

GREEN AUDIT REPORT

(2021-22)

YASHWANT SHIKSHAN SANSTHA'S

MIRAJ MAHAVIDYALAYA, MIRAJ

(ARTS, SCIENCE AND COMMERCE)

ACKNOWLEDGEMENTS

We are grateful to the committee members of Miraj Mahavidyalaya, Miraj to award this prestigious project and allow us to step into the new phase of Green Audit in the College Campus.

Further we sincerely thank the college staff for providing us necessary facilities and operation during the audit. This helped us in making the audit, a success.

Further we hope, this will boost the new generation to take care of Environment and propagate these views for many generations to come.



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Miraj Mahavidyalaya, Miraj Green Audit 2021-22

- To secure the environment and cut down the threats posed to human health by analyzing the pattern and extent of resource use in the campus.
- To bring out a status report on environmental compliance.

Assessment Methodology

In order to collect factual data the assessment team has interacted with concerned management personnel and visited different areas of the institution namely common class rooms, utility area, gymkhana, auditorium hall, office, staff rooms, library, electric room (meter room), water storage underground and overhead, toilets, kitchen and canteen, ladies hostel, waste storage areas, drainage system, landscape ground and parking. To ensure comprehensive coverage the assessment has been categorized into six broad modules to facilitate a structured evaluation. The modules are as follows:

Waste management	Tree plantation management
Energy Conservation	Transport management
Water management	Green and biodiversity management

Miraj Mahavidyalaya Miraj expresses its commitment to sustainability in many ways. It has taken a number of positive steps to reduce its environmental impact. There are always areas in which improvements can be made. This report serves to highlight many accomplishments and to make recommendations for improving the college's environmental sustainability. The college strives to maintain eco-friendly atmosphere in the campus. To maintain eco-friendly ambience various programs are followed in the campus.

● Waste Generation:

This indicator addresses waste production and disposal of different wastes like paper, food, plastic, biodegradable, construction, glass, dust etc and recycling. Furthermore, solid waste often includes wasted material resources that could otherwise be channeled into better service through recycling, repair, and reuse. Solid waste generation and management is a burning issue. Scientific handling of solid waste can create threats to everyone. The survey focused on type and current management practice of solid waste generated in the campus. The different solid wastes collected are as mentioned above.

● E- waste:

E waste of our college consists of all waste from electronic and electrical appliances used in various laboratories and offices. It includes computer and its accessories-monitors, printers, keyboards, central processing units; typewriters, mobile phones and chargers, remotes, compact discs, headphones, batteries, LCD/Plasma TVs, air conditioners, refrigerators and other appliances. All these appliances are stored in a e-waste room from where they are to be distributed to the respective waste management agency

● Energy Use and Conservation:

This indicator addresses energy consumption, energy sources, energy monitoring, lighting appliance and natural gas. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.

A) Observations on Energy Management

- Architectural design for the college is based upon use of natural lighting and ventilation. to save extra power for bulbs and fans.
- Utilization of natural light where-ever possible and electricity is appropriately done. (avoiding its misuse).
- College uses generator during shortage/cutoffs of light.
- The college has a canopy of trees in the surrounding that make the environment carbon dioxide free and maintain health of all the inmates.
- The college premises has *Azadirachta indica*, *Delonix regia*, *Cocos nucifera*, *Tamarindus indica*, *Conocarpus*, *Mussaenda*, *Ixora* and other trees which provide shade and a beautiful ambience.
- Energy is also conserved by using natural light in the classrooms.

B) Recommendations-

- High energy consuming Incandescent lights and fluorescent lights and number of electrical fans of older generation that are non-energy efficient may be replaced by less energy consuming LED or CFL lights and efficient fans.
- The organization is having considerable area in the roof top (about 1370.72Sq.m. of existing structures), a cost benefit analysis may be done for installation of solar panel to reduce carbon footprint.
- Adoption of a purchasing policy that specifies low or no VOCs.
- Conduct switch off drills at regular intervals
- Ensures that all electronic and electrical equipment's, such as computers, are switched off when not in use, and is generally configured in power saving mode when such option is available.

● Tree Plantation:

This indicator addresses Plantation, conservation and preservation of trees. Tree plantation and conservation is an important aspect now a day's Steps should be taken for improvement and maintenance of plants and land under vegetation.

A) Observations on Tree Plantation Management-

- College has a botanical garden in the campus
- The organization takes initiative for plantation program every year by involving students to offset the GHG emission.
- Carbon dioxide neutrality is maintained in the campus due to the trees like *Azadirachta indica*, *Delonix regia*, *Cocos nucifera*, *Tamarindus indica*, *Conocarpus*, *Mussaenda*, *Ixora*, *Spathodia*, *Mitragyna* and other trees etc. The trees are about 2 to 10m high in the surrounding.
- Use of sustainable and environmentally friendly methods for plantations is adopted and the compost manure is provided for the plantations.
- Utilization of native landscaping and increasing diversity in tree plantations is done.
- College implements Integrated Pest Management Program to reduce use of harmful chemicals.

B) Recommendations-

- College has a quite large amount of landscape, the area under plantation should include a beautiful flowering garden at the entrance, which will enhance the aesthetic façade look and warmly welcomes the public.
- Maintenance and improvement of plantations and proper storage and disposal of tree waste must be ensured
- The greenery can be maintained by placing pots in the passages at each floor in the and premises.
- Plantation of trees mainly fruits, which attract birds, should be done in the premises. Along with this some vegetable or medicinal plants like Neem, Alovera, Tulsi. Brahmi. Cactus etc. should be planted near the building or in the botanical garden so that they are easily available whenever required for study.
- Harvesting procedures, preservation and protection against soil erosion, sedimentation, fire, pests and diseases must be conducted frequently.
- Utilization of mulch landscaping waste (grass clippings, leaves, branches) should be done to divert from the landfill.

