerous benefits of recipe standardization, which is why they're so important and sometimes even required for food service management programs. Here are several to consider, though there are even more:

- **Quality control:** Standardized recipes provide the same high-quality food every time they're used because they've been thoroughly tested and evaluated.

- **Portion and yield control:** The amount of food that will be produced is the same every time with a standardized recipe, meaning it will reduce leftover food and make shortages much less likely. You'll get exactly what you need.

- **Cost control:** It's easier to manage buying and storing food when you're using the same ingredients in the same quantities every time a particular recipe is made.

- **Patient satisfaction:** When you've done the research to find the types of foods your customers want, recipe standardization ensures that they get the same quality, presentation and amount that they're accustomed to each time the meal is served.

- **Consistent nutrient content:** With so much testing and planning involved in a standardized recipe, you'll know the exact nutritional

content of the food every time it's prepared, making clinical nutrition management a snap.

- **Increased employee confidence:** When your cooks are making high-quality meals every time they're made, they'll feel more job satisfaction knowing they don't have to make estimates or risk cooking a sub-par product.

How to standardize a recipe

Once you're ready to make a new recipe, there are certain steps that need to be taken to ensure that it's truly standardized. Here's what you need to do.

- **Vision a new recipe to make.** Survey hospital patients and staff to figure out what they like, or make a new recipe up and have it tested by your customers.

- **Calculate out the portion size you'll need.** You'll only need to do this if the portion size isn't already evident in the initial recipe, in which case you'll need to calculate measurements.

- **Create variations in the recipe.** If you need to make any changes to adjust the taste, texture, cook time or portion, now's the time to do it before you make the recipe on a larger scale.

- **Review the recipe.** Once you make adjustments, try making the recipe again to ensure that it's satisfactory.

- **Design a clear set of instructions.** This should include things like the name of the recipe, the category of the recipe, the exact form of ingredients used, the amount of ingredients used, and step-by-step preparation procedures, cooking details, portion sizes, total yield and equipment used. All of this information will ensure that even new cooks will be able to reproduce the recipe without issue.

9.3.3 Conventional and Non-Conventional Sources of Energy

Conventional energy means the energy source which is obtained from fixed reserves in nature like oil, gas and coal. In other words, conventional energy is also termed as non-renewable energy sources, or fossil fuels.

Non-conventional energy means energy acquired from sources other than the traditional sources of energy. Non-conventional energy is also called *renewable* energy because these energy sources can be replenished as compared to the traditional sources of energy. The latter are based on fossil fuel and would get exhausted in the future. The most popular form of non-conventional energy is the solar energy. Some of the other sources are wave, wind energy via wind turbines, hydroelectricity or solar energy gathered by plants, such as alcohol fuels and so forth. Further, the gravitational force of the moon can be used through tidal power stations, and the heat trapped in the centre of the earth is used through geothermal energy systems. Other examples of non-conventional source of energy are biofuel and fuel cells.

However, some of these non-conventional or renewable sources of energy are unreliable and therefore cannot be relied upon to give a constant supply of energy. Despite the inherent troubles with the technology of renewable energy, mounting environmental demand has forced its development at a faster pace. As per the World Wind Energy Association (WWEA), the wind power capacity worldwide reached 597 GW in 2018. All wind turbines installed by end of 2018 can cover close to 6 per cent of the global electricity demand.

Energy is used extensively in the food production as well as preservation process.

In terms of food preparation, energy is rapidly used for washing, cutting, slicing, purreying, frying, boiling, baking, freezing, barbequing, mixing, grinding, etc. The sources of energy used is mostly electricity from fossil fuels which power many different kitchen appliances including, gas, electric stove, mixer, ovens, microwaves, juicers, slicers, etc.

In terms of food preservation, it is used in the form of:

- Drying and storage
- Smoking and drying
- Salting
- Canning
- Freezing
- Freeze drying, etc.

Energy is also used in the packaging process for preparation of different containers for holding food including plastic, glass jars, cans, aluminium trays, packets, sachets, bottles etc. In case, they are reusable, and returned, then even more energy goes into its production.

The reliance on the fossil fuel energy can not only be problematic in the long run owing to its depletion but is also a costly affair. This is why different techniques are gaining prominence so as to promote non-conventional energy sources including but not restricted to solar, wind, and hydro-energy. Many alternate techniques are also being adopted to minimize the reliance and cost of conventional sources of energy.

Check Your Progress

1. Which type of menu is generally followed in schools and hospitals?
2. How is food production generally classified?
3. List the main stages of food production control.
4. State the objectives of food production control.

9.4 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Cyclic menu is used in such operations as school and hospitals where the number of choices must be kept small.

2. Food production is classified into different types including, cultivation, selection, crop management, harvesting, crop production, preserving, baking, pasteurizing, pudding, carving, butchers, fermenting, pickling, drink and candy makers, restaurants, etc.

3. There are four major stages in production control:
   - Volume Forecasting
   - Standard Yield
   - Standard Recipes
   - Standard Portion Sizes

4. The main objectives of production controls are:
   - To ensure guest satisfaction
   - To serve fair portion of food/beverages for a fair price
   - To maintain profitability on all portions sold.

9.5 SUMMARY

- Quantity food production involves developing skills that ensure that the quality of food remains throughout the entire production process planning through the analysis of all food processing steps from purchase to service. The flow of food is examined in kitchen throughout the entire process.

- Production planning is vital for quantity food preparation since it has several benefits. It is highlighted that predicting raw product costs helps control cost of food served. Production planning in food service also involves guidelines of cooking techniques for meat, short-order, sandwich, breakfast, vegetable, salad, bakeshop and special diet preparations.

- A menu is the foundation of a food service unit on which the entire food service unit depends.

- Menu is the backbone of the hotel. It gives the basic structure on which the other aspects can be planned. It also gives the operating needs for the hotel organization i.e.; it dictates what must be done and how it must be done. It is the key focal point of the entire operation, in terms of selling it is very often, the best salesman in food service.

- Menu planning is the term used to denote the planning in advance of a dietary pattern for a given period of time. By planning a menu we can come to know what are the food stuffs that we are going to consume and in what form at scheduled meal times such as breakfast, lunch, tea, dinner etc.

- There are certain considerations to be kept in mind while prepping the food preparation area.

- Food production is classified into different types including, cultivation, selection, crop management, harvesting, crop production, preserving, baking, pasteurizing, pudding, carving, butchers, fermenting, pickling, drink and candy makers, restaurants, etc.

- Production control means the controlling of the preparation of food which together should reduce over-production (and possible waste), loss from inefficient purchasing and processing, and loss from excessive portion sizes. The proper operation of the food control system should aid management in controlling food costs efficiently and maximizing the profitability of the operation.

- There are four major stages in production control:
    o Volume Forecasting
    o Standard Yield
    o Standard Recipes
    o Standard Portion Sizes.

- Standard recipe is the method of standardizing recipes in such a way so that there is tight control on cost and quantity. Standardization should not be allowed to stifle the individual chef's flair.

- A standard portion size is the quantity of a particular food item that could be served to the guest. This quantity may be expressed in terms of weight (ounces) or in numerical figures.

- In the world of clinical nutrition management, it's crucial to provide hospital patients and staff with food that's healthy and tasty. Those working in a hospital food service need to ensure that meals have a certain nutritional content and are properly portioned, and that there's enough to go around without creating excess food waste. That's where recipe standardization comes in handy.

9.6 KEY WORDS

- **Menu:** It is a concise, accurate and complete statement or list of all the items or dishes of the meal to be served or offered for sale for the customer and at the same time is hidden a list of tasks (jobs) to be carried out by the restaurant staff.

- **Production control:** It means the controlling of the preparation of food which together should reduce over-production (and possible waste), loss from inefficient purchasing and processing, and loss from excessive portion sizes.

9.7 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What are the different styles of menu?
2. Write a short note on functions of menu and principles of menu planning.
3. List the methods of food production.
4. Explain the relationship between production control, portion size and menu pricing.

Long Answer Questions

1. Describe the things to be considered while managing the food preparation area.
2. Examine the process and benefits of standardization in food servicing.

9.8 FURTHER READINGS

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UNIT 10 STYLES OF SERVICE IN FOOD SERVICE SYSTEM

Structure

10.0 Introduction
10.1 Objectives
10.2 Styles of Service
      10.2.1 Waiter-Waitress Service
      10.2.2 Self-Service
      10.2.3 Single Point Service and Mobile Food Service Vending
      10.2.4 Automated Take Away Service /Take Out Meals/Express Delivery
            System
10.3 Answers to Check Your Progress Questions
10.4 Summary
10.5 Key Words
10.6 Self Assessment Questions and Exercises
10.7 Further Readings

10.0 INTRODUCTION

Food service is an industry where production of food is done outside residential premises and served to large numbers at a cost for profits or subsided and maybe even charity purposes. The food service distribution is done as per brand specialty or customer demand or food production unit's convenience.

Food service industry or as we can say commercial food serving outlets was present as early at 12th century. The Chinese boast of its earliest restaurant as old as 1153 AD Ma Yu Ching's Bucket Chicken House serving meals even today. The West saw diners and Inn that were referred to as taverns that catered to travelers and offered bed and meals to passersby. These were common joints for soldiers and traders who were always on the move. In ancient Punjab, community kitchen dished out meals for large numbers during the 12th and 13th century. Langar was a common practice amongst Sufi mystics and Hindu temples who served free meal to spiritual travelers. The practice continues now as innovative community kitchen in Gurudwaras as 'Guru ka langar or Mahaprasadas).

Although community kitchens offer free food but commercial food service or restaurants were established in 16th century in France and London and seen as aristocrat dining establishments. Culinary experts and Chefs blossomed in French continent during this era of aristocracy. The concept of cafeterias and drive in restaurant was incepted in the American continent. During World War II, patrons were served food in their vehicles and the

innovative industry of drive thru food joints reached popularity in USA during 1950's. Fast Food now a food service boom saw its birth with McDonalds in 1940 and expanding globally ever since. Happy meals, to tray self service, food in a paper bag is a revolutionary concept seeing its conception with McDonald's food chains all across the globe and replicated by other newer food enterprises.

Present Day Food Service Styles: The food that we eat at establishments outside our home can be served to us with different styles. The type of service we prefer due to cost, hospitality, convenience or simply satisfactory joy we achieve from eating at that particular place.

The service of food is important for every venturing catering to people. It is the core of that establishment that makes the enterprise successful. Customer seeks hospitality in terms of special attention, good food, personal touch and most importantly cordial behaviour. In this unit, you will learn about the different styles of service that are prevalent in the food service industry.

10.1 OBJECTIVES

After going through this unit, you will be able to:

- Discuss the different types of waiter service
- Explain the types of self-service
- Describe vending and mobile catering as a style of service

10.2 STYLES OF SERVICE

The trends are numerous catering to each economic class and convenience. Personal human touch with emotes joy, warmth and hospitality to each guest making dining a memory at their restaurant to latest informal, fast and impersonal yet efficient style of service and delivery involving technology and artificial intelligence. Understanding of styles of service of food and beverage sector is essential to acknowledge the trends and dynamics of this industry and accordingly engage upon that knowledge for self perusal.

Whatever is the style of service there are many points that need supervision:

- Hygiene and personal cleanliness of the staff.
- Cleanliness and orderliness of the environment in which food is served.
- Courteous behaviour of the serving staff and smart confident agile on feet.
- Pleasing ambience and presentation.

Good presentation and display of meals and dishes are the first drivers of repeat customer. Aroma, colors, display orderliness attracts the guest first along with the taste of food.

The simple categorization of style of service can be done in the following manner:

Styles Of Service

A. Waiter-Waitress Service
- Banquet service – Formal Parties
- Restaurant service – Cafes, Dhabas, Cafeteria, restaurant
- Room service- Hospital, Airline, Railway, Bed & Breakfast Motels

B. Self Service
- Buffet- Full, Finger, Fork
- Cafeteria- Tray, Plate

C. Vending

D. Mobile Catering

Let's discuss each of these types, one by one.

The establishment's unique features, requirement of an occasion and the way a food needs to be served decides the need for particular service.

10.2.1 Waiter-Waitress Service

Waiters are the drivers of every food service establishment. Their behaviour, personal hygiene, mannerisms and skill make the eating-out experience a pleasure. The waiter service is of prime importance in dine-out restaurants, banquets and elite parties. Skill in layout, presentation of food as well as beverages, pre-setting and clearing of crockery are trained skills that require formal training and recruitment depends on their dexterity. Good communication skills with additional language proficiencies are important to make waiting upon a table a gratifying experience for the guest.

In hospitals, waiters may be in the form of stewards. While serving patients, they need to follow certain hospital guidelines for hygiene and clean liners. For other settings, like in a cafeteria, the waiter service night not be of the same standard as in hospitality since hospitals are not dependent on waiter services.

Expectations From Waiter Service

In general settings, let's look at the role of waiters in the hospitality industry.

Pre-Setting

- Organizing the table for the day by laying out upholstery, crockery, cutlery and checking for linen.

- Wiping cutlery and laying out neatly of all folded napkins.
- Glasswares to be stocked and spices to be refilled.
- Water jugs to be filled and ice buckets to be equipped.
- Room temperatures to be checked for air-conditioning or heating so that the guests feel comfortable upon walking-in.

Receiving Guests

- Greeting each guest and making them feel welcome.
- Directing to the table and helping the ladies and children with seating.
- Offering menu cards and taking orders as well as announcing specialty of the day.
- Communicating the order to kitchen.
- Making sure beverages are offered first.

Serving

- Making haste yet showing efficiency in placing orders and serving food.
- Smooth layout of breads, appetizers, dishes and assortments.
- Helping guests with dishing out on plate.
- Ensuring families with children are comfortable and if they need assistance in any manner, waiter staff can go a little out of way to make them feel at ease. Same is for senior citizens.

Clearing

Keeping the dining area clean by clearing finished, unused cutlery. Refilling water as required and offering desserts, finger bowls as requested.

Billing and greeting goodbye with warm poise.

Table Service

In our country, table service is the much preferred eating out style where families and extended families enjoy dining out together. The choice of restaurants is fixed and waiters are very familiar with the family and their preferences. The menu orders are fixed and yet slight modifications to taste can be done. Offering tip to the waiter after dinner is considered courtesy and an acceptable civilized norm for their modest services.

Caters to elite class with spending capacity at will. The restaurants can be cuisine specific or multi cuisine. Furniture and ambience are the selling point of each enterprise. Seating capacity usually depends from few to maximum 30-40 at a time. The Chefs are skilled and hired for their

recommendations. The procurement of raw ingredients for cooking is usually through vendors giving importance to premium purchase.

Family Style Food and Beverage Service

This will be seen in resorts garden sitting area or pool parties, weddings and family get together in open air. The food as well as beverages is placed on large platters or in large bowls and mainly consists of starters and bite sized food.

The food portions are then delivered to the guest's table by waiters or servers who are not too skilled but are courteous. Large number of servers is required but this is a convenient way to serve food to large gathering.

Customer catered to is high income group to middle income group. The food preparation is usually finger foods, appetizers and weather specific or occasion oriented. Clubs may have cultural celebrations like Lohri/Dusshera and food is theme specific. The guest's number can be from 50-200 and more. Chefs are involved in cooking and preparations and raw material is procured through vendors and sometimes the Chef's or Kitchen Manager themselves are involved in purchase from farmer's market or whole sale spice vendors to ensure quality.

Pre-Plated Service

It is an American style of dining. One of the most common and widely accepted kinds of food and beverage service where the servers take guests orders in the dining area. The meal order is rushed to the food preparation unit or main kitchen via KOT (Kitchen Order Ticket) where staff gets busy in preparation. Chef is involved in preparing of food as well as plating it. This food is brought to the restaurant and then served to the guests. It is a table service but involves pre-plating of meals and is typically observed in a multi course meal.

The guest numbers are not more than 50 as this is very unique style of serving giving attention to detail. Chefs involved work on art of plating and cuisine delicacy. The ambience and cutlery is of prime importance. Chefs procure raw ingredients through farmers market and vendors are hired for bulk materials. This service caters to elite class who look forward to exciting creativity of the Chef.

Blue-Plate Service

The Blue plate service is a kind of table service which is limited to a small group of guests. In this service the table and dining area is small in service. These are pre-plated meals with meat and vegetables. The serving plates have portioned ridges. It is seen in Indian Thaali meal service diners. Bed and Breakfast inns offer this service in Indian cities and motels in hill stations or even roadside dhabas. The low cost / budget meals in dhabas can be described as Blue plate service as the food and dishes are presented in a thaali.

These services are also found in health-care cafeterias.

Cart Service

A food and beverage style where partially cooked food from the kitchen is brought to the service area in a trolley which is portable including a heating unit for completing the cooking process. This is seen in serving fish, meat and poultry which is either cooked or flamed in the trolley.

Skilled Chefs are involved in preparation as well as serving the meat that are trained to use a spoon and fork for serving the cooked food to the guests. It is also observed that the prepared food is garnished as per the requisite with chutneys and gravies before serving.

Indian Railways also is an example of cart service where meals are prepared in pantry and offered to First Ac inhabitants on their seats.

Cart service can also be in New Year celebrations or pool side dinners or winter season parties in club houses where kebabs and tikkas roast in cart with flame or coal. Vegetarian and non-vegerian carts are always kept separate for convenience of the guest.

Snack Bar Service

A typical seat out at bar joints and pubs involve one straight counter with tall stools. The food and beverage is laid out at the counter itself for customer to eat. There is one or two server cum cashier who manages the counter. Kitchen staff is appointed in the cooking unit at the back drop of the counter.

Menu is generally on the display unit on the counter. Salad bars, Smoothies and Shakes joint, Ice-Cream parlors as well as coffee and cakes place have this typical shop-by-the corner look and feel. The number of guests is limited as space is not large.

10.2.2 Self-Service

In this Food and Beverage Service the guest or the customer will self-serve without assistance from waiter. The cooked food is either kept on a counter or buffet and the customer plates the required food from the buffet. This allows the guest/customer to comfortably choose what he or she enjoys. It involves a wide spread of dishes and is done in free guest flow settings where guests walk in to socialize or as corporate affairs. At times small get-togethers of 20-30 people like a kitty or baby shower or funeral may involve this set up.

This is an informal style of food service where the guest is required to walk up to the food bay and serve themselves. It is less intrusive and gives more private space and no hovering of a waiter makes eating experience more comfortable especially at private somber or joyous social get-togethers. The amount of food handling by staff is reduced. The guest can choose own portion sizes. This is more value for money as guest gets more variety and cost of waiting labour is reduced. Display makes meals more appetizing and wastage is minimum.

Many health care institutions have such facilities in their cafeteria.

Buffet Service

Buffet service displays food on tables for display. It involves a variety of cuisines and dishes to choose from. Guests or customers help themselves to pick up as many and as many items, they would like to eat. The cutlery is neatly stacked at the beginning of buffet table and is kept at the starting of the buffet counter.

