Green, Energy and Environment Audit Report
of
Kalyani Charitable Trust's
K. R. Sapkal
College of Management Studies, Nashik

Prepared and Submitted by

WE BUILD PATHWAYS
EMBARK • ENVISION • ENRICH

WeBuild Pathways Pvt. Ltd., Nashik, Maharashtra

An ISO 9001:2015 certified organization from TUV SUD (NABCB) accredited certifying body.

Report Date- 01/02/2025

Report NO. WBPPL/GA/09

CERTIFICATE

This is to certify that, **M/s WeBuild Pathways Pvt. Ltd. Nashik** has conducted Green, Energy and Environment Audit of Kalyani Charitable Trust's, **K. R. Sapkal College of Management Studies (KRSCMS), Sapkal Knowledge Hub,** Kalyani Hills, Anjaneri, Trimbakeshwar Road, Nashik - 422213 during **Academic Year 2024 - 25.** The green audit was conducted in accordance with the guidelines given by NAAC Criteria. This report is as per the present status of green initiatives taken by **KRSCMS, Nashik.**

The Green Audit involves observations about Use of Alternative Energy Sources, Management of biodegradable and non-biodegradable wastes, water conservation facilities and green campus initiatives.

Present Green Audit report has been prepared by the team of auditors based on their knowledge and the data given by the institute. In an opinion and to our best knowledge as well as based on available information, present green audit gives a true and fair view in conformity with the principles of Green Auditing. This certificate is valid for the data from 1st January 2024 to 31st December 2024.

Green Audit Team Members

Sumant D. Parkhi	Dr. Hitesh R. Thakare	Ameya S. Parkhi
Director & EMS Auditor	Energy Auditor	EHS Specialist

Date: 01/02/2025

Report No. WBPPL/GA/09

Contents

1. Introduction

- The ever-increasing population as well as demand for higher economic growth has led to rapid urbanization along with increase in per capita fuel consumption.
- This has resulted in several environmental and ecological concerns at local, regional, national and global level. In such conditions, adoption of the Green Campus system and methodology for sustainable development has become more important than ever.
- Briefly, Green Audit can be defined as “systematic identification, recording, quantification, verification, analysis and reporting of the activities and processes contributing to sustainable environment and development.”
- Such an audit helps the institutes to systematically introspect their strengths and weaknesses relevant to sustainable development, thereby enabling the institute to identify and implement the opportunities for improvement.
- The Sapkal Knowledge Hub – an integrated educational complex is providing school, graduate and post-graduate education for excellence. The Management programme has been envisioned to promote competitive education & help gain access to information, training and resource.
- The management of the institute has a splendid vision of providing education and ample opportunities to the children and youth of India to excel globally in different professions. The management of the institute has a splendid vision of providing education and ample opportunities to the children and youth of India to excel globally in different professions.
- The Institute, K. R. Sapkal College of Management Studies, is the manifestation of the vision of its founder Dr. Ravindra G. Sapkal, who had a vision of creating a composite center of learning to provide not only quality management education, but also set standards for others to emulate.
- The Institute has been established in 2008 with intake of 60, later on increased to 120 and presently offers post graduate courses in
    - Operations & Supply Chain Management
    - Human Resource Management
    - Marketing Management
    - Financial Management

- Business Analytics
- Rural Agri Business Management

(Data obtained from website - https://www.krscms.sapkalknowledgehub.org/mba.php)

- The institute has campus at Anjneri Hills, Nashik in Maharashtra, which encompasses over 110 acres of scenic and beautiful natural setting of hills and valleys and world class infrastructure.
- First NAAC Cycle of institute was conducted in September 2018 and **secured A Grade**.
- It was observed that the institute is very keen to promote green initiatives wherever possible, as a commitment towards better environment and sustainable development for the benefit of the society.
- To further increase its green performance and identify energy saving opportunities, **M/s. WeBuild Pathways Pvt. Ltd. Nashik** was assigned the responsibility to carry out Green Audit of the premises.
- **M/s. WeBuild Pathways Pvt. Ltd. Nashik**, is Certified by TUV SUD South Asia Private Limited Certification Agency, for ISO 9001:2015.
- TUV – SUD is Accredited by National Accreditation Board of Certification Bodies (NABCB).
- This audit report presents various aspects of Environmental Consciousness and Sustainability practices being followed at the institute such as, Use of Alternative Energy Sources, Waste Management, Water Conservation Facilities and Green Campus Initiatives.
- The data presented in this green audit report has been collected and verified through frequent on-site visits to the campus.
- It is noteworthy that institute has been awarded by Government of Maharashtra for substantial efforts taken in the direction of **Forestation**, **Development of Barren Lands and Awareness about these initiatives**, in the year 2016. This has been shown in the picture below.


महाराष्ट्र शासन

छत्रपती शिवाजी महाराज
वनश्री पुरस्कार
२०१३

कल्याणी चॅरिटेबल ट्रस्ट
सपकाळ नॉलेज हब, नाशिक
यांना वनीकरण, पडीक जमीन विकास व
तत्संबंधीची जनजागृती या क्षेत्रात केलेल्या उत्कृष्ट कार्याबद्दल
'वृक्षमित्र पुरस्कार'
प्रदान करुन गौरविण्यात येत आहे.

ठिकाण : नागपूर
दिनांक : ३०/०४/२०१६

सुधीर मुनगंटीवार
मंत्री
वित्त आणि नियोजन, वने
महाराष्ट्र शासन

सामाजिक वनीकरण महासंचालनालय, वनविभाग महाराष्ट्र राज्य

Photo of Award received by institute from Government of Maharashtra

Snapshot of meeting of Green Audit team

2. Green Audit Team

Essential Details of team members including Designation, Professional qualification & experience, who contributed for this green audit, are as follows:

Table 2-1 Essential Details Team members of Green Audit

Sr. No.	Name	Qualification	Designation	Experience
1.	Sumant D. Parkhi 	DME, DBM, MMS Lead Auditor Environment Management System ISO 14001, Energy Management Systems ISO 50001, Occupational Health and Safety Management System ISO 45001.	Founder, Principal Consultant, Trainer & Auditor IRCA approved Principal Auditor for ISO 14001:2015	38 Years
2.	Dr. Hitesh R. Thakare 	B. E. Mech., M. Tech. Ph.D. (Mech. Engg.) BEE Certified Energy Auditor (CEA – 27707) Internal Auditor for ISO 9001:2015 ISO 21001:2018	Energy Auditor & Team Member	15 Years
3.	Ameya S. Parkhi 	B. E. Mech. M. S. (EHS) (Rochester Institute of Technology, New York, USA) ISO 45001 Lead Assessor	EHS Consultant	07 Years

Contact us: WeBuild Pathways Pvt. Ltd., 24, Sarthak, Bhavanjali Nagar, Anandwalli, Gangapur Road, Nashik – 422013.

Mobile (Mr. S. D. Parkhi) – 98220 90206, Office – 94222 59805

Email: webuildpathways@gmail.com

Website: https://webuildpathways.com/

3. About campus

Following are important details about the campus of **K R Sapkal College of Management Studies, Nashik**.

Table 3-1 Essential details about campus

Sr. No.	Particulars	Detailed description
1.	Name of the institution	Kalyani Charitable Trust's K. R. Sapkal College of Management Studies, Nashik
2.	Address	Anjaneri, Trimbakeshwar Road, Nashik (MH)- 422213
3.	Email	info@sapkalknowledgehub.org
4.	Year of establishment	2008
5.	Affiliation	SPPU, Pune
6.	Academic System Status	Permanent Affiliation to SPPU 2(f) & 12(B) by UGC
7.	No. of students in the campus	3700
8.	No. of teaching and non-teaching staff in the campus	450
9.	Educational facilities developed	Lecture halls Laboratories Seminar halls Library Research Centres
10.	Recreational and sports facilities developed	Playground For Cricket, Football And Volleyball, Fully Equipped Gymnasium, Swimming Pool, Indoor Games Facility For Badminton, Carrom, Table Tennis, Chess, Running Track, Auditorium
11.	Total land area covered by the institute building	6070.28 sq. m.
12.	Total area allocated to the institute	4,856 sq. m.
13.	Land covered by the institute through gardens	1214.28 sq. m.
14.	% of land covered by the institute through landscaping	20%
15.	Total annual electricity consumption (Connection # 049069021190)	3,58,807 KWH
	Location of the institute	
16.	Lattitude	19°56'38"N

17.	Longitude	73°35'59"E

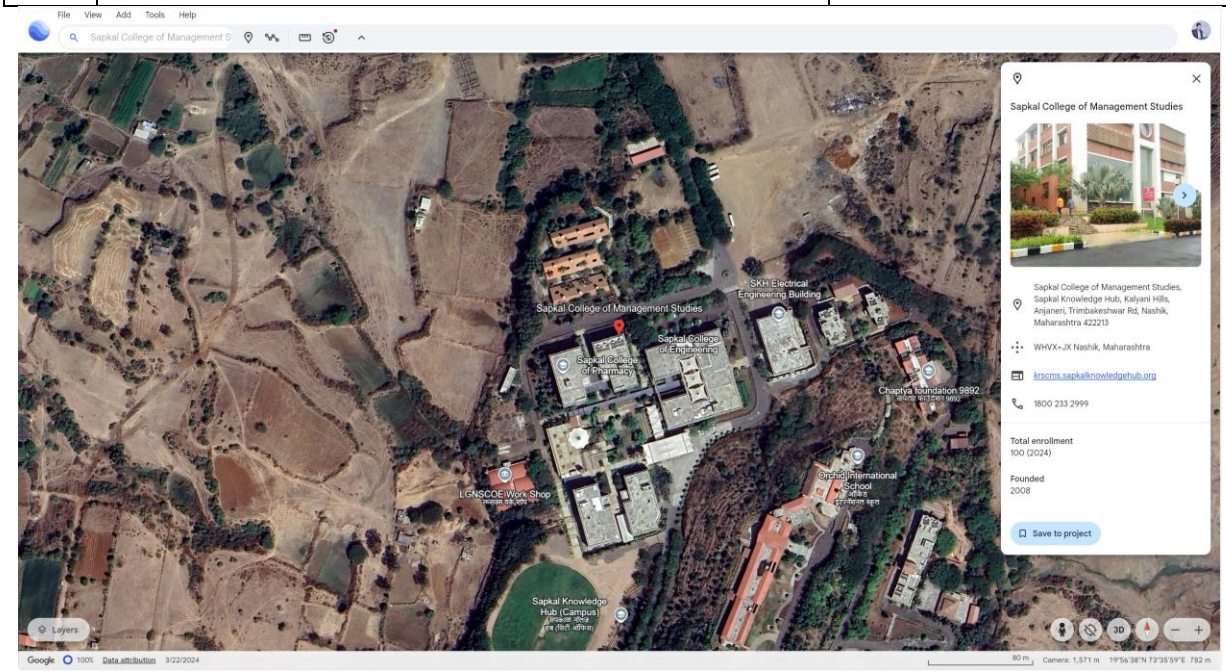


Figure 3.1 Google earth image of the institute

4. Methodology

Green Audit was conducted systematically by using following procedure:

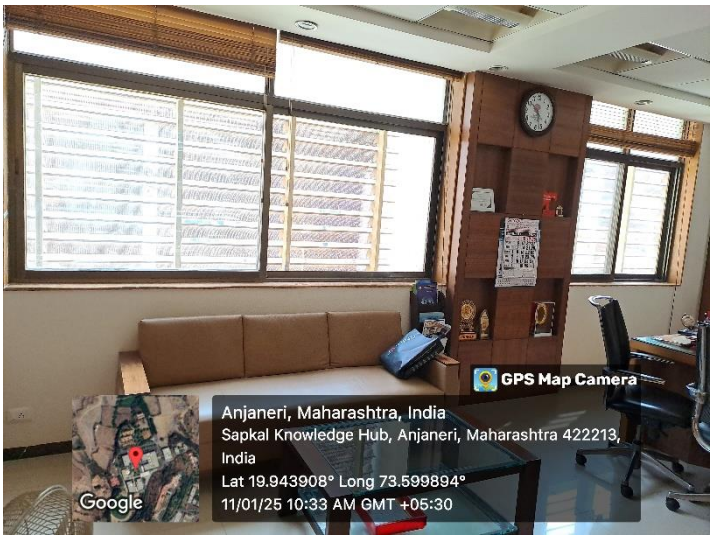
- The members of the green audit team visited the campus of the institute.
- Green audit team members held an initial discussion with key staff members of the institute such as IQAC Coordinator, NAAC Criteria In-charge, maintenance manager as well as external service providers such as building architect, who have been assigned the responsibility of sustainable practices implemented throughout the campus.
- Further, it was discussed and decided to follow Guidelines of NAAC Criteria for assessment of green initiatives.
- Green audit team members created awareness among the staff members of the institute about the importance of Green Audit and its contribution in improving the overall environmental performance of the institute.
- Then, team members physically checked the presence of various green initiatives undertaken and facilities created through campus tour.
- Then green audit team members identified the avenues for improvement in the existing (green) systems of the institute as well as continual improvement necessary for sustainable development of the institute.
- Thereafter, the green audit team discussed the technical and economic feasibility of implementation of new systems with institute's staff members and management.
- A draft report of all these findings and suggestions was prepared and a presentation was given to management to identify any corrections/improvements.
- The report was finalized after incorporating the suggestions by management/staff members and green audit team members and a final report submitted to the institute.

5. Energy conservation initiatives

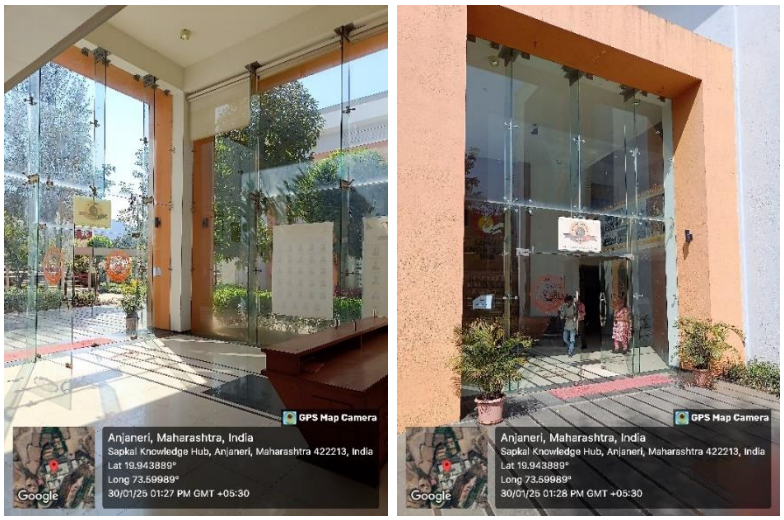
5.1 Use of Solar energy as alternative source of energy

5.1.1 Solar energy for natural lighting

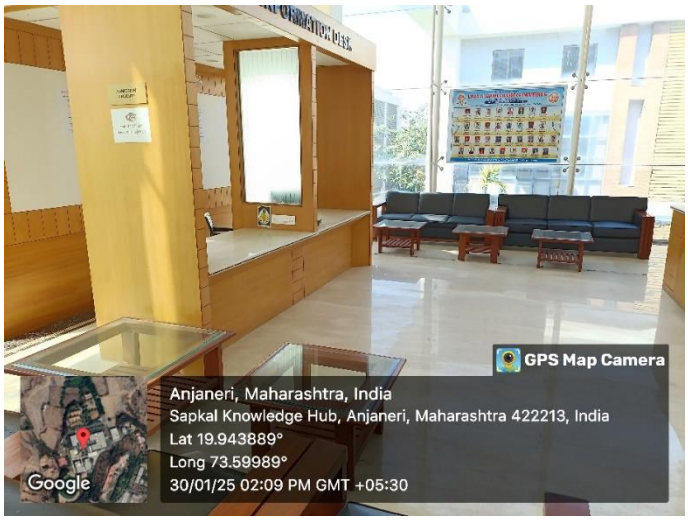
- Solar energy can be channelised for providing natural lighting in the building.
- Natural light helps to avoid the usage of artificial lighting, thus saving electricity.
- It also enhances the perception of the reader/learner.
- In the present institute, it is facilitated through large windows and opening located at different places.
- Corridors, classrooms, laboratories, canteen area and library are well lit with natural lights, reducing the need for artificial lighting.
- Further, the courtyard / open space constructed inside the building helps to promote the flow of air through various incoming channels, thereby resulting in expulsion of hot air through upper side and facilitating natural ventilation.
- This helps to reduce the load on electrical ventilation components such as air cooler / ceiling fans.



