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HTS 602/BCH 302: ACCOMODATION MANAGEMENT

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UNIT 1 MANAGING THE HOUSEKEEPING DEPARTMENT

1.00 BEFORE WE BEGIN

We will start our journey into the discipline of "Accommodations Operations" through the present unit. In hospitality industry, we take care of the guests by providing them with food and shelter. Preparation of Food is covered under the various courses which we studied under "Food Production". In this course we study the "shelter" part.

In this Unit we will study the classification of hotels based on criteria like:

Location(City-center/downtown hotel, Suburban hotels, Motels, Airport hotels, Resort hotels,etc)

Target market (Commercial hotels, Convention hotels, Resort hotels, Suite hotels)

B&B hotels (Extended-stay, Casino hotels, Timeshares, Condominiums, Service apartments/corporate lodgings),

Level of service (Economy/budget hotels, Mid-scale/mid-market hotels, Luxury hotels),

Length of stay (Transient hotels, Residential hotels, Semi-residential hotels),

Theme (Heritage hotels, Ecotels, Boutique hotels, Spas).

We will see these hotel types in details. We will also see how the hotels are rated as one-star to five star deluxe categories. The requirements for such qualifications as stipulated by the Ministry of Tourism will also be discussed. You may have heard that hotels like Burj al Arab, Dubai have been categorized as seven star hotels. We will see that such categorizations do not have very sound legal basis.

We will study the Organization structure of typical small, Medium and large hotels. To study Hospitality Industry, it is important to know what types of hotels are available, how they are rated and how the industry is progressing. This is why we planned to study these things in the opening unit of the course. Aware of these facts will keep you up-breast about the industry and you will have a global perspective while working in the industry. Knowledge gained in this unit will help you become a better informed person. The information will help you in other units as well.

1.01 UNIT OBJECTIVES

After studying this unit you will be able to

- Explain the classification of hotels on different basis
- Describe star categorization

- Explain the organization structure of hotels

1.02 CLASSIFICATION OF HOTELS ON DIFFERENT BASIS

Development in the field of transportation, communication and increase in population had effect on the growth, type and location of hotels and supplementary accommodation. Today, we find many hotels and catering establishments of varied character, size and nature operating in different cities and tourist centers. Classification of these hotels and supplementary units within the industry is a complicated task.

Hotels are of various types depending on number of factors like the nature and facilities offered, size, location etc. Classification in the real sense separates accommodation into different categories or class on the basis of objective criteria, for example, by the type of accommodation, such as hotels, motels, tourist lodges, holiday camps etc. It seeks to present information about tourist accommodation units in a form, which enables the user to find information he requires. Information thus obtained will help to compare with identical classification and thus, separates accommodation according to physical features.

In a system of classification, hotels are ideally grouped into reasonably homogenous sections according to their important general characteristics. Any classification of the industry into its component sections is bound to be rough one as has been observed that hotels and catering services are in joint demand. Therefore, an attempt is made here to create such groups of undertakings which only share some common characteristics.

Hotel is an establishment selling service: food, drink and shelter. The value and the potentiality of a hotel are assessed by the size, location, number of rooms and other revenue earning points it possesses. The classification of hotels within the industry is a complicated task. Hotels can be classified on different basis.

Location

- City-center/downtown hotel
- Suburban hotels
- Motels
- Airport hotels
- Resort hotels
- Forest hotels
- Floatels
- Boatels
- Rotels

Target market

- Commercial hotels
- Convention hotels

- Resort hotels
- Suite hotels

B&B hotels

- Extended-stay
- Casino hotels
- Timeshares
- Condominiums
- Service apartments/corporate lodgings

Size of the property

- Small hotels
- Medium sized hotels
- Large hotels
- Very large hotels
- Mega hotels
- Chain hotels

Level of service

- Economy/budget hotels
- Mid-scale/mid-market hotels
- Luxury hotels

Length of stay

- Transient hotels
- Residential hotels
- Semi-residential hotels

Theme

- Heritage hotels
- Ecotels
- Boutique hotels
- Spas

CHECK YOUR PROGRESS

Describe the various ways of categorization of hotels.
Which are the various types of hotel based on the size of property?

1.02.01 Based on Location

(a) City-center/downtown hotels:

Hotel Location - In the centre or heart of the city and within a short distance of the shopping areas, theatres, public buildings, business centre.

Hotel Rate - Higher (due to location advantages)

(b) Suburban hotels:

Hotel Location - In the suburbs. These hotels have the advantage of quieter surroundings.

Hotel Rate – Moderate to low (disadvantage of having to travel greater distance).

(c) Motel –

Hotel Location - On highways and provide modest lodgings to highways travelers and provide ample space for parking. The length of stay is usually overnight.

Hotel Rate- Rates are generally lower than other hotels.

(d)Airport hotels –

Hotel Location - near the airports. They cater mainly to transit guests, who might have to stay over at the hotel between flights. Generally, these type of hotels have contract with different airlines to have a continuous and guaranteed business

Hotel Rate : Rates are generally higher

e)Resort hotels:

Hotel Location -at hill stations, near the seashore, etc where people can enjoy the stay and relax for a longer period as well as to people who are looking for a change for health reasons. Resorts are further categorized on the basis of their location and positioning like health resorts, hill resorts, beach resorts, summer resorts, winter resorts, etc.

Hotel rate - Rates are generally higher

(f) Forest hotels:

Hotel Location - within a forest range. They cater to people who love to spend time in forest and enjoy with animals and birds like to visit these type of hotels.

Hotel Rate - Rates are generally lower than other hotels .

(g) Floatels –

Hotel Location - on luxury liners or ships. Rivers, big lakes and seas are ideal spots for these type of hotels. In cruise ships, rooms are smaller and all the furniture is fixed down.

Hotel Rate - Rates are generally higher.

h) Boatels:

Hotel Location – Combination of Boat and Hotel**.** A houseboat hotel is referred to as a boatel. The *shikaras* of Kashmir and the *kettuvalams* of Kerala are houseboats that offer small but luxurious accommodation to travelers in midst of lakes and waterways.

Hotel Rate - Rates are generally higher.

i) Rotels:

Hotel Location – Combination of railway and hotel. These novel variants are hotels on wheels. Palace on Wheels and Deccan Odyssey are trains providing a luxurious hotel atmosphere in India. Rotels also include some large trucks with the interiors done up like hotel rooms. They are normally used by a small group of travellers to visit various places by road.

Hotel Rate - Rates are generally higher.

CHECK YOUR PROGRESS

What is meant by rotel?
What is the difference between a floatel and a boatel?

1.02.2 Based on Target Market

(a) Commercial hotels: Hotels situated in the heart of the city in busy commercial areas so as to get increased profit in business. These hotels mostly cater to businessmen and are typically designed on the European plan.

(b) Convention hotels: Hotels which have a large convention complex and cater to people taking part in a convention, meeting, seminar or similar event are called convention hotels.

(c) Resort hotels: these types of hotels are generally used by people who come for a long vacation want to relax and enjoy during the outing period. Generally, the period of stay is long such as a week or even a month.

d) Suite hotels: These hotels offer rooms that may include such house-like facilities like small kitchen, complete with utensils, a small refrigerator and may be a microwave oven. They have fewer guest services than other hotels. These types of hotels cater to people who are frequent travelers and needs accommodation like home away from home. Most of the hotels classify some rooms in this category so get the business from this segment as well.

(e)B&B hotels: The expansion of B&B is bed and breakfast. This type of hotels provides lodging with breakfast and sometimes a little bit of snacks. These accommodations may vary from houses converted to provide such accommodation or specially constructed small commercial building with 20-30 guestrooms. The rates of these types of accommodation are lower than other hotel as services like meeting rooms, laundry, lunch, dinner and recreational facilities are usually not offered.

(f) Extended-stay hotels: this hotel is similar to suite hotels but usually offer kitchenette amenities in the room, which suite hotels usually do not. The guests who like to stay for five-six days or even longer and do not want to spend money on exotic food in restaurants prefer these type of hotels. The length of stay generally determines the room tariff.

(g) Casino hotels: Hotels that provide licensed gambling facilities are called casino hotels. At some casino hotels, gambling activities always open (24 x7x 365). Although the guest rooms and the food and beverages operations in these hotels may be quite luxurious, their function is secondary to and supportive of the casino operations. They also provide extravagant floorshows and chartered flights for guests.

(h) Timeshares: These are vacation interval hotels, which involve individuals purchasing the *ownership* of a hotel for a specific period of time. Usually one or two weeks in a year is the period of stay which is decided as per mutual understanding of both the parties and the owners then occupy the unit during that time. Owners may also have the unit rented out by the management company that operates the hotel.

(i) Condominiums: These are very much similar to timeshare hotels. Units in condominium hotels have only one owner instead of multiple owners, each for a limited amount of time each year. In a condominium, an owner clearly tells to the management company about the duration he/she wants to occupy the unit and the management Company may rent the unit for the remainder of the year to someone else. Revenue generated during the remainder of the year goes to the owner with a commission amount going to the management company

(j) Service apartments/corporate lodgings: These are the accommodation made for guests who wish to stay for longer periods of time, generally up to six months or even a year depending upon the needs of their work and projects. Guests in these type of hotels often include salaried employees and businessmen moving from one city to another as well as consultants on temporary assignments, corporate training programs and special projects connected with movie or sporting events. Corporate lodgings usually provide fully furnished apartments for guests.

CHECK YOUR PROGRESS

What is meant by a B&B hotel?
Describe a timeshare hotel.

1.02.3 Based on Size of Property

The numbers of rooms constructed categorizes the size of the hotel. Following are the standard number of rooms as per the size.

Small hotels: There is no hard and fast rule**.** In the West, hotels with less than a 100 rooms are considered as small. However in India, hotels with 25 rooms and less may be considered small hotels.

Medium-sized hotels: World over, hotels with 100-300 rooms are considered as medium-sized hotels. However in India, hotels with 25-100 rooms are normally considered as medium sized hotels.

Large hotels: In the West, hotels with 400-600 rooms are termed as large hotels. However in India, hotels with 101 -300 rooms are usually called as large hotels.

Very large hotels: World over, hotels with 600-1000 rooms may be called as very large hotels. However in India, hotels with more than 300 rooms are referred to as very large hotels.

Mega hotels: Hotels with more than 1,000 rooms are called mega hotels.

Chain hotels: These types of hotels have a number of branches at different locations such as at different cities, states or countries, etc., but provide service of the same standard in hotels at different sites. These types of hotels maintain the same service standard by following the given set of procedures.

CHECK YOUR PROGRESS

How many rooms are there in a mega hotel?
What is the difference between a very large hotel and chain hotels?

1.02.4 Based on Level of Service

Hotels may also be classified into economy, mid-scale and luxury hotels on the basis of the level of services they offer and the rates of tariff.

Economy/budget hotels: As the name suggests, economy/budge hotels are cheaper than the other hotels because they provide items and supplies which are required on daily basis, and that too of not very expensive and luxurious quality. These properties focus on meeting the most basic needs of guests by providing clean, comfortable and inexpensive rooms. This type of hotels generally appeal to budget minded travellers who want rooms with all the amenities which fulfils basic needs.

Mid-scale/mid-market hotels: Mid-scale/mid-market hotels are the most popular hotels as theyappeal to the largest segment of the travelling public. Mid-market services are modest but sufficient and the staffing level is moderate but not huge. This type of hotels generally offer a small living room or parlour area with a grouping of appropriate furniture and a small bedroom with a king size bed. Sometimes, they also provide with a kitchenette, complete with cooking utensils, refrigerator and microwave oven.

Luxury hotels: Luxury hotels, as the name suggests, offer world-class services, providing upscale restaurants and lounges, exquisite decor, concierge services, opulent meeting rooms and dining facilities. Even bath linen is also provided twice, once at the time of housekeeping service given to the room and second at the time of turndown service at evening, in addition, these guestrooms contain furnishings, decor and artwork that are more expensive than that of guestrooms in the mid-market service category.

1.02.5 Based on Length of Stay

These types of hotels are categorized on the basis of length of the stay.

Transient hotels: These are short-say hotels. Here a guest can register for a day or even less than a day means only for few hours as well. Transient hotels generally are situated near airports and seaports. They are usually five star level hotels and may have travel agencies within the premises and also offer a car on hire. The occupancy rate is usually high, sometimes it touches or even crosses 100 per cent as each room may be sold more than once each day.

Residential hotels/apartotels: Residential hotels or apartotels are the hotels, which provide accommodation for long period, and it can be from a month's time to a year or two. Usually, the hotels prepares documents like detailed lease agreement and get it signed by the customer because rent is paid either on monthly basis or quarterly but never on a daily basis. The guestrooms include a sitting room, a bedroom and a kitchenette. These type of hotels cater to people who stay away from home for a long period for various purposes.

Semi-residential hotels: Semi-residential hotels incorporate the features of both transient and residential hotels. They cater to both types of guests. If somebody wants to stay for few hours then they may sell the room on hourly basis and if somebody requires it for a long period then an agreement can be made and the room given to the guest accordingly.

CHECK YOUR PROGRESS

What are the various hotel types based on level of service?
What is apartotel?

1.02.6 Based on the Theme

Heritage hotels: As you know after the independence, in India, many kings and nawabs lost their status as kings or nawabs. They had built their resiedences as palaces or hawelies which contributed to the civilization and culture of our country in a grand manner. To preserve those magnificient architectural marvels and also to earn revenue, many of these historical places have been purchased by hoteliers and converted them as hotels. The Ministry of Tourism has laid down norm to recognize such places as heritage hotels in three categories, namely, heritage, heritage classic and heritage grand. We will learn about the criteria laid down by the Ministry of Tourism later in this unit and also study four heritage hotels.

Ecotels: Ecotels are hotels, which follow environment friendly practices and procedures. Instead of being environment friendly, environment sensitive phrase is being used nowadays, after accepting that no hotel can be truly friendly to the environment, since in one way or the other they will be, though in a small way, harming the environment. But any hotel can try to be an environment sensitive by using less harmful products.

Boutique hotel: Boutique hotels provide the best possible accommodation, are furnished in a themed and stylish way, and come with the best of personalized**.** These hotels try to offer services and facilities to show utmost importance to the guests. They cater to corporate travelers and discerning travelers who place high importance on privacy, luxury and service delivery.

Spas: Spa is a place to take invigorating practices like massage. Acutally, Spa refers to a tub for relaxation or invigoration, usually including a device for raising whirlpools in the water. A spa resort is a hotel that provides therapeutic baths and massages along with other features of a luxury hotel. A medical spa is a facility that operates under the full-time, on site supervision of a licensed healthcare professional.

CHECK YOUR PROGRESS

What is a ecotel?
What features should a hotel have to be called a boutique hotel?

1.03 STAR CATEGORIZATION

The basic criterion for classifying and grading hotels is the star categorization of hotels. This is one of the most commonly understood, accepted and recognized system in India and is also the official system of classification in this system , hotels are classified on the basis of facilities that they have and the services which the hotels provide to their guests . Based on the number of services and facilities (their qualities and standards) which may vary from a basic bedroom to luxury room with most modern fittings and equipment, the hotels are awarded 'stars' ranging from one to five –star deluxe.

The classification of new and functioning hotels is done by the Ministry of Tourism. The department formed a committee called Hotels and restaurants Approval and classification Committee (HRACC), which is headed by the D.G. of tourism or the A.D.G. of Tourism and comprises members from the hotel of tourism or the A.D.G.of Tourism and comprises momberws from the hotel industry, Travel Agents Association of India (TAAI) Department of Tourism and principals of regional institutes of hotel management, catering technology and applied nutrition. This has 1- to 5-stars and also a five-star deluxe category. The committee conducts its inspection once in three years. In this inspection, the existing hotels which have been classified are also checked, to confirm that the hotels follow required standards as per the star classification awarded.

1.03.01 BASIC CRITERIA FOR STAR CLASSSIFICATION

A functioning hotel must fulfil the following minimum basic requirements to be eligible for star classification:

- The hotel must have a least ten rooms to be let out.
- The carpet areas of all rooms and bathrooms should, by and large, adhere to the specified limits

1.03.02 INDIVIDUAL CRITERIA FOR STAR RATING

The criteria for hotels of each star category, has been explained as follows :

i) ONE STAR CATEGORY HOTELS

The general construction of the building of one star category hotels should good and the locality and environs including immediate approach should suitable. The various diminutions on which the star is awarded are the following

Rooms

- The hotel should have at least the bathrooms to be let out, of which at least 25 per cent should have attached barhroom and there should be a bathroom for every four of the remaning rooms.
- The room should be properly ventilated with clean and comfortable and furniture.

Bathrooms

- At least 25 per cent of the bathrooms should have western style water closets.
- All bathrooms should have modern sanitation fittings and running cold water with adequate supply of hot water, soap and toilet paper.

Reception Counter

- There should be a reception counter with a telephone and a telephone for the use of guests and visitors.

Dining room and kitchen

- There should be a clean and moderately well-equipped dining room restaurant serving nutritious and hygienic food.
- There should be a clean well-equipped kitchen and pantry.
- The crockery, cutlery and glassware should be of good quality.

Staff

- There should be experienced, courteous and efficient staff in smart and clean uniform.
- The senior staff interacting with guest should possess a working knowledge of English.

Housekeeping

- It should be of a high standard, and clean and good quality linen , blankets and towels should be supplied.

ii) TWO STAR CATEGORY HOTELS

The building of two-star hotels should be well constructed and the locality and environs including the approach should be suitable for a good hotel. The various dimensions on which the stars are awarded are the following:-

Rooms and bathrooms

- The hotel should have at least ten bedrooms to be let out, of which at least 75 per cent should have attached bathrooms with showers and a bathroom for every four of the remaining rooms.
- The bathrooms should have modern sanitary fittings and running cold water with an adequate supply of hot water , soap and toilet paper.
- 25 per cent of rooms should be air conditioned (except in hill stations, where there should be heating arrangements in all the rooms)
- All the rooms must be properly ventilated, clean and comfortable, with all the necessary items of furniture.
- There should be a well – furnished lounge.

Reception

- There should be a reception counter with a telephone.
- There should be a telephone or cell bell in each room
- There should be two telephones on each floor unless each room has a separate telephone.

Dining room and kitchen

- There should be a well maintained and well-equipped dining room or restaurant serving good clean wholesome food.
- There should be a clean , hygienic and well-equipped kitchen and pantry.
- The crockery, cutlery and glassware should be of good quality.

Staff

- There should be experienced, courteous and efficient staff in smart and clean uniform.
- The supervisory staff interacting with guests should be able to converse in English.

Housekeeping

- There should be provision for laundry and dry cleaning services.
- Housekeeping should be of a good standard and clean and good quality linen, blankets, towels etc. should be provided.

iii) THREE-STAR CATEGORY HOTELS

The architectural features and general construction of the building of the three-star category hotels should be of very good standards and the locality including the immediate environment should be suitable for a very good hotel. There should, also be adequate parking facilities for cars. The various dimensions on which the stars are awarded are the following:

Rooms and bathrooms

- The hotel should have at least twenty – five bedrooms to be let out, all with attached bathrooms.

- At least 50 per cent of the bathrooms must have long baths or the most modern shower chambers, with round – the-clock service of hot and cold running water.

- All public and private rooms should be fully air conditioned (except in hill stations where there should be heated arrangements) and should be well furnished with carpets, curtains , furniture, fittings etc. in good taste.

- It would be advisable to employ the service of professionally qualified and experienced interior designers of repute for this purpose.

- There should be a telephone in each room and telephone for the use of guests and visitors and provisions for a radio or relayed music in each room.

Elevators and lounge

- There should be an adequate number of efficient lifts in building of more than two storeys including the ground personnel.

- There should be a well-equipped lobby and separate cloakrooms for men and woman, equipped with fitting of a standard befitting a hotel of this category.

Reception

- There should be a reception, cash and information counter attended by trained and experienced personnel.

- There should be a special room for conference or banquet purposes.

- There should be a bookstall, recognized travel agency, money , changing and safe deposit facilities and a left luggage room on the premises.

- There should be a well-equipped,well-furnished and well –maintained dining room or restaurant on the premises and a well-equipped bar or permit room.

Kitchen

- The kitchen pantry and cold storage should be professionally designed to ensure efficiency of operations and should be well-equipped.

- The hotel should offer both international and India cuisine and the food and beverage service should be of the highest standard.

Staff

- There should be professionally qualified, highly trained, experienced efficient and courteous staff in smart, clean uniformed and the staff interacting with guest should understand English.

- The supervisory senior staff should possess good knowledge of English

- It will be desirable for some of the staff should possess good knowledge of foreign languages.

- There should round –the –clock service for reception information.

- There should be provision for reliable laundry and dry cleaning services.

Housekeeping

- Housekeeping at the hotel should be of the highest possible standard and there should be adequate supply of linens, blankets, towels etc. which should be highest quality available.

- Similarly , the crockery, cutlery and glassware should be provided alon with a vacuum jug or thermos flask with ice cold, purified drinking water, except where centrally chilled purified drinking water is provided for. There should be a special restaurant or dining room where facilities for dancing and an orchestra are provided .

iv) FOUR STAR CATEGORY HOTELS

The architectural features and general construction of the building of four –star category hotels should be distinctive and the locality including the immediate approach and the environment should be suitable for a hotel of this category. There should be adequate parking facilities for cars. The various dimensions on which he stars are awarded are the following:

Rooms and bathrooms

- The hotel should have at least twenty-fie bedrooms to be let out , all with attached bathrooms.

- At least 50per cent of the bathrooms must have long baths or the most modern shower chambers, with round –the-clock service of hot and cold running water.

- All public and private rooms should be fully air conditioned (except in hill stations where there should be heated arrangements) and should be well furnished with carpets, curtains, furniture, fittings, etc.in good taste.

- It would be advisable to employ the service of professionally qualified and experienced interior designers of repute for this purpose.
- There should be a telephone in each room and telephone for the use of guests and visitors and provisions for a radio or relayed music in each room.

Elevators and lounge

- There should be an adequate number of efficient lifts in buildings of more than two storeys including the ground floor.
- There should be a well –equipped lobby and separate clockrooms for men and women, equipped with fittings of a standard befitting a hotel of this category.

Reception

- There should be a reception, cash and information counter attended by trained and experienced personnel.
- There should be a bookstall, resigned travel agency, money changing and safe deposit facilities and a left luggage room on the premises.
- There should be a well –equipped, well –furnished and well-maintained dining room or restaurant on the premises and a well-equipped bar and permit room.

Kitchen

- The kitchen pantry and cold storage should be professionally , designed to ensure efficiency of operations and should be well-equipped.
- The hotel should offer both international and Indian cuisine and the food and beverage service should be of the highest standards.

Staff

- There should be professionally qualified, highly trained, experienced efficient and courteous staff in smart, clean uniform and the staff interacting with the guest should understand English.
- The will be desirable for some of the staff to have knowledge of foreign languages.
- There should be round –the –clock service for reception information.
- There should be provision for reliable laundry and dry cleaning services.

Housekeeping

- Housekeeping at the hotel should be of the highest possible standard and there should be of the highest quality available.

• Similarly, the crockery, cutlery and glassware should be provided along with a vacuum jug or thermos flask with ice cold, purified drinking water, except where centrally chilled purified drinking water is provided for. There should be a special restaurant or dining room where facilities for dancing and an orchestra are provided.

v) FIVE STAR AND FIVE STAR DELUX CATEGORY HOTELS

The architectural features and general construction of the building of five –star deluxe hotels should have the distinctive qualities of a luxury hotel of this category. Five-star deluxe category hotels are a qualitative extension of the five star category. In a five-star deluxe hotel, the comparative all rounds of service and amenities are of superior quality and high standard.

Rooms and bathrooms

• The hotel should have at least twenty-five bedrooms to be let out , all with well appointed, attached bathrooms with long baths or the most modern shower chambers with round –the-clock service of hot and cold running water.

• All public and private rooms should be fully air conditioned (except in hill stations where there should be heating arrangements) and should be well equipped whit superior – quality carpets , curtains , furniture, fittings etc.in good test. It is advisable to employ the service of professionally experienced interior designer of repute for this purpose.

• There should be an adequate number of efficient lifts in buildings of more than two storeys including the ground floor with round –the clock service.

• There should be a well-designed and well-equipped swimming pool (except in hill stations)

• There should be a well-appointed lobby and separate cloakrooms for men and women, equipped with fittings of a standard benefitting a hotel of this category.

Reception and lounge

• There should be a reception, cash and information counter , attended by highly qualified, trained and experienced personnel and conference facilities in the form of one each or more of conference room/banquet hall and private dining rooms.

• The kitchen pantry and cold storage should be professionally designed to ensure efficiency of operation and should be well equipped.

• The hotel should offer both international and Indian cuisine and the food and beverage service should be of the highest standards.

Staff

• There should be professionally qualified , highly trained, experienced, efficient and courteous staff in smart , clean uniforms and the staff interacting with the guest should understand English.

• It will be desirable for some of the staff to have knowledge of foreign languages.

1.03.03 Is there such thing as Seven Star Category?

Some hotels have been advertised as seven star hotels. The Burj Al Arab hotel in Dubai was opened in 1998 with a butler for every room – this has been the first hotel being widely described as a "seven-star" property, but the hotel says the label originates from an unnamed British journalist on a press trip and that they neither encourage its use nor do they use it in their advertising. Similarly the Emirates Palace Hotel in Abu Dhabi (open since 2005) is sometimes described as seven star as well, but the hotel uses only a five star rating.

Fig 1.01 Burj al Arab, Dubai

The Galleria in Milan, Italy was opened in 2007 and it claims to have a seven star certificate from SGS Italy2008. However the SGS Italy (not the official tourism agency) only has five stars in the general hotel stars categorization, with the full title of the certificate being left unknown, just as the renewal process is unknown. Overall, as no traditional organization or formal body awards or recognizes any rating over five-star deluxe, such claims are meaningless and predominantly used for advertising purposes.

Historically, luxury hotels have used the membership in The Leading Hotels of the World to document regular inspection on an additional level. This organization had been formed in 1928 and it reorganized in 1971 introducing a world-wide inspection service.

CHECK YOUR PROGRESS

What are the features of a five star hotel?
Describe the features of kitchen and housekeeping in a four star hotel

1.04 RESPONSIBILITIES OF HOUSEKEEPING DEPARTMENT

Housekeeping is mainly responsible for the cleanliness and maintenance of guest rooms and public areas. But there is ample number of tasks for which housekeeping is responsible as it is the backbone of a hotel. Housekeeping plays an important role in revenue generation though it is not a part of revenue generation department, because cleanliness strengthens the standard and ambience of the hotel. Following are the tasks performed by housekeeping:

(a) **Guest room cleaning**: The rooms of the guests need to be cleaned regularly. Rooms attendants are responsible to clean the guest rooms and bathrooms allotted to them under the guidance of floor supervisor. Room attendants are also responsible for the security of guest rooms as the room keys are handed over to them for the allotted rooms of a floor. Figure below shows housekeeping staff performing guest room cleaning activities.

Fig 4.01 Guest room Cleaning

(b) **Public area cleaning:** Public areas like restrooms need regular cleaning. Housemen are responsible to clean the public areas allotted to them under the guidance of public area supervisor, whether it is front-of-the-house or back-of-the-house. Routine cleaning is done during the day shifts and thorough cleaning is done during the night shifts. Front-of-the-house areas consist of foyer, shopping arcade, restaurants, banquette halls, health club, swimming pool, recreation areas, parking and compound areas. Back-of the-house areas consist of basement corridors, staff lockers, staff cafeteria, offices and all operating departments except kitchen, which is cleaned by kitchen stewarding department..

Fig 4.02 Public area cleaning

(c) **Linen and Uniform room**: The linen like towels and the uniforms of the staff needs t be controlled that is they need to be cleaned, stored and issued. Housekeeping is responsible for the operation of linen and uniform room. It is responsible to issue and receive the uniforms and linen of departments to staff on fresh against soiled basis, to control and slaughter the damage and loss. It is also responsible to maintain the records of proper inventory and stock of all the items.

Fig 4.03 Linen and Uniform room

(d) **Laundry:** Most of the high end hotels have a laundry in the premise directly manned by them. If the laundry is in-house then the guest laundry from the rooms is directly collected and delivered by the laundry valet. Housekeeping is also responsible for maintaining records of issued linen, standard operating procedures, select the supplier for cleaning agents, machines, etc. If the laundry is outsourced then all the linen is collected and delivered to linen room from where it is dispersed to the laundry for washing. Housekeeping staff on duty in the laundry is responsible for the smooth working of operations.

Fig 4.04: laundry

(e) **Refurbishment and Redecoration**: Sometimes the hotel facilities need to be renovated and redecorated. It is responsible for refurbishment and redecoration of the hotel. Refurbishment means complete renovation, where all the soft furnishings are changed and the furniture too may be changed or re-upholstered. It is generally done floor wise in 4-6 years. Redecoration means to change the appearance or furnishing and is usually done on the basis of need like changing a set of curtains as it is stained or worn out.

Fig 4.05 Before and After Decoration

(f) **Special Decoration:** Some special occasions require special decorations. Housekeeping is responsible for special decorations for theme dinners and festivals like a New Year ball, a Christmas celebration. anannual function of hotel or any other celebration. The decoration is done thorn in coordination with F&B service department. Figure below shows a Special Christmas decoration done by the hotel staff.

Fig 4.06: Special Decoration in the Hotel

(g) **Special Requests**: Sometimes there are special requests from the guests. Request of guests on floors are also taken care by housekeeping department as they are available all the time on the floor. Guests may ask for extra room complimentaries and supplies, first aid kit like banded and thermometer, iron, hot water bag, ice bag, etc. These items are given to guests for use at no extra cost. A guest may also ask for an extra bed however it should be routed through the Front Office since the guest would be charged extra for it.