Few servers do stand behind the counter table and assist the guests with serving of the food from the chafing dish to the plate. The presentation is elaborate and the food includes a complete course including numerous beverages, starters, dessert, salads and soups from vegetarian as well as non-vegetarian dishes. The dish containers are kept warm and full all the time till all guests are eating. This works smoothly in 5-star hotels in breakfast hours and at times occasional dinners. The purpose is to offer a beautiful array of dishes that look amazing on the table and layout is tempting. The buffet is cost is fixed and eat as much you will is the USP. Hygiene is given utmost presentation and used cutlery is not allowed on the fresh food table counters. Children are made comfortable by the staff so that they can enjoy their meals with their parents. Demand for cutlery is more in Buffet Style Meal spreads but works smoothly during holiday stays and long weekend stays in hotels and resorts.

Buffet styles vary:

- Full Buffet: It is a combination type of self service and waiter service. The guest enjoys meals by walking over to the food table and taking as much serving of desired dishes as preferred.

- Finger Buffet: In this buffet style only finger foods is served, and need for cutlery is minimum. This works excellent in tea time buffets and children parties where disposables can be used as well instead of expensive cutlery.

- Fork Buffet: When focus is not the food such buffet works fine as in corporate conferences and even teenage or youth parties where snacks are picked with forks. Socializing, networking and mingling with friends the main focus and drinks as well as food is just available round the corner for a quick bite.

Cafeteria Service

Canteen and cafeterias are seen in academic institutions and large employee settings. The meals are priced at subsided cost. The menu is fixed and rotational menu is prepared for each week. Cafeterias do not entertain outsiders and have restricted entries for just the staff or students. Entry to such cafeteria may be restricted to authorized people only. Cafeterias are most common facilities found in most health-care institutions.

The service includes self service where the individual walks up to the food service counter and dishes out own meals. Cleanliness of the area is maintained by sweeping and clearing of dishes immediately by the staff. The number of people being served food is large starting from 100 to as many as possible like in hospital staff canteens or industries cafeteria.

School and college facilities offering meals also have a cafeteria set up. The food prepared is always on-site, fresh and regional.

The individuals involved in food preparation are not Chef's but cooks with experience in large scale cooking. Fr procurement of raw ingredients generally tenders are given out as material procurement is very large.

Tray service: The meals are served to people in transit like in trains or aircrafts. Portions are already laid out in trays and served to passengers. Segregation is done as vegetarian and non-vegetarian meal preferences. It is also observed accompaniments, assortments, desserts and beverages or fruit are laid out later just before serving.

Plate service: Hot food is served in a bain-marie that is covered. Food is selected by the guest and plated by a server to maintain hygiene and portion control. This is seen in hostels, schools, cafeteria or Indian cultural events like kirtans and bhandaras. Cold salads, desserts, papads, pickles, raitas and yogurts are placed on a table separate from hot dishes. Overcrowding is prevented by separating tables for cutlery, main meals, salads and breads. Roti, poories, parathas, dosas come in hot in batches.

Room Service

A favorite service during stay in hotels and motels is to order food and drinks in your room. The menu is available in the room and order is taken on telephone. Interaction is limited and menu is simple limiting to hot beverages, snacks as well as simple dishes for breakfast, lunch or dinner. The meals are laid out in tray and trolley may be used for larger orders. The room service is a unique service and costs are notch up than restaurant charges. The room service is generally more expensive as compared to table service. It involves the waiter to carry meals and cutlery to the room in a trolley or large trays. Permission to clear the after meal cutlery is to be taken before knocking at the door again. Courtesy involves giving a tip to the waiter. Hospitals also offer bed service to the patients in admission and even in trains as well as aircrafts food comes to seats but this it doesn't seem right to term this service as room service. It is termed for food that is served in residing room where the guest is lodging. The food is made available in tray or trolley and is proportioned and laid out in a presentable manner. In the hospitals, food is served to the patients in their room, but they rarely get the option to choose their meal.

10.2.3 Single Point Service and Mobile Food Service Vending

These are the latest trend in food and beverage service industry. It involves one small counter where payment is done and food or beverage is received. It involves just one genre of food or beverage product like a sandwich or burger or pizza take out. There is no seating involved. Kiosks, Drive Through, Food Van, and Street Vendors are best example of this Single Point service. The venture is generally run by a sole owner who does all jobs of procuring ingredients to cooking and managing finances. The customer number depends on location of the venture and service provided varying from few to about 50 a day. The sale is not constant and varies each day.

- Very Low Investment Set-Ups.
- Individual Owner Who Multi-Tasks As Cook, Server, Cleaner, Cashier.
- Return Of Investment Largely Depends On Food As Well As Numbers.
- Good Initiative For Small-Time Entrepreneurs.

This is also known as vending and is the most common facility for quick bite as street food on bus-stops, railway stations, roadside, markets and fairs.

Vendors maybe on foot with basket or cycle or thela or van.

Vending machines are not operated by man and are automatic. Machine vending is more hygienic but can serve limited edible items and beverages although the technology is making advancement and automatic vending machines now serve sandwiches, coleslaws and smoothies as well as cold meals in mason jars. Vending machines are more hygienic than vendors.

In India it is seen that dhoop / agarbati is used to keep flies and mosquitoes away from the stall. Washing hands and disposing used cutlery is cumbersome making the corner a sanitation hazard especially during hot humid season.

The vending service or single point service is also known as mobile food service, as it involves the service of food from a moving vehicle or moving set up. This may include different modes like carts, food trucks, trailers or food stands.

10.2.4 Automated Take Away Service /Take Out Meals/Express Delivery System

Automated food system can take many different forms. For example, with the splurge in technology the food service is now automated with taking orders through App itself.

A complete niche sector thrives on digital ordering and delivering. This involves just focusing on food preparation and delivery. Hence infrastructure cost is limited to setting up a base kitchen, managing digital marketing cost and paying runners.

Automatic or Conveyer Belt Service

This is an elite service that is specific to high class food restaurants like Sushi. Conveyor belts run through the restaurant with tables attached and food is delivered to the guest by passing through this conveyor belt. This type of service allows no waiting staff and minimalists food touching. It is best for cold and fresh cut meals and salads.

In many hospitals in the West, a central tray assembly method is used for service to hospitals. It consists of service and assembly of ready foods on individual trays which move down a conveyor belt near the production area. When food has been dished out on each tray these are than placed on a mobile holding unit and transported to each floor and locations to patients.

Service by Bots

Food served by robots may seem futuristic but it is common in cruise ships. The guests can order their desired meals and beverages from their room through an interactive touch screen or mobile apps. The food is prepared by robotic arms and may be sent to the room through conveyor belts or elevator pantry. Bars in cruise ships generally see robotic arms mixing drinks.

With the coming of Auto-Bots the work of a waiter is more likely to be redundant. The waiter service involves certain skills and hospitality but it is very like that with technology taking control over food service these jobs may be vanish from employment list. There is also the emergence of drone food delivery.

Some Food Industry Trends

This era sees modern aspirations of Indian consumer. People today have chic preferences to eat out in cafes or finer outlets boasting of unique ambiance. It is to be noted that easy information access and social media influence choices that matter w.r.t health and hygiene are important for consumers. Although experimentation in cuisines is observed yet Indians are very much drawn to traditional local vendors and food stalls.

The following survey presents information about the trends observed in consumer behaviour in India besides values for money, convenience being of importance:

Fact 1: Nearly 2/3rd the population enjoys eating out over ordering in at home. Women were less interested on dining out as compared to men.

Fact 2: Majority of the population in Indian cities did like eating out/ ordering in at least 1-2 times a week.

Fact 3: Individuals do spend time as well as cost when dining out with friends and family over colleagues.

Fact 4: People are aware of what they are eating and health is a prime concern factor when eating out. B

Fact 5: It is noticed that cuisines that is all time favorite amongst Indians is North Indian/Mughlai followed by Italian and American. Eating with family also indicated major influencing power held by the children. KFC, Pizza Hut and Domino's shared the top spots with an approximate 20% of the population choosing them over other outlets indicating their strong presence in the urban market.

The food service industry today is influenced by social media marketing, ordering and feedback but it is very important to hygiene and health as top priority. Cost and convenience should not replace quality of food, and holistic techniques to retain nutritional benefits of every meal as well as assuring maximum sanitization is essential in this age of widespread contamination.

Check Your Progress

1. What are the first drivers of repeat customers?
2. List the factors which decides the need for particular service.
3. Which type of service do Bed and Breakfast inns offer in Indian cities?
4. What is the main focus in fork style buffet?

10.3 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Good presentation and display of meals and dishes are the first drivers of repeat customer.
2. The establishment's unique features, requirement of an occasion and the way a food needs to be served decides the need for particular service.
3. Bed and Breakfast inns offer blue plate service in Indian cities and motels in hill stations or even roadside dhabas.
4. In the fork style buffet, socializing, networking and mingling with friends is the main focus and drinks as well as food is just available round the corner for a quick bite.

10.4 SUMMARY

- The trends are numerous catering to each economic class and convenience. Personal human touch with emotes joy, warmth and hospitality to each guest making dining a memory at their restaurant to latest informal, fast and impersonal yet efficient style of service and delivery involving technology and artificial intelligence. Understanding

of styles of service of food and beverage sector is essential to acknowledge the trends and dynamics of this industry and accordingly engage upon that knowledge for self perusal.

o Styles Of Service

   A. Waiter Service

o Banquet service – Formal Parties

o Restaurant service – Cafes, Dhabas, Cafeteria, restaurant

o Room service- Hospital, Airline, Railway, Bed & Breakfast Motels

   B. Self Service

o Buffet- Full, Finger, Fork

o Cafeteria- Tray, Plate

   C. Vending

   D. Mobile Catering

- The waiter service is of prime importance in dine-out restaurants, banquets and elite parties. Skill in layout, presentation of food as well as beverages, pre-setting and clearing of crockery are trained skills that require formal training and recruitment depends on their dexterity.

- In our country, table service is the much preferred eating out style where families and extended families enjoy dining out together. The choice of restaurants is fixed and waiters are very familiar with the family and their preferences. The menu orders are fixed and yet slight modifications to taste can be done. Offering tip to the waiter after dinner is considered courtesy and an acceptable civilized norm for their modest services.

- The Blue plate service is a kind of table service which is limited to a small group of guests. In this service the table and dining area is small in service. These are pre-plated meals with meat and vegetables. The serving plates have portioned ridges.

- Cart service: A food and beverage style where partially cooked food from the kitchen is brought to the service area in a trolley which is portable including a heating unit for completing the cooking process. This is seen in serving fish, meat and poultry which is either cooked or flamed in the trolley.

- Snack counter style: A typical seat out at bar joints and pubs involve one straight counter with tall stools. The food and beverage is laid out at the counter itself for customer to eat. There is one or two server cum cashier who manages the counter. Kitchen staff is appointed in the cooking unit at the back drop of the counter.

- Self service: In this Food and Beverage Service the guest or the customer will server self without assistance from waiter. The cooked

food is either kept on a counter or buffet and the customer plates the required food from the buffet.

- Buffet service displays food on tables for display. It involves a variety of cuisines and dishes to choose from. Guests or customers help themselves to pick up as many and as many items, they would like to eat.

- Canteen and cafeterias are seen in academic institutions and large employee settings. The meals are priced at subsided cost. The menu is fixed and rotational menu is prepared for each week. Cafeterias do not entertain outsiders and have restricted entries for just the staff or students. Entry to such cafeteria may be restricted to authorized people only.

- These are the latest trend in food and beverage service industry. It involves one small counter where payment is done and food or beverage is received. It involves just one genre of food or beverage product like a sandwich or burger or pizza take out. There is no seating involved.

- Mobile food system can take many different forms. For example, with the splurge in technology the food service is now automated with taking orders through App itself. A complete niche sector thrives on digital ordering and delivering. This involves just focusing on food preparation and delivery. Hence infrastructure cost is limited to setting up a base kitchen, managing digital marketing cost and paying runners.

- Food served by robots may seem futuristic but it is common in cruise ships. The guests can order their desired meals and beverages from their room through an interactive touch screen or mobile apps. The food is prepared by robotic arms and may be sent to the room through conveyor belts or elevator pantry. Bars in cruise ships generally see robotic arms mixing drinks.

10.5 KEY WORDS

- **Self service:** This is an informal style of food service where the guest is required to walk up to the food bay and serve themselves

- **Tray service:** The meals are served to people in transit like in trains or aircrafts. Portions are already laid out in trays and served to passengers

- **Vending:** It is a style of service which involves one small counter where payment is done and food or beverage is received. It involves just one genre of food or beverage product like a sandwich or burger or pizza take out. There is no seating involved**.**

10.6 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What are the things to be kept in mind regardless of the style of service?
2. How are styles of service categorized?
3. Briefly explain the expectations from waiter service.
4. Write short notes on cart and snack bar service.
5. What are the different types of buffet service?
6. Explain the vending style of serving.
7. Write a short note on automated take away service.

Long Answer Questions

1. Examine the different categorizations of waiter service.
2. Explain in detail, the table, pre-plate, blue plate and family food services.
3. Discuss the self service styles.

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UNIT 11 SANITATION AND HYGIENE IN FOOD SERVICING INDUSTRY

Structure

11.0 INTRODUCTION

Food safety and quality has gained popular scrutiny considerable at the national and international level since enhanced food safety is the objective to enhancement to community health and nutrition.

Food safety helps reduction of cost of food borne conditions, enhances food security, increased trade, expands income generation and thus assists in poverty alleviation, raising of living standard and reduction in negative stimulation of economic development.

Improvement in the food quality deals with the elimination of negative attributes of food such as spoilage, contamination with filth, discoloration, etc., and enhances positive aspects of food, such as its colour, flavour or texture, that increase its value to consumers.

Current agricultural production practices pose risk to human health, which calls for increasing attention to food safety in India. The rising global trend of inflation in food prices, wastage and hunger demand and increase in food safety policies to be created and observed. There are estimates that food production needs to rise by 50 percent by the year 2030 to meet rising demand and the global trend of increase in food prices all enhance importance of food safety. In this unit, you will learn about the concept of food safety and hygiene practices

11.1 OBJECTIVES

After going through this unit, you will be able to:

- Discuss the concept of sanitation and hygiene
- Describe environmental hygiene and sanitation
- Explain the elements of safe food handling practices and personal hygiene

11.2 FOOD PRODUCTION UNIT: ENVIRONMENTAL HYGIENE AND SANITATION

A variety of chemical, biological and physical hazards are the major causes of food safety problems. Among these the bacterial contaminants, environmental contaminants including pesticide residues, mycotoxins and adulterants have been reported to be responsible for causing large-scale outbreaks of food poisoning and smaller incidents. These include various "food poisonings" reported in newspapers in India from time to time, outbreaks of Lathyrism, epidemic dropsy, veno-occlusive disease, various mycotoxicoses and food borne disease due to chemical toxins. Although not all food incidents are injurious to health, nevertheless they undermine consumer confidence in food safety and are costly to individual companies and national economies. Novel foods, such of unapproved varieties of genetically modified foods (e.g. star link variety of maize) have in the past posed problems of food allergenicity.

In India, effective food control system is undermined by plethora of fragmented legislations, multiple jurisdictions and weakness in surveillance, monitoring and enforcement, which neither assures safety, hygiene or quality.

The Government of India during 2005 had enacted the Food Safety and Standard Bill to consolidate the laws relating to food and to establish the Food Safety and Standard Authority of India for laying down science-based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import. It is claimed by the Ministry of Food Processing Industries to be contemporary, comprehensive and ensure better consumer safety through food safety management systems and setting standard based on science and transparency as also meet the dynamic requirements of international trade and Indian food trade and industry.

The main feature of the food law is:

- Movement from multilevel and multi departmental control to integrated line of command.

- Integrated response to strategic issues.
- Single reference point for all matters related to food safety standards regulatory and enforcement.

  Shift from mere regulatory regime to self compliance through food safety management systems.
- Responsibility of food business operators to ensure that food imported, produced, processed, manufactured or distributed is in compliance with the domestic food laws.
- Provision for civil penalties for minor offences and criminal action for serious violations.

Further the licensing for manufacture of food products, presently granted by the Central agencies handling Fruit Products Order, Meat Products Order, Milk and Milk Products Order, Solvent Extracted oil, De-oiled meal, and Edible Flours Control Order etc. would stand transferred to State Governments through the State Commissioner of Food Safety towards greater decentralization.

Working in the food and beverage industry is a challenging yet fulfilling career, especially when working within either the hotel or the hospitality industry where standards need to be maintained high in order to not fail expectations. Food processors and food handlers either in hospitality, hotel industries and food processing industries are advised to improve on any knowledge for food safety assurance.

Working in any food processing industry entails keeping up with target production for the day and working vigorously to make sure the food processed is on par with the standards for customers. Also, it requires that the workplace, the food being processed, and the whole workforce comply with the food safety and hygiene practices.

With the huge amount of food processed in hotels and hospitality, and large workforce to monitor, food safety is sometimes hard to track. However, it can be effectively done by educating workers on what to do and what is expected of them. Also, they must have a complete understanding about the implications if they do otherwise.

The environmental hygiene may include the following elements:

- Site
- Structure of the establishment
- Equipments, furniture & fittings used
- Ventilation
- Lighting
- Water supply & waste disposal
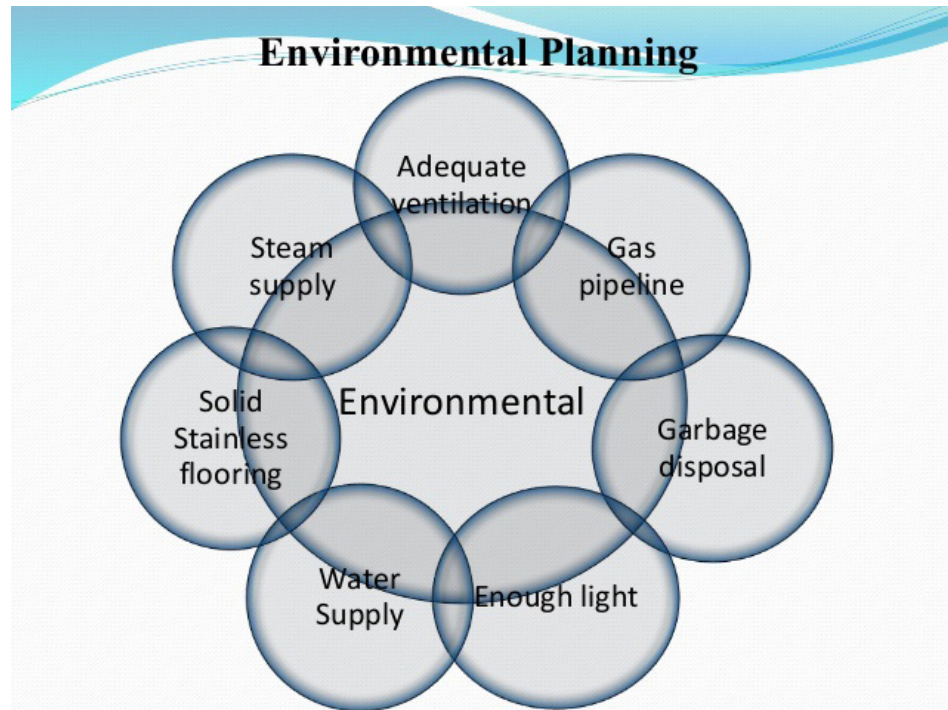
Fig. 11.1 *Factors of Environmental Planning*

Let's discuss some of these factors in this section.

