Dhanlaxmi Shikshan Sanstha
SSK ARTS & COMMERCE COLLEGE
(Affiliated to Savitribai Phule Pune University)
SSK Campus, Wadzire, Tal: Sinnar, Dist: Nashik, 422102
Unipune ID : PU/NS/AC/144 (2009) PUNCODE : CAAN018780 AISHE CODE : C-41304
Ref. Date : / /20

NAAC DVV CLARIFICATIONS

The Institution has facilities and initiatives for

1. **Alternate sources of energy and energy conservation measures**
2. **Management of the various types of degradable and non degradable waste**
3. **Water conservation**
4. **Green campus initiatives**
5. **Disabled-friendly, barrier free environment**

HEI Input : A. 4 or All of the above

1. HEI is requested to kindly note that supporting document is not justifying the HEI input in this metric. Thus DVV input suggested as " 2 of the above " Please relook and provide all the relevant data/ supporting documents in this metric. 2. Please provide the policy document on the Environment and energy usage. 3. Please provide any other relevant data/ supporting documents in this metric, according to SOP, if available.

HEI Response:

The college has an RCC-structured well-elevated building, which is utilized effectively for teaching-learning.

1. The college has installed a Solar energy system on the terrace of the building. The solar energy system has connected to the Maharashtra State Electricity Board Electric motors and saves energy on the Solar Energy systems.

2. The college offers B. A. & B. Com programs affiliated with the Savitribai Phule Pune University, Pune. These programs come under the traditional education system. These programs don't require chemical and non-chemical laboratories and don't create hazardous chemical pollution. The college has only a computer Lab and tries to maintain less paperwork and fully concentrate on e-Governance implementation. The dust bins have been kept at prominent places for the segregation of degradable and non degradable waste and banned the use of plastic on the campus.

3. Water Conservation: The college location comes under less rainfall areas, so water conservation initiatives are needed. The college has constructed underground tanks, a rainwater harvesting system, a bore well, and small pounds on campus, which has a big campus.

4. The college conducts Green, Energy, and Environmental Audits through certified agencies and strictly follows their suggestions and recommendations. The tree plantation drives perform every year and try to maintain campus lush green campus. Several big trees have on the campus, creating an environmental ambiance.

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5. Disabled-friendly and barrier-free Environment: The college has RCC structured building with all basic amenities like staircases, railing, ramps, and user-friendly spaces. The RCC structure of the building has an inbuilt disabled-friendly arrangement.

Principal

Principal
Sahakarmitra Shivajirao Katkade
Arts & Commerce College,
Naigaon,Tal.Sinnar (Nasik)

Enclosures:

1. Geo-tagged photographs.
2. Green, Environmental, and Energy Audits Reports uploaded in metric no. 7.1.3

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Ref. Date : / /20


GPS Map Camera
Nashik, Maharashtra, India
Shinde - Naigaon Rd, Maharashtra 422102, India
Lat 19.928492°
Long 73.960492°
26/05/23 05:28 PM GMT +05:30
Google


GPS Map Camera
Nayagaon, Maharashtra, India
WWHX+C7, Nayagaon, Maharashtra 422102, India
Lat 19.927548°
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Shinde - Naigaon Rd, Maharashtra 422102, India
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Shinde - Naigaon Rd, Maharashtra 422102, India
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Long 73.961014°
26/05/23 05:31 PM GMT +05:30
Google

POLICY DOCUMENT ON ENVIRONMENT AND ENERGY USAGE

1. The college's Environment and Energy Usage Policy manage energy systematically to minimize its environmental impact.
2. The policy implies exploring renewable energy resources to reduce the government's burden and find substitute natural resources to solve the energy crisis.
3. The environment and energy policy is binding and applies to the stakeholders and the various activities undertaken by the college.
4. It helps us embed efficiency and environmental awareness into everyday activities and helps us realize the responsibilities and commitment to conserving natural resources and limiting their usage.

Policy Objectives:

a) To sensitize students towards a Clean, Green, and Sustainable Environment.
b) To optimize the use of water and energy.
c) To use LED/CFL bulbs and other energy-saving devices on campus.
d) To handle Properly solid waste from the campus.
e) To encourage public transport use, come by walk to minimize fuel consumption.
f) To maintain campus smoke-free and tobacco-free
g) To restrict the use of plastics.
h) To adopt methods for water recycling and rainwater harvesting

Policies:

1. A clean and green environment in and around the campus provides to take sustainable initiatives for environmental protection and efficient energy usage.
2. The open areas cover with natural greenery.
3. Safety and security maintains through the security guards
4. The college utilizes available sources for energy saving, proper management of waste, and underground water recharging with rainwater.
5. The local air pollution emissions use environment-friendly vehicles, including bicycles, public transportation, and pedestrian-friendly roads.
6. Install photovoltaic solar panels for the generation of alternate energy.
7. Install LED bulbs in the complete campus to save energy.
8. Developed a systematic waste management mechanism, developed a rainwater harvesting unit, and undertook a tree plantation drive.
9. Advanced technology minimizes energy consumption, atmospheric emissions, and noise.
10. Strengthen teaching and non-teaching staff and students' environmental knowledge and skills to improve environmental performance.
11. Offer teaching and non-teaching staff and students opportunities to engage in initiatives that contribute to environmental protection.
12. Policy Implementation: To achieve the objectives, the college has already implemented its environmental policy in the following areas:

