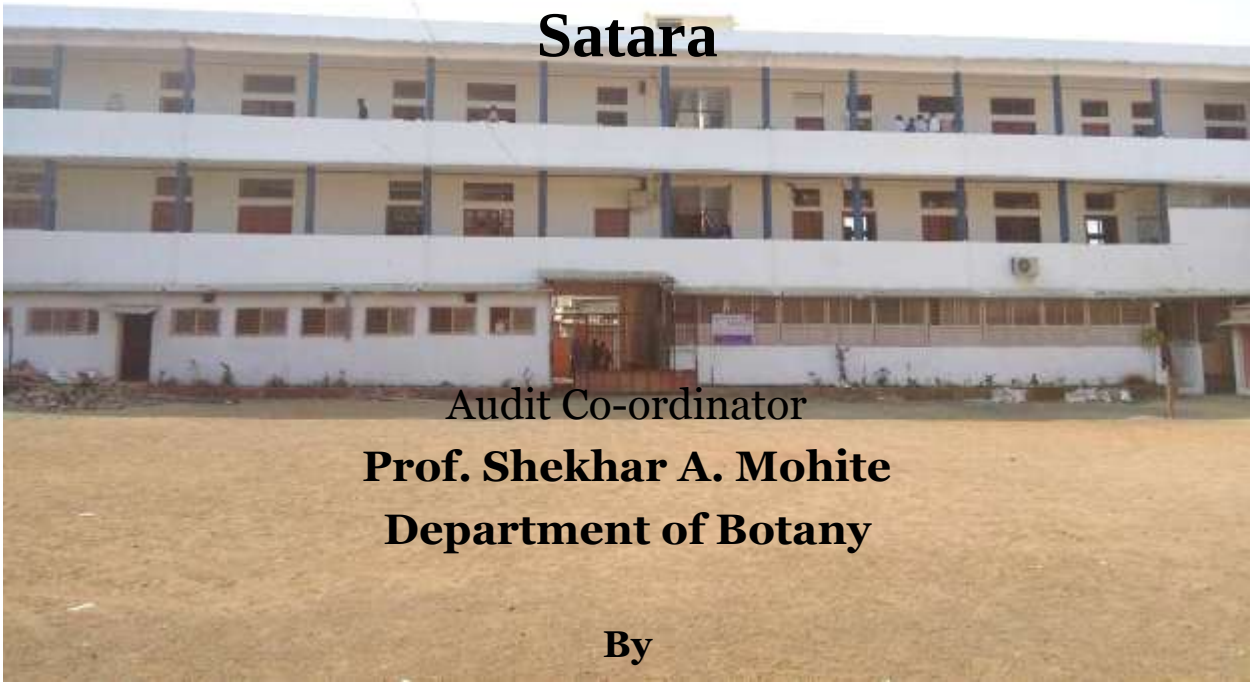
Green Audit Report

For

Lal Bahadur Shastri College of Arts, Science and Commerce

Satara



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This report describes the status of environmental management at Lal Bahadur Shastri College of Arts, Science and Commerce, Satara. The report provides an overall idea about existing conditions, efforts taken to make the area green compliant, increasing awareness amongst stakeholders etc.

It helps in understanding the activities carried out by the college team as a responsible educational citizen and provides guidance on further scope for improvement. This report is prepared based on the evidences produced during the course of audit.

Contents

1. Introduction

1.1.General

Name: LAL BAHADURE SHASTRI COLLEGE OF ARTS, SCIENCE & COMMERCE

Address: 17, MALHAR PETH, SATARA. Pin 415002.

Mail: lbs_satara@yahoo.co.in, Website: www.lbscollegesatara.edu.in

Ph. No.02162/237986.

Lattitude & longitude: NL: 17^0 41' 7" EL: 73^0 59' 46" .

Altitude: 823 m from seashore.

Available Area of the facility: 0.6 Acres

Population:
Teaching Staff and Non teaching Staff: 150
Students: 2451

Facilities

a. Total built up area around 3764 square meters.
b. Numerous Classrooms are available for variety of the classes.
c. Adequate number of sanitary facilities separate for male candidates and female candidates, Staff males and females are provided.
d. Number of Stack rooms, study rooms are provided
e. Two libraries are available with lot of books collections and chronicles.
f. Various laboratories as per the subject requirements for chemistry, microbiology, biology, physics etc are also provided.

1.2.Environmental Management Program:

Annually Rs. 50000/- budget is allocated towards environmental protection and pollution prevention activities. This includes plantation, monitoring expenses, treatment recurring costs etc. in addition to this, whenever there is any specific project or capital expenditure required for environmental protection, then institute provides it as per the needs.

1.3.Environmental Policy

Lal Bahadur Shastri College of Arts, Science & Commerce, Satara shows its sensitivity towards the environment by establishing its environmental policy.