Water Quality

Water for drinking, cooking, personal hygiene, medical activities, cleaning and laundry is safe for the purpose intended.

Indicators

- Escherichia coli or thermotolerant coliform bacteria are not detectable in any 100- millilitre sample of drinking-water. A water safety plan aimed at assessing and managing water systems, and ensuring effective operational monitoring, should be designed, developed and implemented to prevent microbial contamination in water and its ongoing safety.

- Drinking-water meets WHO Guidelines for drinking-water quality (2006) or national standards concerning chemical guidelines and radiological parameters.

- All drinking-water is treated with a residual disinfectant to ensure microbial safety up to the point of consumption or use.

- There are no tastes, odours or colours that would discourage consumption or use of the drinking-water.

- Water that is below drinking-water quality is used only for cleaning, laundry and sanitation and is labelled as such at every outlet.
- Water of appropriate quality is supplied for medical activities as well as for vulnerable patients, and standards and indicators have been established.

Drinking-water

Drinking-water should be provided separately from water provided for hand washing and other purposes, even if it is from the same supply. Drinking-water may be provided from a piped water system or via a covered container with a tap where there is no piped supply. Drinking-water points should be clearly marked.

Hand washing

Basic hygiene measures by staff, patients and care takers , hand washing in particular, should not be compromised by lack of water. Waterless, alcohol-based handrubs may be used for rapid, repeated decontamination of clean hands. Handrub dispensers can be installed at convenient points, and can also be carried by staff as they move between patients. However, handrubs may not be affordable, and they do not replace soap and water for cleaning soiled hands.

Hand washing facilities

Water points should be sufficiently close to users to encourage them to use water as often as required. Alternatively, a hand washing basin, soap and a jug of clean water may be placed on a trolley used for ward rounds, to encourage hand washing as often as needed between patient contacts.

Essential measures required to protect health in Food Service Industry

WHO has recommended the following set of measures to maintain health:

- Provide safe drinking-water from a protected groundwater source (spring, well or borehole), or from a treated supply, and keep it safe until it is drunk or used. Untreated water from unprotected sources can be made safer by simple means such as boiling or filtering and disinfection.
- Provide water for hand washing after going to the toilet and before handling food, before and after performing health care. This may be done using simple and economical equipment, such as a pitcher of water, a basin and soap, or wood ash in some settings.
- Provide basic sanitation facilities that enable patients, staff and care takers to go to the toilet without contaminating the health-care setting

or resources such as water supplies. This may entail measures as basic as providing simple pit latrines with reasonable privacy. Note that the risk of transmission of soil-based helminths is increased with the use of defecation fields. The use of shoes or sandals provides protection from hookworm infections.

- Provide safe health-care waste management facilities to safely contain the amount of infectious waste produced. This will require the presence of colour-coded containers in all rooms where wastes are generated.

- Provide cleaning facilities that enable staff to routinely clean surfaces and fittings to ensure that the health-care environment is visibly clean and free from dust and soil. Approximately 90% of microorganisms are present within visible dirt; the purpose of cleaning is to eliminate this dirt.

- Ensure that eating utensils are washed immediately after use. The sooner utensils are cleaned the easier they are to wash. Hot water and detergent, and drying on a stand are required.

- Reduce the population density of disease vectors. Proper waste disposal, food hygiene, wastewater drainage, and a clean environment are key activities for controlling the presence of vectors.

- Provide safe movement of air into buildings to ensure that indoor air is healthy and safe for breathing. This is particularly important if health care is being provided for people with acute respiratory diseases.

- Provide information about, and implement, hygiene promotion so that staff, patients and caretakers are informed about essential behaviours for limiting disease transmission in health-care settings and at home.

Further Guidelines on Environment Hygiene

- Cleaning the general hospital environment
- Cleaning items of shared equipment
- Education and training of staff

There is new evidence confirming that the hospital environment can become contaminated with microorganisms responsible for severe epidemics.

Transmission of microorganisms from the environment to patients may occur through direct contact with contaminated equipment, or indirectly as a result of touching by hands.

Methicillin-resistant *Staphylococcus aureus* (MRSA) and other pathogens have been recovered from a range of surfaces commonly touched, such as door handles (Reference: Barker et al, 2004; Oie et al, 2002), computer keyboards (Schultz et al, 2003), soap dispensers (Griffith et al, 2000; Brooks et al, 2002), and sink taps (French et al, 2004; Griffiths et al, 2002; Griffith et

al, 2000) and sites where dust is allowed to accumulate (Denton et al, 2004; Rampling et al, 2001).

The use of hypochlorite for cleaning has been associated with a reduction in incidence of Clostridium difficile infection in one study but this was in the absence of a detectable change in environmental contamination when either detergent or hypochlorite was used (Wilcox et al 2003).

In laboratory tests a combination of cleaning with detergent followed by hypochlorite was required to consistently eliminate norovirus from surfaces and prevent cross contamination (Reference: DH, 2003).

Dusting and cleaning using detergent was reported to have no effect on the number of MRSA isolated from the hospital environment, but the organism was virtually eliminated by exposure to hydrogen peroxide vapour (French et al, 2004).

The best way for improving the cleanliness at health facilities would be to follow conventional time tested approach of PDCA cycle -
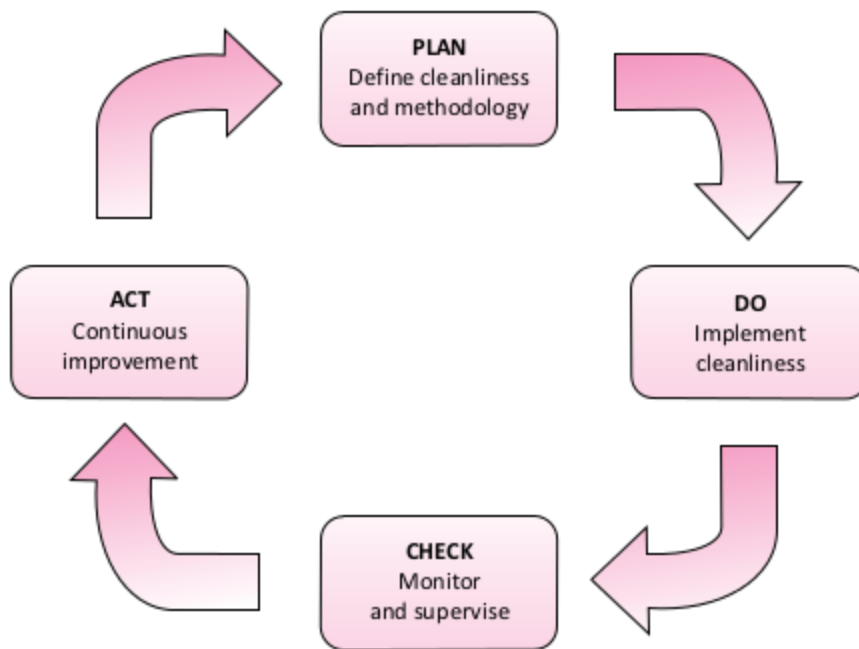
(Reference:http://vikaspedia.in/health/sanitation-and-hygiene/swachhta_abhiyaan_ guidelines/ensuring-cleanliness#section-1)

11.2.1 Personal Hygiene Practices

These are mandate guidelines on the 5 essential food safety and hygiene practices for those who work in the hotel and hospitality industry, and the effects of not practicing proper food safety and hygiene in the workplace.

Essential Food Safety and Hygiene Practices Which Must Be Kept In Mind

- Wear uniform, lab coats, aprons, proper clothing and footwear
- It always important that employees wear garments which are suitable for their job, which in this case is the food processing industry. Wearing proper clothing and footwear for food processing is the best way to maintain cleanliness of food which is particularly important when working in an industry such as a hotel where standards need to be kept high.
- Any employees in the hotel which deals with processing food, should wear impermeable gloves as they are a necessity which should be kept clean and sanitized at all time to prevent the spread of bacteria. Apart from that, all accessories must be removed when dealing with food, because accessories could be an important source of negative microorganisms.
- Wearing proper footwear is a standard followed by any food manufacturing company. Wearing the correct footwear which is sturdy, clean and comfortable is a must. Any footwear worn in the food processing environment within the hotel must not cross-contaminate areas, therefore it is best to dedicate one pair of shoes to be worn solely in the kitchen and not worn anywhere else.
- Wearing the proper clothes is also a standard followed by all food manufacturing companies. The proper clothing includes wearing an apron, coat, hairnet and gloves while working to ensure no food gets contaminated or it could make customers ill. If a uniform is required to be worn in the kitchen of the hotel, then more than one uniform should be purchased for each person do that the uniform is cleaned regularly.
- Finally, you must also ensure that you have hair and facial hair protection on at all times when cooking and preparing food as this is another basic hygiene practices which must be followed at all times.

By ensuring that you do these, you can keep yourself, customers, as well as the food you are manufacturing, clean and uncontaminated.

Personal Hygiene

Keeping your hands clean is an absolute must in any industry as it is a daily process for us all. Predominantly, keeping your hands clean in food processing within hotels is required as it can prevent the spread of diseases and hotels to ensure clean environments.

Cleaning your hands is a way for you to combat possible bacteria and contaminating agents inside the workplace. It is also a basic method to avoid diseases coming from other workers in the area.

Because of this, if you work in the food processing industry then you must ensure that you wash your hands before working, after lunch, after a toilet break or any time that your hands touch food or cigarettes. In other words, all workers in the industry must wash their hands before revisiting their workstation in the kitchen.

All hotels should place the process of hand washing around the facilities to ensure that all staff, particularly the ones working in the food industry, and all customers wash their hands properly with soap and warm water in order to prevent contamination and prevent anyone from getting ill.

This is all the more pertinent for hospital care units since the chances of infections are very high and patients who come in are suffering from vulnerable immunity.

Check Your Progress

1. What are the different types of food contaminants?
2. When was the Food Safety and Standard Bill enacted?
3. List the elements of environmental hygiene.
4. What are the key activities for controlling the presence of vectors?

11.3 SAFE FOOD HANDLING PRACTICES

The following Food Handling and Sanitation Standard Procedures must be followed as a part of safe food handling practices:

- Ensure the cleanliness of wholesome foods and make sure to only buy from reputable purveyors.
- Whenever applicable, buy only government-approved or certified meats, poultry, fish, dairy and egg product.
- Handle food directly with as little contact as possible: make use of tongs, spatulas, or other utensils instead of hand whenever possible.
- Use clean sanitized cutting equipment and work tables.
- Clean and sanitize cutting surfaces & equipment after handling raw, poultry, meats, fish, or eggs before working on another food.
- Follow the *'Clean as you go'* methods i.e. do not wait until the end of work day.
- Always wash raw fruits and vegetables thoroughly before processing.
- When bringing food out of the refrigerator, do not bring out more than you can process in an hour.

- Keep food covered whenever possible unless it is used immediately.
- Do not let any perishable food's remain in the temperature danger zone for more than one hour.
- Boil left-over gravies, sauces, soup, and vegetables before serving.
- Don't mix left-over with freshly prepared food.
- Chill all ingredients for protein salads & potatoes salad before combining.
- Chill custard, cream fillings, and other hazardous food as quickly as possible by pouring them into shallow, sanitized pans.
- Always cover the food items and put them into a refrigerator without any delay.
- Do not stack the pans when keeping in the refrigerator.
- Cook all pork products to an internal temperature of at least 150º F (65º C).

Kitchen/Food Production facility and equipment will be maintained, cleaned and sanitized on a regular basis to ensure the safety of the food prepared and served to customers.

The Kitchen Staff/Chefs who use such equipment will be responsible for washing and sanitizing removable parts after each use. Equipment that handles potentially hazardous or easily contaminated foods is cleaned at least every eight hours.

Ensure that the tools and equipment are clean and sanitized

Another practice which must be kept in mind is ensuring that the tools and equipment used within food processing in hotels are clean and sanitized.

Usually, bacteria are present in tools and equipment that are not cleaned and sanitized regularly, particularly in such a big industry whereby tools and equipment are continuously used.

Not only are the bacteria present in tools and equipment that are used on a daily basis, but are also present in the carts, hoses and other supplementary materials which are used inside the food processing industry.

Baring all of that in mind, the best way to keep all of these objects clean is by regularly sanitizing them with an antibacterial agent. Additionally, one must also, ensure that all of the tools and equipment within the hotel or hospitality kitchen are sanitized with the use of chlorine tablets to help minimize the risk of an outbreak in diseases. These chlorine tablets can be used safely within kitchens and food preparation areas, as well as in washrooms and bedrooms and is highly recommended to disinfect any body fluids and also disinfect cloths and mop heads.

Make use of food safety equipment and metal detectable equipment

Making use of metal detectable and food safety equipment in the kitchens of hotels are standard measures followed by food manufacturing industries to make sure there are no contaminants being brought into the workplace. The use of detectamet pens can help maintain safety in any food industry, as well as pharmaceutical, packaging and beverage industries.

Also, these are of best use due to the fact that contaminants, especially plastic contaminants, cannot be detected with the naked eye. So, utilizing these food safety equipment and metal detectable equipment is a must.

Step on the footbath

Lastly, one of the best ways to make sure you do not bring bacteria and contaminants into the kitchen of hotels is by stepping on the footbath. Even though this act is the simplest among the practices mentioned, it is definitely an effective way for self-sanitation.

Just ensure that the footbath present in the workplace contains enough sanitizing agents so that it will not become a ground for bacteria to form. With the large number of workers stepping on it, make sure that the footbath contains sufficient anti-bacterial agents, and it is cleaned every time.

Effects of Not Practicing Proper Food Safety and Hygiene in Large Food Production Units on Food Contamination

The primary effect of not practicing proper food safety and hygiene within the hotel or hospitality industry is of course food contamination. This is the worst scenario, because it would not only affect the patient or customer, but it can also result in the worst consequences for the food manufacturing company.

Spread of sickness and diseases in the workplace

Aside from food contamination, not practicing proper food safety and hygiene in hotels also results in the spread of sickness and diseases among workers.

Food hygiene authorities will have regular visits to business premises such as hotels to inspect them for compliance with any legal requirements which apply to them. Failing to comply to a countries required food safety requirements could result in a prosecution.

Safe handling of food items also requires certain other measures.

Facilities Required in the Processing Room

- A changing room and separate area for clothing and shoes that are not worn for work, which may be combined.
- Separate hand-washing facilities in a convenient place for staff to use, with soap, clean water, nail brushes and clean towels.

- Toilets, which should be separated from the processing room by two doors or located in a nearby building.

- First aid materials in an accessible place.

- Protective clothing, including gloves and shoes if appropriate, should be provided and laundered regularly.

- Cleaning chemicals should be stored away from the processing room.

Ways of working

- Clean all areas, including toilets, washing facilities and storerooms every day.

- Use the correct chemicals for cleaning equipment, make sure there are no food residues and rinse the equipment with clean water.

- Make sure all cleaning cloths are washed and boiled each day. Do not hang them on equipment, product or window ledges to dry.

- Clean equipment 'as you go' and do not leave dirty equipment until the end of the day before cleaning it.

- Keep the area around the processing room clean and tidy, keep grass cut short.

- Do not allow wastes to accumulate but remove them as they are produced. Clean up any spillages as they occur. Wastes should be collected in special bags or bins that are not used for anything else and taken to be dumped or burned away from the processing site.

- All animals should be prevented from entering the site and especially from entering the processing area or storerooms.

- Visitors should not enter the processing room without protective clothing and under supervision.

- Wear protective clothing which does not have loose ends that could get caught in machinery. Make sure that it is kept clean.

- Wear a hat that completely covers the hair, do not comb your hair in a processing room or storeroom.

- Do not wear wristwatches or jewellery as these are a source of infection and could get caught in machinery.

- Cover all cuts, bums, sores and abrasions with a clean, waterproof dressing.

- Do not smoke, use chewing gum, snuff or betel nuts in any room where there is open food because bacteria can be transferred from the mouth to the food.

- Do not spit in any part of a processing room or storeroom.
- Wash hands and wrists thoroughly with soap after entering the processing room, using the toilet, between handling raw and cooked food, eating, smoking, coughing, blowing your nose or combing your hair handling waste food, rubbish or cleaning chemicals.
- Dry them on a clean towel before handling food again.
- Do not use hand-washing facilities for food preparation.
- Keep finger nails cut short.
- Do not wear perfume or nail varnish as these can contaminate products.
- Do not lick fingers (e.g. when picking up sheets of wrapping paper).
- Do not handle any food if you have sores, boils, septic spots, a bad cold, sore throat or a stomach upset. Report any of these to the manager and do alternative work.
- Do not cough or sneeze over food.
- Keep food covered wherever possible.
- Keep all food, tools and equipment off the floor.
- Keep ingredients in sealed containers.
- Do not use unsuitable, broken or dirty equipment.
- Report any signs of insects, rodents or birds to the manager.

Safe working

- Do not leave metal stirrers in boiling liquids.
- Do not leave handles of boiling pans over the heat source.
- Carry knives with the point down, do not try to catch falling knives.
- Cut fruits and vegetables on a board and not using the other hand.
- Do not use a damp cloth to carry hot pans.
- Wear shoes that protect your feet from falling or hot objects.
- Cover burning cooking oil with a damp cloth, never use water to put out flames.
- Do not use gas burners in direct sunlight as the flames can become invisible.
- Do not carry large containers of hot food on your own, get assistance.
- Do not put cleaning fluids into old food containers.

Food-borne illness is a preventable and under-reported public health problem. Each year, millions of illnesses can be attributed to contaminated food.

Hazard Analysis Critical Control Points

HACCP or Hazard Analysis Critical Control Points is a scientific and systematic approach to identify, assess and control of hazards in the food production process. With the HACCP system, food safety control is integrated into the design of the process rather than relied on end-product testing. Therefore HACCP system provides a preventive and thus cost-effective approach in food safety.

Some basic HACCP practices are:

• 3 Sink System

• Maintaining proper fridge temperatures. e.g., Walk in fridges to maintain a temperature between 2 degree Celsius to 5 degree Celsius, deep freezer to maintain a temperature between -18 degree Celsius to -22 degree Celsius.

• In the fridge, always store cooked food items on top followed by vegetables, fish, poultry, red meat and then forced/minced meat.

• Cook poultry at least up to 63 degree Celsius.

• Hot food should be served hot i.e., at at least 60 degree Celsius and cold food should be served cold i.e., at at least 4 degree Celsius.

• Maintain proper sanitizing sinks.

• Using proper chopping boards for e.g., Brown – vegetables, Yellow – cooked meat, red – raw meat, blue – raw fish, green – salads and fruits and white – dairy and bakery.

Initially, HACCP consisted of three principles:

• Identification and assessment of hazards associated with food from farm to fork.

