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# SPECTRUM OF ENVIRONMENT MANAGEMENT IN HOSPITALITY & TOURISM INDUSTRY

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**Singh Suresh Prasad**

*Environment Management, Cambridge Institute of Technology  
Tatisilwai, Ranchi-835103*

## INTRODUCTION

All the biotic & abiotic resources, which are responsible for development of mankind, constitute environment. The air we breathe, the water we use and the land on which we live are parts of the environment. The outer zones of the earth have been divided into two

- I) Lithosphere, Hydrosphere & Atmosphere and
- II) Biosphere. They are all parts of environment.

The environmental Pollution is a global problem and the environment is deteriorating due to mixing of natural and man-made pollutants. The human greed, injustice, quick gains have ruined our sacrosanct planet. But with the aid of appropriate & benign technologies a vigorous effort can repair the damage.

### **The following points pose serious environmental concerns:**

- 1/3rd of the world cropland is losing topsoil
- 50% of the world rangeland is overgrazed and deteriorating into desert
- The world forests have shrunk by about half
- Over pumping of ground water is common in food producing regions
- Over the 3 decades global temperature has risen from 13.99°C to 14.43°C
- In the Arctic Ocean, sea ice is melting - there may be inundation and salt water intrusion
- Water scarcity is increasing as each year some 80 million additional people are staking their claims to water resources
- Falling water table is a serious problem

- The earth's forest area, estimated at 5 billion hectares at the beginning of the 20th century has now shrunk to 2.9 billion hectares
- Another major threat is the disappearance of species. Since life began in earth five great extinction have already occurred. Now we are in the early stage of sixth extinction.

It is imperative to maintain a balance between environmental conditions and the need of high standards of hygiene in the Hospitality Industry. In this industry the main issues involved are:

- General environmental commitment and management
- Solid Waste Management &
- Water Conservation and management etc.
- Energy Management

In recent years the ECOTEL certification is given to hotels that maintain a very high level of environmental responsibility. The certification is not based only on the increased cost saving benefits for themselves but for the hotels, which provide a benevolent helping hand to the community and a healthy and safe future for the world.

The certification is based on the following five criterion known as globes:

- Environmental commitment
- Solid Waste Management
- Water Conservation
- Energy management
- Employees' education

The hotel must achieve two of the five ECOTEL Globes to qualify as an ECOTEL hotel. Each of these Globes is unique because it covers one responsible aspect of the environmental and altogether in totality encompasses the environmental ethos of our earth. The ECOTEL Certification once granted last for two years during which period regular inspection are done and the certification granted for another term. Although the ECOTEL hotels and some of intercontinental and the resorts maintain environmental requirement, many of them still do not maintain the standard norms.

## **AIR POLLUTION IN HOSPITALITY INDUSTRY**

Due to industrialization and urbanization there has been an increasing concern in recent years towards air pollution. These concerns arise when concentration of pollutants are found to reach harmful levels. Air pollution causes many effects and results in chronic degradation of man and his resources in specific conditions. World Health Organization (W.H.O.) has identified six main widespread pollutants.

### **WHO identified six main Air Pollutants**

- Sulphur dioxide
- Particles
- Carbon monoxide
- Oxidants
- Nitrogen Oxides and
- Lead

Sulphur oxides from man's activities produce 60 million mt/yr into atmosphere annually. The total natural emission of sulphur which is produced biologically from decay of organic matter amounts to about 129 million mt/yr. Carbon monoxide originates from the incomplete combustion of carbonaceous materials. It is estimated that man's activities produce 250 million mt/yr. Nitrogen oxides are the normal constituent of the atmosphere. The estimated biological production of NO and N<sub>2</sub>O amounts to 1 billion mt/yr. The oxidants are the result of reaction induced by sunlight on automobile exhaust. The air borne particulate matter are due to smoke and soot, ocean spray, volcanoes, biological resources, matching spores, pollen, viruses or bacteria, forests, grass, dust and sand storms.

