



Late Dattatraya Pusadkar Shikshan Sanstha, Amravati's
Affiliated to Sant Gadge Baba Amravati University, Amravati, Maharashtra, India

Late Dattatraya Pusadkar Arts College

Nandgaon Peth, Tq. Dist. Amravati.

NAAC Accredited 'B' Grade



Green, Environmental & Energy AUDIT REPORT 2020-2021

External Auditor

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Green, Environmental & Energy AUDIT REPORT 2020-2021

1. Introduction:

Green, Environmental & Energy Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of various establishments. It aims to analyze environmental practices within and outside of the concerned sites, which will have an impact on the eco-friendly ambience. Green audit can be a useful tool for a college to determine how and where they are using the available resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. If self enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self enquiry is a natural and necessary outgrowth of a quality educational institution. Thus it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

2. About the College:

Late Dattatraya Pusadkar Arts College, Nandgaon Peth is located in Amravati District. The College is situated in a rural area of Western Vidarbha Region of the State of Maharashtra. It is being run by Late Dattatraya Pusadkar Shikshan Sanstha, Amravati since 1997-98. The College aims to provide education and training to the student of rural background. The founder of the institute realised the significance of education to the downtrodden, unprivileged people of rural locality. College has enough facilities to fulfil its mission and vision. College aims not only to educate but to train students to compete with urban students in this cut throat competition for employment. Besides, it aims to inculcate socio-cultural values that will enable them to become good citizen.

3. Objectives:

In recent time, the Green, Environmental & Energy Audit of an institution has become one of the important features of self assessment of the institution. An institutional Green, Environmental & Energy Audit reflects the degree of sensitivity its stakeholders has towards environment. The college has been putting efforts to keep our environment clean since its inception. But the auditing of this non-scholastic effort of the college has not been documented. Therefore, the purpose of the present green, Environmental & Energy audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green, Environmental & Energy Audit are:

1. Identification of problems which will affect the effective institutional processes.
2. To document the floral and faunal diversity of the college.
3. To popularise waste reuse and the use of recycling methodology on campus.
4. To document the significance and effectiveness of Waste disposal system.
5. To sensitize the students and other stakeholders towards real concerns of environment and its sustainability and related issues.

4. Methodology / Policy :

To achieve the mentioned objectives of Green, Environmental and Energy Audit 2020-2021 Late Dattatraya Pusadkar Arts College and Shri Shri Enviro Consultancy, Amravati implement the following methodology. It includes three stages viz. pre-audit stage, audit stage and report preparation. Each of these stages comprises a number of clearly defined objectives, with each objective to be achieved through specific actions and these actions yielding results in the form of outputs at the end of each stage.

Pre-Audit

- Plan the audit
- Select the audit team
- Acquire the background information visit the site on-site.

During Audit Process on-site

- Understand the scope of audit
- Analyze the strengths and weaknesses of the internal controls
- Conduct the audit
- Evaluate the observations of audit program

- Prepare a report of the observations side by side

Report Preparation

- Produce a draft report of the data collected
- Produce a final report of the observations and the inference with accuracy
- Prepare an action plan to overcome the flaws. Keep a watch on the action plan.

5. GREEN AUDIT :

5.1 Floral Diversity of the college:

The college is situated in an exclusive heritage of environment closed to Amravati District, Maharashtra, India. It encompasses an area of about 1 acre. The area is immensely diverse with a variety of trees, shrubs, herbs as well as climbing species performing a variety of ecological functions. Most of these tree species are planted in different periods of time through various plantation programmes organised by the authority and have become an integral part of the college. The trees of the college have increased the quality of life, not only the college fraternity but also the people around of the college in terms of contributing to our environment by providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, and supporting wildlife, controlling climate by moderating the effects of the sun, rain and wind. The Leaves absorb and filter the Sun's radiant energy, keeping things cool in summer. Many animals are dependent on these trees mainly for food and shelter. Flowers and fruits are eaten by monkeys, and nectar is a favourite of birds and many insects. Leaf – covered branches keep many animals, such as birds and squirrels, out of reach of predators. Different species display a seemingly endless variety of shapes, forms, texture and vibrant colours. Even individual trees vary in their appearance throughout the course of the year as the seasonal change.