• Determination of the critical control points to control any identified hazard.

• Establishment limits of the critical control points.

In order to enhance food safety, every stage of the food production (from purchasing, receiving, transportation, storage, preparation, handling, cooking to serving) should be carried out and monitored scrupulously.

Principles of Hazard Analysis and Critical Control Point (HACCP) System

In order to enhance food safety, every stage of the food production (from purchasing, receiving, transportation, storage, preparation, handling, cooking to serving) should be carried out and monitored scrupulously.

The HACCP system is a scientific and systematic approach to identify, assess and control of hazards in the food production process. With the HACCP system, food safety control is integrated into the design of the process rather than relied on end-product testing. Therefore HACCP system provides a preventive and thus cost-effective approach in food safety.

The seven principles of a HACCP System are-

- Analyse hazards
- Determine critical control points
- Establish limits for critical control points
- Establish monitoring procedures for critical control points
- Establish corrective actions
- Establish verification procedures
- Establish a record system

Principle 1 Analysis hazards

A food safety hazard is any biological, chemical or physical property that may cause a food to be unsafe for human consumption. We analyse hazards to identify any hazardous biological, chemical, or physical property in raw materials and processing steps, and to assess their likeliness of occurrence and potential to render food unsafe for consumption.

Principle 2 Determine critical control points

A critical control point is a point, a step or a procedure in a food manufacture process at which control can be applied and, as a result, a food safety hazard can be prevented, eliminated, or reduced to an acceptable level.

Not every point identified with hazards and preventive measures will become a critical control point. A logical decision-making process is applied to determine whether or not the process is a critical control point. The logical decision-making process for determining critical control points may include factors such as:

- whether control at this particular step is necessary for safety;
- whether control at this step eliminates or reduces the likely occurrence of the hazard to an acceptable level;
- whether contamination with the hazard identified could occur in excess of acceptable levels;
- whether subsequent steps will eliminate or acceptably reduce the hazard

Principle 3 Establish limits for critical control points

Limit for critical control point is a criterion which separates acceptability from unacceptability. It is the maximum or minimum value to which a physical, biological, or chemical hazard must be controlled at a critical control point to prevent, eliminate, or reduce to an acceptable level the occurrence of the identified food safety hazard.

Examples of limits for critical control point are time, temperature, humidity, water activity and pH value. The limits should be measurable.

In some cases, more than one critical limit is needed to control a particular hazard.

Principle 4 Establish monitoring procedures for critical control points

Monitoring is a planned sequence of observations or measurements to assess whether a critical control point is under control and to produce an accurate record for future use in verification. Monitoring is very important for a HACCP system. Monitoring can warn the plant if there is a trend towards loss of control so that it can take action to bring the process back into control before the limit is exceeded.

The employee responsible for the monitoring procedure should be clearly identified and adequately trained.

Principle 5 Establish corrective actions

Corrective action is an action taken when the results of monitoring at the critical control point indicate that the limit is exceeded, i.e. a loss of control.

Since HACCP is a preventive system to correct problems before they affect food safety, plant management has to plan in advance to correct potential deviations from established critical limits. Whenever a limit for critical control point is exceeded, the plant will need to take corrective actions immediately.

The plant management has to determine the corrective action in advance. The employees monitoring the critical control point should understand this process and be trained to perform the appropriate corrective actions.

Principle 6 Establish verification procedures

Verification is the application of methods, procedures, tests and other evaluations, in addition to monitoring, to determine compliance with the HACCP plan.

Some examples of verification are the calibration of process monitoring instruments at specified intervals, direct observation of monitoring activities,

and corrective actions. Besides, sampling of product, monitoring records review and inspections can serve to verify the HACCP system.

The plant management should check that the employees are keeping accurate and timely HACCP records.

Principle 7 Establish a record system

Maintaining proper HACCP records is an essential part of the HACCP system. Accurate and complete HACCP records can be very helpful for:

- documentation of the establishment's compliance with its HACCP plan;
- tracing the history of an ingredient, in-process operations, or a finished product, when problem arise;
- identifying trends in a particular operation that could result in a deviation if not corrected;
- identifying and narrowing a product recall.
- The record of a HACCP system should include records for critical control points, establishments of limits, corrective actions, results of verification activities, and the HACCP plan including hazard analysis.

To establish recordkeeping procedures, plant management may:

- develop forms to fully record corrective actions taken when deviations occur;
- identify employees responsible for entering monitoring data into the records and ensure that they understand their roles and responsibilities

It is the management policy that pest control is carried out on a regular basis and that the Housekeeping Department has an overall responsibility to co-ordinate between the contractors and all departments. These principles also apply to health care settings since maintenance of hygiene is a crucial point of concern.

Purpose: The purpose of this policy is to ensure that the Hotel premises are refrained from all pests, to ensure problem areas can be identified and effective measures can be taken promptly and to ensure that the minimum disturbance is caused to the operation of the Hotel and our guest.

Procedure

If any hotel staffs find pests such as cockroaches, ants, rats, spiders, flying insects etc. in any area of the Hotel they should immediately report it to the Housekeeping Department.

Housekeeping Staff will record the details in the Pest Control Log Book. The Format is as follows:

- Date
- Time
- Description of Pest Problem
- Location of Pest Found
- Date of Pest Treatment Appointment
- Job Completed on.
- Staff accompanied.
- Signature

Housekeeping Manager is to review the Pest Control Log Book weekly to ensure the proper treatment is complied with.

Housekeeping floor supervisor or the Housekeeping manager should co-ordinate with the pest control contractor for monthly schedule and urgent implementation arrangement of ad-hoc pest control.

Housekeeping Manager will advise other department of the schedule and the type of treatment used for pest control, so the necessary safety measure can be taken by the concerned department Eg. Covering of food, cancelling of table settings etc.

Pest control contractor will be guided and accompanied by Housekeeping staff for security and job performance control purpose.

Types of Pest Control service

There are three basic treatments in controlling pests:

- Rodenticide Treatment (e.g. Laying of rat bait)
- Insecticide Treatment (e.g. Spraying of Insecticide)
- Flying Insects Control (e.g. Fumigation).

Areas Covered- All guest rooms, guest floor pantries, pipe duct rooms and both stair ways.

Treatment – Spray plus laying and checking of rat bait.

Frequency – Every second month during daytime.

Pubic Areas

All pubic areas, corridors, loading bay all toilets, general store, male and female changing rooms, rubbish rooms, lobby and front desk, floor terracing areas, driveway, workshop and engineering areas.

Treatment – Spray plus laying and checking of rat bait

Frequency – Monthly during overnight

Kitchen and Restaurants Areas

All F&B outlets i.e. All kitchens, staff canteen and restaurants.

Treatment – Spray plus laying and checking of rat bait, fumigation

Frequency – Monthly during overnight.

While doing food handling and preparation, chefs have to be free from all kind of bacterial infections.

The kitchen staff should pay attention to these two critical points:

- **Cross Contamination:** the transfer of bacteria from another food, equipment, or from work surface.
- **Food Danger Zone:** the temperature for food work area should be maintained in-between 45-140º F since at this range most bacteria cannot grow.

The Executive Chef and the Sous Chef should be responsible to ensure that proper food handling and sanitation practices are followed by the kitchen staff. The hotel training and HRD department should develop and implement proper written Kitchen SOP's to ensure the same is implemented correctly throughout all the food preparation outlets.

Kitchen Equipment Maintenance Standard Procedures:

- Ensure that all hand washing sink areas are supplied with soap dispensers and disposable towels or functioning air dryers at all times.
- Maintain walk-in and deep freezer facilities so that they function properly and are clean.
- See Temperature Record for Freezer, Temperature Record for Freezer/ Refrigerators, and Temperature Record for Refrigerator.
- Take temperatures routinely of water used in the kitchen to ensure that hot (minimum 45º Celsius) and cold (20º Celsius) running water is available at all sinks.
- Check to make sure that there is no possibility of back siphonage in the kitchen sinks and drains.
- Check to make sure that all food waste and rubbish are stored in rodent and insect proof containers with tight-fitting lids.
- Make sure that temperatures of all cooling equipment are taken and recorded routinely to ensure proper calibration of thermometers and proper equipment operation.
- Make sure that temperatures of all heating equipment are taken and recorded routinely to ensure proper functioning and thermometer calibration.

- Record temperatures of holding equipment at least daily to ensure proper functioning and calibration.
- Monitor the maintenance of ventilation systems, ensuring that systems are adequate and regularly cleaned according to the recommended schedule.
- Assure all equipment in the kitchen area is well maintained.
- The executive chef should make sure to contract with an equipment repair company to have preventive maintenance done for all equipment, including calibration of cooking equipment.
- The kitchen staff or the engineering team should make sure to log all preventative and repair work maintenance.
- Review temperature logs to ensure that they are being done and to determine problem areas.
- The Executive Chef or Sous Chef should follow up on any equipment issues or needs.
- Maintain all facility and equipment documentation with HACCP records.

Kitchen Equipment Cleaning and Sanitizing:

- All equipment used in the kitchen area should be washed, rinsed, and sanitized after each use to ensure the safety of food served to customers.
- Make sure to disassemble removable parts from equipment.
- Use the three-sink method to wash, rinse, and sanitize all parts.
- Verify sanitizer concentration for each meal period and as necessary per policy.
- Wash, rinse, and sanitize all food contact surfaces of the equipment that is stationary.
- Allow all parts of the equipment to air dry.
- Make sure to re-assemble the equipment once dried.

The introduction of preventive measures at all stages of the food production and distribution chain, rather than only inspection and rejection at the final stage, makes better economic sense. Food hazards and quality loss may occur at a variety of points in the food chain. A well structured, preventive approach that controls production and process is the preferred method for improving food safety and quality. Potential food hazards can be minimized along the food chain through the application of good practices. Strategy for laying emphasis for introduction of food safety preventive measures at

different levels of food sector need to be devised. The task of reaching the masses throughout the country could be achieved by identifying the centre where such message could be spread in the country. The ideal place for such activity could be the market place, where producers and buyers interact through sellers of food commodities. Various activities such as involving various stakeholders for changing emphasis from end product quality control to preventive measures throughout the food chain and introducing concepts like traceability need to be involved. Identification of key personnel at the grass root level for implementing the food safety preventive measures is essential.

Mechanism of coordination at the grass root level (panchayat or village level) for implementing food safety preventive measures need to be evolved.

Guidance to stakeholders for implementation of preventive food safety measures needs to be provided.

Preparation of specific guidelines relevant to local scenario is essential. Provide technical support to the key personnel in the use of non-regulatory options such as guidelines, advice and education. A mechanism for its dissemination among the stakeholders needs to be developed. Building the partnership among the government & private stakeholder by holding group discussion on implementation of food safety preventive measures at the division level involving relevant grass root level officials and private stakeholders would help a great deal. Mechanisms of building coordination between different entities (plant protection, Livestock, Fisheries, food and sanitary inspectors) have to be worked out.

Way ahead

The way ahead for evolving a food safety policy by the Government of India would be to organize workshop specifically for the purpose. All the stakeholders ranging from Government officials from the concerned ministries, quasi government bodies dealing with various aspects of food, food producers, processors, academicians and researchers, trade and industry representatives and consumers groups need to be involved.

A task force needs to be constituted including interminstirial representatives to draft a food safety policy document. Such a document could then be placed before the public for comments and the policy finalized.

This need to be followed by the development of appropriate programmes to implement the policy and at the same time strengthening the existing infrastructure both at the centre and state levels. Successful implementation of such a programme throughout the country uniformly would ensure safe, hygienic and quality food both for domestic consumption and for export.

11.4 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Food contaminants include the bacterial contaminants, environmental contaminants including pesticide residues, mycotoxins and adulterants have been reported to be responsible for causing large-scale outbreaks of food poisoning and smaller incidents.

2. The Government of India during 2005 had enacted the Food Safety and Standard Bill to consolidate the laws relating to food and to establish the Food Safety and Standard Authority of India for laying down science-based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import.

3. The environmental hygiene may include the following elements:

   - Site
   - Structure of the establishment
   - Equipments, furniture & fittings used
   - Ventilation
   - Lighting
   - Water supply & waste disposal

4. Proper waste disposal, food hygiene, wastewater drainage, and a clean environment are key activities for controlling the presence of vectors.

5. There are three basic treatments in controlling pests:

   - Rodenticide Treatment (e.g. Laying of rat bait)
   - Insecticide Treatment (e.g. Spraying of Insecticide)
   - Flying Insects Control (e.g. Fumigation)

6. Chlorine tablets can be used safely within kitchens and food preparation areas, as well as in washrooms and bedrooms and is highly recommended to disinfect any body fluids and also disinfect cloths and mop heads.

7. HACCP or Hazard Analysis Critical Control Points is a scientific and systematic approach to identify, assess and control of hazards in the food production process.

11.5 SUMMARY

- A variety of chemical, biological and physical hazards are the major causes of food safety problems. Among these the bacterial contaminants, environmental contaminants including pesticide residues, mycotoxins and adulterants have been reported to be responsible for causing large-scale outbreaks of food poisoning and smaller incidents.

- In India, effective food control system is undermined by plethora of fragmented legislation, multiple jurisdictions and weakness in surveillance, monitoring and enforcement, which neither assures safety, hygiene or quality.

- The Government of India during 2005 had enacted the Food Safety and Standard Bill to consolidate the laws relating to food and to establish the Food Safety and Standard Authority of India for laying down science-based standards for articles of food and to regulate their manufacture, storage, distribution, sale and import.

- Working in the food and beverage industry is a challenging yet fulfilling career, especially when working within either the hotel or the hospitality industry where standards need to be maintained high in order to not fail expectations. Food processors and food handlers either in hospitality, hotel industries and food processing industries are advised to improve on any knowledge for food safety assurance.

- Water for drinking, cooking, personal hygiene, medical activities, cleaning and laundry is safe for the purpose intended.

- Basic hygiene measures by staff, patients and care takers , hand washing in particular, should not be compromised by lack of water. Waterless, alcohol-based handrubs may be used for rapid, repeated decontamination of clean hands. Handrub dispensers can be installed at convenient points, and can also be carried by staff as they move between patients.

- Keeping your hands clean is an absolute must in any industry as it is a daily process for us all. Predominantly, keeping your hands clean in food processing within hotels is required as it can prevent the spread of diseases and hotels to ensure clean environments.

- There are certain Food Handling and Sanitation Standard Procedures that must be followed.

- The Kitchen Staff/Chefs who use such equipment will be responsible for washing and sanitizing removable parts after each use. Equipment that handles potentially hazardous or easily contaminated foods is cleaned at least every eight hours.

- HACCP or Hazard Analysis Critical Control Points is a scientific and systematic approach to identify, assess and control of hazards in the food production process. With the HACCP system, food safety control is integrated into the design of the process rather than relied on end-product testing. Therefore HACCP system provides a preventive and thus cost-effective approach in food safety.

- There are specific standard procedures which can be followed for equipment maintenance.

11.6   KEY WORDS

- **Food contaminants:** A variety of chemical, biological and physical hazards causing major food safety problems.

- **Pest Control:** It is the regulation or management of a species defined as a pest, a member of the animal kingdom that impacts adversely on human activities.

11.7   SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What are the main features of the food law?
2. Write short notes on the measures to kept in mind for drinking water and hand washing in food service industry.
3. Briefly explain the essentials of food safety and hygiene practices.
4. What are the safe working measures to followed while preparing food?

Long Answer Questions

1. Explain the essential measures required to protect health in Food Service Industry.
2. List the Food Handling and Sanitation Standard Procedures which must be followed.
3. Discuss the ways of working which must be considered for safe handling of food items in food service industry.
4. Explain, in detail, the HAACP standards.
5. Describe the kitchen equipment maintenance standard procedures.

11.8 FURTHER READINGS

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BLOCK - IV
HUMAN RESOURCE MANAGEMENT, MARKETING AND DIETARY ACCOUNTING

UNIT 12 HUMAN RESOURCE MANAGEMENT

Structure

12.0 INTRODUCTION

Human Resource management (HRM) is the function within an organization that is primarily involved in:

- Recruitment

- Managing people in an organization

- Providing directions
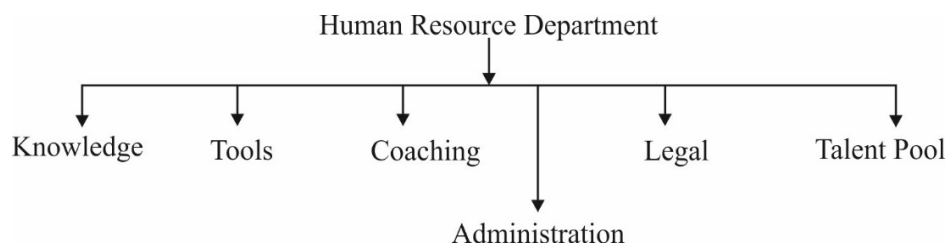
Fig. 12.1 *Constituents of the Human Resource Department*

In a food service organization, the Human Resource Management takes care of the overall organizational mission, vision as well as imparts moral

values, code of ethics and inspires the employees to continue working with them.

The workplace is influenced by the culture as well as environment strategic and comprehensively created by the managers of Human Resource Department.

The managing team of Human Resource department will use HRM metrics and measurements to demonstrate their value by keeping their employer and company safe from lawsuits and the resulting workplace chaos solutions. Best organisations and food service units have the strongest Human Resource Management.

By definition, William R. Tracey in 'The Human Resources Glossary' defines human resources as the people that staff and operate an organization as contrasted with the financial and material resources of an organization. It is important to note that the term personnel management refers to the functions that many employers use in place of Human Resource.

The team is an extremely popular work design in all types of organizations today.

The enthusiasm for this work configuration is so strong that it might be considered a fad in the modern management philosophies. The cornerstone of most HR practices is a thorough understanding of the requirement of the jobs. In this unit, you will learn about the various processes and activities undertaken by the Human Resource Management team.

12.1 OBJECTIVES

After going through this unit, you will be able to:

- Describe recruitment and selection activities
- Explain the induction and training of food service employees
- Discuss the performance appraisal, leadership, communication and employee benefits
- Describe the major laws governing food service establishment

12.2 RECRUITMENT AND SELECTION

The main responsibility of Human Resource department is the process of recruitment and selection of suitable employees. The objective is to find best employee in suitable cost and meet all objectives of the company.

Stages of Recruitment

- Defining Requirements
- Attracting Right candidates
- Candidate selection

Defining requirements: A human resource plan is defined that will contain the criteria's for job openings, replacements and requirements specified for a role. Checklists are created to meet job criteria. Responsibilities of each role are laid out in clearly explained job descriptions.

A role profile listing competence, skill and educational experience requirements are elaborately explained in the job criteria against which the candidates are assessed for an interview that are conducted telephonically, in person or through psychometric tests.

Role Profile: A checklist is created that describes the competencies of all necessary requirements expected in a particular job role. The requirements for technical competencies, knowledge, specific skills, specific behaviour and attitude expectations are clearly defined. The specifications in a role profile also includes the information on the company's or food service establishments' specific terms and conditions, pay of benefits, hours of work, special expectations of commute, travel, training and career opportunities. 'The recruitment role profile provides the specifications for hiring personnel.'