(h) **Flower Arrangements**: Flowers add to the beauty of the premise and make happy positive mood in the hotel. Flower arrangement work could be given out on contract or horticulture section of housekeeping can do as required in VIP rooms, Suites, public areas and for the florist shop. Any banquette requirements like backdrop for wedding etc. can be given on contract, if guests wish to do so. Figure below shows a flower arrangement showcased in a room.

Fig 4.07: Flower Arrangement in the Hotel lobby

(i) **Shoe Shine:** Some guest need to polish their shoes to be ready to go out. Room attendants provide shoe shine service to resident guests at the time of room cleaning. Nowadays, shoe shine machines are kept in public areas like in foyer and corridors, etc. Figures below show shoe shining tools

Fig 4.08 shoe shining tools

(j**) Babysitting**: Many guest have small children with them and sometimes they need to be looked after in their absence. This facility is provided to guests who have to go out for work and they cannot take their infants. Chambermaids can be given this job, if their shift is over or if extra maid is available then she can also work as baby sitter. Some of the hotels keep professional baby sitters, if demand for baby sitter is high. Guests are charged on hourly basis for this service.

Fig 4.09: babysitting

(k) **Lost and Found**: We all forget small items and sometimes also find itmes lost by others. Any guest article found in rooms or public areas is kept in the possession of the housekeeping department till a guest claims for it. Records are maintained for lost and found articles and information for the same is sent to Front Office to resolve any query by guest. Generally, perishable items are kept for 24 hours, valuable items like jewelry for 6 months to one year and invaluable items like perfume, vanity bag, etc. for three to six months.

Fig 4.10 lost and found box

(l) **Contract Services:** Not all the functions of housekeeping can be performed by internal staff. Some of the services like pest control, carpet shampoo, laundry, florist, landscaping, cleaning of facade of building, etc. are given on contract as these are not routine work and required after certain periods. All the above tasks are a part of housekeeping but due to expensive machines and keeping safety in mind, they are generally given on contract basis.

(m**) Purchase:** The items required by the housekeeping like detergents etc are to be purchased from markets. These personnel are responsible for selecting the suppliers and vendors to purchase cleaning equipment, cleaning agent, linen, soft furnishing uniform for staff, guest room complimentaries and supplies. All the large chain hotels may have a central purchase department through which room supplies are obtained on a monthly or quarterly basis. This ensures consistency of room supplies in all the hotels of a chain. Purchase is done in coordination with store/ purchase and accounts department.

(n) **Forecasting Budget:** The housekeeping department has to incur expenditures to carry out the functions assigned to it. The Executive Housekeeper presents the annual budget generally in the month of January for the forthcoming Budgeting Financial year. The factors to be considered while drawing up the budget are: previous year budget + 10% inflation + refurbishment plans + any other capital purchase + expected occupancy.

(o) **Duty Roster:** The staff at housekeeping have to man the hotel for 24 hours and hence have to work in shifts. The Assistant Executive Housekeeper decides the shift timings and off days of all the housekeeping staff in consultation with Executive Housekeeper. In addition to this, he/she is also responsible to send the information on overtime, leave, and statement of attendance to the Personnel department for cross checking the records and calculating the payroll of housekeeping staff

(p) **Recruitment, Training and Evaluation of Housekeeping Staff**: In order to be able to do a good job, quality human resources need to be hired, trained and retained. The Executive Housekeeper is responsible for the recruitment of the employees in coordination with Human Resource Department. He/she is also responsible to evaluate the performance of staff for promotions and increments. staff.

CHECK YOUR PROGRESS

Which are the main responsibilities of the housekeeping department?
What activities are performed under the special decoration?

1.05 ORGANISATIONAL STRUCTURE OF THE HOUSEKEEPING

The size of the hotel will deterine the organizational chart of the organization

Depending upon the size large, medium ,small the hierarchy would be decided for each department. Below are given the hierarchy chart of large medium and small hotel.

(1) SMALL HOTEL HOUSEKEEPING

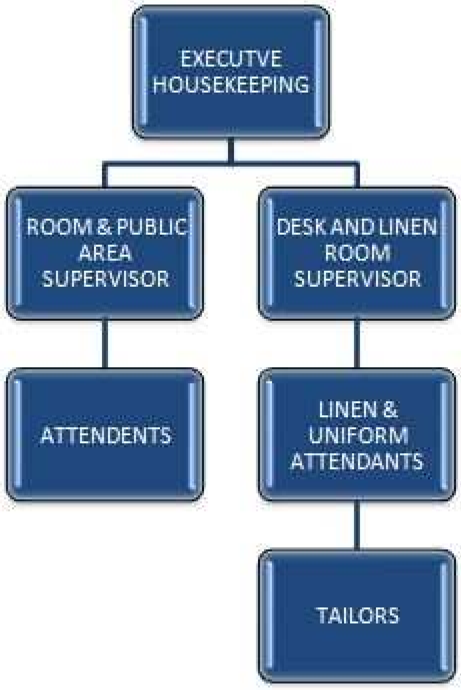

Fig 4.11 Organization Structure of Housekeeping for a small hotel

(2) HOUSEKEEPING IN MEDIUM SIZED HOTELS

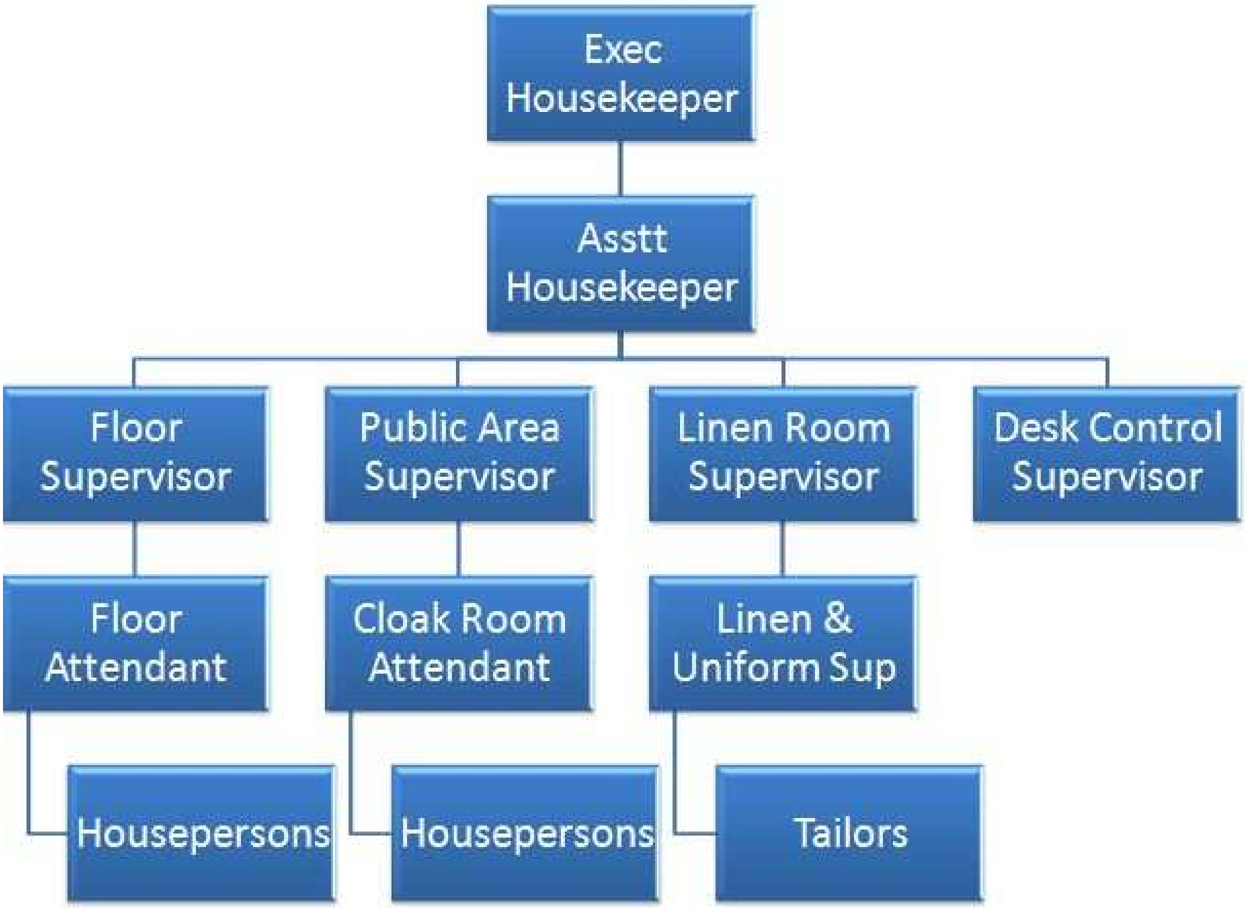

Fig 4.12 Organization structure for Housekeeping departments in Medium sized Hotels

(3) ORGANIZATION OF LARGE SIZE HOTEL HOUSEKEEPING

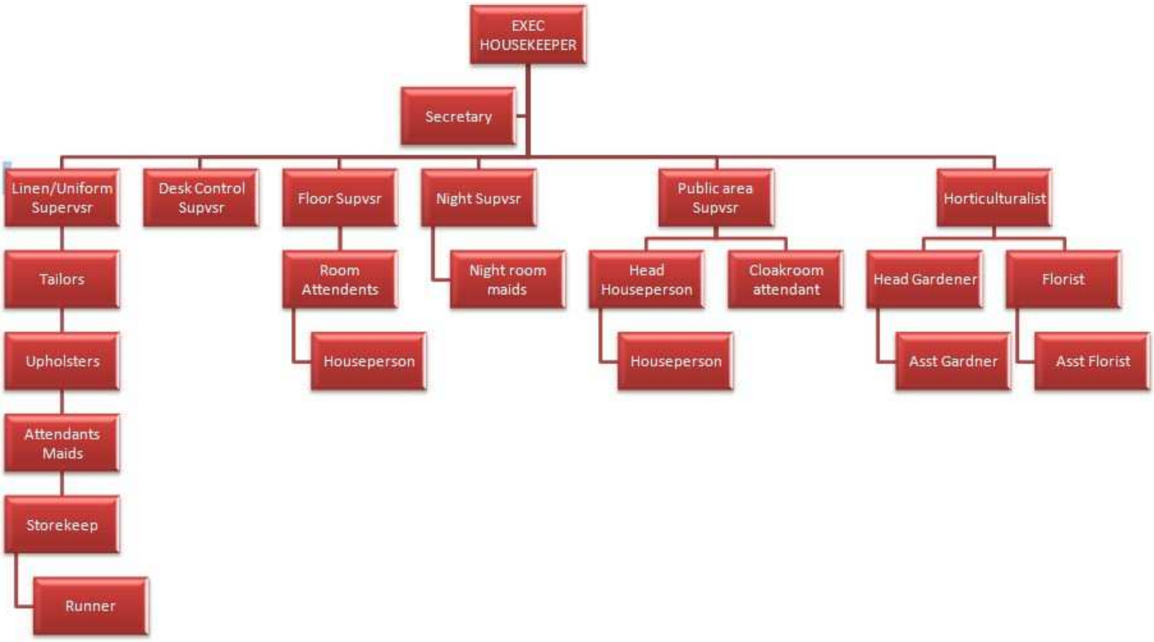

Fig 4.13: Organisation of Large Hotel Housekeeping

> **CHECK YOUR PROGRESS**
>
> Draw the organization structure for a medium sized hotel.
> What are the main difference between the organization of a medium and a large hotel?

1.06 ROLES, JOB DESCRIPTION AND DESIRED ATTRIBUTES OF STAFF

1.06.01 ORGANIZATION OF HOUSEKEEPING DEPARTMENT

The housekeeping department is headed by the executive housekeeper under whose supervision the housekeeper, assistant housekeeper, floor supervisor, linen room supervisor ,public area supervisor room attendant, house persons ,cloakroom attendant and other housekeeping staff works. Let us see their job roles and other featurs.

EXECUTIVE HOUSEKEEPER

The executive housekeeper reports to the general manager or the rooms division manager.

The executive housekeeper is responsible for the cleanliness and aesthetic appeal and upkeep of the hotel. The executive housekeeper is responsible for the housekeeping staff.

Job Responsibilities of Executive Housekeeper

The executive housekeeper is responsible for the overall smooth functioning of the housekeeping department

- She/he is responsible for the cleanliness, hygiene, and sanitation and pest control of the entire hotel premises.
- She /he takes care of the standards of the organisation, controls periodic scheduling of maintenance and renovations along with engineering department
- She /he is responsible of hiring and training the employee of the department
- She /he supervise the work of the housekeeping personnel and is responsible for job allocation,duty roster attendance.
- He /she prepares the budget and forecast and monitor it
- She /he is responsible for the purchase, control of linen as per requirement
- She/he is responsible to purchase cleaning equipment and agents and supervise their use
- She /he is responsible for scheduling periodic inventory.
- She /he guides the florist for flower arrangement and proper supply of flower and flower arrangements
- She /he responsible for the maintenance of laundry purchase, selection of uniforms
- She /he is responsible for sanctioning of leaves of the staff
- She/he is authorised to take disciplinary action against staff misbehaviour
- She /he is responsible for good industrial relationship
- She /he is responsible to maintain housekeeping records and registers
- She /he is responsible to design the interior of the hotel
- She /he also look after correct functioning of the linen room and laundry
- She/he deals with the lost and found articles
- She/he looks after the key management.

DEPUTY HOUSEKEEPER

The deputy housekeeper reports to the executive housekeeper in the housekeeping department. The deputy housekeeper is responsible for the smooth operation and working of the staff. She /he works with the resources provided by the executive housekeeper for the purpose of maintaining the property, cleanliness and aesthetic appeal of the hotel.

Job Responsibilities of Deputy Housekeeper

- She/he looks after the upkeep, cleanliness, hygiene, maintenance of public area ,store, staff area, guest room, corridors, floor pantry.
- She/he looks after the maintenance of all furniture, fixture and fitting.
- She /he checks the attendance and grooming of the staff
- She /he gives pass keys to the staff
- She /he is responsible to check the log book messages
- She/he is responsible for the occupancy report
- She is authorised to check the maids trolley and the set up
- She /he issues the supplies to the staff
- She /he fills the duty register of the floor
- She/he inspects the room attendant, chambermaids and housemen to ensure that they are using proper methods, cleaning agents and equipment's.

- She /he checks the guest room is cleaned properly and the room supplies are been set
- She /he checks the room are been cleaned on time and properly
- She/ he inspects and makes a check list on maintenance issues and rectifies them
- She /he makes a requisition of supply required for the floor
- She /he checks that the rooms having DND signs are also been cleaned after the DND sign to be removed
- She /he has to report any suspicious person on the floor
- She /he looks after the decoration of all banquets and lobby area
- She /he is responsible of keeping a watch on whether the lost and found procedure is been followed by the staff
- She/he is responsible to maintain the records, register .
- She/he is responsible to maintain effective control of resources and manpower

FLOOR SUPERVISOR

The floor supervisor reports to the deputy housekeeper or the executive housekeeper. She is responsible for the cleanliness of the floor And rooms been allotted to her. Sheget the work done from the room maid /attendants.

JOB RESPONSIBILITES OF THE FLOOR SUPERVISOR

- She is responsible for receiving and issuing of linen required on the floor
- She ensures that the equipment's, cleaning agents and supplied to the floor.
- She is responsible of issuing floor keys to the room attendant
- She is responsible the spring cleaning
- She is responsible for reporting the maintenance work on her floors
- She maintain the par stock of her floor
- She coordinates for services to be provided to the guest such as baby sitter, hot water etc
- She prepares the housekeeping status report
- She is responsible for the cleaning of floor corridors guest rooms floor pantries allotted to her

PUBLIC AREA SUPERVISOR

Public area supervisor reports to the deputy housekeeper. He is responsible for the cleanliness and aesthetic appeal of the public area such as lobby, shopping arcade, cloakroom, banquets etc.

JOB RESPONSIBILITIES OF THE PUBLIC AREA SUPERVISOR

- He is responsible for the cleanliness of the areas such as lobby, main entrance ,shopping arcade.
- He is responsible for cleaning the functional areas such as banquets before and after function
- He is responsible for the cloakrooms cleanliness and supplies in the cloakroom
- He is responsible for the flower arrangement in lobby and in banquets
- He is responsible for the maintenance work report and ensuring that the maintenance is been done

LINEN SUPERVISOR

The linen supervisor reports to the deputy housekeeper. She is responsible for the activities conducted in the linen room.

JOB RESPONSIBLITIES OF LINEN ROOM SUPERVISOR

- She maintain the standard stock of linen and uniforms
- She maintains various records and register in linen room
- She issues linen and uniforms as per requirement of floor,other department and staff members
- She inspect the linen received from the floors and other departments for quantity and quality
- She supervises the repairing of uniforms,linen,curtains,bed covers done by tailors
- She is responsible to take the inventory of linen, uniforms and other linen used in the hotel
- She is responsible to check the quality and quantity of linen received from laundry
- She looks after the laundering of guest clothes

DESK CONTROL SUPERVISOR

Control Desk is the nerve of the housekeeping edepartment.it is the central point of information for the housekeeping department. The job of the desk control supervisor is very critical

JOB RESPONSIBLITIES OF CONTROL DESK SUPERVISOR

- She coordinates with the front office for departure rooms
- She hand overs clear room
- She receives compliant of maintenance from the housekeeping staff spread all over the hotel and in turn
- She intimates the maintenance department
- She receives guest messages and complaints concerning housekeeping

HORTICULTURIST

The large hotels have their own horticulturist, who reports to the assistant housekeeping. The horticulturist has a team who help in the flower arrangement for the hotel. The flower arrangement prepared by this horticulturist are used in the hotel to increase the appearance in lobbies, banquets ,restaurant etc.

JOB RESPONSIBLITIES OF HORTICULTURIST

- He supervises the maintenance of garden area
- He see that flowers are been provided in sufficient quantity.
- He assist in the florist in making the flower arrangement for the hotel.

ROOM ATTENDANT OR CHAMDERMAID

The male members are called room attendants and females chambermaids. She /he reports to housekeeping or floor supervisor

JOB RESPONSIBLITIES OF ROOMATTENDANT OR CHAMBERMAID

- She or he sets the maids trolley as per requirement
- She/he cleans and maintains the guest room and floor
- She /he is responsible to provide supplies and requirement to the guest
- She /he notifies the room status to the supervisor for preparing the floor occupancy
- She/he is responsible to deposit the lost and found articles from guest room to the floor supervisor
- She/he is responsible To attend all guest request and complaints such as provide drinking water, extra bed, polishing for shoes
- She/he is responsible To do spot cleaning of carpets
- She /he help the supervisor to do periodic inventory
- She /he is responsible for master key for her/his section of rooms
- She /he is responsible for any pending work to be conveyed to the next shift

HOUSEMAN OR HOUSEMAID

He/she does the cleaning of public area allotted to them and sometimes is responsible for special cleaning in guest room

CLOAK ROOM ATTENDANT

He/she is responsible for cleanliness, maintenance and service of public area washroom. She /he is responsible for the supply in the cloakroom such as tissue, soap etc.

GARDENER

He /she is responsible for the gardens, and landscaping of the hotels. Entire gardening work such as digging, planting etc. is done by the gardener. He is reports to the horticulturist.

LINENROOM ATTENDANT

He /she assist the linen keeper in maintaining the linen room. He/she does the actual issuing and uniforms on the basis of clean for dirty. The linen room attendant also fills up various records and registers.

LINEN ROOM HELPER

He/she does the physical work of counting, bundling and transporting of linen and uniforms.

TAILOR

He /she do the general repairing and mending of linen and uniforms.

1.06.02 PERSONAL ATTRIBUTES OF THE HOUSEKEEPING STAFF

The housekeeping is a very involved activity and require large human resource support. The housekeeping department has the most staff as compared t other department of the hotel. They look into the cleaning and aesthetic enhancement of the hotel. But how clean the hotel may be, how beautiful the hotel may look but if the staff is arrogant, unskilled untidy ,the guest may not be attracted to the hotel. Thestaff needs to be groomed as the standards of the hotel. There are certain attribute which the housekeeping personnel should have to maintain the standard of the hotel.

PLEASANT PERSONALITY

The pleased person speads pleasant feeling to whosoever he or she meets. The housekeeping staff should be well groomed and in uniform .The tailored uniform of the staff makes them look good with a pleasing personality. The staffs are the first impression to the guest and give an impression of the hotel services.

The staff needs to have formal presence and hence wear proper uniform, protective clothing or head gear as per need and job. The staff should be in ironed uniform. As they come in contact with the guest they should apply after shave or a mild perfume. They should have minimum jewellery on them and females should have light make .hair must be neatly trimmed for men and female should tie their hair in a bun with net. The shoes should be comfortable as the working hours are long and involve physical work. The housekeeping staff should always have a smile on their face.

PHYSICAL FITNESS

As their duties are physically demanding they should have strong physique. The housekeeping staff should have a very strong physically. Most of the housekeeping work is manual and physical as the have to pick up equipment's, do heavy cleaning and work physical round the clock ,so a housekeeping personnel should be able to bear the fatigue and tired of manual work.

PERSONAL HYGIENE

A clean and sanitary person holds back the disease spreading organisms and helps maintan good overall ambience in the hotel. As the housekeeping staff comes in direct contact with the guest, the staff needs to maintain their personal hygiene. They should have a clean neat ironed uniform. They should bath every day, there should not be any body odour. Hair should be trimmed nails should be cut shoes should be polished and shocks should be changed every day. A mild perfume or deodorant should be used .a mouth freshener should be used.

EYE FOR DETAIL

The staff should have habits of being meticulous and diligent. The housekeeping job is a critical work ,they should be very observant and give attention to every small details of cleaning and hygiene. The housekeeping staff should have an eye of details so that not a single corner is left untouched and not cleaned. The housekeeping staff should have a sense of observation to inspect the room minutely.

COOPERATION

The staff needs help from other sections and hence must profess the art of working in teams. Cooperation within the team and with the other department's is very important in the housekeeping. As the work in the housekeeping needs a lot of efficiency cooperation with in the department is of utmost important .also the cooperation with other department helps the department to run smooth operations.

ADAPTABILITY

With changing situations one has to change and adapt as soon as possible. The housekeeping staff should have the ability to accept changes. They should willingly try out new changes and trends in the working styles. The housekeeping staff should bring out the creativity and experiment new ideas and thoughts

HONESTY

As they say, honesty is the best policy. As the housekeeping staff is working in close vicinity of the guest ,even sometime handle their belongings so they have to be very honest and trust worthy.As they handle the guest belongings they need to control their temptations and show sincerity and discipline towards their work. It is the responsibility of the management to show respects and trust towards the housekeeping staff.

TACTS AND DIPLOMACY

Some guests have very abnormal habits like bad temper. They need to be treated with care and diplomacy. The housekeeping staff deals with all kinds of guest. Some guest have weird request and complaints .Some guest are over demanding ,it is quality of the housekeeping staff to handle these kind of guest tactfully and diplomatically. The staff needs to be very polite and humble to the guest however the guest may be. Handling critical guest diplomatically is the key quality of a housekeeper.

RIGHT ATTITUDE

The positive attitude on part of the staff makes life of the management simple. The housekeeping personnel should have a right attitude towards the work. The personnel having very god skill and a negative attitude cannot be an asset to the company. The housekeeping personnel should be satisfied with the work he is doing the compensation the company is paying then only he will have a right attitude towards the company. He cannot complaint as it will hamper his work performance. Proactive ness in work shows a positive attitude of the staff .

CALM DEMEANOUR

The job of housekeeping is very demanding, tiring and at times thankless. They look into the complaints request and needs of the guest, the housekeeper need to work in a environment where the guest may be very angry upset not happy with certain issues during such times the personnel need to maintain his calm and understand the issue and solve it. The housekeeper need to keep himself or herself in all kind of satiation and work smoothly.

COURTESY

The staff should show kindness and good humor to each and every guest as well as to the fellow workers. The housekeeping staff should be very humble and polite with the guest however the guest behaves. Also the staff should be very courteous with the teammates to get the work done smoothly. The staffs should always smiling and show a helpful attitude towards the guest which will create a positive image in front of the guest

PUNCTUALITY

The guests may be hard pressed for time as she may have to attend an important appointment. There should be nothing due to which the guest should miss such appointment. The staff should be on time for duty as this shows his or her dedication towards the work. If the staff does not come on time this show no interest in work and lack of respect for the company.

GOOD MEMORY

At times you can not have the luxury of refereeing to a notebook. Good memory helps in such cases. The staff should have a good memory. They should be able to recognise the guest by his or her name .if the guest is a repeated guest then they should know their likes and dislike.

LOYALITY

A loyal staff is always liked by the management. The staff should be very loyal to the company and to the management. They should never use guest as their shield in any situation. They should always work for the betterment of the company.

1.07 SUMMARY

In this unit we started with an overview of the Accommodations industry. We saw that hospitality industry plays a very important role as a driving force of Indian Economy. The service sector contributes most to the Gross Domestic Product (GDP) of Indian economy. Hospitality industry generates a lot of employment opportunity. The Foreign Direct Investment has also shown a remarkable trend in this sector.

Next we will study the classification of hotels based on criteria like

Location(City-center/downtown hotel, Suburban hotels, Motels, Airport hotels, Resort hotels, Forest hotels, Floatels, Boatels, Rotels,)

Target market (Commercial hotels, Convention hotels, Resort hotels, Suite hotels,)

B&B hotels (Extended-stay, Casino hotels, Timeshares, Condominiums, Service apartments/corporate lodgings),

Size of the property, (Small hotels, Medium sized hotels, Large hotels, Very large hotels, Mega hotels, Chain hotels),

Level of service (Economy/budget hotels, Mid-scale/mid-market hotels, Luxury hotels),

Length of stay (Transient hotels, Residential hotels, Semi-residential hotels),

Theme (Heritage hotels, Ecotels, Boutique hotels, Spas).

We have seen these hotel types in details. We also saw how the hotels are rated as one-star to five star deluxe categories. The requirements for such qualifications as stipulated by the Ministriy of Tourism have also been discussed. You may have heard that hotels like Burj al Arab, Dubai have been categorized as seven star hotels. We saw that such categorizations did not have very sound legal basis.

We have studed the Organization structure of a typical small, medium and large hotels. We also studied the designation given to the personnels working in the housekeeping departments of the various hotel. We studied the job roles to be performed by the executive hoursekeeper and the other members of the staff. In order to carry out these jobs the staff should have some attributes which need to be developed and inculcated. We have seen the list of such attributes.

1.10 END QUESTIONS

The following questions should help you prepare for the End Examinations. These questions are for 5 marks each and should take you 11 minutes under examination conditions.

1. What is the minimum number of guestrooms that a four star hotel must have?
2. What is the main point of difference between the four star and five star categories of hotels?
3. Which are the various types of hotels which are covered under B&B hotels?
4. Descibe a Boatel and a rotel.
5. What are the criteria for a hotel to be categorized as a three star hotel?
6. Explain the classification of hotels on different basis
7. Describe star categorization.
8. Which hotels have been claimed to be seven star hotel? Do such classifications have legal validity?
9. Explain the organization structure of hotels
10. Describe the various ways of categorization of hotels.
11. Which are the various types of hotel based on the size of property?
12. What is meant by rotel?
13. What is the difference between a floatel and a boatel?
14. What is meant by a B&B hotel?
15. Describe a timeshare hotel.
16. How many rooms are there in a mega hotel?
17. What are the various hotel types based on level of service?

18. What is apartotel?
19. What is a ecotel?
20. What features should a hotel have to be called a boutique hotel?
21. What are the features of a five star hotel?
22. Describe the features of kitchen and housekeeping in a four star hotel

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UNIT 2 THE SAFETY AND SECURITY CONCERNS

2.00 BEFORE WE BEGIN

We will continue our journey into the discipline of Accommodations Operations. We had seen how the hotels are classified according to the various criteria like location, target market, size of property, level of service, length of stay, etc. We also saw the star categorization of the hotel and what are the required norms for a hotel to be one-star/two-star/three-star/four-star/five-star hotel. We studied the responsibility of the hotel housekeeping departments and the responsibility of the various personals in the department.

The hotel housekeeping staff should maintain the decorum by observing some floor rooms like not engaging any activities which will disturb the guests, etc. In the present Unit, we will discuss in details the safety concerns of the guest at the floors. The three aspects of security, namely, physical aspect, security of persons and security of systems would be studied. Under physical aspect we have security against theft, fire, internal lighting, loss of assets and tracking unwanted guests (these consititute internal security). The external security comprising of external lighting, fencing, manning gates and restricted areas is covered. Security aspects involving persons further divides into staff (training, key control, effective recruitment, etc), Guests (checking scanty luggage guests, thieves, criminals, etc) and systems security will be studied in details.

We will discuss the safety procedures during fire and other emergencies. Hotels are special places as they have high occupancies, occupants may not be familiar with the buildings or with language and directions. The causes of fire include smoking materials, cooking and arson. Hotels are expected to take such precautions as smoke detectors, self closing doors, sprinklers, etc. We will study emergency situations and what to do when bomb threats, accidents, theft, death of a guest occur.

You should have got a good idea about what lays ahead. These important aspects of hospitality works would make the students be able to do a good job and take important decisions with due regard to all possibilities. As a professional hotelier, you would appreciate the importance of all these aspects and able to apply these pieces of information to the situations at hand. Many of the concepts are common and you should be able to complement the knowledge and skills learned in that course here.

2.01 UNIT OBJECTIVES

After studying this unit you will be able to

- Explain the measures taken to ensure safety of guests in hotels
- List and explain various types of security
- Elaborate the importance of security system in hotel
- Explain the various procedures to be followed during fire and other emergency situations

2.06 GUEST SAFETY ON FLOORS

IMPORTANCE OF A SECURITY SYSTEM

The guest, who comes to a particular hotel, comes with an understanding that he and his belongings both will be safe and secure during his stay at the hotel. At the same time it is also quite important that the hotel staff and assets are protected and secure. Hence it is very important to have a proper security system in place to protect staff, guests and physical resources and assets such as equipment, appliances buildings, gardens of the hotel and also the belongings of the guest.

