

**Green Audit**  
**Report of**  
**Kalyani Charitable Trust's**  
**Late G. N. Sapkal**  
**College of Engineering (LGNSCOE)**  
**Nashik**



**Submitted by**  
**WeBuild Pathways Pvt. Ltd., Nashik**  
**An ISO 9001:2015 certified organization from**  
**TUV SUD (NABCB) accredited certifying body.**



**Report Date- 29<sup>th</sup> May 2023**

**Report NO. WBPPL/GA/02**



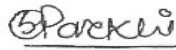
## **CERTIFICATE**

This is to certify that, M/s WeBuild Pathways Pvt. Ltd. Nashik has conducted Green Audit of Kalyani Charitable Trust's, Late G. N. Sapkal College of Engineering (LGNSCOE), Sapkal Knowledge Hub, Kalyani Hills, Anjaneri, Trimbakeshwar Road, Nashik – 422213, during academic year 2022 – 23. 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 LGNSCOE, 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.

### **Green Audit Team Members**



Sumant D. Parkhi  
Director & EMS Auditor



Dr. Hitesh R. Thakare  
Energy Auditor



Ameya S. Parkhi  
EHS Specialist

Date: 29/05/2023

Report NO. WBPPL/GA/02



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## 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.
- First NAAC Cycle was conducted in October 2018. First cycle of Green Audit was conducted at Kalyani Charitable Trust’s, Late G. N. Sapkal College of Engineering, Nashik in the month of June 2018.
- 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.
- The institute has already put in a lot of efforts to help the environment.
- 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.
- **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 Green 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.

- This report consists of
  - Green audit / Environment audit.
  - Energy audit
  - Clean and green campus initiatives.
  - Beyond the campus environmental promotion and sustainability activities.
- The data presented in this green audit report has been collected and verified through frequent on-site visits to the campus.
- Analysis of the data collected, Geo tagged photos, necessary documentation and recommendations are discussed in the following chapters.
- The management of the institute had a splendid vision of providing education and ample opportunities to the children and youth of India to excel globally in different professions.
- The institute has a scenic campus at Anjneri Hills, Nashik in Maharashtra.
- The Sapkal Knowledge Hub – an integrated educational complex is providing school, graduate and post-graduate education for excellence. The Engineering programme has been envisioned to promote competitive education & help gain access to information, training and resource.
- The Campus of the institute encompasses over 110 acres of scenic and beautiful natural setting of hills and valleys and world class infrastructure.
- The campus is self –sufficient and conducive to 360-degree development of its students.
- The Kalyani Charitable Trust's, Late G. N. Sapkal College of Engineering was started in 2009 as one of the institutes of Sapkal Knowledge Hub and providing high quality education and training to meet the emerging needs of the industry.

- The campus is located within Sapkal Knowledge Hub, situated about 20 KM from Nashik Road Railway Station, 16 KM from Central Bus Stand (CBS) and 30 KM from Airport towards Trimbakeshwar.
- The Institute has been established with intake 240 and presently offers undergraduate & post graduate courses with annual intake of 660 and 78 respectively.
- 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.




Photo of Award received by the institute from Government of Maharashtra

## 2. Green Audit Team

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

**Table 1 Essential Details Team members of Green Audit Team**

Sr. No.	Name	Qualification	Designation	Experience
1.	 <p>Sumant D. Parkhi</p>	<p>DME, DBM, MMS</p> <p>Lead Auditor: Environment Management System - ISO 14001, Energy Management Systems ISO 50001, Occupational Health and Safety Management System ISO 45001.</p>	<p>Founder, Principal Consultant, Trainer &amp; Auditor</p> <p>IRCA approved Principal Auditor for ISO 14001:2015</p>	38 Years
2.	 <p>Dr. Hitesh R. Thakare</p>	<p>B. E. Mech., M. Tech. Ph.D. (Mech. Engg.) BEE Certified Energy Auditor (CEA – 27707) Internal Auditor ISO 9001:2015</p>	Energy Auditor & Team Member	13 Years
3.	 <p>Ameya S. Parkhi</p>	<p>B. E. Mech. M. S. (EHS) (Rochester Institute of Technology, New York, USA) ISO 45001 Lead Assessor</p>	EHS Consultant & Specialist	05 Years

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Website: [www.webuildpathways.com](http://www.webuildpathways.com)

### 3. Aim, objectives, and scope

- The management of the institute recognizes its vital role & responsibility in creating awareness about the importance of sustainable development.
- This innate motivation has been actualized through implementation of various green initiatives throughout the campus.
- Main aim of this green audit is to verify and ensure that the green practices and various sustainability initiatives followed in the institute are in accordance with the intent of the management as well as guidelines prescribed by accreditation bodies, if any.

Following are salient **objectives** of green audit undertaken:

1. To identify current green practices and various sustainability initiatives undertaken by the institute.
2. To review and verify the physical existence as well as documentation relevant to green practices and various sustainability initiatives.
3. To substantiate the compliance of green practices and various sustainability initiatives being followed at the institute in accordance with guidelines of accreditation bodies, if any.
4. To identify the scope for further improvement of green practices and various sustainability initiatives, both in qualitative and quantitative terms.

Following areas/avenues are covered under the **scope** of present study:

1. Use of Alternative Energy Sources such as solar energy, implementation of energy efficient technologies for energy conservation.
2. Management of different kinds of degradable and non – degradable wastes such as solid wastes, liquid waste, e – waste etc.
3. Facilities for Water Conservation and water management initiatives.
4. Green Campus Initiatives



## 4. Methodology

Green Audit was conducted systematically by using following procedure:

1. The members of the green audit team visited the campus of the institute.



**Geotagged Photo of Meeting of Green Audit team members**

2. Green audit team members held an initial discussion with key staff members of the institute such as IQAC Coordinator, NAAC Criteria 7 Coordinator and maintenance manager who have been assigned the responsibility of sustainable practices implemented throughout the campus.
3. Further, it was discussed and decided to follow Guidelines of NAAC Criteria for assessment of green initiatives.
4. 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.
5. Then, team members physically checked the presence of various green initiatives undertaken and facilities created through campus tour.

6. 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.
7. Thereafter, the green audit team discussed the technical and economic feasibility of implementation of new systems with institute's staff members and management.
8. A draft report of all these findings and suggestions was prepared and a presentation was given to management to identify any corrections/improvements.
9. 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. Site details

- Kalyani Charitable Trust's, Late G. N. Sapkal College of Engineering, Nashik, Maharashtra, was established in 2009. College has developed various educational facilities such as state of the art lecture halls, laboratories, seminar halls and library.
- The institute has also taken care of recreational facilities such as playground for cricket, football and basketball, fully equipped gymnasium, swimming pool, indoor games facility for badminton, carrom, table tennis, chess, punching bags, running track and amphitheater.
- Total land area covered by the institute is 11401.34 sq. m.
- Total area allocated to the institute is 10 Acres i.e., 41,318.4 Sq. m.
- Hence, land covered by the institute through construction is 27.59% of available land.
- The institute has an average electrical energy consumption of 23,104 kWh per month.
- Sewage output of the institute is directly connected to Septic Tank.
- Tree plantation has been carried out on a large scale to reduce environmental pollution, considering the importance of native species of trees.
- A medicinal plant garden is also developed in the campus premises.
- Carrying out the green audit of such a huge campus presented a colossal challenge for the green audit team. Hence, guidelines provided by NAAC Criteria 7 were adhered to in order to execute the present green audit.
- All essential details about all these observations are presented in the following chapters.