The aims of the policy

The policy aims to eliminate or reduce all forms of environmental pollution and encourages all faculty members, staff, students and other stakeholders to do the same.
The college always raises awareness of environmental issues among its staff/students/ stakeholders and encourages initiatives leading towards a clean environment. Its academic departments, NSS unit, NCC units and Women Cell works towards this aim collectively.
The policy promotes the 3 R's for waste in the following order: Reduce, Reuse and Recycle and provide convenient waste collection points and guidance for the disposal of

a. Paper
b. Cardboard
c. Glass
d. Plastic
e. Electrical items and white goods
f. Hazardous waste
g. e-wastes

The college aims to minimize the consumption of water and thereby to contribute to the proper use of the natural resource by the following ways:

a. Encouraging to report leaks and rectifying them promptly
b. Progressively replacing/supplementing water-taps in the staff room, washroom, etc. if needed.
c. Exploring options for using waste/roof water wherever possible
d. Establishing rainwater harvesting schemes in the old buildings of the campus
e. Minimizes the consumption of electricity where opportunities arise by
f. Progressive replacement of light bulbs with energy efficient ones
g. Encouraging staff to turn off electrical appliances when not in use
h. Conserving energy by promoting the use of daylight
i. Conducting frequent preventive and corrective maintenance

1.4. Steps taken and mechanism

a. The college adapts health, safety, and environments based codes of practice and relevant guidance and complies with legislation relating to the use of chemical products.
b. The college has planned for hybrid (solar/wind) power systems on the campus.
c. The college campus is completely free from plastic bags and cups.
d. Waste bins are placed at appropriate locations to maintain a clean and tidy campus.
e. Green initiatives are taken by developing pot plantation through adequate plantation by the college NSS Unit and the maintenance cell.

f. The arrangement to set off the fire causing environmental damage by setting the fire extinguishers at different places on the premises.
g. Nature club and botany department work towards to green initiative at the college campus.

2. Audit Scope

The audit is carried out for the activities carried out at LAL BAHADURE SHASTRI COLLEGE OF ARTS, SCIENCE & COMMERCE located at 17, MALHAR PETH, SATARA. Pin 415002.

3. Audit Criteria

a. Applicable guidelines of NAAC
b. Applicable Environmental Legislation
c. Best environmental practices

4. Audit Objective

In line with the audit definition, the objective of the audit is to have systematic, periodic, planned evaluation against objective evidences and reporting the results to the management as per the focus of the audit. Green Audit focuses on the basis of the environmental sustainability in terms of applicable environmental elements like Air, Water, Land, Flora, Fauna, Natural resources and Human being. The very objective of this audit is to evaluate the institutes green performance based on the focus indicators as stated above in view of the goal towards Environmental Sustainability, applicable legislation, environmental policies and standards. The green audit objectives can be stated as follows.

a. To review the knowledge and awareness concerns of the institute for the journey of sustainability.
b. To review the efforts made to protect the environment by preventing pollution and conserving the natural resources being used in the campus.
c. To establish a baseline data to assess future sustainability and avoid heavy environmental tolls.
d. To bring out a status report on environmental compliance
e. To assess the environmental performance and report it to management/authorities.

5. Audit methodology

The scope of the audit is divided into various environmental areas like Land use, water, effluent, sewage, energy etc. Each such area is analyzed based on the evidences produced by the institute. The evidences are collected in form of discussions/interactions, documents and records, practical site conditions and photographs of it.

6. Observations and Recommendations

6.1.Land Use

6.1.1. Land and efforts for green belt development

Available land is in the town with a limit of 0.6 Acres. Due to high crowds in the city it is very difficult to have green belt development within the campus. However, college has still some cultivation of ornamentals in pot gardening to have rich green effect. To overcome this, college has selected 2.5 hectors land in nearby vicinity of the campus and started plantation. As on date over 400 species have been planted and maintained by the college.

6.1.2. Recommendations

As of now there is a count of the trees being planted. Localized species can be more used for plantation since they are more suitable to the local environment and habitat. It can become a habitat of the native birds, animals and insects and can help in biodiversity conservation and reclamation. A count of variety of species can also be kept handy. It can be treated as a structural biodiversity creation effort for achieving substantial positive results.

6.2.Water Supply

6.2.1. Sources

The main source of water supply for the institute is from the municipal corporation. The water quantity required per day is around 10000 liters. Institute has installed the Water harvesting for about 15000 liters capacity. The drinking water is provided through 200liters water treatment facility and thereafter to the dispensers at various locations for the ease of access to the students and staff. The drinking water is periodically tested from the laboratory and ensured its potability for drinking purpose.