The management must take care that the security and safety systems cover the following areas:

- Guest: Protection from crimes such as murder, abduction and health hazards from outsiders, hotel staff, pests, food poisoning etc.
- Staff: Providing staff lockers, insurances, health schemes, provident funds etc. Protective clothing, shoes, fire fighting drills, supply of clean drinking water use of aqua guards, sanitized wash rooms etc.
- Guest luggage: Secure luggage store rooms and proper equipment such as luggage trolley and bell hop trolley should be provided.
- Hotel Equipments: Lifts, Boilers, Kitchen equipment, furniture fitting and building etc. must be protected and for these the security and safety should cover up fire safety equipment, bomb threat security system, water floods security system, earthquake security system , safe vault security system etc.

Protection of raw materials, goods, provisions and groceries etc. for this the security system should cover proper storage and pest control systems, apart from the application of total material management system.

TYPES OF SECURITY:

- Physical aspect
- Security of persons
- Security of systems

1) Physical aspect is divided into two parts a) Internal b)external

a) Internal security

- Against theft
- Fire safety
- Proper lighting
- Safeguarding assets
- Track unwanted guests

b) External Security

- Proper lighting outside the building
- Proper fencing of the building
- Fecing of pool area to avoid accidents in the night
- Manning of service gates to restrict entry
- Fixing of closed circuit TV cameras

2) Security aspects of persons

a) Staff

- Effective recruitment and selection
- Identification of staff
- Key control
- Red tag system
- Training
- Locker inspection

CHECK YOUR PROGRESS

What is the importance of security in a hotel?
How can management can take precautions in hiring staff?

b) Guests:

- Check scanty baggage guests
- Guests suspected of taking away hotel property should be charged according to hotel policy
- Guest room security:
- Provide wide angle door viewer, dead bolt locks, night torch, chains on doors etc
- Employees should be trained to not give any information abount in house guests to outsiders
- While issuing a card key ask for key card if in doubt of the guest.
- House keeping staff should never leave keys expose on unattended carts in corridors

3) Security aspects of systems:

- Record of all losses and missing items immediately
- Inventory control should be proper
- Auditing should be done on a regular basis
- Proper system for cash disbursements should be made

The term system implies the operations of the hotel eg: all the equipment used for operation, procedures laid down for operations and policies to be followed. Systems procedures and policies if followed properly shall safeguard the assets and increase life span of equipment as well as avoid any breakdown maintenance

This would mean the following:

- Fix duties and responsibilities: Fix duties of staff members so that they don’t interfere with others’ work.
- Make surprise checks
- Staff who have access to liquid assets should be made to sign a bond so that in case of theft the concerned person can easily be caught
- Hiring of some independent security company to check the security system of the hotel

Safety issues

When we take the same hotel as example, it is management's duty to ensure "safety" in several areas, such as:

- The structure itself
- Installations and fixtures (check electrical, plumbing, air-conditioning and other installations)
- Public and work areas (e.g. slippery floors, hazardous obstacles in traffic areas), safety of furniture, equipment, appliances, and utensils.

This is followed by:

- Health safety (nontoxic cleaning material and detergents used)
- Good quality air (what we breathe, dependent upon the type of equipment, installations and fixtures used, and regular repairs and maintenance)
- Food safety
- Safety against outbreak of fire

CHECK YOUR PROGRESS

What is the meaning of system and system security?

What are the aspects of security of system?

Security Issues

Security at the hotel include areas like security of the property itself, company assets, employees' and customers' personal belongings and valuables, life security, personal security etc.

Even though all the hotels maintain (as policy statements) that “the hotel is not responsible for valuables and employees personal belongings (their handbags, items kept in the personal lockers, etc.)”. However management have to take all possible measures to prevent theft making guests suffer. Otherwise the name of the property is destroyed as the word of mouth spreads that the hotel is not a safe place to be. The management may take such measures and adopt such policies that will make the property safer, including:

- Background checks of selected applicants

- Policies related to employees' entry to, and exit from, the workplace
- Spot checks of locker rooms and lockers
- Effective supervision and control during the work cycle
- Policies related to the discovery of criminal records and wrongdoing among, and by, employees
- Control of people entering and exiting the workplace

With regard to guest valuables, management should inform its guests that the hotel is not responsible for valuables left in the room, advising them to secure these in safety deposit boxes provided by the hotel.

Besides taking care of security issues related to the the employees (as outlined above), management must undertake some necessary steps, among which:

Providing safety deposit boxes or lockers to keep valuables

Policies and practices to regarding the security of these boxes and areas

Management and operational policies to ensure the security of guest rooms

Management and operational policies about the security of public areas

Security policies and practices for the back-of-the-house areas

Training and Employment of security staff

Policies and practices to minimize the "presence" and "support" of "dubious characters" (like criminals, verification of registration and check-in personal data and documentation submitted, and minimizing free movement of unknowns on the premises, as well as direct, free flowing communication with local, national and international security authorities)

Training of staff in guest and valuable security

Effective supervision and control procedures.

SECURITY MEASURES FOR HOTELS

Some of the security measures taken by hotels:

Use of Key Card Locks:

While key card locks on guest rooms are quickly becoming the standard, some hotels still don't take advantage of the added safety provided to guests.

Guest room locking systems these days include punch and magnetic key cards which have locks with flash memory and other productivity linked functions. The system can directly be linked with PMS.

Use Security Guards:

Most hotels do not have security guards while some employ them only at night. It is recommended to employ sufficient number of security guard who are properly trained to handle situations.

Defibrillation Units:

Many of the important hotels are now maintaining defibrillation unit which is proving to save lives of important guests.

Security Cameras:

Security cameras with digital technology, intelligent access central system, software interface with CCTV for matching undesirable visitors and criminals, interfacing with motion detectors, pocket lie detectors and spy cameras and use of biometric readers like hand key reader or face recognition system etc. may enhance the security profile of the hotel by considerable extent.

Fire Alarms:

While most hotels now have smoke detectors and fire alarms, Some hotels have a state of the art alarm system with smoke detectors in each guest room and throughout the entire complex that is monitored 24 hours a day, 7 days per week that pinpoints the exact point of the alarm allowing our security staff to respond immediately to the area of any alarm condition.

Emergency Power:

Very few hotels have any provision for emergency power in case of an electrical outage while a few hotels provide limited emergency stand-by power to provide elevator service and some lighting. Some hotels has a 2-Megawatt stand-by generator that provides 100% emergency power that can provide uninterrupted guest service during a power outage.

Emergency Manual:

Hotels maintain an emergency manual, detailing operations in the event of a variety of emergencies.

Employee Photo ID:

For added security, some hotels have employees wearing a photo ID nametag allowing quick identification.

In-Room Safes:

In addition to the safety deposit boxes offered by most hotels at the front desks, Some hotels provide in-room guest safes capable of holding a lap-top computer that use the guest's own credit card as the key.

Guest elevators:

Elevators can also be interfaced with a room electronic locking system, so that a guest may swap his digial room key to the elevator and the elevator would know which floor to stop at and that the person is an authorized person.

Bomb threat security:

Precautions and measures that may be taken in the above case:

Security nets and body searches for guests not known to the staff.
Banqueting suites and other non-public areas should be security checked and locked after use
Goods received and bags should be checked and kept tidy.
If a bomb threat is received via telephone, the telephonist should note carefully what exactly is said, the time of the call received the accent of the caller and background noise if any. After the alert the GM should stay put in the lobby where he can be reached easily.
Duties and responsibility of staff during an emergency should be well-defined.
The hotel should work closely with the police to keep them updated.
Chamber maids and HK supervisors should be trained to conduct security checks in the guest rooms.

Security measures for women travelers

-Mirrored walls of the guestroom floor elevators so that you can see who is walking behind you

-Well-lit public areas such a s lobby bars

-Valet parking services to avoid the need o a woman to enter the parking lot

-Assigning rooms closer to the elevator

- -If a woman traveler is not assigned a room on the special executive floor , hotels most often on request, upgrade her accommodation to that floor without an increase in room rate. The floor is staffed almost 24 hours a day with a concierge.

CHECK YOUR PROGRESS

Which measures are taken in case of bomb threats?
What precautions should be available for women travelers ?

2.07 GUEST SAFETY PROCEDURE DURING FIRE AND OTHER EMERGENCIES

2.07.01 FIRE

Factors of Hotel Fires

Complexity

Hotel fires are more complex than many other occupancies because of:

1) High occupancy loads

2) Guests' unfamiliarity with the building.

3) Many guests may not speak English and/or may have difficulty understanding oral or written directions.

Causes

The major causes of fires in hotels are smoking materials, electrical, cooking fires and arson.

Hazards

Common fire and life safety hazards to watch for include:

- Missing/broken fire safety equipment Locked exit doors
- Accumulated trash Blocked stairways
- Open fire doors Burned out exit lights
- Human Error

Many major hotel fires have shared several characteristics of human error:

1) Delayed notification of the Fire Department

2) Delayed notification of guests

3) uncorrected hazards (electrical, cigarette in mattress, etc.)

Critical Life Safety Features

1) Smoke detectors in every room save occupant's lives. If a fire starts in a guest room, the occupant has, on average, two minutes to get out alive. A smoke detector will give the necessary warning to facilitate escape.

2) Self-closing doors (fire doors, stairwell doors) save lives by confining the smoke, flames and heat and leaving evacuation routes clear. It is imperative that these doors are not blocked or propped open.

3) Sprinklers work to limit fire spread to the room of fire origin. 96% of fires in which automatic sprinklers are present are extinguished or contained by three or fewer sprinkler heads. There has been no multiple loss of life in the United States in buildings in which sprinklers were functioning correctly.

Fire Response Plans

Have a fire emergency plan.

It is important for your hotel to have an updated fire emergency plan. This plan should be in writing,and easily available to all employees. This includes those who work weekends and nights. If your hotel is a high rise, the Seattle Fire Department requires that you maintain an Emergency operations Plan for your facility. A copy is to be filed with the Fire Marshal's Office, another copy kept at the fire alarm panel. For further information, visit the local Fire Department website or call the appropriate toll free number.

Become familiar with your facility's fire and life safety systems.

Prior to your program, become familiar with your facility's fire and life safety systems. Know which of the following your building has, as well as their location and use:

- Manual pull alarms Fire extinguishers
- Smoke detectors Fire alarm monitoring service
- Exit doors & stairwells Voice alarm system/Intercom
- Sprinklers Fire doors

When a fire happens...

- Treat every alarm as though it is a real emergency, even if the initial source is unknown.
- It is imperative that every alarm is treated as though it is a real emergency, even if the initial source is unknown. If the alarm sounds, or a fire is suspected, call the Fire Department immediately. After calling the Fire Department, if you determine that there is no fire, but rather a malfunction of your equipment or a false alarm, call 911 and relay this information. Never wait to investigate the situation before notifying the Fire Department. Any delay will allow a fire to grow and further endanger the building occupants and property.
- DO NOT silence the alarm until given permission to do so by Fire Department personnel or by the emergency operator. DO NOT reset the alarm until the Fire Department arrives and has investigated the source of the alarm. All fire alarms are to be investigated by the Fire Department.
- Remember your emergency number – 9-1-1 (USA) or 101 (India)
- It's important for employees calling 101 (India) or 911 (USA) to be able to give the following information: nature of the problem, location, address, nearest cross street, any specifics known. The caller should not hang up until told to do so by the emergency operator.

Do not use elevators (lifts).

Elevators should never be used by building occupants during a fire emergency. The reason is three fold:

1) Elevators may fail during a fire, trapping occupants; 2) elevator shafts may fill with smoke; and 3) the elevator needs to be available for the use of arriving firefighters. Occupants must exit by way of stairwells only. For information on evacuation procedures for non-ambulatory persons, refer to the handout Fire Evacuation Procedures For Persons Unable To Use Exit Stairs. Call 386-1337 for a copy.

If trapped, create an area of refuge.

If guests or staff are unable to leave the building, they should create an area of refuge. Seal the room. Use wet cloth to stuff around cracks in doors and seal up vents to protect against smoke. Do not break windows. Flames and smoke can come back in from the outside. If you need air, open the window a crack. Stay low under smoke. The freshest air is near the floor. Keep a wet cloth over your nose and mouth, breath through your nose only. Signal for help. Use the telephone, or hang something in the window.

Fire extinguishers

- Fire Code requirements specify the size, number and location of fire extinguishers within your facility.
- These requirements help establish a protection level appropriate for the hazard class of your building.
- Make sure you know the types, sizes and maintenance requirements of your extinguishers, as well as the basics of extinguisher operation.
- Review your facility's Emergency Response Plan
- Make sure all employees have access to a copy of your facility's written emergency response plan.
- Review the procedures as a group and make sure that they are clear to everyone.
- Discuss what to do if a fire is discovered

Staff should understand that their quick response is important if they:

1) discover a fire.

2) see smoke coming from under a door.

3) hear the fire alarm, but don't see or smell fire.

Most importantly staff should understand the need for quick evacuation and calling 911 or 101 immediately.

Discuss your building's fire and life safety systems.

Discuss your building's fire and life safety systems. Does everyone know what and where they are, and how they work? Which of the following does your building have and what is their importance in a fire...smoke detectors, manual pull alarms, elevators, stairwells, fire doors, alarm system, sprinklers, etc.?

Discuss hazards of your facility.

Discuss hazards particular to your facility. What can you identify and what precautions should be taken? Have staff from different areas identify hazards common to their work area (kitchen, laundry, housekeeping, maintenance, night staff, etc.)

Hold a fire drill.

Have a drill within a month of your program in order for staff to practice the emergency response plan.

Everyone have the opportunity to physically run through the procedures. Studies indicate that unless adults actually practice safety behaviors, they very well may not be able to perform them correctly when the need arises.

CHECK YOUR PROGRESS

List the activities to be done and checked in case fire breaks out?
What are the causes of fire?

2.07.02 HANDLING EMERGENCY SITUATIONS

Apart from fire and bomb threat etc. the front office staff at some point of time have to handle a lot of unusual situations also. Some such situations may be death and illness of guests, theft in hotels etc and many others.

1) Death of a guest in the hotel :

Once the information comes to the front desk it should directly be reported to the front office manager.

The front office manager will then report it to the GM or resident manager

The security manager should also be informed immediately

The police is informed and the hotel doctor is summoned who will check and confirm the death

Meanwhile the hotel will locate the residential address of the deceased and will inform the relatives.

Once the police complete all formalities and activities and gives the permission, the dead body is fully covered and then removed from the room on a stretcher. For this purpose the service elevator and not the guest elevator is used

A death certificate is obtained from the doctor

A report should be prepared as to who informed of the death, time, room number and date of death. In case there is any luggage of the deceased in the room a list should be prepared and the luggage should be kept in the luggage room and the person performing this activity should sign this report

The guest room is locked and sealed.

After obtaining clearance from the police the room is opened and thoroughly disinfected and spring cleaned and only after permission of the police and subsequent permission of the GM or resident manager the room should be sold.

Some important facts to be kept in mind are:

Do not enter the room alone always take the lobby manager and security officer with you

In case you are aware that the deceased was under the treatment of a specific doctor, the same should be called instead of the hotel doctor. His physician will also be helpful in knowing and notifying the incident to the relatives and people known to him

Do not disturb the body or touch anything before the arrival of the police as this may be a murder or suicide case.

2) Handling accident cases:

Aknowledge of first aid would come very handy in such situations. In general the following points should be taken care of :

- Remove the person who has met with accident from the site of accident {as early as possible and take him to a more comfortable area, use a stretcher in case the need be}
- Call the doctor and if possible give him the details of accident and gravity of the accident.
- Take someone along with you to the site of the accident as you may need help
- Keep alert you must serve the victim immediately by providing first aid
- Try to protect your establishment from any false allegations
- Prepare a full report of the whole accident giving details of the date and time who reported the incident, room no., site of the accident etc. Also make your comments as to the reason of the accident and how could it have been prevented and what action is to be taken to avoid the same in the future.

The accident book:

An accident book is usually maintained in all organizations and the receptionist should record all details of accidents which have occurred to employees whilst carrying out their daily activities.

The book must be kept in a place easily accessible by any injured person or a person bona fide

Particulars of an accident may be entered here in either by the injured person himself or by a person acting on his behalf

The accident book when filled up should be preserved for a period of three years after the date of the last entry

Every employer is required to take steps to investigate the circumstances of the accident recorded and if there happens to be any discrepancy between the circumstances found by him and the entry made, he is required to record the circumstances so found.

3) Situation of Theft:

Theft is divided into four categories:

I. Theft by employees of the hotel can be avoided by:

Work business and personal references should be checked before the employee is hired.

A detailed record of all employees who enter the guest room such as chamber maids bellboys room boys maintenance etc

All hotel keys should be returned to the department concerned and no employee should be allowed to take keys out of the hotel's premises.

CHECK YOUR PROGRESS

What are the important issues in avoiding and dealing with accidents?
What steps are taken if a guest dies ?

II. Damage of hotel property by the guest can be avoided by:

The hotel staff should identify the main cause for the damage.

If the damage is appears to be done intentionally the hotel can ask the guest to pay compensation for the same. For this it is necessary that the front desk is well versed with the cost of the damaged item.

-

III. Theft of hotel property by the guest:

Can be avoided by taking the following steps:

- Installing automatic locks on the guest room doors
- Appointing a security officer who would walk and take rounds at regular intervals
- Inform guests to use the safe vault of the hotel and not to keep valuables in the guest room
- Keep a watch on walk in as their likelihood of being a thief is more as compared to a guest who has undergone a process of making a reservation in the hotel
- Avoid giving room numbers of resident guests to visitors or over the telephone callers.
- In case the guest loses his key and asks housekeeping to open the room door for them, HK should direct them to front desk
- Master key should be kept under strict supervision and control

IV. Theft by outside visitors can be avoided by:

- being aware of suspicious persons

- regular and irregular schedule of vigil and rounds
- Stagger lunch and rest periods of employees so as to keep one person on duty on each floor at all times
- Instruct the telephone operator not to connect calls to the guest room incase the request is made by the caller by room number. The receptionist should insist on knowing the name of the guest who the caller wishes to speak to.
- Guest should be informed to keep the balcony door closed to avoid anyone entering the rooms from the balcony
- Closed circuit televisions should be used

4) Situation of illness and epidemics:

The receptionist may be called for assistance during sickness of a guest.

Patient should be advised to consult the house physician but in case the guest has his own physician the same should be called.

Housekeeping needs to be notified about the sickness and instructions if any

If the case of serious sickness, the guest should be moved to a nursing home

During epidemics all precautionary measures especially in food and beverage service area should be followed

5) Handling a drunk guest :

The guest should be removed from the lobby as early as possible but being careful not to irritate/offend him.

Preferably taken to the back office or to his room.

If he behaves unruly, the hotel security must be called.

6. Safe deposit facility in the hotel for security of guests' valuables:

It is the responsibility of management to develop and maintain proper safe deposit procedures for its property.

If this facility is available for guests, notices regarding it should be put up in various conspicuous/noticeable places in the hotel and also should be mentioned to the guest.

Safe deposit boxes should be located in an area, in vicinity of the front desk and which has limited access. Unauthorized guests or personnel should not be permitted inside the area.

Front office staff should be well-versed with the procedures regarding safe deposit boxes.

Strict control should apply to the storage and issue of safe deposit keys.

At any point of time there should be only one key issued for each safe even if more than one person is using the safe.

Two keys are required to open a safe deposit box: one being the guest's key and the other being the control key/guard key put in by the cashier/safe deposit attendant.

After the verification f the identity of the guest, the safe deposit attendant/cashier should accompany the guest to the safe deposit area where in clear sight should make use of the control key and the guest's key to open the safe.

Sometimes the hotel may not be able to meet the demand for individual safe box; in that case a large box containing the belongings of more than one guest is used. Each guest's belongings are put in an envelope which is sealed. The key to this box is stored in a secure place and a log is maintained which records an entry each time the key is used to open the box

CHECK YOUR PROGRESS

How can the situation of epidemic be handled?

What precautions are to be taken in respect of the cash boxes ?

2.08 SUMMARY

The hotel housekeeping staff should maintain the decorum by observing some floor rooms like not engaging any activities which will disturb the guests, etc. We have discussed in details the safety concerns of the guest at the floors. The three aspects of security, namely, physical aspect, security of persons and security of systems have been studied. Under physical aspect we have security against theft, fire, internal lighting, loss of assets and tracking unwanted guests (these consititute internal security). The external security comprising of external lighting, fencing, manning gates and restricted areas was covered. Security aspects involving persons further divides into staff (training, key control, effective recruitment, etc), Guests (checking scanty luggage guests, thieves, criminals, etc) and systems security has been studied in details.

We have discussed the safety procedures during fire and other emergencies. Hotels are special places as they have high occupancies, occupants may not be familiar with the buildings or with language and directions. The causes of fire include smoking materials, cooking and arson. Hotels are expected to take such precautions as smoke detectors, self closing doors, sprinklers, etc. We have studied emergency situations and what to do when bomb threats, accidents, theft, death of a guest occur.

2.09 END QUESTIONS

The following questions should help you prepare for the End Examinations. These questions are for 5 marks each and should take you 11 minutes under examination conditions.

1. You are making up a room, your cart is in the hallway. You make the bed and go into the hallway to get towels from your cart. You smell smoke from a room at the end of the hall. As soon as you smell the smoke, the alarm goes off. What should you do?
2. You are staffing the front desk in the hotel lobby when you receive a call from hotel personnel that there is a fire. What do you do?
3. You are in the kitchen and a grease fire breaks out. What do you do? Take this a step further - smoke filters into the restaurant where hotel guests are having dinner. What do you do?
4. The fire alarm goes off on the floor. You don't know where the fire is. Guests wander out into the hallway to see what happened. What do you do to assist in the safe evacuation of hotel guests? What if some guests do not speak English?
5. You enter a room and discover a cigarette was carelessly tossed into the wastepaper basket and it is smoldering. What do you do?
6. As you are making a bed in one of the guest rooms you discover a cigarette burn in the bed sheet. Keeping in mind that a cigarette burn can smolder for hours before actually igniting the mattress or upholstery, what do you do?
7. The fire alarm has sounded and as people come out into the hallway you direct them to the nearest stairway. A hotel guest exits his room in a wheelchair. What do you do to assist this individual in a safe evacuation?
8. It is late in the evening and you are delivering room service. As you knock on the door the fire alarm sounds. Guests do not seem to be coming out of their rooms. You knock harder. Some hotel guests open their doors and sleepily look in the hallway. What procedures should you follow? What if some guests refuse to evacuate this late in the evening?
9. What is the importance of security in a hotel?
10. How can management can take precautions in hiring staff?
11. What is the meaning of system and system security?
12. What are the aspects of security of system?
13. Which measures are taken in case of bomb threats?
14. What precautions should be available for women travelers ?
15. List the activities to be done and checked in case fire breaks out?
16. What are the causes of fire?
17. What are the important issues in avoiding and dealing with accidents?
18. What steps are taken if a guest dies ?
19. How can the situation of epidemic be handled?
20. What precautions are to be taken in respect of the cash boxes ?
21. Explain the measures taken to ensure safety of guests in hotels
22. Explain the various procedures to be followed during fire and other emergency situations

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UNIT 3: ECO-FRIENDLY HOUSEKEEPING

3.00 INTRODUCTION

The present era is that of environment consciousness. All sectors of business show concern for environment and sustained development. The area of hospitality is no exception. There is a trend to use environmentally sensitive practices in housekeeping. We will study various issues in respect of the housekeeping with green hotels in mind.

3.01 UNIT OBJECTIVES

After studying this unit you will be able to:

- Explain the importance of environmental friendly practices in housekeeping
- Elaborate on the various indoor plant
- Explain the advantages of using indoor plant
- Elaborate on ten Indian indoor plants and their importance in cleaning polluted air
- Describe the energy conservation measures which may be undertaken by a hospitality sector
- Elaborate the importance of water conservation
- Explain various water conservation measures

3.02 ENVIRONMENTALLY FRIENDLY HOUSEKEEPING PRACTICES

When environment is concerned only few people think about the idea how they can help for its preserving in our daily routines. Even if you are not eco friendly type of person and you show little interest in these types of activities you may stop and think for a while what can be your contribution for decreasing the pollution in and out of your home by doing some simple things.

In this way you can be helpful not only for the nature but for your health too. Although the eco friendly housekeeping may not be your passion you can try to make some green initiative on your own and to change some little things in your home premises. You could also think about some important activities that you normally perform in a different way and you can also add them in you eco friendly list. This is the moment when you could show your creative and innovative ideas and to apply them in your housekeeping practices.

Cleaning procedures

Every person provides cleaning on regular basis in the home premises. Despite of this fact many people still prefer the commercial products and detergents that could be found in the nearest store. However, what they forget is that these products can be really dangerous for the nature. What we suggest is to find another alternative for cleaning by using eco friendly products.

Vinegar, which is your excellent friend when it comes to cleaning of the all types of glass surfaces. Your windows and glasses will be clean immaculately with a suitable concentration of water and vinegar.

Baking soda combined with some water and some liquid soap for other types of general cleaning. This is the best decision for cleaning a wide range of stains and it will be harmless for the nature and for the health.

Reuse and recycling

The reuse and recycling is very popular eco friendly practice for your home and it is not very difficult to be applied in your home premises.

When you have finally got rid of your clutter do not hurry up to throw it away but take your time and try to make some recycling. If this initiative really appeals to you, include your children in this activity as well. In this way you can establish useful habits in them and teach them that we need to protect our nature when we clean our homes.

If you are a real of fan of housekeeping practices you could find more information about the recycle of the wastewater by using some latest technologies. The wastewater can be used for areas such as gardening and air conditioning.

There are many ways to apply eco friendly housekeeping practices if you show your creative skills and really care for the nature. It is not difficult to think about the ways in which to reduce the pollution. Whether by recycling, reusing or simply cleaning with eco friendly products the important moment is to realize that your contribution is essential for the Mother Nature. It is not impossible to devote some time on these issues and maintain your home in a proper condition at the same time.

Preserving environment is a major concern in today’s world. The issue of global warming and continuous depletion of ozone layer has forced all of us to re-think and act in the pursuit of conserving environment. Hotel industry has also not remained uneffected with this. Growing popularity of ecotels and adoption of eco-friendly practices have defined the commitment of hotel industry toward this.

Use of recycled paper products, bio-degradable herb toiletries and essential oils with no chemical content, should be encouraged. Some of the herbs and natural substance that can be used in toiletries are aloe-vera, liquorise, citrus fruits, Indian-gooseberry, neem, basil, pumpkin, cucumber, sunflower, turmeric, sandalwood, apricot, mace, clove, nutmeg, coriander, rose, henna, coconut, honey, etc. Refill-dispensers could also be used.

Products like jet hand-dryer can be used, which produce bi-directional cold air jets. The primary advantage of jet hand-dryer is the enormous power saving due to its low energy consumption compared to the conventional hot-air model. Some trends in lighting that have been gaining momentum in Indian hotels are use of luminaries with sensor technology, compact luminaries and compact halogen lamps.

Use of Ozonizers to treat air and water in hotel rooms and public areas is recommended.

Room ozonizers is a compact device that can be used to disinfect and deodourise air-conditioned rooms, thus improving the indoor air quality. Ozonizers can also be placed in lobbies and corridors to disinfect the air and effectively remove all foul odours. Small-capacity ozonizers, such as the one-gram models, can be enough to minimize ordour in such area.

Ozonizing air-scrubbers in bars and pubs can draw the foul air out, treat it with ozone to disinfect and clean the air, and then return it through the air-handling unit.

In swimming pool treatment, ozone is injected at the water entry point of the pool to disinfect the water. This treatment makes the water clear, sparkling, and appealing. It is safer for swimmers compared to chlorine which is accompanied by certain health hazards – eye irritation, hair loss, and skin rashes.

Ozonization of recirculated water in cooling towers dramatically enhances its performance, reducing the operating costs by eliminating the use of chemicals and considerably lowering the make-up water requirement. Its disinfection properties effectively prevent bacteria build-up, as well as destroying organic binding matter such as slime and algae. It thus increases the efficiency of the cooling tower and reduces power consumption as well.

Ozone is an effective cleaning agent in all single-colour laundry operations since it improves the efficiency of the washing process by reacting with the dirt molecules and converting them to oxides that are easier to treat.

Last but not the least is to make your staff educated and aware about the eco-friendly practices and energy conservation. Employee should switch off the lights and fans that are not in use. They should ensure that only the correct wattage of bulbs is used and the drapes should be closed to maximise the effect of air-conditioning or heating.

3.03 GUIDE TO ECO-FRIENDLY HOUSEKEEPING

“Most homes may be clean, but very few of them are green,” according to “Green Clean: The Environmentally Sound Guide to Cleaning Your Home” (Melcher Media; $16.95). This book by Linda Mason Hunter and Mikki Halpin will prompt readers to rethink the 40 pounds of chemicals the average American household uses each year.

A guide to the eco-friendly movement, it includes room-by-room ideas for safer ways to clean, lists of green ideas, recipes for commonplace products and ways to eliminate waste. I’m not ready to mix my own dish soap or bathe my cat in tomato juice should he tangle with a skunk. But I’m going to consider these tips:

- Run a cup of vinegar through my washing machine and dishwasher to clean them.

• Install a ceiling fan in the hot attic (instead of a costly roof-installed model) to save on energy costs.

3.04 ECO HOTEL

Eco hotel is a hotel or accommodation that has made important environmental improvements to its structure in order to minimize its impact on the environment. The basic definition of a hotel is an environmentally responsible lodging that follows the practices of green living. These hotels have to be certified green by an independent third-party or by the state they are located in. Traditionally, these hotels were mostly presented as Eco Lodges because of their location, often in jungles, and their design inspired by the use of traditional building methods applied by skilled local craftsmen in areas, such as Costa Rica and Indonesia.