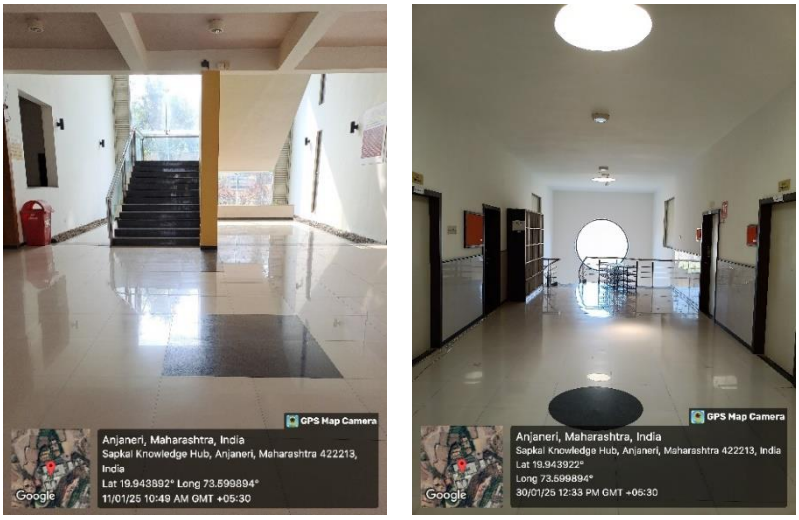
Geotagged photo of natural light in Director cabin



Geotagged photo of Natural light and glass façade at the entrance of the building

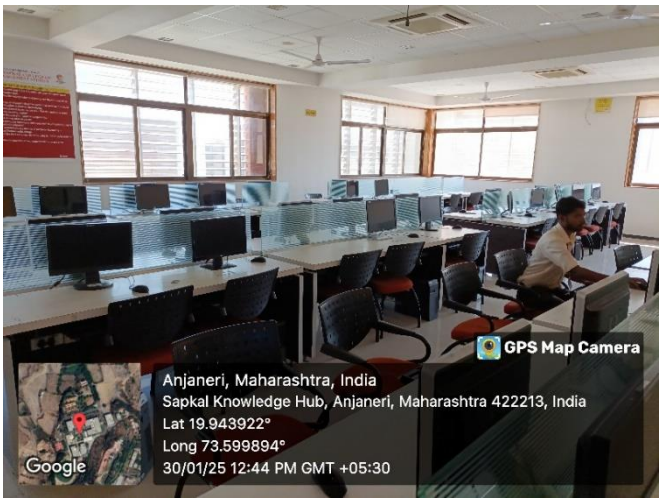


Geotagged photo of natural light in admin building

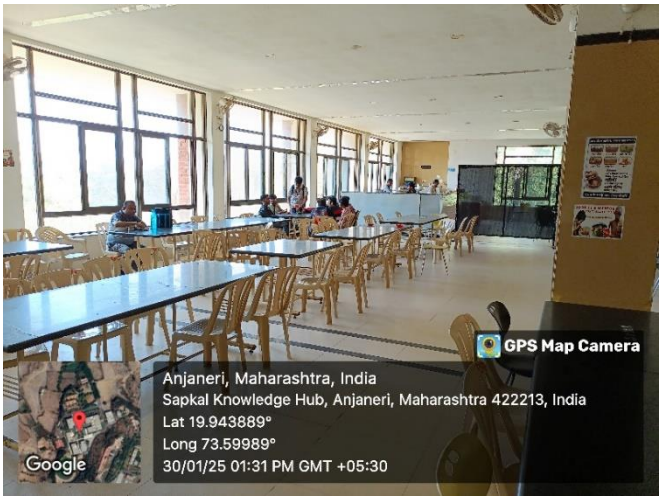


Geotagged photo of Natural light in corridor

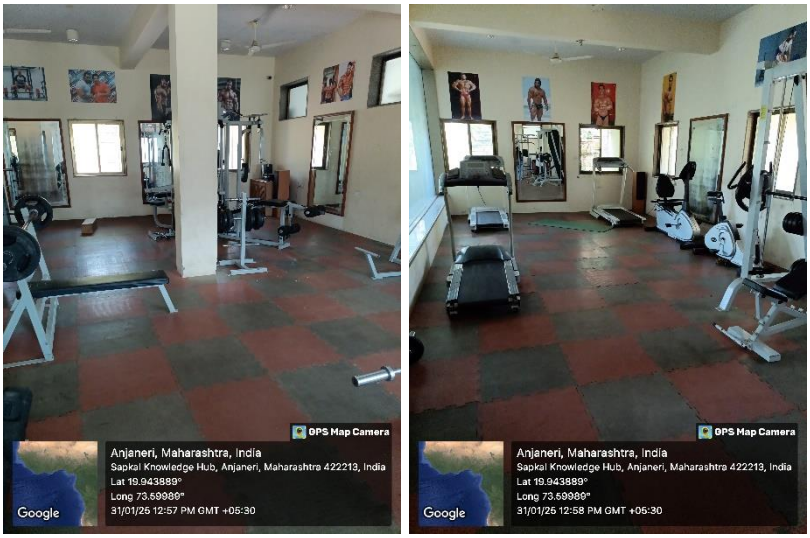
Geotagged photo of Natural Light in Classroom



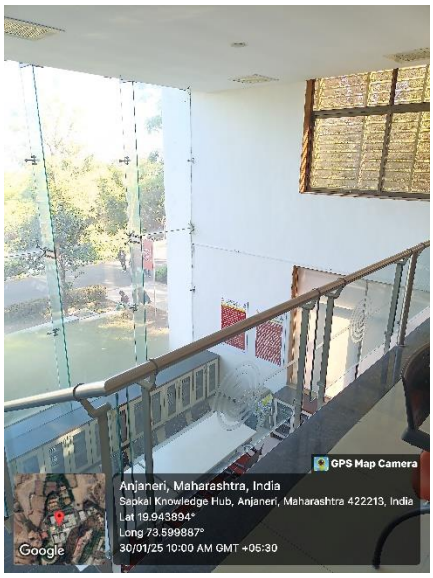
Geotagged photo of Natural Light in Laboratory

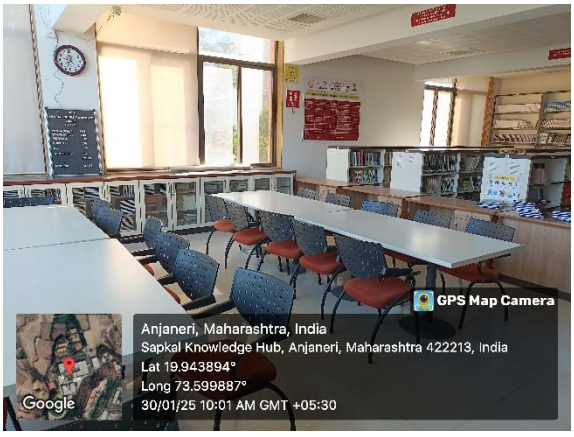


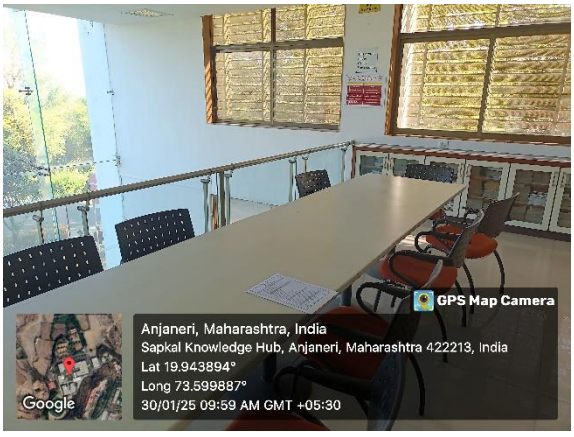
Geotagged photo of Natural Light in Canteen



Geotagged photo of natural light used in gymnasium



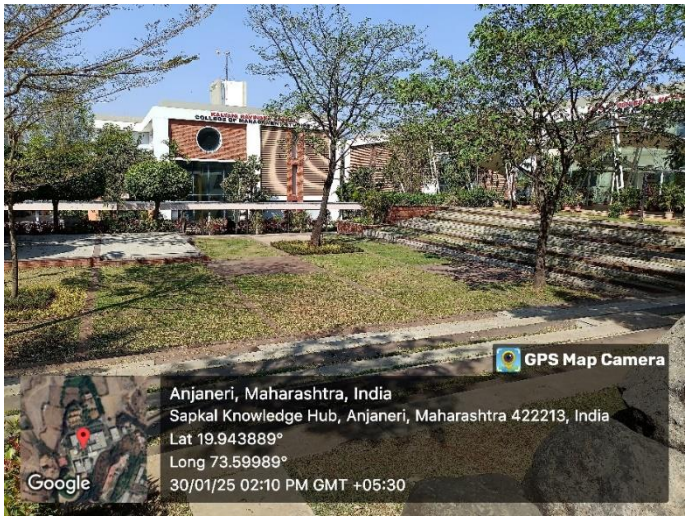




Geotagged photo of Natural Light in library

Geotagged photo of natural light in the room of boy's hostel

Geotagged photo of light ducts provided in the building



Geotagged photo of Natural Light in Amphitheatre

Geotagged photo of natural light in faculty area

5.1.2 Solar energy for Solar Water Heating (SWH) Systems

- The institute has installed Solar Water Heating system for hot water generation.
- It is appreciable that no hot water is generated using electrical geysers, except when atmosphere is cloudy.
- This initiative helps to avoid the electrical energy consumption substantially and thereby, reduce CO_2 emission, detailed as follows.
- Following are important details about Solar Water Heating (SWH) Systems installed in the campus.

Table 5.1.2-1 Details of Solar Water Heating (SWH) Systems installed

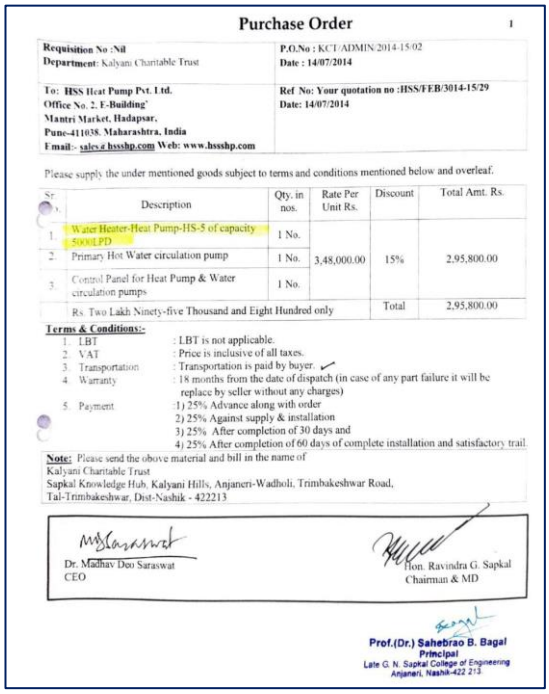
Sr. No.	Location of SWH System Installation	Capacity of SWH System	Installation / Purchase Date
1.	KRSCMS Building Rooftop	5000 LPD	14/07/2014
2.	Girls Hostel Rooftop	3000 LPD	04/05/2015

Table 5.1.2-2 Sample Specification of unit of SWH system

Sr. No.	Particular	Value	Unit
1.	Make	Jain Solar	-
2.	Collector Model	JSR 9	-
3.	Absorber	Cu-Cu with selective coating	-
4.	Capacity (LPD)	1000	LPD
5.	Maximum working pressure	600	kPa

Geotagged photo of Solar Water Heaters Installed on rooftop

Geotagged photo of specification of collector of solar water heater



Purchase Order

Requisition No :Nil
Department: Kalyani Charitable Trust

P.O.No : KCT/ADMIN/2014-15/02
Date : 14/07/2014

To: HSS Heat Pump Pvt. Ltd.
Office No. 2, E-Building'
Mantri Market, Hadapsar,
Pune-411038. Maharashtra, India
Email:- sales@hssshp.com Web: www.hssshp.com

Ref No: Your quotation no :HSS/FEB/3014-15/29
Date: 14/07/2014

Please supply the under mentioned goods subject to terms and conditions mentioned below and overleaf.

Sr. No.	Description	Qty. in nos.	Rate Per Unit Rs.	Discount	Total Amt. Rs.
1.	Water Heater-Heat Pump-HS-5 of capacity 5000LPD	1 No.			
2.	Primary Hot Water circulation pump	1 No.	3,48,000.00	15%	2,95,800.00
3.	Control Panel for Heat Pump & Water circulation pumps	1 No.			
	Rs. Two Lakh Ninety-five Thousand and Eight Hundred only			Total	2,95,800.00

Terms & Conditions:-

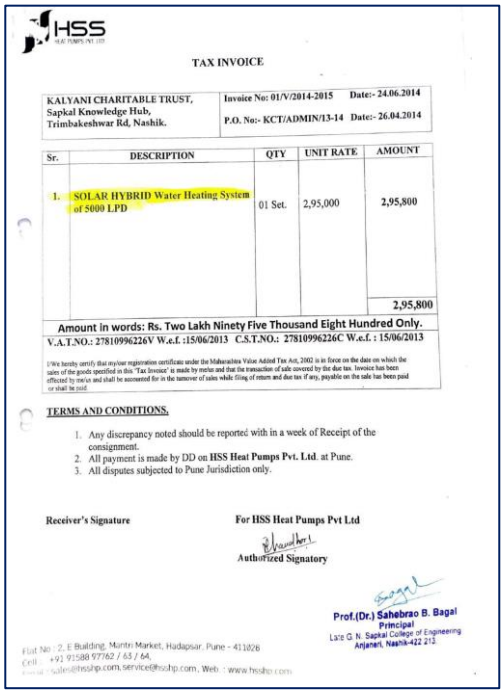
1. LBT : LBT is not applicable.
2. VAT : Price is inclusive of all taxes.
3. Transportation : Transportation is paid by buyer.
4. Warranty : 18 months from the date of dispatch (in case of any part failure it will be replace by seller without any charges)
5. Payment :1) 25% Advance along with order
   2) 25% Against supply & installation
   3) 25% After completion of 30 days and
   4) 25% After completion of 60 days of complete installation and satisfactory trail.

Note: Please send the above material and bill in the name of
Kalyani Charitable Trust
Sapkal Knowledge Hub, Kalyani Hills, Anjaneri-Wadholi, Trimbakeshwar Road,
Tal-Trimbakeshwar, Dist-Nashik - 422213

Dr. Madhav Deo Saraswat
CEO

Hon. Ravindra G. Sapkal
Chairman & MD

Prof.(Dr.) Sahebrao B. Bagal
Principal
Late G. N. Sapkal College of Engineering
Anjaneri, Nashik-422 213.



TAX INVOICE

KALYANI CHARITABLE TRUST,
Sapkal Knowledge Hub,
Trimbakeshwar Rd, Nashik.

Invoice No: 01/V/2014-2015 Date:- 24.06.2014
P.O. No:- KCT/ADMIN/13-14 Date:- 26.04.2014

Sr.	DESCRIPTION	QTY	UNIT RATE	AMOUNT
1.	SOLAR HYBRID Water Heating System of 5000 LPD	01 Set.	2,95,000	2,95,800
				2,95,800

Amount in words: Rs. Two Lakh Ninety Five Thousand Eight Hundred Only.