List of plat species found in Campus

Sr.No.	Botanical Name of Plant	Common Name	No. of Individuals
1	<i>Azadirachta indica</i>	Kadu Nim	15
2	<i>Santalum album</i>	Sandelwood	22
3	<i>Arecaceae</i>	Palm Trees	22
4	<i>Tamarindus indica</i>	Chinch	01
5	<i>Annona reticulata</i>	Ramphal	02
6	<i>Annona squamosa</i>	Sitafal	08
7	<i>Alstonia scholaris</i>	Saptaparni	01

8	<i>Ziziphus mauritiana</i>	Bor	02
9	<i>Delonix regia</i>	Gulmohar	35
10	<i>Ficus benghalensis</i>	Wad	03
11	<i>Terminalia catappa</i>	Kadu Badam	01
12	<i>Mangifera indica</i>	Mango	02
13	<i>Ficus religiosa</i>	Pimpal	04
14	<i>Pithecellobium dulce</i>	Engraji Chinch	07
15	<i>Prunus dulcis</i>	Badam	03
16	<i>Plumeria</i>	Chafa	01
17	<i>Vachellia nilotica</i>	Babhul	01
18	<i>Psidium guajava</i>	Gauva	01
20	<i>Acacia leucophloea</i>	Hiwar	01

5.2 Faunal Diversity of the college

Birds Diversity:

Among all wildlife, birds are one of the most common wildlife in urban areas such as neighbourhoods and cities, and many bird populations have been declining as a result of landscape changes due to urban expansion. At the local level, these major changes include high rates of land conversion into urban uses and increasing human pressure on biodiversity due to rapid population growth.

Due to the important role that birds play in maintaining ecosystems and supporting biodiversity, many seek their protection to manage biological threats and efficiently protect the environment.

Birds fulfil many ecological functions in their habitats. For instance, they are bio indicators of healthy ecosystems. In addition, insectivorous species and raptors regulate disease vectors, including mosquitoes and rodents. Scavenger birds, such as the Pied Crow (*Corvus albus*), contribute to biomass recycling and to some degree reduce levels of disposable wastes. Frugi-vorous birds play an important role in seed dispersal of fleshy fruit-producing plants. Birds are also important in plant pollination as demonstrated by sunbirds, which participate in crossbreeding of flowering plants, especially those with bird-pollination syndrome.

List of Birds found in campus

Sr.No.	Scientific Name of bird	Common Name	Marathi Name
1	<i>Metacillia alba</i>	White Wagtail	Pandhara parit
2	<i>Metacillia flava</i>	Yellow Wagtail	Piwla Parit
3	<i>Accipiter badius</i>	Shikra	Shikra
4	<i>Vanellus indicus</i>	Red Wttteled Lapwing	Titwi
5	<i>Vanellus malarbaricus</i>	Yelow Wttteled Lapwing	Ran Titwi
6	<i>Eudynamys scolopacea</i>	Asian Koel	Kokila
7	<i>Egretta garzette</i>	Littel egret	Bagla