Today, eco hotels also include properties in less "natural" locations that have invested in improving their "green" credentials.

Criteria

An eco hotel must usually meet the following criteria :

- Dependence on the natural environment
- Ecological sustainability
- Proven contribution to conservation
- Provision of environmental training programs
- Incorporation of cultural considerations
- Provision of an economic return to the local community

Characteristics

Green hotels follow strict green guidelines to ensure that their guests are staying in a safe, non-toxic and energy-efficient accommodation. Here are some basic characteristics of a green hotel:

- Housekeeping uses non-toxic cleaning agents and laundry detergent
- 100% organic cotton sheets, towels and mattresses
- Non-smoking environment
- Renewable energy sources like solar or wind energy
- Bulk organic soap and amenities instead of individual packages to reduce waste
- Guest room and hotel lobby recycling bins
- Towel and sheet re-use (guests can tell housekeeping to leave these slightly used items to reduce water consumption)
- Energy-efficient lighting
- On-site transportation with green vehicles
- Serve organic and local-grown food
- Non-disposable dishes
- Offers a fresh-air exchange system
- Greywater recycling, which is the reuse of kitchen, bath and laundry water for garden and landscaping

- Newspaper recycling program

Definition

Ecology is a very strong trend, either convictions or a fashion, caring for the earth has become an ideal of many. As a result, eco-hotels have become an increasingly popular alternative in the tourism industry, the increase in demand has led therefore to a large range of hotels with planet friendly options for all requirements.

According to the Royal Spanish Academy, one of the interpretations of the term ecology includes "defense and protection of nature and environment" From what we understand, to be green what is sought is to defend and protect everything natural. around us. contact with nature is something almost inherent to the holiday, providing an opportunity to carry out environmental.

An ecological hotel is one that is fully integrated into the environment without damaging the environment, contributing in some way to progress and improvement of the local community and sustainable growth of the tourism industry.

The term has been used on a more regular basis as new websites devoted to the subject become more prominent and hotel owners become more interested in protecting the areas their guests have come to visit.

New properties are being built from sustainable resources–tropical hardwoods, local stone–and designed to better blend in with their environment. In addition, they are also being run on eco-friendly principles, such as serving organic or locally grown food or using natural cooling as opposed to air conditioning.

Eco-labeling of hotels in Europe

The EU Ecolabel is an official sign of the environmental quality of services and goods in the European Union (EU) that is both certified by an independent organisation and valid throughout the many member States of the European Union.

Any tourism accommodation operator in the EU - from a large hotel chain to a small farmhouse has been able to apply for the European Eco-label since 2003. The operators must meet strict minimum standards with regard to environmental performance and health standards. These should include the use of renewable energy sources, an overall reduction in energy and water consumption, measures to reduce waste, environmental policy setting and the provision of non-smoking areas.

The first eco-labelled hotel in the European Union was the Sunwing Resort Kallithea, located in Rhodes, Greece in 2003 and the first eco-labelled hotel on the Iberian Peninsula (Spain and Portugal) was the Hotel Jardim Atlântico on the Portuguese island of Madeira.

Ecolabelling of hotels in South America

In Argentina, the Tourism Hotels Association (AHT) has created an annual award, Hoteles Más Verdes (Greener Hotel). The prize – a monetary award and peer-recognization – goes the best eco-hotels in the country, both operating and under construction. In 2013, Hoteles Más Verdes Award, eco-hotel projects Category, was given to Palo Santo Hotel in Buenos Aires. In August 2014, the city of Buenos Aires has presented a new labelling system for hotels and hostels, "Ecosello". With three levels of certification (Committed, Advanced and Excellence), the new label aims at developing tourism operators eco-consciousness in Buenos Aires.

3.05 ADOPTING ECO-FRIENDLY PRACTICES

Environment-friendly housekeeping is not only good for our planet; it's healthier too! You will be minimising air pollution inside and outside the premises. Each one of us can make an impact by reducing air pollution and global warming without having to sacrifice comfort or convenience. Personal health and environmental sustainability aren't the only reasons why consumers across the nation are making this change by moving towards ecofriendly housekeeping, it's also more frugal. Nothing disappears but the very fact that you can't ever really get rid of any substance completely is the first thing to be forgotten when it comes to ecofriendly housekeeping.

There is hardly any aspect of housekeeping in hotels where the green initiatives cannot be successfully applied. These ecofriendly practices can be easily replicated not only in the hospitality industry but in other industries as well.

Some of the simple initiatives, products and facilities that can be implemented in a ecotel include:

- Guests can be treated to a host of environmental products from recycled paper to herbal amenity products.
- The hangers used in guestrooms could be made from sawdust.
- Herbal products manufactured under proper license are used, as they do not contain animal fat. At Orchid we manufacture under an Ayurvedic license.
- Reusable cloth laundry bags used instead of the standard paper or plastic bags. The guests' clothes could be delivered back in reusable cane baskets wrapped in muslin cloth.
- A laundry button could be incorporated in the master control panel, eliminating the use of laundry pick up tent cards.
- Newspapers are delivered in reusable cane baskets/cloth instead of the usual paper or plastic bags.
- As a service at Orchid, the guests are provided with an "Eco Harvest" basket which contains an herbal pouch (which induces sleep when kept next to the pillow), two aromatic oils and four types of age old herbs.
- Eco-friendly pens and pencils are made using recycled cardboard, reprocessed plastic and scrap wood. The eco pencils are not made of wood but of a non-toxic polymer with the use of natural fillers. Wood saver pencils are made using a shaft, which is made of biodegradable materials such as talc, gypsum and clay.
- The cardboard, which is used as the barrel, is free from chlorine. The plastic at the head and base is made from reprocessed ABS (a Thermoplastic material that can be recycled and/or remoulded). Scrap wood can be obtained from discarded cases used for packing purposes.
- The stationery, guest services and mini-bar folders could be made from jute.

- Instead of cut flowers, potted flower bearing plants are used all over the hotel. All these plants will clean up a variety of pollutants in the atmosphere. Some of the plants used at The Orchid Hotel are potted chlorophytum commonly known as the spider plants and Heart leaf philodendron that are good in removing formaldehyde from the air generated from carpets, fibre boards, plywood and natural gases. English Ivy, marginata and golden pothos combat benzene found in tobacco smoke, synthetic fibres plastics and detergents.
- Guests checking in and staying for a day could be encouraged to reuse linen thus saving water and energy. It also increases the life of linen.

Reduce, Reuse and Recycle

Hotels generate a lot of waste which could be recycled. For example, fruits could be served on request so as to avoid wastage. The Orchid in its endeavour to become a “zero garbage” hotel, has taken various measures to reduce the waste being generated.

Vermiculture on the hotel site is one of the best methods. Kitchen garbage is diverted to nine bins built for processing waste. More than 300kg of organic waste generated at the hotel each day can be composted and the organic manure used in all the gardens of the hotel. Thus to segregate waste at source, a separate recycling bin along with a regular waste bin should be placed in all rooms. The garbage bags used by the hotel could be made from recycled plastic and milk pouches. The glasses be turned upside down and kept in the tray and do away with having to wrap glass in a plastic bag. There is no use of carbon paper at the hotel, as the chemicals used in carbon paper are toxic which kill the micro-organisms that decompose solid waste.

Anti Cockroach Herbal Treatment is used to eradicate cockroaches. This herbal paste is not sprayed but applied to all nooks and corners in the form of small globules in the premises. It causes no health hazards and requires no cleaning after the treatment is done. Hence, there is no wastage of water or detergents. This paste can also be applied in refrigerators, ovens, toasters, microwaves mixers and computers, as it is non-poisonous.

All taps contain special aerators, which increase the water force and reduce outflow, saving water. Using these aerators saves up to 50% of water. In addition, the Ecoteria taps operate on timers. By installing the concealed cistern which uses only six litres of water per flush as against 15-20 litres used in conventional flushes, water consumption can be reduced. Urinal flush valve with infra red detector will ensure a definite flush after every use preventing the unwanted flushing of timer set systems.

The wastewater can be recycled with the latest technology, treated and then reused in areas like air conditioning and gardening. The air-conditioning system can be attached to the STL tank to store cold energy during off-peak hours. This stored energy can then be used during the peak hours/periods reducing compressor overloading and cutting power consumption.

The heat generated from the air conditioners can provide hot water to the guestrooms, laundry, toilets and kitchen. Within the room, the guests are encouraged to adopt the eco initiative. At Orchid, guests can participate in the energy conservation by pressing the Eco Button on the master control panel placed alongside the bed. When the guest presses this button the air-conditioner temperature increases gradually by two degrees. More than 30% of the guests participate daily in this Energy Saving Programme and receive certificates from us along with a free subscription to the Sanctuary (an environment-based) magazine.

Again, refrigerators in the guestrooms can be equipped with ‘fuzzy logic’ and save up to 40% energy. This senses the load inside the refrigerator and cools accordingly. The Orchid displays a heightened level of environmental sensitivity in its architecture design as well. Double glass doors open to an imposing 70 feet lace fountain. The greenery is drip irrigated. Passive solar design, including a rooftop pool, to reduce heat loads on the structure is coupled with adequate day-lighting via a central atrium. Triple glazed windows provide increased thermal and acoustic insulation. The building is constructed from a variety of low resource consuming materials and is finished with low-VOC paint. All window frames are made from recycled rubber wood.

In short, the property’s mantra is ‘Luxury with Responsibility’. Deluxe need not disturb, Comfort need not compromise and Entertainment need not be insensitive.

3.06 INDOOR PLANT

A **houseplant** is a plant that is grown indoors in places such as residences and offices. Houseplants are commonly grown for decorative purposes, but studies have also shown them to have positive psychological effects. Houseplants also help with indoor air purification. Plants used in this fashion are most commonly, though not always, tropical or semi-tropical epiphytes, succulents or cacti.

Houseplants need the correct moisture, light levels, soil mixture, temperature, and humidity. As well, houseplants need the proper fertilizer and correct-sized pots.

Houseplant care

Houseplant care is the act of growing houseplants and ensuring they have the necessary conditions for survival and continuing growth. This includes providing soil with sufficient nutrients, correct lighting conditions, air circulation and adding the right amount of water.

Watering houseplants on a regular basis is necessary for the plant to remain healthy and thrive. They should not, however, be watered on a scheduled basis, because different plant species need different amounts of water and sunlight so it is important to know the specifics for the particular plants that are being grown.

Houseplants sometimes also need to be cleaned of dust and greasy films that collect on the leaves when they are indoors. Dusty, grimy leaves can inhibit growth.

Light requirements

The meaning of Low-Medium-High depends on the context. For example, in orchid literature 1,500 foot-candle is referred to as Low Light.

Most plants will survive illuminance 10 times lower than listed below but will not grow as well or bloom.

Low (500–2,500 lux; 50–250 foot-candles)

Medium (2,500–10,000 lux; 250–1,000 foot-candles)

High (10,000–20,000 lux; 1,000–2,000 foot-candles)

Very High (20,000–50,000 lux; 2,000–5,000 foot-candles)

Temperature requirement

Most plants grown as houseplants are selected because they are already adapted to growing at typical house temperatures, between 15° and 25°C. Exceptions do occur, and some plants require chilling periods at lower temperatures (down to 5° or 10°) in winter when less light is available.

Air circulation requirements

Since almost all of the air circulation (transpiration) happens in the roots as does almost all of the energy production, the roots must be able to breathe easily. Overwatering will drown a typical houseplant. The air is pulled through the soil by the breathing of the roots. Air must be able to flow through the soil.

Water requirement

The amount of water a particular houseplant needs is influenced by several factors. Not only is the individual plant size and species important, but also the growing conditions. Light, temperature, humidity, container type, container size, and soil type all influence the speed of growth and therefore the amount of water needed. Further, it is best to look up individual plant types for their watering needs.

Nutrition requirements

Houseplants in a controlled production greenhouse are kept in an ideal conditions for rapid growth. Some plants and production flowers are even hybridized for fast growth characteristics. Nutritional needs of a plant in a production green house are greater than in a typical personal house plant environment where humidity, light, irrigation, and air circulation are not ideal. After being removed from the production greenhouse the plant slows evapotranspiration. Likewise after being brought into a typical household the watering and nutitional requirements decline, the plants growth rate declines and the nutritional needs decline. Plants use most of the carbon that they release from CO_2 to create energy but some of the carbon feeds plant growth. Far less plant food comes from the soil.

3.07 PLANT REQUIREMENTS

Major factors that should be considered when caring for houseplants are moisture, light, soil mixture, temperature, humidity, fertilizers, potting, and pest control. The following includes some general guidelines for houseplant care. For specific houseplant needs, the tags that sometimes come with plants are notoriously unhelpful and generic. Specific care information may be found widely online and in books.

Moisture

*Fig 3.00: Succulents, or water-retaining plants, such as this jelly bean plant (*Sedum rubrotinctum*), are often grown as houseplants*

Both under-watering and over-watering can be detrimental to a houseplant. The best way to determine whether a plant needs water is to check the soil moisture. Feeling the soil is most reliable, since moisture meters are often inaccurate. Most potted plants must be allowed to reach an appropriate level of dryness in between waterings, though the amount of watering required varies greatly depending on the species. Proper soil moisture can range from still slightly moist on the soil surface to very dry to nearly the bottom of the pot. Watering a plant by the calendar is not recommended. If a plant does need to be watered, water should be slowly poured over the surface of the soil until it begins to drain out the bottom of the pot, ensuring complete saturation. However, sometimes the soil separates from the sides of the pot if it is allowed to dry out thoroughly, allowing the water to flow down the sides of the rootball and out the bottom too quickly to be absorbed and retained by the soil and roots. If this is the case, it may be necessary to set the plant in a shallow dish of water long enough for it to soak up enough water to moisten the rootball to its center. Repotting should eliminate this problem. Repotting should be done only when necessary, since the roots of a plant that is in an excessively large pot may rot.

Light

Fig 3.00: A skylight provides sun to these plants in the dining hall of Currier House at Harvard University

Through the process of photosynthesis, plants convert the energy in sunlight to chemical energy, which fuels plant growth. The two important factors for providing light to a house plant are *intensity* and *duration*.

Different plants require different light intensities. Intensity (or quality) of light is difficult to measure without a light meter. It is usually measured in units of lux. 100 lux or less is usually considered "low intensity" or "indirect" lighting. A bright office has about 400 lux of illumination. 1,000 lux or more is usually considered "high intensity" lighting. Direct outdoor sunlight is in the range 32,000-100,000 lux. Foot-candles are also occasionally used.

The duration of light exposure is as important as the intensity. Quality exposure of 8 to 16 hours is ideal for most plants. Photoperiodism must also be considered, since some plants such as Poinsettia and Schlumbergera are influenced by either decreasing or increasing daylight hours.

Fig 3.00 Some potted plants can grow to very large sizes, such as this tree found in Auckland Airport.

Windows are the most common sources of light for houseplants. In the Northern Hemisphere, south-facing windows have the most sun exposure, while western, eastern, and north-facing windows have progressively less exposure. Natural sunlight through windows is affected by seasonal changes, cloud cover, and window treatments. The length of time that light is provided will determine how the plant grows. Providing 16 hours of light/day will promote strong roots, stems and abundant leaves. Decreasing that amount to 12 hours of light/day will signal that the short days of Winter are coming so the plant energy will focus more on flower production and less on green growth.

Artificial light sources can provide an alternative or supplement to window lighting. Fluorescent lighting provides excellent light quality whereas standard incandescent bulbs do little to promote plant growth. "Cool", or "blue", fluorescent lights at 6500k provide the light needed for lush green foliage plants, while "warm", or "red", fluorescent lights at 3000k provide the light needed for blooming flowers and fruit production. Warm whites are better for flowering plants while cool whites are more suitable for green, leafy growth. When used together, these bulbs are closer to the full spectrum light that comes from the sun, although less powerful.

There are several types of lighting units which can sustain indoor plants, Fluorescent, Halide or Diode. Choosing the best type depends on the need of the plants grown and/or your budget. For the sake of efficiency, incandescents, no matter how cheap, should not be used. Not only do they provide little or no benefit to plants, but the cost of the electricity will outweigh the cost of purchasing multiple incandescent bulbs and fixtures in the long run. Fluorescents are mass marketed. CFL fluorescents are the cheapest option, but more than a couple bulbs are almost always required to be running at once. The next step up is shop lights, available mostly in 2-ft (609 mm) or 4-ft (1219 mm) fluorescent tubes. The best type of fluorescent are called High Output Fluorescents. Also available in 2-ft (609 mm) and 4-ft(1219 mm) tubes, these bulbs provide more wattage (54 watts each is standard) thus more lumens per watt (92 at the current time). That is about 5,000 lumens per dual 4-ft (1219 mm) H.O. Fluorescent Unit. The most serious lights that are used by professionals and in greenhouses as a supplement, are known as Metal Halide or High Pressure Sodium Grow Lights. These lights provide the most lumens, heat and intensity of light so they should be positioned respectively further from the tops of plants to prevent burning. LED or Light Emitting Diode grow lights which produce the photosynthetic optimum red (640-670 nm) and blue (430-460 nm), they have long life expectancies, and efficiency, 100 watts producing 3,400 lumens output from a unit 400x212x62mm, they are also rather cool, so you can have them quite close to the plants.

Soil

Houseplants are generally grown in specialized soils called *potting compost* or *potting soil*, not in local natural soil. A good potting compost mixture includes soil conditioners to provide the plant with nutrients, support, adequate drainage, and proper aeration. Most potting composts contain a combination of peat and vermiculite or perlite. Concern over environmental damage to peat bogs, however, is leading to the replacement of peat by coir (coconut fibre), which is a sustainable resource. A nutrient rich compost can usually be bought wherever potted plants are sold.

If local natural soil is to be used, it should first be heat sterilized by placing the soil in an oven at 90 °C (200 °F) for at least 30 minutes. This will ensure that the soil does not contain any harmful bacteria. Most locals soils, especially those with a high proportion of clay, do not drain well enough to be a suitable growing medium for houseplants. Coir or peat is used to increase aeration and make heavy soils more absorbent. Vermiculite and perlite aid in drainage in a soil mixture. Perlite is recommended over vermiculite because it does not break down as easily. A coarse grade sand or grit can be used as a substitute for a drainage mechanism if needed. These three ingredients can be mixed in varying ratios to create different potting soil types. For a plant that requires fast drainage, such as a cactus, use plenty of coarse sand, grit or perlite. For a plant that requires plenty of moisture, use more coir. A good all purpose soil mixture is 2 parts coir and 1 part perlite or vermiculite. A so-called "heavy soil mix" will contain sterilised soil, milled sphagnum moss or coir, and perlite (or vermiculite) in equal proportions. It is also possible to make a soil mixture that actually contains no soil by mixing equal parts peat moss and perlite (or vermiculite). The soiless mixture will retain more moisture.

Temperature

Most houseplants are tropical species selected for their adaptation to growth in a climate which ranges from 15 °C to 25 °C (60 °F to 80 °F), similar to the temperature in most homes. Temperature control for other plants with differing requirements needs attention to heating and/or cooling.

Humidity

Humidity is slightly more difficult to control than temperature. The more commonly used houseplants have established that they can survive in low humidity environments as long as their roots are kept properly irrigated. Most plants thrive in 80% relative humidity while most homes are usually kept around 20% to 60% relative humidity. Besides buying a humidifier, there are a few things that can be done to increase humidity around houseplants. The most popular methods used to raise the ambient humidity are misting and pebble trays, which are shallow trays covered with pebbles and filled with water that evaporates to increase humidity. Other methods of raising humidity include grouping plants closely together and not placing plants in drafty areas. Misting has become controversial among gardeners and horticulturists, some of whom will point out that it seldom provides moisture in the form of water vapor, and that, instead, by wetting the leaves it increases disease problems.

Fertilizers

In a potted environment, soil nutrients can eventually deplete. Adding fertilizer can artificially provide these nutrients. However, adding unnecessary fertilizer can be harmful to the plant. Because of this, careful consideration must be taken before fertilizing. If a plant has been in the same potting mix for a year or more and is no longer thriving, then it may be a candidate for nutrient replacement done by using a complete fertilizer at half the recommended label dilution rate.

Fertilizers are usually marked with a number such as 20–20–20. These numbers indicate the percentages of nitrogen, phosphorus, and potassium respectively, the three elements that are needed in the most quantity for plant growth. Nitrogen is essential for green, leafy growth. Phosphorus is essential for flowering or fruiting plants. Potassium is essential for strong roots and increased nutrient uptake. Numbers higher than 15 are usually man-made, chemical fertilizers. Organic fertilizers have a much lower ratio. A 4–2–2 ratio of these elements is usually good for green foliage plants, while a 2–6–4 ratio is usually better for flowering plants. A complete fertilizer will also include the minor and trace elements, such as calcium, magnesium and iron.

While variation may occur between brands, a general rule is to mix 1 tablespoon to every four liters (one imperial gallon) of water. In all cases, it is better to under-fertilize than over-fertilize. The diluted mixture is then used to water the plants. The growth of the plants should be monitored to determine if the fertilizer is helping or harming, and how often (if at all) it should be used. Schedules can range from every other week to every three months. For convenience, granular, time-released fertilizers are also available.

Fig 3.00: Crassula ovata *in a clay container (Italian terra cotta).*

Pot types and sizes

Proper pot size is an important factor to consider. A pot that is too large will cause root disease because of the excess moisture retained in the soil, while a pot that is too small will restrict a plant's growth. Generally, a plant can stay in the same pot for two or so years. Pots come in a variety of types as well, but usually can be broken down into two groups: porous and non-porous. Porous pots are usually clay and are highly recommended because they provide better aeration as air passes laterally through the sides of the pot. Non-porous pots such as glazed or plastic pots tend to hold moisture longer and restrict airflow. Another needed feature is drainage holes. Usually pots come with holes in the bottom to allow excess water to flow out of the soil which helps to prevent root rot. If a pot does not have drainage holes, it is best to double pot that plant so the inner pot can be lifted out and the excess water accumulated in the bottom of the outer pot can be removed. Soak old pots thoroughly in a solution of 1 part bleach to 10 parts water to kill any bacteria that may remain.

Effect on indoor air pollution

Indoor plants reduce components of indoor air pollution, particularly volatile organic compounds (VOC) such as benzene, toluene, and xylene. The compounds are removed primarily by soil microorganisms. Plants can also remove CO_2 "Carbon dioxide", which is correlated with lower work performance, from indoor areas. The effect has been investigated by NASA for use in spacecraft. Plants also appear to reduce airborne microbes and increase humidity.

Alternative growing methods

Hydroponics

Aside from traditional soil mixtures, media such as expanded clay may be employed in hydroponics, in which the plant is grown in a water and nutrient solution. This technique has a number of benefits, including an odorless, reusable, and more hygienic media. Any habitat for soil-bound pests is also eliminated, and the plant's water supply is less variable. However, some plants do not grow well with this technique, and media is often difficult to find in some parts of the world, such as North America, where hydroponics and specifically hydroculture is not as well-known or widespread.

Subirrigation

Subirrigation offers another alternative to top-watering techniques. In this approach the plant is watered from the bottom of the pot. Water is transferred up into the potting media (be it soil or others) by capillary action. Advantages of this technique include controlled amounts of water, resulting in lower chances of overwatering if done correctly, no need to drain plants after watering unlike traditional top-water methods, and less compaction of the media due to the pressure put on the media from top-watering.

List of common examples

Fig 3.00: Cyclamen sp.

Fig 3.00: Echinopsis subdenudata

Fig 3.00: Dracaena braunii

Fig 3.00: Yucca gloriosa

Tropical and subtropical

- *Aglaonema* (Chinese Evergreen)
- *Alocasia*
- *Amaryllis*
- *Aphelandra squarrosa* (Zebra Plant)
- *Araucaria heterophylla* (Norfolk Island Pine)
- *Asparagus aethiopicus* (Asparagus Fern)
- *Aspidistra elatior* (Cast Iron Plant)
- *Begonia* species and cultivars
- *Bromeliaceae* (Bromeliads)
- *Chamaedorea elegans* (Parlor Palm)
- *Chlorophytum comosum* (Spider Plant)
- *Citrus*, compact cultivars such as the Meyer Lemon
- *Dracaena*
- *Dieffenbachia* (Dumbcane)
- *Epipremnum aureum* (Golden Pothos)
- *Ficus benjamina* (Weeping Fig)
- *Ficus elastica* (Rubber Plant)
- *Hippeastrum*
- *Mimosa pudica* (Sensitive Plant)
- *Nephrolepis exaltata cv. Bostoniensis* (Boston Fern)
- *Orchidaceae* (The orchids)
- *Cattleya* and intergeneric hybrids thereof (e.g. Brassolaeliocattleya, Sophrolaeliocattleya)
- *Cymbidium*
- *Dendrobium*
- *Miltoniopsis*

- *Oncidium*
- *Paphiopedilum*
- *Phalaenopsis*
- *Peperomia* species
- *Philodendron* species
- *Maranta* (The Prayer Plants)
- *Saintpaulia* (African violet)
- *Sansevieria trifasciata* (Mother-inlaw's tongue)
- *Schefflera arboricola* (Umbrella Plant)
- *Sinningia speciosa* (Gloxinia)
- *Spathiphyllum* (Peace Lily)
- *Stephanotis floribunda* (Madagascar Jasmine)
- *Tradescantia zebrina* (Purple Wandering Jew)

Succulents

Note: Many of these plants are also tropical or subtropical.

- *Aloe vera*
- Cactaceae (Cacti)
- *Epiphyllum* (Orchid Cacti)
- *Mammillaria*
- *Opuntia* (Large genus that includes the Prickly Pear)
- *Zygocactus* (Christmas Cactus)
- *Crassula ovata* (Jade Plant)

Forced bulbs

Note: Many forced bulbs are also *temperate*.

- *Crocus*
- *Hyacinthus* (Hyacinth)
- *Narcissus (genus)* (Narcissus or Daffodil)

Temperates

- *Hedera helix* (English Ivy)
- *Saxifraga stolonifera* (Strawberry Begonia)

3.08 TEN INDOOR PLANTS THAT YOU CAN GROW IN YOUR HOUSE RIGHT NOW

Five kgs of guava, a bundle of coriander, and thick aloe vera leaves," grins Meenakshi as she plucks the ripened fruits and vegetables from her lush green garden. But not everyone is as lucky as Meenakshi. A large vegetable garden of one's own, especially in metro cities, is today a luxury — rare enough to seem unrealistic.

But this does not mean that bringing green home is impossible. And what better occasion than a brand-new year to get more serious about your gardening hobby?

Here are 10 plants you can grow indoors. You don't need a huge terrace or balcony: all you need is a little space right inside your home for these beautiful and useful plants.

1. Areca Palm

Fig 3.00: Areca Palm (Photo: www.houseplantsexpert.com)

This leafy plant can be grown anywhere in the house in indirect sunlight. Make sure it is not exposed to direct sunlight, or the leafs will turn yellow. The plant can grow as high as 30 feet outdoors but it is restricted to about seven feet at indoor locations. Put it in a small container and the crowded roots will help in limiting the size of the plant. The plant is useful in filtering xylene and toluene from the air. It also works effectively as an effective humidifier. Water enough to keep the soil moist and let it dry a little between waterings in winter.

2. English Ivy

Fig 3.00: English Ivy (Photo: Pintrest)

This green plant helps in reducing airborne fecal-matter particles. It also filters out formaldehyde found in some household cleaning products. The plant needs bright light to look fresh and might attract pests if they do not receive enough light. Take special care while watering and let the soil dry for some time before watering it again. Ivy does not like standing water.

3. Aloe Vera

Fig 3.00: Aloe Vera (Photo: aloeeveragee.blogse.nl)

This very useful plant clears formaldehyde and benzene, which can be a byproduct of chemical-based cleaners, paints and other toxins. Also, it is a widely-known fact that aloe vera can be used to achieve a great complexion. Aloe plants like to be dry and warm, not wet and cold, so water only when you see that the soil in the pot is dry. The best spot to keep this plant is a sunny window. Aloe in full shade will not thrive. Also, if you have just repotted the plant, do not water it for two to three days — wait for the roots to settle.

4. Indian Basil

Fig 3.00: Indian Basil (Photo: www.focmag.com)

Commonly known as Tulsi, growing this plant is a no-brainer. Seen thriving even after little-to-no maintenance, this plant has a number of medicinal properties. In addition, it helps in purifying the air and improves air quality. It can be planted in a simple pot. It requires regular sunlight, so the best place to keep this plant would be a sunny window. All you need to do is water it regularly (but be sure not to over-water) and watch it thrive.

5. Dracaena

Fig 3.00: Dracaena (Photo: wikipedia.org)

This plant does not require direct sunlight and can grow up to 12 feet in height, so make sure it is planted at a spot that allows enough space to grow. Also, you can control its height by pruning. New leaves will sprout below the cut in a few weeks. Keep its soil moist but not soggy. Yellow leaves in the plant are a sign of over-watering or poor drainage. You can place it near a sheer curtain or a window.

6. Ladies' Slipper Orchid

Fig 3.00: Ladies' Slipper Orchid (Photo:mainstreettrolley.wordpress.com)

This plant will definitely bring that missing aesthetic vibe to any dull corner of your house. These orchids have unusual slipper-shaped flowers that bloom from between two leaves. It has dark green leaves which add to the beauty of the plant. Special care should be taken while watering this plant. If your water is chemically treated, allow it to sit for a few days in a container before using it. Water it once a week. Place the plant in shade where the plant is not exposed to direct sunlight.

7. Spider Plant

Fig 3.00: Spider plant (Photo: www.guide-to-houseplants.com)

This lovely plant combats benzene, formaldehyde, carbon monoxide and xylene, a solvent used in the leather, rubber and printing industries. The plant derived this unique name due to its uniquely-shaped leaves, which dangle like spiders on a web. The plant is also completely safe if you have pets. If you see the plant turning a little brown, do not worry. It is normal and it will get back to its green self soon! Make sure you use well-drained soil and do not make the soil soggy for a fresh-looking spider plant.