V.A.T.NO.: 27810996226V W.e.f. :15/06/2013 C.S.T.NO.: 27810996226C W.e.f. : 15/06/2013

I/We hereby certify that my/our registration certificate under the Maharashtra Value Added Tax Act, 2002 is in force on the date on which the sales of the goods specified in this "Tax Invoice" is made by me/us and that the transaction of sale covered by the due tax. Invoice has been effected by me/us and shall be accounted for in the turnover of sales while filing of return and due tax if any, payable on the sale has been paid or shall be paid.

TERMS AND CONDITIONS.

1. Any discrepancy noted should be reported with in a week of Receipt of the consignment.
2. All payment is made by DD on **HSS Heat Pumps Pvt. Ltd.** at Pune.
3. All disputes subjected to Pune Jurisdiction only.

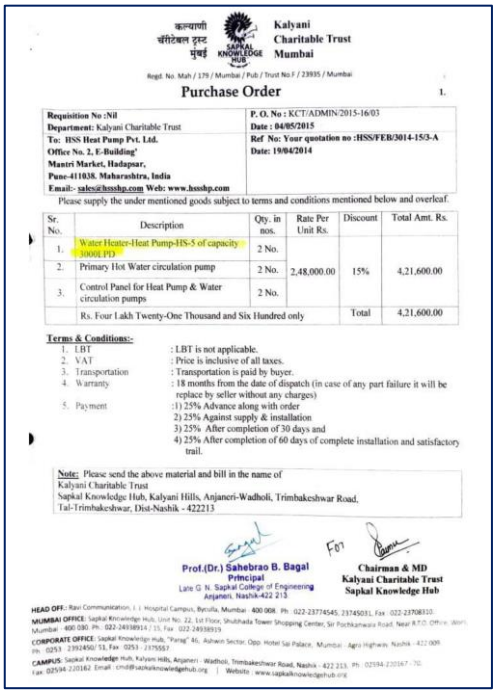
Receiver's Signature

For HSS Heat Pumps Pvt Ltd
Authorized Signatory

Prof.(Dr.) Sahebrao B. Bagal
Principal
Late G. N. Sapkal College of Engineering
Anjaneri, Nashik-422 213.

Flat No : 2, E Building, Mantri Market, Hadapsar, Pune - 411028
Cell : +91 91580 97762 / 63 / 64
Email : sales@hssshp.com,service@hssshp.com, Web : www.hssshp.com

Photo of purchase order and tax invoice of 5000 LPD Solar Water Heat System installed in the campus



कल्याणी चॅरीटेबल ट्रस्ट मुंबई
Kalyani Charitable Trust Mumbai
SAPKAL KNOWLEDGE HUB

Regd. No. Mah / 179 / Mumbai / Pub / Trust No.F / 23935 / Mumbai

Purchase Order

Requisition No :Nil
Department: Kalyani Charitable Trust
To: HSS Heat Pump Pvt. Ltd.
Office No. 2, E-Building'
Mantri Market, Hadapsar,
Pune-411038. Maharashtra, India
Email:- sales@hssshp.com Web: www.hssshp.com

P. O. No : KCT/ADMIN/2015-16/03
Date : 04/05/2015
Ref No: Your quotation no :HSS/FEB/3014-15/3-A
Date: 19/04/2014

Please supply the under mentioned goods subject to terms and conditions mentioned below and overleaf.

Sr. No.	Description	Qty. in nos.	Rate Per Unit Rs.	Discount	Total Amt. Rs.
1.	Water Heater-Heat Pump-HS-5 of capacity 3000LPD	2 No.			
2.	Primary Hot Water circulation pump	2 No.	2,48,000.00	15%	4,21,600.00
3.	Control Panel for Heat Pump & Water circulation pumps	2 No.			
	Rs. Four Lakh Twenty-One Thousand and Six Hundred only			Total	4,21,600.00

Terms & Conditions:-

1. LBT : LBT is not applicable.
2. VAT : Price is inclusive of all taxes.
3. Transportation : Transportation is paid by buyer.
4. Warranty : 18 months from the date of dispatch (in case of any part failure it will be replace by seller without any charges)
5. Payment :1) 25% Advance along with order
   2) 25% Against supply & installation
   3) 25% After completion of 30 days and
   4) 25% After completion of 60 days of complete installation and satisfactory trail.

Note: Please send the above material and bill in the name of
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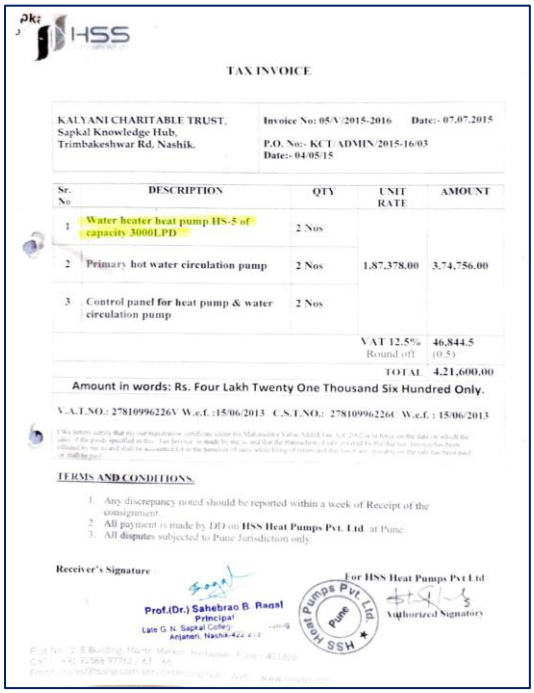
Prof.(Dr.) Sahebrao B. Bagal
Principal
Late G. N. Sapkal College of Engineering
Anjaneri, Nashik-422 213.

For
Chairman & MD
Kalyani Charitable Trust
Sapkal Knowledge Hub

HEAD OFF.: Ravi Communication, I-1, Hospital Campus, Byculla, Mumbai - 400 008. Ph : 022-23774545, 23745031, Fax : 022-23708310.
MUMBAI OFFICE: Sapkal Knowledge Hub, Unit No. 22, 1st Floor, Shubhada Tower Shopping Center, Sir Pochkanwala Road, Near R.T.O. Office, Worli, Mumbai - 400 030. Ph. : 022-24938914 / 15, Fax : 022-24938915
CORPORATE OFFICE: Sapkal Knowledge Hub, "Parag" 46, Ashwin Sector, Opp. Hotel Sai Palace, Mumbai - Agra Highway, Nashik - 422 009. Ph. : 0253 - 2352450 / 53, Fax : 0253 - 2375557
CAMPUS: Sapkal Knowledge Hub, Kalyani Hills, Anjaneri - Wadholi, Trimbakeshwar Road, Nashik - 422 213. Ph. : 02594-220167 - 70, Fax: 02594-220162. Email : cmd@sapkalknowledgehub.org | Website : www.sapkalknowledgehub.org



TAX INVOICE

KALYANI CHARITABLE TRUST,
Sapkal Knowledge Hub,
Trimbakeshwar Rd, Nashik.

Invoice No: 05/V/2015-2016 Date:- 07.07.2015
P.O. No:- KCT/ADMIN/2015-16/03
Date:- 04/05/15

Sr. No	DESCRIPTION	QTY	UNIT RATE	AMOUNT
1	Water heater heat pump HS-5 of capacity 3000LPD	2 Nos		
2	Primary hot water circulation pump	2 Nos	1,87,378.00	3,74,756.00
3	Control panel for heat pump & water circulation pump	2 Nos		
			VAT 12.5%	46,844.5
			Round off	(0.5)
			TOTAL	4,21,600.00

Amount in words: Rs. Four Lakh Twenty One Thousand Six Hundred Only.

V.A.T.NO.: 27810996226V W.e.f. :15/06/2013 C.S.T.NO.: 27810996226C W.e.f. : 15/06/2013

I/We hereby certify that my/our registration certificate under the Maharashtra Value Added Tax Act, 2002 is in force on the date on which the sales of the goods specified in this "Tax Invoice" is made by me/us and that the transaction of sale covered by the due tax. Invoice has been effected by me/us and shall be accounted for in the turnover of sales while filing of return and due tax if any, payable on the sale has been paid or shall be paid.

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1. Any discrepancy noted should be reported within a week of Receipt of the consignment.
2. All payment is made by DD on **HSS Heat Pumps Pvt. Ltd.** at Pune.
3. All disputes subjected to Pune Jurisdiction only.

Receiver's Signature

Prof.(Dr.) Sahebrao B. Bagal
Principal
Late G. N. Sapkal College
Anjaneri, Nashik-422 213

For HSS Heat Pumps Pvt Ltd
Authorized Signatory

HSS Heat Pumps Pvt Ltd Pune

Photo of purchase order and tax Invoice of 3000 LPD Solar Water Heat System installed in the campus

5.1.3 Evaluation of CO_2 reduction due to Solar Water Heating (SWH) Systems

Table 5.1.3-1 Saving in CO_2 emission due to SWH system installed

Sr. No.	Parameter		Observation / Value
1.	No. of staff members and students staying in the campus	=	480
2.	Hot water requirement per day per person	=	15 LPD
3.	Total hot water requirement	=	480 x 15
		=	7,200 LPD
4.	Installed capacity of SWH system	=	8,000 LPD
5.	Mass of water to be heated	=	7,200 kg
6.	Specific heat of water	=	1 kCal/kg^{o}C
7.	Initial temperature of water at entry to solar water heater	=	30^{o}C
8.	Final temperature of water at exit of solar water heater	=	70^{o}C
9.	1 Unit of electricity = 1 kWh electricity	=	860 kCal/kWH
10.	Energy saved using solar water heater	=	7,200 x 1 x (70 – 30) / 860
		=	334.88 kWh/day
11.	Operational days per year considering rainy season	=	9 months
		=	365 – 92 of July, August & September
		=	273 days/yr
12.	**Annual energy saving due to solar water heaters**	=	1572.09 x 273
		=	**91,422.24 kWh/year**

5.1.4 Use of Solar Photovoltaic (PV) System for Electricity generation

- Presently, the institute has not installed Solar PV system.
- Considering the vast expanse of the campus and exposure to sunlight, solar PV system can be helpful to generate electricity through utilization of solar energy.
- It also helps to create shadow effect on the rooftops, thereby reducing the heat leakage into the building through rooftop.

Table 5.1.4-1 Computation of % utilization of alternative energy sources compared to annual energy consumption

Sr. No.	Particulars	Value	Unit
1.	Annual energy purchased from DISCOM	3,58,807	kWh/year
2.	Total energy generation through SWH	91,422.24	kWh/year
3.	Total energy requirement of the institute	4,50,229.24	kWh/year
4.	**% of annual energy consumption from alternative energy sources**	**20.31**	**%**

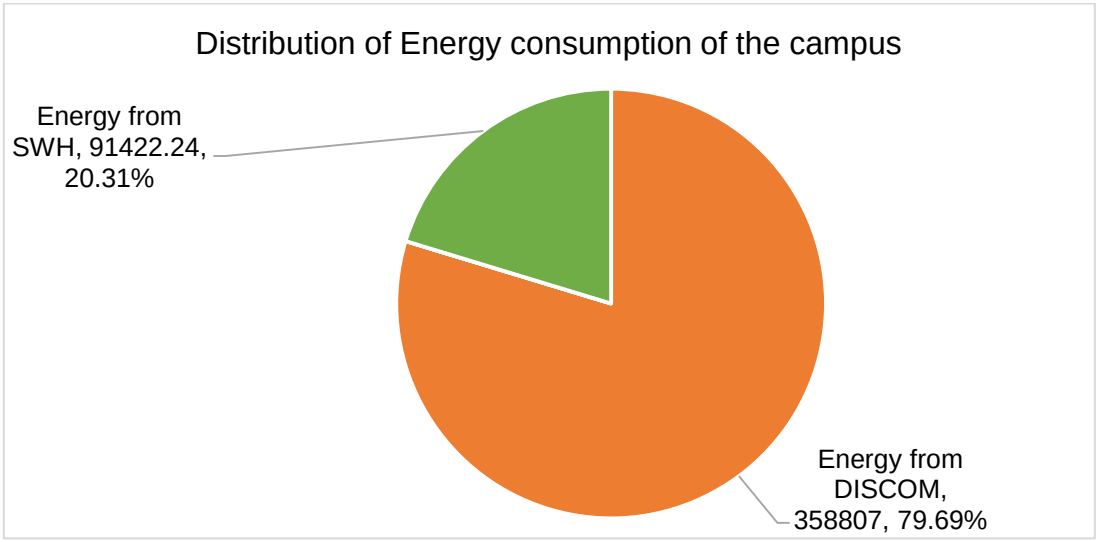


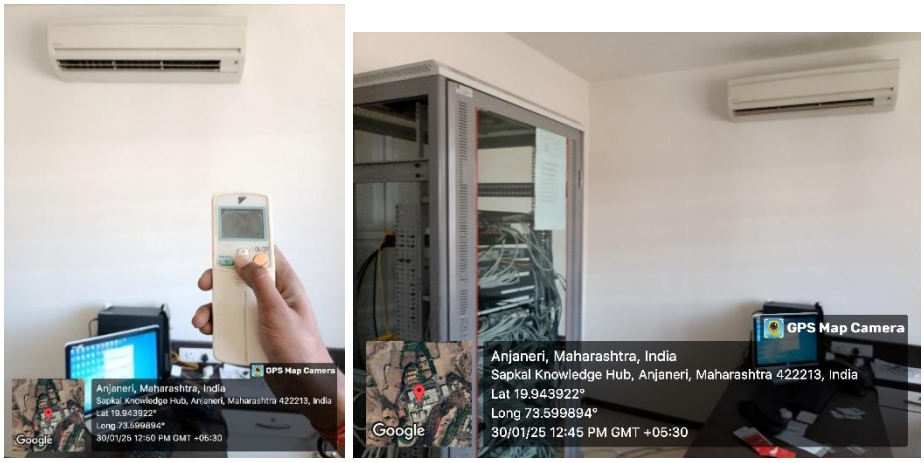
Figure 5.1.4.1 Pie Chart for Distribution of Energy consumption of the campus

5.2 Application of Sensors for energy conservation

- Air conditioners installed in the institute are already equipped with temperature sensors.
- Air conditioners are operated through Remote, which helps to easily control their temperature ranges.
- The RO units installed for drinking water purification are fitted with water level controller sensor to avoid overflowing of water once the tank is filled with requisite capacity.

