# **ENVIRONMENT AUDIT CERTIFICATE**

This is to certify that Environment Audit has been successfully completed by M/s. Saur Engineers & Consultants Pvt. Ltd. Empanelled Energy Auditor(CLASS-A) MEDA, Government of Maharashtra and an ISO 14001:2015 company and suggestions for improvements have been given. The Audit activity has been executed for beneficiary with following Details:-

#### \$ONOPANT DANDEKAR \$HIK\$HAN MANDALI Tahaşil & Diştrict Palghar, Maharaşhtra 401404

Date of Audit: 20/08/2023 Assessment Period: 2021-2023 Valid till: 19/08/2025



ANUP A. SAMANT TECHNICAL DIRECTOR



ASHUTOSH V. THAKUR MANAGING DIRECTOR

Saur Engineers & Consultants Pvt. Ltd.

Registration No: EA-28 MEDA/ECN/2023-24/Class-A/EA 28 Empanelled Energy Auditor-CLASS A, MEDA, Government of Maharashtra

The report is generated from data, information, answer to asked questions, standards and procedures defined by different and concerned authorities time to time, available site condition, weather condition, operational and availability conditions provided by beneficiary on the day of survey. If any changes on above said measures on any other parameters affecting these measures may lead to change, alter, in-corrections even falsifying calculations, results, recommendations and suggestions. The values, figures, amounts mentioned are indicative to the site situation and condition; it may not reflect each and every aspect of it. The report is generated restricted to given scope and available conditions and measures.

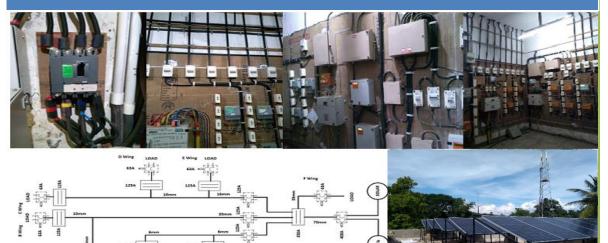


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- Liasoning
- Energy Audit
- Safety Audit
- Electrical Projects
- Solar
  Projects

# Sonopant Dandekar Shikshan Mandali (SDSM) Tahl. & Dist. Palghar, Maharashtra



## Report By

M/s. Saur Engineers & Consultants Pvt. Ltd., Mumbai.

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- Registered Energy Auditor
- Power Consultant
- Channel Partner-MNRE, Govt. of India.
- Channel Partner-MEDA, Govt. of Maharashtra.
- Solar Grid Engineers, NISE, Govt. of India
- Licensed Electrical Contractor,



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# **Detailed Report**

# **Environment Audit**

# Project Beneficiary 2021-2023

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Sonopant Dandekar Shikshan Mandali

Tahl. & Dist. Palghar Palghar Maharashtra 401404

# **Consultants & Auditor**

## SAUR

**Engineers & Consultants Pvt. Ltd.** REGISTRATION NO. : EA-28

D-8, Plot No. 108, Akshay, Rsc-16, Gorai-1, Borivali (west), Mumbai-400092 MAHARASHTRA +919867499812/+919168402909

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#### Acknowledgement

This is to certify that Detailed Environment Audit has been successfully completed by M/s. Saur Engineers & Consultants Pvt. Ltd. Empanelled Energy Auditor(CLASS-A) MEDA, Government of Maharashtra and an ISO 14001:2015 company.

This activity is jointly executed by auditor and beneficiary to account Environmental diversities and development opportunity without sacrificing it's purpose. The main object was to assess the existing system for Environment concerns, High quality, professional and sustainable Environment management, Adopt best practices and Standard operating procedures.

Beneficiary premise is a leading educational service utility in semi-urban area. The college is run as per the norms and standards and having awareness and approach towards Environment saving. The management and staff are keen on saving greenery and energy on every opportunity available.

We sincerely acknowledge efforts of Management and staff members for smooth execution of audit process. We sincerely acknowledge the leaders and guides of the activity who helped to design and supported to the execution of the process

1)	CA Mr. Sachin G. Kore	:	President
2)	Mr. Dhanesh Vartak	:	Vice President
3)	Mr. Pratap Varaiya	:	Vice President
4)	Mr. Mangesh Pandit	:	Treasurer
5)	Mr. Sudhir Kulkarni	:	Secretary
6)	Mr. Anil Patil	:	Secretary
7)	Dr. Kiran J. Save	:	Principal & Team Head
8)	Dr. Payal Cholera	:	Principal – Law College
9)	Prof. Mahesh Deshmukh	:	Vice Principal & IQAC Convener
10)	Prof. (Dr.) Tanaji Pol	:	Vice Principal
11)	Mr. Tejas Chaudhari	:	Assistant Professor
12)	Mrs. Rupali More	:	Senior Clerk
13)	Mr. Himanshu Patil	:	Accountant
14)	Mr. Prakash Chabke	:	Junior Clerk
14)	Mr. Umesh More	:	Estate Manager
15)	Mr. Prabhal Patil	:	Electrician

and all other technical, teaching, non-technical staff and students of college.