Let us see what a job profile looks like for recruitment in food production unit.

Industry: Food Production

Role: Production Manager

Qualification: Diploma/ Degree

Experience: 5-10 years

Job Responsibility:

   i. Oversee daily operations of food processing unit.
   ii. Ensure the production meets health, sanitation, quality standards set up by the corporation, food industry.
   iii. Responsible for coordinating of shifts, arranging schedules and monitoring employee performance.

Checklists created by the HR team to recruit employee in a food production unit:

- Look at the job description and compare if the profile is an exact match.
- Conduct a background check on the individual to ensure no felony or legal file records.

- Hire for attitudes, skill follow. As rightly quoted that a person who has a great attitude and believes in work ethic will make a good staff even if they don't have technical skills. It is easy to train for desired skills but attitude cannot be taught as it belongs to the person.

The food production and service industry faces hyper-competition in this era. Customer is demanding and very choosy. Technology and IT enabled information have forced food units to serve their best quality products and services with a very competitive price.

The competition of restaurant and café sector is very aggressive and factors involve taste of food, quality of dishes, friendly ambience, comfort and pricing.

The food and beverage industry depends on skilful chef, barista waiters and waitresses to maintain their competitive edge.

In order to find skilled chef and brilliant barista including serving staff managers and owners of the restaurants and café have to apply appropriate techniques of recruitment and selection process, since these activities ensuring the selection of right people as the prime source of competitive advantage by employing more capable than its rival (Armstrong, 2012). However it is essential to recognise that by just matching resources to the organizational requirements does not necessary imply the success of food unit. The production and service unit of the food has to maintain the status quo and perpetuating a culture of effective recruitment selection process to enhance the business.

Standard indicators to evaluate candidates for a food service unit:

- Physical fitness including pleasant attributes.
- Skills for kitchen and service.
- Smart communicator.

In a food and beverage industry these methods are used for the process of recruitment.

- Periodical or scheduled recruitment.
- Utilisation of social media for recruitment.
- Applicants selected on four tests that comprise administrative test, knowledge and skill test, managerial interview, owner interview.

Four standard indicators are used for selection process.

i. **Administrative indicator:** Candidate should have experience dealing with the selection process for the applied job and the score of interviews should be above average.

ii. **Physical indicator:** The candidate required in food and beverage unit should be good-looking, clean, charming in appearance.

iii. **Skills indicator:** The candidate appearing for the role should know and also understand the job task.

iv. **Communication indicator:** The candidate should have effective skills for communication, fluency in English and regional languages along with confident order.

The recruitment and selection process are an integrated process.

The activities concerned with identifying, attracting and hiring appropriate individuals to meet organization needs is the responsibility at Human resource manager.

Selection is defined as the process that is more focussed with choosing candidates who are potential growth contributors to the success of the organization.

The two factors responsible in recruitment and selection are

External Factors

- External labour market, candidates' availability with experience, SKA-skill, knowledge, ability technology development and government policies.

Internal Factors

- Business strategies
- Size of organization
- Financial position of the organization
- Culture and ethics within scale of the organization.

By utilisation of in-depth interview that uses a semi-structured interview guided by using observation and documentation, data is obtained and checking for validity helps HR to select the final candidate.

The attitude and behaviour of the person in food beverage industry is used as the basis for structured interview.

A role profile sets out expectations and competency requirements during interview. The biggest risk to avoid is to overstate upon competencies and the desired qualification.

Selection Specifications By HR Manager in a Food and Beverage Organization

Technical competencies

- Competent in:
  - all aspects of recruitment
  - interviewing presentation

- job analysis
- data operation
- administration skills.

Behavioural competencies

- reliable to context of job
- good influence on others
- coping skills
- make sense of issues.
- independent conflict solver
- self control
- motivated and good self esteem

Qualifications and experience

Graduation or polytechnic training from Hotel Food Management Colleges and training institutes.

As mentioned by Taylor, 2002 a competency approach is individual based rather than job-based. Roberts, (1997) suggests that the benefit of bringing a competencies approach is that people can identify and isolate the key characteristics which would be used as the basis for selection, and that those characteristics will be described in terms which both can understand and agree. The competencies becomes a very prioritised approach to the process of selection especially in the industry of food and beverage organisations.

Check Your Progress

1. What are the stages of recruitment?
2. List the standard indicators to evaluate candidates for a food service unit.

12.3 INDUCTION AND TRAINING

Induction is the process that involves warming up to a new recruit in the organization and allowing them the time as well as space to settle down at a convenient fast possible time and initiate work soon.

The aim of induction program is to:
   (i) The preliminary introduction to the organization is made for the new recruit.
   (ii) Motivate the employee by allowing a customisation to the new organization.

(iii) Efficiently introduce new employee to the work without overwhelming.

(iv) Reduce likelihood of the employee to leave the organization.

Importance

Fowler (1996) stated that employees are less likely to resign during initial months after sharing recruitment in the organization. The cost can include:

- Recruitment costs of replacement.
- Induction costs of training.
- Cost of praying temporary agency for placement.
- Cost involved for additional of supervision and error correction.
- Employees pay and benefits.

Commitment to the organization is high if reinforcements are ensured during induction in the preliminary weeks.

Induction weeks also help the new recruit understand what the organization expectations in terms of behavioural attitude and moral values. Misinterpretations and apprehensions are reduced as employees that are new will learn how the way things are done at the place.

Induction accelerates the learning curve of the new employee. Although the efficiency to learn is individualised but it is important to provide for it to take place in a planned and systematic manner from the first day to maximize individual contributions as quickly as possible.

Socialisation is allowed during induction process that allows a positive reinforcement.

Reception of the new recruit is done by a senior employee. The staff is also trained to be the induction introducer and needs to be friendly as well as helpful. It is essential that new recruit is not kept waiting for introductions, reception, transfer of knowledge and the guided activity is an excellent antidote to first daily nerves.

An employee handbook consists of the following:

- Introduction to the food and beverage organization describing the uniqueness, inception and core values.
- Basics of employment informing about hours of work, holidays, provident fund schemes, health insurances.
- Remuneration details.
- Illness and information.
- Leaves and absenteeism.
- Company rules.
- Discipline procedures.

- Capability procedures.
- Grievance procedures.
- Promotion procedures.
- Education and training facilities.
- Medical and first aid facilities.
- Rules for using telephone, cell phones, emails.
- Travel expenses
- Food coupons.

Company induction procedures should not completing rely on printed hand books. The HR department personal must run the new recruit through the induction process as well with briefing, introducing and directed to department.

Induction information is the responsibility volunteered/offered to manager or a supervisor in food and beverage industry. These attributes make the process of induction beneficial:

- **Communication:** Information about any changes that are happening in the food production and service unit currently or are expected in the future helps the new recruit understand the business frontier.

- **Set standards:** Initial expectations requirements of declared helps the new recruit be it a cook, chef, waiter or customer support team in the food and beverage unit create own mind-set and measure performance. Consistency is expected from all in food production as well as service unit and allowing new recruits to think as well as adopt to their own style can also be suggested and offer improvement in process.

Training the staff in mechanics of the unit is done by providing the appropriate tools, resources and flexibility by food and beverage manager.

A new recruit can take months to get accustomed to the new team, culture, rules and productively can be accelerated by a good induction process that drives down turnover and drives up the profits.

Training

The foci of Human Resource development is essentially a business led approach to developing people with a strategic framework. Training is a strategic human resource management and is defined by Hall (1984) as the identification of needed skills and very active management of learning for long range future in relation to explicit corporate and business strategy. Harrison (2000) described that strategic human resource development arises from clarify about employee abilities, potential and operates within the overall strategic framework of the business. The primary aim of training in the food

and beverage industry is to enhance resource capability in accordance with the belief that the human capital of an organization is a major source of competitive advantage. It is therefore about ensuring the right quality people are available to meet present and future needs.

The specific objectives of training in a food and beverage unit is to develop an intellectual capital and promote a very organizational team and individual learning culture that creates a culture of environment in which employees that are encouraged to learn and develop and in which knowledge is to be managed very systematically.
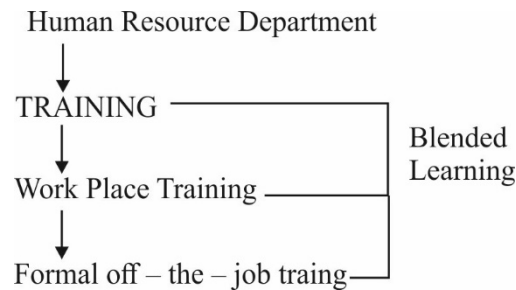
Fig. 12.2 *Types of Training*

Training: The planned and systematic modification of behaviour through learning events, programmes and instruction, which enable individuals to achieve the levels of knowledge, skills and competence needed to carry out their work effectively.

The knowledge and skills a food production and service employee brings with formal education and aptitude along with training with experience generates production capital of the food and beverage enterprise.

Training programmes are linked with implementation.

Reynold et al (2002) stated that learning is the process by which a person acquires a new knowledge and skills as well as capabilities whereas training is one of the several responses on organization can take to promote training.

When a training module is being prepared which describes what has to be learnt and the training required to achieve the required levels of skill and speed it is often desirable to proceed step by step bring one task or part of a task at a time, reinforcing it and then progressively adding other parts consolidating at each stage. This is called the progressive parts methods of training.
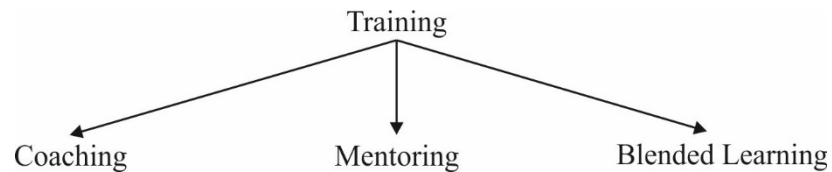
Fig. 12.3 *Methods of Training*

Coaching

The Industrial Society (1999) defines coaching as the art of facilitating the enhanced performance learning and development of others.

It takes place in the form of one-to-one on the job approach to assist the new recruit in the food production, service or quest relations to home their skills further and increase their level of efficiency. Coaching day to day helps employ be aware of self performance and interest. It is an informal technique of controlled task allocation and delegation.

Grow Model for Coaching

G - Goal oriented; meaningful steps.

R - Reality check; need to learn.

O - Option generated; solution oriented.

W - Wrapping up; commitment.

Coaching should provide the new recruit in any unit of food and beverage organization with motivation, structure, effective feedback.

Mentoring: Mentoring is the process of using specially selected and trained individuals to provide guidance, pragmatic advice and support in continuing to help the new recruit learn efficiently learning happens on the job offered by experienced managers to benefit from experience as well as wisdom.

Blended learning

It is a combination of delivery methods. It takes into account the learner's environment, style of learning, motivation. Involves self-learning, e-learning, role play and other exercise induced to enhance the skill of recruit.

Check Your Progress

3. State the specific objectives of training in a food and beverage unit.

4. What is the GROW model for coaching?

12.4 PERFORMANCE APPRAISAL, LEADERSHIP AND COMMUNICATION

In this section, you will learn about the concept of Performance and Appraisal, Leadership, Communication and Employee Benefits.

Performance Appraisal

Performance is a measurement of achieving goals and targets in a designated job. Performance management processes have become prominent recently

as providing an integrated and continuous approach to management of performance through merits and schemes.

It is an agreement between employee and HRM rather than management by command. It emphasizes development along with initiation of learning skills by coordinating harmony between the recruited employee and the management team of the enterprise.

Definition: Performance is an act of skill.

Increasing expectations and responsibilities in an enterprise as endearing as a food and beverage industry can be overbearing for the employee. Performance management and appraisal schemes allows the staff to view the larger vision and agree upon the laid out responsibilities, duties and quantify the achieved goals for personal fulfilment.

An employee's development should be tailored to an individual's personal milestones which are determined in a formal performance appraisal. It is noticed that the appraisal process is very fruitful for employee as well as the management of the enterprise. It is important that performance management is planned as well executed and offer an opportunity to provide employees with positive feedback which is very constructive and help them map a career path for self with defining a goal plan with a short term and long term objectives.

Benefits of performance appraisal:

- Better profitability and productivity
- Opportunity for effective communication within team and leadership.
- Motivated employees and work satisfaction.
- Improved morale and team connect
- Planned employee remuneration and benefits program.

How are performance appraisals review conducted?

Preparation and Measurement

Informing employees about appraisal along with remuneration during induction. Schedule meeting in advance for review and give the employee a copy of the evaluation form to review and objectively understand the analysis before meeting. Openly communicating the thoughts and also inquiring about challenges and achievements attained by the employee. Discussion on insights on conflicts, issues, improvements and scope of development should be encouraged positively and be constructive.

A performance referral form to review and support the discussion is a must. The main components of this form are:

- Name of the employee
- Designation
- Date of review and duration period of assessment
- Defining annual objectives.
- Duties and rating on those duties.
- Criteria of rating
- Strengths in area of work
- Action plan for further assessment
- Career path and action oriented goal plan
- Narration of comment, both verbal and written
- Signature of both the employee as well as the manager on the performance appraisal form.

Leadership

Leaders: People follow them.

Managers: People work for them.

A business that is a success is owned by an individual who possess leadership traits and is a good manager.

Leadership is to involve people and create a self motivated environment where the staff understands the vision of the enterprise and is happy to work and achieve the common team goals.

Managing staff is involved in administrative and coordinating activities to ensure things happen around as they ought to, daily.

Traits to identify a good leader are:

- Honesty with integrity
- Long term vision
- Inspired and inspirers
- Accept challenges
- Good orator and effective communicator

Traits of a good manager

- Executes the company vision with strategic roadmap
- Efficiently delegates and communicates

- Organised process management
- Has culture team bonding environment and possesses conflict resolution skills.

As per wisdom from great leaders, it is essential to engage staff working in food and beverage industry in manner to enrol them in the vision of the enterprise and align their insights as well as attitude with the companies. Creating excitement and breaking monotony helps the staff provide best services to the guests, clients, partners from the employees in hotel and hospitality, food and beverage industry.

Communication

Food and beverage sector is a hub of work etiquette between people. There is a co-dependency between each other to get the job done as well as satisfy the customer. Communication is the key to hiccup-free efficiency. In the food production unit the communication takes place in a noisy environment. Kitchen is the foci of the business is where all the action takes place. Employee and Supervisor communication is both oral and written. Task delegations are done through meetings, presentations, hand-outs and posters which ensure word to work communication. Verbal tasks are conveyed in morning, noon and sign-out intervals. Longer conversations are undertaken via closed room meeting one-on-one as well as emails.

Oral reports are also created describing condition of equipment to problems with a recipe. This is explained verbally as well a sent through email that is official. An effective oral report will have introduction, explanation and conclusion. It is communicate as effective written report.

Effective communication in the kitchen environment can be done through telephone or in person but maintaining conducive tone, professionalism and arrogance is a priority.

In every organization an open two dimensional communication line allows informed employees and lesser hence jerk reactions from management. It is not an exaggeration that good communications can create satisfactory inter personal relationships between and staff organization and reduce hostility.

Communication in a Food and Beverage unit has to be based on:

    A. What managers have to say

    B. What staff wants to hear

    C. Problem solutions resolved in conveying and receiving messages.

Bad, poor communication techniques are the fundamental reason for chaos inefficiency and poor performance in kitchen unit.

To Say: Managers are responsible to get the kitchen and service staff in a food and beverage unit to understand and accept what management proposes

to do in the area that is their expertise. The managers want commitment from employees and help them appreciate their contribution to the enterprise.

To Hear: Staff is focussed on hearing that matters to them. Changes in methods, timings, designations, plans, payment structure directing affects on employee and they are interested to learn more. Moreover, task improvement ideas and appreciations also encourage the staff as long as communication is directing linked to their genre and is not generalised. Channels of communication system in any organization can be:

- Intranet system
- Magazines
- Newsletters
- Bulletins
- Notice-boards
- Employee engagement activities
- DVDS
- Team briefings

Employee Benefits

There are various laws and acts that have been passed since Independence to govern the functioning of a company. These laws and act as a type of statutory benefit for employees of company. For example, the Employees' State Insurance Act 1948, Employees' State Insurance Act, 1952, The Workmen's Compensation Act, 1923, The Maternity Benefit Act, 1961, the Industrial Disputes Act, 1947, and so on. These laws and regulations contain important provisions for holistic protection and benefits of the employees including social, financial, health and safety matters.

12.5 LAWS GOVERNING FOOD SERVICE ESTABLISHMENTS

The major law governing food service establishments in India is the FSSAI Act. This will be discussed in this section.

FSSAI, food safety and standards authority of India is an autonomous body working under the direct supervision of Ministry of Health and Family Welfare, Government of India. It was organised as an establishment under the Food Safety And Standards Act, 2006 which is a consolidating law related to food safety and regulation of India.

The FSSAI is responsible for creating and implementing standards for food so that the body is responsible for dealing with queries and chaos is avoided by consumers, traders, manufacturers, investors alike.

The following authorities are under FSSAI:

- Regulations to be framed to lay down food safety standards.
- Guidelines to be created for accreditation of laboratories for food testing.
- Provision of scientific data and technical support for Central Government.
- Developing international standards in food safety.
- Collecting and collatering data on consumption, contamination risks in food.
- Food awareness, safety and nutrition awareness dissemination of information.

Bucket List of all previous acts under FSS Act:

- Prevention of Food Adulteration Act, 1954
- Fruit Products Order, 1955
- Meat Food Products Order, 1973
- Vegetable Oil Products (Control) Order, 1947
- Edible Oils Packaging (Regulation) Order 1988
- Solvent Extracted Oil, De-oiled meal and edible Flour Control Order, 1967.
- Milk and Milk Products Order, 1922.

FSSAI is India's apex food quality governing body and authority of monitoring. Any food and beverages enterprise within India will require an FSSAI License. This license is a 14-digit number that is printed on the food packaging and label.

FSSAI license is a mandate for people who are involved in business with food that is related to production, processing, import, export, distribution, restaurant, café, roadside food vendor to local hawker.

FBO India demands FSSAI License to ensure food quality, no adulteration avoid endemic to food combination and receive complaints under Food Safety Standards Act.

There are certain guidelines laid out by FSSAI to follow:

Restaurants: Have to keep a checklist on

  (i) Prevention of food impurities

 (ii) Sorting Raw materials

(iii) Cleaning and Disinfection

(iv) Personal Hygiene

(v) Pest Control

(vi) Maintenance Checks

The importance of FSSAI on restaurants is to ensure Food Hygiene and Food safety.

- Restaurants catering people should follow proper food practices.
- Every restaurant, catering unit should obtain FSSAI licence.
- Care to be taken in food safety processes.
- Maintain Brand equity and efficiency in work.
- Good hygiene practices and personnel hygiene to be followed by food handlers and staff to reduce food borne illness.