## **INDOOR AIR POLLUTION IN HOSPITALITY INDUSTRY**

It refers to physical, chemical and biological characteristics of air in the indoor environment of hotel industry. Indoor air pollution is a great concern in the developed country where energy efficiency Improvement sometimes make houses relatively air tight, reducing ventilation and raising pollutant level. Some sources such as building materials, furnishings and house hold products like air fresheners release pollutants more or less continuously. Other sources related to activities carried out in the hotels release pollutants intermittently. These include smoking, the use of unvented or malfunctioning of stores, furnaces or space heaters, the use of solvent

in cleaning activities, and use of cleaning products and pesticides in house keeping.

**The following indoor air pollutants have been recognized in the hotels:**

- Volatile organic compounds
- Tobacco smokes
- Pesticides
- Biological
- pollutants
- Formaldehyde and
- Radon etc.

**Action:**

- Use dehumidifiers to reduce moisture
- Seal leaks from Furnaces & Fridges
- Check heating equipment regularly
- Avoid use of chemical products
- Use energy wisely, change energy sources
- Do not smoke Indoors
- Put good ventilation Systems in place.

**Pollutants:**

- Molds & Bacteria VOCs,
- lead Asbestos, Cadmium, mercury,
- Particulate Matter, Formaldehyde & Ozone, CO, NO<sub>2</sub>, SO<sub>2</sub> & Fiberglass insulation

**Sources:**

**Home:**

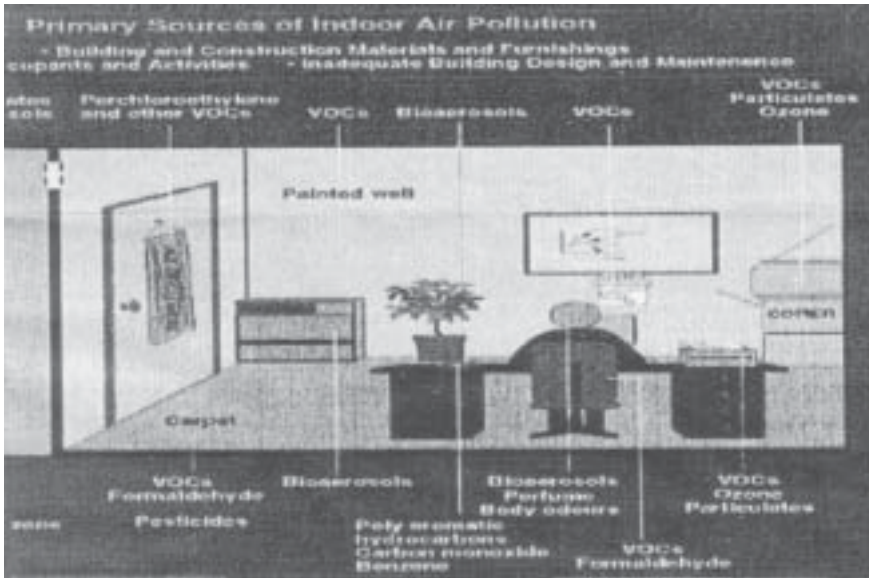
- Moisture from showers, cooking, air conditioners, damp wall & damp floors
- Fumes from poorly ventilated furnaces, ovens, Gas stoves, wood stoves, oil tanks & fridges.
- Exposure to pesticides, household cleaner, personal products, stoves & tobacco smoke.
- Breathing dust and mites from pets, furniture, carpeting, & insulation

**Office:**

- Fumes from carpeting, copy machines & Furniture

**Health Effects:**

- Asthma, allergic reactions,
- Chest pains,
- Rashes, Migraines, Drowsiness, Sore eyes
- Fatigue, Sneezing, Cancers



**THE PROBLEMS OF REFRIGERATION**

The Hospitality Industry would be lost without the wide availability of refrigeration that is in extensive use in all businesses. The industry is heavily dependent upon the sophisticated air-conditioning units, chilled counters, display units, deep freezers, mini bars ice making machines which provide the quality of product and service and safety that customers require. A number of refrigerant namely CFCs (chlorofluro carbons), HCFCs (hydro chlorofluro carbons) halons and bromines destroy the ozone layer and they are known as ODS (Ozone Depleting Substances). The CFCs are chemicals used in refrigeration and air-conditioning system and consumer products, Spray Cans, discarded or leaking refrigeration and air-conditioning equipment and burning plastic foam products release the CFCs into the

atmosphere. The CFCs also known as Freons and Greenhouse gases that contribute to global warming.