## **6. Green Audit**

### **6.1 Water Conservation Facilities**

- Institute has made preliminary analysis of water usage in the campus. This is presented as follows:
- Water consumption in college
  - No of people = 1276
  - Water consumption per day per person = 20 litres
  - Total water consumption =  $1276 \times 20 = 25,520$  litres.
- Water consumption in hostels
  - No. of students in boys hostel = 74
  - No. of students in girls hostel = 34
  - Total students in hostel = 108
  - Water consumption per day per person = 135 litres
  - Total water consumption =  $108 \times 135 = 14,580$  litres

#### **6.1.1 Rain Water Harvesting**

- 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<sup>2</sup> with maximum depth of 9.1 m.
- The approximate rainwater storage capacity of this lake is 11157.51 m<sup>3</sup> 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 also used in lawns and gardens in the campus.



**Geotagged photo of lake developed by the institute near entrance for rainwater harvesting**



**Geotagged photo of rainwater harvesting piping arrangement providing water to campus from lake**



**Geotagged photo of Lawns provided with discharge of rainwater harvesting pipes**

### **Recommendation**

1. Considering the slope of land in the campus, rainwater harvesting potential can be further evaluated.

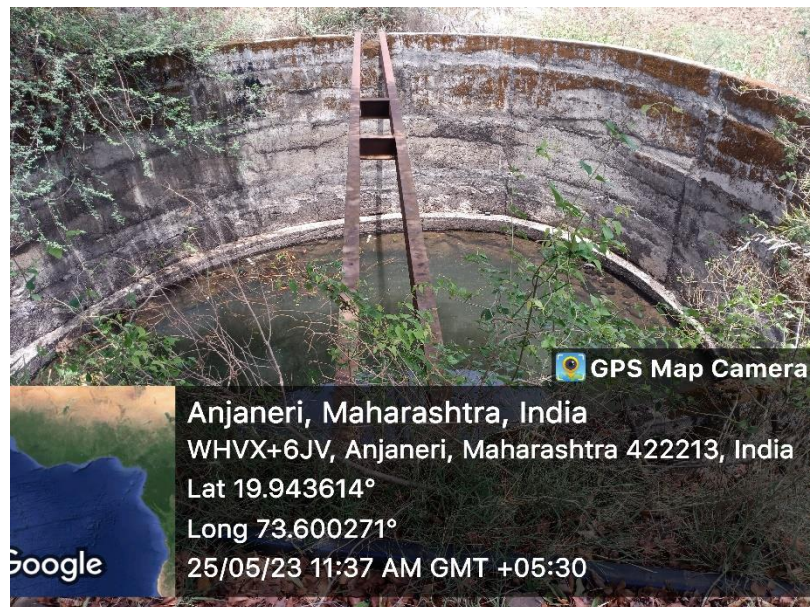
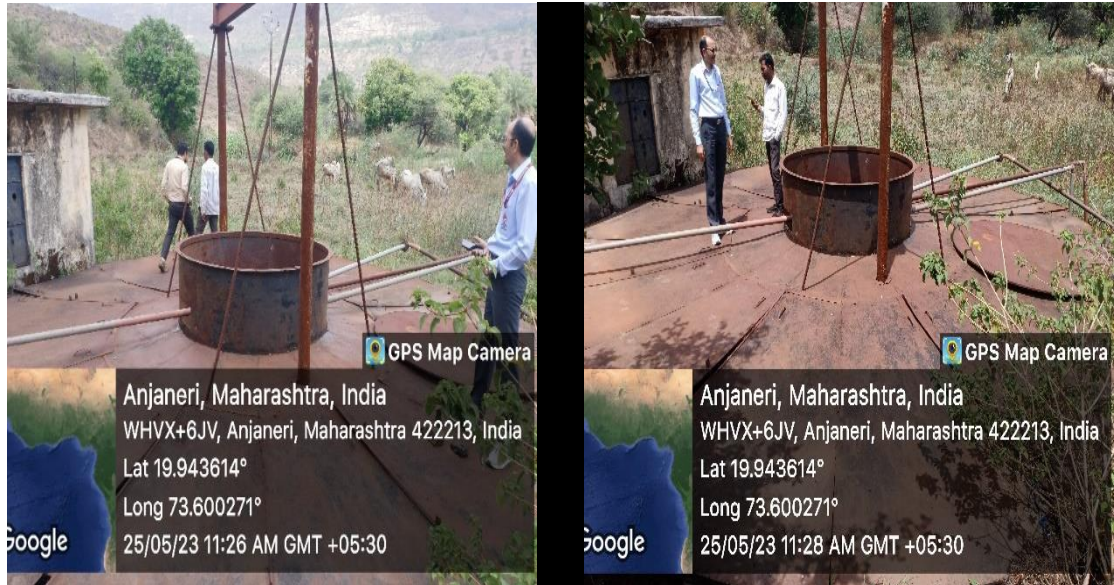
#### **6.1.2 Renovation/maintenance/cleaning of water tanks**

- Cleaning of overhead as well as underground water tanks is performed periodically through the agency hired for the purpose.
- Generally, the tank used for supplying drinking water is cleaned once in 30 days.
- Tanks of utility water are cleaned once in 4 months.
- Presently, 5 water tanks are kept at top of the building in the campus.
- The total storage capacity of water storage tanks is 50,000 liters.
- The water from these storage tanks is used for drinking as well as utility purposes.
- There are water level indicators and float valves installed for overhead tanks.

#### **6.1.3 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.



**Geotagged photos of wells owned by the institute**

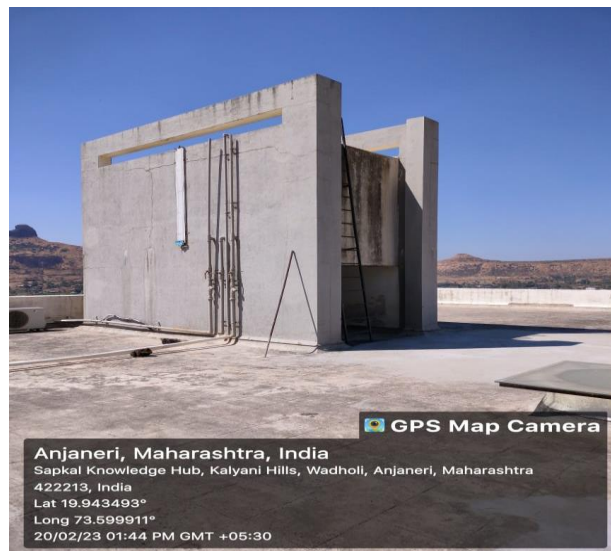
### **Recommendation**

- 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.

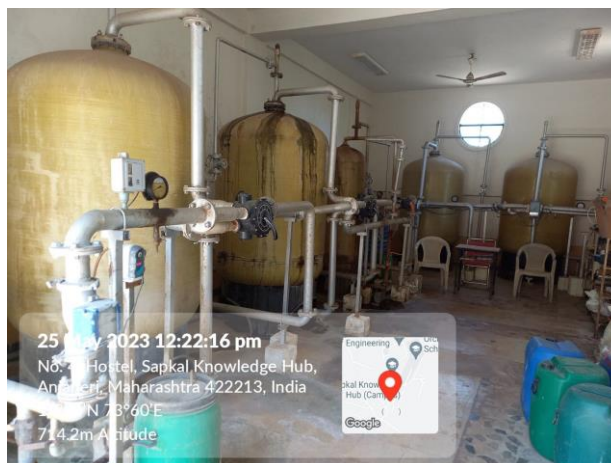
## 6.1.4 Construction of tanks and bunds

### Current Status

- 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.



**Geotagged Photo of Overhead water tank & distribution system**



**Geotagged photo of Filtration Plant Capacity 20000 lit/hr.**





**Geotagged photo of bunds constructed in the campus**

**Recommendation**

1. Document should be available for chemical safety program, mentioning the type of chemical used, area of application/operation, prescribed storage conditions, handling methods, safety training requirements, PPE (Personal Protection Equipments) used as well as quantity of chemical consumed.