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Name of Beneficiary: Sonopant Dandekar Shikshan Mandali Registration Number: F/24 PALGHAR Address: Tahl. & Dist. Palghar, Maharashtra 401404 Contact Person: Prof. Mahesh Deshmukh Contact Number: 02525252163 Date of Audit: 20/08/2023

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Sign & Seal Saur Engineers & Consultants Pvt. Ltd. Registration No: EA-28 Empanelled Energy Auditor-CLASS A, MEDA, Government of Maharashtra



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#### 1. Introduction

Environmental Audit is a process of systematic identification, quantification, recording, reporting and analysis of impact on components of environmental diversity properties of institute. It aims to analyse within and surrounding the place concerned, which will see interrelation with eco-friendly atmosphere. Environmental audit is a valuable means for an Institution related to educational area to determine how and where they are impacting on natural resources or diversity of nature. Environmental audit report includes assessment of premises which refers to impact on environment with carbon emission, wastages in terms of initiatives, implementation, best practices, working environment, capacity utilization based on all above parameters observed during Environmental audit along with conditions and benchmarks as Wastage types, recycling, Greenery, effect of impact, Carbon footprints as well as biodiversity conditions. Understanding these conditions the institution can make plans for day to day working, future expansions as well as an environment-friendly view of life while making changes and planning for savings.

It can create health consciousness, environmental awareness, practice green values and ethics. It provides better understanding of impact on surrounding conditions to staff and students. If self-enquiry is natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is natural and necessary outgrowth of a quality educational institution. Thus it is imperative that the institution evaluates its own contributions towards a sustainable future. As the pollution and co<sub>2</sub> is becoming an increasingly important issue for the nation, the role of higher education institute is more vital and prevalent in relation with the issue.

The rapid urbanization and economic development at local, regional and global level has led to several greenery and ecological crisis. On this background it becomes essential to adopt the system of Green Campus for the institution which leads for sustainable development and at the same time persisting the quality of the same while travelling on the growth path. The National Assessment & Accreditation Council, New Delhi (NAAC) has made it mandatory to all Higher educational institutions should submit a Environmental audit Report. Moreover, it is social responsibility of a Higher educational institution to ensure that they contribute towards the saving of environment and reduce level of quantity for impact on natural resources available.



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#### 1. Objective

The Environmental audit of an institution has becoming the paramount important for self-assessment of the Institution which reflects in the role of the institution in mitigation to current problem of reducing greenery and natural resources depletion. The institution has been putting efforts to keep clean and green atmosphere since its inception. Therefore the purpose of present Environmental audit is to identification, quantification, recording, reporting and analysis of components of surrounding environmental properties of institute framework as a part of global environment sustainability. The main objectives to carrying out the Environmental audit are:-

- > To record and document Wastage type and management
- To record and document Recycling Procedures
- To record and document Impact on environment
- > To record and document Carbon footprints
- $\triangleright$

#### 2. Methodology

The purpose of Environment Audit of is to ensure that the practices followed in the campus are in accordance with the Energy Conservation Policy of the Country. The methodology includes: collection of data, physical inspection of the campus, observation and review of the documentation and data analysis.

The report is based on the documents obtained while on site, visual inspection and data collection carried out during the assessment period. All the measurements recorded on site are indicative loads and duties. All readings are collected for analysis and improvement planning. Cost estimates are indicative only as more detailed design and acceptance of suggestions will be required to improve the accuracy of these estimates.

The units are selected from SI (international standards) with meters, Celsius degrees, Etc.

#### 3. Audit Statement

The building is adopting the "Energy Efficient Campus" system for Energy conservation and sustainability. There are main three pillars i.e. Energy saving by technology and Operation & Maintenance procedures, safe working on occupational health and performance and 100% inmates demonstrating energy efficiency literacy. The goal is to maintain safe working environment, reduce energy consumption, while creating an atmosphere where inmates can work and live healthy.



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#### 2. Topography

1. Overview

SL No	Head	Details
1	Name of Applicant Institution	Sonopant Dandekar Shikshan Mandali
3	Address	Tal. Dist. Palghar 401404
4	Contact Number	02525252163
5	Registration Certificate Number	F/24 PALGHAR
6	Sector Type	Educational Institute
7	Senior Management Contact	Prof. Mahesh Deshmukh
8	Contact Number	7972547497
9	Status of Institution (Pvt./Public)	Private
10	Company Turnover (Rs. In Lakhs)	750
11	Number of Employees	235
12	Approximate Floor Area (ft2)	75000
13	Year of Establishment	1970
14	Plot Area (ft2)	800000
15	Constructed Area (ft2)	75000
16	Greenery Area (ft2)	700000
17	Roof Area (ft2)	24000
18	No of Buildings	6
19	Building Type	RCC Construction
20	Age of Building	30years
21	Leakages/Cracks on wall/roof	Minor wall leakages in rooms
22	No. of workers (Footfall)	250
23	No. of Customers (Footfall)	3000-4000
24	Day Vs Night activity in %	100% Day
25	Shifts per day	1
26	Hours per shift	12
27	DG Set installed	Yes
28	Inverter Installed	Yes
29	Renewable Energy System installed	Yes
30	(Solar/Wind/Biomass/Biofuel/Etc.)	Solar 80Kwp



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#### 2. Location

SL No	Head	Details	Remark
1	Name of Institute	SDSM	
2	Category	College	Educational Institute
3	Address	Tahl. & Dist. Palghar Maharashtra	
4	State	Maharashtra	
	Nearest Railway	Palghar	Outstation
5	Station	Palghar	Local
	Nearest Bus	Palghar	Interstate
6	Station	Palghar	Intrastate
7	Nearest Airport	CSIA, Mumbai	
8	Longitude	19.42	
9	Latitude	72.45	

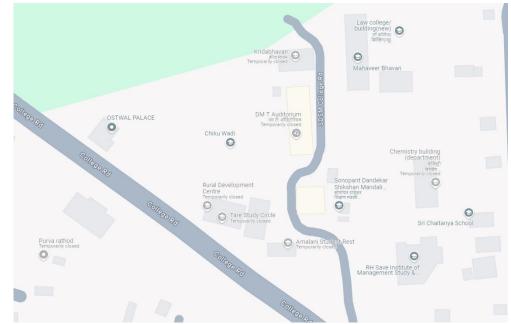
#### 3. Layouts

Floor Map

- 1. Preserved in archives for each building.
- 2. For main building which is very old maps are not available, recommended to preserve sketches