The FSSAI claims that benefits of good practices at the restaurant are

- Helpful in reduction of food borne diseases.
- Excellent maintenance of restaurants, cleanliness, orderliness and staff hygiene.
- Brand equity improves with time.
- Complying with FSSAI is like placing of food safety display boards in company's trust.
- Abiding by mandatory food safety.

Standards and Regulations

Restaurants are ultimate provider of food and should be well equipped with all the necessary formalities and requirements.

FSSAI is now working steadfastly on improving health, food and nutrition standards in our country. There are certain details of standards set by FSSAI recently.

I. FSSAI has issued drafts to reduce permissible limit of trans-fat content in edible oils below the current limit of 5%. The initiative is an inspiration from WHO that is progressively working to achieve a trans-fat free world by 2023.

FSSAI is on a mission to make India a trans-fat free country in 75th year of Independence, 2022.

II. FSSAI has launched experience zone that explains shifts made by it in so many years. The consumers visiting the headquarters in New Delhi can experience the food value chain systems and processes involving various regulations and changes.

III. FSSAI has been working to give more importance to food safety compliance more than just documenting and licensing. It will now recognise a food and beverage unit as per annual turnover

and according tags are set to providing licensing registration and entry in food ecosystem.

IV. FSSAI has launched the SNF@workplace initiative (safe and nutritious food at the workplace) today. The standards set roles for stakeholders in administration, cafterias for employee wellness.

Check Your Progress

5. What is communication in food and Beverage unit based on?

6. What is FSSAI responsible for?

12.6 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. Stages of Recruitment
   - Defining Requirements
   - Attracting Right candidates
   - Candidate selection

2. Standard indicators to evaluate candidates for a food service unit:
   - Physical fitness including pleasant attributes.
   - Skills for kitchen, service.
   - Smart communicator.

3. The specific objectives of training in a food and beverage unit is to develop an intellectual capital and promote a very organizational team and individual learning culture that creates a culture of environment in which employees that are encouraged to learn and develop and in which knowledge is to be managed very systematically.

4. **Grow Model for Coaching**

   G -   Goal oriented; meaningful steps.

   R -   Reality check; need to learn.

   O - Option generated; solution oriented.

   W - Wrapping up; commitment.

5. Communication in a Food and Beverage unit has to be based on:
   - A. What managers have to say
   - B. What staff wants to hear
   - C. Problem solutions resolved in conveying and receiving messages.

6. The FSSAI is responsible for creating and implementing standards for food so that the body is responsible for dealing with queries and chaos is avoided by consumers, traders, manufacturers, investors alike.

12.7 SUMMARY

- Human Resource management (HRM) is the function within an organization that is primarily involved in the priority process of an institution:
  - o Recruitment
  - o Managing people in an organization
  - o Providing directions

- The main responsibility of Human Resource department is the process of recruitment and selection of suitable employees. The objective is to find best employee in suitable cost and meet all objectives of the company.

- A role profile listing competence, still, educational, experience requirements are elaborately explained in the job criteria against which the candidates are assessed for an interview that are conducted telephonically in person or through psychometric tests.

- The food production and service industry faces hyper-competition in this era. Customer is demanding and very choosy. Technology and IT enabled information have forced food units to serve their best quality products and services with a very competitive price.

- Induction is the process that involves warming up to a new recruit in the organization and allowing them the time as well as space to settle down at a convenient fast possible time and initiate work soon.

- Induction accelerates the learning curve of the new employee. Although the efficiency to learn is individualised but it is important to provide for it to take place in a planned and systematic manner from the first day to maximize individual contributions as quickly as possible.

- The specific objectives of training in a food and beverage unit is to develop an intellectual capital and promote a very organizational team and individual learning culture that creates a culture of environment in which employees that are encouraged to learn and develop and in which knowledge is to be managed very systematically.

- When a training module is being prepared which describes what has to be learnt and the training required to achieve the required levels of skill and speed it is often desirable to proceed step by step bring one task or part of a task at a time, reinforcing it and then progressively adding

other parts consolidating at each stage. This is called the progressive parts methods of training.

- Coaching day to day helps employ be aware of self performance and interest. It allows is an informal technique if controlled task allocation and delegation.

- Mentoring is the process of using specially selected and trained individuals to provide guidance, pragmatic advice and support in continuing to help the new recruit learn efficiently learning happens on the job offered by experienced managers to benefit from experience as well as wisdom.

- Performance is a measurement of achieving goals and targets in a designated job. Performance management processes have become prominent recently as providing an integrated and continuous approach to management of performance through merits and schemes.

- Leadership is to involve people and create a self-motivated environment that staff understands the vision of the enterprise and is happy to work and achieve the common team goals.

- Food and beverage sector is a hub of work etiquette between people. There is a co-dependency between each other to get the job done as well as satisfy the customer. Communication is the key to hiccup-free efficiency. In the food production unit the communication takes place in a noisy environment. Kitchen is the foci of the business and here is where all the action takes place.

- FSSAI, food safety and standards authority of India is an autonomous body working under the direct supervision of Ministry of Health and Family Welfare, Government of India. It was organised as an establishment under the Food Safety And Standards Act, 2006 which is a consolidating state related to food safety and regulation of India.

- The FSSAI is responsible for creating and implementing standards for food so that the body is responsible for dealing with queries and chaos is avoided by consumers, traders, manufacturers, investors alike.

12.8 KEY WORDS

- **Selection:** It is defined as the process that is more focussed with choosing candidates who are potential growth contributors to the success of the organization.

- **Training:** It is a strategic human resource management and is defined by Hall (1984) as the identification of needed skills and very active management of learning for long range future in relation to explicit corporate and business strategy.

12.9 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What is the role profile?
2. Mention the checklists created by the HR team to recruit employee in a food production unit.
3. What are the objectives of induction?
4. List the constituents of employee handbook.
5. Write a short note on training and coaching.
6. What are the traits to identify a good leader? State the traits of a good manager.

Long Answer Questions

1. Discuss the process, qualifications and standards used for recruiting in food service industry.
2. Describe the importance of performance appraisal and communication.
3. Examine the role, benefits and standards and regulations of FSSAI.

12.10 FURTHER READINGS

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UNIT 13 MARKETING IN FOOD SERVICE INDUSTRY

Structure

13.0 Introduction
13.1 Objectives
13.2 Definition and Marketing Mix and Promotion in Food Service
      13.2.1   Marketing as Managerial Function
13.3 Answers to Check Your Progress Questions
13.4 Summary
13.5 Key Words
13.6 Self Assessment Questions and Exercises
13.7 Further Readings

13.0   INTRODUCTION

The food and beverage industry is very competitive. The leaders like McDonald's and Subways continue to increase their share of the market at the expense of smaller chains and independent entrepreneurs. Marketing is the food and beverage service industry's saviour to success. Marketing encompasses merging integrating and controlling supervision of all company's or organization efforts that have a bearing on sales. In this unit, you will learn about the definition of marketing and its relevance in the food service industry.

13.1   OBJECTIVES

After going through this unit, you will be able to:

- Define the marketing concept

- Discuss marketing as a managerial function

- Explain the marketing mix in food service

13.2   DEFINITION AND MARKETING MIX AND PROMOTION IN FOOD SERVICE

Definition of marketing can be customised as per the services. According to the American Marketing Association, 'Marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefits the organisations and its stakeholders. marketing depends on the system of barter. A process of exchange between two parties.'

The marketing concept is based on the premise that firms determine customer wants and needs and then design products and services that meet those wants and needs while also meeting the goals of the firm. Marketing is the process that involves advertising, personal selling, merely forms of promotion is just one component of the marketing mix.

Advertising or personal selling performed alone focuses only on the hospitality operations. Product service mix and the goal is to convince the consuming public to purchase and consume a portion of the product-service mix.

There are numerous examples in the food service segment that indicate owners create operations they liked or always want to operate yet the owners and managers fail to consider fully the needs and wants of potential consumers.

The results are very predictable:

- Low volume
- Poor sales revenue
- Frequent bankruptcy

The difference between selling and marketing is very simple.

Selling focuses mainly on the enterprises desire to sell products for revenue. Sales representatives are helpful for promotions to create demand for firm's current product. Objectively, the desires of the seller are very strong. Marketing focuses on the needs of the consumer, ultimately benefiting the seller as well. When a product or service is truly marketed, the needs of the consumer are considered from the very beginning of the new product development process and the product service mix is designed to meet unsatisfied need of the public.

Marketing Concept Philosophies

- **Decision: Menu Planning and design**

  Marketing Applied: Focussed brainstorming sessions and team meetings to understand current consumer tastes and add a clash to the menu.

  Marketing Not Applied: I like chicken peas patty, so let's add that to the menu!

- **Decision: Pricing**

  Marketing applied: How will our customers behave if we increase the price value of our weekend buffet?

  Marketing Not Applied: Let's increase the pricing on our weekend buffet as we did that last summer as well!

- **Decision: Guest Service**

  Marketing Applied: Apologising for delay by quoting "I'm very sorry that you had to wait for 20 minutes for your breakfast this morning.

  May I offer you a complimentary breakfast today or would you like the credits applied towards your breakfast tomorrow"?

  Marketing Not Applied: "Sorry to keep you waiting as our staff is short today due to sick leaves."

- **Decision: Guest Requests**

  Marketing Applied: We don't have any rooms with a king bed available at this time, but I can have one ready for you in 30 minutes. Can I have my bell staff check in your luggage until then?"

  Marketing No Applied: "We don't have a suite ready. Can we give you a basic room with two single beds?"

Marketing Mix and Promotion In Food Service

Marketing mix simply refers to the creative collection of marketing procedures deliberately positioned and coupled together to act as a policy for improving the marketing objectives of the organization. The five Ps of marketing involved in a marketing mix are product, price, promotion, place and packaging. Additionally, factors like people, process and physical evidence help in improving the marketing efforts.

Promotions, basically refer to the efforts made to promote the product by increasing sales in dull periods, attracting regular customers through new offerings, attracting new customers and break routine of the existing staff through additional measures. Food promotions act like publicity for the place, helps in its reintroduction after rennovations or upgrade, is important for special occasion planning. Food promotions may be in the form of internal promotions, tie up with other hospitality units and full destination promotions. You will learn more about food promotions and marketing in hospital care settings further in this section.

13.2.1 Marketing as Managerial Function

'It's easy enough to find a Minister of Education, all the jobs needs is a long white beard. But a good cook is different, that requires universal genius.'-Bismarck.

A manager has two specific tasks. Nobody else in the business enterprise discharges these tasks. And everyone charged with them works as a manager. The manager has the task of creating a true whole that is larger than the sum of its parts, a productive entity that turns out more than the sum of the resources put into it.

It requires a manager in an enterprise to harmonise three main tasks that involve:

- Managing a business
- Managing managers
- Managing workers

It is important to understand that the managers need to learn about main elements of marketing for every enterprise.

- **Product/Service:** The unique feature, strength, values, core of the enterprise needs to be perceived. Marketing than helps ensure that the customers are focussed upon in the best possible way.

- **Price:** The point at which any product is sold is the main foci of marketing brain storming sessions. This ensures potential buyers are reached out to.

- **Promotion:** The face of the brand is defined by the promotion. It is targeted towards boosting brand recognition and sales. Advertising, promotion of sales and relations of public are all contributors of this.

- **People:** This covers all personnels involved in the organization to define the cultural of the unit. The define the enterprise and also decide the growth of the unit.

- **Process:** The actual systems and processes of the operation are the way the product and service shapes up to meet the customers. Good processes ensure costs are kept at minimized pricing. Operational excellence is the key to be kept in mind while designing the processes. This results in maximum profit.

Food and Services industry marketing is different. It is customer oriented.

Excellent customer service involves ongoing support from the enterprise and creating brand identity and ultimate success.

It involves answering questions, taking orders, dealing with billing, handling complaints, scheduling appointments and similar activities. These essential functions can make or break an organization's relationships with its customers. The quality of customer care can significantly impact brand identity for service, manufacturing and consumer products companies.

Because of its importance in creating impressions and sustaining customer relationships, customer service has been labelled as the front door or face of the organization. The face of the customer service has changed the influx of technology. Now face to face interaction can be by passed with telephonic communication. This has a great impact on marketing in food and beverage sector.

For instance, calling Pizza Hut delivering at home is a convenient means to order food. One may want to order only a large pizza with vegetables but subtle marketing from customer representative by sharing order of the day or deal of the day or a little extra garlic bread is a technique of marketing.

The advent and rapid proliferation of the efficient but much maligned automated voice response systems have changed personal customer service in many organisations into menu-driven, automated exchanges. In almost every industry and any business context, consumers encounter these types of systems and many are quiet frustrating for example when a system has long confusing set of menu options or when no menu option seems to fit the purpose of the call.

Similarly, consumers become agitated when they cannot get out of the automated system easily or when there is no option to speak to live representative.

These inefficiencies are now accomplished through a form of natural language speech recognition technology (AI/BOTS) that allow the customers to easily interact through telephone in ways that are much similar in experience to talking to a real person.

Marketing can now happen via phone, fax, email, internet, automated voice system.

Food and beverage industry depend on service. A major cause of poorly perceived service is the difference between what a firm promises about a service and what it actually delivers. Customer expectations are shaped by both uncontrollable and company-controlled factors.

Word of mouth communication, social media publicity, customer-generated media, customer experiences with other services providers and customer needs are the key factors that influence customer expectations and are rarely controllable by the firm. Controlled factors such as the company advertising personal selling and promises made by service personnel also influence customer expectations.

Marketing communication is a more complex form today. Customers receive marketing information about goods and services from a limited number of sources, usually through television and newspaper. With a limited number of sources, marketers could easily convey a uniform brand image and coordinate promises.

However, today's consumers of both goods and services receive communication from a far richer variety of marketing vehicles- websites, direct mail, movie theatre advertising, email solicitation, targeted magazines and a host of sales promotions. Communications innovations in the past five years are now being added to the communications mix in ways that change everything. Buzz and blogs, virtual communities like WhatsApp, You Tube, Instagram. Consumers of services receive additional communication from

services (apps) customer service departments and everyday service encounters with employees. These service interactions add to the variety volume and complexity of information a customer receives. While a company cannot control outside sources, ensuring that messages from all company sources are consistent is a major challenge for marketers of services.

Any company that disseminates information through multiple channels needs to be certain that customers receive unified messages and promises. These channels include not only marketing communication messages that flow directly from the company but also personal messages that employees send to the customers.

Communications and the services marketing triangle.
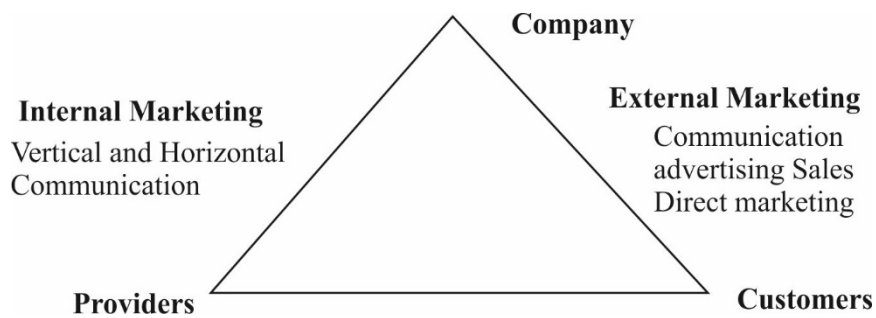
Fig. 13.1 *Marketing Triangle*

Source: *This is the communication and services marketing triangle from M.J. Bitner, "Building Service Relationships. "It is all about promises." Journal of Academy of Marketing Science 23, no. 4 (1995) and C. Gronxoos, Service Management and Marketing Lexington, M.A: Lexignton Books, 1990).*

What happens when marketing fails happen in a food service sector?

Imagine seeing an advertisement for a service and special sandwich from subways then going to the local round the corner subway outlet and not finding the product available. It is failed marketing. Delivering what you communicate is essential in food and beverage service sector. This demonstrates that integrated marketing communications have not been standardised. There are various aspects of communication that need to be followed in marketing.

The sales department develops and executes sales communication. The marketing department prepares and disseminates advertising.

A public relations firm is responsible for publicity.

Functional specialists handle sales promotions, direct marketing, company websites. The human resources department trains frontline employees for service interactions and still another area is responsible for customer service department. All departments have to channelize

communication efforts for coordination and adopting the concept of integrated marketing communications (IMC).

Integrated marketing communications builds a strong brand identity in the market place by tying together and reinforcing all your images and messages. IMC means that all your corporate messages, positioning and images, identity are all coordinated across all the venues. It means that your PR materials say the same things as your direct mail campaign and your advertising has the same look and feel as one has on your brand, website.

Management of Customer Expectations: Marketing Priority#1.

Appropriate and accurate communication about services is the responsibility of marketing campaign. Operations also needs to be in sync with same.

Marketing compels what is offered in actual service; operations delivers what is promised. In case of advertising, personal selling, external communication set up of very unrealistic expectations, actual encounters will disappoint customers.

Because of increasing deregulation and also intensifying competition in the service sector, many service firms feel pressure to acquire new business and to meet or beat competition. The greater the extent to which a service firm feels pressured to generate new customers and perceives that the industry norm is to over promise the greater is the firm's propensity to over promise.

Five major approaches to overcome service communication channels.

Fig. 13.2 *Approaches to Overcome Service Communication Channels*

- Address Service Intangibility
- Use Narrative to demonstrate the service experience
- Present vivid information

- Use interactive imagery
- Focus on tangibles
- Use brand icons to make the service tangible.
- Feature service employees in communication.
- Use Buzz or viral marketing.
- Aim messages to influences.
- Create advertising that generates talk because it is humorous, compelling or unique.
- Feature satisfied customers in the communication.
- Generate word of month through employee relationships.

Create Effective Vertical Communication

Companies that give customer contact employee adequate information, tools and skills allow them to perform successful interactive marketing. Most important downward communication are company newsletters and magazines, corporate television networks, email, briefings, video tapes and internal promotional campaigns and recognition programs.

Create effective horizontal communications

Communication across functional boundaries in an organization facilitate coordinated efforts for service delivery. This task is difficult because functions typically differ in goals, philosophies, outlets and views of the customers. Coordination between marketing and operations can result in the communication that accurately reflects service delivery. Integration of effort between marketing and human resources can improve the ability of each employee to become a better marketer. Marketing is a strategic investment in any business. The food and beverage industry thrives on marketing. Be it a Hotel or Hospital unit, you get what you see is the rule of the game. Manager must be equipped with day to day strategies to sell the USP of the unit. Tools, Techniques, Technology are of importance to run the campaign in marketing to run the campaign in marketing. As team that knows how to market their wave is best success as a unit.

Effective communicator is what runs the show. Both vertical and horizontal communication strategies are a need of the hour and food manager has to be efficient in art of communicating.

Managing customer expectations and customer education are also norms of marketing techniques in food service sector.

Importance of Marketing Hospital Foodservice Initiatives

Hospitals are incorporating health initiatives within campuses to offer healthy options to patients as well as medico skill whether hospital operations are

outsourced or within, the hospitals are conscious to have healthy food improvements for patient and employee satisfaction.