**6.1.5 Waste Water Recycling**

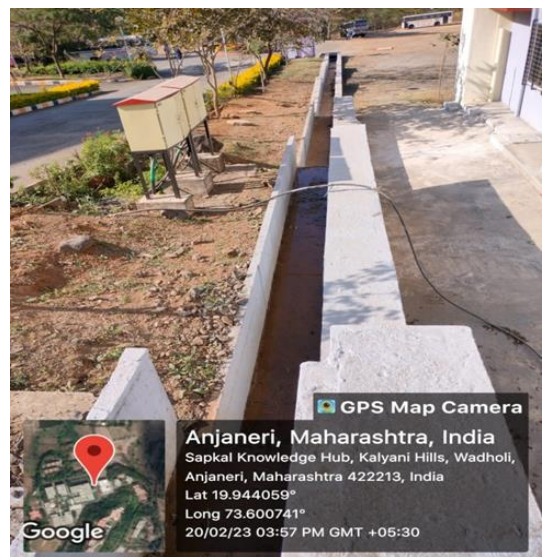
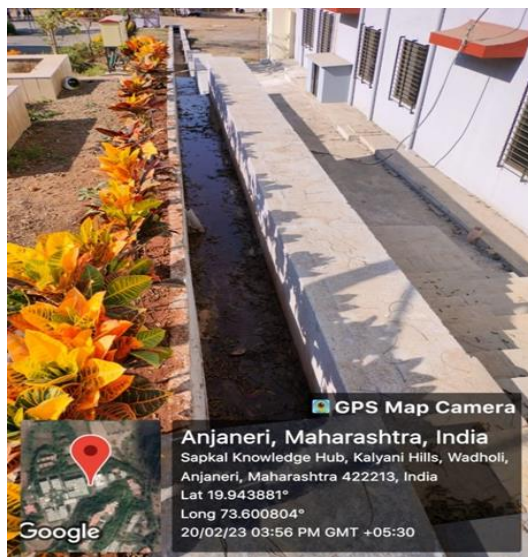
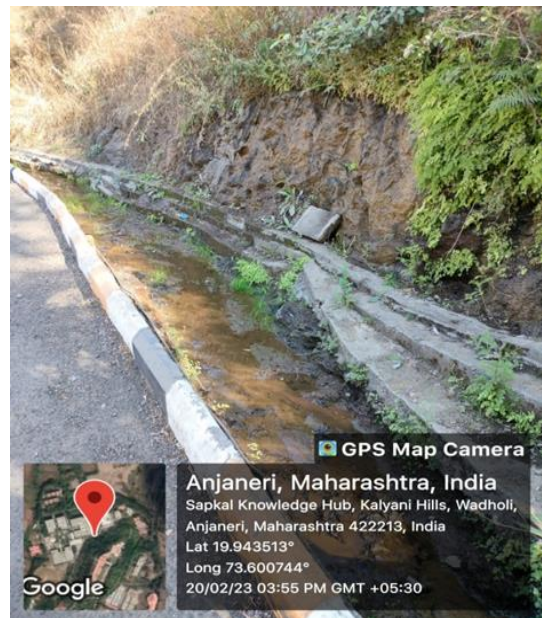
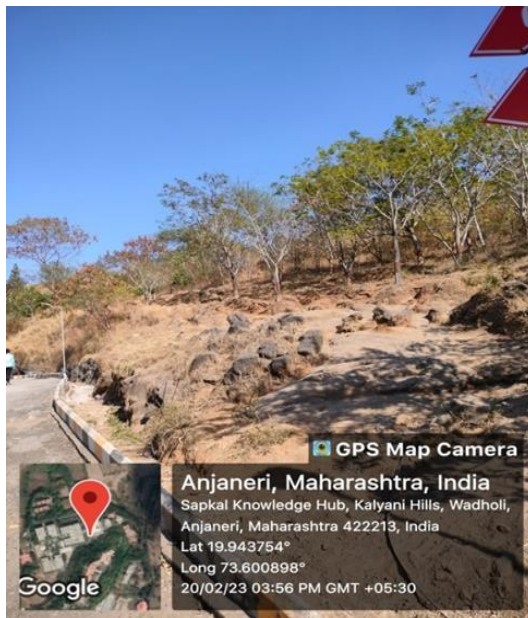
**Current Status**

- The RO Reject water is channelized towards lake constructed in the campus through water bunds constructed.

**Recommendations**

1. Target should be 100% utilization of treated water for intended use.
2. Record of water consumed, quantity treated and quantity recycled and utilized should be maintained and monitored on daily and monthly basis.
3. Treated water analysis should be carried out regularly and results should be monitored.
4. RO reject water utilization cum distribution system can be established. RO reject can be used for gardening as well flushing.

## 6.1.6 Construction of water bunds



### Geotagged photos of water bunds constructed in campus

- Institute has constructed water bunds throughout the campus.
- These bunds are helpful in collecting the excessive rainwater falling in the campus and channeling this water towards lake constructed near entrance.
- Some bunds are also constructed to channelize the wastewater from water filtration plant towards the lake constructed in the campus.
- Due to the presence of these bunds, there is no spilling of water inside the campus, which helps to keep the roads dry and safe as well as enhance the ground storage of water.

## **6.1.7 Maintenance of water bodies and distribution system in the campus**

### **Part A – Maintenance of Water Bodies**

#### **Current Status**

Presently, one lake has been constructed near the campus which stores the natural rainwater as well as water collected from bunds in the campus.

### **Part B – Maintenance of Distribution System**

#### **Current Status**

1. RO system is used for drinking water purification.
2. Total 3 drinking water purification i.e., RO plants are available for storage of 4,000 liters of potable drinking water.
3. Presently, float type water level sensor system is installed for RO plants only.
4. The reject from RO Plant is sent to lake and used for utility purpose. This also helps for water conservation.
5. Drip irrigation system is being used at landscape gardens.
6. This helps to conserve the water by eliminating evaporation losses from soil.

#### **Recommendation**

1. Leakages of water in the water distribution system should be regularly monitored and arrested to ensure no loss of water.
2. Periodic checking and maintenance of seals and packaging should be undertaken to minimize water loss by dripping.
3. Install water flow meters for major consumption areas, different buildings, RO Plants etc. to enable the water accounting.
4. All taps should be provided with Pressure Reducers and low flow faucets.
5. Pipeline diagrams should be prepared for the campus.
6. Properly close the redundant piping connections, if any.