#### Site Map

1. Preserved in archives.





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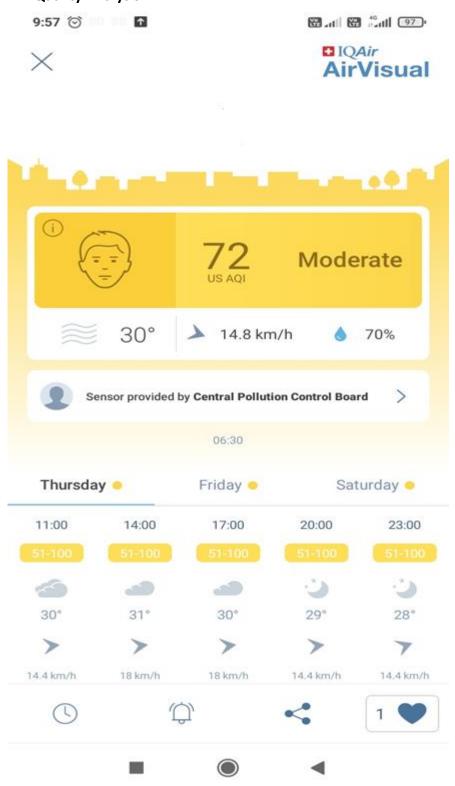
#### **Google Map**





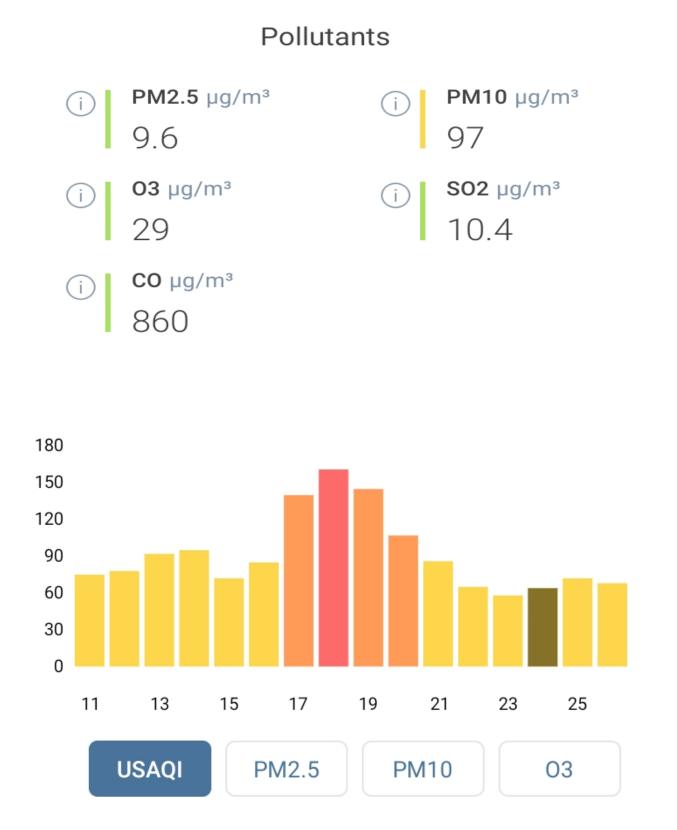
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3. Air Quality Analysis



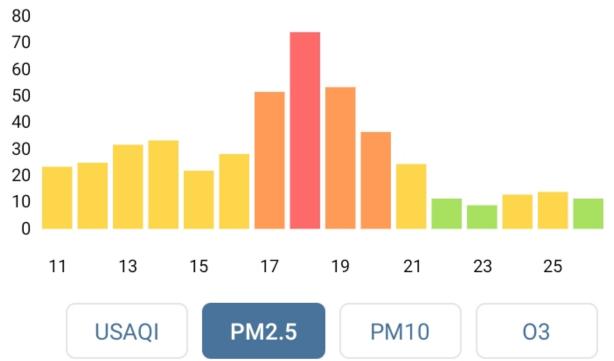


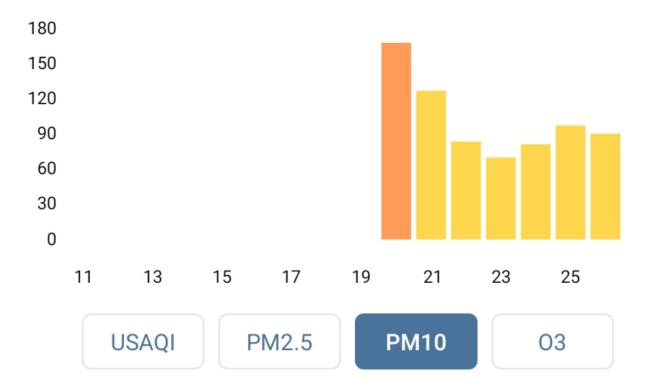
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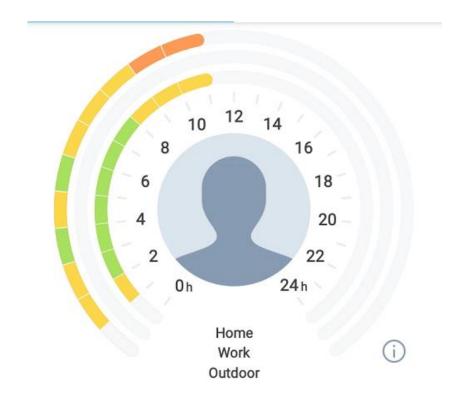






