

# A Detailed Case Study Report on Green Auditing In Bapuji Institute of Engineering And Technology, Davangere

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**Abstract-** *Increasing globalization developing the countries in many areas by adopting faster technologies but this is affecting the balancing conditions of the today's environment and leading to disturbances in ecosystems. So it is necessary to cultivate the ways which will be more environmental friendly and helps in maintaining undisturbed environment. The present report is one of those methods which guides and gives proper procedures to usage of resources by auditing them. This green auditing report mentioned the methodologies, practicing methods by collecting datas and suggesting the correct procedures in BIET campus, Davangere.*

**Keywords-** auditing , greenhouse, sustainable, management, regulating, etc.

## I. INTRODUCTION

Today there is a rapid increase in population growth around the world and the rate of increase of the urbanization and economy policies made the world to grow at faster levels both at national and international levels. These things and observations made on these shows unsustainable environment and also creating the crisis on ecology. Now a days there is drastic changes in a climate and human beings contributing more for these change and we humans are becoming blind to the climate change. Every year we are undergoing with the sudden changes in the environment which may be new or same for the living beings and if we take some precautionary methods, they are going beyond the limits and it is not becoming that kind of easy method to tackle this problem. It is responsibility of a people to grow trees and maintain the lush green environment in all possible places so that reducing the carbon dioxide which is the main culprit in greenhouse effect. Not only a people but industries, educational institutes, government and private companies has to take part in growing more and more trees, limited use of water, reducing the generation of wastes in their working places, using the vehicles in a proper ways. Creating importance of the environment in students about the water, waste water

management and solid waste management, energy and its recovery, resources and conservations, growing plantations and maintaining the green areas and lands covered by the buildings and many others plays important role in sustainable environment growth. The word green auditing has involved many activities in order to protect and managing the environment. The basic principle of green auditing is to provide outlines of auditing for scientifically and technically background areas.

The process of green auditing is firstly originated and conducted in United States of America in the year of 1970 and later it had introduced into the United Kingdoms and to many other countries on the earth through the multinational companies. Actually it has been mainly developed for the applications in industries and it was starting with a environmental friendly practice.

The picture of green auditing came into India in the year 1992 with reducing maximum waste generation in many industries with adopting new technology and to achieve a stable environment. Through this observation made that environment can be protected with seminars, workshops in organizations so that conveying information in more technical ways.

**Law aspect of Green auditing** – The Environmental Protection Act in 1986 acts as the standard act for all environmental issues and rules which are already existed. After this many laws came into picture on management and handling of solid wastes and hazardous wastes. But on March 13th of 1992 a notification was issued through the Ministry of Environment on Environmental Auditing which later amended on April 22nd 1993 which mainly introduced to reduce the waste creation and control pollution.

## II. METHODOLOGY

To meet the various objectives of the green auditing it is necessary to make the documentation and verification and

also physical inspection should be there. Asking questions and making interaction with each individual responsible for particular work in campus were conducted.

**A. Collection of the data or information:** Information gathering is the important stage in auditing. The person who is going to be audit should firstly examine the practices, procedures, maintenance in the campus, what are the regulating and control measures that the management will take in case of risk situations, problem solving methods, working practice of labours, all should be studied and apart from this the auditor also should know the responsibilities of the workers and training of them and should consider the issues in management. Physical inspection is needed to collect accurate information.

**B. Interviews in auditing:** Interviews can be carried out with principal, resident engineer, wardens, managers in office, securities, canteen workers, garden maintainers, electric generation maintainers, and students also. During interview notes should be maintained and auditor should plan the interview in such a way that while asking the questions auditor should introduce himself and on what purpose he is asking should be conveyed properly and on interaction recording information should be done and observing the alertness and responsibilities.

**C. Documentation :** The documentation papers should contain necessary interviewed questions and notes and copies of respected documents which were collected during the auditing. This documentation also contain the reference and supported copies which helps in documenting the information.

**D. Reporting :** After the above 3 stages this stage should develop the issues regarding the conditions of the environment inside the campus and should provide detailed information by assessing and analysing the activities at the sites. After this it is necessary to submit the name of place which has audited and the auditors.