8	<i>Elanus caeruleus</i>	Black shoulder Kite	Kapsi
9	<i>Columbia livia</i>	Rock pegeon	Jangali Kabuter
10	<i>Streptopelia decaocto</i>	Euresian collar dove	Gorha Hola
11	<i>Streptopelia chinensis</i>	Spotted Dove	Kawda
12	<i>Streptopelia senegalensis</i>	Loughing Dove	Bhori
13	<i>Psittacula krameri</i>	Rose ringed Parakeet	Parrot
14	<i>Halcyon smyrnensis</i>	White throated Kingfisher	Kilkila
15	<i>Alcedo atthis</i>	Common Kingfisher	Khandya
16	<i>Merops orientalis</i>	Green Bee Eater	Weda Ragho
17	<i>Coracias benghalensis</i>	Indian Roller	Nilkanth
18	<i>Dicrurus macrocercus</i>	Black Drongo	Kotwal
19	<i>Acridotheres tristis</i>	Common Myna	Maina
20	<i>Pycnonotus cafer</i>	Red-vented Bulbul	Bulbul
21	<i>Terdoides striatus</i>	Jungle babler	Satbhai
22	<i>Acridotheres tristis</i>	Common Myna	Salunki
23	<i>Oriolus oriolus</i>	Euretian Golden Oriole	Haldya
24	<i>Passer domesticus</i>	House Sparrow	Chimni
25	<i>Arthrotomus sutorius</i>	Tailor Bird	Shimpi
26	<i>Copsychus saularis</i>	Robin	Dayal
27	<i>Copsychus fulicatus</i>	Indian Robin	Robin

List of Butterflies found in campus

Sr.No.	Scientific Name of bird	Common Name
1	<i>Catopsilia pomona</i>	Common Emigrant
2	<i>Catopsilia pyranthe</i>	Mottled Emigrant
3	<i>Eurema hecabe</i>	Common grass yellow
4	<i>Eurema undersoni</i>	One spot Grass yellow
5	<i>Eurema blanda</i>	Three spot Grass yellow
6	<i>Dannus chrysipus</i>	Plian Tiger
7	<i>Dannus genutia</i>	Stripped Tiger
8	<i>Tirumala limniace</i>	Blue Tiger
9	<i>Euploea core</i>	Common Crow
10	<i>Melanites leda</i>	Common Evening Brown
11	<i>Junonia arithiya</i>	Yellow panncy
12	<i>Junonia hierta</i>	Lemon Pancy
13	<i>Hypolimnas misippus</i>	Danaid Eggfly
14	<i>Papilio palytes</i>	Common mormon
15	<i>Delias eucharis</i>	Common Jazbel
16	<i>Jamides celeno</i>	Common Cerulean
17	<i>Pelopidas mathias</i>	Small Branded Swift
18	<i>Acraea terpsicore</i>	Towny Caster
19	<i>Hypolimnos bolina</i>	Great Eaglefly
20	<i>Barba cinnara</i>	Rice swift
21	<i>Graphium agamemnon</i>	Tailed Jay

List of Moths found in the campus

Sr.No.	Scientific Name of Moths	Common Name
1	<i>Antheraea paphia</i>	Tussar silk Moth
2	<i>Trigonodes hyppasia</i>	Semi-looper Motyh
3	<i>Mangina astrea</i>	Borer Moth
4	<i>Acherontia styx</i>	Hawk Moth
5	<i>Hemithea aestivaria</i>	Emerald Moth
6	<i>Loboschiza koenigiana</i>	Tortrix Moth
7	<i>Moruca vitrata</i>	Mung moth
8	<i>Spodoptera litura</i>	Leafworm Moth
9	<i>Theretra suffusa</i>	Hunter hawk Moth
10	<i>Achaea janata</i>	Semi-looper Moth
11	<i>Daphanis nerii</i>	Oleander Hawk Moth
12	<i>Junonia coenia</i>	Common buckeye moth

5.3 Solid Waste Management:

The college is continuously takes an initiative for the management of degradable and non degradable waste. The college also runs the best practice out of two namely 'Go Green - An Eco-friendly Environment'. It intends to do paperless work, The college runs only the faculty of Humanities. It has no science faculty. Therefore the management regarding liquid, biomedical, hazardous chemicals and radio active waste is not done by the college.

In the regard of solid waste management the college segregates degradable waste like plant leaves, waste vegetables etc. The college manages a small vermi-compost plant in the area of the college with the production capacity of 40-45 kg of compost manure.

The non degradable waste and e waste are burnt safely without any harm.