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Weather/Meteorology Data:-Palghar, Maharashtra The following are the site co-ordinates. Latitude: 19.60 Longitude: 72.45 Average Altitude: 30 m Annual Solar radiation: 369.2 kWh/ Sq.m/year

#### Sunshine & Daylight Hours

- Hours of sunshine in range from 2:11 for every day in <u>July</u> to 9:48 per day in <u>December</u>
- The longest day of the year is 13:08 long and the shortest day is 10:51 long.
- The longest day is 2:16 longer than the shortest day.
- There is an average of 2680 hours of sunlight per year (of a possible 4383) with an average of 7:20 of sunlight per day.
- It is sunny 61.1% of daylight hours. The remaining 38.9% of daylight hours are likely cloudy or with shade, haze or low sun intensity.
- At midday the sun is on average 70.1° above the horizon at Mumbai/ Bombay.

	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	Annua I
Aver Sunl Hou Da	ight 09:0 irs/ 0	09:2 4	09:0 5	09:1 8	09:1 7	05:2 4	02:1 1	02:3 6	04:5 4	08:0 0	09:1 2	09:4 8	07:20
Aver Dayl Hou Minu / D	ight rs & 11:0 utes 6	11:2 9	12:0 0	12:3 3	13:0 0	13:1 4	13:0 7	12:4 4	12:1 2	11:4 0	11:1 2	10:5 9	12:00
Sunr (Clou Dayl Hou (%	udy) 82 ight (18) urs	83 (17)	77 (23)	75 (25)	72 (28)	41 (59)	17 (83)	21 (79)	40 (60)	69 (31)	83 (17)	90 (10)	61 (39)
Su altit at so noor the 2 day	ude olar n on 21st	60.4	71.3	83	88.5	85.4	87.8	83.2	71.7	60.2	51	47.7	70.1



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#### Rainfall/ Precipitation

- It receives on balance 2168 mm (85.4 in) of rainfall per year, or 180.7 mm (7.1 in) per month.
- On average there are 107 days per year with more than 0.1 mm (0.004 in) of rainfall • (precipitation) or 8.9 days with a quantity of rain, sleet, snow etc. per month.

- The driest weather is in January, February & March when an average of 0 mm (0 in) of • rainfall (precipitation) occurs.
- The wettest weather is in July when an average of 682 mm (26.9 in) of rainfall (precipitation) • occurs.

		<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	Annua
	Average Mm	0	0	0	2	12	592	682	487	307	61	23	2	2168
<b>.</b>	Liters/m <sup>2</sup>	0	0	0	2	12	592	682	487	307	61	23	2	2168
Ţ	Number of Wet Days	0	0	0	1	2	20	29	27	21	5	2	0	107
	Percentage of Sunny (Cloudy) Daylight Hours	82 (18)	75 (25)	77 (23)	72 (28)	72 (28)	40 (60)	17 (83)	21 (79)	39 (61)	69 (31)	80 (20)	90 (10)	61 (39)



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#### **Average Temperatures**

- The average temperature is hot at 27.5 Degree Celsius.
- Mean monthly temperatures have a variation of 5.7 Degree Celsius.
- Mean daily temperatures have a variation of 7.6 Degree Celsius.
- The hottest month (May) having mean temperature of 30.2 Degree Celsius.
- The coolest month (January) having mean temperature of 24.5 Degree Celsius.

		<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	Annual
•	Average Max Temp °C	29.6	29.6	31.1	32.3	33.4	32	30.1	29.6	30.5	32.5	32.9	31.6	31.3
	Average Temp °C	24.5	24.8	26.9	28.7	30.2	29.2	27.7	27.3	27.7	28.7	28	26.3	27.5
8	Average Min Temp °C	19.3	20	22.6	25	27	26.3	25.3	24.9	24.9	24.8	23	20.9	23.7

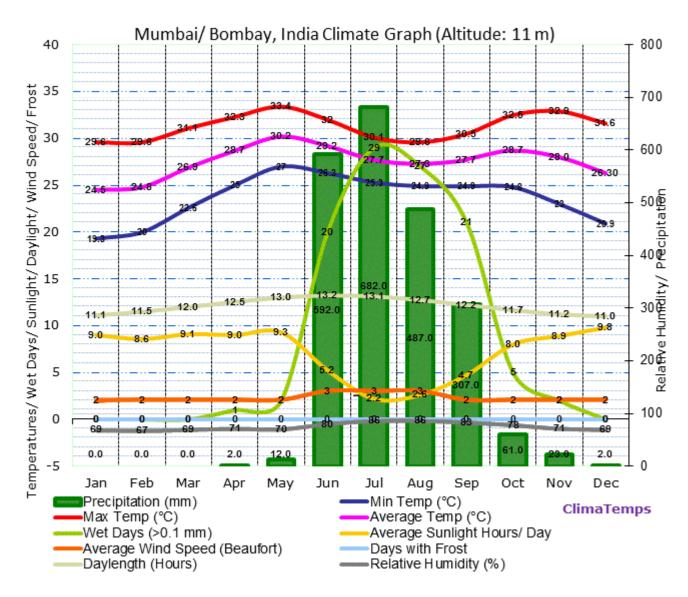
#### **Relative Humidity**

• The average annual relative humidity is 74.9% and average monthly relative humidity ranges from 67% in <u>February</u> to 86% in <u>July</u>.