For many hospitals new and repeat customers from the surrounding area implications for a food service unit traditional keep profits.

Leveraging lessons learned and expanding product for healthy hospital initiatives into other institutional critical issues like making sure what folks eat as long term eating habits.

Food Promotions in Hospitals

Some important marketing strategies that can work in Hospital cafeterias and campus initiative, as recommended by the American Hospital Association are:

- Increased quantity, quality, variety of fresh seasonal produce.
- Increased nutritional and packaging of grains.
- Revamped healthy vending options and labelling.
- More kitchens with no trans-fat, reduced saturated fat.
- Expanded offering of high fiber and lean protein sources.
- Reformulated lower caloric, sugar, sodium energy.
- More cafeterias providing accurate nutritional information.
- Pricing strategies to incentive healthy selections of meals.
- Creating policies regarding presence of healthy meal restaurants within hospital.
- Developing policies to run campaign on awareness of health like low salt day, water day, 10,000 steps a day.

There are other strategies that can help push sales in a Hospital campus, and thoughtful marketing initiatives assist.

Many healthcare foodservice programs are implementing off-site dining options such as delivery or pickup.

This helps accommodate increases in patronage without needing additional space and offers guests added convenience and flexibility. It also ensures that busy staffers can get a quick meal in even if they don't have time to sit for a break.

Catering options are popping at the Healthcare facilities. All kitchen operations are onsite and busy with patient meals. So, to provide meals for meetings, conferences, lunch gatherings and more catering services that are healthy can be utilised.

Innovating with staff feeding options

Healthcare dining facilities cater to many different diners, including guests of patients and visitors to the facility as well as staff.

While guests and visitors might seek comfort foods, staff dining are much different requirements.

Offering better-for-you options is crucial for those working long hours or who want to eat healthy and meaning unexpected items or LTO can help generate staff excitement and keep them dining on campus.

Additionally, the staff meal plans are a great way to boost revenue while offering employees an affordable role for dining. With prepaid meal plan cards, staff can dine when they have the chance to and enjoy a lower price than they have to pay without the plan. Medanta Hospital sees to staff feeding with good hospitality. Offering up-grab-and-go.

To meet the need of convenience seeking diners, grab and go options are growing on the healthcare campuses.

Available options have shifted from classic such as yogurt or protein bars to full fledged meals such as veggie burritos that can be warmed up in a toaster or even a microwave, pre-topped salads, with dressing on the sick, customizable sandwiches and much more.

Menuing global inspired cuisine

As in other food science segments, an increasing number of globally inspired options are appearing in the healthcare cafeteria.

Paired with the continuing interest in plant-based menus that are trending across the country, healthcare dining programmes are menuing more and more product forward ethnic options.

Community Outreach and Education Programs

A big marketing strategy of most private healthcare set up is to organise free health talk and combine with free lunches. Fortis Healthcare, Paras Hospital, C.K. Birla, W-Pratiksha Hospital in Gurgaon are known to organise community outreach programs to create and maintain strong relationships with community.

Wellness workshops are popular ways to do so when it comes to healthcare and wellness and nutrition programs benefit many communities.

Check Your Progress

1. What is the marketing concept based on?

2. What happens when a product or service is truly marketed?

3. List the key factors that influence customer expectations and are rarely controllable by the firm.

13.3 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The marketing concept is based on the premise that firms determine customer wants and needs and then design products and services that meet those wants and needs while also meeting the goals of the firm.

2. When a product or service is truly marketed, the needs of the consumer are considered from the very beginning of the new product development process and the product service mix is designed to meet unsatisfied need of the public.

3. Word of mouth communication, social media publicity, customer-generated media, customer experiences with other services providers and customer needs are the key factors that influence customer expectations and are rarely controllable by the firm.

13.4 SUMMARY

* The food and beverage industry is very competitive. The leaders like McDonald's and Subways continue to increase their share of the market at the expense of smaller chains and independent enterpreneurs. Marketing is the food and beverage service industry's saviour to success.

* The marketing concept is based on the premise that firms determine customer wants and needs and then design products and services that meet those wants and needs while also meeting the goals of the firm. Marketing is an entire process that involves advertising, personal selling, merely forms of promotion is just one component of the marketing mix.

* Selling focuses mainly on the enterprises desire to sell products for revenue. Sales representatives are helpful for promotions to create demand for firm's current product. Objectively, the desires of the seller are very strong. Marketing focuses on the needs of the consumer, ultimately benefiting the seller as well.

* A manager has two specific tasks. Nobody else in the business enterprise discharges these tasks. And everyone charged with them works as a manager. The manager has the task of creating a true whole that is larger than the sum of its parts, a productive entity that turns out more than the sum of the resources put into it.

* Excellent customer service involves ongoing support from the enterprise and creating brand identity and ultimate success.

- It involves answering questions, taking orders, dealing with billing, handling complaints, scheduling appointments and similar activities. These essential functions can make or break an organization's relationships with its customers. The quality of customer care can significantly impact brand identity for service, manufacturing and consumer products companies.

- Food and beverage industry depends on service. A major cause of poorly perceived service is the difference between what a firm promises about a service and what it actually delivers. Customer expectations are shaped by both uncontrollable and company-controlled factors.

- Any company that disseminates information through multiple channels needs to be certain that customer receive unified messages and promises. These channels include not only marketing communication messages that flow directly from the company but also personal messages that employees send to the customers.

- Functional specialists handle sales promotions, direct marketing, company websites. The human resources department trains frontline employees for service interactions and still another area is responsible for customer service department. All departments have to channelize communication efforts for coordination and adopting the concept of integrated marketing communications (IMC).

- Companies that give customer contact employee adequate information, tools and skills allow them to perform successful interactive marketing. Most important downward communication are company newsletters and magazines, corporate television networks, email, briefings, video tapes and internal promotional campaigns and recognition programs.

- Communication across functional boundaries in an organization facilitate coordinated efforts for service delivery. This task is difficult because functions typically differ in goals, philosophies, outlets and views of the customers. Coordination between marketing and operations can result in the communication that accurately reflects service delivery. Integration of effort between marketing and human resources can improve the ability of each employee to become a better marketer.

- Hospitals are incorporating health initiatives within campuses to offer healthy options to patients as well as medico skill whether hospital operations are outsourced or within, the hospitals are conscious to have healthy food improvements for patient and employee satisfaction.

- There are other strategies that can help push sales in a Hospital campus, and thoughtful marketing initiatives assist. Many healthcare foodservice programs are implementing off-site dining options such as delivery or pickup. Catering options are popping at the Healthcare

facilities. All kitchen operations are onsite and busy with patient meals. So, to provide meals for meetings, conferences, lunch gatherings and more catering services that are healthy can be utilised.

- Healthcare dining facilities cater to many different diners, including guests of patients and visitors to the facility as well as staff.

13.5 KEY WORDS

- **Marketing:** It is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefits the organisations and its stakeholders.

- **Selling:** It focuses mainly on the enterprises desire to sell products for revenue.

13.6 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. Write a short note on marketing concept philosophies in food service industry.
2. What are the main elements of marketing for every enterprise?
3. List the five major approaches to overcome service communication channels.
4. Give examples of marketing strategies in hospital food service.

Long Answer Questions

1. Describe the importance of communication in marketing and its types.
2. Examine the importance of marketing hospital foodservice initiatives.

13.7 FURTHER READINGS

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NOTES

UNIT 14 OVERVIEW OF DIETARY ACCOUNTING

Structure

14.0 Introduction
14.1 Objectives
14.2 Definition and Principles of Dietary Accounting
     14.2.1 Journal and Ledger
14.3 Book of Accounts: Cash Book, Purchase Book, Sales Book, Purchase Returns
     and Sales Return Books
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14.0 INTRODUCTION

In the previous units, you have learnt about the human resource function and marketing function as it works in a food service unit. It has been established that a food service organization, being a service organization incorporates and brings into use the same principles of management as utilized in other companies. In this unit, you will be introduced to one of the most crucial elements of the food service unit, the dietary accounting. Also known as business accounting, it is a very important managerial function which keeps a record, brings efficiency, and checks wastage. You will learn about the definition and principles of dietary accounting, the Journal and Ledger and the books of account including cash book, purchase book, sales book, purchase returns and sales return books.

14.1 OBJECTIVES

After going through this unit, you will be able to:

- Definition and principles of dietary accounting

- Explain the Journal and Ledger

- Describe the book of account- cash book, purchase book, sales book, purchase returns and sales return books

14.2 DEFINITION AND PRINCIPLES OF DIETARY ACCOUNTING

Business accounting in food preparation services is just as important as marketing your product or service. If your bookkeeping system is weak, more likely your business can fail.

The accounting system in any enterprise is crucial as it keeps track of the money going in and the money coming out of the business, it's important to make sure that you don't have more money going out than coming in or your business can go belly up. Going bust isn't the only reason to have a business accounting system in place for a food production enterprise, another important reason is that it is legally required and your accounting records are an important business management tool.

Being the owner of a business one is at the liberty to create whatever type of accounting system one prefers that is compatible with the financial management skills and one that is compatible with the business type.

Some businesses use a chequebook and receipts system but you can make keeping your books easier by using an automated system, there are some really good automated accounting systems on the market that won't break the budget. it's recommended that new businesses use an automated system to make bookkeeping less stressful.

Let us learn about the basics of restaurant bookkeeping mechanics. While there are many moving parts, the basics of a restaurant bookkeeping system can be summarized into four major sections.

The four major areas of restaurant bookkeeping are:

- Payroll
- Accounts Payable
- Sales
- Inventory.

To determine if the business accounting system you choose for your food production unit is an apt one, it should meet three criteria:

• **Accurate**

The math's should be correct and having an automated system helps to achieve accuracy, but the numeric input should still be checked and double checked to make sure that they are correct.

• **Relevant**

As per law certain financial information must be tracked and maintained for tax reporting purposes, as a result the system must be able to keep and produced information that is needed and required along with information that is needed to successfully run the business.

• **User Friendly**

One may need a CPA to run the system and hiring one is required, so the system should be one that you can use, fortunately good systems have tutorials and onscreen help to assist the user.

There are two accounting systems in use:

- The accrual method
- The cash basis method

Most businesses use the accrual method but you should use the method that fits your type of business best. The method that is most appropriate depends on the business structure, sales volume and whether the business sells on credit.

The **cash method** is the simplest method because it is based on the actual cash that flows into and out of the business, with income being reported when it is received and expenses being reported when they are actually paid. The cash method is generally used by sole proprietors and those businesses with no inventory.

The **accrual method** is used for recording income and expenses as they occur.

It is recommended that you consult your account regarding which accounting method will be best for your new business.

Accounting systems contain some basic key components which consist of:

- **Chart of accounts:** When setting up the accounting system these are the accounts that you want to track in your business, those that will have specific entries.
- **General ledger:** It should be set up in the same order as your chart of accounts and does not include every entry in a certain period, but does include a summary of all transactions made.

- **Accounts receivable:** It is used when a business sells services or goods as a method to keep track of who owes, what is owed and when it is due.

- **Inventory:** This is a key feature for a business that manufactures a product and helps the business keep track of raw materials, works-in-progress and finished goods.

- **Fixed assets**: These are items that are used over the long term of the business such as buildings, vehicles, equipment, machinery, land, and leasehold improvements if you lease rather than own an item.

- **Accounts payable:** It is used to keep track of what you owe to vendors, who, how much, and when payment is due to the vendor.

- **Payroll:** It is used to keep track of what you owe to employees who work for you. Federal and state laws are numerous regarding what you the employer have to keep track of regarding payroll. This system should definitely be automated to keep on the right side of the federal government.

One of the marvelous features of automated accounting systems is their ability to create financial statements which includes a balance sheet, income statement, reconciliation of net worth and cash flow statement. Having these financial statements at your fingertips makes it possible to make decisions about the future of your business that can help your business to grow or stave off disaster.

Some popular cooking business accounting systems are Intuits QuickBooks accounting systems from basic to advanced packages and Peachtree's accounting systems packages which also range from basic to advanced packages. The prices for these packages can range from relatively inexpensive to moderately costly depending on which features one chooses.

In the long run, as a new business or even as an existing business having an automated business accounting system can help you to run your business in food and catering which is more cost effectively and profitably.

There are three sets of basic records that should be kept by the owner of a small fruit and vegetable processing unit: financial records, those that relate to the production of the products and sales records.

As with all other inputs to a business, keeping records is an investment of time and money and the benefits must outweigh the costs. There is no point in recording information for its own sake and records must be used if they are to have any value.

This means that the owner or manager must understand why the information is collected and what it can be used for.

Similarly, the time and effort spent in keeping records must be related to the scale and profitability of the business. While it is true that some successful entrepreneurs keep all of the information in their head and do not keep records, no-one else can help run the business during times of illness or absence.

Some examples of the value and costs of keeping records are shown below:

Value of record keeping

Detailed knowledge about the operation of the business

- Identification of trends
- Accurate control over finances and product quality
- Identification of individual costs to allow changes to a product or process to optimize profits keeping track of money owed to the business
- Evidence for tax authorities (may be a legal requirement)
- Factual basis for product pricing or salary levels knowledge and avoidance of theft

Costs of record keeping

- Cost of materials such as ledgers and pens
- Information is written down and therefore potentially available for competitors or authorities to see
- Cost of keeping records private and secure

Accurate information is essential and this means that a staff member who is required to collect information should know its value and why it is being collected. This should be part of the induction and training when new staff learns their job. The entrepreneur should employ people who have the skills and aptitude to do the work, but should also put in place a system of checks to ensure that one person does not have responsibility for a whole area of business activity. For example the person responsible for keeping records of purchases should be different from the person who records use of materials or levels of stocks. The owner or manager should also ensure that all records are kept up to date and where appropriate, the arithmetic is checked for accuracy. There is no single correct way to keep records and individual owners should devise systems that suit their way of working.

14.2.1 Journal and Ledger

Journal is a historical record of business transaction or events. The word journal comes from the French word "Jour" meaning "day". It is a book of original or prime entry. Journal is a primary book for recording the day to

day transactions in a chronological order i.e. the order in which they occur. The journal is a form of diary for business transactions. This is called the book of first entry since every transaction is recorded firstly in the journal. Journal entry means recording the business transactions in the journal. For each transaction, a separate entry is recorded. Before recording, the transaction is analyzed to determine which account is to be debited and which account is to be credited.

The journal contains the following elements:

Journal

1	2	3	4	5
Date	*Particulars*	*Leader Folio*	*Debit-amount* ₹	*Credit-amount* ₹

Column 1 (Date): The date of the transaction on which it takes pale is written in this column.

Column 2 (Particulars): In this column, the name of the accounts to the debited is written first, and then the names of the accounts to be credited and lastly, the narration (i.e. a brief explanation of transaction) are entered.

Column 3 (L.F.): L.F. stands for ledger folio which means page of the ledger. In this column are entered the page numbers on which the various accounts appear in the ledger.

Column 4 (Dr. Amount): In this column, the amount to be debited against the 'Dr.' Account is written along with the nature of currency.

Column 5 (Cr. Amount): In this column the amount to be credited against the 'Cr.' Account is written along with the nature of currency.

Journal is used because of the following advantages:

- A journal contains a permanent record of all the business transactions.
- The journal provides a complete chronological (in order of the time of occurrence) history of all business transactions and the task of later tracing of some transactions is facilitated.
- Complete information relating to one single business transaction is available in one place with all its aspects.
- The transaction is provided with an explanation technically called a narration.
- Use of the journal reduces the possibility of an error when transactions are first recorded in this book.
- The journal establishes the quality of debits and credits for a transaction and reconciles any problems.
- If a business purchases a bicycle, it is necessary to decide whether the bicycle represents ordinary goods or machinery.

- Further any amount paid is debited to bicycle account and credited to cash account.
- The use of journals avoids omission or duplication of transactions or parts of transaction.
- Without the journal the accountant would be forced to go to the individual account to enter debits and credits.

Therefore, it is possible for accountant to miss part of a transaction, duplicate all or part of a transaction or incorrectly record debits and credits.

Even with the Journal, it is still possible to omit transactions and make other errors.

However, the Journal reduces these problems.

Once a transaction is recorded in the journal, it is not necessary to post it immediately in the ledger accounts.

In this, way, the journal allows the delayed posting.

In connection with the journal, the following points are to be remembered: For each transaction, the exact accounts should be debited and credited. For that, the two accounts involved must be identified to pass a proper journal entry. Sometimes, a journal entry may have more than one debit or more than one credit. This type of journal entry is called compound journal entry.

Regardless of how many debits or credits are contained in a compound journal entry, all the debits are entered before any credits are entered. The aggregate amount of debits should be equal to the aggregate amount of credits.

For a business, journal entries generally extend to several pages.

Therefore, the total are cast at the end of each page, against the debit and credit columns, the following words and written in the particular column, which indicates, carried forward (of the amount on the next page) "Total c/f".

The debits and credits totals of the page are then written on the next page in the amount columns; and opposite to that on the left, the following words are written in the particulars column to indicate brought forward (of the amount of the previous page) "Total b/f". This process is repeated on every page and on the last page; "Grand Total" is cast.

All business transactions, at the first stage, are recorded in the book of original entry i.e. Journal and then posted into the ledger under the double entry system of book-keeping. This procedure is easy and practicable in small business houses where the number of business transactions is less and when a single person can handle the business transactions.

But it is practically very difficult, rather impossible, to record all the business transactions of a day in the Journal of a large business house where

the number of business transactions are varied and enormous because of the following reasons:

   (a) The system of recording all transactions in a journal requires:

      (i) Writing down of the name of the account involved as many times as the transactions occur

      (ii) An individual posting of each account debited and credited and hence, involves the repetitive journalizing and posting labor.

   (b) Such a system does not provide the information on a prompt basis.

   (c) The journal becomes bulky and voluminous.

   (d) Such a system does not facilitate the installation of an internal check system since the journal can be handled by only one person.

   Therefore, to overcome the shortcomings of the use of the journal as the only book of original entry, the journal is subdivided into special journals. It is divided in such a way that a separate book is used for each category of business transactions which are repetitive in nature, similar and are sufficiently large in number. Special journals refer to the journals meant for recording specific business transactions of similar nature.

   These special journals are also known as "Subsidiary Books" or "Day Books". The main types of special journals are as follows:

      (i) **Cash Book:** It records all those transactions which are in cash or by cheques.

      (ii) **Purchases Book:** It records all transactions relating to goods purchased on credit.

      (iii) **Sales Book:** It records all transactions relating to goods sold on credit.

      (iv) **Purchases Return Book:** It records return of goods to suppliers.

      (v) **Sales Return Book:** It records return of goods by the customers.

      (vi) **Bills Receivable Book:** It records entries regarding bills receivables. The details of bills are given in this book.

      (vii) **Bills Payable Book:** All bills which are accepted and payable by a business house are recorded in this book.

      (viii) **Journal Proper:** Those transactions which are not recorded in any of the above-mentioned books are recorded in the Journal Proper.

   Before recording transactions in these day books, it is necessary to explain the special meaning given in business to the words 'Goods', 'Purchases' and 'Sales'. Goods: It refers to items forming part of the stock-in-trade of a business house which are purchased and are to be resold at a profit.