13. Energy Saving: The teaching and non-teaching staff and students lead initiatives to save significant electricity and have developed a policy to reduce electricity consumption by using LEDs and replacing the old tube lights with LEDs.
14. The students commuting from far-off places use the public transport and college transfer systems as the bus pass facility at subsidized rates is extended to them by the college, which the State Government provides.
15. The teaching and non-teaching staff uses carpooling and two-wheelers.
16. The process of the paperless office and use of documents for routine work has been started.
17. Smoke-Free and Tobacco-Free Campus: Authorities have taken appropriate steps for a Smoke-free and Tobacco-free campus. The appropriate placards highlight the need for a clean, green, and sustainable environment.
18. E-Waste Management: To reduce e-waste, old computer systems are sold to those dealers who upgrade them and sell them again in the market.
19. Hazardous Chemical and Radioactive Waste Management: Waste of biological origin is converted into manure through composting and used in place of chemical fertilizers in the Botanical garden. Spent media and used cultures are discarded after proper autoclaving. It keeps the environment clean and healthy.
20. Water Recharging: The College has bore-wells and constructed a rainwater recharging system.
21. The whole of the campus's rainwater is fed to the underground water table, leading to optimum use of rainwater. It leads to the water table maintenance in and around the campus.

Principal
Sahakarmitra Shivajirao Katkade
Arts & Commerce College,
Naigaon,Tal.Sinnar (Nasik)

GDCL/ENA/01/032022

GREEN DONE CONSULTANTS

Striving to make the globe greener

ENVIRONMENTAL AUDIT CERTIFICATE

CERTIFICATE FOR ENVIRONMENTAL AUDIT

This Certificate is presented to

Sahkarmitra Shivajirao Katkade Arts and Commerce College, Sinnar – 422 102

For completing the **ENVIRONMENTAL AUDIT** of Their Campus on the 28th of March 2022.

This certificate will remain valid for 3 years from the date of issuance.

ATUL JOSHI
Director & Accredited Energy Auditor
Green Done Consultants LLP

ALKESH RAJDEV
Director & IGBC AP
Green Done Consultants LLP

GDCL/GA/01/032022

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GREEN DONE CONSULTANTS

Striving to make the globe greener

ENERGY AUDIT CERTIFICATE

CERTIFICATE FOR ENERGY AUDIT

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This certificate will remain valid for 3 years from the date of issuance.

ATUL JOSHI
Director & Accredited Energy Auditor
Green Done Consultants LLP

ALKESH RAJDEV
Director & IGBC AP
Green Done Consultants LLP

3/28/2022

REPORT ON GREEN AUDIT, ENERGY AUDIT & ENVIRONMENTAL AUDIT

Sahkarmitra Shivajirao Katkade Arts and Commerce College

Wadzire, Sinnar, Nashik-422102

Service Request No.: GDCL/GA/01/032022

GREEN DONE CONSULTANTS

Striving to make the globe greener

Prepared By:

Green Done Consultants LLP.

SUPPORT@GREENDONECONSULTANTS.COM

Table of Contents

1. Executive Summary:

Eco campus is a concept implemented in many educational institutions, all over the world to make them sustainable because of their mass resource utilization and waste discharge in to the environment.

Waste minimization plans for the educational institute are now mandatory to maintain the cleanliness of the campus. To find out the environmental performance of the educational institutions and to analyze the possible solutions for converting the educational campus as eco-campus the conducting Green Audit of institution is essential.

The green auditing of '**Sahkarmitra Shivajirao Katkade Arts and Commerce College, Sinnar'**, enables to assess the practices, action and its impact on the environment. This audit was mainly focused on **Green Indicators** like consumption of energy in terms of electricity and fossil fuel, quality & utilization of water, vegetation, waste management practices and carbon foot print of the campus etc.

The premises were evaluated against the various criterions laid down by the National Assessment and Accreditation Council (NAAC). The major observations are.

Renewable Energy

- Institute has installed a 15 kW Solar PV Rooftop system with Net-Metering option.
- However, the solar PV system was under maintenance since Jun'21. Institute has repaired it recently and it will become functional from Mar'22.
- It is estimated that institute must have lost around 1500 - 1800 kWh of generation every month because of unavailability of solar PV system.
- The quantity of organic waste with higher starch contents is not very substantial, consequently, when there will be enough organic waste generation, college may explore the potential for biogas generation.

Green Campus Initiative

- The movement of vehicle inside the campus is partially restricted as of now.
- There are pedestrian friendly pathways for in-campus movement.

- There is restriction on the usage of plastic, which may be extended to completely ban plastic usage inside the campus.
- The campus is surrounded with a lot of greenery, trees, and proper landscaping.
- The bicycles are allowed for in campus movement as required.

Environment & Energy Initiative

- Institute has planted around 22 varieties of more than 400 trees in its campus.