**Geotagged photo of Drip irrigation system for plantation in the campus**

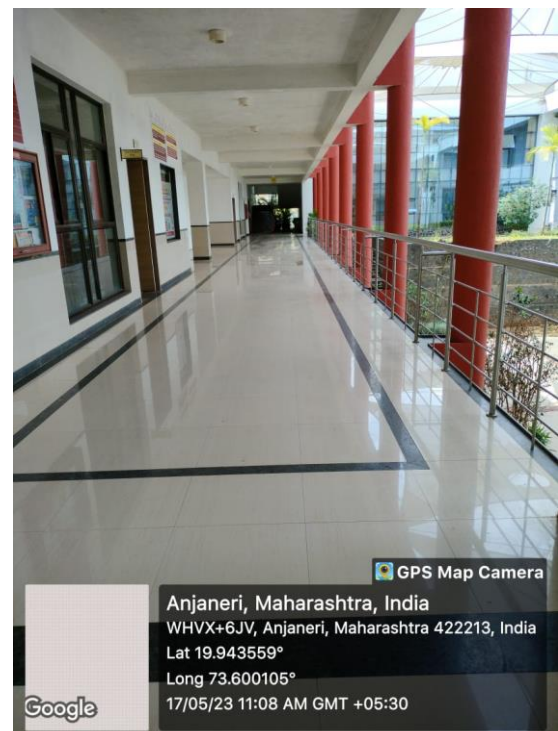
## 7. Energy Audit through energy conservation initiatives

### 7.1 Use of Solar energy as alternative source of energy

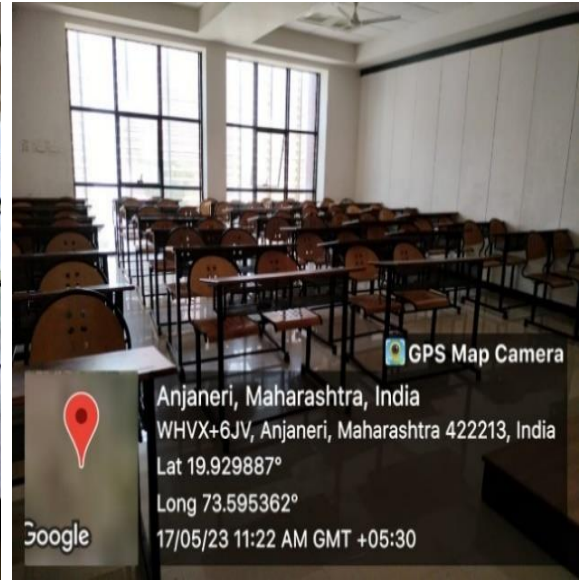
#### Part A. – Natural Light & Ventilation

##### Current Status

- Natural light entering the building is giving a cool lighting effect without using electricity, thereby helping to reduce carbon emission.
- This also reduces the burden on artificial lighting to be used in the institute.
- Hence, use of as much as natural light as possible is always encouraged for educational institutes.
- Natural light and ventilation are provided in college campuses and buildings.
- Architectural design is made in such a way that utilization of natural light & ventilation is ensured.
- A beautiful atrium has been constructed in the building to facilitate natural light and ventilation while enhancing the visual appearance.



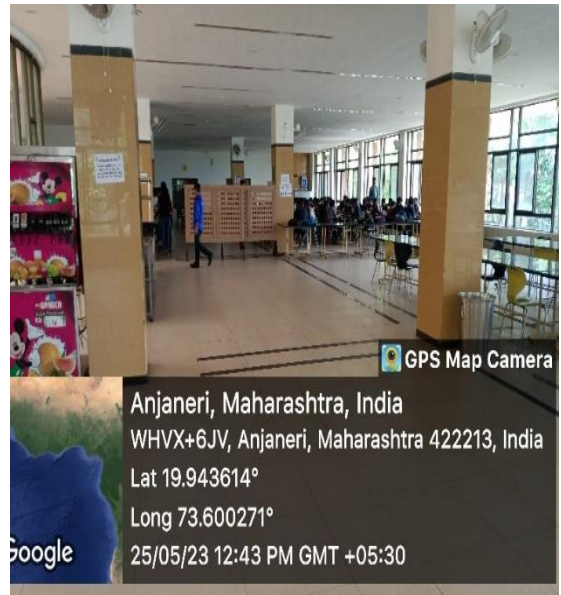
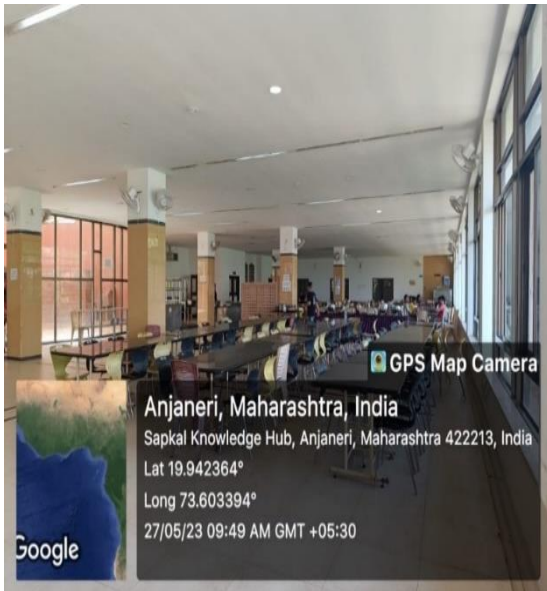
**Geotagged photo of Natural light in corridor**



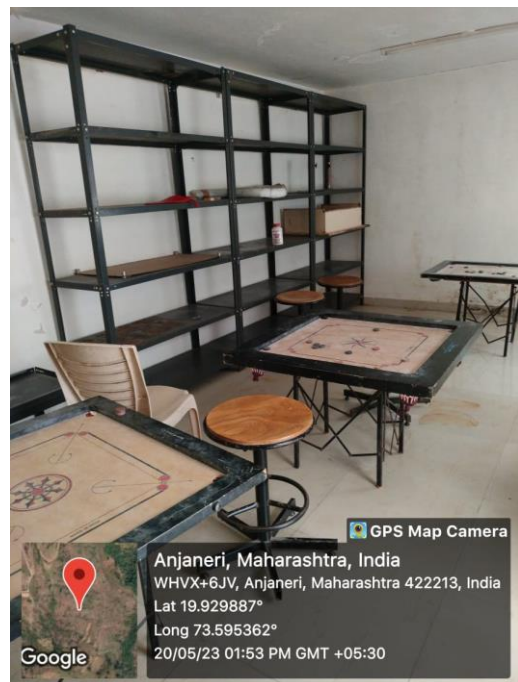
**Geotagged photo of Natural Light in Classroom**



**Geotagged photo of Natural Light in Laboratory**



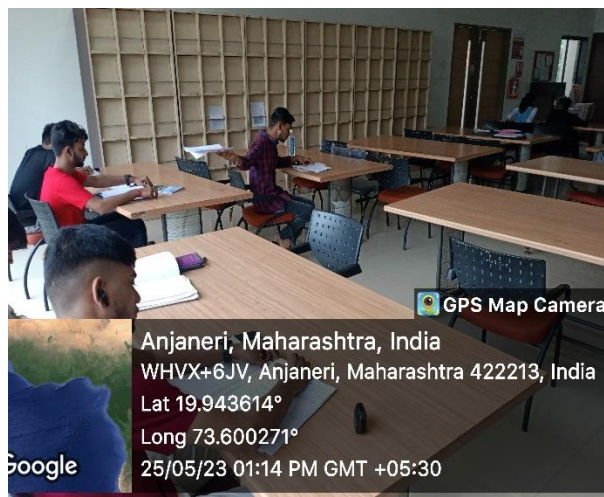
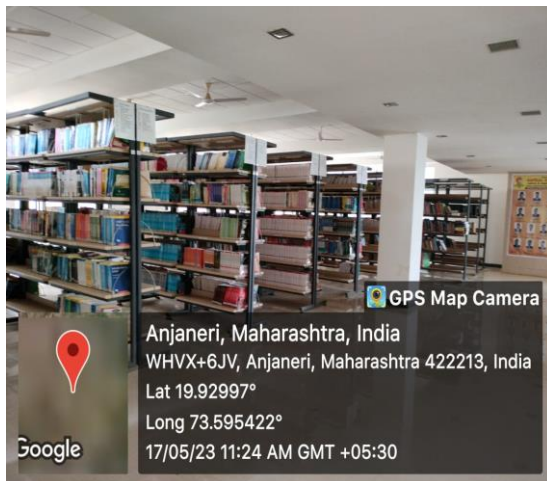
**Geotagged photo of Natural Light in Canteen**



