

## Extended Abstract

# Water Audit

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## Introduction

Water audit is the measure of impact the organization has on water resources. Water audit does this by determining organizations' water consumption and the amount of water lost from a distribution system due to leakage and other reasons such as pumping inefficiency, unauthorized or illegal withdrawals from the systems and the cost of such losses to the organization. Comprehensive water audit creates a detailed profile of the water distribution system, maps water intensive units, thereby facilitating effective management of water resources with improved reliability. It helps in diagnosing of the problems faced to recommend appropriate solutions. It is also an effective tool for realistic understanding and assessment of the present performance level and efficiency of the water management service and the adaptability of such a system for future expansion.

## Categories of Water Audit

Based on the extent of water consumption, Water Audit can be divided into four categories.

**Large Water users:** This class of users covers large Industries, Agriculture Municipalities and Metros with consumption more than 15 million litres per day (MLD).

**Medium Water Users:** This class of users covers Industrial clusters, Central Effluents Treatment Plants (CETP's), Medium Industries and township with demand ranging from 3 MLD to 15 MLD.

**Small Water Users:** Large Hotels, IT Parks, Theme Parks, Industrial and Private Township with demand of 0.5 MLD to 3 MLD.

**Tiny Water Users:** All other users with consumption less than 0.5 MLD such as Commercial complexes, Government Offices/Buildings, Builders, Colonies etc.

## Benefits of Water Audit

Water audit improves the knowledge and documentation of the distribution system, problems and risk areas and therefore builds a better understanding of water handling system right from source to disposal/treatment. . Leak detection programs help in minimizing leakages and tackling small problems before they become major ones. These programs have the potential to-

Reduce water losses

Improve financial performance

Improve reliability of supply system

Enhance knowledge of the distribution system

Increase efficiency in the use of existing supplies

Create Better safeguard to public health and property

Improve public relations

Reduce legal liability, and reduced disruption, thereby improving level of service to customers.

## Water Audit in Buildings

In an increasing number of jurisdictions, new mandates are requiring building owners to cut water usage. Impending scarcity and the rising cost of water in the United States is catching the attention of the commercial real estate community. The rise in water and sewer rates has far exceeded the rise in cost of other utilities over the last 25 years in the United States. In the West, the severe drought is driving the meteoric rise in prices. The aging infrastructure and environmental problems in the East result from surface runoff and combined sewer overflow in the older cities.

Here are some of the benefits of monitoring and recording water usage:

Explain variations in water use, such as increased production or seasonality factors

Understand potential risks and impacts associated with a company's water use.

## Scope of Water Savings

A step to conserve water is the step to secure the future. The most essential among all the natural resources on earth is water. A drop of water is worth more than a sack of gold for the thirsty man. If each one of us make efforts to save water today, it will save us later. Water conservation is the most effective and environmentally sound method to fight global warming. Water conservation is what that can reduce the scarcity of water. It aims to improve the efficiency of use of water, and reduce losses and waste.

**Tips to Save Water:**

Avoid leakage of water from the taps.

Turn the tap off when not in use especially when you brush your teeth or wash clothes.

Rainwater harvesting is the method to conserve water.

The water supply should be limited in those areas which enjoys the unlimited water supplies.

Check the leakage of water in the toilets. Also get check the hidden water leaks.

**Conclusion:**

A comprehensive water use audit will examine all of the major areas in which a facility uses water, including sanitation, maintenance, mechanical systems, building processes and irrigation. For each of those areas the water use audit will provide a breakdown of the how, when and where of water use.