Table 5.2-1 Details of various sensors installed

Sr. No.	Location of Sensor Installation	Type of Sensor
1.	Air conditioner	Temperature sensor
2.	RO Water Cooler	Water Level Controller

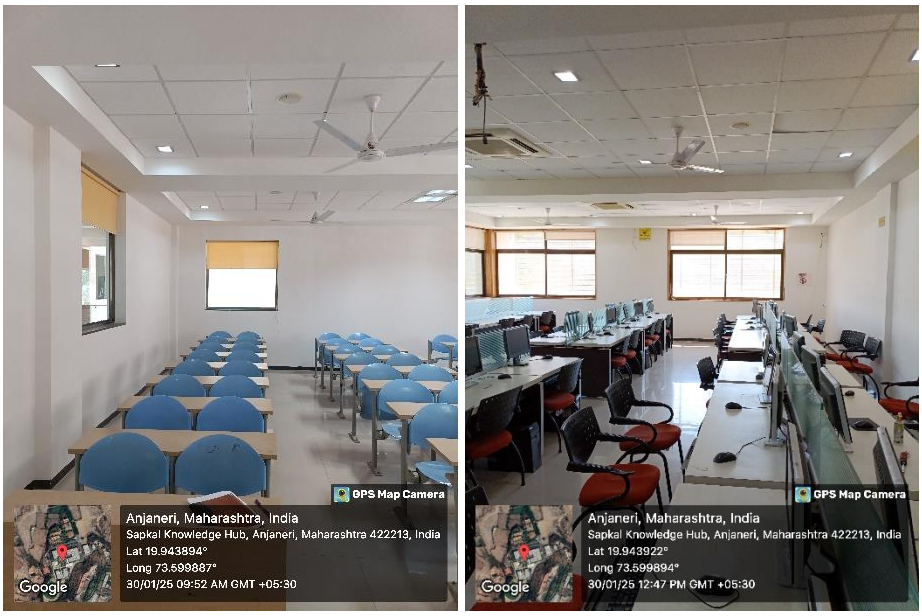


Geotagged photo of temperature controlled air conditioners installed in the campus

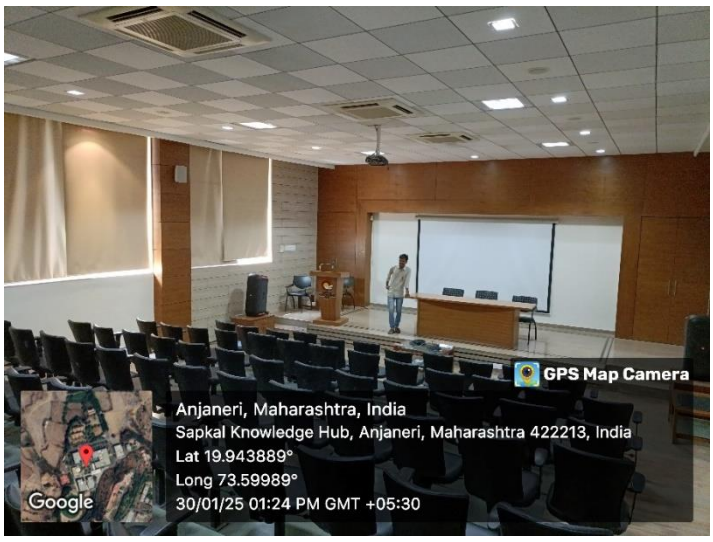
Geotagged photo of water level controller installed in RO unit

5.3 Use of LED lamps & other energy efficient equipment

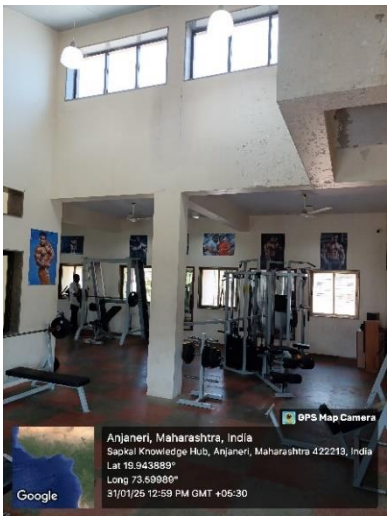
- The institute has already installed low energy consuming LED Lamps.
- Apart from LED lamps, other energy efficient equipment are used in the institute, such as
    a. Temperature controlled Air conditioners,
    b. Power factor correction capacitors.



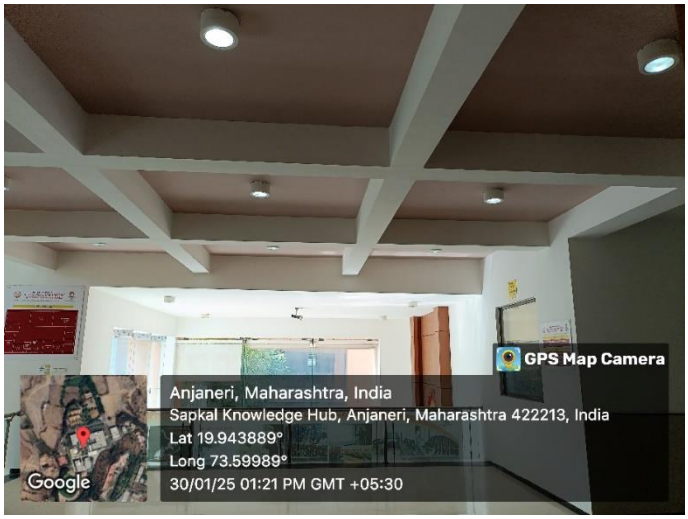
Geotagged Photo of LED Lamps installed in classroom and laboratory



Geotagged photo of LED Lamps installed in seminar hall

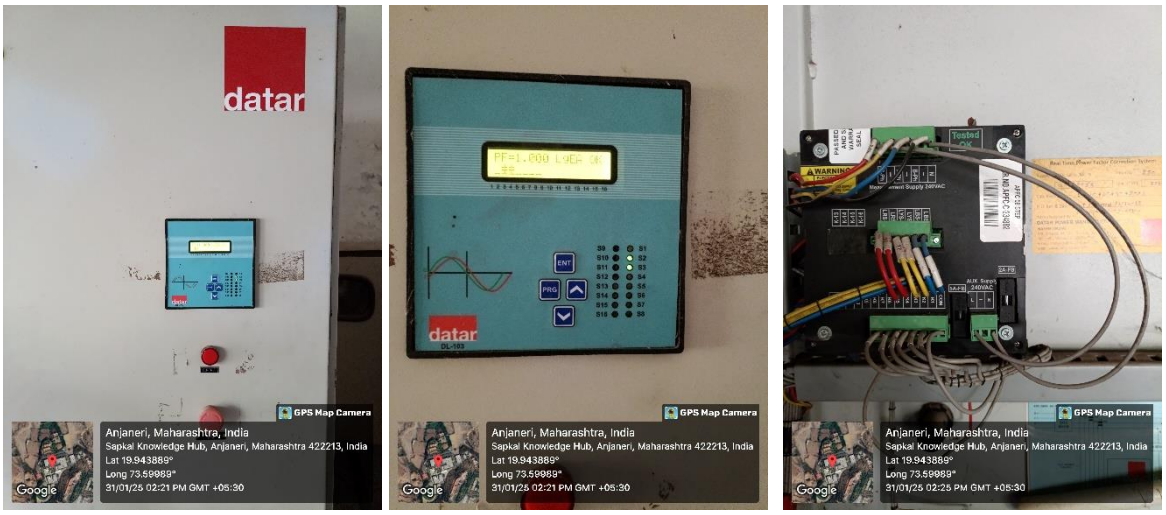


Geotagged photo of LED Lamps used in gymnasium

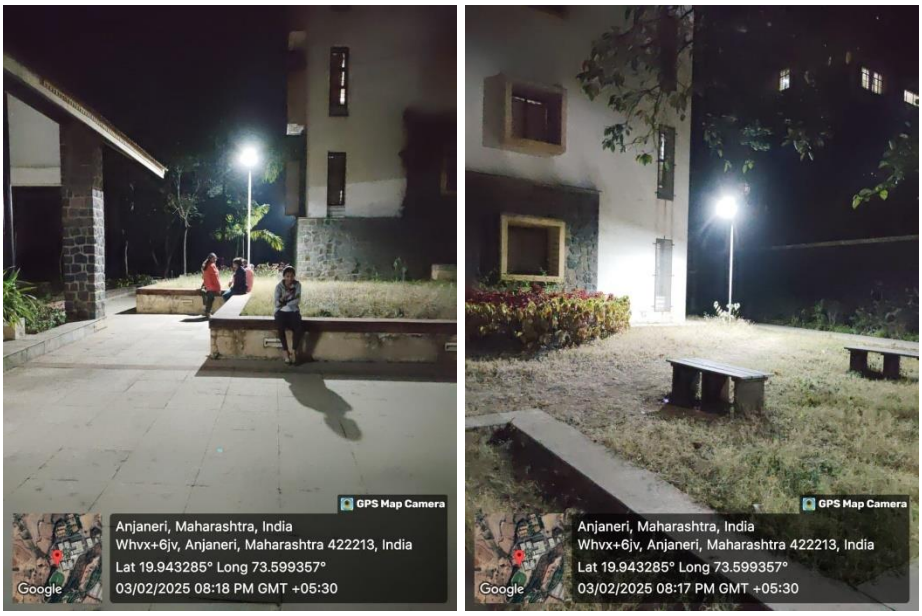


Geotagged photo of LED lamps installed in the corridor

Geotagged photo of information poster installed in the campus to promote energy conservation awareness among people



Automatic Power Factor Controller (APFC) installed in the institute



Geotagged photo of LED bulbs installed for street lighting in the campus

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Recommendation

- The contract demand and actual consumption of the campus should be monitored regularly to avoid excessive charges to be paid to SEB.

5.4 Analysis of electrical energy consumption

Table 5.4-1 Electricity bill analysis of K R Sapkal College of Management Studies, Nashik

Bill Month	Contract Demand	Billed Demand (KVA)	Bill Amount (Rs.)	KWH	KVAH	Power Factor	Rs. /KWH through bill analysis
Jan-24	200	140	410300	23561	24697	0.954	17.41
Feb-24	200	140	425320	25216	25942	0.972	16.87
Mar-24	200	140	498140	31168	31771	0.981	15.98
Apr-24	200	150	634030	37711	38246	0.986	16.81
May-24	200	150	636310	37860	38475	0.984	16.81
Jun-24	200	150	542480	30143	30979	0.973	18.00
Jul-24	200	150	544850	30840	31502	0.979	17.67
Aug-24	200	150	507280	28557	29051	0.983	17.76
Sep-24	200	150	509350	28981	29542	0.981	17.58
Oct-24	200	150	561030	31987	32470	0.977	17.54
Nov-24	200	150	491480	27053	27690	0.977	18.17
Dec-24	200	150	478290	25730	26580	0.968	18.59

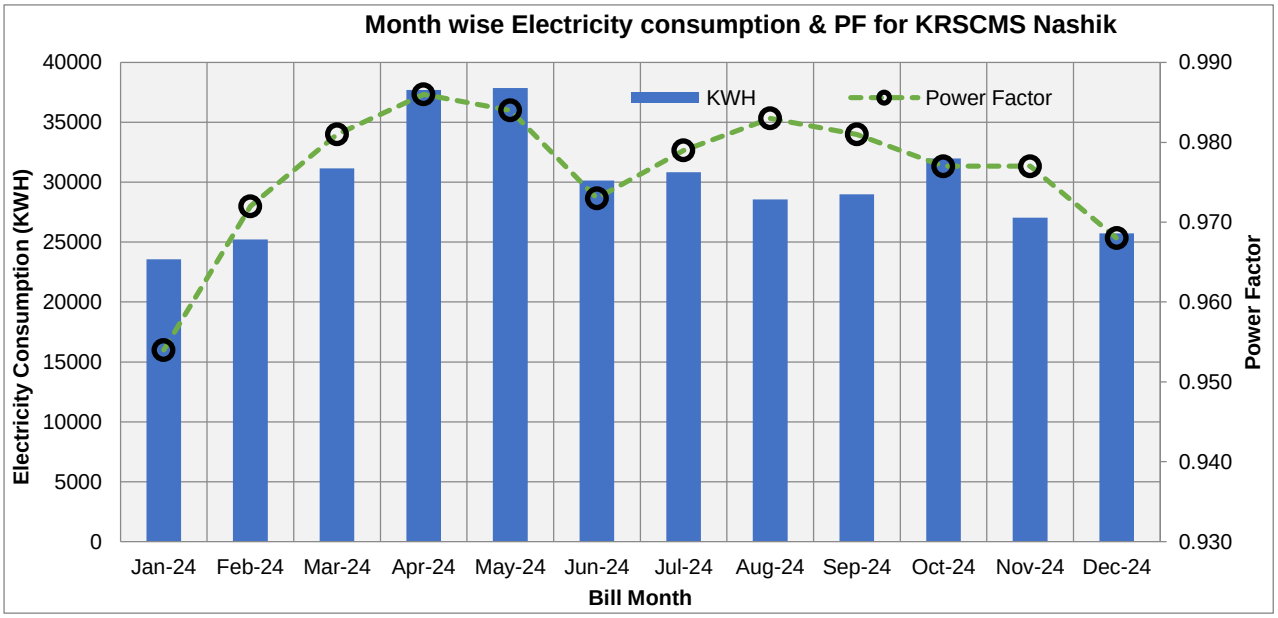

Figure 5.4.1 Month wise electrical energy consumption and PF variation for KRSCMS Nashik

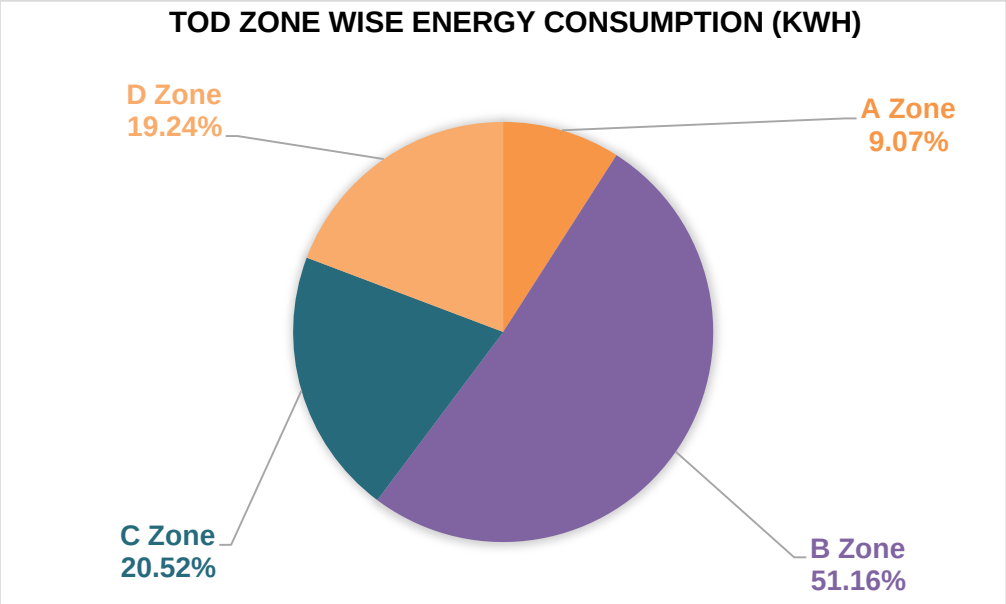

Figure 5.4.2 TOD Zone Wise Energy Consumption for KRSCMS Nashik

- Electricity bill analysis helps to recognize various components of electrical energy consumption of the organization's electrical system.
- In the present institute, electricity is the main source of input energy for institute's day to day functioning.
- Hence, electricity bill analysis is vital to identify low / no-cost energy conservation opportunities. It is presented in **Table 5.4-1**.
- For the sake of improved understanding, this analysis is also presented in graphical form in **Figure 5.4.1**.
- It has been observed that average electrical energy consumption of the institute is in the range of 29000 kWh per month.
- Highest power factor is observed to be 0.986 (for March 2024) and lowest to be 0.954 (for January 2024). However, power factor has improved after January 2024.
- APFC is installed in LT room. However, there is still scope for improvement of PF to unity, so as to reduce KVAH consumption and reduce the energy charges. This can be achieved through upgradation of capacitor bank installed.
- Recorded/consumed demand of the institute is less than billed demand of the institute for all the months. Hence, there is scope for revision of contract demand.

- Energy consumption of the institute for various TOD zones is presented in **Figure 5.4.2**. It indicates highest energy consumption during peak hours i.e. in zone B, followed by zone C and D respectively.

Recommendation

- It is suggested to shift some of the operations of zone B to zone A to reduce electricity consumption as well as avail TOD tariff benefits.
- There are 01 refrigerator being used in the pantry. It is quite old. It can be replaced with energy efficient refrigerator in the future if loading is sufficient.
- Illumination survey for college can be conducted to verify the adequacy of installation of lighting systems.

