

WATER SAVING APPROACH OF HOTELS AS A PART OF GREEN PRACTICES**RAJIV KUMAR DWIVEDI***

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ABSTRACT The paper intends to explore the growing need of green practices for Hotel industry. With the growing scarcity of water across the globe it becomes very important for Indian Hotel industry to seriously understand the future challenges of water supply & demand and adopt a practical approach towards efficient water management. It has become inevitable for hotel industry to go for water saving practices as it not only adds to the eco friendly approach of the hotel but also makes the operations of the hotel more cost efficient. The water saving can be done efficiently by training the hotel staff, using better technology products, proper maintenance of the equipments and waste water management. The above measures if successfully implemented can significantly reduce the consumption of water and subsequently the waste water and consumption of electricity and can make the Hotels more eco friendly and also can reduce the operational cost of Hotels

KEYWORDS: Green Practices, Hotel Industry, Eco friendly, Efficient Water Management

INTRODUCTION

Hotel Industry is a big & growing industry and contributes to around 12-14% to the National GDP. With the growing scarcity of water across the globe it becomes very important for Indian Hotel industry to seriously understand the future challenges of water supply & demand and adopt a practical approach towards efficient water management. When we talk about efficient water management it can be done in these ways.

- Saving water by training the staff
- Using better technology products
- Proper maintenance of the equipments
- Waste water management

Saving water by training the hotel staff

In hotel industry lot of water can be saved by training the hotel staff. The hotel staff can spot the running taps, over flow & leakage and can help reduce the consumption or wastage of the water. We must understand

one point clearly that when it comes to water these may be small efforts but no effort is insignificant.

Using better technology products

Efficient water management technology can be adopted in reducing the consumption or wastage of water. This in fact is a very strategic & proactive approach in reducing water consumption. Today there are multiple innovative technology enabled products available in the market that can help the hotel in efficient water management & also this management can give financial dividends in term of savings. Few of the products are discussed below.

a. Toilet system to reduce water consumption

Lot of research has been done on reducing the water consumption at toilet level. In the mid 20th Century the cistern capacity of toilets used to be around 20 Ltr. Which has

reduced to around 5 – 6 Ltr. Today. Flush toilets before 1993 had 9 Ltr. cistern capacity and between 1993 to around 2000 the cistern capacity came down to be around 7 – 9 Ltr.

b. Dual flush Toilets

One innovation in the reduction of water consumption at toilet level is dual flush toilet. In this the user has the option of using a short flush (ranging between 1.5 – 3 Ltr,) for urination & a long flush (5-6 Ltr.) for solid stools. There is an average of 4.66 flushes/person & a long flush may be required only one out of 4-5 usage. With this statistics dual flush toilets have the potential of reducing around 20% of water consumption (of course it may slightly depend on season, weather, temperature and the correct usage by the user & children).

c. High efficiency pressure toilets

Pressure toilets use water line pressure in which water is stored in a tank that compresses an air pocket and release water with pressure. This creates shorter flush with higher pressure. This system use 4 to 4.8 Ltr. of water and ensure around 13% reduction in water usage as compared to a conventional 9 Ltr. flush. Although the water saving in this is less than that of dual flush toilet but this is guaranteed & is independent of the user (whether a child or default usage).

d. Separate Urine Collector

In this system urine is collected in a separate portion of the toilet bowl and very less water (0.4 – 0.6 Ltr.) is used to clean it. This system has a potential of saving approximately 23% of water consumption. The diverted collected urine may be used as after some period. Although this system is being used in select scandavian countries.

e. Vacuum Toilets

Vacuum toilets is also one option to reduce the consumption of water. Although it is slightly expensive. A vacuum toilet uses 0.6 – 1 Ltr. water /flush and has a potential of reducing water consumption up to 25%. Apart from vacuum toilet, air assisted flush

(popelair) have been developed in United Kingdom that may hit the markets soon.

f. Waterless Urinals

The innovation used in waterless urinals is sealant liquid traps and valve seals. Sealant liquid trap is a blocking liquid made of vegetable oils and is biodegradable in nature. This sealant liquid trap float on the urine and it provides an excellent odour barrier. Although this system is more suitable in public toilets, offices and schools/colleges.

g. Dry composting toilets

In this the faecal matter is removed from the toilet on a regular basis & brought outside to a remote composting site. This reduces the use of water to a big extent.

h. Separate villa

This is very popular in Sweden & Denmark in this system liquid and solid waste are separated. The urine is collected in a front bowl which is put out through a drain pipe to a tank to be later used as a fertilizer.

The other systems being in use are

- Retrofit options – Retrofitting devices in the existing toilets
- Interruptible flushing system – a handle being used manually for uninterrupted flush

Other water saving devices

a. Low flow shower head

Low flow shower heads use a vacuum booster valve that aerates water creating a powerful shower stream. Low flow shower heads have the potential of reducing the water consumption up to 15% and the payback period for a low flow shower head is between 2-3 years.

b. Tap Aerators

In tap aerators, air is used to produce a large, smooth, soft and non splashing stream. The potential water saving can be around 10% and the payback period can be between 2-5 months.

c. Water Efficient Washing Machines

The older washing machines before 1980's used water upto 150 L/Cycle , but for the last 20 years the water consumption of new

generation washing machines has reduced to around 50 L/Cycle. Washing machines using less than 7.5 L/Kg are considered to be water efficient machines.

Proper Maintenance Of The Equipments

Proper maintenance of the equipments improves the efficiency of the machines/equipments and reduces the consumption of water and electricity. The Hotel staff should go for the Annual Maintenance Contract (AMC) and also should keep on doing the internal audits to check the health and proper functioning of the equipments.

Waste Water Management

Waste water management is very important and crucial for a hotel industry as a lot of water is consumed in kitchen and bathing area comes out as a waste. Hotel industry must use water treatment plants so that the treated water can be consumed at the gardening areas. Also the treated water can be used for fountains and other similar purposes. The Hotel industry must go for proper rain water harvesting and grey water so that the water level of the area is properly maintained.

DISCUSSION AND CONCLUSION

It is advised that the hotels using single flush toilets should switch to dual flush toilets. Models with 6/3 L or 4.5/3 L should be used as they have a very high potential of saving water. Due to high cost , limited availability and other technical issues vacuum toilets are not seen as a viable option. Without changing the existing lifestyle of people and with just a small change in the water saving attitude of people a water saving of around 30 to 40 % can be easily achieved. With the adoption of water saving devices , the users also need to be educated about the proper use of these devices and flushing system so that the sewer blockage can be prevented and it can lead to the successful implementation of the dual

flush devices. Water displacement products are not very suitable as they reduce the flush volume below 6 L and it significantly impairs the solid discharge. Compositing toilets can become a possible option for holiday homes or hotels situated at city outskirts. But in this case the holiday homes/Hotel owners have to be aware of the operational and maintenance requirements. The above measures if successfully implemented can significantly reduce the consumption of water and subsequently the waste water and consumption of electricity and can make the Hotels more eco friendly and also can reduce the operational cost of Hotels.

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