8. Azalea

Fig 3.00: Azalea (Photo: www.southernliving.com)

Azaleas grow in bright spots and and can help reduce formaldehyde levels from plywood and foam insulation. In spring, this plant produces beautiful flowers that last several weeks. They are shade tolerant, hence perfect for locations that do not get direct sunlight. Direct sun can burn the leaves. This lovely plant blossoms like a shrub and is available in many colours. While it looks beautiful when planted in a group in a large area, in a smaller space, a single plant works best. To maintain the plant's shape, you can trim it when the blooming period has expired. Remember that bare side-table next to your sofa set? Complete the look by putting an Azalea on it.

9. Snake plant

Fig 3.00: Snake plant (Photo: Wikipedia)

The plant is best suited for bathrooms since it filters out formaldehyde, which is commonly found in personal-care products. It is one of the top air-purifying plants identified by NASA. This plant is one of the easiest to grow and requires no extra attention. Going out of town and have no one to take care of your plant? No worries. Forgot to water it on time? Again, no problem. This plant can be neglected for weeks and will still give you long, fresh leaves. The only thing to keep in mind is that they can easily rot, so they need to be planted in free-draining soil. Quick fact: this plant is also called mother-in-law’s tongue or Saint George’s sword.

10. Weeping Fig

Fig 3.00: Weeping Fig (Photo: www.houseplantsexpert.com)

This leafy plant helps against emissions from curtains, carpets and furniture. The weeping fig initially takes time to grow, but once it is in complete form, it can grow up to 10 feet. One thing you should keep in mind is to not move this plant around too much — its leaves can shed easily. Place it in a bright, indirect light and let it stay there. Also, keep it away from direct cold or hot air from doorways as this also causes leaves to fall. It is a long-lasting plant, you can enjoy its beauty for many years.

3.09 INDOOR PLANTS FOR ECO-FRIENDLY HOTELS

With the increasing concern for the environment and the campaign against the use of cut flowers, indoor plants have now become a vital part of interior decoration. The use of artificial plants for the purpose of decoration has also become popular and these have the added advantage of minimal maintenance. The advantage of natural plants over the artificial plants is that they are not only decorative, but they also absorb potentially harmful gases and clean the surrounding air. Most paints and furnishings in the process of degradation emit trace levels of organic chemicals that can build up into toxic levels. Natural indoor plants act as air cleaning machines, removing the trace levels.

In hotel properties, indoor plants are appreciated for their ability to add charm and liveliness to hotel guestrooms and public areas such as lobbies and corridors. They should be chosen with care, so that their colours, shapes, and size fit in with the décor of the space. The temperature, humidity in the room, and the amount of light available there must also be taken into account. The health of a plant depends on the soil medium. Ideally, the soil should be of an open texture to allow air to reach the roots. A mixture of red earth, coarse sand, compost and leaf mould forms a very good medium.

Plants can be potted in clay/ plastic pots. Clay pots are porous and allow evaporation of moisture, hence they require more watering than the plastic pots which they are likely to be over watered. Holes at the base of the pot assist in the drainage of water.

BASIC ELEMENTS THAT A PLANT NEEDS FOR GROWTH:

1. Air temperature
2. Light
3. Water
4. Humidity
5. Re-potting
6. Food / fertilizers
7. Pruning
8. Disease and pest control

AIR TEMPERATURE:

Plants thrive well in warm temperatures. They cannot withstand a constant change in temperature. Therefore it is wise to allow some transition time in the shade when transferring it to extremes of temperature.

LIGHT:

Although plants can be kept indoors, they need light for their growth. Light is a vital factor in the photosynthesis process by which plants make their food. Artificial lighting does enable a plant to grow properly. Indoor plants will generally not grow in a dark or poorly lit room. Plants with dark green leaves
can be placed in a dark area with sufficient artificial light. The light intensity of a plant varies according to the darkness of the area. Dimmer the light, longer the lighting.
Often it is noticed that plants grow only in one direction. This is because they are seeking light only in that direction. To achieve a uniform growth, rotate the plants in their place periodically.
Indoor plants need to be brought out for fresh air at least once a fortnight. Care should be taken however to ensure that the plants are not placed in the direct sunlight. Doing so, even for 5 minutes will scorch the leaves of the plant.

WATER:

The water requirement of the plant depends on many factors like season, position indoors, age of plant, type, room temperature, type and size of pot and soil medium used. It is incorrect to presume that frequent watering of the plant keeps it healthy. It is quite the reverse as over-watering can kill a plant.
Water has to be provided judiciously and though there is no accurate guideline for this, one can test the soil in the pot for dampness. If the soil is damp, the plant does not need watering. If it is dry then sufficient water must be given so that the water drains out from the drainage holes at the base of the pot. By using less water here to prevent overflow, there is the risk of damaging the root system and killing the plant as the root will grow upwards in search of water and may get exposed and damaged by external factors.

Under-watering can also lead to the accumulation of salts at the top or side and cause marginal or tip burning of leaves. Over-watering is as dangerous as it will lead to root suffocation and rotting.

Useful hints for watering:

- The winter month require less watering for the plant as the root is dormant. Conversely, summer is the growing season of the plant.
- Plants with thin leaves require more water than others. Cacti and succulent plants which store
water require less watering.
- Freshly potted plants with less root development will require little water as over-watering can
cause rotting of the tender roots and vice versa for well grown plants.
- If the temperature of the room is high, plants require more water. If it is cool, the watering should be less.
- It is necessary to clean the leaves regularly with a wet sponge in order for plants to thrive well
and look healthy. This prevents the pores in the leaves from getting clogged with dust.

HUMIDITY:

Often one notices the tip of the leaves turning brown and wilting which happens in an air conditioned room, simply because air conditioning dries out the humidity in the air. The plants lose water faster from the pores in their leaves than they can replace it through their roots.

Some suggestions to provide humidity for the plant –

- Place the plants on a tray of wet pebbles. The water evaporates upward from the surface of stones and
creates a humid atmosphere around the plants.
- Group the plants together so that they can break the air currents blowing on them and also take
advantage of the moisture evaporating from each other. Water pools between plants can enhance this
effect.
- Spray water on leaves of the plant.

RE-POTTING:

Plants cannot grow forever in the same pot. As the roots gradually fill up the pot, it needs to be planted in another pot for it to continue to grow. For further growth, remove some soil from the top and replace it with fresh soil, at least once a year. Repotting should be done during summer or during the rainy season. Plants should be watered the day before re-potting, but care must be taken not to over water making the soil slushy. The plant should slide out of the pot smoothly without damaging the roots. For the purpose of re-potting, the next larger size which is bigger by 3 cm in diameter is suitable and has drainage holes in the bottom which allow excess water to flow out. Transfer to a very large pot may result in damage to the roots as they will hold more water.

FERTILIZING:
Plants need to be fertilized fortnightly with a proper balance on N.P.K. These are the three elements that are most essential to the growth of all plants. Nitrogen is essential for the growth of the stem and leaves, phosphorous for the roots and potassium for the general sturdiness of the plant. There are ready chemical fertilizers with a mix of all three.

PRUNING:
Pruning is required to make the plant grow bushier and to give it the desired shape. It is also done to get rid of the diseased parts of the plant. Pruning should be done when the plant is in its active growing stage and should never be carried out in winter.

DISEASE AND PEST CONTROL:
Most plant problems occur due to two reasons – disease and pests. Be on a constant look-out for symptoms of plant disease. Spray the plants fortnightly to prevent attack. A neem spray is an organic way to keep diseases and pests at bay without any side effects.

Guidelines to avoid plant problems –

- Adequate fertile soil with essential nutrients.
- Constant inspection and check on plants and any infected parts should be immediately removed and destroyed before it spreads.
- Overcrowding of plants can cause diseases since they require adequate sunlight, water and good air circulation.
- Water the soil as required and allow drying out between watering, as over watering can cause rotting problem.
- Remove all unnecessary old leaves, weeds, etc.
- Regularly turn soil and leave exposed to sunlight allowing it to sterilize.
- Do not give any insecticide treatment on a hot sunny day as the plants could get scorched. Spray in the late evening when there is minimal air movement.
- Avoid spraying insecticide on delicate flowers and petals as they may be adversely affected.

SO, **CARING FOR PLANTS** –

1. **Watering -** care must be taken at the time of watering as no plants can survive without water, yet more plants die from over-watering.
2. **Light and sun** - light is usually beneficial, but direct sunlight intensified through glass will scorch leaves – giving brown papery areas on the leaf. Lopsided or one-sided growth is another indication of inadequate lighting.
3. **Humidity** - dry air can cause leaf tips to turn brown and papery on vulnerable plants.
4. **Feeding -** pale leaves and short, stunted growth may be due to lack of fertilizer in the compost.
5. **Bud drop** - bud drop is often caused by dry compost or dry air. Some plants do not adapt or re-orientate their buds to light from a different direction if they are moved round.

6. **Wilting and collapsing** - plants usually wilt for the following reasons – too much water, too little water or insects or a disease affecting the roots. If the stem looks black or rotten, a fungal disease is the likely cause and the plant should be discarded.

SOME IMPORTANT CATEGORIES OF INDOOR PLANTS

1. **BULBS, CORNS, AND TUBERS** :
All possess a fleshy organ from which roots are produced and in which food and water are stored.
Examples – Begonia, Crocus, Cyclamen, Hyacinths, Narcissus, Tulip

2. FERNS:
Ferns are foliage plants which do not produce flowers and seeds but reproduce by means of spores.
Examples – Adiantum, Davallia, Nephrolepis, Pellaea, Polypodium, Polystichum

3. **CACTI**:
Cacti are succulent plants. These are of two types – desert and jungle.
Examples – Aporocactus, Echinocactus, Epiphyllum, Notocactus, Opuntia.

4. **MONSTERA**:
Only one species, **MONSTERA DELICIOSA**, is a popular house plant. The leaves are shiny and are basically heart-shaped. If well treated they can grow very big – 10 to 15 feet tall and 6 to 8 feet across.

5. **ORCHIDS**:
Orchids are probably the largest flowering plants family and most are quite expensive. They are also called **EPIPHYTES**. They are available in a vast variety of shapes, colours and sizes. They may be produced on the flower stem in clusters or singly and the stalks can be erect or drooping. Flowers can be scentless or delicately scented. Most have a fleshy, waxy texture and each bloom is long-lasting (3-6 weeks).
Examples – Brassia, Cymbidium, Miltonia

6. **PACHYSTACHYS**:
Only species of this grown indoors is **PACHYSTCHYS LUTEA** (Lollipop plant), a low growing shrub with tubular flowers with dark green, shiny leaves.

7. SANSEVIERIA:
These are popular and easy to grow. Two main types are: tall growing plants with stiff, erect, lance-shaped leaves; and dwarf- growing rosette forms.

8. SUCCULENTS:
These store water in their tissues.
Examples - Agave, Aloe, Cotyledon, Graptopetalum, Pachyphytum, Sedum, Lithops.

9. SAXIFRAGA:
Only one specie is useful indoors – **SAXIFRAGE STOLONIFERA** which has many off springs. It is a stem less plant, look attractive in small hanging pots.

10. **TULIPA**:
These are essentially outdoor plants, but they also make very decorative indoor plants. These have small leaves, short flower stalks and large flowers. These are grown from bulbs.

11. **WASHINGTONIAS**:
These are popular fan palms and are easy to grow indoors.

12. YUCCA
13. ZANTEDESCHIA
14. TOLMIEA.

3.10 ENERGY CONSERVATION MEASURE

(From Wikipedia, the free encyclopedia)

An **Energy conservation measure** (ECM) is any type of project conducted, or technology implemented, to reduce the consumption of energy in a building. The types of projects implemented can be in a variety of forms but usually are designed to reduce utility costs: water, electricity and gas being the main three for industrial and commercial enterprises. The aim of an ECM should be to achieve a savings, reducing the amount of energy used by a particular process, technology or facility.

Energy conservation measures are often combined into larger guaranteed Energy Savings Performance Contracts to maximize energy savings while minimizing disruption to building occupants by coordinating renovations. Some ECMs cost less to implement yet return a higher energy savings. Traditionally, lighting projects were a good example of "low hanging fruit" that could be used to drive implementation of more substantial upgrades to HVAC systems in large facilities. Smaller buildings might combine window replacement with modern insulation using advanced building foams to improve energy performance. Energy dashboard projects are a new kind of ECM which relies on the behavioral change of building occupants to save energy. When implemented as part of a program, case studies (such as that for the DC Schools) report energy savings up 30%. Under the right circumstances, open energy dashboards can even be implemented for free to improve upon these savings even more.

On a global basis energy efficiency works behind the scenes to improve our energy security, lower our energy bills and move us closer to reaching our climate goals. According to the IEA, some 40% of the global energy efficiency market is financed with debt and equity. Energy Performance Investment are one financing mechanism by which ECMs can be implemented now and paid for by the savings realized over the life of the project. While all 50 states, Puerto Rico and Washington, D.C., have statutes allowing companies to offer energy savings performance contracts, success varies because of variations in the approach, the state's degree of involvement and other factors. Homes and businesses are implementing energy-efficiency measures that include low-energy lighting, insulation and even high tech energy dashboards to cut bills by avoiding waste and boosting productivity.

Businesses implementing ECMs in their commercial buildings often employ Energy Service Companies (ESCOs) experienced in energy performance contracting . This industry has been around since the 1970s and is more prevalent than ever today. The US-based organization EVO (Efficiency Valuation Organization) has created a set of guidelines for ESCOs to adhere to in evaluating the savings achieved by ECMs. These guidelines are called the International Performance Measurement and Verification Protocol (IPMVP).

Homeowners implementing ECMs in their residential buildings often start with an energy audit. This is a way homeowners look at what areas of their homes are using, and possibly losing energy. Residential energy auditors are accredited by the Building Performance Institute (BPI) or the Residential Energy Services Network (RESNET). Homeowners can hire a professional or do it themselves or use a smartphone to help do an audit.

Types of energy conservation measures

Energy Dashboards

Energy Dashboards combine smart metering and Internet technologies to provide real-time data on energy use. Their success is based on the premise that real-time feedback drives behavior change and improves operational efficiency. Energy Dashboards are used to enable energy reduction competitions, showcase real-time building performance and green building features, and empower occupants to become active participants in energy management. Sustainability teams from major corporations, governments, universities and K–12 public schools use energy dashboards as an effective communication tool that creates transparency.

- BACnet + Drupal
- Building automation
- Gas meter
- Home Automation
- Smart grid and Smart meter
- Water metering

Insulation

Insulation decreases thermal losses in cold climates and thermal gains in hot climates thus reducing HVAC loads.

- House insulation
- Thermal insulation
- Cotton insulation
- Natural wool insulation
- VOCs in fiberglass insulation

- Cellulose insulation

Lighting

One of the simplest ways consumers save a copious amount of energy is switching incandescent (filament) light bulb to a compact fluorescent lamp (CFL). A 15W CFL is capable of providing just as much light as a 60W incandescent, while consuming just one fourth of the amount of energy.

- Compact fluorescent lamp
- Fluorescent bulbs
- LED lighting
- Linear fluorescent retrofit (T12 to T8)
- Sky lights
- Smart windows
- Solar charged flashlight
- Solar lights

Water

The average US homes wastes thousands of gallons of water a year. There are many water saving solutions that also save energy.

- 1.6 GPM or less low flow showerheads
- Ultra low flush toilet
- Composting toilets
- Faucet aerator

Windows

Windows may be one of the biggest contributing factors to energy loss and uncomfortable spaces. Individuals might find some ECMs related to windows more cost effective than others such as thermal curtains, films, or Smart windows.

3.11 ENERGY CONSERVATION

(From Wikipedia, the free encyclopedia)

Energy conservation are efforts made to reduce the consumption of energy by using less of an energy service. This can be achieved either by using energy more efficiently (using less energy for a constant service) or by reducing the amount of services used (for example, by driving less). Energy conservation is a part of the concept of eco-sufficiency. Energy conservation reduces the need for energy services, and can result in increased environmental quality, national security, personal financial security and higher savings. It is at the top of the sustainable energy hierarchy. It also lowers energy costs by preventing future resource depletion.

Energy tax

Some countries employ energy or carbon taxes to motivate energy users to reduce their consumption. Carbon taxes can allow consumption to shift to nuclear power and other alternatives that carry a different set of environmental side effects and limitations. Meanwhile, taxes on all energy consumption stand to reduce energy use across the board, while reducing a broader array of environmental consequences arising from energy production. The State of California employs a tiered energy tax whereby every consumer receives a baseline energy allowance that carries a low tax. As usage increases above that baseline, the tax is increasing drastically. Such programs aim to protect poorer households while creating a larger tax burden for high energy consumers.

Building design

One of the primary ways to improve energy conservation in buildings is to use an energy audit. An energy audit is an inspection and analysis of energy use and flows for energy conservation in a building, process or system to reduce the amount of energy input into the system without negatively affecting the output(s). This is normally accomplished by trained professionals and can be part of some of the national programs discussed above. In addition, recent development of smartphone apps enable homeowners to complete relatively sophisticated energy audits themselves.

Building technologies and smart meters can allow energy users, business and residential, to see graphically the impact their energy use can have in their workplace or homes. Advanced real-time energy metering is able to help people save energy by their actions.

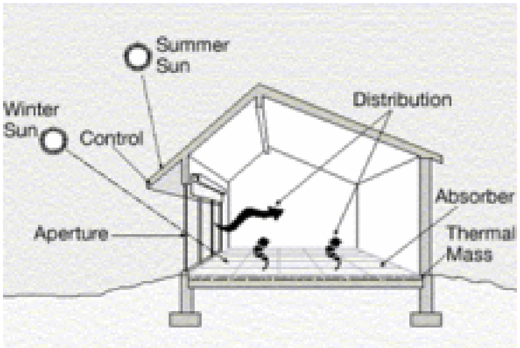

Fig 3.00: Elements of passive solar design, shown in a direct gain application

In passive solar building design, windows, walls, and floors are made to collect, store, and distribute solar energy in the form of heat in the winter and reject solar heat in the summer. This is called passive solar design or climatic design because, unlike active solar heating systems, it doesn't involve the use of mechanical and electrical devices.

The key to designing a passive solar building is to best take advantage of the local climate. Elements to be considered include window placement and glazing type, thermal insulation, thermal mass, and shading. Passive solar design techniques can be applied most easily to new buildings, but existing buildings can be retrofitted.

Transportation

In the United States, suburban infrastructure evolved during an age of relatively easy access to fossil fuels, which has led to transportation-dependent systems of living. Zoning reforms that allow greater urban density as well as designs for walking and bicycling can greatly reduce energy consumed for transportation. The use of telecommuting by major corporations is a significant opportunity to conserve energy, as many Americans now work in service jobs that enable them to work from home instead of commuting to work each day.

Consumer products

Fig 3.00: An assortment of energy-efficient semiconductor (LED) lamps for commercial and residential lighting use. LED lamps use at least 75% less energy, and last 25 times longer, than traditional incandescent light bulbs.

Consumers are often poorly informed of the savings of energy efficient products. A prominent example of this is the energy savings that can be made by replacing an incandescent light bulb with a more modern alternative. When purchasing light bulbs, many consumers opt for cheap incandescent bulbs, failing to take into account their higher energy costs and lower lifespans when compared to modern compact fluorescent and LED bulbs. Although these energy-efficient alternatives have a higher upfront cost, their long lifespan and low energy use can save consumers a considerable amount of money. The price of LEDs has also been steadily decreasing in the past five years, due to improvement of the semiconductor technology. Many LED bulbs on the market qualify for utility rebates that further reduce the price of purchase to the consumer. Estimates by the U.S. Department of Energy state that widespread adoption of LED lighting over the next 20 years could result in about $265 billion worth of savings in United States energy costs.

The research one must put into conserving energy is often too time consuming and costly for the average consumer, when there are cheaper products and technology available using today's fossil fuels. Some governments and NGOs are attempting to reduce this complexity with ecolabels that make differences in energy efficiency easy to research while shopping.

To provide the kind of information and support people need to invest money, time and effort in energy conservation, it is important to understand and link to people's topical concerns. For instance, some retailers argue that bright lighting stimulates purchasing. However, health studies have demonstrated that headache, stress, blood pressure, fatigue and worker error all generally increase with the common over-illumination present in many workplace and retail settings. It has been shown that natural daylighting increases productivity levels of workers, while reducing energy consumption.

In warm climates where air conditioning is used, any household device that gives off heat will result in a larger load on the cooling system. Items such as a stove, dish washer, clothes dryer, hot water and incandescent lighting all add heat to the home. Low power or insulated versions of these devices give off less heat for the air conditioning to remove. The air conditioning system can also improve in efficiency by using a heat sink that is cooler than the standard air heat exchanger such as geothermal or water.

In cold climates heating air and water is a major demand on household energy use. By investing in newer technologies in the home, significant energy reductions are possible. Heat pumps are a more efficient alternative to using electrical resistance heaters for warming air or water. A variety of efficient clothes dryers are available, and the classic clothes line requires no energy, only time. Natural gas condensing boilers and hot air furnaces increase efficiency over standard hot flue models. New construction implementing heat exchangers can capture heat from waste water or exhaust air in bathrooms, laundry and kitchens.

In both warm and cold climate extremes, airtight thermal insulated construction will largely determine the efficiency of a home. Insulation is added to minimize the flow of heat to or from the home, but can be labor-intensive to retrofit to an existing home.

Energy conservation by the countries

Asia

Despite the vital role energy efficiency is envisaged to play in cost-effectively cutting energy demand, only a small part of its economic potential is exploited in the Asia. Governments have implemented a range of subsidies such as cash grants, cheap credit, tax exemptions, and co-financing with public-sector funds to encourage a range of energy-efficiency initiatives across several sectors. Governments in the Asia-Pacific region have implemented a range of information provision and labeling programs for buildings, appliances, and the transportation and industrial sectors. Information programs can simply provide data, such as fuel-economy labels, or actively seek to encourage behavioral changes, such as Japan’s Cool Biz campaign that encourages setting air conditioners at 28-degrees Celsius and allowing employees to dress casually in the summer.

European Union

At the end of 2006, the European Union (EU) pledged to cut its annual consumption of primary energy by 20% by 2020. The 'European Union Energy Efficiency Action Plan' is long-awaited. Directive 2012/27/EU is on energy efficiency.

As part of the EU's SAVE Programme, aimed at promoting energy efficiency and encouraging energy-saving behaviour, the Boiler Efficiency Directive specifies minimum levels of efficiency for boilers fired with liquid or gaseous fuels.

India

Petroleum Conservation Research Association (PCRA) is an Indian government body created in 1977 and engaged in promoting energy efficiency and conservation in every walk of life. In the recent past PCRA has done mass media campaigns in television, radio & print media. An impact assessment survey by a third party revealed that due to these mega campaigns by PCRA, overall awareness level have gone up leading to saving of fossil fuels worth crores of rupees(Indian currency) besides reducing pollution.

Bureau of Energy Efficiency is an Indian governmental organization created in 2001 responsible for promoting energy efficiency and conservation.

3.12 WATER CONSERVATION

(From Wikipedia, the free encyclopedia)

Fig 3.00: United States postal stamp advocating water conservation.

Water conservation includes all the policies, strategies and activities made to sustainably manage the natural resource of fresh water, to protect the hydrosphere, and to meet the current and future human demand. Population, household size, and growth and affluence all affect how much water is used. Factors such as climate change have increased pressures on natural water resources especially in manufacturing and agricultural irrigation. Many US cities have already implemented policies aimed at water conservation, with much success.

The goals of water conservation efforts include:

- Ensuring availability of water for future generations where the withdrawal of freshwater from an ecosystem does not exceed its natural replacement rate.
- Energy conservation as water pumping, delivery and wastewater treatment facilities consume a significant amount of energy. In some regions of the world over 15% of total electricity consumption is devoted to water management.
- Habitat conservation where minimizing human water use helps to preserve freshwater habitats for local wildlife and migrating waterfowl, but also water quality.

Strategies

The key activities that benefit water conservation(save water) are as follows :

- Any beneficial reduction in water loss, use and waste of resources.
- Avoiding any damage to water quality.
- Improving water management practices that reduce the use or enhance the beneficial use of water.

One strategy in water conservation is rain water harvesting. Digging ponds, lakes, canals, expanding the water reservoir, and installing rain water catching ducts and filtration systems on homes are different methods of harvesting rain water. Harvested and filtered rain water could be used for toilets, home gardening, lawn irrigation, and small scale agriculture.

Another strategy in water conservation is protecting groundwater resources. When precipitation occurs, some infiltrates the soil and goes underground. Water in this saturation zone is called groundwater. Contamination of groundwater causes the groundwater water supply to not be able to be used as resource of fresh drinking water and the natural regeneration of contaminated groundwater can takes years to replenish. Some examples of potential sources of groundwater contamination include storage tanks, septic systems, uncontrolled hazardous waste, landfills, atmospheric contaminants, chemicals, and road salts. Contamination of groundwater decreases the replenishment of available freshwater so taking preventative measures by protecting groundwater resources form contamination is an important aspect of water conservation.

An additional strategy to water conservation is practicing sustainable methods of utilizing groundwater resources. Groundwater flows due to gravity and eventually discharges into streams. Excess pumping of groundwater leads to a decrease in groundwater levels and if continued it can exhaust the resource. Ground and surface waters are connected and overuse of groundwater can reduce and, in extreme examples, diminish the water supply of lakes, rivers, and streams. In coastal regions, over pumping groundwater can increase saltwater intrusion which results in the contamination of groundwater water supply. Sustainable use of groundwater is essential in water conservation.

A fundamental component to water conservation strategy is communication and education outreach of different water programs. Developing communication that educates science to land managers, policy makers, farmers, and the general public is another important strategy utilized in water conservation. Communication of the science of how water systems work is an important aspect when creating a management plan to conserve that system and is often used for ensuring the right management plan to be put into action.

Social solutions

Fig 3.00: Drip irrigation system in New Mexico

Water conservation programs involved in social solutions are typically initiated at the local level, by either municipal water utilities or regional governments. Common strategies include public outreach campaigns, tiered water rates (charging progressively higher prices as water use increases), or restrictions on outdoor water use such as lawn watering and car washing. Cities in dry climates often require or encourage the installation of xeriscaping or natural landscaping in new homes to reduce outdoor water usage. Most urban outdoor water use in California is residential, illustrating a reason for outreach to households as well as businesses.

One fundamental conservation goal is universal metering. The prevalence of residential water metering varies significantly worldwide. Recent studies have estimated that water supplies are metered in less than 30% of UK households, and about 61% of urban Canadian homes (as of 2001). Although individual water meters have often been considered impractical in homes with private wells or in multifamily buildings, the U.S. Environmental Protection Agency estimates that metering alone can reduce consumption by 20 to 40 percent. In addition to raising consumer awareness of their water use, metering is also an important way to identify and localize water leakage. Water metering would benefit society in the long run it is proven that water metering increases the efficiency of the entire water system, as well as help unnecessary expenses for individuals for years to come. One would be unable to waste water unless they are willing to pay the extra charges, this way the water department would be able to monitor water usage by public, domestic and manufacturing services.

Some researchers have suggested that water conservation efforts should be primarily directed at farmers, in light of the fact that crop irrigation accounts for 70% of the world's fresh water use. The agricultural sector of most countries is important both economically and politically, and water subsidies are common. Conservation advocates have urged removal of all subsidies to force farmers to grow more water-efficient crops and adopt less wasteful irrigation techniques.

New technology poses a few new options for consumers, features such and full flush and half flush when using a toilet are trying to make a difference in water consumption and waste. Also available are modern shower heads that help reduce wasting water: Old shower heads are said to use 5-10 gallons per minute, while new fixtures available are said to use 2.5 gallons per minute and offer equal water coverage.

Household applications

The Home Water Works website contains useful information on household water conservation. Contrary to popular view, experts suggest the most efficient way is replacing toilets and retrofitting washers.

Water-saving technology for the home includes:

- Low-flow shower heads sometimes called energy-efficient shower heads as they also use less energy
- Low-flush toilets and composting toilets. These have a dramatic impact in the developed world, as conventional Western toilets use large volumes of water

- Dual flush toilets created by Caroma includes two buttons or handles to flush different levels of water. Dual flush toilets use up to 67% less water than conventional toilets
- Faucet aerators, which break water flow into fine droplets to maintain "wetting effectiveness" while using less water. An additional benefit is that they reduce splashing while washing hands and dishes
- Raw water flushing where toilets use sea water or non-purified water
- Waste water reuse or recycling systems, allowing:
- Reuse of graywater for flushing toilets or watering gardens
- Recycling of wastewater through purification at a water treatment plant. *See also Wastewater - Reuse*
- Rainwater harvesting
- High-efficiency clothes washers
- Weather-based irrigation controllers
- Garden hose nozzles that shut off water when it is not being used, instead of letting a hose run.
- Low flow taps in wash basins
- Swimming pool covers that reduce evaporation and can warm pool water to reduce water, energy and chemical costs.
- Automatic faucet is a water conservation faucet that eliminates water waste at the faucet. It automates the use of faucets without the use of hands.

Commercial applications

Many water-saving devices (such as low-flush toilets) that are useful in homes can also be useful for business water saving. Other water-saving technology for businesses includes:

- Waterless urinals
- Waterless car washes
- Infrared or foot-operated taps, which can save water by using short bursts of water for rinsing in a kitchen or bathroom
- Pressurized waterbrooms, which can be used instead of a hose to clean sidewalks
- X-ray film processor re-circulation systems
- Cooling tower conductivity controllers
- Water-saving steam sterilizers, for use in hospitals and health care facilities
- Rain water harvesting
- Water to Water heat exchangers.