A business house may purchase fixed assets or stationery for use in business, but they are not purchases of goods.

- **Purchases:** It refers to the purchase of goods for resale, and not the purchase of assets or stationery. The Purchases Account, therefore, only contains purchases of goods for resale.

- **Sales:** It refers to the sale of goods which form part of the stock-in trade of the business.

Ledger

Ledger is an accounting book that contains accounts in a classifi ed and summarized form. The term *account* means a record consisting of specifi c information. A *ledger account* is a form used to assemble information that shows the cumulative eff ect of all the transactions on the accounts specific item of asset, liability, owners' equity, revenue, or expense of the business. Thus, ledger is a device for grouping and summarizing the changes caused by the transactions during a particular time. A separate account is maintained for each asset, liability, revenue or expenses, and for owners' equity. The number of accounts required in recording the transactions/operations of a business varies widely depending upon many factors such as the nature of the business, the volume of business and the type of business organization. In its simplest form, a ledger account can be represented in the form of a 'T' as shown here:

ACCOUNT TITLE
(Name of the Account)

Dr.   Cr.

Date	Particulars	Journal Folio	Amount ₹	Date	Particulars	Journal Folio	Amount ₹

The title of the account appears across the top of the T. The stem of the T divides the account into two sides. The *left hand* side is called *Debit side* and the *right hand* side is called the *credit side*. Amounts shown on the left side are called debits and the amounts shown on the right side are called credits. To debit an account means to enter an amount on the left side. To credit an account means to enter an amount on the right side. The difference between the sum of the debit entries and the sum of the credit represents the balance of the account.

Each side of the account has four columns. The abbreviations *Dr.* and *Cr.* on the top left and right hand corners of the account stand for debit* and credit*. The date column records the year, month and day on which the transaction has taken place. The source of the transaction is recorded in the particulars column. Next is the Journal folio column, in which the

page number of the journal form which the entry has been transferred to the ledger is recorded. Finally, in the amount column, the amount mentioned in the Journal for a particular account is recorded.

Thus, in ledger accounts the chronological record contained in the Journal is organized according to account classifications. This data organizing process is technically known as *posting.*

Check Your Progress

1. Mention the four important areas of book keeping in restaurants.
2. What is the accrual method of book keeping?
3. Mention some of the other names for special journals.

14.3 BOOK OF ACCOUNTS: CASH BOOK, PURCHASE BOOK, SALES BOOK, PURCHASE RETURNS AND SALES RETURN BOOKS

In the previous section, you were introduced briefly to the different book of accounts, in this section, some of the important book of accounts are discussed.

Cash Book

A Cash Book is a special journal which is used for recording all cash receipts and cash payments. If a cash book is maintained, there is no need for preparing cash account in the ledger. However, the other aspects of the transactions will be recorded in the ledger. Cash Book serves dual role of journal as well ledger. Cash Book is the book of original entry (Journal) since transactions are recorded for the first time from the source documents. It is a ledger in the sense that it is designed in the form of Cash Account and records cash receipts on the debit side and cash payments on the credit side.

Features: Only cash transactions are recorded in the Cash Book. It performs the functions of both journal and the ledger at the same time. All cash receipts are recorded on the debit side and all cash payments are recorded on the credit side.

The Cash Book, recording only cash transactions can never show a credit balance.

Kinds of Cash Book can be of several kinds:

(a) Single Column Cash Book: For recording cash transactions only.
(b) Double (Two) Column Cash Book: For recording cash transactions involving gain or loss on account of discount.

(c) Triple (Three) Column Cash Book: For recording cash and bank transactions involving gain or loss on account of discount.

(d) Petty Cash Book: For recording petty expenses.

Purchase Book

Purchases Book (also known as Invoice Journal/Bought Journal/Purchases Journal) is used for recording only the credit purchases of goods and merchandise in which the business is dealing in, i.e. goods purchased for resale purpose for earning revenue. It records neither the cash purchases of goods nor the purchase of any asset other than the goods or merchandise. When we purchase goods on credit we receive a statement from the supplier giving the particulars of the goods supplied by him.

The statement is known as an Invoice. The invoice states the quality, price and the value of goods supplied.

It also states the discount allowable (trade and cash) and the condition under which payment is expected.

The entries in the purchase book are made on the basis of invoices received from the supplies with the amounts net of trade discount/quantity discount.

Trade discount is a reduction granted by the supplier from the list price of goods and services on business consideration such as quantity bought trade practices other than for prompt payment.

The object of allowing trade discount is to enable the retailer to sell the goods to the customer at list price and still leaving margin for meeting business expenses and his profit. Entries in the books of both supplier as well as retailer are made on the basis of net amount i.e. invoice price less trade discount.

Posting after recording transactions in the Purchases Book, the posting in ledger accounts will be made.

The posting from the Purchases Book is made as follows:

(a) Debit the Purchases Account with the periodical totals of the Purchases Book. On the debit side of the Purchases Account, 121 write "To total as per Purchase Book" or "To Sundries" in the particulars column.

(b) Personal accounts of each individual supplier are credited with the net amount of Inward Invoice recorded in Purchases Book by writing "By Purchases".

Purchase Book is a Subsidiary Book.

The Purchase Book or Purchase Day Book contains the record of all credit-purchase.

Cash Book accommodates the records of all goods-purchase.

Every month the total of the Purchase Book is posted on the Debit side of the Purchases Account. Purchases Account is a ledger Account. However, the individual accounts of the suppliers may be posted daily. Also, where the volume of transactions is too large, the entries in the ledger can be posted weekly or fortnightly.

When the goods purchased on credit are returned to the supplier, these are recorded in the Purchase Return Book. Sometimes, goods purchased can be defective or of low quality, etc. and hence, need to be returned. A separate book is maintained for the purchase return and these are not deducted from the purchases in the Purchase Book. Also, Purchase Return is recorded at the net amount on the invoice.

A Debit Note is prepared for every return of goods. It is prepared in duplicate. The original one is sent to the supplier while the duplicate copy is kept for our own records. The Debit Note contains the name of the supplier, details of goods returned and the reason thereof. Each Debit Note is dated and serially numbered.

The supplier may also prepare a Credit Note. It is prepared when goods are received from a customer and is therefore sent to him.

Sales Book

Sales Book or Sales Journal is written up to record all the credit sales. Sales Book records only those goods which are sold on credit and the goods in question must be those, which the firm generally deals in. If there are cash sales they are recorded in Cash Book and sale of assets are recorded in the Journal proper. The entries in the Sales Book are made from the copies of the invoice which have been sent to customers along with the goods. Such copies of the invoices may be termed as Outward Invoice. Each such outward invoice should be numbered consecutively and the reference be given in the Sales Book along with the entry. The Sales book is totaled periodically.

The net amount of the invoices in Sales Book is posted to the ledger as follows:

    (a) Debit the personal accounts of the customers with the value of sales to them.

    (b) Credit Sales Account with the periodical total.

Purchase Return Book

In every business, it is not uncommon to find that the goods are returned by a business enterprise to the suppliers because of many reasons such as goods are defective, goods are not according to order.

If the returns are frequent in a business, in that case a separate book may be maintained to record this type of transactions which is known as Purchases Returns Book or Returns Outward Book.

The entries in the Purchases Returns Book are usually made on the basis of debit notes issued to the suppliers.

When a firm returns some goods to it suppliers, it prepares a debit note in duplicate. The original copy is sent to the supplier to whom the goods are returned.

The Debit Note is so called because the supplier's account is debited with the amount of the goods returned.

Sales Return Book

Sales Return Book or Returns Inwards Book is meant for recording return of goods sold on credit. The goods which are sold for cash if returned are either exchanged for new goods or parties are paid in cash do not find a place in the Sales Return Journal. The columns used in this book are similar to Sales Book except that in place of Invoice No. the Credit Note number is recorded. Credit Note is just reverse of Debit Note and is sent by the seller to the buyer. It is an acknowledgment of the goods returned as well as information to the debtor that his account is being credited with the amount mentioned in it. Thus, the party to whom a Credit Note is sent becomes a creditor. The posting from the Sales Return Book will be done periodically to the debit side of the Sales Returns Account in the ledger and the individual accounts of the customers will be credited with their respective amounts.

Financial and Sales records

A separate record of the cash that comes into a business and the cash that is used to buy daily items is usefully prepared using a *Cash Book*. Additionally, when entrepreneurs have a bank account, they will require a *Bank Book* to record cheque that have been received and paid.

Example of a Cash Book Layout

Date	Item	Cash in	Cash out	Balance
	Description or invoice number			

It is important to know how much money the business is owed by debtors at any given time but also how much is owed to creditors. This is particularly important if for example, retailers expect a period of credit before they pay for goods received. The amount of money owed by an enterprise and the amount owing to it can be combined in a single ledger so that a weekly comparison of the difference can be made. Invoices and receipts should be

kept together in date order. An example of this type of ledger is an *Accounts Receivable and Payable Book*

Example of an Accounts Receivable and Payable Book

Date	Item	Credit given	Balance	Date	Item	Credit taken	Balance
	Description or receipt number		Description or invoice number				

Other books can be used but these are the basic requirement for collecting all financial information needed to prepare monthly profit and loss statements, balance sheets and to check cash flow forecasts.

The other information needed to prepare profit and loss statements are records of sales and stock in the storerooms.

Example of a page from a Sales Book

Product Name			Batch Number		
Date	Customer	Amount Sold	Value	Invoice Date	Payment Date
	Write in amount in kg or number of packs				

Records that are kept by storekeepers show which products and materials are transferred into and out of the store-rooms. The balance is used to indicate when reordering is needed and can also be used to highlight pilferage or other losses that are not accounted for.

Example of a Storekeeper's Book to keep Account of Ingredients (similar entries are made for packaging, materials and finished products)

Ingredient name				
Date	Amount to store	Amount from store	Process batch number	Balance
	Write amounts in kg or number of packs			

As shown above data from the sales book is added up to give monthly income. The costs of ingredients, packaging etc., that were used during the month are recorded in the storekeeper's book and other expenses are calculated in sum total from the cash book and bank book to calculate the monthly Profit and Loss Account.

The Profit and Loss Account describes how money comes into and leaves a business over a month (or other suitable period of time). This allows the owner to plot the progress of the business and compare the results to those expected in the Business Plan.

However, to obtain a 'snapshot' of the performance of the business at a given moment, a *balance sheet* is a strong management tool which can help to understand where money came from, how it is used in a business and how it could be better used.

An example of a balance sheet from a small wine-making business is shown below:

Example of a Monthly Profit and Loss Account

Month: April			
Item	₹	₹	
Income from sales		750	from Sales Book
Less costs			
Opening stocks	25		
Purchases	55		
Stocks at end of month	30		
= Stocks used during month	50		from Storeroom Ledger
Gross profit		700	
Less other expenses:			
Salaries	75		
Rent	25		
Supplies	20		from cash and bank books
Transport	45		
Marketing costs	25		
Interest repaid to lender	18		
Taxes paid	6		
	214		
Net profit		486	

The balance sheet is therefore a statement about the money in a business at a particular time, which shows how the money is being, used (the assets) and where it came from (the liabilities). In the above example, the money that remains in the business as unclaimed profits is a main source of working capital.

It is important to note that the owner has already taken a salary from the business and that the remaining profit belongs to the business to be used for reinvestment.

This picture of the business can be used to determine, for example, whether more stock should be ordered, whether unpaid invoices to retailers should be followed up urgently or whether there are sufficient profits to repay a larger amount from the loan.

Example of a Balance Sheet for a Small Wine-maker

Where money came from (Liabilities)		How the money was used (Assets)	
Accounts payable	450	Cash	65
Customer payments	865	Accounts receivable	650
Bank loan	1200	Stocks	600
Owner's capital	500	Equipment	2180
Profits	880	Owner's salary	400
	₹3895		$3895

Production records

The main reasons for production records are to ensure that quality assurance procedures are in place and operating satisfactorily and to record the use of ingredients and amounts of stock for use in financial accounting.

When raw materials are processed, each batch should be recorded in an *Incoming Materials Test Book*. The same layout can be used for recording incoming batches of ingredients and packaging materials, some of which also require inspection on arrival.

Records should also be kept of the amount and type of raw materials and ingredients that are used and the important processing conditions (e.g. drying times, heating times and temperatures etc.) to ensure that operators mix together the same ingredients in every batch and process them in the same way each time.

Each batch of food should be given a Batch Number which is recorded in stock control books, processing logbooks and product sales records. The batch numbers should be correlated with the product code numbers that are printed on labels or outer cartons. This allows the processor to trace any subsequent faults in a batch of product back to the process or to the raw materials.

Example of an Incoming Materials Test Book

Product Name		Batch Number		
Raw material*	Supplier	Results of inspection for**		
		A	B	C
Write in either 'Pass/Fail' or observations on quality				

* This information should also be recorded for other ingredients and packaging materials
** Different tests are written in place of ABC according to the types of materials being inspected

Example of a Process Logbook for Jam Production

Product		Batch Number	
Ingredients:	Target	Check	Changes from target
Pulp	Write in amounts, times etc.		
Sugar			
Citric Acid			
Pectin			
Batch weight			
Boiling time			
Solids content of product			

In summary, therefore, record keeping is a management tool to help the owner to know the state of a small fruit and vegetable enterprise at any time and to have reliable information on which to base his or her plans for development of the business.

As a dietary service manager or food caterer if all the accounting, software, book keeping and paying taxes and bills are overwhelming, it is advised to outsource the work to a dietary services specialized accountant. There is a small amount one has to pay for these services, but it ensures orderly arrangement of all numbers and reduces time as well as stress.

Check Your Progress

4. What are the different kinds of cash books?

5. How is the net amount of invoices in sales book posted?

6. What is the use of sales return book?

14.4 ANSWERS TO CHECK YOUR PROGRESS QUESTIONS

1. The four major areas of restaurant bookkeeping are:
    i. Payroll
    ii. Accounts Payable
    iii. Sales
    iv. Inventory.

2. The accrual method is used for recording income and expenses as they occur.

3. Special journals refer to the journals meant for recording specific business transactions of similar nature. These special journals are also known as "Subsidiary Books" or "Day Books".

4. Kinds of Cash Book can be of several kinds:
    (a) Single Column Cash Book: For recording cash transactions only.
    (b) Double (Two) Column Cash Book: For recording cash transactions involving gain or loss on account of discount.
    (c) Triple (Three) Column Cash Book: For recording cash and bank transactions involving gain or loss on account of discount.
    (d) Petty Cash Book: For recording petty expenses.

5. The net amount of the invoices in Sales Book is posted to the ledger as follows:
    (a) Debit the personal accounts of the customers with the value of sales to them.
    (b) Credit Sales Account with the periodical total.

6. Sales Return Book or Returns Inwards Book is meant for recording return of goods sold on credit. The goods which are sold for cash if returned are either exchanged for new goods or parties are paid in cash do not find a place in the Sales Return Journal.

14.5 SUMMARY

- Business accounting in food preparation services is just as important as marketing your product or service. If your bookkeeping system is weak, more likely your business can fail.

- The accounting system in any enterprise is crucial as it keeps track of the money going in and the money coming out of the business, it's important to make sure that you don't have more money going out than coming in or your business can go belly up. Going bust isn't the only reason to have a business accounting system in place for a food production enterprise, another important reason is that it is legally required and your accounting records are an important business management tool.

- The four major areas of restaurant bookkeeping are:
    o Payroll
    o Accounts Payable
    o Sales
    o Inventory.

- There are two accounting systems in use:
    a. The accrual method
    b. The cash basis method

- There are three sets of basic records that should be kept by the owner of a small fruit and vegetable processing unit: financial records, those that relate to the production of the products and sales records.

- Journal is a historical record of business transaction or events. The word journal comes from the French word "Jour" meaning "day". It is a book of original or prime entry. Journal is a primary book for recording the day to day transactions in a chronological order i.e. the order in which they occur. The journal is a form of diary for business transactions. This is called the book of first entry since every transaction is recorded firstly in the journal. Journal entry means recording the business transactions in the journal.

- In connection with the journal, the following points are to be remembered: For each transaction, the exact accounts should be debited and credited. For that, the two accounts involved must be identified to pass a proper journal entry. Sometimes, a journal entry may have more than one debit or more than one credit. This type of journal entry is called compound journal entry.

- All business transactions, at the first stage, are recorded in the book of original entry i.e. Journal and then posted into the ledger under the double entry system of book-keeping. This procedure is easy and practicable in small business houses where the number of business transactions is less and when a single person can handle the business transactions.

- Ledger includes the systematic recording of the entries from the journal. It summarizes the data from the journal in the form of debits and credits. It is called the second book of accounting.

- Primary ledger accounts contain different records in the form of assets books, liability accounts, stockholder's accounts, revenue accounts, expenses accounts and revenue and losses accounts.

- A Cash Book is a special journal which is used for recording all cash receipts and cash payments. If a cash book is maintained, there is no need for preparing cash account in the ledger. However, the other aspects of the transactions will be recorded in the ledger. Cash Book serves dual role of journal as well ledger.

- Purchases Book (also known as Invoice Journal/Bought Journal/ Purchases Journal) is used for recording only the credit purchases of goods and merchandise in which the business is dealing in, i.e. goods purchased for resale purpose for earning revenue.

- The Purchase Book or Purchase Day Book contains the record of all credit-purchase.

- Sales Book or Sales Journal is written up to record all the credit sales. Sales Book records only those goods which are sold on credit and the goods in question must be those, which the firm generally deals in. If there are cash sales they are recorded in Cash Book and sale of assets are recorded in the Journal proper.

- If the returns are frequent in a business, in that case a separate book may be maintained to record this type of transactions which is known as Purchases Returns Book or Returns Outward Book.

- Sales Return Book or Returns Inwards Book is meant for recording return of goods sold on credit. The goods which are sold for cash if returned are either exchanged for new goods or parties are paid in cash do not find a place in the Sales Return Journal.

- The main reasons for production records are to ensure that quality assurance procedures are in place and operating satisfactorily and to record the use of ingredients and amounts of stock for use in financial accounting.

14.6 KEY WORDS

- **Journal:** It is a primary book for recording the day to day transactions in a chronological order i.e. the order in which they occur.

- **Journal Proper:** Those transactions which are not recorded in any of the above-mentioned books are recorded in the Journal Proper.

- **Special journals:** It refer to the journals meant for recording specific business transactions of similar nature.

- **Journal entry:** When a journal entry has more than one debit or more than one credit, it is called compound journal entry.

14.7 SELF ASSESSMENT QUESTIONS AND EXERCISES

Short Answer Questions

1. What is the importance of an accounting system?
2. List the criteria which must be used for choosing the food production unit.
3. Write a short note on the key components of accounting systems.
4. What is journal proper?
5. Briefly explain the cash book of accounting.
6. Write a short note on production records.

Long Answer Questions

1. Describe the journal as a book of accounting.

2. Explain the purchase, purchase return, sales and sales return books of accounting.

14.8 FURTHER READINGS

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