Air Quality & Ventilation

- The classrooms and other area are well ventilated to ensure proper air quality.
- The fans are appropriately installed to ensure proper air circulation
- The indoor as well as outdoor plants have also been provided to improve the environment.

Lighting System

- The usage of natural light is optimized through well designed structure and windows.
- College has started replacing lighting fixtures with LED. It is being progressively replaced.
- Institute may adopt for sensor based operations like motion or day-light sensors for energy conservation.

Water Quality & Conservation

- The water is supplied by the Tube well/ bore well. Water meter may be installed for monitoring the daily water consumption.
- The water quality reports are not available. Water analysis is recommended.
- Portable R.O. plants are installed for water purification.
- The rainwater harvesting system is available.
- The distribution network and piping are more or less satisfactory and adequate.

Waste Management

- The effluent water is discharged in the common drainage system however there is no Sewage Treatment plant.
- The waste is segregated in two type solid and liquid waste.

Air Conditioning System

- There is a single air conditioner in the institute office which is 3-star rated.
- The room temperature is maintained at 24 to 25 °C, which is well within the recommended values.
- The Air Conditioners are serviced regularly and properly maintained.

Infrastructure usage

- Facilities are required to be provided for ease of movements for disabled persons.
- There are adequate fire extinguishers are located at key areas. The college has initiated appropriate measures to meet the safety requirement.
- The draining system for washrooms is efficient and effective.
- No seepages were observed in the building premises.

Green IT culture

- The electronic communication is encouraged to minimize usage of papers
- Most of the papers are reused for doubled sided printing to further minimize usage of paper.

2. Acknowledgment:

We wish to express our gratitude towards Management of **Sahkarmitra Shivajirao Katkade Arts and Commerce College, Sinnar** for having given us the opportunity for conducting the study and the support provided during the study.

We are also thankful to the **Principal Dr. K. T. Khairnar** and **NAAC Coordinator Asst. Prof. Ganesh G. Shirsath** and other college staff for extending the necessary help and co-operation from their side.

3. Audit Team:

From **Green Done Consultants LLP, Mumbai**

1. Mr. Atul Joshi – Accredited Energy Auditor & Director.
2. Mr. Alkesh Rajdev – Accredited Sustainability Consultant, IGBC AP & Director.

From **Sahkarmitra Shivajirao Katkade Arts and Commerce College, Sinnar.**

1. Principal – Dr. K. T. Khairnar
2. Professor & NAAC Coordinator - Asst. Prof. Ganesh G. Shirsath

4. Introduction:

4.1. About Institute:

Dhanalaxmi Shikshan Santha was established in April 2004. The Trust is working with a motto of 'Development through Education'. Since inception the trust is working on Educational Development and it has implemented quality educational plans for students in rural areas. Last decade has seen more rigorous changes in higher educational area as compared to post-independence era. 'With change in time the students in rural area should not fall behind' with this idea the president of the trust Shri Shivajirao Katkade established a Senior College in educational year 2009 through Dhanalaxmi Shikshan santha.

Started in a small rooms, the senior college was shifted to bigger building & a huge ground at Wadzire, Tal- Sinnar in educational year 2018. The institute is spread across 8 acres with a huge paly ground and a building with various modern facilities. Under the guidance of experienced and highly qualified teaching staff & healthy educational environment, quality education and discipline is imparted. During educational year 2009 there were 53 students which has now increased to more than 500 students. Many alumnae of the institute are working successfully in various jobs and businesses.

A big cricket ground and facilities have been provided by the institute for its students. Many students are representing institute at state level in various sports.

Institute is also in a process of developing a residential facilities for teaching & non-teaching staff in its complex.

Institute is implementing various educational and social programs to ensure that the education should not only remain limited to examinations but should contribute in overall development of the students

4.2. Vision Statement of the Institute

To provide the best possible inputs for pupils to learn, to cultivate habits that lead them to adopt positive attitudes to life and develop a deep sense of human values that will enable them to fulfill their potential and contribute to the society and the country.

4.3. Mission Statement of the Institute

We are committed to specialize, universalize and humanize education for all. Our students will not become learned persons but also responsible, global citizens. Their multiple intelligence inquisitiveness will be enhanced with our rich Indian cultural and traditional heritage.

Google Earth Image

Fig. 1 Location of the College

The student and faculty strength of the college is listed below:

Physical Structure:

Physical Structure	
Total Campus Area	9 Acres
Built-up Area	2935.44 m2
No. of Departments	2
Conference Halls	1
Class Rooms	10
Office Rooms	4
Libraries	1
Auditorium	1
Canteen	1

Total Strength of Students, Teachers & Non-teaching Staff:

Staff Details	Male	Female	Total
No. of Students	404	112	516
No. of Teaching Staff	6	6	12
No. of Non-Teaching Staff	2	2	4

5. Objectives of Green Audit:

The main aim objectives of this green audit is to assess the environmental quality, management practice and strategies being implemented in Sahkarmitra Shivajirao Katkade Arts and Commerce College, Sinnar.