Agricultural applications

Fig 3.00: Overhead irrigation, center pivot design

For crop irrigation, optimal water efficiency means minimizing losses due to evaporation, runoff or subsurface drainage while maximizing production. An evaporation pan in combination with specific crop correction factors can be used to determine how much water is needed to satisfy plant requirements. Flood irrigation, the oldest and most common type, is often very uneven in distribution, as parts of a field may receive excess water in order to deliver sufficient quantities to other parts. Overhead irrigation, using center-pivot or lateral-moving sprinklers, has the potential for a much more equal and controlled distribution pattern. Drip irrigation is the most expensive and least-used type, but offers the ability to deliver water to plant roots with minimal losses. However, drip irrigation is increasingly affordable, especially for the home gardener and in light of rising water rates. Using drip irrigation methods can save up to 30,000 gallons of water per year when replacing irrigation systems that spray in all directions. There are also cheap effective methods similar to drip irrigation such as the use of soaking hoses that can even be submerged in the growing medium to eliminate evaporation.

As changing irrigation systems can be a costly undertaking, conservation efforts often concentrate on maximizing the efficiency of the existing system. This may include chiseling compacted soils, creating furrow dikes to prevent runoff, and using soil moisture and rainfall sensors to optimize irrigation schedules. Usually large gains in efficiency are possible through measurement and more effective management of the existing irrigation system. The 2011 UNEP Green Economy Report notes that "mproved soil organic matter from the use of green manures, mulching, and recycling of crop residues and animal manure increases the water holding capacity of soils and their ability to absorb water during torrential rains", which is a way to optimize the use of rainfall and irrigation during dry periods in the season.

Water Reuse

Water shortage has become an increasingly difficult problem to manage. More than 40% of the world's population live in a region where the demand for water exceeds its supply. The imbalance between supply and demand, along with persisting issues such as climate change and exponential population growth, has made water reuse a necessary method for conserving water. There are a variety of methods used in the treatment of waste water to ensure that it safe to use for irrigation of food crops and/or drinking water.

Seawater desalination requires more energy than the desalination of fresh water. Despite this, many seawater desalination plants have been built in response to water shortages around the world. This makes it necessary to evaluate the impacts of seawater desalination and to find ways to improve desalination technology. Current research involves the use of experiments to determine the most effective and least energy intensive methods of desalination.

Sand filtration is another method used to treat water. Recent studies show that sand filtration needs further improvements, but it is approaching optimization with its effectiveness at removing pathogens from water. Sand filtration is very effective at removing protozoa and bacteria, but struggles with removing viruses. Large-scale sand filtration facilities also require large surface areas to accommodate them.

The removal of pathogens from recycled water is of high priority because wastewater always contains pathogens capable of infecting humans. The levels of pathogenic viruses have to be reduced to a certain level in order for recycled water to not pose a threat to human populations. Further research is necessary to determine more accurate methods of assessing the level of pathogenic viruses in treated wastewater.

3.13 WASTE MANAGEMENT

(From Wikipedia, the free encyclopedia)

Fig 3.00 Waste management in Kathmandu, Nepal

Fig 3.00 Waste management in Stockholm, Sweden

Fig 3.00 Waste management in Paris

Waste management or **waste disposal** is all the activities and actions required to manage waste from its inception to its final disposal. This includes amongst other things collection, transport, treatment and disposal of waste together with monitoring and regulation. It also encompasses the legal and regulatory framework that relates to waste management encompassing guidance on recycling.

The term normally relates to all kinds of waste, whether generated during the extraction of raw materials, the processing of raw materials into intermediate and final products, the consumption of final products, or other human activities, including municipal (residential, institutional, commercial), agricultural, and social (health care, household hazardous waste, sewage sludge). Waste management is intended to reduce adverse effects of waste on health, the environment or aesthetics.

Waste management practices are not uniform among countries (developed and developing nations); regions (urban and rural area), and sectors (residential and industrial).

Central principles of waste management

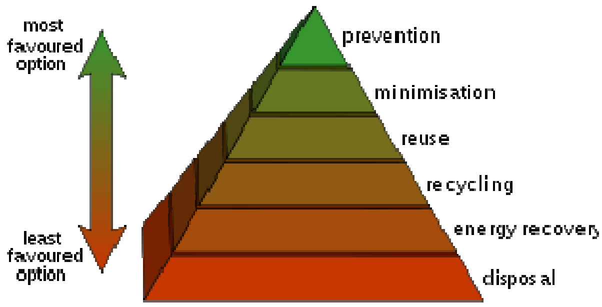

Fig 3.00 Diagram of the waste hierarchy

There are a number of concepts about waste management which vary in their usage between countries or regions. Some of the most general, widely used concepts include:

Waste hierarchy

The waste hierarchy refers to the "3 Rs" reduce, reuse and recycle, which classify waste management strategies according to their desirability in terms of waste minimisation. The waste hierarchy remains the cornerstone of most waste minimisation strategies. The aim of the waste hierarchy is to extract the maximum practical benefits from products and to generate the minimum amount of waste; see: resource recovery. The waste hierarchy is represented as a pyramid because the basic premise is for policy to take action first and prevent the generation of waste. The next step or preferred action is to reduce the generation of waste i.e. by re-use. The next is recycling which would include composting. Following this step is material recovery and waste-to-energy. Energy can be recovered from processes i.e. landfill and combustion, at this level of the hierarchy. The final action is disposal, in landfills or through incineration without energy recovery. This last step is the final resort for waste which has not been prevented, diverted or recovered. The waste hierarchy represents the progression of a product or material through the sequential stages of the pyramid of waste management. The hierarchy represents the latter parts of the life-cycle for each product.

Life-cycle of a product

The life-cycle begins with design, then proceeds through manufacture, distribution, use and then follows through the waste hierarchy's stages of reduce, reuse and recycle. Each of the above stages of the life-cycle offers opportunities for policy intervention, to rethink the need for the product, to redesign to minimize waste potential, to extend its use. The key behind the life-cycle of a product is to optimize the use of the world's limited resources by avoiding the unnecessary generation of waste.

Resource efficiency

Resource efficiency reflects the understanding that current, global, economic growth and development can not be sustained with the current production and consumption patterns. Globally, we are extracting more resources to produce goods than the planet can replenish. Resource efficiency is the reduction of the environmental impact from the production and consumption of these goods, from final raw material extraction to last use and disposal. This process of resource efficiency can address sustainability.

Polluter-pays principle

The polluter-pays principle is a principle where the polluting party pays for the impact caused to the environment. With respect to waste management, this generally refers to the requirement for a waste generator to pay for appropriate disposal of the unrecoverable material.

Modern era

Fig 3.00: Sir Edwin Chadwick's 1842 report The Sanitary Condition of the Labouring Population was influential in securing the passage of the first legislation aimed at waste clearance and disposal.

Following the onset of industrialisation and the sustained urban growth of large population centres in England, the buildup of waste in the cities caused a rapid deterioration in levels of sanitation and the general quality of urban life. The streets became choked with filth due to the lack of waste clearance regulations. Calls for the establishment of a municipal authority with waste removal powers occurred as early as 1751, when Corbyn Morris in London proposed that "... as the preservation of the health of the people is of great importance, it is proposed that the cleaning of this city, should be put under one uniform public management, and all the filth be...conveyed by the Thames to proper distance in the country".

However, it was not until the mid-19th century, spurred by increasingly devastating cholera outbreaks and the emergence of a public health debate that the first legislation on the issue emerged. Highly influential in this new focus was the report *The Sanitary Condition of the Labouring Population* in 1842 of the social reformer, Edwin Chadwick, in which he argued for the importance of adequate waste removal and management facilities to improve the health and wellbeing of the city's population.

In the UK, the Nuisance Removal and Disease Prevention Act of 1846 began what was to be a steadily evolving process of the provision of regulated waste management in London. The Metropolitan Board of Works was the first citywide authority that centralized sanitation regulation for the rapidly expanding city and the Public Health Act 1875 made it compulsory for every household to deposit their weekly waste in "moveable receptacles: for disposal—the first concept for a dust-bin.

Fig 3.00: Manlove, Alliott & Co. Ltd. 1894 destructor furnace. The use of incinerators for waste disposal became popular in the late 19th century.

The dramatic increase in waste for disposal led to the creation of the first incineration plants, or, as they were then called, "destructors". In 1874, the first incinerator was built in Nottingham by Manlove, Alliott & Co. Ltd. to the design of Albert Fryer. However, these were met with opposition on account of the large amounts of ash they produced and which wafted over the neighbouring areas.

Similar municipal systems of waste disposal sprung up at the turn of the 20th century in other large cities of Europe and North America. In 1895, New York City became the first U.S. city with public-sector garbage management.

Early garbage removal trucks were simply open bodied dump trucks pulled by a team of horses. They became motorized in the early part of the 20th century and the first close body trucks to eliminate odours with a dumping lever mechanism were introduced in the 1920s in Britain. These were soon equipped with 'hopper mechanisms' where the scooper was loaded at floor level and then hoisted mechanically to deposit the waste in the truck. The Garwood Load Packer was the first truck in 1938, to incorporate a hydraulic compactor.

Waste handling and transport

Fig 3.00: Molded plastic, wheeled waste bin in Berkshire, England

Waste collection methods vary widely among different countries and regions. Domestic waste collection services are often provided by local government authorities, or by private companies for industrial and commercial waste. Some areas, especially those in less developed countries, do not have formal waste-collection systems.

Waste handling practices

Curbside collection is the most common method of disposal in most European countries, Canada, New Zealand and many other parts of the developed world in which waste is collected at regular intervals by specialised trucks. This is often associated with curb-side waste segregation. In rural areas waste may need to be taken to a transfer station. Waste collected is then transported to an appropriate disposal facility. In some areas, vacuum collection is used in which waste is transported from the home or commercial premises by vacuum along small bore tubes. Systems are in use in Europe and North America.

Pyrolysis is used for disposal of some wastes including tires, a process that can produce recovered fuels, steel and heat. In some cases tires can provide the feedstock for cement manufacture. Such systems are used in USA, California, Australia, Greece, Mexico, the United Kingdom and in Israel. The RESEM pyrolysis plant that has been operational at Texas USA since December 2011, and processes up to 60 tons per day. In some jurisdictions unsegregated waste is collected at the curb-side or from waste transfer stations and then sorted into recyclables and unusable waste. Such systems are capable of sorting large volumes of solid waste, salvaging recyclables, and turning the rest into bio-gas and soil conditioner. In San Francisco, the local government established its *Mandatory Recycling and Composting Ordinance* in support of its goal of "Zero waste by 2020", requiring everyone in the city to keep recyclables and compostables out of the landfill. The three streams are collected with the curbside "Fantastic 3" bin system – blue for recyclables, green for compostables, and black for landfill-bound materials – provided to residents and businesses and serviced by San Francisco's sole refuse hauler, Recology. The City's "Pay-As-You-Throw" system charges customers by the volume of landfill-bound materials, which provides a financial incentive to separate recyclables and compostables from other discards. The City's Department of the Environment's Zero Waste Program has led the City to achieve 80% diversion, the highest diversion rate in North America. Other businesses such as Waste Industries use a variety of colors to distinguish between trash and recycling cans.

Financial models

In most developed countries, domestic waste disposal is funded from a national or local tax which may be related to income, or national house value. Commercial and industrial waste disposal is typically charged for as a commercial service, often as an integrated charge which includes disposal costs. This practice may encourage disposal contractors to opt for the cheapest disposal option such as landfill rather than the environmentally best solution such as re-use and recycling. In some areas such as Taipei, the city government charges its households and industries for the volume of rubbish they produce. Waste will only be collected by the city council if waste is disposed in government issued rubbish bags. This policy has successfully reduced the amount of waste the city produces and increased the recycling rate.

Disposal methods

Landfill

Fig 3.00: A landfill compaction vehicle in action.

Fig 3.00: Spittelau incineration plant in Vienna

Incineration

Incineration is a disposal method in which solid organic wastes are subjected to combustion so as to convert them into residue and gaseous products. This method is useful for disposal of residue of both solid waste management and solid residue from waste water management. This process reduces the volumes of solid waste to 20 to 30 percent of the original volume. Incineration and other high temperature waste treatment systems are sometimes described as "thermal treatment". Incinerators convert waste materials into heat, gas, steam, and ash.

Incineration is carried out both on a small scale by individuals and on a large scale by industry. It is used to dispose of solid, liquid and gaseous waste. It is recognized as a practical method of disposing of certain hazardous waste materials (such as biological medical waste). Incineration is a controversial method of waste disposal, due to issues such as emission of gaseous pollutants.

Incineration is common in countries such as Japan where land is more scarce, as these facilities generally do not require as much area as landfills. Waste-to-energy (WtE) or energy-from-waste (EfW) are broad terms for facilities that burn waste in a furnace or boiler to generate heat, steam or electricity. Combustion in an incinerator is not always perfect and there have been concerns about pollutants in gaseous emissions from incinerator stacks. Particular concern has focused on some very persistent organic compounds such as dioxins, furans, and PAHs, which may be created and which may have serious environmental consequences.

Recycling

Fig 3.00: Waste not the Waste. Sign in Tamil Nadu, India

Fig 3.00: Steel crushed and baled for recycling

Recycling is a resource recovery practice that refers to the collection and reuse of waste materials such as empty beverage containers. The materials from which the items are made can be reprocessed into new products. Material for recycling may be collected separately from general waste using dedicated bins and collection vehicles, a procedure called kerbside collection. In some communities, the owner of the waste is required to separate the materials into different bins (e.g. for paper, plastics, metals) prior to its collection. In other communities, all recyclable materials are placed in a single bin for collection, and the sorting is handled later at a central facility. The latter method is known as "single-stream recycling."

The most common consumer products recycled include aluminium such as beverages cans, copper such as wire, steel from food and aerosol cans, old steel furnishings or equipment, rubber tyres, polyethylene and PET bottles, glass bottles and jars, paperboard cartons, newspapers, magazines and light paper, and corrugated fiberboard boxes.

PVC, LDPE, PP, and PS (see resin identification code) are also recyclable. These items are usually composed of a single type of material, making them relatively easy to recycle into new products. The recycling of complex products (such as computers and electronic equipment) is more difficult, due to the additional dismantling and separation required.

The type of material accepted for recycling varies by city and country. Each city and country has different recycling programs in place that can handle the various types of recyclable materials. However, certain variation in acceptance is reflected in the resale value of the material once it is reprocessed.

Re-use: Biological reprocessing

Fig 3.00: An active compost heap.

Recoverable materials that are organic in nature, such as plant material, food scraps, and paper products, can be recovered through composting and digestion processes to decompose the organic matter. The resulting organic material is then recycled as mulch or compost for agricultural or landscaping purposes. In addition, waste gas from the process (such as methane) can be captured and used for generating electricity and heat (CHP/cogeneration) maximising efficiencies. The intention of biological processing in waste management is to control and accelerate the natural process of decomposition of organic matter. (See resource recovery).

Energy recovery

Energy recovery from waste is the conversion of non-recyclable waste materials into usable heat, electricity, or fuel through a variety of processes, including combustion, gasification, pyrolyzation, anaerobic digestion, and landfill gas recovery. This process is often called waste-to-energy. Energy recovery from waste is part of the non-hazardous waste management hierarchy. Using energy recovery to convert non-recyclable waste materials into electricity and heat, generates a renewable energy source and can reduce carbon emissions by offsetting the need for energy from fossil sources as well as reduce methane generation from landfills. Globally, waste-to-energy accounts for 16% of waste management.

The energy content of waste products can be harnessed directly by using them as a direct combustion fuel, or indirectly by processing them into another type of fuel. Thermal treatment ranges from using waste as a fuel source for cooking or heating and the use of the gas fuel (see above), to fuel for boilers to generate steam and electricity in a turbine. Pyrolysis and gasification are two related forms of thermal treatment where waste materials are heated to high temperatures with limited oxygen availability. The process usually occurs in a sealed vessel under high pressure. Pyrolysis of solid waste converts the material into solid, liquid and gas products. The liquid and gas can be burnt to produce energy or refined into other chemical products (chemical refinery). The solid residue (char) can be further refined into products such as activated carbon. Gasification and advanced Plasma arc gasification are used to convert organic materials directly into a synthetic gas (syngas) composed of carbon monoxide and hydrogen. The gas is then burnt to produce electricity and steam. An alternative to pyrolysis is high temperature and pressure supercritical water decomposition (hydrothermal monophasic oxidation).

Pyrolysis

Pyrolysis is a process of thermo-chemical decomposition of organic materials by heat in the absence of oxygen which produces various hydrocarbon gases. During pyrolysis, the molecules of object are subjected to very high temperatures leading to very high vibrations. Therefore, every molecule in the object is stretched and shaken to an extent that molecules starts breaking down. The rate of pyrolysis increases with temperature. In industrial applications, temperatures are above 430 °C (800 °F). Fast pyrolysis produces liquid fuel for feedstocks like wood. Slow pyrolysis produces gases and solid charcoal. Pyrolysis hold promise for conversion of waste biomass into useful liquid fuel. Pyrolysis of waste plastics can produce millions of litres of fuel. Solid products of this process contain metals, glass, sand and pyrolysis coke which cannot be converted to gas in the process.

Resource recovery

Resource recovery is the systematic diversion of waste, which was intended for disposal, for a specific next use. It is the processing of recyclables to extract or recover materials and resources, or convert to energy. These activities are performed at a resource recovery facility. Resource recovery is not only environmentally important, but it is also cost-effective. It decreases the amount of waste for disposal, saves space in landfills, and conserves natural resources.

Resource recovery (as opposed to waste management) uses LCA (life cycle analysis) attempts to offer alternatives to waste management. For mixed MSW (Municipal Solid Waste) a number of broad studies have indicated that administration, source separation and collection followed by reuse and recycling of the non-organic fraction and energy and compost/fertilizer production of the organic material via anaerobic digestion to be the favoured path.

As an example of how resource recycling can be beneficial, many of the items thrown away contain precious metals which can be recycled to create a profit, such as the components in circuit boards.

Other industries can also benefit from resource recycling with the wood chippings in pallets and other packaging materials being passed onto sectors such as the horticultural profession. In this instance, workers can use the recycled chips to create paths, walkways, or arena surfaces.

Sustainability

The management of waste is a key component in a business' ability of maintaining ISO14001 accreditation. Companies are encouraged to improve their environmental efficiencies each year by eliminating waste through resource recovery practices, which are sustainability-related activities. One way to do this is by shifting away from waste management to resource recovery practices like recycling materials such as glass, food scraps, paper and cardboard, plastic bottles and metal. An important market for recycled materials is the construction sector. Many inorganic waste streams can be used for the production of materials for construction. This includes the recycling of concrete and bricks, mostly used as artificial gravel. This topic was on the agenda of the International WASCON conference in Spain in June 2015 and on the international Conference on Green Urbanism, held in Italy 12–14 October 2016.

Avoidance and reduction methods

An important method of waste management is the prevention of waste material being created, also known as waste reduction. Methods of avoidance include reuse of second-hand products, repairing broken items instead of buying new, designing products to be refillable or reusable (such as cotton instead of plastic shopping bags), encouraging consumers to avoid using disposable products (such as disposable cutlery), removing any food/liquid remains from cans and packaging, and designing products that use less material to achieve the same purpose (for example, lightweighting of beverage cans).

International waste movement

While waste transport within a given country falls under national regulations, trans-boundary movement of waste is often subject to international treaties. A major concern to many countries in the world has been hazardous waste. The Basel Convention, ratified by 172 countries, deprecates movement of hazardous waste from developed to less developed countries. The provisions of the Basel convention have been integrated into the EU waste shipment regulation. Nuclear waste, although considered hazardous, does not fall under the jurisdiction of the Basel Convention.

Benefits

Waste is not something that should be discarded or disposed of with no regard for future use. It can be a valuable resource if addressed correctly, through policy and practice. With rational and consistent waste management practices there is an opportunity to reap a range of benefits. Those benefits include:

Economic – Improving economic efficiency through the means of resource use, treatment and disposal and creating markets for recycles can lead to efficient practices in the production and consumption of products and materials resulting in valuable materials being recovered for reuse and the potential for new jobs and new business opportunities.

Social – By reducing adverse impacts on health by proper waste management practices, the resulting consequences are more appealing settlements. Better social advantages can lead to new sources of employment and potentially lifting communities out of poverty especially in some of the developing poorer countries and cities.

Environmental – Reducing or eliminating adverse impacts on the environment through reducing, reusing and recycling, and minimizing resource extraction can provide improved air and water quality and help in the reduction of greenhouse gas emissions.

Inter-generational Equity – Following effective waste management practices can provide subsequent generations a more robust economy, a fairer and more inclusive society and a cleaner environment.

Challenges in developing countries

Waste management in cities with developing economies and economies in transition experience exhausted waste collection services and inadequately managed and uncontrolled dumpsites. The problems are worsening. Problems with governance complicate the situation. Waste management, in these countries and cities, is an ongoing challenge and many struggle due to weak institutions, chronic under-resourcing and rapid urbanization. All of these challenges, along with the lack of understanding of different factors that contribute to the hierarchy of waste management, affect the treatment of waste.

Technologies

Traditionally, the waste management industry has been a late adopter of new technologies such as RFID (Radio Frequency Identification) tags, GPS and integrated software packages which enable better quality data to be collected without the use of estimation or manual data entry.

3.14 END QUESTIONS

1. Why are indoor plants replacing flower arrangement in hotels?
2. What is the advantage of using natural plants rather than artificial plants?
3. Explain are the basic elements that an indoor plant need for its growth?
4. Why are re-potting and pruning necessary for indoor plants?
5. How do water and humidity affect the growth of indoor plants?
6. Why should plants be rotated in their place periodically?
7. Why should indoor plants (when taken outdoors) be placed in the shade before being put in the sunlight?
8. Why are clay pots preferred to plastic pots?
9. Why does under-watering causes marginal or tip burning of leaves?
10. Why do plants need to be fertilized with a proper balance?
11. Name 10 indoor plants that are placed in the hotels.
12. Explain the importance of environmental friendly practices in housekeeping
13. Elaborate on the various indoor plant
14. Explain the advantages of using indoor plant
15. Elaborate on ten Indian indoor plants and their importance in cleaning polluted air
16. Describe the energy conservation measures which may be undertaken by a hospitality sector

17. Elaborate the importance of water conservation
18. Explain various water conservation measures.

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UNIT 4: CONTACT SERVICES AND SUPERVISION IN ACCOMODATION

4.00 INTRODUCTION

This is an age of globalization and optimization of resources, business houses look for means of cutting prices to maximize the profit. There is a trend to outsource the activities which are not the core activities of the business. This reduces the liability of the non-essential employees and various overheads due to them. When you outsource an activity you may get better quality in comparison to that if you had undertaken it yourself. This is due to competition and due to the expertise the vendor may have in performing the specialized activity which may not be your core activity.

Hence Contract Services are important aspect of managing a hospitality business. In this unit you would study various aspects of the contact services. You will also study the supervisory aspects of management in this unit. This Unit is very important for the professional development as a hospitality expert.

4.01 UNIT OBJECTIVES

After completing this unit you will be able to

- Explain the concept of contract
- Elaborate on the concept of outsourcing
- Discuss which services are often given to contractual vendors
- Elaborate on the components of a contract
- Discuss the various methods of costing while deciding on contractual work
- Discuss the various concepts in supervision

4.02 CONTRACT SERVICES IN HOUSEKEEPING

We begin with an overview of the contract service in housekeeping. The presentation here is less formal and accurate. We will be discussing the details of contract and outsourcing in more rigorous manner in later parts of the unit.
Contract is an agreement enforceable by law made between two or more persons by which rights are acquired by one or more to act forbearances on the part of the others. (Indian Contract Act 1872).
A contract is a voluntary arrangement between two or more parties that is enforceable by law as a binding legal agreement. Contract is a branch of the law of obligations in jurisdictions of the civil law tradition. Contract law concerns the rights and duties that arise from agreements.

Outsourcing is "an agreement in which one company contracts-out a part of their existing internal activity to another company".

Essential elements of contract:

1.Offer and acceptance

2.Legal relation

3.Legality of object

4.Capability

5.Free consent

6.Certainty

7.Promise of performance

8.Writing and registration

Services usually given on contract:

Cleaning: This can be on consultancy basis or specialist work (e.g. deep cleaning). Contract cleaners provide both general and specialized services which can include general cleaning of public rooms, toilets, kitchens, provision of bedroom cleaning services, periodic cleaning of walls, ceiling, carpets, upholstery, windows, and different surfaces.

Linen hire: full linen hires service or specialized items e.g. uniforms, towels, banqueting items, etc.

Laundry and flower arrangement: completely or partly.

Personal services/products: shoe cleaning machine, dispensers for towels, soap, dust control, pest control, refuse collection, horticulture and landscaping.

Method of costing: The methods used to access the cost of the contract depends on its

- Type
- Size of the job being carried out
- Skills required
- Policy of company
- Budget

Management fee, consultancy basis: The customer provides his own labour, equipments, materials etc. and the contractor provides the management with the expertise and possible supervisory staff.

Fixed periodic cost: may be made either as a total cost or cost per unit of work. This is a very commonly used method and is available in two forms.

Uncontrolled input: The contractor agrees to provide a service of a given nature for a specific cost. There is no indication of the number of workers, hours worked or the type of equipment and materials used. Therefore it is essential that the specification is detailed indeed.

Controlled input: This type of contract also specifies the minimum number of workers, hours worked and other equipments.

Cost plus profit % basis: This has an advantage of providing a perfectly viable, flexible programme, as the customer is free to determine his own needs as things change (e.g. low occupancy due to weather conditions). This also provides incentives for the contractor to increase his basic cost in order to earn more profits.

Cost plus fixed fee basis: The contractor is reimbursed for all costs like that of equipment, material, labour etc. and is paid a fixed fee for the management of the programme. This provides a flexible programme along with elimination of any incentive to spend more money.

Unit Rate Agreements

Most contracts are agreed on unit rate basis. The details of the area to be covered and the job frequency is given by the Executive (HK). The service provider is asked to give the cost as per the area.

The cost is calculated on the basis of area measured by the contractor.

The cost is calculated in this way:

Man hours = areas x time x frequency

For Example, If a contracted firm has to clean five different areas. Taking two hours each, twice a week, then man hours will be calculated as:

Areas = 5, Time = 2 hours, Frequency = 2 times

then, **Man hours** = 5 x 2 x 2 hours

= **20 hours.**

To the cost of wages (for workers & supervisors), the firm adds costs of equipments, agents, and supplies, plus overheads and profits, and then quotes a price.

Guidelines for hiring contract services

- Prepare a detailed specification indicating exact number of working hours, areas, process, frequency, time factor etc.
- Put out tenders to at least three contractors and compare their rates, not necessarily choose the cheapest one because the work standard may be poor. Strike out a balance.
- Consider the length of contract. It should not be more than two years. Also, the condition of termination should be penned down clearly.
- Careful study should be made regarding payment methods.
- Try to select a local contractor.

- Check the type and amount of supervision.
- Check on all other arrangement after the contract is awarded like that of security passes, meal coupons, locker facility etc.
- Spot checking the work after the contract has been awarded.

Advantages of contract services

- A budget can be worked out accurately because the price is known for a given period and may be economical than direct labour and services.
- The contractor is responsible for recruiting, training, paying and dismissing.
- Contract services eliminate many of the problems between management and unions.
- The contract company may offer bigger pay than the direct labour and therefore attract more qualified and competent staff.
- Eliminates the need to buy specialized equipments and permit extra work without the need of increasing the staff.
- Specialized contractors may be able to cope more easily in case of an emergency.

Disadvantages of contract services

- Cost may be too high for the acceptor.
- Weakens management authority over the quality and loyalty of staff working in the premises.
- Control is loosened over operations.
- Poor supervision.
- There is a natural tendency of the contractor to use poor quality product which can cause damage to the building, furniture, etc.
- Security may be weakened because of labor turnover.
- There is often no solution if a contractor does not carry out his work properly except to terminate the contract.

4.03 CONTRACT

A contract is a voluntary arrangement between two or more parties that is enforceable by law as a binding legal agreement. Contract is a branch of the law of obligations in jurisdictions of the civil law tradition. Contract law concerns the rights and duties that arise from agreements.

A contract arises when the parties agree that there is an agreement. Formation of a contract generally requires an offer, acceptance, consideration, and a mutual intent to be bound. Each party to a contract must have capacity to enter the agreement. Minors, intoxicated persons, and those under a mental affliction may have insufficient capacity to enter a contract. Some types of contracts may require formalities, such as a memorialization in writing.

Formation

At common law, the elements of a contract are offer, acceptance, intention to create legal relations, and consideration.

Not all agreements are necessarily contractual, as the parties generally must be deemed to have an intention to be legally bound. A so-called gentlemen's agreement is one which is not intended to be legally enforceable, and which is "binding in honour only".

Offer and acceptance

In order for a contract to be formed, the parties must reach mutual assent (also called a meeting of the minds). This is typically reached through offer and an acceptance which does not vary the offer's terms, which is known as the "mirror image rule". An offer is a definite statement of the offeror's willingness to be bound should certain conditions be met. If a purported acceptance does vary the terms of an offer, it is not an acceptance but a counteroffer and, therefore, simultaneously a rejection of the original offer. The Uniform Commercial Code disposes of the mirror image rule in §2-207, although the UCC only governs transactions in goods in the USA. As a court cannot read minds, the intent of the parties is interpreted objectively from the perspective of a reasonable person, as determined in the early English case of Smith v Hughes [1871]. It is important to note that where an offer specifies a particular mode of acceptance, only an acceptance communicated via that method will be valid.

Contracts may be bilateral or unilateral. A bilateral contract is an agreement in which each of the parties to the contract makes a promise or set of promises to each other. For example, in a contract for the sale of a home, the buyer promises to pay the seller $200,000 in exchange for the seller's promise to deliver title to the property. These common contracts take place in the daily flow of commerce transactions, and in cases with sophisticated or expensive precedent requirements, which are requirements that must be met for the contract to be fulfilled.