		<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	Aug	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>	Avg
١	Relative Humidity (%)	69	67	69	71	70	80	86	86	83	78	71	69	74.9
Ŷ	Average Dew Point Temp °C	18.4	18. 3	20.7	22.9	24.1	25.4	25.1	24.7	24.5	24.5	22.2	20.2	22.6



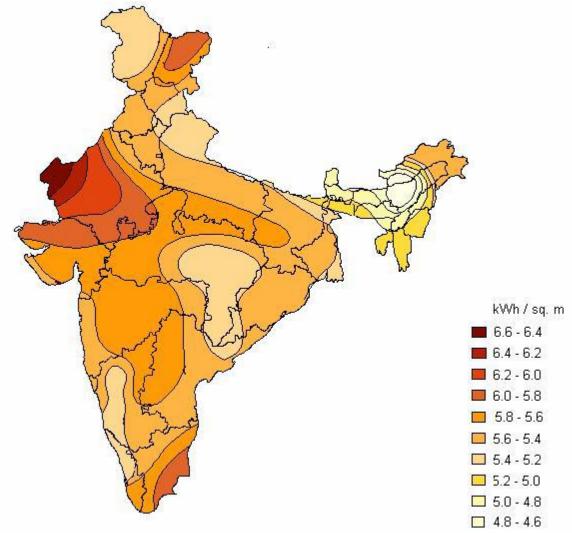
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**Radiation Data** 



Month	Irradiation(KWh)
Jan	5.32
Feb	6.25
Mar	7.05
Apr	7.38
May	7.33
Jun	5.64
Jul	5
Aug	5.12
Sep	5.65
Oct	5.72
Nov	5.38
Dec	5

4.6 - 4.4



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#### Sun Position Report Values obtained as: Sun Position

Latitude:	19 5' N	Time zone: UTC +5.5
Longitude:	72 51'E	No DST
Magnetic declination:	0 37' W	

Magnetic North was used for this calculation.

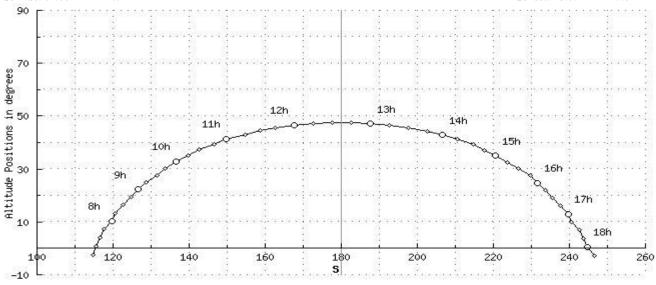
Do not correct compasses for Magnetic declination, this has been accounted for in the calculations.

	Daily Summary	C Dawn	Az'	Sunrise	Day Length	Sunset	Az'	C Dusk
Thu	21/12/2020	06:42	114.6°	07:06	10:60	18:05	245.6°	18:29
Fri	22/12/2020	06:43	114.6°	07:06	10:60	18:05	245.6°	18:29
Sat	23/12/2020	06:43	114.6°	07:07	10:59	18:06	245.6°	18:30
Sun	24/12/2020	06:44	114.6°	07:07	10:60	18:06	245.6°	18:30
Mon	25/12/2020	06:44	114.6°	07:08	10:60	18:07	245.6°	18:31
Tue	26/12/2020	06:45	114.6°	07:08	10:60	18:08	245.6°	18:31
Wed	27/12/2020	06:45	114.6°	07:09	10:60	18:08	245.6°	18:32

Thursday, 21st December 2020

	Az'	Alt'	*Shadow		Az'	Alt'	*Shadow		Az'	Alt'	*Shadow		Az'	Alt'	*Shadow
07:00	115°	-2°	-	10:00	137°	33°	1.54	13:00	$188^{\circ}$	47°	0.93	16:00	232°	$25^{\circ}$	2.14
	116°	1°	57.29		$140^{\circ}$	35°	1.43		193°	$46^{\circ}$	0.97		234°	$22^{\circ}$	2.48
	117°	4°	14.3		143°	37°	1.33		198°	$46^{\circ}$	0.97		236°	19°	2.9
	118°	7°	8.14		147°	$40^{\circ}$	1.19		203°	44°	1.04		238°	$16^{\circ}$	3.49
08:00	120°	$10^{\circ}$	5.67	11:00	$150^{\circ}$	41°	1.15	14:00	207°	43°	1.07	17:00	240°	13°	4.33
	121°	13°	4.33		155°	43°	1.07		211°	41°	1.15		241°	$10^{\circ}$	5.67
	123°	$16^{\circ}$	3.49		159°	44°	1.04		215°	39°	1.23		243°	7°	8.14
	125°	19°	2.9		163°	$46^{\circ}$	0.97		218°	37°	1.33		244°	4°	14.3
09:00	127°	$22^{\circ}$	2.48	12:00	$168^{\circ}$	47°	0.93	15:00	221°	35°	1.43	18:00	245°	$0^{\circ}$	-
	129°	$25^{\circ}$	2.14		173°	47°	0.93		224°	33°	1.54		247°	-3°	-
	132°	$28^{\circ}$	1.88		$178^{\circ}$	47°	0.93		227°	30°	1.73				
	134°	30°	1.73		183°	47°	0.93		230°	27°	1.96				

Calculation intervals: Every 15 minutes :: Shadow length = (\*Shadow x Object height)Sunrise: 07:06 - Az' 114.6°Sunset: 18:05 - Az' 245.6°