6. ENVIRONMENTAL AUDIT

6.1 Water Management

Water scarcity is serious problem throughout the world for both urban and rural community. Urbanization, industrial development and increase in agricultural field & production has resulted in overexploitation of groundwater and surface water resources and resultant deterioration in water quality. The conventional water sources namely well, river and reservoirs, etc. are inadequate to fulfil water demand due to unbalanced rainfall. Therefore, the rainwater harvesting system investigates a new water source for the community.

For the conservation of rain water the college management has initiated and executed the rooftop rainwater harvesting of main building of the campus. Rain water is collected from rooftop by down takes, connected to a common header and led to a common pit associated with bore well at front side of the campus. The pit is dug out in the vicinity of bore well to recharge it. The dimension of pit is 4 x 4 ft x 6ft. The leading casing pipe is fitted with a porous drum to avoid the choke up and later the drum is dumped at top of the pit. Thus the rain water is channelized through a PVC pipe drainage system to the ground water table directly. The percolated water not only recharges the groundwater table but also provides adequate moisture to the flora in the campus during the summer season.

The total open terrace area of the main building amounts to 5901.66 square feet.

Rainfall calculator: A 10 - square feet area receives 1 litre of water if the rainfall is 1 mm. The average rainfall per year is 800 mm in the district (Source : https://cultural.maharashtra.gov.in/english/gazetteer/AMRAVATI/gen_climate.html). Hence, the total volume of water received on the 5901 square feet area of the terrace ($800 \text{ mm} \times 5901 \text{ square feet} = 47, 20,800 \text{ litres per year}$).



6.2 Air Management:

The college is situated in rural area. The campus is surrounded by many green trees. The availability of granary is maintained throughout the year. The college management has taken an initiatives to produce the ambient air quality in the campus.

Actually there is no any dangerous exposure to spoil air pollution. Most of the students come from near by areas by their own bicycle or public transport. Staff vehicles are less in numbers. So air quality is not affected.

Preventive measures are initiated:-

1. In college campus sufficient vegetation and medicinal plants such as tulsi, aloe vera, pudina, etc. is present which helps to reduce pollution level and for carbon neutrality.
2. Less use of vehicles helps to prevent other source of air pollution.
3. Usage of bicycles and vehicles are noted in college.
4. College has maintained the proper vehicle parking facility for staff and students apart from the campus.
5. College organize tree plantation programme every year and celebrate different environment days for creating awareness among the students and staff viz. tree plantation, vruksha dindi (rally), raksha bandhan programme for the protection of tree.
6. The college also maintaining cleanliness by arranging cleanliness drive by NSS and avoid burning of garden waste in the campus.

6.3 Noise Management:

The college is situated 1 km apart from the village. There is no evident for disturbing calmness in the premises. There is a serene and tranquil atmosphere heritage to the college. The college has taken note for prohibiting any disturbing noise in the premises. The vehicle parking arrangement is also provided apart from the campus. The college management keep an ear on hazardous extra noise is created in the campus.