### III. PROGRESS OF WORK

**Study area:** Bapuji Institute Of Engineering And Technology (BIET) is one of the most reputed college in Karnataka and has created a good name especially in middle Karnataka. The graduates from this college are now working in good companies and working in different parts of the world and settled with responsible positions in well-known companies. BIET is one of the top ten own finance engineering institutes.

**A. Water management -** The water management in these institutes represents the consumption, sources, application measurement. The college is using its 4 bore wells water as a major water source and 5 to 6% of municipal water is also coming to college through the distribution pipelines.

**Observations -** While observing in campus there was no leakage from pipelines and no overflow from tanks from departments and on data collected it is noted that 20 to 21 thousand litres per day of water consumption taking place.

**Recommendations –** While studying students use some more water to wash their hands in laboratories which is more than required, so use of this kind of water should be reduced. People used to empty their water bottles in the sinks for taking fresh water into their water bottle by spilling already present water in bottles and making it waste and it should be controlled. Should minimise the generation of waste water by minimal use of water.

#### B. Energy conservation and resources

**Observations -** By observation all departments are provided with CFL tube lights and power generation sets are provided for UPS service. For each hostels (for both boys and girls) solar water heaters are provided for meeting their demands of residents in hostels and used for cooking also.

#### C. Waste management

**Observations -** While observing the waste produced from gardens are quite more due to falling of dry leaves and needs cleaning at regular intervals, also the waste tissue papers from laboratories, and wastes also coming from the canteen and hostels. During my observation, separate vehicle has provided by the management to collect wastes inside the college campus and it is of 1.5 ton capacity vehicle , the wastes are collected at every Saturday by 3 to 4 loads at body level and disposed wastes at dumping site beside institute. Wastes are like paper, biodegradable, e wastes, metals, food wastes , etc are generated.

**Recommendations -** Single sided use of papers should be avoided and people can use them for any rough work if not important. Used batteries can be exchanged with suppliers. Reuse and recycling should be encouraged.

#### D. Green areas

This parameter indicates that lawns and gardening areas of college and adopted adequately and comfortably.

**Observations** - Whole campus has extended almost 63 acres with nice green corridors and if anyone come and see inside the campus they can feel that the campus giving regular maintenance, each department having lush green lawns and trees as well with nice aesthetic view. About 130 varieties of garden plantations can be seen with medicinal, shade oriented, fruit bearing plants and maintainers watering them.

Plantations and its types	Locations	Species	Tree conditions
Trees	Academic areas	Fruit trees, shrubs etc	Full and half grown
Ornamental	Gardens and hostels	Flowering	Full and half grown
Trees	Playing areas	Shrubs	Half grown
Fruit bearing trees	Hostels and in front of buildings	Coconut and mango	Full grown
Shrubs	buildings	Fruit, flowering	Full and half grown
Shrubs	Roads side	shading	Full grown

**Recommendations** - Promotion of awareness should be done regarding gardening  Sustainable measures have to be taken for maintaining garden still effectively. Any solid wastes present on lawns should be removed immediately to avoid nuisance.

#### E. Building blocks

The College having very good building blocks with providing nice class room environment. All blocks are at good hygiene conditions with fresh air and light. There should be reduction in carbon emissions and should come up with green compliance standards.

**Observations** - From the areas of lands in college we came to know that there is a enough area for reserve in future for use. All branches are constructed in regular manner with a place for gardening in front.

**Recommendations** – Unnecessary constructions and alterations are avoided in campus so that dust generation can be minimized.

#### IV. CONCLUSIONS

Since the college has got good name in middle Karnataka region, it is giving quality education and enhancing knowledge of the students. At completion of this green audit report work, decision can be made that college is supported with environment friendly practices with growing variety of plantations, green corridors, rain water harvesting methods, installing solar panels, composting methods, and encourages the lush green areas. one thing is that management has to observe whether they are maintaining by workers who are responsible for that correctly or not at regular intervals. College management is very much supportive for green environment and conduct the environmental awareness programmes and conveying message through this and this is appreciable one.

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