**Geotagged photo of Natural Light in Indoor Game**



**Geotagged photo of natural light used in gymnasium**

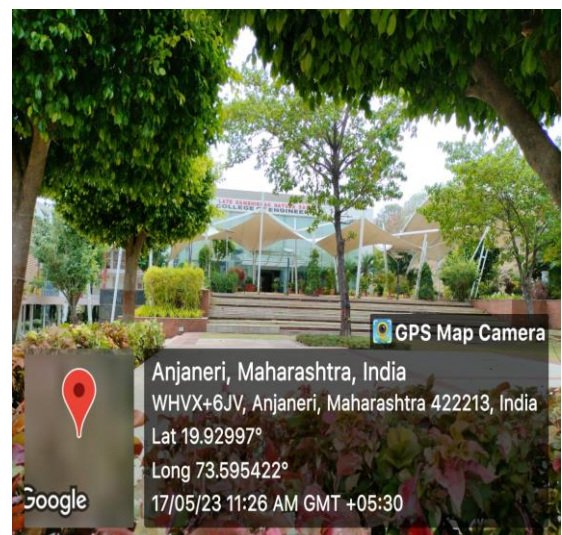
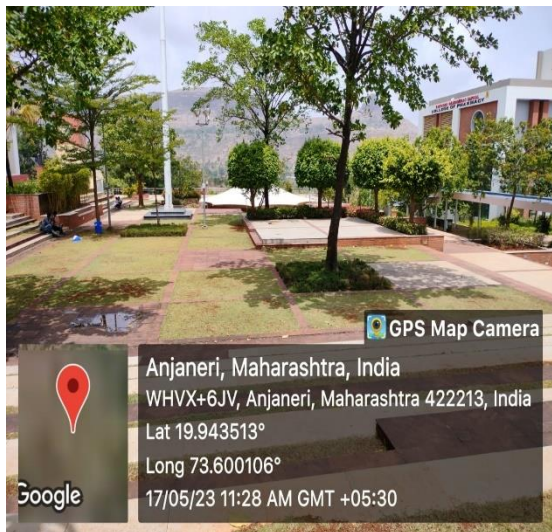


**Geotagged photo of Natural Light in library**





**Geotagged photo of atrium constructed inside the institute's building**



**Geotagged photo of Natural Light in Amphitheater**

## **Part B – Use of Solar Water Heating (SWH) Systems to conserve energy**

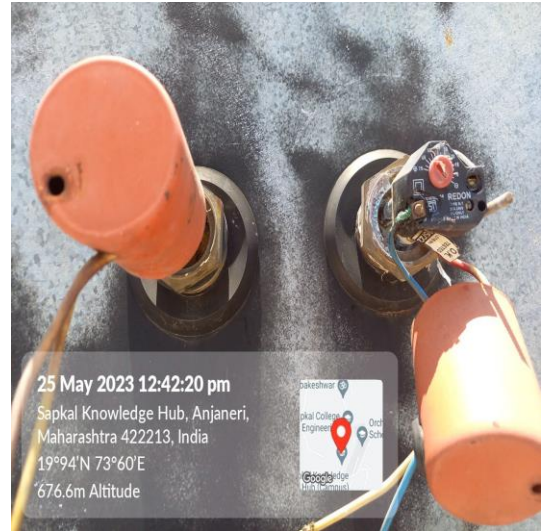
- The solar water heaters are installed for the boys and girls hostel buildings to satisfy their hot water need for bathing.
- The boy's & girl's hostels provided with 8000 liters per day of solar water heater capacity.
- For the rainy season, when solar will not be capable of heating the water, the electric heater is installed for water heating. These electrical heaters are of 06 kW capacity for each storage tank of 1000 liter capacity.






**Geotagged photo of Solar Water Heaters Installed for Boys Hostel**



**Geotagged photo of Solar Water Heaters Installed on Rooftop of Girl's Hostel**



**Geotagged photo of electrical water heater used in the campus**

Purchase Order						1
<b>Requisition No :</b> Nil <b>Department:</b> Kalyani Charitable Trust			<b>P.O.No :</b> KCT/ADMIN/2014-15/02 <b>Date :</b> 14/07/2014			
<b>To:</b> HSS Heat Pump Pvt. Ltd. <b>Office No. 2, E-Building'</b> <b>Mantri Market, Hadapsar,</b> <b>Pune-411038, Maharashtra, India</b> <b>Email:- sales@hsshp.com Web: www.hsshp.com</b>			<b>Ref No: Your quotation no :</b> HSS/FEB/3014-15/29 <b>Date:</b> 14/07/2014			
Please supply the under mentioned goods subject to terms and conditions mentioned below and overleaf.						
Sr.	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	
<b>Terms &amp; Conditions:-</b>						
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.					
<b>Note:</b> 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			
 <b>Prof. (Dr.) Sahebrao B. Bagal</b> <b>Principal</b> Late G. N. Sapkal College of Engineering Anjaneri, Nashik-422 213.						

**Photo of purchase order of 5000 LPD Solar Water Heat System installed in the campus**



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

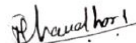
I/We hereby certify that my/our registration certificate under the Maharashtra Value Added Tax Act, 2002 is in force on the date on which the sales of the goods specified in this 'Tax Invoice' is made by me/us and that the transaction of sale covered by the due tax. Invoice has been effected by me/us 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 91588 97762 / 63 / 64.  
Email : sales@hsshpc.com, service@hsshpc.com, Web : www.hsshpc.com

**Photo of Tax Invoice of 5000 LPD Solar Water Heat System installed in the campus**

**Purchase Order**

1.

<b>Requisition No :</b> Nil	<b>P. O. No :</b> KCT/ADMIN/2015-16/03
<b>Department:</b> Kalyani Charitable Trust	<b>Date :</b> 04/05/2015
<b>To:</b> HSS Heat Pump Pvt. Ltd. <b>Office No. 2, E-Building'</b> <b>Mantri Market, Hadapsar,</b> <b>Pune-411038. Maharashtra, India</b>	<b>Ref No:</b> Your quotation no :HSS/FEB/3014-15/3-A <b>Date:</b> 19/04/2014
<b>Email:-</b> sales@hssshp.com <b>Web:</b> www.hssshp.com	

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 3000L PD	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				<b>Total</b>	<b>4,21,600.00</b>

**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<br>2) 25% Against supply & installation<br>3) 25% After completion of 30 days and<br>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

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

  
**Chairman & MD**  
**Kalyani Charitable Trust**  
**Sapkal Knowledge Hub**

**HEAD OFF:** Ravi Communication, J. J. 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 : 022-24938919  
**CORPORATE OFFICE:** Sapkal Knowledge Hub, "Parag" 46, Ashwin Sector, Opp. Hotel Sai Palace, Mumbai - Agra Highway Nashik - 422 009. Ph : 0253 - 2392450/ 51, 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

**Photo of purchase order of 3000 LPD Solar Water Heat System installed in the campus**



### TAX INVOICE

<b>KALYANI CHARITABLE TRUST,</b> Sapkal Knowledge Hub, Trimbakeshwar Rd, Nashik.	<b>Invoice No: 05/V/2015-2016</b> <b>Date:- 07.07.2015</b> <b>P.O. No:- KCT/ADMIN/2015-16/03</b> <b>Date:- 04/05/15</b>
--	---

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% Round off				46,844.5 (0.5)
<b>TOTAL</b>				<b>4,21,600.00</b>

**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.

#### TERMS AND CONDITIONS:

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. Ranal**  
Principal  
Late G. N. Sapkal College,  
Anjaneri, Nashik-422 213

For HSS Heat Pumps Pvt Ltd  
  
  
Authorized Signatory

Flat No: 2, E Building, Mantri Market, Hadapsar, Pune - 411028  
Call: +91 91588 97762 / 63 / 64  
Email: sales@hssnp.com service@hssnp.com Web: www.hssnp.com

**Photo of Tax Invoice of 3000 LPD Solar Water Heat System installed in the campus**

### **Part C – Use of Solar Photovoltaic (PV) System for Electricity generation**

- Presently, Solar Photovoltaic (PV) systems is not installed in the campus to generate electricity.
- Such a unit can be helpful in generating electricity in-house as well as export of surplus electrical energy generated to the grid through net – metering agreement with State Electricity Board (SEB).
- The institute is already exploring the techno – economical options for installation of Solar PV unit and the work is in progress.
- **Recommendations**
  1. It is clearly observed in quantitative terms that a substantial quantity of electrical energy can be saved through installation of solar PV units.
  2. Installation of Solar PV system connected to grid is recommended, since significant space is available.
  3. Location of the college is such that abundant sunlight is available for electricity generation using the Solar PV system.
  4. As a thumb rule, approximately 10 sq. m. space is required for installation of 1 kW capacity of solar PV system. So, the institute should evaluate the space available for such installation.