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6. Management of degradable and non-degradable waste

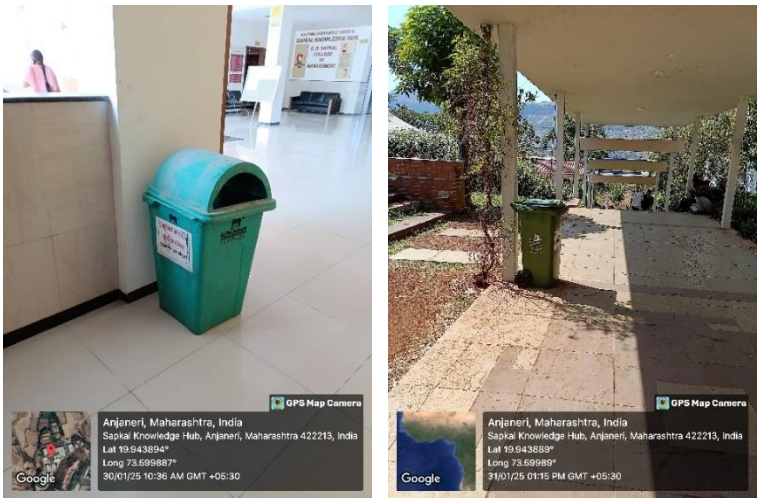
6.1 Solid waste management

6.1.1 Biodegradable waste

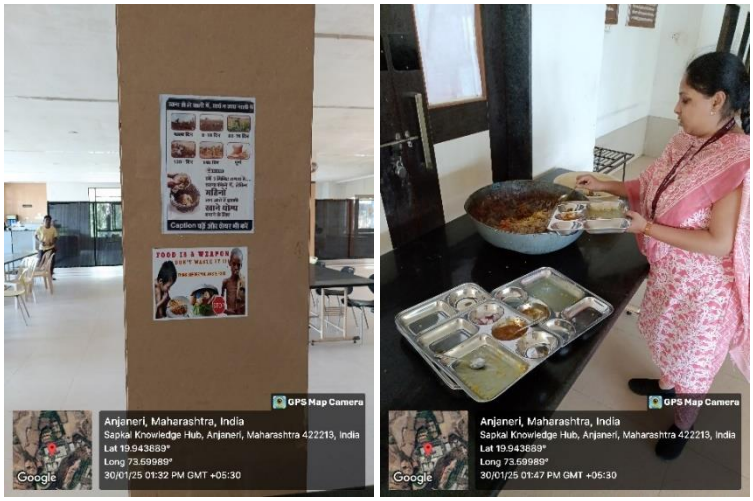
- This kind of waste includes biological waste, garden waste and food waste.
- Collection and segregation of biodegradable waste is done at the garbage station.
- This garbage station is available on campus & complete segregation is done & it is sent to the Vermicompost unit.
- Vermicomposting is a natural process in which earthworms convert rigid waste materials into compost. The compost created by this environmentally friendly process has long been used as a natural fertilizer to boost plant growth.
- Dry garbage from the campus was collected and transferred to the composting tray along with cow dung, where it gets converted into compost by earthworms.
- The waste like remains of plants and kitchen waste are disposed by means of composting.
- Waste collection bins are placed at various locations in the campus with proper segregation for wet and dry waste.
- The residual food waste from the canteen in supplied to the Vermicompost plant.
- Technical details of this vermicompost plant are as follows.

Table 6.1.1-1 Technical Details of Vermicomposting unit installed in the campus

Sr. No.	Particular	Details
1.	Title	Vermicompost Unit
2.	Location	K R Sapkal College of Management Studies, Nashik
3.	Raw Material	• Organic waste coming out from the college campus. • The organic waste consists of plant leaves, stem, Other biodegradable waste etc.
4.	Capacity	Approximately 1 Ton of compost produced per Year.
5.	Size Details	• The Composting unit consists of 06 rectangular basket. • The size of each basket is 12 m x 4 m.
6.	Process Details	• Initially a bed of biodegradable waste is prepared at the bottom over that a layer of cow dung is put, above this again a layer of biodegradable waste is put. • In this way 4 to 6 alternate layers of bio – waste & cow dung is kept one over each other. • It is kept for eight days and a small amount of water is sprinkled over that for a week in order to maintain the moist environment. • After this, the sufficient quantity of earthworms are added to these beds. • Earthworms & microorganisms from cow dung act on this biodegradable material and convert it into valuable compost. • Then it is kept for 40 days. • After a certain period of 40 days, a good quality of compost is obtained.
7.	Uses Of Compost	This compost produced is used as a fertilizer in the entire college campus for the plants & grass lawn.
8.	Advantages	1. This is a complete green process with no waste produced. 2. The organic waste generated in college is treated in college itself. 3. The cost of the fertilizer is saved.



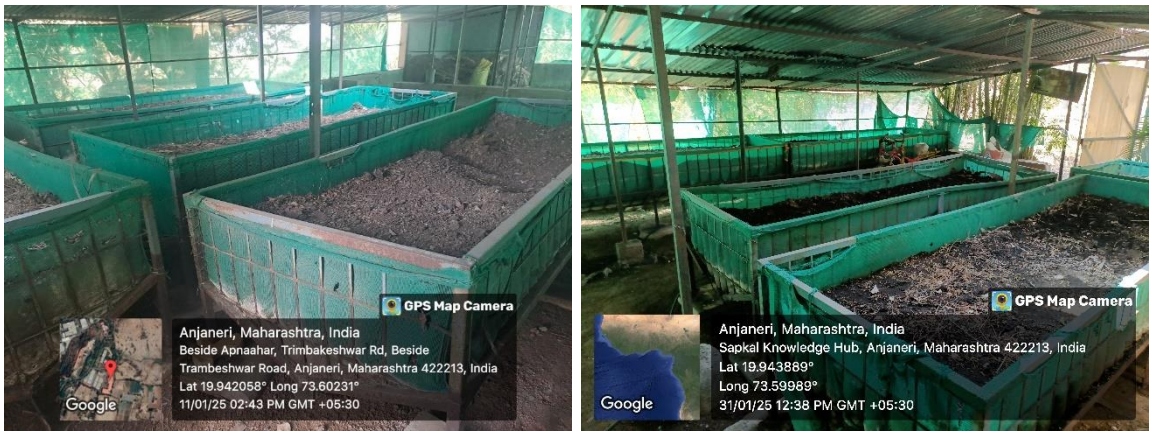
Geotagged photo of Garbage collection bins installed in the campus



Geotagged photo of collection of food waste and food waste awareness poster in the institute

Geotagged photo of collection of garden waste in the institute

Geotagged photo of cow dung collected for manure preparation



Geotagged photo of vermicompost plant installed in the campus

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Recommendation

- Considering the significant area covered by the gardens and plantation, the garden waste and dry foliage collected from the campus lawns can also be utilized to create organic manure through the process of composting.

6.1.2 Non-biodegradable waste

- This kind of waste includes plastic, paper, carton, corrugated boxes, empty containers etc.
- Presently these are disposed of through the scrap vendor.
- The old newspapers and magazines collected in the library are properly segregated and then disposed of through the scrap vendor.

Geotagged photo of old newspapers and magazines properly segregated after their use

Geotagged Photo of Dustbins for collection of non-degradable waste

Geotagged photo of plastic polybags replaced with cotton bags

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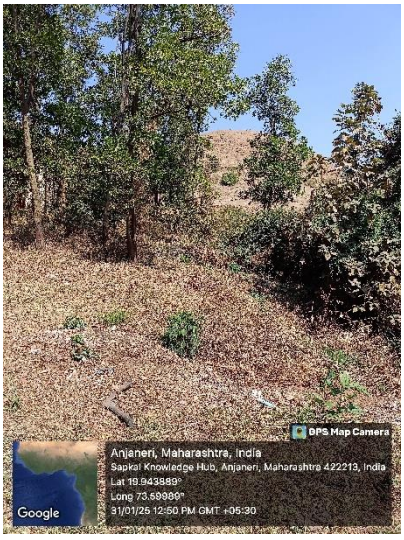
Recommendation

- Record of all the waste disposed / scrap sold through the vendor should be maintained category wise.

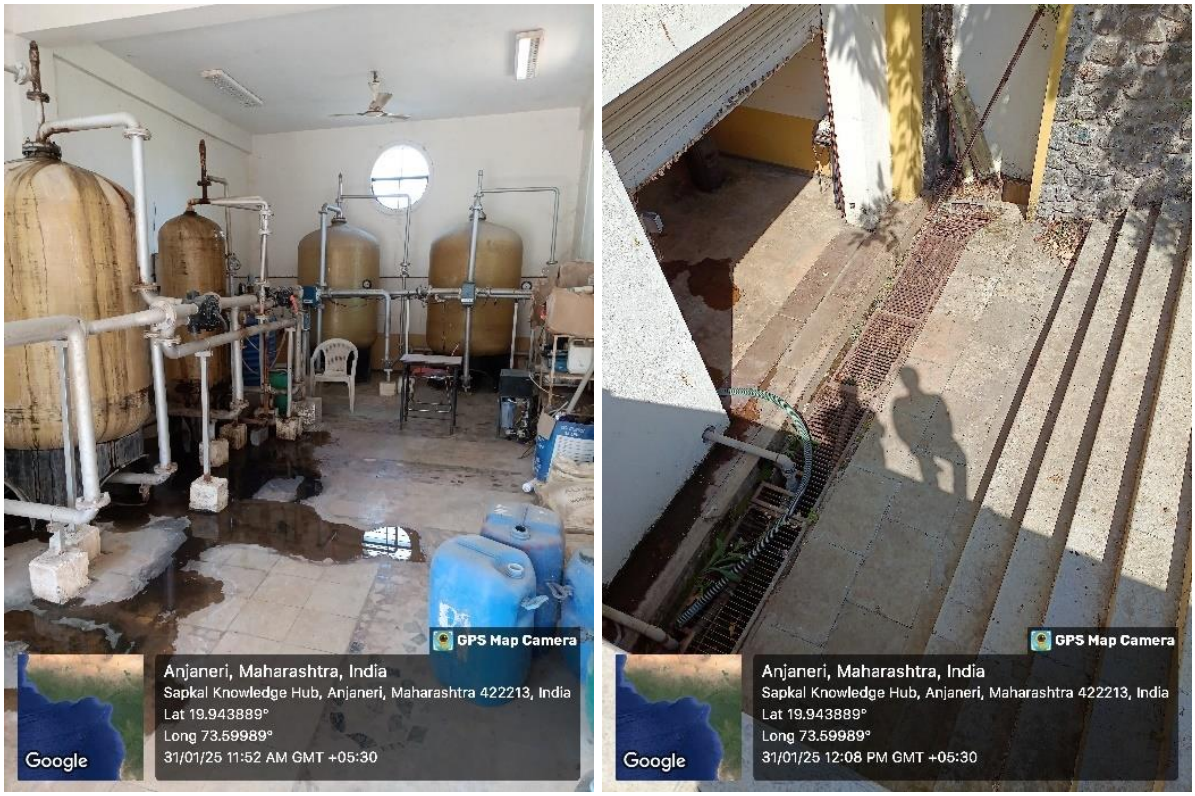
6.2 Liquid Waste Management

- The liquid component of human biowaste generated through lavatories is disposed off through the septic tank.
- Care is taken to avoid mixing of this liquid waste in the main water streams.
- Once the liquid is percolated through the soil, the solid part of the waste i.e. the sludge generated is taken out using vacuum pump with the help of external agency.
- Then this sludge is utilized as manure for organic farming being done by institute itself.
- Institute has also provided centralized laundry facility for the students staying in the hostels, including
    - 01 front loading washing machine
    - 01 twister machine to reduce water content of the washed clothes
    - 01 electric hot drying machine
    - 01 large scale iron machine
- Centralized laundry is beneficial since it helps to reduce the water consumption through individual washing practices.
- The waste water from laundry is also sent to septic tank.
- The waste water from central RO plant is sent to the pond constructed in the campus near the entry gate, through the pipelines.



Geotagged photos of Septic Tank installed in the institute

Geotagged photo of washing machines installed in the laundry of the institute



Geotagged photo of RO Water purifier installed and reject water channel

6.3 E-Waste management

- It covers electronic waste or e – waste described as discarded electrical or electronic devices.
- Used electronics which are destined for refurbishment, reuse, resale, and salvage and recycling through material recovery or disposal are considered as e – waste.
- Items included in this type of waste are - Desktop PC including CPU, monitor and accessories, Laptops, Servers and storage devices, Network equipment like modems and cables, Printers, copiers, Telephone and cellular equipment, UPS, ACs etc.
- The institute as buyback arrangement with the supplier of this machinery. However, no transaction has taken place yet.

Recommendation

- Whenever e-waste is generated in future, its record should be maintained along with
    a. Authorization certificate / license of e-waste handler
    b. Receipt of transaction

6.4 Hazardous Chemicals Waste Management

- Presently no hazardous chemicals are used on campus.
- There are no chemical laboratories needed; hence no chemical use is observed.
- The only chemicals used are those in housekeeping and RO water filtration plant, for which the record has been maintained.

Recommendation

- Record of chemicals used in following systems & processes should be maintained month wise.
    a. Housekeeping (Cleaning agents, acids, phenyls etc.)
    b. RO water filtration plant (Alum powder, sodium hypochlorite etc.)

6.5 Waste Recycling System

- Following waste recycling systems are in place in the institute
    - Water reclaimed from septic tank
    - Animal waste and human biological waste recycled in the form of organic manure.
    - Waste composted in vermicompost plant.
    - RO reject water collected in RWH pond near the entrance.

7. Water Conservation Facilities

- Institute has made preliminary analysis of water usage in the campus. This is presented as follows:

Table 7-1 Essential details about water consumption in the campus

Sr. No.	Parameter		Observation / Value
	Water consumption in college		
1.	No of people (faculty + students + non-teaching staff)	=	192
2.	Water consumption per day per person	=	20 Litres
3.	Total water consumption	=	3,840 Litres
	Water consumption in hostels		
4.	No. of students in boys' hostel	=	240
5.	No. of students in girls' hostel	=	232
6.	Total students in hostel	=	472
7.	Water consumption per day per person	=	135 Liters
8.	Total water consumption	=	63,720 Litres

- In the canteen and mess, separate sections are designated for hand washing water and drinking water.
- This helps to avoid wastage of filtered clean drinking water through hand wash.
- Additionally, low flow faucets are provided to reduce the water flow rate while washing the hands.
- Slogans about water conservation have been provided at important locations to create general awareness.

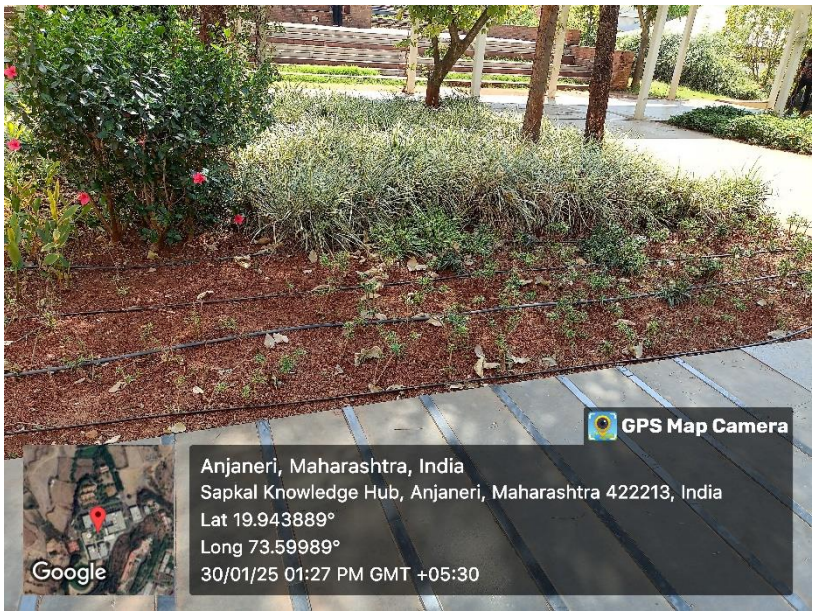
Geotagged photo of separate designated area for hand wash and drinking water in canteen

Geotagged photo of low flow faucets for hand wash and water conservation awareness poster in canteen

7.1 Rain Water Harvesting

- Institute has taken significant initiatives to construct Rainwater Harvesting pits at various locations in the campus.
- For rainwater collection, due to slope/level difference of institute, most of the rainwater is naturally returned back to ground, thereby recharging the groundwater level.
- It was observed that campus is having total area of 41318.4 sq. m. Hence, there is good potential for systematic rainwater harvesting.
- Presently, the institute has developed a lake nearby to facilitate rainwater harvesting.
- The approximate area of this lake is 1226.1 m^2 with maximum depth of 9.1 m.
- The approximate rainwater storage capacity of this lake is 11,157.51 m^3 or 1,11,57,510 Liters of water.
- This lake is helpful for recharging the ground water storage.
- The water from this lake is pumped to the institute for utility purposes.
- This water is not used for drinking purposes.
- The water from this lake is used in lawns and gardens in the campus.