Less common are unilateral contracts in which one party makes a promise, but the other side does not promise anything. In these cases, those accepting the offer are not required to communicate their acceptance to the offeror. In a reward contract, for example, a person who has lost a dog could promise a reward if the dog is found, through publication or orally. The payment could be additionally conditioned on the dog being returned alive. Those who learn of the reward are not required to search for the dog, but if someone finds the dog and delivers it, the promisor is required to pay. In the similar case of advertisements of deals or bargains, a general rule is that these are not contractual offers but merely an "invitation to treat" (or bargain), but the applicability of this rule is disputed and contains various exceptions. The High Court of Australia stated that the term unilateral contract is "unscientific and misleading".

In certain circumstances, an implied contract may be created. A contract is implied in fact if the circumstances imply that parties have reached an agreement even though they have not done so expressly. For example, John Smith, a former lawyer may implicitly enter a contract by visiting a doctor and being examined; if the patient refuses to pay after being examined, the patient has breached a contract implied in fact. A contract which is implied in law is also called a quasi-contract, because it is not in fact a contract; rather, it is a means for the courts to remedy situations in which one party would be unjustly enriched were he or she not required to compensate the other. Quantum meruit claims are an example.

Invitation to treat

Where something is advertised in a newspaper or on a poster, this will not normally constitute an offer but will instead be an invitation to treat, an indication that one or both parties are prepared to negotiate a deal.

An exception arises if the advertisement makes a unilateral promise, such as the offer of a reward, as in the famous case of Carlill v. Carbolic Smoke Ball Company, decided in nineteenth-century England. Carbolic, a medical firm, advertised a smoke ball marketed as a wonder drug that would, according to the instructions, protect users from catching the flu. If it did not work, buyers would receive £100 and the company said that they had deposited £1,000 in the bank to show their good faith. When sued, Carbolic argued the advert was not to be taken as a serious, legally binding offer; instead it was "a mere puff", or gimmick. But the court of appeal held that it would appear to a reasonable man that Carbolic had made a serious offer, and determined that the reward was a contractual promise.

Fig 4.02: The Carbolic Smoke Ball offer

Although an invitation to treat cannot be accepted, it should not be ignored, for it may nevertheless affect the offer. For instance, where an offer is made in response to an invitation to treat, the offer may incorporate the terms of the invitation to treat (unless the offer expressly incorporates different terms). If, as in the Boots case, the offer is made by an action without any negotiations (such as presenting goods to a cashier), the offer will be presumed to be on the terms of the invitation to treat.

Auctions are governed by the Sale of Goods Act 1979 (as amended), where 57(2) provides: “A sale by auction is complete when the auctioneer announces its completion by the fall of the hammer, or in other customary manner. Until the announcement is made any bidder may retract his bid”.

Intention to be legally bound

In commercial agreements it is presumed that parties intend to be legally bound unless the parties expressly state the opposite as in a heads of agreement document. For example, in Rose & Frank Co v JR Crompton & Bros Ltd an agreement between two business parties was not enforced because an 'honour clause' in the document stated "this is not a commercial or legal agreement, but is only a statement of the intention of the parties".

In contrast, domestic and social agreements such as those between children and parents are typically unenforceable on the basis of public policy. For example, in the English case Balfour v. Balfour a husband agreed to give his wife £30 a month while he was away from home, but the court refused to enforce the agreement when the husband stopped paying. In contrast, in Merritt v Merritt the court enforced an agreement between an estranged couple because the circumstances suggested their agreement was more than a domestic arrangement.

Consideration

Consideration is a concept devised by English common law, and is required for simple contracts, but not for special contracts (contracts by deed). The case of Currie v Misa declared consideration to be a “Right, Interest, Profit, Benefit, or Forbearance, Detriment, Loss, Responsibility”. Thus, consideration is a promise of something of value given by a promissor in exchange for something of value given by a promisee; and typically the thing of value is goods, money, or an act. Forbearance to act, such as an adult promising to refrain from smoking, is enforceable only if one is thereby surrendering a legal right.

In Dunlop v. Selfridge Lord Dunedin adopted Pollack's metaphor of purchase and sale to explain consideration. He called consideration 'the price for which the promise of the other is bought

In colonial times, the concept of consideration was exported to many common law countries, but it is unknown in Scotland and in civil law jurisdictions. Roman law-based systems neither require nor recognise consideration, and some commentators have suggested that consideration be abandoned, and estoppel be used to replace it as a basis for contracts. However, legislation, rather than judicial development, has been touted as the only way to remove this entrenched common law doctrine. Lord Justice Denning famously stated that "The doctrine of consideration is too firmly fixed to be overthrown by a side-wind." In the United States, the emphasis has shifted to the process of bargaining as exemplified by Hamer v. Sidway (1891).

Courts will typically not weigh the "adequacy" of consideration provided the consideration is determined to be "sufficient", with sufficiency defined as meeting the test of law, whereas "adequacy" is the subjective fairness or equivalence. For instance, agreeing to sell a car for a penny may constitute a binding contract (although if the transaction is an attempt to avoid tax, it will be treated by the tax authority as though a market price had been paid). Parties may do this for tax purposes, attempting to disguise gift transactions as contracts. This is known as the peppercorn rule, but in some jurisdictions, the penny may constitute legally insufficient nominal consideration. An exception to the rule of adequacy is money, whereby a debt must always be paid in full for "accord and satisfaction".

However, consideration must be given as part of entering the contract, not prior as in past consideration. For example, in the early English case of Eastwood v. Kenyon [1840], the guardian of a young girl took out a loan to educate her. After she was married, her husband promised to pay the debt but the loan was determined to be past consideration. The insufficiency of past consideration is related to the preexisting duty rule. In the early English case of Stilk v. Myrick [1809], a captain promised to divide the wages of two deserters among the remaining crew if they agreed to sail home short-handed; however, this promise was found unenforceable as the crew were already contracted to sail the ship. The preexisting duty rule also extends to general legal duties; for example, a promise to refrain from committing a tort or crime is not sufficient.

Capacity

Sometimes the capacity of either natural or artificial persons to either enforce contracts, or have contracts enforced against them is restricted. For instance, very small children may not be held to bargains they have made, on the assumption that they lack the maturity to understand what they are doing; errant employees or directors may be prevented from contracting for their company, because they have acted ultra vires (beyond their power). Another example might be people who are mentally incapacitated, either by disability or drunkenness.

Each contractual party must be a "competent person" having legal capacity. The parties may be natural persons ("individuals") or juristic persons ("corporations"). An agreement is formed when an "offer" is accepted. The parties must have an intention to be legally bound; and to be valid, the agreement must have both proper "form" and a lawful object. In England (and in jurisdictions using English contract principles), the parties must also exchange "consideration" to create a "mutuality of obligation," as in Simpkins v Pays.

In the United States, persons under 18 are typically minor and their contracts are considered voidable; however, if the minor voids the contract, benefits received by the minor must be returned. The minor can enforce breaches of contract by an adult while the adult's enforcement may be more limited under the bargain principle. Promissory estoppel or unjust enrichment may be available, but generally are not.

Formalities and writing requirements for some contracts

A contract is often evidenced in writing or by deed, the general rule is that a person who signs a contractual document will be bound by the terms in that document, this rule is referred to as the rule in L'Estrange v Graucob. This rule is approved by the High Court of Australia in Toll(FGCT) Pty Ltd v Alphapharm Pty Ltd. But a valid contract may (with some exceptions) be made orally or even by conduct. Remedies for breach of contract include damages (monetary compensation for loss) and, for serious breaches only, repudiation (i.e. cancellation). The equitable remedy of specific performance, enforceable through an injunction, may be available if damages are insufficient.

Typically, contracts are oral or written, but written contracts have typically been preferred in common law legal systems; in 1677 England passed the Statute of Frauds which influenced similar statute of frauds laws in the United States and other countries such as Australia. In general, the Uniform Commercial Code as adopted in the United States requires a written contract for tangible product sales in excess of $500, and real estate contracts are required to be written. If the contract is not required by law to be written, an oral contract is valid and therefore legally binding. The United Kingdom has since replaced the original Statute of Frauds, but written contracts are still required for various circumstances such as land (through the Law of Property Act 1925).

An oral contract may also be called a parol contract or a verbal contract, with "verbal" meaning "spoken" rather than "in words", an established usage in British English with regards to contracts and agreements, and common although somewhat deprecated as "loose" in American English.

If a contract is in a written form, and somebody signs it, then the signer is typically bound by its terms regardless of whether they have actually read it provided the document is contractual in nature. However, affirmative defenses such as duress or unconscionability may enable the signer to avoid the obligation. Further, reasonable notice of a contract's terms must be given to the other party prior to their entry into the contract.

An unwritten, unspoken contract, also known as "a contract implied by the acts of the parties", which can be either an implied-in-fact contract or implied-in-law contract, may also be legally binding. Implied-in-fact contracts are real contracts under which the parties receive the "benefit of the bargain". However, contracts implied in law are also known as quasi-contracts, and the remedy is quantum meruit, the fair market value of goods or services rendered.

Contract terms: construction and interpretation

A contractual term is "an[y] provision forming part of a contract". Each term gives rise to a contractual obligation, breach of which can give rise to litigation. Not all terms are stated expressly and some terms carry less legal weight as they are peripheral to the objectives of the contract.

Uncertainty, incompleteness and severance

If the terms of the contract are uncertain or incomplete, the parties cannot have reached an agreement in the eyes of the law. An agreement to agree does not constitute a contract, and an inability to agree on key issues, which may include such things as price or safety, may cause the entire contract to fail. However, a court will attempt to give effect to commercial contracts where possible, by construing a reasonable construction of the contract. In New South Wales, even if there is uncertainty or incompleteness in a contract, the contract may still be binding on the parties if there is a sufficiently certain and complete clause requiring the parties to undergo arbitration, negotiation or mediation.

Courts may also look to external standards, which are either mentioned explicitly in the contract or implied by common practice in a certain field. In addition, the court may also imply a term; if price is excluded, the court may imply a reasonable price, with the exception of land, and second-hand goods, which are unique.

If there are uncertain or incomplete clauses in the contract, and all options in resolving its true meaning have failed, it may be possible to sever and void just those affected clauses if the contract includes a severability clause. The test of whether a clause is severable is an objective test—whether a reasonable person would see the contract standing even without the clauses. Typically, non-severable contracts only require the substantial performance of a promise rather than the whole or complete performance of a promise to warrant payment. However, express clauses may be included in a non-severable contract to explicitly require the full performance of an obligation.

Classification of terms

Contractual terms are classified differently depending upon the context or jurisdiction. Terms establish conditions precedent. English (but not necessarily non-English) common law distinguishes between important conditions and warranties, with a breach of a condition by one party allowing the other to repudiate and be discharged while a warranty allows for remedies and damages but not complete discharge. Whether or not a term is a condition is determined in part by the parties' intent.

In a less technical sense, however, a condition is a generic term and a warranty is a promise. Not all language in the contract is determined to be a contractual term. Representations, which are often precontractual, are typically less strictly enforced than terms, and material misrepresentations historically was a cause of action for the tort of deceit. Warranties were enforced regardless of materiality; in modern United States law the distinction is less clear but warranties may be enforced more strictly. Statements of opinion may be viewed as "mere puff".

In specific circumstances these terms are used differently. For example, in English insurance law, violation of a "condition precedent" by an insured is a complete defense against the payment of claims.:160 In general insurance law, a warranty is a promise that must be complied with. In product transactions, warranties promise that the product will continue to function for a certain period of time.

In the United Kingdom the courts determine whether a term is a condition or warranty; for example, an actress' obligation to perform the opening night of a theatrical production is a condition, but a singer's obligation to rehearse may be a warranty. Statute may also declare a term or nature of term to be a condition or warranty; for example the Sale of Goods Act 1979 s15A provides that terms as to title, description, quality and sample are generally conditions. The United Kingdom has also contrived the concept of an "intermediate term" (also called innominate), first established in Hong Kong Fir Shipping Co Ltd v Kawasaki Kisen Kaisha Ltd [1962].

Representations versus warranties

Statements of fact in a contract or in obtaining the contract are considered to be either warranties or representations. Traditionally, warranties are factual promises which are enforced through a contract legal action, regardless of materiality, intent, or reliance. Representations are traditionally precontractual statements which allow for a tort-based action (such as the tort of deceit) if the misrepresentation is negligent or fraudulent; historically a tort was the only action available, but by 1778, breach of warranty became a separate legal contractual action. In U.S. law, the distinction between the two is somewhat unclear; warranties are viewed as primarily contract-based legal action while negligent or fraudulent misrepresentations are tort-based, but there is a confusing mix of case law in the United States. In modern English law, sellers often avoid using the term 'represents' in order to avoid claims under the Misrepresentation Act 1967, while in America 'warrants and represents' is relatively common. Some modern commentators suggest avoiding the words and substituting 'state' or 'agree', and some model forms do not use the words; however, others disagree.

Statements in a contract may not be upheld if the court finds that the statements are subjective or promotional puffery. English courts may weigh the emphasis or relative knowledge in determining whether a statement is enforceable as part of the contract. In the English case of Bannerman v. White the court upheld a rejection by a buyer of hops which had been treated with sulphur since the buyer explicitly expressed the importance of this requirement. The relative knowledge of the parties may also be a factor, as in English case of Bissett v. Wilkinson where the court did not find misrepresentation when a seller said that farmland being sold would carry 2000 sheep if worked by one team; the buyer was considered sufficiently knowledgeable to accept or reject the seller's opinion.

Standard terms and contracts of adhesion

Standard form contracts contain "boilerplate", which is a set of "one size fits all" contract provisions. However, the term may also narrowly refer to conditions at the end of the contract which specify the governing law provision, venue, assignment and delegation, waiver of jury trial, notice, and force majeure. Restrictive provisions in contracts where the consumer has little negotiating power ("contracts of adhesion") attract consumer protection scrutiny.

Implied terms

A term may either be express or implied. An express term is stated by the parties during negotiation or written in a contractual document. Implied terms are not stated but nevertheless form a provision of the contract.

Terms implied in fact

Terms may be implied due to the factual circumstances or conduct of the parties. In the Australian case of BP Refinery (Westernport) Pty Ltd v Shire of Hastings the UK Privy Council proposed a five-stage test to determine situations where the facts of a case may imply terms. The classic tests have been the "business efficacy test" and the "officious bystander test". Under the "business efficacy test" first proposed in The Moorcock [1889], the minimum terms necessary to give business efficacy to the contract will be implied. Under the officious bystander test (named in Southern Foundries (1926) Ltd v Shirlaw [1940] but actually originating in Reigate v. Union Manufacturing Co (Ramsbottom) Ltd [1918]), a term can only be implied in fact if an "officious bystander" listening to the contract negotiations suggested that the term be included the parties would promptly agree. The difference between these tests is questionable.

Terms implied in law

Statutes or judicial rulings may create implied contractual terms, particularly in standardized relationships such as employment or shipping contracts. The Uniform Commercial Code of the United States also imposes an implied covenant of good faith and fair dealing in performance and enforcement of contracts covered by the Code. In addition, Australia, Israel and India imply a similar good faith term through laws.

In England, some contracts (insurance and partnerships) require utmost good faith, while others may require good faith (employment contracts and agency). Most English contracts do not need any good faith, provided that the law is met. There is, however, an overarching concept of "legitimate expectation".

Most countries have statutes which deal directly with sale of goods, lease transactions, and trade practices. In the United States, prominent examples include, in the case of products, an implied warranty of merchantability and fitness for a particular purpose, and in the case of homes an implied warranty of habitability.

Terms implied by custom

A term may be implied on the basis of custom or usage in a particular market or context. In the Australian case of Con-Stan Industries of Australia Pty Ltd v Norwich Winterthur (Aust) Limited the requirements for a term to be implied by custom were set out. For a term to be implied by custom it needs to be "so well known and acquiesced in that everyone making a contract in that situation can reasonably be presumed to have imported that term into the contract".

Third parties

The common law doctrine of privity of contract provides that only those who are party to a contract may sue or be sued on it. The leading case of Tweddle v Atkinson [1861] immediately showed that the doctrine had the effect of defying the intent of the parties. In maritime law, the cases of Scruttons v Midland Silicones [1962] and N.Z. Shipping v Satterthwaite [1975] established how third parties could gain the protection of limitation clauses within a bill of lading. A number of common law exceptions allowed some circumvention, but the unpopular doctrine remained intact until it was amended by the Contracts (Rights of Third Parties) Act 1999 which provides:

> A person who is not a party to a contract (a “third party”) may in his own right enforce a contract if:
>
> (a) the contract expressly provides that he may, or
>
> (b) the contract purports to confer a benefit on him.

Performance

Performance varies according to the particular circumstances. While a contract is being performed, it is called an executory contract, and when it is completed it is an executed contract. In some cases there may be substantial performance but not complete performance, which allows the performing party to be partially compensated.

Defenses

Vitiating factors constituting defences to purported contract formation include:

- Mistake (such as non est factum)
- Incapacity, including mental incompetence and infancy/minority
- Duress

- Undue influence
- Unconscionability
- Misrepresentation or fraud
- Frustration of purpose

Such defenses operate to determine whether a purported contract is either (1) void or (2) voidable. Void contracts cannot be ratified by either party. Voidable contracts can be ratified.

Misrepresentation

Misrepresentation means a false statement of fact made by one party to another party and has the effect of inducing that party into the contract. For example, under certain circumstances, false statements or promises made by a seller of goods regarding the quality or nature of the product that the seller has may constitute misrepresentation. A finding of misrepresentation allows for a remedy of rescission and sometimes damages depending on the type of misrepresentation.

There are two types of misrepresentation: fraud in the factum and fraud in inducement. Fraud in the factum focuses on whether the party alleging misrepresentation knew they were creating a contract. If the party did not know that they were entering into a contract, there is no meeting of the minds, and the contract is void. Fraud in inducement focuses on misrepresentation attempting to get the party to enter into the contract. Misrepresentation of a material fact (if the party knew the truth, that party would not have entered into the contract) makes a contract voidable.

According to Gordon v Selico [1986] it is possible to misrepresent either by words or conduct. Generally, statements of opinion or intention are not statements of fact in the context of misrepresentation. If one party claims specialist knowledge on the topic discussed, then it is more likely for the courts to hold a statement of opinion by that party as a statement of fact.

It is a fallacy that an opinion cannot be a statement of fact. If a statement is the honest expression of an opinion honestly entertained, it cannot be said that it involves any fraudulent misrepresentations of fact.

Remedies for misrepresentation. Rescission is the principal remedy and damages are also available if a tort is established. In order to obtain relief, there must be a positive misrepresentation of law and also, the representee must have been misled by and relied on this misrepresentation:Public Trustee v Taylor.

Mistake

A mistake is an incorrect understanding by one or more parties to a contract and may be used as grounds to invalidate the agreement. Common law has identified three types of mistake in contract: common mistake, mutual mistake, and unilateral mistake.

Common mistake occurs when both parties hold the same mistaken belief of the facts. This is demonstrated in the case of Bell v. Lever Brothers Ltd., which established that common mistake can only void a contract if the mistake of the subject-matter was sufficiently fundamental to render its identity different from what was contracted, making the performance of the contract impossible (see also Svanosi v McNamara). In Great Peace Shipping Ltd v Tsavliris Salvage (International) Ltd, the court held that the common law will grant relief against common mistake, if the test in Bell v. Lever Bros Ltd is made out. If one party has knowledge and the other does not, and the party with the knowledge promises or guarantees the existence of the subject matter, that party will be in breach if the subject matter does not exist.

Mutual mistake occurs when both parties of a contract are mistaken as to the terms. Each believes they are contracting to something different. Courts usually try to uphold such mistakes if a reasonable interpretation of the terms can be found. However, a contract based on a mutual mistake in judgment does not cause the contract to be voidable by the party that is adversely affected. See Raffles v. Wichelhaus.

Unilateral mistake occurs when only one party to a contract is mistaken as to the terms or subject-matter. The courts will uphold such a contract unless it was determined that the non-mistaken party was aware of the mistake and tried to take advantage of the mistake. It is also possible for a contract to be void if there was a mistake in the identity of the contracting party. An example is in Lewis v. Avery where Lord Denning MR held that the contract can only be voided if the plaintiff can show that, at the time of agreement, the plaintiff believed the other party's identity was of vital importance. A mere mistaken belief as to the credibility of the other party is not sufficient.

Duress and undue influence

Duress has been defined as a "threat of harm made to compel a person to do something against his or her will or judgment; esp., a wrongful threat made by one person to compel a manifestation of seeming assent by another person to a transaction without real volition." An example is in Barton v Armstrong [1976] in a person was threatened with death if they did not sign the contract. An innocent party wishing to set aside a contract for duress to the person need only to prove that the threat was made and that it was a reason for entry into the contract; the burden of proof then shifts to the other party to prove that the threat had no effect in causing the party to enter into the contract. There can also be duress to goods and sometimes, 'economic duress'.

Undue influence is an equitable doctrine that involves one person taking advantage of a position of power over another person through a special relationship such as between parent and child or solicitor and client. As an equitable doctrine, the court has discretion. When no special relationship exists, the question is whether there was a relationship of such trust and confidence that it should give rise to such a presumption.

Unconscionable dealing

In Australian law, a contract can be set aside due to unconscionable dealing. Firstly, the claimant must show that they were under a special disability, the test for this being that they were unable to act in their best interest. Secondly, the claimant must show that the defendant took advantage of this special disability.

Illegal contracts

If based on an illegal purpose or contrary to public policy, a contract is void. In the 1996 Canadian case of Royal Bank of Canada v. Newell a woman forged her husband's signature, and her husband signed agreed to assume "all liability and responsibility" for the forged checks. However, the agreement was unenforceable as it was intended to "stifle a criminal prosecution", and the bank was forced to return the payments made by the husband.

In the U.S., one unusual type of unenforceable contract is a personal employment contract to work as a spy or secret agent. This is because the very secrecy of the contract is a condition of the contract (in order to maintain plausible deniability). If the spy subsequently sues the government on the contract over issues like salary or benefits, then the spy has breached the contract by revealing its existence. It is thus unenforceable on that ground, as well as the public policy of maintaining national security (since a disgruntled agent might try to reveal all the government's secrets during his/her lawsuit). Other types of unenforceable employment contracts include contracts agreeing to work for less than minimum wage and forfeiting the right to workman's compensation in cases where workman's compensation is due.

Remedies for defendant on defenses: setting aside a contract

There can be four different ways in which contracts can be set aside. A contract may be deemed 'void', 'voidable', 'unenforceable' or 'ineffective'. Voidness implies that a contract never came into existence. Voidability implies that one or both parties may declare a contract ineffective at their wish. Kill fees are paid by magazine publishers to authors when their articles are submitted on time but are subsequently not used for publication. When this occurs, the magazine cannot claim copyright for the "killed" assignment. Unenforceability implies that neither party may have recourse to a court for a remedy. Ineffectiveness implies that the contract terminates by order of a court where a public body has failed to satisfy public procurement law. To rescind is to set aside or unmake a contract.

Disputes

Choice of forum

Many contracts contain a clause setting out where disputes in relation to the contract should be litigated. Whether the "chosen court" will exercise jurisdiction, and whether courts not chosen will decline jurisdiction depends on the legislation of the state concerned, on whether the clause is in conformity with formal requirements (in many U.S. states a Choice of Court Agreement clause is only exclusive, when the word "exclusive" is explicitly mentioned) and the type of action. Some states will not accept action that have no connection to the court that was chosen, and others will not recognise a choice of court clause when they consider them themselves a more convenient forum. Multilateral instruments requiring non-chosen courts dismiss cases, and require recognition of judgements made by courts having jurisdiction based on a choice of court clause are the Brussels regime instruments (31 European states) and the Hague Choice of Court Agreements Convention (European Union and Mexico), as well as several instruments related to a specific area of law.

Choice of law

The law that is applicable to a contract is dependent on the conflict of laws legislation of the court where an action in relation to a contract is brought. In the absence of a choice of law clause, the law of the forum or the law with which the conflict has the strongest link is generally determined as the applicable law. A choice of law-clause is recognised in the U.S. (but generally only regarding state law, and not internationally) and through the Rome I Regulation in the European Union (also when the law of a non EU country is chosen).

Remedies for breach of contract

In the United Kingdom, breach of contract is defined in the Unfair Contract Terms Act 1977 as: [i] non-performance, [ii] poor performance, [iii] part-performance, or [iv] performance which is substantially different from what was reasonably expected. Innocent parties may repudiate (cancel) the contract only for a major breach (breach of condition), but they may always recover compensatory damages, provided that the breach has caused foreseeable loss.

It was not possible to sue the Crown in the UK for breach of contract before 1948. However, it was appreciated that contractors might be reluctant to deal on such a basis and claims were entertained under a petition of right that needed to be endorsed by the Home Secretary and Attorney-General. S.1 Crown Proceedings Act 1947 opened the Crown to ordinary contractual claims through the courts as for any other person.

Damages

There are several different types of damages.

Compensatory damages, which are given to the party which was detrimented by the breach of contract. With compensatory damages, there are two heads of loss, consequential damage and direct damage.

Liquidated damages are an estimate of loss agreed to in the contract, so that the court avoids calculating compensatory damages and the parties have greater certainty. Liquidated damages clauses may be called "penalty clauses" in ordinary language, but the law distinguishes between liquidated damages (legitimate) and penalties (invalid). A test for determining which category a clause falls into was established by the English House of Lords in Dunlop Pneumatic Tyre Co. Ltd v. New Garage & Motor Co. Ltd

Nominal damages consist of a small cash amount where the court concludes that the defendant is in breach but the plaintiff has suffered no quantifiable pecuniary loss, and may be sought to obtain a legal record of who was at fault.

Punitive or exemplary damages are used to punish the party at fault; but even though such damages are not intended primarily to compensate, nevertheless the claimant (and not the state) receives the award. Exemplary damages are not recognised nor permitted in some jurisdictions. In the UK, exemplary damages are not available for breach of contract, but are possible after fraud. Although vitiating factors (such as misrepresentation, mistake, undue influence and duress) relate to contracts, they are not contractual actions, and so, in a roundabout way, a claimant in contract may be able to get exemplary damages.

Compensatory damages compensate the plaintiff for actual losses suffered as accurately as possible. They may be "expectation damages", "reliance damages" or "restitutionary damages". Expectation damages are awarded to put the party in as good of a position as the party would have been in had the contract been performed as promised. Reliance damages are usually awarded where no reasonably reliable estimate of expectation loss can be arrived at or at the option of the plaintiff. Reliance losses cover expense suffered in reliance to the promise. Examples where reliance damages have been awarded because profits are too speculative include the Australian case of McRae v. Commonwealth Disposals Commission which concerned a contract for the rights to salvage a ship. In Anglia Television Ltd v. Reed the English Court of Appeal awarded the plaintiff expenditures incurred prior to the contract in preparation of performance.

After a breach has occurred, the innocent party has a duty to mitigate loss by taking any reasonable steps. Failure to mitigate means that damages may be reduced or even denied altogether. However, Professor Michael Furmston has argued that "it is wrong to express (the mitigation) rule by stating that the plaintiff is under a duty to mitigate his loss", citing Sotiros Shipping Inc v. Sameiet, The Solholt. If a party provides notice that the contract will not be completed, an anticipatory breach occurs.

Damages may be general or consequential. General damages are those damages which naturally flow from a breach of contract. Consequential damages are those damages which, although not naturally flowing from a breach, are naturally supposed by both parties at the time of contract formation. An example would be when someone rents a car to get to a business meeting, but when that person arrives to pick up the car, it is not there. General damages would be the cost of renting a different car. Consequential damages would be the lost business if that person was unable to get to the meeting, if both parties knew the reason the party was renting the car. However, there is still a duty to mitigate the losses. The fact that the car was not there does not give the party a right to not attempt to rent another car.

To recover damages, a claimant must show that the breach of contract caused foreseeable loss. Hadley v Baxendale established that the test of foreseeability is both objective or subjective. In other words, is it foreseeable to the objective bystander, or to the contracting parties, who may have special knowledge? On the facts of this case, where a miller lost production because a carrier delayed taking broken mill parts for repair, the court held that no damages were payable since the loss was foreseeable neither by the "reasonable man" nor by the carrier, both of whom would have expected the miller to have a spare part in store.

Specific performance

There may be circumstances in which it would be unjust to permit the defaulting party simply to buy out the injured party with damages. For example, where an art collector purchases a rare painting and the vendor refuses to deliver, the collector's damages would be equal to the sum paid.

The court may make an order of what is called "specific performance", requiring that the contract be performed. In some circumstances a court will order a party to perform his or her promise (an order of "specific performance") or issue an order, known as an "injunction", that a party refrain from doing something that would breach the contract. A specific performance is obtainable for the breach of a contract to sell land or real estate on such grounds that the property has a unique value. In the United States by way of the 13th Amendment to the United States Constitution, specific performance in personal service contracts is only legal "as punishment for a crime whereof the criminal shall be dully convicted."

Both an order for specific performance and an injunction are discretionary remedies, originating for the most part in equity. Neither is available as of right and in most jurisdictions and most circumstances a court will not normally order specific performance. A contract for the sale of real property is a notable exception. In most jurisdictions, the sale of real property is enforceable by specific performance. Even in this case the defenses to an action in equity (such as laches, the bona fide purchaser rule, or unclean hands) may act as a bar to specific performance.

Related to orders for specific performance, an injunction may be requested when the contract prohibits a certain action. Action for injunction would prohibit the person from performing the act specified in the contract.

Procedure

In many countries, in order to obtain damages for breach of contract or to obtain specific performance or other equitable relief, the aggrieved injured party may file a civil (non-criminal) lawsuit in court.