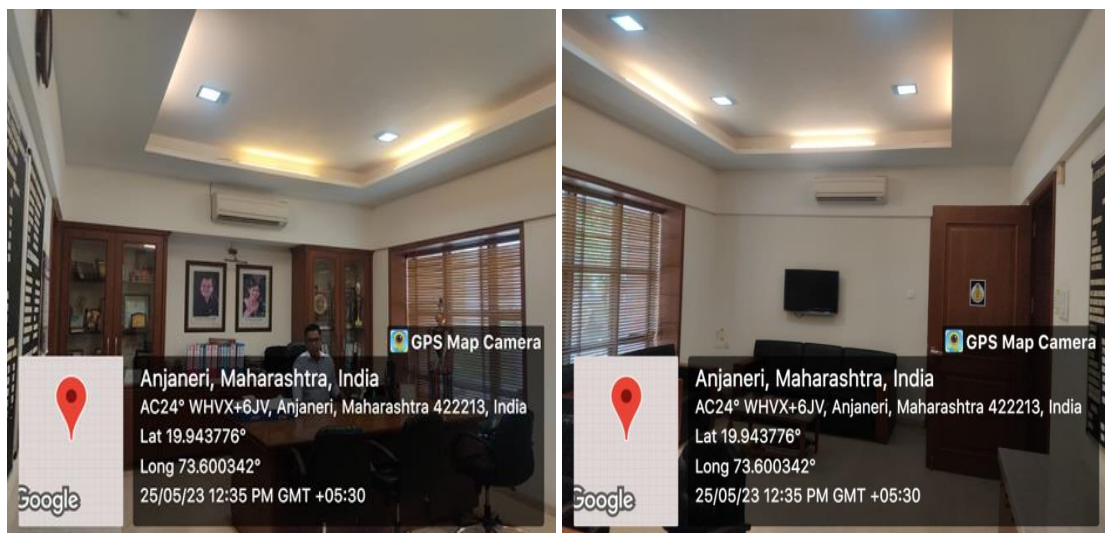
## 7.2 Application of Sensors for energy conservation

A significant amount of electrical energy savings can be achieved in the long run through

- a. Application of Motion-based sensors for lighting systems in corridors, washrooms, classrooms, laboratories, offices and cabins.
- b. Timer-based sensors for street light.
- c. Temperature based sensors for cooling centers and air conditioners.
- d. Level sensors for automatic ON – OFF of water pumping systems.
- e. Pressure based sensors for large capacity overhead water tanks.

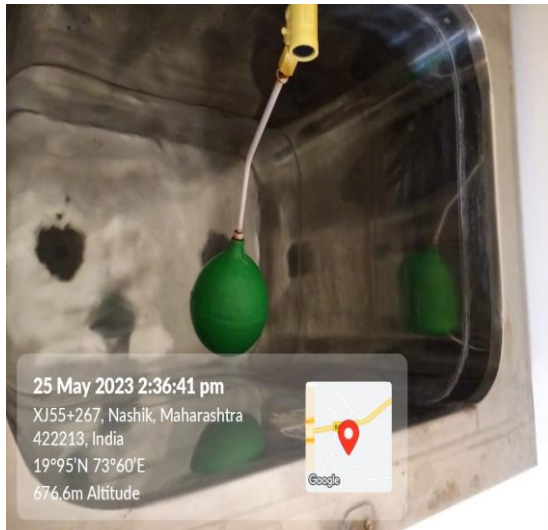
### Current status

1. Air conditioners are already equipped with temperature sensors.
2. Air conditioners are operated through Remote, which helps to easily control their temperature ranges.
3. The RO units installed for drinking water purification are fitted with Float Control Valve to avoid overflowing of water once the tank is filled with requisite capacity.



**Geotagged photo of temperature controlled air conditioners installed in Principal sir's Cabin**





**Geotagged photo of Float Control Valve installed in RO unit of drinking water purification system**

4. The temperature sensors are installed in solar water heater storage tanks. These sensors regulate the temperature of hot water in the range of 65°C – 70°C by switching the electrical heaters ON and OFF as per the weather conditions.

**Recommendations**

1. Timer-based sensors are recommended in following areas:
  - a) Street lights on campus – 35 nos.
2. Temperature range for air conditioners should not be less than 24°C in college buildings.
3. Study can be initiated to check the techno – economic feasibility of Variable Frequency Drive (VFD) installation for motors having capacity 10 hp and above & being operated with variable loading.
4. Motion – sensors are recommended in following areas:
 

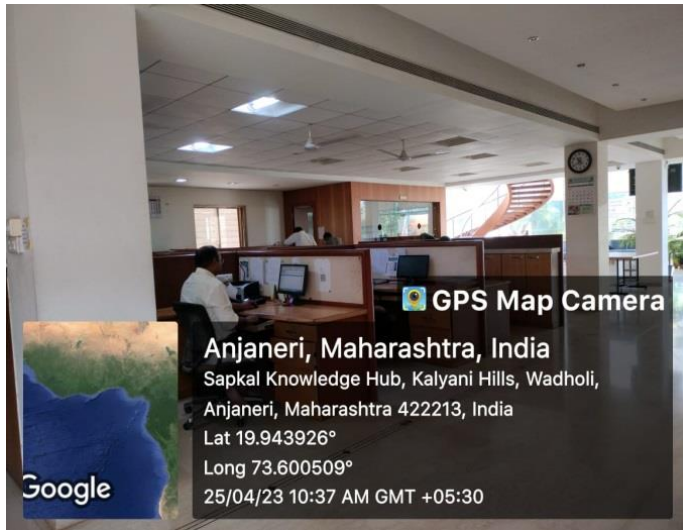
a. Lecture Hall	– 172 Nos.
b. Canteen	– 1 No.
c. Management office	– 1 No.
d. Washroom blocks – College	– 19 Nos.
e. Laboratories	– 63 Nos.
f. Seminar Hall	- 2 Nos.
5. Present air conditioners can be replaced with BEE Star Rated air conditioners in the future whenever suitable.

### 7.3 Use of LED lamps & other energy efficient equipment

- **Use of LED Lamps in the institute**
- LED lighting systems help to save energy by consuming less electricity for the same lighting output as compared to conventional incandescent bulbs or CFL lamps.
- Initial cost of LED lamps is higher as compared to CFL lamps. However, it can be recovered through energy savings realized due to their installation.
- One more benefit with LED lamps is their longer service life as compared to incandescent bulbs and CFL lamps.
- There are total 500 LED lamps installed in 20 classrooms, each LED being of 28 Watts capacity.
- There are 35 street lamps each installed with LED lamps of 60 Watts capacity each.
- Additionally, master switches are provided in each department for every room. These master switches facilitate the shutdown of power of entire room when it is not being used.
- Information regarding promotion of energy conservation is also displayed at prominent locations across the institute.