Geotagged photo of water reservoir constructed



Geotagged photo of Lawns provided with water from discharge of rainwater harvesting

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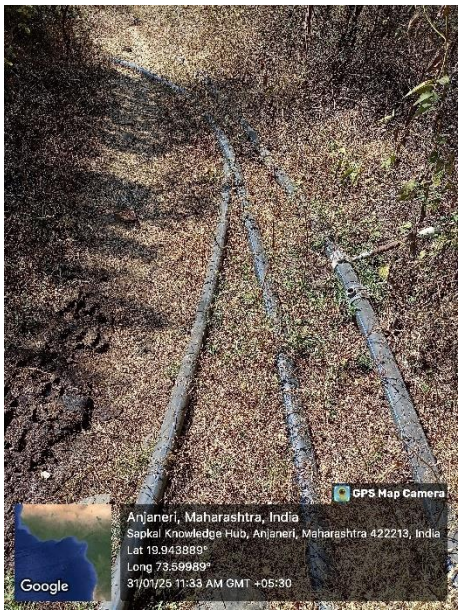
Recommendation

- Civil engineering students can be assigned a project in future to evaluate runoff coefficient of various buildings and establishments in the campus and evaluate the RWH potential of the campus.
- This shall be helpful to perform comparative analysis about water consumed and water harvested.

7.2 Borewell / Open well recharge

- Presently, there are no bore well or open wells constructed in the campus.
- However, the institute own two open wells which are constructed approximately 2 kms away from the campus near the Anjaneri dam.
- These wells are mainly utilized during summer season when there is scarcity of water.
- These wells are recharged through water pumped from Anjaneri dam.
- The second well is also constructed. However, its water is seldom used. Hence, this well is helpful in recharging the ground water level.
- Old GI Pipes transporting the water from these wells to the campus have been replaced with HDPE pipes, which results in lower water & energy loss, with longer service life.

Geotagged photos of wells owned by the institute



Geotagged photo of HDPE pipeline used to distribute water from the open wells

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Recommendation

- The performance of DG set used near the well should be monitored on regular intervals. Appropriate record of the same should be maintained in the log book to avoid any major maintenance/breakdowns in the future.
- Remaining GI pipelines in the campus can also be replaced with HDPE pipes to avoid corrosion and erosion in the future.

7.3 Construction of tanks and bunds

- Presently, 05 water tanks are constructed at top of the Mechanical, Civil, Electrical and main building in the campus.
- Each of these tanks is having storage capacity of 10,000 liters each. Thus, total storage capacity is 50,000 litres.
- The water from Anjaneri dam is collected in the Open well, constructed in the campus, using pumping system.
- Then this water comes into filtration plant where its passes though Sand, carbon filter and then to softener.
- Later, the filtered water is supplied to water storage tanks.
- The bunds constructed in the campus help the rainwater to get channelized towards the rainwater harvesting pond.
- These channels are constructed in such a way that soil erosion is minimized while reducing the speed of the water at the same time.

Table 7.3-1 Details of water tanks installed

Sr. No.	Location of Water Tank Installation	Capacity of Water Tank (Litres)
1.	Mechanical Building	10,000 Litres
2.	Civil Building	10,000 Litres
3.	Electrical Building	10,000 Litres
4.	Main Building	10,000 Litres
5.	College of Management Studies Building	20,000 Litres
6.	Total	60,000 Litres

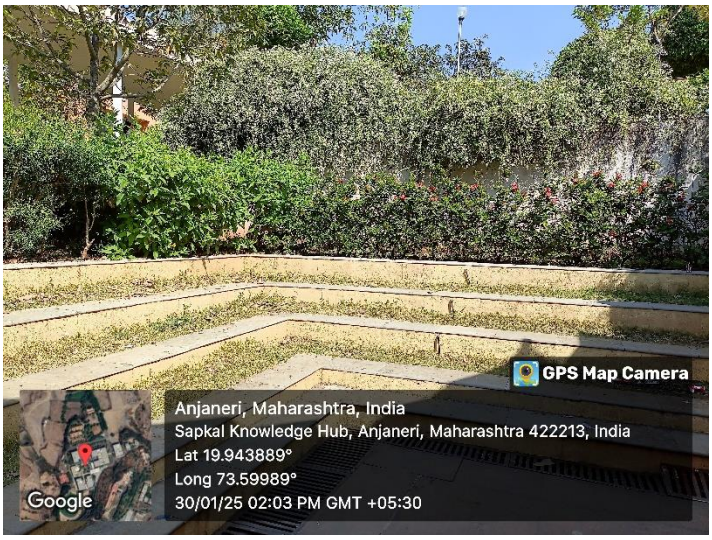
Geotagged photo of water tank at the rooftop of College of Management Studies Building

Geotagged photo of bunds and tranches constructed in the campus

7.4 Maintenance of water bodies and distribution system in the campus

- The conventional GI pipelines are replaced with HDPE pipelines, which have following benefits
    - Higher operating pressure
    - Smoother texture of the surface, thereby reducing frictional losses during water transmission
    - Reduce energy consumption of water pump
    - Avoid corrosion and erosion of pipe surface
    - Provide longer service life
- Gardens are watered using drip irrigation system pipes laid out throughout the campus.
- This helps to reduce the evaporation of water from ground due to conventional irrigation system.
- Further, it helps to reduce the velocity of water, thereby reducing soil erosion.
- Also, to reduce the speed of rainwater, steps are provided throughout the campus during construction phase.
- Lotus ponds have also been constructed at salient places in the campus.

Geotagged photo of Drip irrigation system



Geotagged photo of steps constructed to reduce soil erosion

Geotagged photo of lotus pond

Recommendation

- It is suggested to maintain the record of all the maintenance activities carried out with regards to water bodies and distribution system.

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8. Clean and Green Campus Initiatives

- This includes
    a. Restricted Entry of Automobiles
    b. Pedestrian friendly pathways
    c. Barrier free campus
    d. Ban on use of plastics
    e. Use of digital resources to reduce paper consumption
    f. Landscaping with trees and plants

Poster prepared by the students to create awareness about recycling

8.1 Restricted Entry of Automobiles

- Institute has implemented the initiative of "vehicle parking at main gate" to restrict the movement of vehicles inside the campus.
- Institute has provided **"Free of Cost"** bus facility to all the faculty members.
- Separate entrance is provided for
    a. Incoming vehicles
    b. Outgoing vehicles

- Faculty and staff members who bring their vehicles, park it in the parking near the entry gate and then walk up to their respective departments.
- Institute has provided cars to senior Professors with an initiative of car-pooling to commute regularly.
- The students are charged reasonably and staff members are provided free transport facility to discourage them from using their own vehicles.
- Thus, institute has contributed in reducing use of private vehicles and thereby environmental by providing public transportation facility.
- Throughout the campus, students walk towards their destination, thereby avoiding environmental pollution due to usage of vehicles.
- The List of vehicles approaching the campus is given in the following table.

Figure 8.1.1 Details of vehicles deployed by the institute

Sr. No.	Vehicle Name	Capacity	No. of vehicles
1.	Buses	40 persons	10
2.	Passenger vehicles	05 Persons	03
3.	Cars provided for Principal/Director	04 Persons	02

- Faculty members also use the concept of carpooling to commute to and from the institute, if they are coming by car.
- The parking space is also covered with plantation.

Recommendation

- Institute can maintain a record of number of e-vehicles used by faculty/students through a systematic registration process.
- This data will be useful to evaluate technical and economic feasibility of installing a e-vehicle charging station in the campus to help the students/faculty in the hours of emergency.

Kalyani Charitable Trust's
SAPKAL KNOWLEDGE HUB
K. R. SAPKAL COLLEGE OF MANAGEMENT STUDIES
Sapkal Knowledge Hub, Kalyani Hills, Anjaneri, Nashik-422213.

Date: 02/01/2024

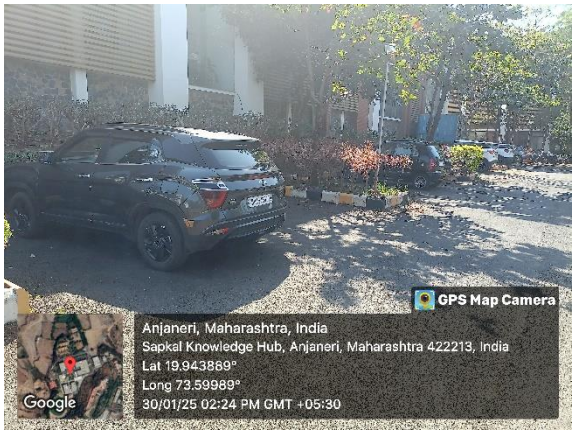
NOTICE

All the teaching, non-teaching staff and students are hereby advised to use college bus facility/ transport/ bicycle / e-vehicles for commuting to college to promote green initiative of the institute. All shall also disseminate the idea of making use of college transport / public transport /bicycles e-vehicles wherever possible to reduce pollution and sustain our green campus.

All are informed to take necessary actions towards bringing this instruction into practices.

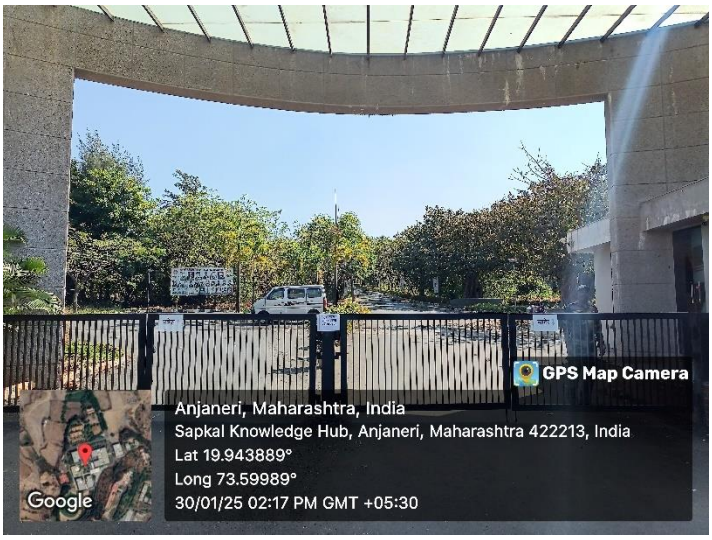
Dr. Suhas B. Dhande
Director

Photo of notice to all staff members for using public transport for commutation



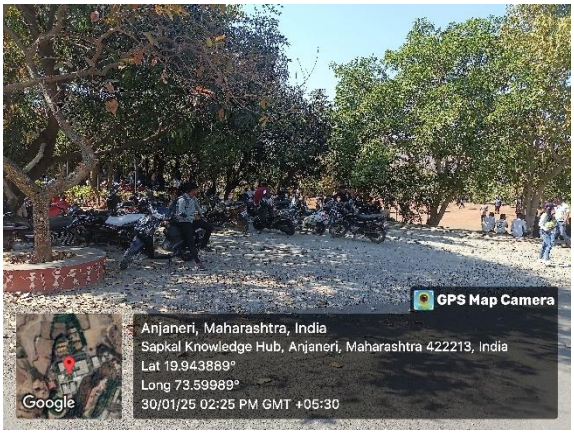
Geotagged photo of vehicle parking near the entrance of the institute

Geotagged photo of bus facility provided by the institute



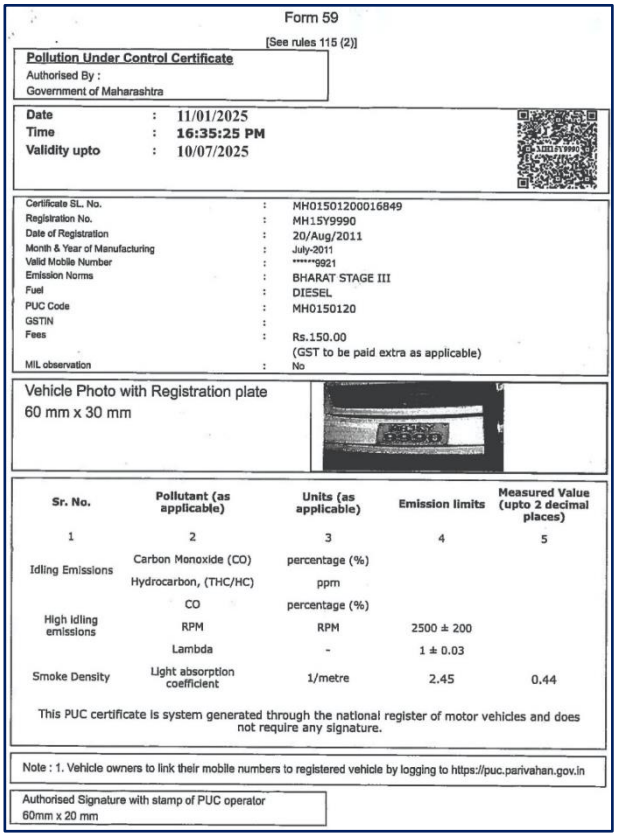
Geotagged photo of designated entry gate for incoming and outgoing vehicles

Geotagged photo of e-vehicles used in the campus



Geotagged photo of bike parking near the entry gate

Geotagged photo of speed breaker constructed near the entrance to reduce the speed of the vehicles



Form 59

[See rules 115 (2)]

Pollution Under Control Certificate

Authorised By :
Government of Maharashtra

Date	:	11/01/2025
Time	:	16:35:25 PM
Validity upto	:	10/07/2025

Certificate SL. No.	:	MH01501200016849
Registration No.	:	MH15Y9990
Date of Registration	:	20/Aug/2011
Month & Year of Manufacturing	:	July-2011
Valid Mobile Number	:	******9921
Emission Norms	:	BHARAT STAGE III
Fuel	:	DIESEL
PUC Code	:	MH0150120
GSTIN	:	
Fees	:	Rs.150.00 (GST to be paid extra as applicable)
MIL observation	:	No

Vehicle Photo with Registration plate
60 mm x 30 mm

Sr. No.	Pollutant (as applicable)	Units (as applicable)	Emission limits	Measured Value (upto 2 decimal places)
1	2	3	4	5
Idling Emissions	Carbon Monoxide (CO)	percentage (%)		
	Hydrocarbon, (THC/HC)	ppm		
High idling emissions	CO	percentage (%)		
	RPM	RPM	2500 ± 200	
	Lambda	-	1 ± 0.03	
Smoke Density	Light absorption coefficient	1/metre	2.45	0.44

This PUC certificate is system generated through the national register of motor vehicles and does not require any signature.

Note : 1. Vehicle owners to link their mobile numbers to registered vehicle by logging to https://puc.parivahan.gov.in

Authorised Signature with stamp of PUC operator
60mm x 20 mm

GOVERNMENT OF MAHARASHTRA
Motor Vehicle Department
NASHIK
FORM 38
[See Rule 62(1)]
CERTIFICATE OF FITNESS
(Applicable in the case of transport vehicles only)

Vehicle No: MH15Y9990(Bus) is certified as complying with the provisions of the Motor vehicles Act, 1988 and the rules made there under.