Azimuth Bearings in degrees - Magnetic North

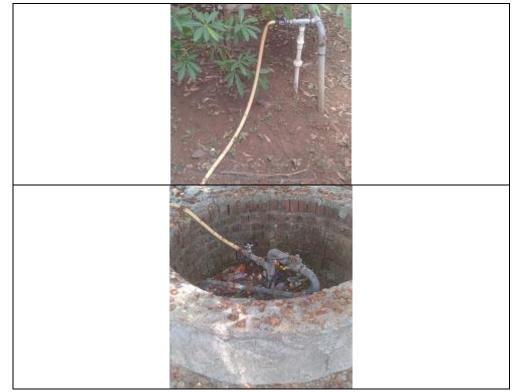


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#### 4. Water Quality Analysis

#### Water Resource

1. Bore well



It is found that bore-well is the only source of water for the campus. The campus has rich underground water resources which are used to fulfil complete requirements of the campus. The water is obtained from underground to overhead tanks of the building then treated by RO and provided to drinking as well as common use. Following are the water sources for campus:-

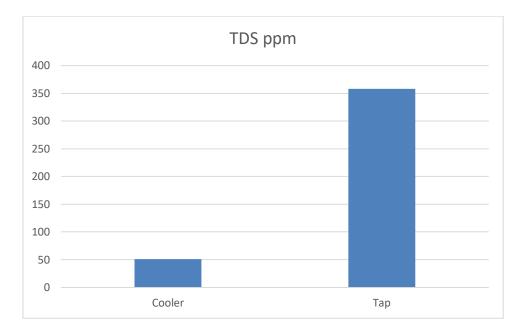
SL NO	LOCATION	CAPACITY
1	RD Center	1phase 2Hp
2	BMS 1phase 2Hp	
3	Law College	1phase 1.5Hp
4	Garden	3phase 5Hp
5	Turf Ground	3phase 3Hp

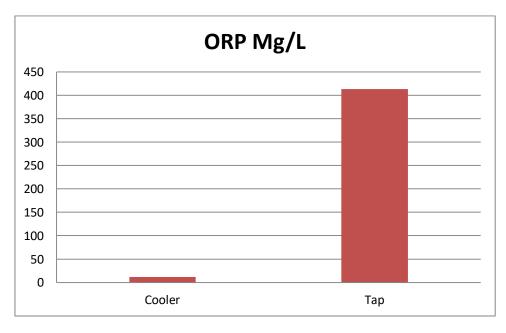


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Water Quality

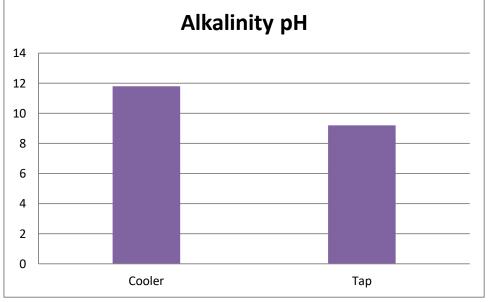
SL No	Use	TDS	ORP	Alkalinity
No	Activity	ppm	Mg/L	рН
1	Drinking	51	12	11.8
2	Тар	358	413	9.2







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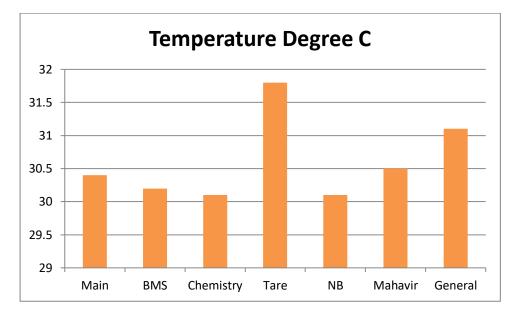


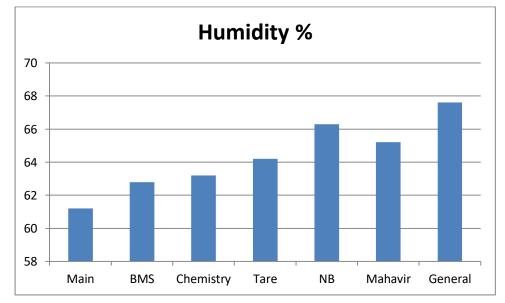


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#### 5. Atmosphere Analysis

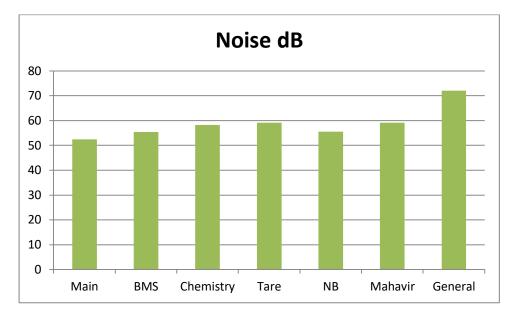
SL NO	Building	Temperature	Humidity	Noise
	Name	Degree C	%	dB
1	Main	30.4	61.2	52.4
2	BMS	30.2	62.8	55.4
3	Chemistry	30.1	63.2	58.2
4	Tare	31.8	64.2	59.1
5	NB	30.1	66.3	55.6
6	Mahavir	30.5	65.2	59.1
7	General	31.1	67.6	72.1







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- 6. Wastage Management Analysis
- 1. Do the premises generate wastage? Yes-Very Low
- 2. What type of wastage and quantity is generated? What are actions taken on it?