**Table – Details of LED and other Lamps installed in the institute**

Sr. No.	Name of Building/location	LED	Watt	CFL	Watt	Tube light	Watt
1	Mechanical Department	0	0	25	18	31	40
2	Electrical Department	0	0	10	18	42	40
3	Civil Department	30 (4 Pin LED) 145 (LED Tube)	36 28	12	18	00	00
4	E & TC Department	2	0	102	18	83	40
5	Computer Department	10 (LED Tube)	28	182	18	108	40
6	Account and admin Section	92	16	50	16	20 (Small Tube)	18
7	Library	0				40	40



**Geotagged Photo of LED Lamps installed in administration area**



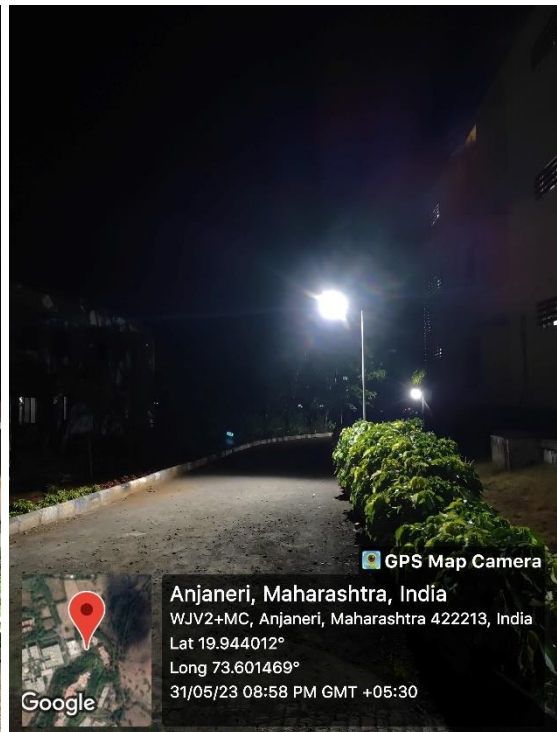
**Geotagged photo of information poster installed in the campus to promote energy conservation awareness among people**



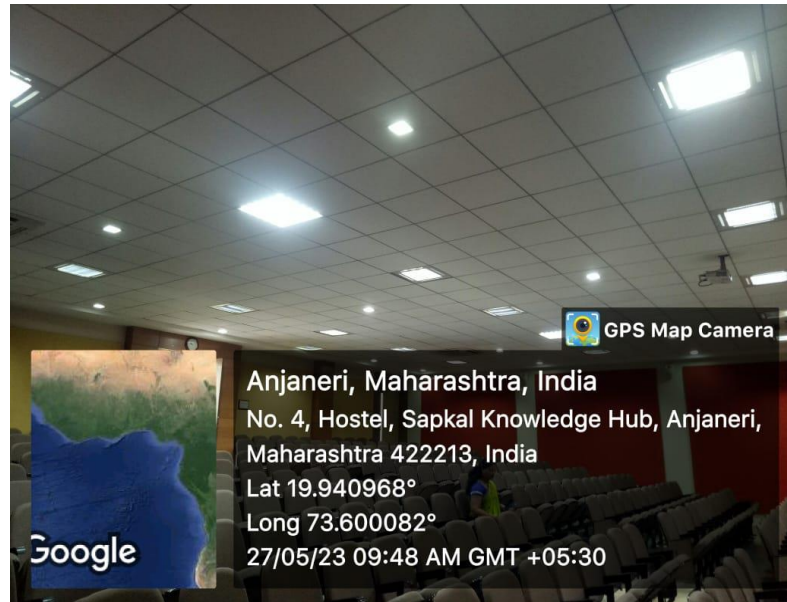
**Geotagged Photo of LED Lamps installed in classroom**



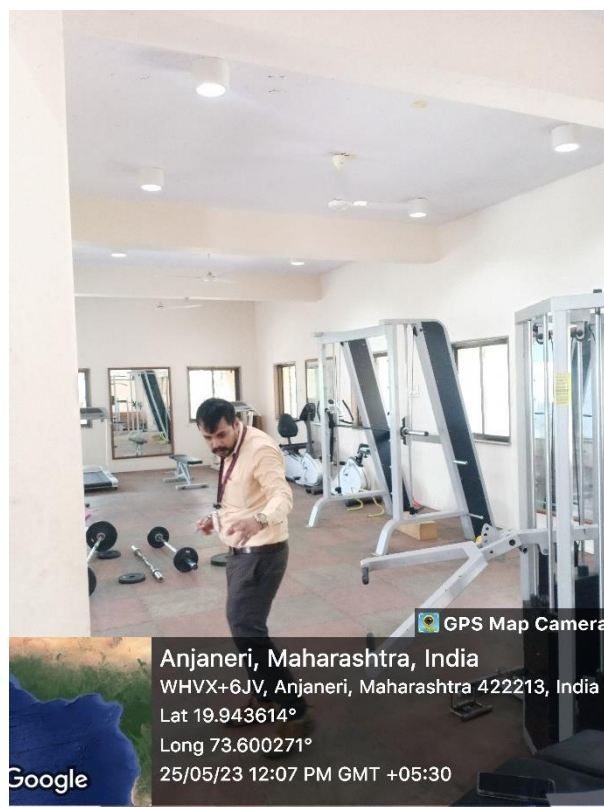
**Geotagged Photo of LED Lamps installed in laboratory**



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



**Geotagged photo of LED Lamps installed in seminar hall**



**Geotagged photo of LED Lamps used in gymnasium**

### **Recommendations**

1. Total 381 Non-LED lamps at the college building can be replaced with LED lighting.

2. Replacement of existing lightings with LED may require certain modifications in terms of fixtures/connections as well as level of illuminance created by conventional lighting.
3. Hence, a systematic plan can be made by identifying the area for complete replacement of old lighting by LED lamps/tube lights.
4. The removed old lamps/tube lights can be used as a spare for the areas where the old lighting system is to be used.
5. Study can also be initiated to check the deviation between recommended and actual illumination levels in various areas of the institution and take corrective action thereafter.
6. Considering the significant distance of the institute away from main road as well as spread of the institute over wide area, street lamps can be transformed into solar lamps.