Registration No	MH15Y9990
Application No	MH24050/V/6826544
Inspection Fee Receipt No	MH24050/TC/2515344
Receipt Date	07-May-2024
Chassis No	MAT412078BGG13255
Engine No	11F83146520
Seating Capacity	55 (Including Driver)
Type of Body	SCHOOL VAN
Manufacturing Year	2011
Category of Vehicle	HPV
Inspected on	14-May-2024
Printed on	15-May-2024 10:52:21

Certificate will expire on : 13-May-2025
Next Inspection Due Date : 15-Mar-2025

Inspected by (ABHIJEET MADHUKAR BAGHMARE)

Signature of Inspecting Authority
NASHIK

अभिजित बाघमारे
मोटार वाहन निरीक्षक
प्रादेशिक परिवहन कार्यालय, नाशिक.

सत्यं श्रद्धा समन्वितः

PUC and fitness certificates of the campus vehicles

Recommendation

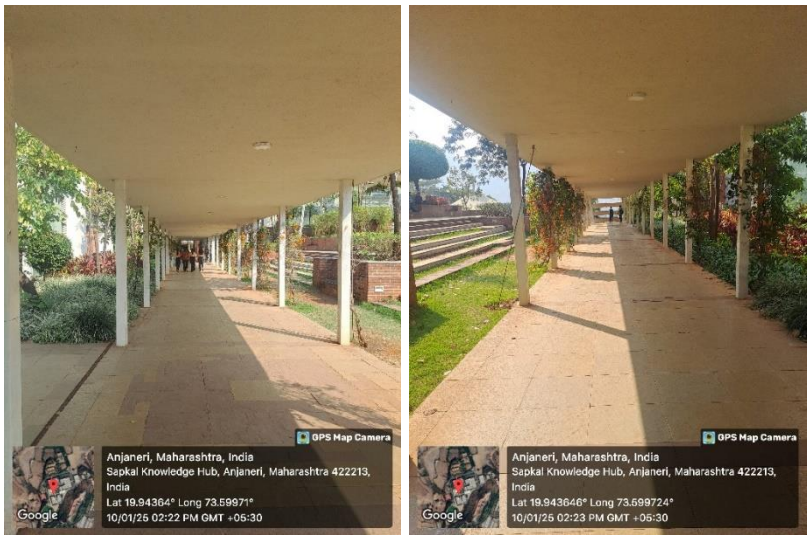
- PUC Certificate and fitness certificate of all the vehicles entering in the premises should be monitored regularly.
- Use of e – vehicles should be promoted in the premises.
- Use of bicycles can be promoted in the campus.

8.2 Pedestrian friendly pathways

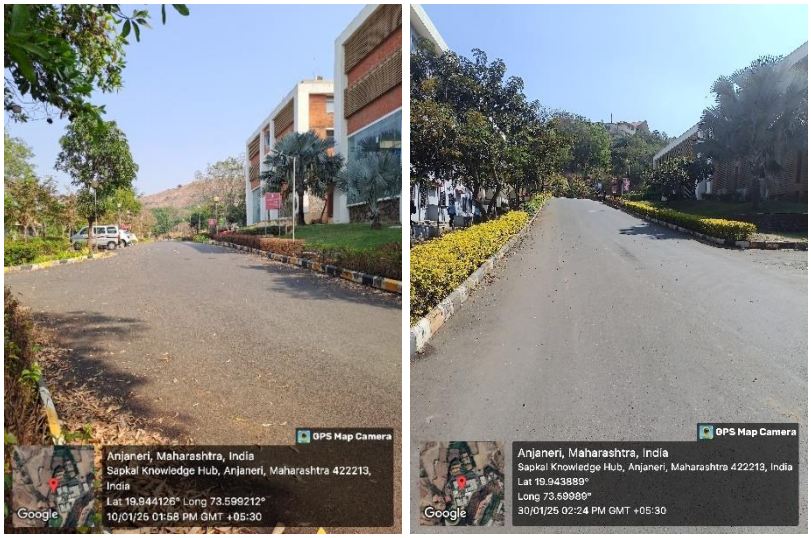
- The pathways in the campus are pedestrian friendly, with no obstruction from moving vehicles.
- The dedicated pathways are provided with sufficient width for the pedestrians.
- Clearly visible signboards are placed in the campus at salient places indicating the directions for different locations.
- White and yellow coloured clear side marking is done on the pathways.
- Provision of sufficient light on these pathways is made in case of night time use.
- Institute has also developed a small open theatre near cafeteria; wherein trees are planted and various cultural and technical events are organized by the institute.

Geotagged photo of clearly visible signboards for places in the campus

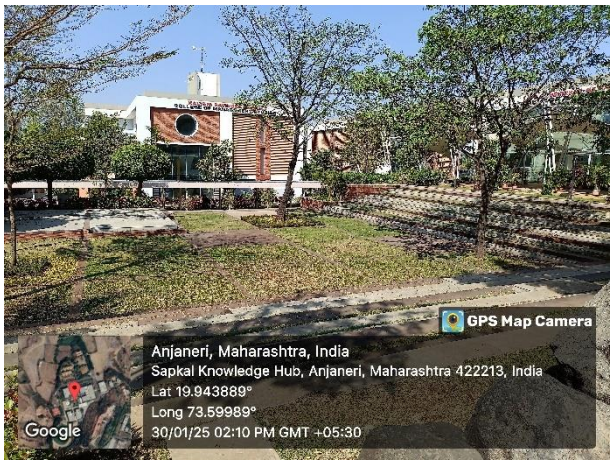
Geotagged photo of floor plan available near the entrance



Geotagged photo of covered & broad pedestrian friendly pathways



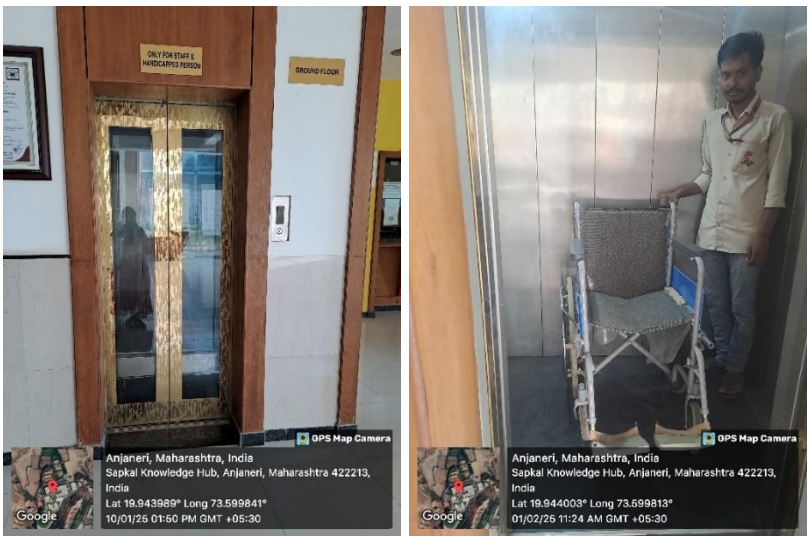
Geotagged photo of sufficiently wide walking space in the campus



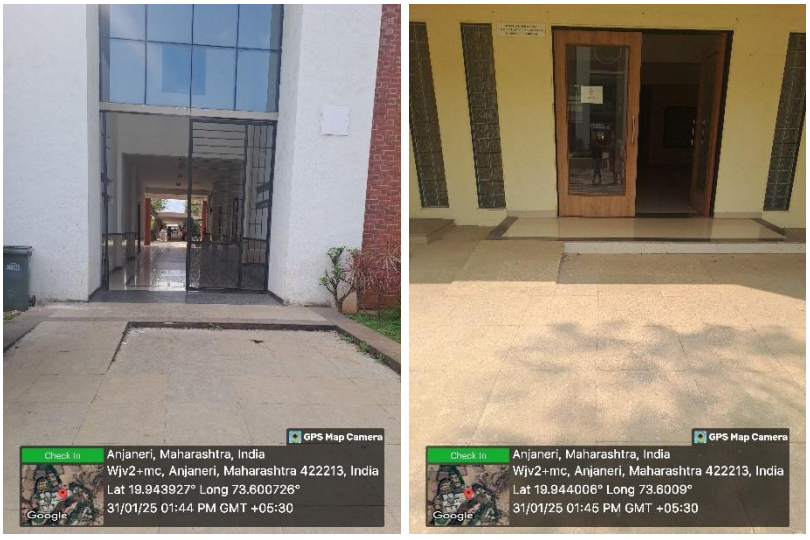
Geotagged photo of amphitheatre developed by the institute

8.3 Barrier free environment

- In every building, lift is provided for faculty members. Students can also use the same in case of medical concern.
- Functional wheelchair is available at the main block for the help of students.
- There are no steps in the corridors throughout the building to ensure smooth movement of physically disabled people.



Geotagged photo of Lift and wheelchair provided



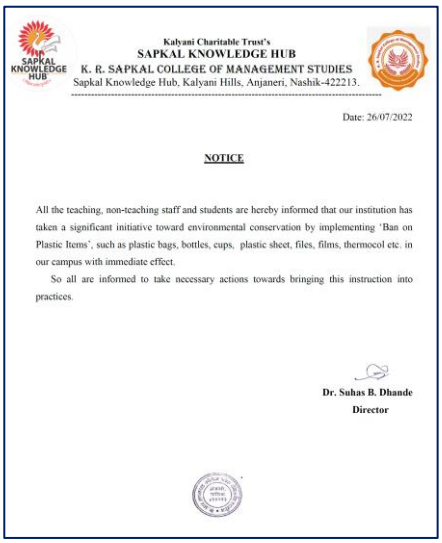
Geotagged photo of ramp constructed

Recommendation

- It is suggested to construct Lavatories specifically for physically disabled persons.

8.4 Ban on use of plastics

- Institute has taken keen interest and initiatives to reduce the use of plastic in their day-to-day operations.
- Posters about avoiding the use of plastic have been posted at various locations throughout the campus.
- Steel plates and glasses are used in the canteen and mess for preparing as well as serving the food.



Kalyani Charitable Trust's
SAPKAL KNOWLEDGE HUB
K. R. SAPKAL COLLEGE OF MANAGEMENT STUDIES
Sapkal Knowledge Hub, Kalyani Hills, Anjaneri, Nashik-422213.

Date: 26/07/2022

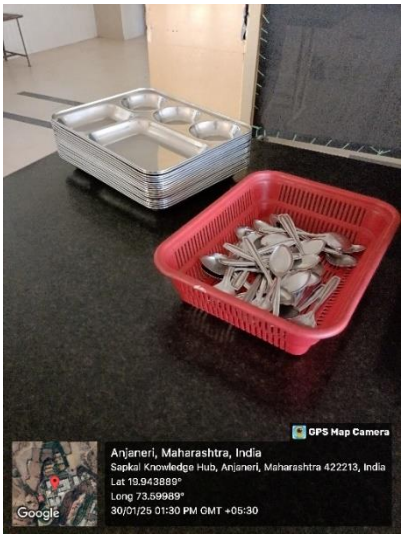
NOTICE

All the teaching, non-teaching staff and students are hereby informed that our institution has taken a significant initiative toward environmental conservation by implementing 'Ban on Plastic Items', such as plastic bags, bottles, cups, plastic sheet, files, films, thermocol etc. in our campus with immediate effect.

So all are informed to take necessary actions towards bringing this instruction into practices.

Dr. Suhas B. Dhande
Director

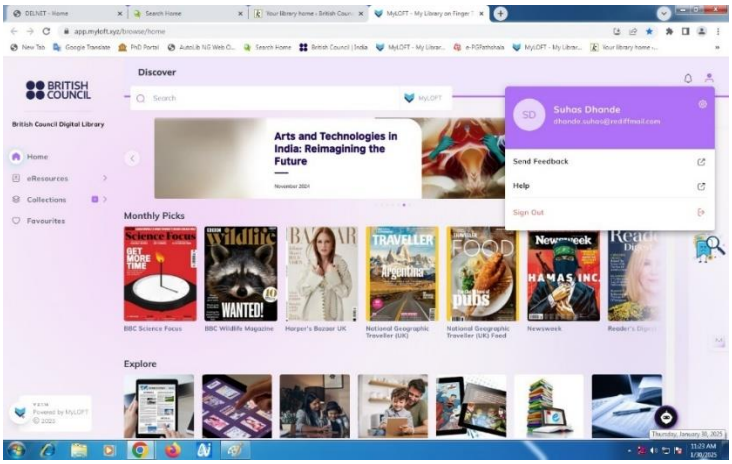
Geotagged photo of plastic ban notice issued and information signboards for plastic free campus



Geotagged photo of steel plates and steel glasses used in the campus

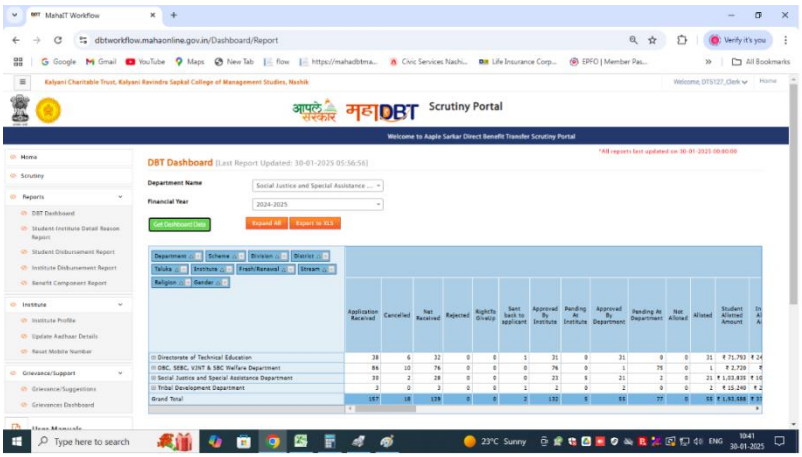
8.5 Use of digital resources to reduce paper consumption

- Library has been provided with e – resources to reduce paper consumption in the form of
    - NPTEL Video Lectures
    - National Digital Library
    - DELNET
    - E – books
- Institute also utilizes e – resources to reduce paper consumption for
    - MahaDBT portal for scholarship
    - Software for accounting
- Due to the presence of e – resources, students do not need to print the scientific literature, thereby reducing paper consumption of the institute.
- Library personnel are maintaining accession and utilization data of e – resources in a systematic manner periodically.

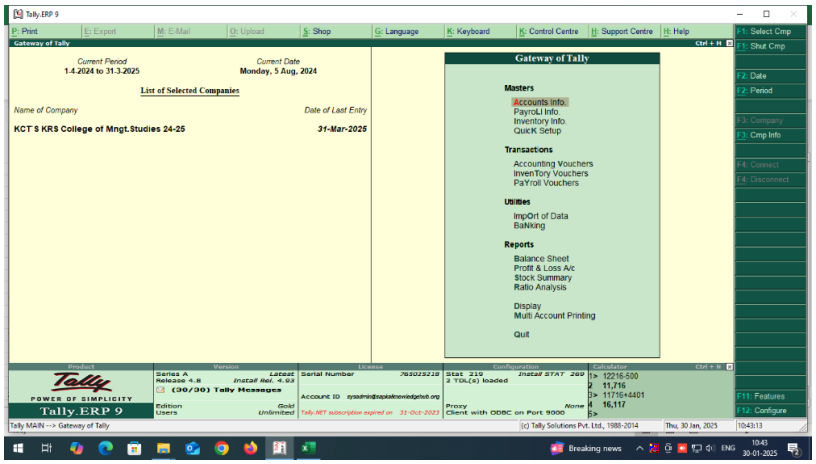


Screenshot of British Council library membership subscribed by the institute

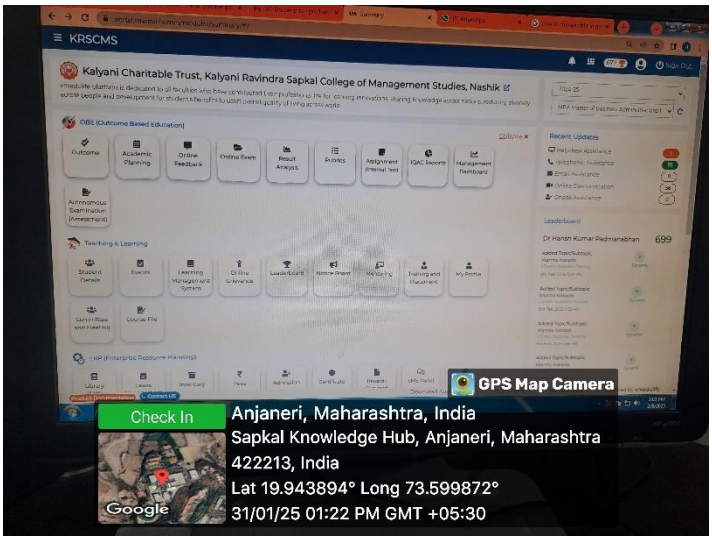
Screenshots of e – resources subscribed by the institute library



Screenshot of MahaDBT portal for processing the scholarship of the students



Screenshot of financial accounting software being used in the institute



Screenshot of ERP software being used in the institute

8.6 Landscaping with trees and plants

- Institute has created several lawns and mini – forests throughout the campus to facilitate green plantation.
- Institute has preserved and relocated various old trees also during various phases of construction. There are 03 old trees in the campus which have been borrowed from road construction authorities and replanted in the campus, when Nashik – Trimbakeshwar road construction was going on. These trees can be observed near the entrance.
- Pathways are provided with accompanied plantation.
- Institute has recently planted 2000 teakwood trees in the campus.
- Total area covered under gardens is 23,933.64 sq.m.