● Water Use

This indicator addresses water consumption, usage and wastage of water, water sources, irrigation, storm water, appliances and fixtures. A water audit is an on-site survey and assessment to determine the water use and hence improving the efficiency of its use.

A) Observations on Water Management-

- College has facility of three Bore wells and municipal water supply
- The water taps are provided near the office at ground floor for drinking water.
- Utilization of native plants that do not require additional irrigation.
- Identification & stoppage of leakages in pipelines is done regularly thus ensuring proper repairs and maintenance. Float valve operated auto shut off switch may be installed for pump sets used for overhead tank filling.

B) Recommendations-

- Our recommendation is Installation of water recycling mechanism, such as solid immobilized Bio Filters for 3000 students with capacity 60,000lit-day @ 20lit capita day. . Consider carrying out meter readings on a regular basis (e.g. bi-monthly) in order to monitor water usage and set a baseline from which further reductions can be measured.
- Proper installation of appliances which reduce water consumption and installation of aerators/flow restrictors on faucets should be carried out to reduce water consumption.
- College should implement a Rain water harvesting plant as it has a large Rooftop (Existing structure area = 1370.72Sqm) and addition structure area= 120 Sqm (Total structural area=1490.72 Sqm) and utilize the water for plantation
Rain water harvesting potential=

$$\begin{aligned}
 & \text{Area at Rooftop (Sqm) x Annual Avg Rainfall (mm)} \\
 & = \times \text{Runoff Coefficient} \\
 & = 1490.72 \times 637 \times 0.8 \\
 & = 7,59,670.912 \text{ lit annum.} \\
 & = 8,00,000 \text{ lit/annum.}
 \end{aligned}$$

So our recommendation is to provide a rain water harvesting plant of capacity 8,00,000 Liters/annum.

- Washing waste water from canteen & kitchens should be suitably controlled and used for watering of plants while the solid waste should be used for composting • Drinking water supply should be provided at each floor.

•Transportation:

This indicator addresses the transport facilities in the college, analyzing the volume of transport, private vehicles and public transport. The transportation audit is the assessment based on the above mentioned transport system.

A) Observations on Transport Management-

- No facility of college vehicle.
- College minimizes the unsustainable transport and promotes green public

transport than private transport.

- Use of public transport services, bicycle and pedestrian routes is adopted and used by maximum students,
- Preferred parking land spaces for carpool vehicles, hybrid or electric vehicles and bicycles are provided for faculty and students.
- Adoption of methods to reduce air pollution and noise intensity levels is done by planting large trees about 10m high in the surrounding areas around the campus.

B) Recommendations-

- Encouraging the awareness and usage of sustainable transportation technology between the staff and students.
- Promote car sharing car pool among the students and faculty members as much as possible.
- Motivate students and staff to make use of bicycles as much as possible and minimize the use of motor vehicles.

•Green Area

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. This also helps in ensuring that the Environmental Policy is enacted, enforced and reviewed using various environmental awareness programmes.

A) Observations on Green Management-

- College minimizes the use of all cleaning products and chemical pollutants.
- Avoids the use of pesticides wherever possible.
- College encourages the use of environmentally friendly materials.
- Promotes the information regarding the nature, natural resources, wildlife for the conservation of Biodiversity,
- Plantation of trees and conservation of materials and energy is done.
- Preventing pollution and conserving resources and creating awareness of environmental issues and responsibilities.
- Most of the waste generated is water-soluble and ultimately disposed to large water bodies through normal sewerage system.

B) Recommendations-

- Implementation of a green cleaning program using non-toxic products

- College should strictly ban use of plastic products in the campus.
- Minimizing the ozone depleting substances.
- Limit the use of private vehicles such as two-wheelers and cars instead use public transport where-ever possible.
- Conduct environmental awareness workshops based on.
 - i. Effect of pollution.
 - ii. Need of solid waste management.
 - iii. Socio-economic causes and consequences of future environmental changes.
 - iv. Valuing and managing ecosystem
 - v. Water shed and water management
 - vi. Impact of climate change.
 - vii. Recycling and reuse of materials
- More awareness programs amongst students and other stakeholders (faculty, other staffs, service providers etc.) need to be organized for minimizing solid waste disposal
- Ensure that the buildings conform to green standards. • Conservation and maintenance of trees should be carried out regularly

Biodiversity :

This indicator addresses the utilization of compost, promotes biodiversity, maintenance of green building and biodiversity, biodiversity enhancement.

A) Observations on Biodiversity Management-

- College promotes greening in the built environment and create habitat for living organisms in the nature in order to enhance biodiversity.

•Conclusion:

The audit team suggests that there are always places where improvement can be made. The audit team suggests you to make changes in the college premises as per our recommendations. The audit team is thankful for your guidance and support.

Prepared by:

Certified by:



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College Declaration

I agree with all the recommendations and observations mentioned in this Green Audit Report for the period of 2021-22. All the information provided for this audit is true and correct.

(Dr.A.R. Jadhav)

PRINCIPAL
MIRAJ MAHAVIDYALAYA, MIRAJ



‘ABHALMAYA’ Foundation, Market Yard Sangli- 416416

Certificate

This is to certify that the Green Audit Report 2021-22 has been submitted herewith to the Principal, Miraj Mahavidyalaya Miraj.

The audit team suggests that there are always places where improvement can be made. The audit team suggests you to make changes in the college premises as our recommendations.

Date: 13/5/2022

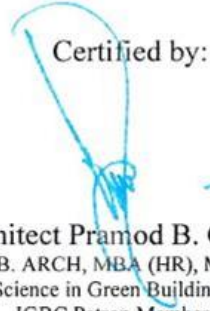
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