The specific objectives are:

1. To monitor the energy consumption pattern of the college.
2. To assess the quality of the water in the campus.
3. To quantify the liquid and solid waste generation and management plans in the campus.
4. To assess the carbon foot print of the college.
5. To assess whether the measures implemented by the College have helped to reduce the Carbon Footprint.
6. To impart environment management plans of the college.
7. Providing a database for corrective actions and future plans.
8. To assess whether extracurricular activities of the Institution support the collection, recovery, reuse and recycling of waste generated within the campus.
9. To identify the gap areas and suggest recommendations to improve the Green Campus status of the Sahkarmitra Shivajirao Katkade Arts and Commerce College, Sinnar.

6. Target Areas of Green Audit:

Green audit forms part of a resource management process. Although they are individual events, the real value of green audit is the fact that they are carried out, at defined intervals, and their results can illustrate improvement or change over time. Eco-campus concept mainly focuses on the efficient use of energy and water; Minimize waste generation or pollution and also efficiency in resource utilization. All these indicators are assessed in the process of "Green Auditing of this educational institute".

Eco-campus focuses on the reduction of contribution to emissions, procure a cost effective and secure supply of energy, encourage and enhance energy use conservation, promotes personal action, reduce the

institute's energy and water consumption, reduce wastes to landfill, and integrate environmental considerations into all contracts and services considered to have significant environmental impacts. **Target areas included in this green auditing are water, energy, waste, green campus and carbon footprint.**

6.1. Auditing for Water Management

Water is a natural resource; All living organisms depend on water. While freely available in many natural environments, in human settlements potable (drinkable) water is less readily available. Groundwater depletion and water contamination are taking place at an alarming rate. Hence it is essential to examine the quality and usage of water in the college. Water auditing is conducted for the evaluation of facilities of raw water intake and determining the facilities for water treatment and reuse. The concerned auditor investigates the relevant method that can be adopted and implemented to balance the demand and supply of water.

6.2. Auditing for Energy Management

Energy conservation is an important aspect of campus sustainability which is also linked with carbon foot print of the campus. Energy auditing deals with the conservation and methods to reduce its consumption related to environmental degradation. It is therefore essential that any environmentally responsible institution examine its energy use practices.

6.3. Auditing for Waste Management:

Human activities create waste, and it is the way these wastes are handled, stored, collected and disposed of, which can pose risks to the environment and to public health.

Solid waste can be divided into three categories: bio-degradable, non-biodegradable and hazardous waste.

1. Bio-degradable wastes includes food wastes, canteen waste, wastes from toilets etc.
2. Non-biodegradable wastes include what is usually thrown away in homes and schools such as plastic, tins and glass bottles etc.

3. Hazardous waste is waste that is likely to be a threat to health or the environment like cleaning chemicals, acids and petrol.

Unscientific management of these wastes such as dumping in pits or burning them may cause harmful discharge of contaminants into soil and water supplies, and produce greenhouse gases contributing to global climate change respectively. Special attention should be given to the handling and management of hazardous waste generated in the college.

Bio-degradable waste can be effectively utilized for energy generation purposes through anaerobic digestion or can be converted to fertilizer by composting technology. Non-biodegradable waste can be utilized through recycling and reuse. Thus the minimization of solid waste is essential to a sustainable college. The auditor diagnoses the prevailing waste disposal policies and suggests the best way to combat the problems.

6.4. Auditing for Green Campus Management:

Trees play an important ecological role within the urban environment, as well as support improved public health and provide aesthetic benefits to cities. In one year, a single mature tree will absorb up to 48 pounds of carbon dioxide from the atmosphere, and release it as oxygen. The amount of oxygen released by the trees of the campus is good for the people in the campus. So while you are busy studying and working on earning those good grades, all the trees in campus are also working hard to make the air cleaner for you.

6.5. Auditing for Carbon Footprint:

Burning of fossil fuels (such as petrol) has an impact on the environment through the emission of greenhouse gases into the atmosphere. The most common greenhouse gases are carbon dioxide, water vapour, methane, nitrous oxide and ozone. Of all the greenhouse gases, carbon dioxide is the most prominent greenhouse gas, comprising 402 ppm of the Earth's atmosphere. The release of carbon dioxide gas into the Earth's atmosphere through human activities is commonly known as carbon emissions. Vehicular emission is the main source of carbon emission in the campus, hence to assess the method of transportation that is practiced in the college is important.

7. METHODOLOGY ADOPTED:

The methodology adopted to conduct the Green Audit of the Institution had the following components.

Onsite Data Collection:

Due to Covid restrictions, virtual tour of the college campus was organized by the Green Audit Team. The data samples and relevant photographs were collected through geo-tagged photographs. The key focus of the audit was on assessing the status of the green cover of the Institution, their waste management practices and energy conservation strategies etc.

Focus Group Discussion:

The Focus Group discussions were held with the staff members and the management focusing various aspects of Green Audit. The discussion was focused on identifying the attitudes and awareness towards environmental issues at the institutional and local level.

Energy, Waste Management and Carbon Foot Print Analysis Survey:

With the help of teachers and staff, the audit team has assessed the energy consumption pattern and waste generation, disposal and treatment facilities of the college. The monitoring was conducted with a detailed questionnaire survey method.