Table 8.6-1 Details about various plants in the campus

Sr. No.	Name	Type	Scientific names	Location	Nos.
1.	Bottle Palm	Grass	Hyophorbe Lagenicaulis	Ladies Hostel	200
2.	Areca Palm	Grass	Dypsis Lutescens	Dining hall, Parking, Boys hostel	350
3.	Betel palm	Grass	Areca Catechu	Dining hall, Parking, Boys hostel	24
4.	Fan Palm	Grass	Livistona Chinensis	Dining hall, Parking, Boys hostel	30
5.	Coconut tree	Tree	Cocos Nucifera	Temple	40
6.	Gulmohar	Tree	Delonix Regia	Internal campus roads	300
7.	Ficus	Tree	Ficus Benjamina	Boys hostel	50
8.	Chafa	Tree	Plumeria	Engg. Building, Boys hostel	150
9.	Tamarind (Chinch)	Tree	Tamarindus Indica	Boys hostel	4
10.	Lime	Tree	Citrus	Staff quarter	5
11.	Banyan Tree	Tree	Ficus benghalensis	College Entrance	7
12.	Guava	Tree	Psidium Guajava	Library	20
13.	Umber	Tree	Cluster Fig	Parking, Upper campus	07
14.	Supari	Tree	Betel nut palm	Boys hostel	12

15.	Aamala	Tree	Phyllanthus Emblica	Vermi compost project, staff quarter	6
16.	Sapodilla (Chiku)	Tree	Manilkara Zapota	Staff quarter	18
17.	Mango	Tree	Mangifera Indica	Throughout campus	80
18.	Java Plum (Jambul)	Tree	Syzygium Cumini	Cricket ground	25
19.	Pomegranate (Dalimb)	Tree	Punica Granatum	Staff residence	7
20.	Banana tree	Tree	Musa	Temple	20
21.	Pimple	Tree	Ficus religiosa	Cricket ground	07
22.	Drumstick	Tree	Moringa Oleifera	Staff quarter	3
23.	Custard apple	Tree	Annona Reticulata	Temple	10
24.	Fanas	Tree	Jackfruit	Boys Hostel	6
25.	Subabul	Tree	Leucaena leucocephala	Engg. College premises	50
26.	Suru	Tree	Australian Pine	Temple, Upper campus	100
27.	Nilgiri	Tree	Eucalyptus globulus	Dining hall, LT house	8
28.	Kadamba	Tree	Neolamarckia cadamba	Throughout campus	150
29.	Kanchan	Tree	Bauhinia variegata	Amphitheatre, Civil dept.	10
30.	Akashi	Tree	Acacia auriculiformis	Cricket ground	10
31.	Kadipatta	Tree	Murraya koenigii	Staff quarter	10
32.	Tejapatta	Tree	Cinnamomum tamala	Staff quarter	5
33.	Kadunimba	Tree	Azadirachta indica	Electrical dept.	10
34.	Bor	Tree	Ziziphus mauritiana	Boys hostel	7
35.	Sag/Teak	Tree	Tectona grandis	Cricket ground	50
36.	Teakwood	Tree	Tectona grandis	Several locations	2000

Geotagged photo of landscaping near entry gate of the campus

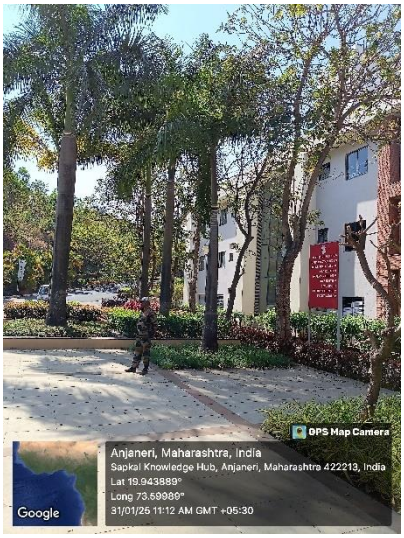
Geotagged photo of small indoor garden inside the institute building

Geotagged photo of bamboo forest near boy's hostel

Geotagged photo of landscaping near institute building

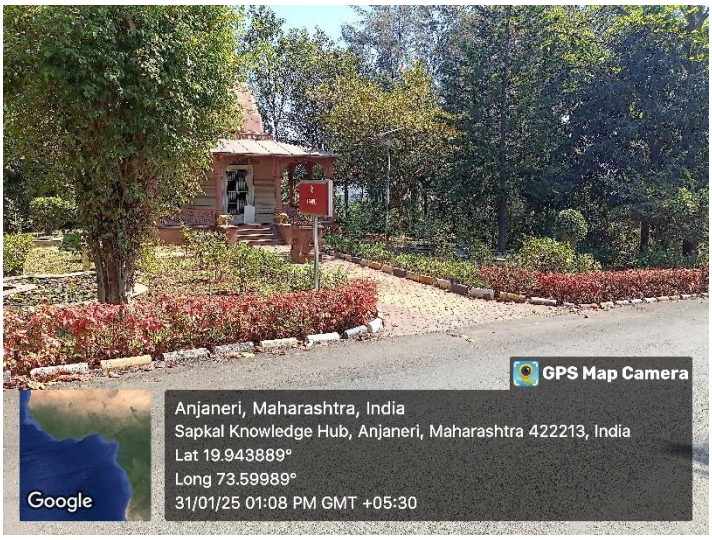
Geotagged photo of tree plantation in the parking

Geotagged photo of medicinal plant garden developed in the institute



Geotagged photo of old trees preserved in the campus of institute

Geotagged photo of tree plantation near guesthouse



Geotagged photo plantation near the temple

Geotagged photo of teakwood trees planted in the campus


महाराष्ट्र शासन

छत्रपती शिवाजी महाराज
वनश्री पुरस्कार
२०१३

कल्याणी चॅरिटेबल ट्रस्ट
सपकाळ नॉलेज हब, नाशिक
यांना वनीकरण, पडीक जमीन विकास व
तत्संबंधीची जनजागृती या क्षेत्रात केलेल्या उत्कृष्ट कार्याबद्दल
'वृक्षमित्र पुरस्कार'
प्रदान करुन गौरविण्यात येत आहे.

ठिकाण : नागपूर
दिनांक : ३०/०४/२०१६

सुधीर मुनगंटीवार
मंत्री
वित्त आणि नियोजन, वने
महाराष्ट्र शासन

सामाजिक वनीकरण महासंचालनालय, वनविभाग महाराष्ट्र राज्य

Photo – Institute awarded by State Government for tree plantation activity by the institute in a nearby area

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Recommendation

- It is suggested for the institute to contact nursery professional and plant indigenous trees to preserve natural biodiversity in the campus.
- Institute can also undertake the activity of biodiversity mapping.

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9. Environmental promotion activities

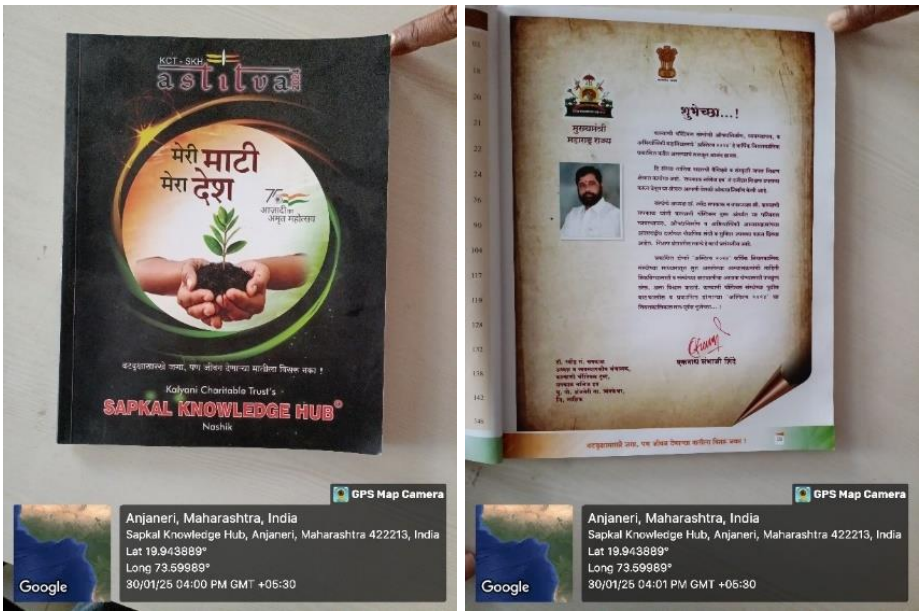
- Institute has published magazine with the theme of '**Meri Mati Mera Desh"** to create awareness about soil conservation and sustainable development.
- Student have also carried out the projects on various domains/aspects of sustainable development, which involved utilization of their management domain knowledge as well.
- Institute has also submitted project proposal entitled **"Vasundhara Dhoop"** in the form of a startup idea to Government of Maharashtra. This idea involves utilization of waste flowers to manufacture the incense sticks. Such an initiative shall be helpful to address environmental concerns and facilitate waste management.
- Faculty members also carry out research and publish research paper aligned with integration of management knowledge and sustainable development
- Institute has adopted the practice of felicitating the guests/resource persons with samplings instead of flower bouquets.

Table 9-1 List of student projects in the domain of sustainable development with utilization of Management knowledge (AY 2023 – 24)

Sr. No.	Name of Student	Company Name	Title of the Project
1.	Sangale Dushant	Electric Vehicle	To study the brand awareness of electric vehicle
2.	Vishal Mhaisdhune	Agrochem Pvt. Limited	Evaluating market potential awareness for agrochemical and micro nutrient fertilizers in Nashik
3.	Harish Wani	CEAT Ltd.	Reduction of pinched bead defect for non-truck tyres
4.	Aakanksha S Nagre	CEAT Ltd.	A study of manufacturing cost reduction with reference to CEAT Ltd.

Table 9-2 Details of Research paper published by faculty

Sr. No.	Name of Faculty	Title of Research paper	Publication Details
1.	Dr. Sunetra Jain	An Analytical Study of Biodiversity Conservation Initiative of selected Indian Companies	International Research Journal of Management Sociology & Humanities, Vol. 14, Issue 6, June 2023



Annual magazine developed by the institute with theme of sustainable development.

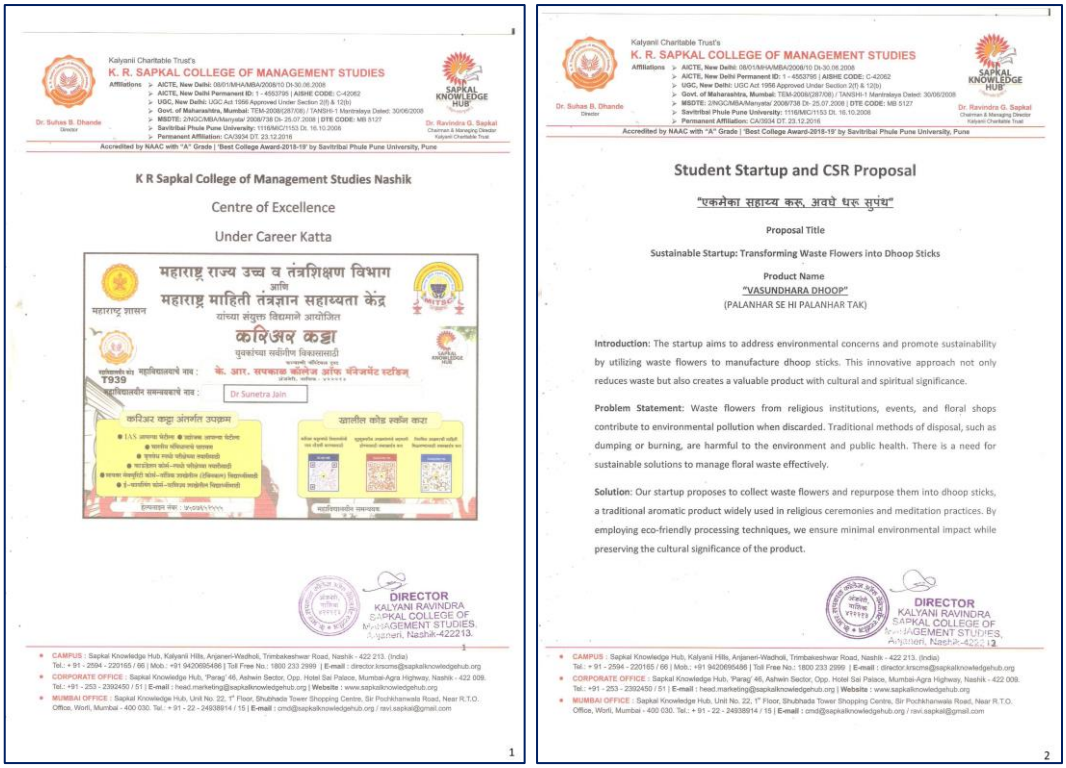


Photo of startup idea proposed by the institute to Government of Maharashtra to reduce waste generation through used flowers

IRJMSH

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An Internationally Indexed Peer Reviewed & Refereed Journal

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DOI : HTTPS://DOI.ORG/10.32804/IRJMSH ISSN 2277 – 9809 (0) 2348 - 9359 (P)

THIS CERTIFIES THAT

DR SUNETRA JAIN

HAS/HAVE WRITTEN AN ARTICLE / RESEARCH PAPER ON

AN ANALYTICAL STUDY OF BIODIVERSITY CONSERVATION INITIATIVE OF SELECTED INDIAN COMPANIES

APPROVED BY THE REVIEW COMMITTEE, AND IS THEREFORE PUBLISHED IN

Vol – 14 , Issue – 6 Jun , 2023

IRJMSH

Editor in Chief

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Photo of Certificate of Research Paper published by faculty Dr Sunetra Jain in the domain of sustainable development

Geotagged photo of felicitating the guests/resource persons with samplings

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Recommendation

- It is suggested to carry out activities such as tree plantation, river cleaning, cleanliness drive in surrounding area with student and faculty participation.

Acknowledgement

Green, Energy and Environment Audit Team of WeBuild Pathways Pvt. Ltd., Nashik, Maharashtra wishes to express their sincere gratitude towards the wholehearted cooperation and support extended by the authorities and staff members of **Kalyani Charitable Trust's K. R. Sapkal College of Management Studies, Nashik**, India.

We are immensely thankful to following officials

Director	Dr. Aarti More
IQAC Coordinator	Dr. Harish Padmanabhan
Green Audit Coordinators	Ms. Mamta Girish Kakade

Without their untiring enthusiasm and involvement, this Green, Energy and Environment Audit would have been left incomplete.

We wish them best for their future endeavours towards Sustainable Development.