SL	Wastage	Quantity	Action
No	Туре		
1	Biomass	1-2Kg per day (as observed)	Composting
		500-600Kg approx. tree, grass and	
		other cuttings	
2	Paper	1000Kg approx.	Cleaned by housekeeping and sent
			to Recycling and opted stationary
			(Letter attached)
3	Water	100-200Ltrs approx. per year due	Awareness
		to leakage	
4	E-Waste	Unrecognized	Cleaned by housekeeping and sent
			to Recycling through external
			agency
5	Bio-	Unrecognized	Sanitary pad disposal machine
	Hazardous		installed
			Chemicals are diluted and
			disposed as per standard procedure
6	Fuel	Electricity Wastage by running	Awareness and Centralized switch
0	Tuci	fans and lights for uncounted time	off practice
		after room cleaning	
7	Production	NIL	NIL
8	Process	Process analysis can be done	NIL
		under detailed energy Audit	
9	Food	Occasionally wastage in very low	Cleaned by canteen staff and sent
		quantity	to municipal wastage
10	Man-Hours	NIL	NIL

#### Notes:

a. E-waste is picked up after 5 to 6 years (as per availability and size of quantum) by external agency for recycling. Certificate is attached for last pick up.



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#### 3. Recycling Procedures

- 1. Does Premises users aware about Recycle or Re-use of resources used? YES Paper and E-waste
- 2. Does institute run wastage and recycling awareness campaign for users? YES
- 3. Does institute have SOP for wastage and recycling procedures? Under preparation
- 4. Does Premises Recycle or Re-use resources used? YES Rain Water Harvesting

#### 4. Wastage Recovery & Conservation:

- Any Energy conservation method applied? YES 95% of Total lights are replaced with LEDs
- 2. Any SOP on operation and maintenance is defined? Under Process
- 3. Any Energy conservation devices installed? YES LED Lights
- 4. Any alternative Energy source is installed? YES SPV GCRT (solar) project
- 5. Does the SWITCH OFF Drills conducted regularly? NO
- 6. Are electronic and smart devices run on power saving mode? (computers,Etc) Yes
- Does electronic & other equipment run standby mode? How many hours? NO
- Does institute perform Water quality monitoring? NO
- Have you installed rain water harvesting system? YES
- 10. Any SOP on operation and maintenance of plumbing system is defined? NO
- 11. Any SOP on Water utilization is defined? NO
- 12. Does institute record water usage? NO
- 13. Are rooms well ventilated?
- 14. Does institute perform Air quality monitoring? NO
- 15. Any vehicles used? Type of Fuel? Quantity of fuel consumed? NO



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#### **E-WASTE COLLECTION BOX:**





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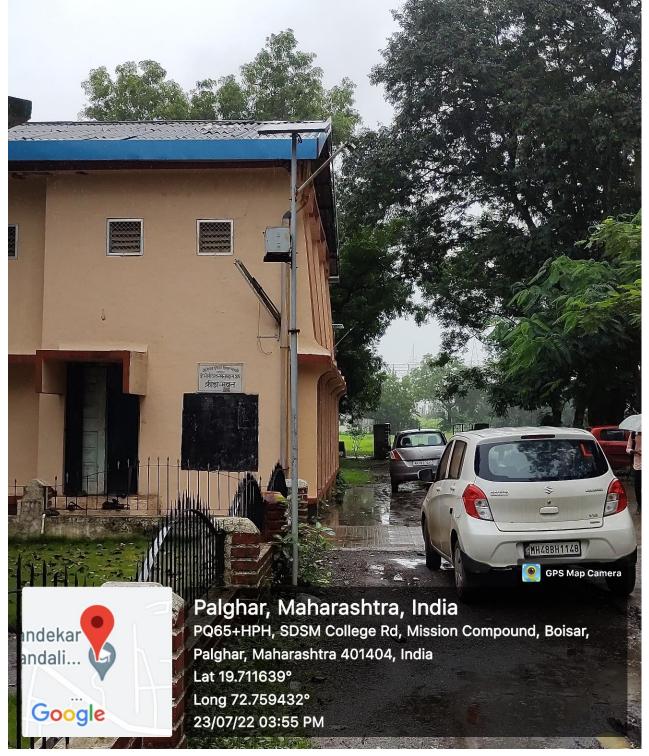
## SOLAR ENERGY



SOLAR PANEL ON THE ROOF



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**Solar Street Lights in Campus** 



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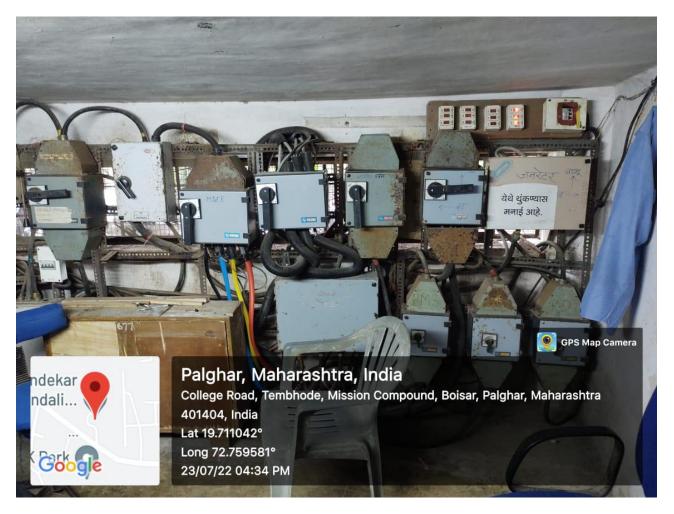