6.2.2. Recommendations

Further to the provisions of water in the institution, methods can be applied to use the rainwater harvesting water for drinking and sanitary purposes by advanced water treatments. Specific efforts for conservation of fresh water through auto water taps based on occupancy sensing mechanism. Separate metering also can

be taken up for garden and domestic water consumption including ETP recycled treated effluent.

6.3.Energy

6.3.1. Energy Source

Mahadiscom is the major source of electricity. 118.6 KW is the requirement of the institute. The fulfilled with the Mahadiscom supply to the institute. In the terms of units, institute needs 3233 units per month.

6.3.2. Use of non-conventional sources

The hybrid energy generation device generates 6 units per day. The college is now using 1.5 kW UPS and batteries for energy storage. This hybrid system has shared the load of 180 units/ month from the overall requirement of 3233 units per month from the conventional source.

Energy audit has been conducted and the recommendation has also been implemented specifically for replacement of regular tubes and bulbs with LED bulbs and tubes.

6.3.3. Recommendation

Periodic energy audits can be planned to have enough data on savings and contribution through use of green energy.

Occupancy sensors can be planned to avoid manual intervention in shutting off and starting on the lighting systems in various rooms.

6.4.Effluent

6.4.1. Effluent management

Laboratory waste water around 200 liters per day is treated in the ETP.

6.4.2. Recommendations

Since the waste water quantities are very minimal, as of now recommendations are NIL.

6.5.Sewage

6.5.1. Domestic sewage management

Domestic sewage is generated through the use of water for sanitary purposes. The sewage generated after the use is connected to the municipal sewer lines through the underground tanks.

6.5.2. Recommendation

Based on the population of each day and the daily water supply quantities , domestic sewage can be quantified for further water conservation purpose. Specific water audit can be conducted to know the water inflow and out flow along with the losses, leakages, wastages etc. so as to plan actions for water conservation.

6.6.Solid waste

6.6.1. Solid waste management

Solid waste major sources are from the canteen and stationary wastes. The food waste is treated through vermi-compost plant and then the manure is used for the plantation site. General solid waste i.e. stationary waste is segregated as paper waste, plastic waste and is recycled as per the volumes generated.

6.6.2. Recommendation

Quantification of every day canteen waste can be taken up and it can also be displayed in the canteen to refrain and educate the consumers about the wastages and losses to the environment and human efforts.

6.7.E-waste

6.7.1. E-waste management

Since the organization is well established and equipped with the necessary and up-to-date electronic infrastructure, the e-waste generation is very minimal. However, as a proactive initiative, an authorized vendor is identified for disposal of e-waste in case it is generated. Usually the contracts for electronic items are done with the buyback assurance so as to meet the e-waste disposal requirements of the legislation. E-waste after generation is segregated from other sources and kept separately identified for disposal in systematic way through the authorized vendors.

6.7.2. Recommendation

E-waste listing and quantification in detail can be useful further to reduce the e-waste generation.

7. Other Environmental Initiatives

a. Approximately 1500 to 2000 visitors visit the campus every year. Institute offer warm and green welcome to them and describes the green initiatives as a part of the induction to them on their visit. Institute runs career oriented course for students "**Biodiversity and its Conservation**" which is UGC recognized from last 5 years. As a part of that Biodiversity audit was also conducted.

b. Exhibition was organized in College for Environmental awareness during last year.

c. Biodiversity conservation: 25 Dec. 2017, Guide training camp for Kass heritage conservation 16 Aug. 2017

d. Related to environmental awareness
   - Seminar and conferences: 4
   - Exhibition : 02
   - Training : 1
   - Field visit: 5

a. **Environmental CSR activities are also conducted every year and specific activities are also carried out each year differently.** Jay Jawan Jay Kisan lecture series is arranged for farmers on 11 and 12 Jan every year. Several farmers take benefits of it. Various eco exhibitions are organized by Institute where in numerous visitors from community get benefits. Shaswat Nisargasathi, Gad Sanvardhan, N.S. S. activities are carried out specifically in the year 2017 on 07 March to 14 March 2017.

8. Conclusion

The institute strives hard and sincerely towards conservation of environment. Starting with the Environmental awareness and carrier oriented courses related to environment till the practical changes like Solar wind hybrid installation to conserve energy. The institute has put lot of efforts in the waste water treatment areas also. It is noteworthy to say about the vermicomposting plant and effective management of the environmental drives. It shows the commitment and responsibility towards the Mother Nature. There is always opportunities for improvements which are noted in the different sections for making the activities robust. These would help in the journey of sustainable development which already have been started and reached at a remarkable height.

Institute takes care of the students and staff well. The rooms are well ventilated and having sufficient light levels. There is no much noise that would disturb the education process.

Mahesh Narhar Kulkarni

Lead Auditor