The new generation of environment friendly freezers are based on different refrigeration system and they have completely phased out CFCs and HCFCs. New generation freezers has been chosen to run on the hydro carbons, butane, propane or isobutene, pantane and butane can replace CFC as a hydro carbon refrigerant and pantane and isobutene can be used as foam insulation material as well. If any hotel has CFC refrigerant, then it is inevitable that the value of the hotel business will decrease in future.

## **WASTE MANAGEMENT**

Any type of waste material which is generated in the hotels and discarded from different places which are no longer in need or do not have any further use fall in the category of waste and we tend to throw them away. It can be divided into two groups:

- (a) Bio-degradable &
- (b) Non-bio-degradable

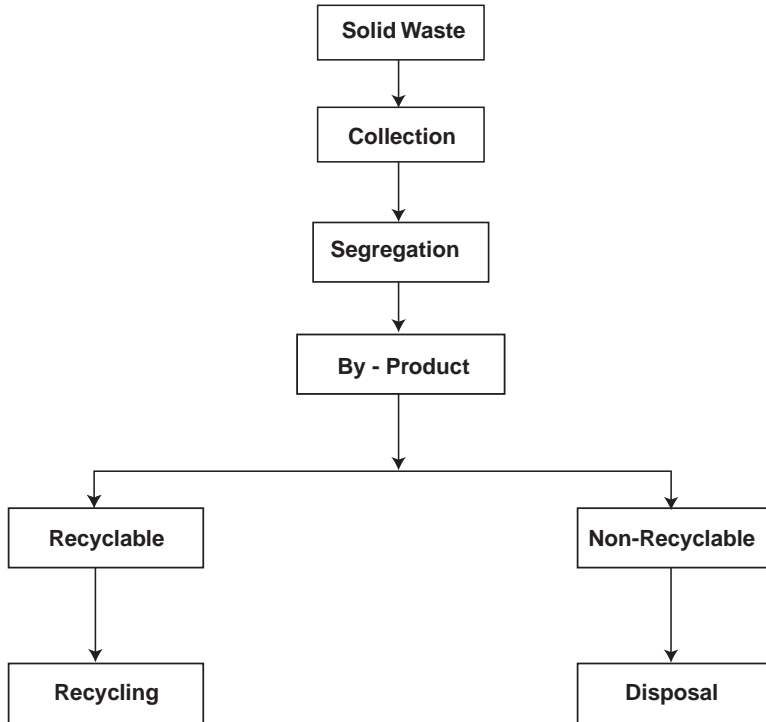
The bio-degradable wastes include the materials which can be re-used after recycling is done. The Non-biodegradable wastes include the waste, which can not be decomposed easily. In the Hospitality Industry the main waste material are mineral water bottles, plastic plates, glasses and spoons and various kinds of packaging and disposable products like pizza boxes, burger boxes, spoons, tea spoons, foil containers, paper plates, disposable glasses, dish and plastic aprons etc. When the waste is managed unscientifically, it becomes harmful for the surrounding environment. The disposal of the waste generated is creating hazards for the health especially during the rainy season when weather is not rich in humidity, it creates harmful condition for the health of the people.

### **Usually two methods have been adopted for disposal of the waste**

- Land filling
- Burning at remote places

There are presently four steps for waste disposal i.e. collection, segregation, transportation and disposal.