8. AUDIT STAGE:

Green auditing in **Sahkarmitra Shivajirao Katkade Arts and Commerce College, Sinnar** began with the assessment of the status of the green cover of the Institution followed by waste management practices and energy conservation strategies etc. The team monitored different facilities at the college, determined different types of appliances and utilities (lights, taps, toilets, air conditioners, etc.) as well as measuring the usage per item (Watts indicated on the appliance, etc.) and identifying the relevant consumption patterns (such as how often an appliance is used) and their impacts. The staff and learners were interviewed to get details of usage, frequency or general characteristics of certain appliances. Data collection was done in the sectors such as Energy, Waste, Greening, Carbon footprint and Water use. College records and documents were verified several times to clarify the data received through survey and discussions.

9. GREEN AUDIT REPORT

9.1. Water Quality Assessment:

Water is provided through a tube-well / bore well. Institute currently do not have any water treatment plant however, portable R.O. unit is provided in the campus to provide water for drinking purpose. The bore well water is being used for flushing and gardening.

It is recommened that the institute should carry out water quality analysis for bore well water and R.O. water once in a year.

9.2. Water Management:

The source for the water used in the College is a single bore well present in the campus.

Institute has installed an underground tanks of 75 KL capacity for domestic water.

Water availability is good throughout the year however institute has to procure tanker water to meet its demand during summer. Approximately 15 nos. of water tankers (10 KL each) are required to fulfill the water demand during 4 months of summer.

- **Water consumption meter** is not installed on the bore-well water. Institute is not maintaining record of its daily water consumption.
- College has displayed signboards for spreading awareness of its water saving initiatives.

- There was no leaking taps or water wastage reported during the audit phase.
- There is no formal water management plan available with the institute.
- The institute has installed **Rain Water Harvesting** system for recharging the bore well with rainwater from the roof.

- There is no **Sewage Water Treatment** plant in the campus to recycle the waste water for the use of flushing and gardening. The waste water is being drained to main drainage system of the city.
- There is no laboratory in the campus.

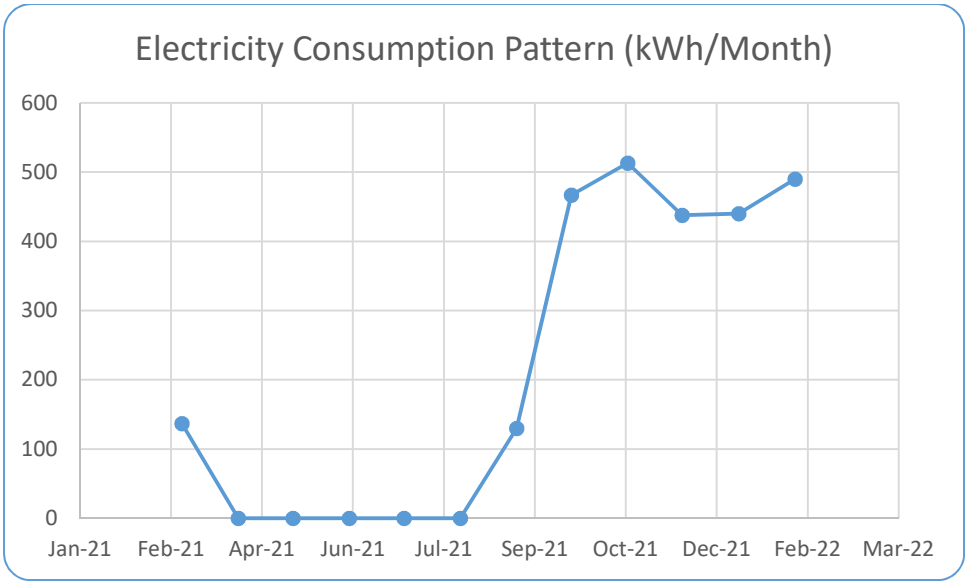
9.3. Energy Audit Report:

9.3.1. Electrical Bill Analysis:

Electricity is supplied by MAHARASHTRA STATE ELECTRICITY DISTRIBUTION COMPANY LIMITED. The institute falls under 52 LT-II A tariff category. The electricity charges under this tariff is Rs. 7.18/kWh and wheeling charges is Rs. 1.38/kWh. Demand charges is Rs. 415/kVA. Electricity Duty of 21% is applicable on the above heads. In addition to it Tax on Sale @ 18 Ps/kWh is also applicable.

Considering electricity duty of 21%, effective electricity charges works out to be Rs. 10.36/kWh.