7 ENERGY AUDIT:

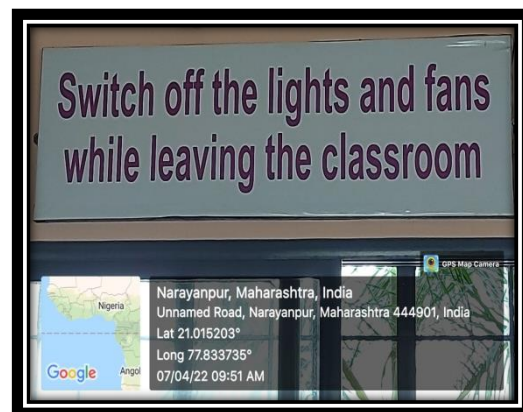
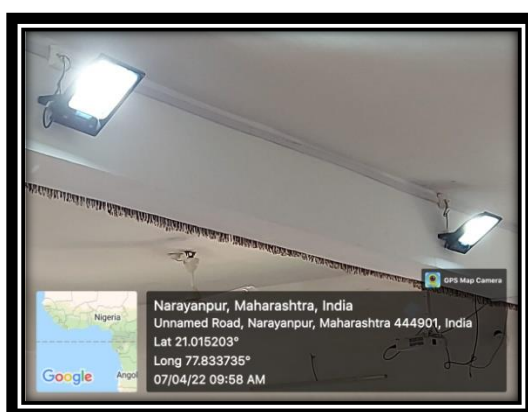
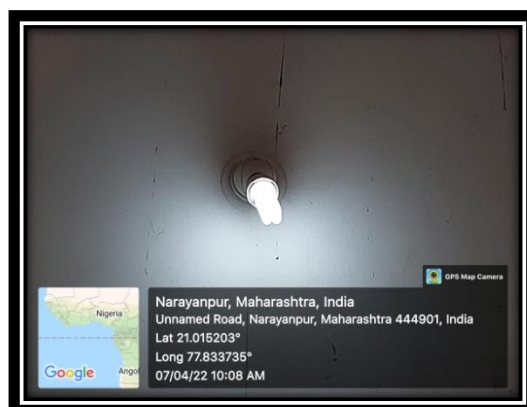
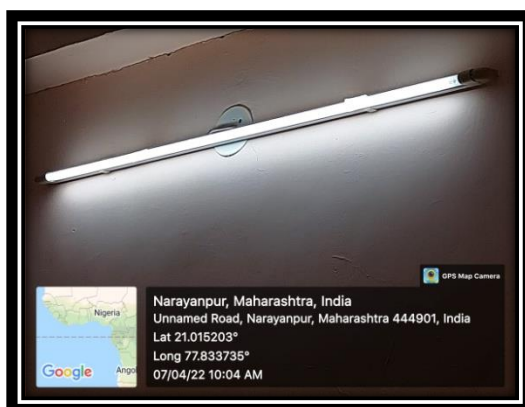
7.1 Energy Management

The college primarily uses energy in the form of electricity provided by MSEB. The college proposed to apply for photovoltaic panels (Roof top solar energy panels) for generating its own electricity.

Major use of energy is at office, classrooms and office. The main electric appliances in the college are lighting elements, fans, computers, LCD Projectors and computers and accessories instruments.

Initiatives measures for saving electric energy taken by the college :

1. Insisting the use of LED and CFL bulbs.
2. Display boards are placed showing the switch off the appliances wherever necessary.
3. Ban on running unwanted use of electric appliances.
4. Proposed to apply photovoltaic panels as early as possible.



8. Suggestions:

Organized joint programme and public partnership activity to find out local environmental issues, awareness and understanding ecologically responsibility.

The environmental focused activities with the students, though already too many in variety and very much based on experiential learning on local environmental issues, should also focus on educating students about climate change mitigation and adaption issues, challenges and career opportunities etc. in the emerging areas.

Adopt the proposed environmentally responsible purchasing policy, and work towards creating and implementing a strategy to reduce the environmental impact of its purchasing decisions.

It is recommended to explore the possibility of installing monitoring devices on campus to track air pollution arising from the busy road adjacent to the college campus.

Involve all stakeholders - Encourage involvement of government, foundations and industry in supporting interdisciplinary research, education, policy formation, and information exchange in environmentally sustainable development. Expand work with community and nongovernmental organization to assist in finding solutions to environmental problems.

9. Beyond the campus environmental promotional activities by the college:



'Raksha Bandhan' for protecting trees



Tree Plantation



Tree Plantation



Water Conservation initiative by NSS volunteers



(Signature)
(Dr. Vijay Darne)
Principal
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AUDIT CERTIFICATE

This is to certify that the "Green, Environmental and Energy Audit" of Late Dattatraya Pusadkar Arts College, Nandgaon Peth, Tq. Dist. Amravati - 444901, India has been conducted during session 2020-2021. The College has submitted necessary data for the audit. The sustainable practices carried out by the college have been verified and the efforts taken by the college in this regard are highly appreciated.

Place : Amravati
Date : 05-05-2021




S.V. Bute
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