## SOLID WASTE MANAGEMENT OUTLINE



The idea that there is an endless supply of improved quality of consumer products has resulted in excessive waste materials in the hospitality industry. Purchasers have encouraged the purchase of their products by the use of heavy amount of wrapping to make the product more attractive or hygienic. Sustainability means that the society must readdress these values and adopt policies, which will encourage people to reduce the amount of waste that is generated and to conserve those resources that are used for the production of goods and services as well as to consider the re-use or recycle of the waste products. In the future there will be steady trends towards encouraging the disposal of waste by the four Rs methods - reduce, reuse, recycle and recover.

The hierarchy of waste management options:

- Reduce packaging; introduce technology which creates products with a longer life cycle and which are potentially less polluting
- Reuse returnable bottles and transit packaging (trays etc.)

- Recycle waste materials to create a product which is usable; or Compost organic materials for use as soil conditioners and nutrients; or practice energy
- Recovery, either by burning waste or harnessing landfills gases. Disposal: as last resort in a sale and compact conditions.

## **WATER CONSERVATION**

Water is a precious natural resource, a basic human need and very important national asset. The extent to which water is plentiful or scarce, clean or dirty, beneficial or destructive influence the quality of human life. Fresh water is natural resource on which food scarcity and sustainability of eco-system depend. Rapid urbanization, large-scale industrialization and population growth have resulted in water pollution, deterioration in quality, contamination of surface as well as ground water affecting the net availability of water for consumptive use. There is steady decline in per capita use of water since independence. Water scarcity is increasing as each year some 80 million additional people are stacking their claims to the earth water resources. Water shortage is prevalent in eighty countries and about 40% of the world population are suffering from water shortage.

All the water used in the hospitality industry, only 5% are used for eating and drinking purposes. The phased amount of it is used only for cleaning or preparation of food. Cleaning process, which include bathing and showering, laundry, dish washing etc. Water is essential for cleaning but the question arises is excessive quantity of water being used by hospitality industry and if so is it possible to reduce this use without compromising health and safety.

The conservation of water by ensuring optimum, rational and judicious use is required. Further, avoiding wastage in toilets, bath and showers, washing machine, dishwashers is urgently required. For conservation and management of water in the hospitality industry the following measures are recommended:

- Recycling of gray water
- Waste disposal system is efficiently managed
- Water use should be monitored and controlled
- Leaks should be quickly mended
- No hazardous chemicals should be discharged into drains or on the surface

## **ENERGY MANAGEMENT**

Due to cost of production and other constraints in the use of renewable energy like the solar energy, geo-thermal energy, hydro-power, wind and nuclear energy, the future of all country will continue to produce the majority of their electricity from non-renewable sources. This will mean continued pressure to reduce energy consumption by a combination of the development of use of more energy efficient appliances and in hospitality industry. The saving of energy is the easiest contribution that any business can make towards considering the environment.

### **Tourism Development Management**

Tourism serves as effective tools for visitors, creates awareness & instills in them a degree of concern which could eventually translate into active support for the conservation of the area. It could benefit local people by stimulating development & improvement in support, infrastructure of services i.e. local transport, communications, water & energy. But at the same time it causes degradation of habitat by polluting waterways, a accumulation of garbage, overharvesting of flora & fauna.

### **Issue Involved in Tourism Development**

The main issues involved in Tourism development are:

- Air, water & noise pollution
- Solid waste disposal
- Rehabilitation of local people
- Preservation of biological diversity
- Preservation of heritages
- Infrastructure Management
- Authenticity of the accommodation & hospitality.

### **Environment Management Approaches**

- Preventive Approach
  - a. Study of Situation
  - b. Preplan for environment protection
  - c. All process eco-friendly.
  - d. Prepare mindset of the people.
  - e. Monitor at each stage.

- Curative Approach- repair damage to environment.
- Command & Control Approach- Policeman's Approach. Catch law breakers & punish.
- Productivity Approach- waste converted to resource.
- Value base ethical approach- Nature is raised to the level of god & invoked to remain in peace & harmony with the biotic & abiotic resources.

## **FOR A BETTER BEGINNING**

Due to industrialization, urbanization, population growth and global warming, the issue of threats to environment will go a long way. Therefore, it is imperative to incorporate the concept of environmental Stewardship into every day business of hospitality industry.