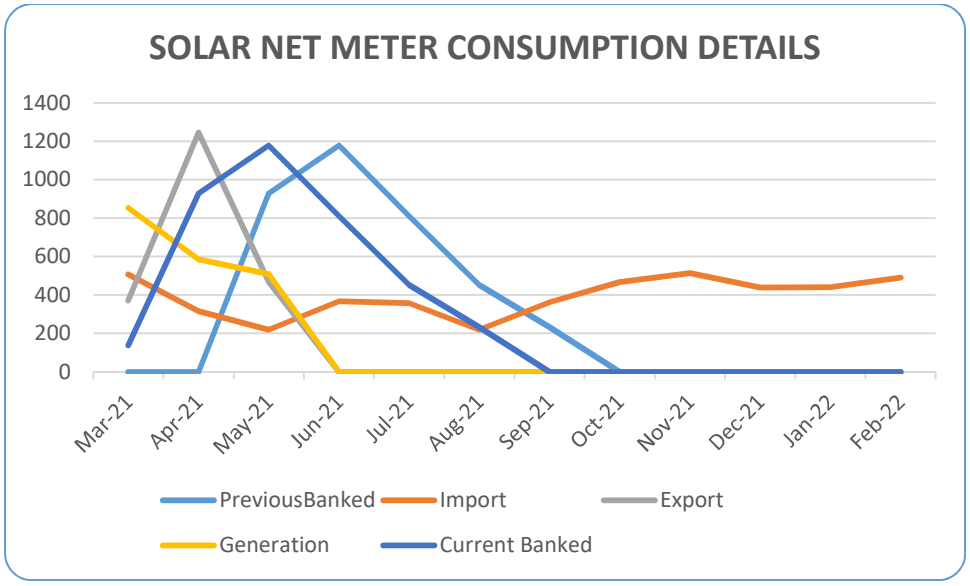
Following chart shows the energy consumption pattern of the college over last 12 months. The college has consumed an average of 217.9 kWh/month electricity in a year. The total electricity bill amount was 33495/- for last 12 months excluding penalties due to delayed payments.



Due to Covid restrictions, the physical college was not operational before Aug'21 which is reflecting on the energy consumption pattern.

Institute has installed a 15 kW Solar PV Rooftop system with Net-Metering option. Following chart shows the generation, import, export & banking of Units generated within last 12 months. It can be conclude

from the chart that the system stopped generating solar power since Jun'21. During the discussion, it was found that the system is under maintenance since Jun'21 and recently institute has repaired it and it will become functional from Mar'22. It is estimated that institute must have lost around 1500 - 1800 kWh of generation every month because of unavailability of solar PV system.



9.3.2. Electrical Consumers:

There is only single air conditioner of 2 TR capacity is installed in the office. The installed air conditioner is three star rated. The temperature setting is generally kept at 24-25 °C. The air conditioner is well maintained and serviced regularly.

The list of common electrical consumers along with its typical electricity consumption is provided in the table below.

Energy Audit				
Type of Electrical Device	Quantity	Power	Operation	
	Nos.	Watt	Hrs/Day	Days/Month
FANS	22	80	10	20
CFL BULBS	35	20	3	20
COMPUTER	11	N.A.	4	20
PRINTER	4	N.A.	1	10

9.4. Alternate Sources of Energy and Energy Conservation Measures

- Institute has installed a 15 kW Solar PV Rooftop system.

- Institute is utilizing the natural light to its maximum. The classroom and offices are designed in such a way that it allows maximum sun light and reduces requirement of artificial lights.

- Since there is no hostel/ residential facility or canteen in the institute, hence there is no solar water heating system required.
- Since the biodegradable waste generation is very low, there is no Bio-gas plant.
- Institute do not have any sensor based operation to save energy.
- Institute is has already started replacing existing lighting fixtures with LEDs and energy efficient lighting fixtures. Even the street lights are equipped with LED lightings.

9.5. Waste Management:

Following data provide the details of the waste generated & the disposal method adopted by the college.

Total number of stakeholders in the college: **1064**

Staff Details	Male	Female	Total
No. of Students	404	112	516
No. of Teaching Staff	6	6	12
No. of Non-Teaching Staff	2	2	4

Total number of rooms (Class rooms, canteen, office, auditorium, library etc.): **18**

Physical Structure	
Total Campus Area	9 Acres
Built-up Area	2935.44 m2
No. of Departments	2
Conference Halls	1
Class Rooms	10
Office Rooms	4
Libraries	1
Auditorium	1
Canteen	1

9.5.1. Waste Management Practices Adopted by the College:

Following table shows the quantum of waste generation from office & canteen.

Approximate quantity of waste generated per day (in kg)				
Office	**Type of Waste**			
Quantity	**Biodegradable**	**Non-Biodegradable**	**Hazardous**	**Others**
< 1kg		Y		
2 - 10 kg				
> 10 kg				
Canteen	**Type of Waste**			
Quantity	**Biodegradable**	**Non-Biodegradable**	**Hazardous**	**Others**
< 1kg	Y			
2 - 10 kg				
> 10 kg				

- There is no biomedical waste generation happening in the college.
- There is no hazardous chemicals and radioactive waste getting generated in the college.
- The institute is segregating the waste in to 2 categories viz. solid & liquid waste.

9.6. Green Campus:

The college campus is relatively new and the plantation has been done recently.