If the contract contains a valid arbitration clause, the aggrieved party must submit an arbitration claim in accordance with the procedures set forth in the clause. Many contracts provide that all disputes arising thereunder will be resolved by arbitration, rather than litigated in courts, partly because arbitration awards are recognized and enforceable internationally under the New York Convention, which has 156 parties. Arbitration judgments may generally be enforced in the same manner as ordinary court judgments. However, in New York Convention states, arbitral decisions are generally immune unless there is a showing that the arbitrator's decision was irrational or tainted by fraud. Not all disputes regarding contract claims can be resolved in arbitration however, especially regarding validity of registered IP rights, or if they implicate a public interest that goes beyond the narrow interests of the parties to the agreement like claims that a party violated a contract by engaging in illegal anti-competitive conduct or civil rights violations.

In the U.S., virtually all states (but notably not New York) have adopted the Uniform Arbitration Act to facilitate the enforcement of arbitrated judgments. Customer claims against securities brokers and dealers are almost always resolved by arbitration, in the United States because securities dealers are required, under the terms of their membership in self-regulatory organizations such as the Financial Industry Regulatory Authority (formerly the NASD) or NYSE to arbitrate disputes with their customers. The firms then began including arbitration agreements in their customer agreements, requiring their customers to arbitrate disputes.

In England and Wales, a contract may be enforced by use of a claim, or in urgent cases by applying for an interim injunction to prevent a breach. Likewise, in the United States, an aggrieved party may apply for injunctive relief to prevent a threatened breach of contract, where such breach would result in irreparable harm that could not be adequately remedied by money damages.

Commercial use

Contracts are widely used in commercial law, and form the legal foundation for transactions across the world. Common examples include contracts for the sale of services and goods (both wholesale and retail), construction contracts, contracts of carriage, software licenses, employment contracts, insurance policies, sale or lease of land, and various other uses.

Online contracts have become common. E-signature laws have made the electronic contract and signature as legally valid as a paper contract. In India, E-contracts are governed by the Indian Contract Act (1872), according to which certain conditions need to be fulfilled while formulating a valid contact. Certain sections in information Technology Act (2000) also provide for validity of online contract.

Although the European Union is fundamentally an economic community with a range of trade rules, there is no overarching "EU Law of Contract". In 1993, Harvey McGregor, a British barrister and academic, produced a "Contract Code" under the auspices of the English and Scottish Law Commissions, which was a proposal to both unify and codify the contract laws of England and Scotland. This document was offered as a possible "Contract Code for Europe", but tensions between English and German jurists meant that this proposal has so far come to naught.

4.04 OUTSOURCING

In business, ***outsourcing*** is "an agreement in which one company contracts-out a part of their existing internal activity to another company" . It involves the contracting out of a business process (e.g. payroll processing, claims processing) and operational, and/or non-core functions (e.g. manufacturing, facility management, call center support) to another party (see also business process outsourcing). The concept "outsourcing" came from the American Glossary 'outside resourcing' and it dates back to at least 1981. Outsourcing sometimes, though not always, involves transferring employees and assets from one firm to another. Outsourcing is also the practice of handing over control of public services to private enterprise.

Outsourcing includes both foreign and domestic contracting, and sometimes includes offshoring (relocating a business function to a distant country) or nearshoring (transferring a business process to a nearby country). Outsourcing is often confused with offshoring, however they can be distinguished: a company can outsource (work with a service provider) and not offshore to a distant country. For example, in 2003 Procter & Gamble outsourced their facilities' management support, but it did not involve offshoring. Financial savings from lower international labor rates can provide a major motivation for outsourcing or offshoring. There can be tremendous savings from lower international labor rates when offshoring.

In contrast, insourcing entails bringing processes handled by third-party firms in-house, and is sometimes accomplished via vertical integration. However, a business can provide a contract service to another organization without necessarily insourcing that business process.

Overview

Two organizations may enter into a contractual agreement involving an exchange of services, expertise, and payments. Outsourcing is said to help firms to perform well in their core competencies, fuel innovation, and mitigate a shortage of skill or expertise in the areas where they want to outsource.

In the early 21st century, businesses increasingly outsourced to suppliers outside their own country, sometimes referred to as offshoring or offshore outsourcing. Several related terms have emerged to refer to various aspects of the complex relationship between economic organizations or networks, such as nearshoring, crowdsourcing, multisourcing, strategic alliances/strategic partnerships, strategic outsourcing., and vested outsourcing.

Outsourcing can offer greater budget flexibility and control. Outsourcing allows organizations to pay for the services and business functions they need, when they need them. It also reduces the need to hire and train specialized staff, brings in fresh engineering expertise, and can reduce capital, operating expenses, and risk.

"Do what you do best and outsource the rest" has become an internationally recognized business tagline first "coined and developed" in the 1990s by the "legendary management consultant" Peter Drucker. The slogan was primarily used to advocate outsourcing as a viable business strategy. It has been said that Mr. Drucker began explaining the concept of "Outsourcing" as early as 1989 in his *Wall Street Journal* article entitled "Sell the Mailroom."

From Drucker's perspective, a company should only seek to subcontract in those areas in which it demonstrated no special ability. The business strategy outlined by his slogan recommended that companies should take advantage of a specialist provider's knowledge and economies of scale to improve performance and achieve the service needed.

In 2009 by way of recognition, Peter Drucker posthumously received a significant honor, when he was inducted into the Outsourcing Hall of Fame for his outstanding work in the field.

Reasons for outsourcing

Companies primarily outsource to reduce certain costs, which may include peripheral or "non-core" business expenses, high taxes, high energy costs, excessive government regulation or mandates, and production or labor costs. The incentive to outsource may be greater for U.S. companies due to unusually high corporate taxes and mandated benefits like social security, Medicare, and safety protection (OSHA regulations). At the same time, it appears U.S. companies do not outsource to reduce executive or managerial costs. For instance, executive pay in the United States in 2007 was more than 400 times more than average workers—a gap 20 times bigger than it was in 1965.

Digital outsourcing

Many think of outsourcing as it relates to manufacturing (e.g. the "made in China" label on the products you buy). However, outsourcing of white-collar work has grown rapidly since the early 21st century. The digital workforce of countries like India and China are only paid a fraction of what would be minimum wage in the US. On average, software engineers are getting paid between 250,000 and 1,500,000 rupees (US$4,000 to US$23,000) in India as opposed to $40,000-$100,000 in countries such as the US and Canada. Outsourcing has also expanded to include many different countries; Costa Rica has become a big source for outsourcing work as it offers the advantage of a highly educated labor force, a large bilingual population, stable democratic government, shares similar time zones with the United States, and it takes only a few hours to travel between Costa Rica and the US. Companies such as Intel, Procter & Gamble, HP, Gensler, Amazon and Bank of America have big operations in Costa Rica. In the recent years there has been an exponential growth in white collar work with service providers emerging in a wide range of activities, from banking and legal services to companies like Resourcesus US, a pioneer in outsourcing services for architecture firms in United States. Unlike outsourced manufacturing, outsourced white collar work, offers workers the flexibility to choose their working hours, and which companies to work for. With many individuals telecommuting from home, the companies that require this type of work do not need to allocate additional funds for setting up of office space, management salary, and employee benefits as these individuals are contracted workers.

Implications

For business

Management processes

Globalization and complex supply chains, along with greater physical distance between higher management and the production-floor employees often requires a change in management methodologies, as inspection and feedback may not be as direct and frequent as in internal processes. This often requires the assimilation of new communication methods such as voice over IP, instant messaging, and Issue tracking systems, new time management methods such as time tracking software, and new cost- and schedule-assessment tools such as cost estimation software.

Communications and customer service

In the area of call center outsourcing, organizations that are not experienced in working with outsourced call centers may suffer from lower end-user-experience as a result of outsourcing. This is exacerbated when outsourcing is combined with offshoring in regions where the first language and culture are different.

For example, foreign call center agents may speak with different linguistic features such as accents, word use and phraseology, which may impede comprehension. The visual cues that are missing in a telephone call may lead to misunderstandings and difficulties.

Governance

In 1979, Nobel laureate Oliver E. Williamson wrote that the governance structure is the "framework within which the integrity of a transaction is decided." Adding further that "because contracts are varied and complex, governance structures vary with the nature of the transaction." University of Tennessee researchers have been studying complex outsourcing relationships since 2003. Emerging thinking regarding strategic outsourcing is focusing on creating a contract structure in which the parties have a vested interest in managing what are often highly complex business arrangements in a more collaborative, aligned, flexible, and credible way. (Also see relational contract, governance, Vested outsourcing.)

Security

Before outsourcing, an organization is responsible for the actions of their entire staff, sometimes a substantial liability. When these same people are transferred to an outsource service provider, they may not even change desks. But their legal status changes. They are no longer directly employed by (and responsible to) the organization. This creates legal, security and compliance issues that are often addressed through the contract between the client and the suppliers. This is one of the most complex areas of outsourcing and sometimes involves a specialist third-party adviser.

Fraud is a specific security issue as well as criminal activity, whether it is by employees or the supplier staff. However, it can be disputed that fraud is more likely when outsourcing is involved. For example, in April 2005, a high-profile case involved the theft of $350,000 from four Citibank customers when call-center workers acquired the passwords to customer accounts and transferred the money to their own accounts opened under fictitious names. Citibank did not find out about the problem until the American customers noticed discrepancies with their accounts and notified the bank.

Insourcing

Outsourcing has gone through many iterations and reinventions. Some outsourcing contracts have been partially or fully reversed, citing an inability to execute strategy, lost transparency & control, onerous contractual models, a lack of competition, recurring costs, hidden costs, and so on. Companies shifting to insourcing often cite the desire to increase control, compliance and to gain competitive differentiation through vertical integration or the development of shared services, commonly called a center of excellence.

Further, the label *outsourcing* has been found to be used for too many different kinds of exchanges often in confusing ways. For example, global software development, which often involves people working in different countries, cannot simply be called outsourcing. The outsourcing-based market model fails to explain why these development projects are jointly developed, and not simply bought and sold in the marketplace. Recently, a study has identified an additional system of governance, termed algocracy, which appears to govern global software projects alongside bureaucratic and market-based mechanisms. The study distinguishes code-based governance system from bureaucracy and the market, and underscores the prominent features of each organizational form in terms of its ruling mechanism: bureaucracy (legal-rational), the market (price), and algocracy (programming or algorithm). So, global software development projects, though not insourced, are not outsourced either.

They are in-between, in a process that is sometimes termed "remote in-sourcing." Projects are developed together where a common software platform allows different teams around the world to work on the same project together.

Standpoint of labor

From the standpoint of labor, outsourcing may represent a new threat, contributing to worker insecurity, and is reflective of the general process of globalization and economic polarization.

On June 26, 2009, Jeff Immelt, the CEO of General Electric, called for the United States to increase its manufacturing base employment to 20% of the workforce, commenting that the U.S. has outsourced too much and can no longer rely on consumer spending to drive demand.

Standpoint of government

Western governments may attempt to compensate workers affected by outsourcing through various forms of legislation. In Europe, the Acquired Rights Directive attempts to address the issue. The Directive is implemented differently in different nations. In the United States, the Trade Adjustment Assistance Act is meant to provide compensation for workers directly affected by international trade agreements. Whether or not these policies provide the security and fair compensation they promise is debatable.

Policy-making strategy

A main feature of outsourcing influencing policy-making is the unpredictability it generates regarding the future of any particular sector or skill-group. The uncertainty of future conditions influences governance approaches to different aspects of long-term policies.

Competitiveness strategy

Economic growth requires change, therefore a governance disposed to helping social and economic structures adapt to the changing environment will facilitate growth and a stable transition to new economic structures until the economic structures become detrimental to the social, political and cultural structures.

In developing countries, policies that embrace the global phenomenon of outsourcing are a logical response to the ongoing movement towards "open markets" and "trade liberalization." Outsourcing, when interpreted as a trade phenomenon, complements trade liberalization strategies not only by promoting technological spillovers and capital inflows but also by offsetting the increasing levels of unemployment which result from opening up domestic markets. As prices adjust to those in the global market they no longer reflect domestic productivity, driving lower-productivity firms in the previously protected sectors out of business. Economic theorists argue that the resulting unemployment is only temporary as workers readjust and are eventually incorporated into the country's most productive sectors, namely those which enjoy a competitive edge over other players in the international market. Nonetheless, rapid liberalization of markets in developing countries has not maximized the productivity potential of the region. In the Global South, where technological development is drastically lower than in the North, the redeployment of human and capital resources into new export markets has not come at the cost of necessarily low-productivity sectors but rather underdeveloped ones. In other words, many of the previously protected sectors were not competitive yet on a global scale, not because they naturally lacked the comparative advantage, but because industry efficiency had not yet been reached. In such cases where liberalization stunts the growth of potential industries, unemployment is a reflection of many underemployed resources.

Outsourcing fills in the gap of receding protected national industries, improving employment and living standards. Among other economic externalities, outsourcing promotes capital inflows and infrastructure. In Mexico, wage convergence was faster in cities where outsourcing first took hold through maquiladoras, along the Mexico–United States border. Studies suggest that for every 10% increase in US wages, northern cities in Mexico which are most influenced by outsourcing would experience wage rises of 2.5%, about 0.69% higher than in inner cities.

Corruption and reduced tax revenues after the signing of NAFTA have limited the economic resources available to the Mexican government, thus explaining the difference in investment policies between Mexico and China. Conversely, one of the successes of Asian countries in the twentieth century has been their promotion of higher rates of saving and investment. Studies suggest that the increase in capital input fueled the ‘Asian miracle’ rather than improvements in productivity and industrial efficiency. Though the previous conclusion suggests production conditions in the region remained static, the situation in East Asia experienced rapid transformations. Not only were national educational rates raised drastically, but there was also an increase in patenting and research and development expenditures. Rising levels of education, urbanization and even of patenting illustrate the active role of the government in advancing education as well as encouraging research and development.

Education strategy

Jobs become outsourced not based on the skill-level group it represents, but rather based on a variety of other factors including transportation cost of ideas, wage and labour productivity edge. Because of the overall uncertainty regarding the future dynamics of outsourcing it is not possible to predict the nature of labour demand in different regions. To better prepare the domestic workforce to future industry demands, therefore, national education programs ought to focus on flexibility and diversity of skills rather than on any specific task-oriented skills. Emphasis should go on preparing students both to succeed in non-habitual tasks and to adapt to changes in labour demands in the market. A specific goal that ought to be adopted is teaching students how to learn rather than teach them particular skills. This strategy would help students adapt to changing skill requirements in the future thus reducing friction from structural unemployment.

Welfare state strategy

The uncertainty regarding the domestic productivity edge renders caution a key element of governance to ensure a sustainable regional developmenloyed re-enter the work force and smoothly transition into high-demand labour opportunities, potentially through re-training programs, the government should also address the socioeconomic struggle and other welfare concerns of displaced employees.

Negative welfare effects of outsourcing have gathered substantial public attention. The possibility of outsourcing has internationalized labour markets which used to be local, opening up jobs which were traditionally non-traded to international competition. The resulting combination of lower wages and unemployment for certain jobs has driven the perceived ‘losers’ to engage in heated political debate.

Labour unions in the European Union have succeeded in pushing through protectionist policies in favour or lower-skilled groups throughout the 1970s and 1980s, including the Common Agricultural Policy on farming. Interest groups opposing outsourcing have been more active to voice their disapproval because the negative outcomes of the phenomenon are more concentrated on specific groups of people, namely those losing jobs to external competition, whereas the benefits from it become dissipated among the population at large. Overall lower prices and greater quality and variety of goods in domestic markets are some of the benefits of exploiting a country's comparative advantage through outsourcing.

Unlike the alleged ‘losers’ from outsourcing, those affected positively by it lack the motivation to organize to voice their support. There has been a wave of protectionism concerned with deep changes in the social structure allegedly imposed on the global system through globalization and outsourcing. The activists see a readjustment of class systems and highlight an increased fracture in societies between the ‘haves’ and the ‘have-nots’ as different groups adjust to increasingly or decreasingly advantageous positions in the system of outsourcing. Opponents of outsourcing have also denounced it as a threat to local cultural integrity.

The argument on cultural disintegration points to the standardization of practices and norms as multinational corporations become involved with industries in regions culturally different from those in the country of origin. The alleged diffusion of culture has raised concern over the endurance of cultural norms and values, sociopolitical institutions and frameworks, or even cultural preferences and traditions in a context of increasing foreign presence.

Increased uncertainty regarding future socioeconomic security ought to be met with policies promoting equality and a fair redistribution of economic gains for a government to maintain its voters’ favour. Because of overall unpredictability, governments will likely need to reassure civilians that the burden of employment jobs resulting from outsourcing will be shared among taxpayers.

The fluctuations in employment levels are determined by the types of jobs which can be profitably outsourced or offshored. Domestic jobs become offshored or outsourced when lower productivity in other regions is compensated by lower wages, making outsourcing profitable even despite the added costs of transportation. The overall cost-effectiveness of the spatial unbundling of the industrial process thus depends on the cost of transporting specific services or ideas given the available technology. Because of this technological advancements such as the telecommunications revolution, air shipping or the Internet have deeply accelerated outsourcing and may continue to boost this process.

The future results of technological ingenuity and innovation are unknown, as are its potential impacts employment levels on any given task or job across regions. In the Global South, policies attracting multinational corporations can help increase employment levels and promote growth. Governments that pursue these policies facilitate welfare protection given the context of increased unemployment in industries which cannot compete with the international market due to trade liberalization policies.

Industrial policy

Outsourcing results from an internationalization of labor markets as more tasks become tradable. According to leading economist Greg Mankiw, the labour market functions under the same forces as the market of goods, with the underlying implication that the greater the number of tasks available to being moved, the better for efficiency under the gains from trade. With technological progress, more tasks can be offshored at different stages of the overall corporate process.

Globalization and socio-economic implications

Industrialization

Outsourcing has contributed to further levelling of global inequalities as it has led to general trends of industrialization in the Global South and deindustrialization in the Global North.

Even though outsourcing has promoted a movement of industrial sites from the Global North to Global South regions, it has not been the only reason for the concurrent deindustrialization and industrialization of the North and South respectively. Deindustrialization in more economically and technologically developed regions has also been affected by increased industrial productivity.

The rise in industrial efficiency which characterized development in developed countries has occurred as a result of labor-saving technological improvements. Although these improvements do not directly reduce employment levels but rather increase output per unit of work, they can indirectly diminish the amount of labor required for fixed levels of output. Likewise, a trending shift in demand towards non-tradable services such as those in the health-care or government sectors has further accelerated deindustrialization in the Global North. Since these tasks cannot be outsourced, the demand for them needs to be met domestically abiding by the local market price. Consequently, a shift in the labor force towards fulfilling these profitable services has mostly taken place at the expense of industry since the agricultural sector in the early industrializing Global North had already been maximizing its labour capacity.

Despite the variety of domestic and international factors affecting deindustrialization in the Global North, those concerning the external influence of the global market have been the most influential ones since 1994.

The recent industrialization process outsourcing has encouraged in the Global South has taken place at a much faster pace than it did during its beginnings in the North, given that the well-developed technology was already developed, and merely spread to further regions.

Growth and income

The almost simultaneous industrialization of the developing Global South and deindustrialization of the more developed Global North resulted in an international convergence of incomes.

Outsourcing has been characterized by rapid rates of growth and industrialization in the Global South. Conversely, the Global North has experienced a moderate slowdown in growth. Patterns of global industrialization and deindustrialization are explained by a combination of models in economic geography and economic growth. Models in economic geography illustrate that decreasing communication costs reduce the spatial clustering of industrial development. The lower cost to the spread of ideas improved coordination and communication within corporations across greater geographic distances. This process originated roughly after the international chaos of the World Wars, as a consequence of advancements in information technology during the 1960s. Further adaptations to technological progress, particularly the spread of the internet and liberalization of the telecommunications industry, permitted an acceleration of the movement of ideas and consequently of outsourcing since about the 1980s.

Urbanization

The pace of urbanization in the Global North decreased considerably relative to its high levels following the Industrial Revolution. Rates of urban growth have been higher in the Global South.

Trade

Outsourcing emerged with a new wave of globalization marked by high volumes of trade and capital flows. The increased movement of capital and goods contrasted starkly with the barriers and protectionism prevalent throughout the World Wars and the Great Depression during the Interwar Years.

Migration

The level of migration has remained relatively low, particularly compared to the mass migratory trends which characterized the Industrial Revolution roughly between 1850 and 1914., probably because labor markets are not free now. Countries now have discrimination labor laws, only allow people with citizenship cards live and work free in their territories, even getting a citizenship card is difficult for some one not born in their territory. Free labor markets, discrimination based with a person skills would help reduce outsourcing problems, letting people freely follow their jobs in other countries.

Domestic inequality

Outsourcing in the Global North led to a rising divergence in domestic employment levels in different tasks within a given industry, making tackling unemployment more difficult for governments as job losses ceased to be primarily sectoral.

Co-sourcing

Co-sourcing is a business practice where a service is performed by staff from inside an organization and also by an external service provider. It can be a service performed in concert with a client's existing internal audit department. The scope of work may focus on one or more aspects of the internal audit function. Co-sourcing can serve to minimize sourcing risks, increase transparency, clarity and lend toward better control over the processes outsourced.

Examples of co-sourcing services are supplementing the in-house internal audit staff with specialized skills such as information risk management or integrity services, providing routine assistance to in-house auditing for operations and control evaluations in peak period activity and conducting special projects such as fraud investigation or plant investment appraisals. Another example of co-sourcing is outsourcing part of software development or software maintenance activities to an external organization, while keeping part of the development in-house. Other internal business activities such as HR and administrative tasks can also be co-sourced by employee leasing companies.

Identity management co-sourcing

It is an approach to enterprise identity management in which the identity service interacts directly or through some technical footprint with an organization's Information Technology (IT) identity backend infrastructure (directories, databases, and other identity repositories). The organization and the external service provider typically have a shared responsibility for building, hosting and operating the identity service. The balance of this responsibility can vary depending on the service levels required, and span from an all on-premises deployment, where the identity service is built, hosted and operated within the organization's IT infrastructure and managed on-premises by the external service provider. This contrasts with an "all in-the-cloud" service scenario, where the identity service is built, hosted and operated by the service provider in an externally hosted, cloud computing infrastructure.

Counterwave outsourcing

Some firms have reversed the decision to outsource because the results were not entirely as expected. The circumstances which allow firms to unbundle the different tasks or stages of its manufacturing process into different locations have not been fully determined. Though the nature of the tasks plays a role determining their interconnectedness, other factors such as innovation in the manufacturing process or advances in transport and communication technology also affect the need for direct contact among employees. As the process which ties tasks together within firms remains unclear, there is a degree of uncertainty about which tasks need to remain geographically clustered together. In many cases firms took risks experimenting with outsourcing while lacking a firm understanding of the relationship among internal tasks and its spatial implications.

Despite saving money, companies have often faced unexpected drawbacks from outsourcing, such as miscommunication or lower quality of intermediate products, which end up delaying the overall production process. Another reason for a decrease in outsourcing is that many jobs that were subcontracted abroad have been replaced by technological advances.

According to a Deloitte Consulting survey carried out in 2005, a quarter of the companies which had outsourced tasks reversed their strategy. Many big companies like Lenovo considered turning around outsourcing strategies of outsourcing.

Public opinion in the US and other Western powers opposing outsourcing was particularly strengthened by the drastic increase in unemployment as a result of the 2007-2008 financial crisis. In the first decade from 2000 to 2010, the US experienced a net loss of 687,000 jobs due to outsourcing, primarily in the computers and electronics sector. Public disenchantment with outsourcing has not only stirred political responses, as seen in the 2012 US presidential campaigns, but it has also made companies more reluctant to outsource or offshore jobs.

A 2016 Deloitte survey suggested that companies are no longer reluctant to outsource. Deloitte's survey identified three trends:

Companies are broadening their approach to outsourcing as they begin to view it as more than a simple cost-cutting play

Organizations are "redefining the ways they enter into outsourcing relationships and manage the ensuing risks."

Organizations are changing the way they are managing their relationships with outsourcing providers to "maximize the value of those relationships."

4.05 SUPERVISION

(From Wikipedia, the free encyclopedia)

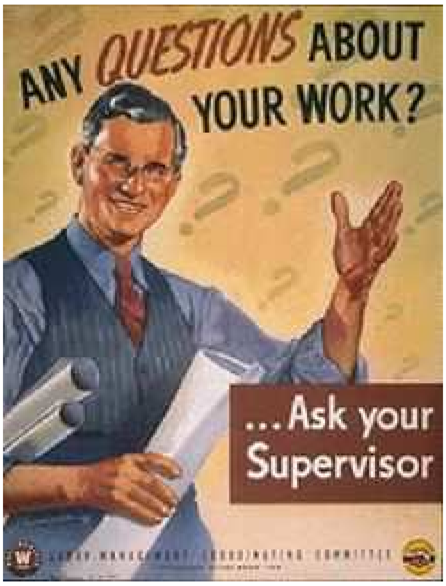

Fig 4.01: A 1940s poster from the United States

Supervisor, when the meaning sought is similar to **foreman**, **foreperson**, **boss**, **overseer**, **cell coach**, **manager**, **facilitator**, **monitor**, or **area coordinator**, is the job title of a low level management position that is primarily based on authority over a worker or charge of a workplace. A Supervisor can also be one of the most senior in the staff at the place of work, such as a Professor who oversees a PhD dissertation. Supervision, on the other hand, can be performed by people without this formal title, for example by parents. The term Supervisor itself can be used to refer to any personnel who have this task as part of their job description.

An employee is a supervisor if he has the power and authority to do the following actions (according to the Ontario Ministry of Labour):

1. Give instructions and/or orders to subordinates.
2. Be held responsible for the work and actions of other employees.

If an employee cannot do the above, legally, he or she is probably not a supervisor, but in some other category, such as a work group leader or lead hand.

A supervisor is first and foremost an overseer whose main responsibility is to ensure that a group of subordinates get out the assigned amount of production, when they are supposed to do it and within acceptable levels of quality, costs and safety.

A supervisor is responsible for the productivity and actions of a small group of employees. The supervisor has several manager-like roles, responsibilities, and powers. Two of the key differences between a supervisor and a manager are (1) the supervisor does not typically have "hire and fire" authority, and (2) the supervisor does not have budget authority.

Lacking "hire and fire" authority means that a supervisor may not recruit the employees working in the supervisor's group nor does the supervisor have the authority to terminate an employee. The supervisor may participate in the hiring process as part of interviewing and assessing candidates, but the actual hiring authority rests in the hands of a Human Resource Manager. The supervisor may recommend to management that a particular employee be terminated and the supervisor may be the one who documents the behaviors leading to the recommendation but the actual firing authority rests in the hands of a manager.

Lacking budget authority means that a supervisor is provided a budget developed by management within which constraints the supervisor is expected to provide a productive environment for the employees of the supervisor's work group. A supervisor will usually have the authority to make purchases within specified limits. A supervisor is also given the power to approve work hours and other payroll issues. Normally, budget affecting requests such as travel will require not only the supervisor's approval but the approval of one or more layers of management.

As a member of management, a supervisor's main job is more concerned with orchestrating and controlling work rather than performing it directly.

Responsibilities

Supervisors are uniquely positioned through direct daily employee contact to respond to employee needs, problems, and satisfaction. Supervisors are the direct link between management and the work force and can be most effective in developing job training, safety attitudes, safe working methods and identifying unsafe acts

Tasks

- Carry out policies passed down a hierarchy from the level above.
- Plan short-range action-steps to carry out goals set by the level above.
- Organized the work group.
- Assign jobs to subordinates.
- Delegate projects to subordinates.
- Direct tasks, jobs and projects.
- Train subordinates.
- Enforce rules.
- Lead and motivate subordinates.
- Develop group cohesiveness.
- Solve routine daily problems.
- Control or evaluate performance of subordinates and the department - performance appraisals.
- Discipline subordinates.

"Doing" can take up to 70% of the time - (this varies according to the type of supervisory job - the doing involves the actual work of the department as well as the planning, controlling, scheduling, organizing, leading, etc.).

Training

Supervisors often do not require any formal education on how they are to perform their duties but are most often given on-the-job training or attend company sponsored courses. Many employers have supervisor handbooks that need to be followed. Supervisors must be aware of their legal responsibilities to ensure that their employees work safely and that the workplace that they are responsible for meets government standards.

Academia

In academia, a supervisor is a senior scientist or scholar who, along with their own responsibilities, aids and guides a postgraduate research student, or undergraduate student, in their research project; offering both moral support and scientific insight and guidance. The term is used in several countries for the doctoral advisor of a graduate student.

First-line supervisors

I-O psychology research on first-line supervisors suggests that supervisors with the most productive work groups have the following qualities:

- Effective supervisors are person-centered. They rate higher in the consideration function than do unsuccessful supervisors.
- Effective supervisors are supportive. They are more helpful to employees and more willing to defend them against criticism from higher management than are less effective supervisors.
- Effective supervisors are democratic. They hold frequent meetings with employees to solicit their views and encourage participation. Less effective supervisors are more autocratic.

- Effective supervisors are flexible. They allow employees to accomplish their goals in their own way whenever possible, consistent with the goals of the organization. Less effective supervisors dictate how a job is to be performed and permit no deviation.
- Effective supervisors describe themselves as coaches rather than directors. They emphasize quality, provide clear directions, and give timely feedback to their workers.

4.06 END QUESTIONS

1. Explain the concept of contract.
2. Elaborate on the necessary elements of a contract.
3. Elaborate on the concept of outsourcing.
4. Discuss the advantages and disadvantages of outsourcing.
5. Discuss which services are often given to contractual vendors.
6. Explain the quality of a good supervisor.
7. Elaborate on the components of a contract
8. Discuss the various methods of costing while deciding on contractual work
9. Discuss the various concepts in supervision.
10. Elaborate on the various tasks to be performed by a supervisor.

4.07 REFERENCES AND FURTHER READING

1. http://paramjamwal.blogspot.in/2015/09/contract-services.html
2. https://en.wikipedia.org/wiki/Contract
3. https://en.wikipedia.org/wiki/Outsourcing
4. https://en.wikipedia.org/wiki/Supervision