Solar Street Lights in Campus



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## 1. POWER GRID

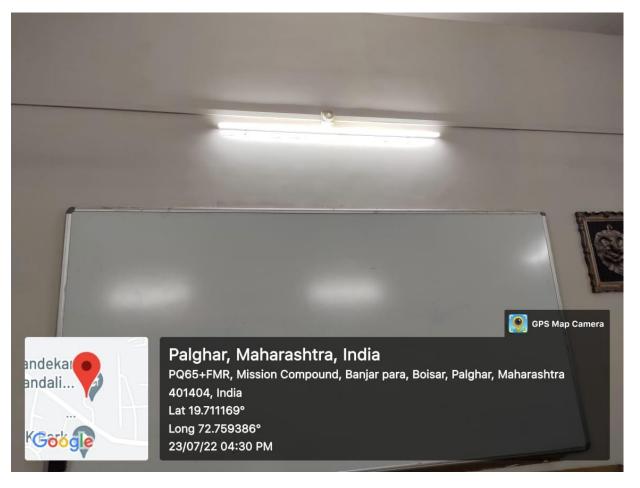


Wheeling to the Grid



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2. Use of LED Lights / Power Efficient Equipment



#### **Energy Saving LED Lights in Classrooms**



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#### **Energy Saving LED Lights in Classrooms**



**Energy Saving LED Lights in Laboratories** 



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Energy Saving LED Lights in Office Rooms





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## 3. SENSOR-BASED ENERGY CONSERVATION



#### Sensor Based Energy Saving





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7. Carbon Emission and Footprint Analysis Table-1: Overall

Environmental Impact Analysis Report				
Annual Consumption 96863 KWh				
Annual Green- Impact				
Co2 Generated	62712	Kg		
Coal Burned	57002.4	Kg		
Diesel Burned	30209.4	Ltr		
Natural Gas Burned	1152606	Cub Ft		
Trees Cut	2854.8	Nos		
Water Consumed	205623.6	Ltr		
Life Time Green- Impact				
Co2 Generated 1141842				
Coal Burned	3277833	Kg		
Diesel Burned	550110.6	Ltr		
Natural Gas Burned	20988957.6	Cub Ft		
Trees Cut	51987	Nos		
Water Consumed	3744405.6	Ltr		

Table-2: Area per Ft<sup>2</sup>

Environmental Impact Analysis Report				
Annual Consumption	96863	KWh		
Annual Green	Annual Green- Impact			
Co2 Generated	0.96	Kg		
Coal Burned	0.88	Kg		
Diesel Burned	0.46	Ltr		
Natural Gas Burned	17.73	Cub Ft		
Trees Cut	0.04	Nos		
Water Consumed	3.16	Ltr		
Life Time Green- Impact				
Co2 Generated	17.57	Kg		
Coal Burned	50.43	Kg		
Diesel Burned	8.46	Ltr		
Natural Gas Burned	322.91	Cub Ft		
Trees Cut	0.80	Nos		
Water Consumed	57.61	Ltr		



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Table	e-3:	Per	Person
-------	------	-----	--------

Environmental Impact Analysis Report				
Annual Consumption	96863	KWh		
Annual Green- Impact				
Co2 Generated 10.45 Kg				
Coal Burned	9.50	Kg		
Diesel Burned	5.03	Ltr		
Natural Gas Burned	192.10	Cub Ft		
Trees Cut	0.48	Nos		
Water Consumed	34.27	Ltr		
Life Time Gree	n- Impact			
Co2 Generated 190.31 Kg				
Coal Burned	546.31	Kg		
Diesel Burned	91.69	Ltr		
Natural Gas Burned	3498.16	Cub Ft		
Trees Cut	8.66	Nos		
Water Consumed	624.07	Ltr		

**Table-4: Carbon Footprints** 

Head	General	Per Square Foot	Per Person
Per Year	62712	10.45	0.96

#### Notes:

1. It is found that Co<sub>2</sub> Footprints are increased; relate your green and environmental work with increased footprint. (It can be observed due to increase in actual footfall which was not there at last audit time due to COVID conditions)



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8. Suggestions

Suggestions Waste management:

- **1.** It is observed that institute is working excellent in this Area. It is best expected to continue existing practices.
- 2. Arrange Exhibitions and identification programs for students and locals to understand opportunities.
- 3. Fix all taps, replace old pipelines, use Teflon tapes on ties, and use sealants for joints to avoid leakage.
- **4.** Fix a Notice on Back-side of Exit Door of Room-"SWITCH OFF all electrical equipments and Taps".

#### **Suggestions Recycling:**

1. Prepare and observed a Generalized SOP having attributes specialize on each type of wastage and it's re-usage and/or recycling.

#### Suggestions Wastage Recovery & Conservation:

- 1. Generate awareness among user about environment conservation.
- 2. Prepare and observe SOPs for the same.
- 3. Use Energy efficient fans.
- 4. Keep AC temperature to  $26^{\circ}$  C.
- 5. Clean Luminaries, Fans, ACs regularly to increase efficiency.
- 6. Prepare and observe SOPs for maintenance of equipments.
- 7. Avoid Draft printing, use email/Whatsapp maximum



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#### 9. Disclaimer

The report is generated from data, information, answer to asked questions, standards and procedures defined by different and concerned authorities time to time, available site condition, weather condition, operational and availability conditions provided by beneficiary on the day of survey. If any changes on above said measures on any other parameters affecting these measures may lead to change, alter, in-corrections even falsifying calculations, results, recommendations and suggestions. The values, figures, amounts mentioned are indicative to the site situation and condition; it may not reflect each and every aspect of it. The report is generated restricted to given scope and available conditions and measures.

#### **10.Conclusion**

We hereby conclude report for "Environment Audit" of the institute has been done under scope of work for "Sonopant Dandekar Shikshan Mandli, Tahl. & Dist. Palghar Maharashtra 401404". Please study it thoroughly and implement recommendations and suggestions at earliest.