- Total number of plant species identified - 22.
- Total number of plants in the campus – 438






Table 6. List of plants in the campus

SR.NO	NAME OF TREE	NO.OF TREE
1	Sour Tamarind (आंबट चिंच)	140
2	Gulmohor (गुलमोहोर)	37
3	Nim tree (निम)	70
4	Vachellia nilotica (बाभुळ)	12
5	Subabul (सुबाभूळ)	25
6	Almond tree (बदाम)	8
7	Millettia pinnata (करंजी)	3
8	Hibiscus (जास्वंद)	27
9	Neolamarckia tree (कदंब)	11
10	Mulberry (तूत)	1
11	Champak tree(चाफा)	5
12	Lead tree (शिसव)	9
13	Palm tree (खजुर)	23
14	Ramphal (रामफळ)	1
15	Banyan tree (वड)	1
16	Mango tree (आंबा)	6
17	Fig tree (उंबर)	1
18	Peepul tree (पिंपळ)	1
19	Ashoka tree (अशोका)	40
20	Bamboo tree (बांबू)	4
21	Christmas tree	1
22	Weeping Bottle brush / Callistemon viminalis (चील)	12
	TOTAL	**438**

9.6.1. Green Campus Initiatives:

Following are few activities under green campus initiatives.

- College campus is not very large however, automobile entry is partially restricted in the campus.

- Institute is yet to adopt the battery-powered vehicle for transportation. However cycles are being used for internal transport.

- The pathways inside the campus are pedestrian friendly.

- Institute has initiated banning plastic in the campus.
- The college campus is landscaped with various trees & plants.

9.6.2. Quality audits on Environment and Energy:

Institutes has initiated carrying out following audit on regular basis.

1. Green Audit
2. Environmental Audit
3. Energy Audit

This is the first audit and institute plans to have such audits every year.

Institute is carrying out many environmental promotion activities in the campus throughout the year. These activities include

- ✓ Cleanliness Drive
- ✓ Plantation Drive

The institute not only organizes such program inside the campus but is also actively doing it outside the campus as well.

9.6.3. Routine Green Practices:

Every year college celebrates Swachha Bharat Abhiyan, World Environment Day and World Water Day in the campus. The main focus of these programs was to provide awareness to the students about the importance of the environment, its conservation and sustainable use of environmental resources. The programs are conducted through seminars, poster presentation, quiz competition debates etc.

पुढारी

रासेयोतून ग्रामीण विकासाला द्यावी नवी दिशा

कातकाडे : देशवंडीत राष्ट्रीय सेवा योजनेचे विशेष श्रमसंस्कार शिबिर

एसएसके महाविद्यालयातर्फे रासेयो सप्ताह

नायगाव, जोगलटेंभीत विविध सामाजिक उपक्रम

(सिन्नर । वार्ताहर)

तालुक्यातील नायगाव येथील एस.एस.के. कला आणि वाडिय्य महाविद्यालयात राष्ट्रीय सेवा योजना सप्ताह साजरा करण्यात आला. या सप्ताहात मतदान नोंदणी अभियान, रस्ता सुरक्षा व स्वच्छ भारत अभियान राबविण्यात आले. मतदान नोंदणी अभियानाचे उद्घाटन संस्थेचे संस्थापक अध्यक्ष शिवाजीराव कातकाडे यांच्या हस्ते करण्यात आले.

राष्ट्रीय सेवा योजनेच्या माध्यमातून जागृत नागरिक घडविण्याचे आवाहन कातकाडे यांनी केले. मतदान नोंदणी अधिनियमांतर्गत घनलक्ष्मी शिक्षण संस्थेचे सचिव कुणाल कातकाडे यांनी मार्गदर्शन केले.

सप्ताह कालावधीत स्वयंसेवकांनी नायगाव व जोगलटेंभी गावात मतदार नोंदणी केली. नायगावातून ९० तर जोगलटेंभीतून ९३ मतदारांची नोंदणी यावेळी करण्यात आली. त्यानंतर महाविद्यालयात रस्ता सुरक्षा या विषयावर आधारित निबंध स्पर्धा घेण्यात आली. नायगावच्या आठवडे बाजारात स्वच्छतेसंदर्भात जनजागृती रॅली काढून जनजागृती केली. तसेच आठवडे बाजाराची स्वच्छता करून स्वच्छ भारत अभियान राबविण्यात आले. सप्ताह यशस्वीतेसाठी कार्यक्रम अधिकारी प्रा. श्रीमती गायकवाड यांच्यासह प्राध्यापक, सेवकवृंद व रासेयोच्या स्वयंसेवकांनी परिश्रम घेतले.

9.6.4. Disabled-Friendly Environment:

Institute need to provide a disabled friendly washroom. However, there is a requirement of a ramp and a lift/ wheelchair for easy access to classrooms for disabled students and staff.

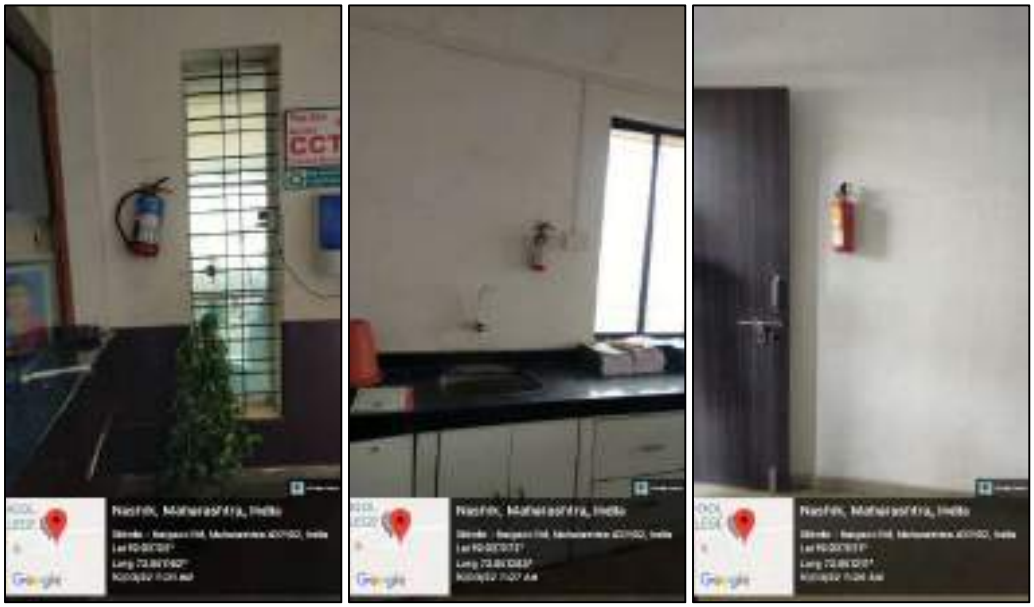
9.6.5. Air Quality & Ventilation:

The classrooms and offices in the premises are well ventilated. The fans are operational and adequately placed to effect the sufficient air changes. Fans installed are not star-rated. College has done indoor plantation to provide fresh air inside the premises.

9.6.6. Infrastructure Usage:

- College premises one common entrance and has broad passage ways.

- The campus has proper drainage system and there were no leakages/ seepages from the roof was observed.
- The premises has fire extinguishers installed at required locations which are regularly checked and maintained.



9.6.7. Green IT Culture:

The institute is following a green IT culture.

- Email/ electronic communication mode is preferred to save papers.
- Both side printing is being adopted to save paper and trees.

10. Carbon Foot Print Analysis:

10.1. CO2e Calculation:

Carbon Foot Print Calculation		
A- Scope 1 (Direct Emission)		
Source	Fuel Consumption	CO2
DG	NA	NA
Vehicles	NA	NA
Others	NA	NA
B- Scope 2 (Indirect Emission)		
Source	Unit Consumption	CO2 (KG)
Electricity Consumption	2615	2353.5
Total A+B	**2615**	**2353.5**
Carbon Offset		
Source	Quantity	CO2 (KG)
Solar	Nil	0
Trees	438	8760
Others	Nil	0
Total	**Nil**	**2240**

Sr. No	Description	Remark
1	Direct Emissions	No Data available
2	Indirect Emissions	Calculated as per international standards
3	Reductions	To increase the carbon offset, it is recommended to ensure proper operation & maintenance of Solar PV Rooftop System.

11. SUGGESTIONS AND RECOMMENDATIONS:

11.1. Water Management:

- There should be a proper monitoring of water consumption pattern in the campus. The bore well should be installed with water meter to monitor the consumption. The water meter readings to be recorded every day or every week at a fixed time.
- It is recommended to check water quality from bore well and R.O. water quality for dissolved oxygen, acidity, alkalinity, chloride, hardness, pH, and conductivity, total dissolved solids and E-coli/ coliform.
- The wash basin taps may be equipped with water saving fixtures.
- The flush tanks of the toilets may be fitted with dual volume system.
- Institute may install drip irrigation system to water the garden and plants in the campus.
- It also recommended to install water meter on bore well to monitor daily consumption of water. It is suggested to keep record of daily water consumption.

11.2. Energy Management:

- Institute has installed a Solar PV rooftop system. However, could not avail the required benefits as the system was under maintenance. A 15 kW solar PV rooftop system is capable of generating around 1500-1800 kWh of energy every month. It is recommended to keep the system up & running all the time to avoid financial losses and to avoid the adverse impact on environment.
- The energy audit recommend to avoid the use of more energy consuming electrical appliances and to replace with more environment friendly and energy efficient appliances (for example five stars rated Air conditioner, star rated fans) in the college.
- College may adopt sensor-based (occupancy sensors) energy conservation approach for offices, classrooms and washrooms as well.
- Going forward college may also replace existing tube lights with LEDs.

11.3. Green Campus:

- Institute may restrict the entry of all automobiles inside its campus.
- More Battery powered vehicles may be adopted in future to reduce emissions inside campus.
- Use of cycles may be promoted among the students.

11.4. Waste Management:

College may undertake feasibility study to install sewage water treatment in the campus to recycle waste water and use it in flush or for gardening purpose.

Leaf litter from the campus can be effectively used for aerobic/ vermi composting, so that the composted material can also be used as good manure.

Try to completely ban the use of plastic in the campus, and to encourage the use of biodegradable materials as alternatives. Try to achieve the goal of plastic free campus.