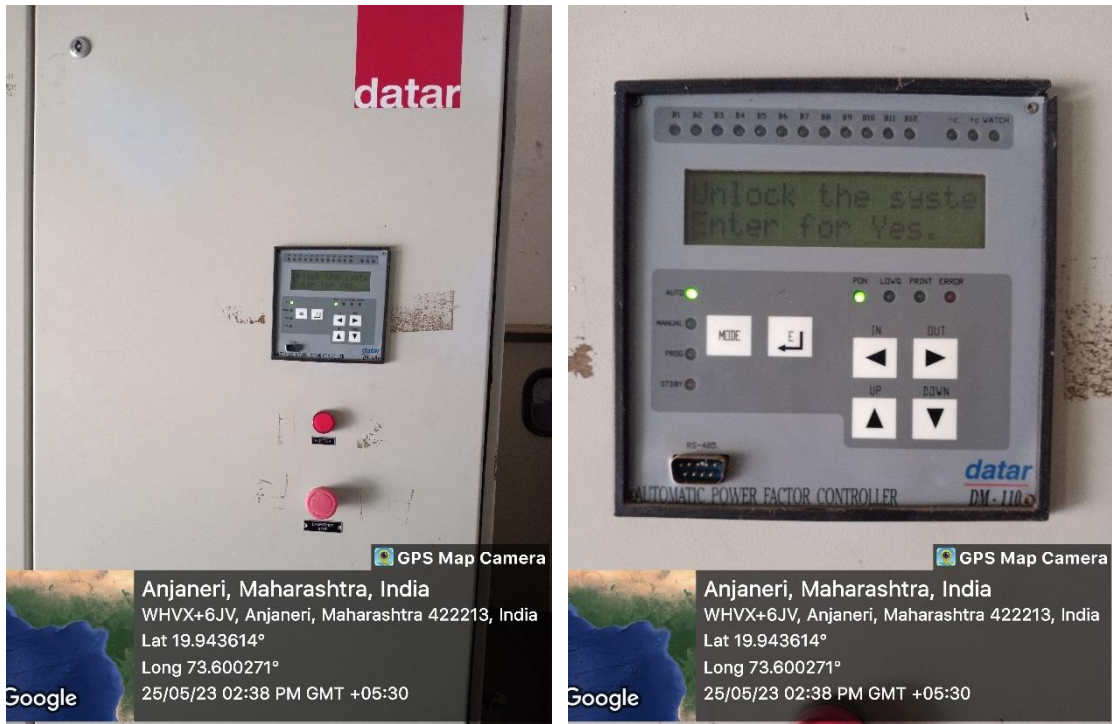
#### **Energy efficient equipment**

- The Star Labeling program undertaken by the Bureau of Energy Efficiency (BEE) enables the user to make informed decisions about purchase of energy efficient equipment such as Air Conditioners and Transformers.
- Furthermore, maintaining higher power factor in the system enables reduction of current and subsequently, the energy loss of the overall system.

#### **Current status**

- There are about 40 air conditioners installed in the campus.
- Presently, there is one power transformer installed. One for College having a 630 kVA rating. (Two diesel generators of 125 kVA and 65 kVA are also available).
- An Automatic Power Factor Controller (APFC) Panel is installed in the institute.
- This APFC controls the capacitor bank of 80 kVAr capacity, which adds reactive power into the grid of the institute.

- This addition of reactive power ultimately results in Power Factor (PF) improvement, improves voltage at load end and reduces current in the system.
- Reduction in current subsequently reduces electrical energy losses.
- PF improvement is also visible in the electricity bill analysis, as presented in **Table 2.**



**Geotagged photo of Automatic Power Factor Controller (APFC) installed in the institute**





**Geotagged Photo of Capacitor bank installed in campus**



**Geotagged Photo of DG Set installed in campus**

### **Electricity Bill Analysis**

1. **Table 2** shows the electricity bill analysis.
2. It has been observed that electrical energy consumption of the campus is consistently in the range of 22000 kWh per month.
3. Observation of Electricity bill for the month of July 2022 indicates a power factor in the range of 0.982. This value of power factor is close to unity and hence very good.
4. However, electricity bill analysis indicates that power factor is reducing for the past few months. This indicates need for maintenance/replacement of capacitors in the capacitor bank. Hence maintenance of this system is recommended.

### **Recommendation**

1. There are 01 refrigerator being used in the pantry. It is quite old. It can be replaced with energy efficient refrigerator in future.
2. Illumination survey for college can be conducted to verify the adequacy of installation of lighting systems.
3. Turbo ventilators can be installed in relevant places such as workshop building, laboratories, wherein it can help for passive natural ventilation, thus saving electricity.

**Table 2 Electricity bill details of Late G. N. Sapkal College of Engineering, Nashik**

<b>Sr. No.</b>	<b>Bill Month</b>	<b>kWH</b>	<b>Billed Demand (KVA)</b>	<b>PF</b>
1.	Jan-22	16845	120	0.933
2.	Feb-22	19753	120	0.934
3.	Mar-22	24940	120	0.934
4.	Apr-22	23368	130	0.925
5.	May-22	25038	130	0.908
6.	Jun-22	27523	130	0.967
7.	Jul-22	21857	130	0.982
8.	Aug-22	22070	130	0.913
9.	Sep-22	21202	130	0.863
10.	Oct-22	20033	130	0.839
11.	Nov-22	24489	130	0.862
12.	Dec-22	24748	130	0.836
13.	Jan-23	25163	130	0.815
14.	Feb-23	22952	137	0.821
15.	Mar-23	23158	130	0.825
16.	Apr-23	26531	140	0.861

## **8. Waste Management**

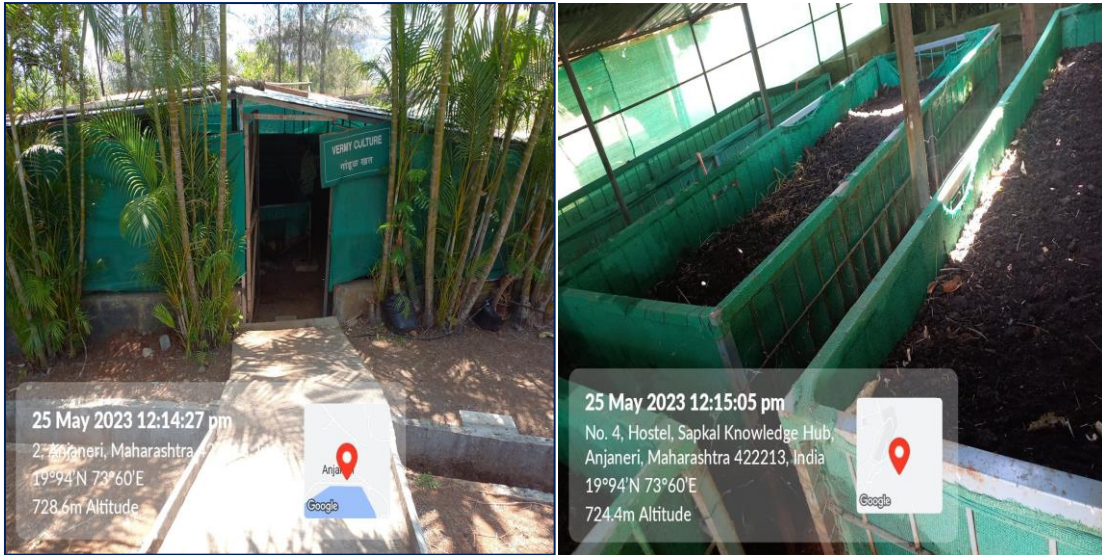
### **8.1 Solid waste management**

#### **8.1.1 Biodegradable waste**

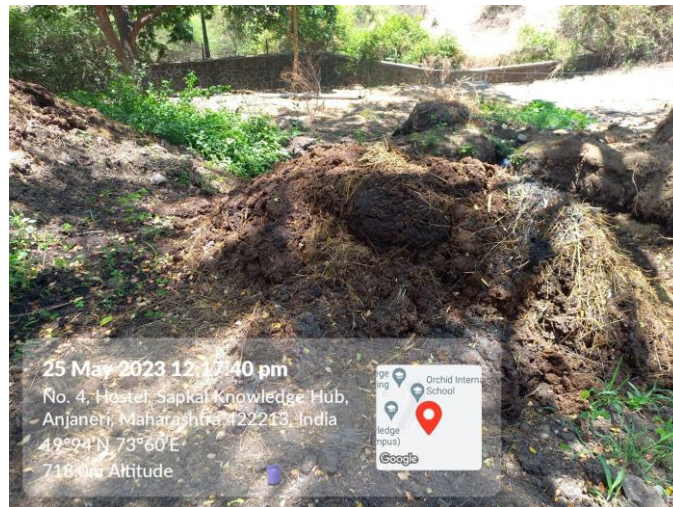
This kind of waste includes biological waste, garden waste and food waste.

#### **Current Status**

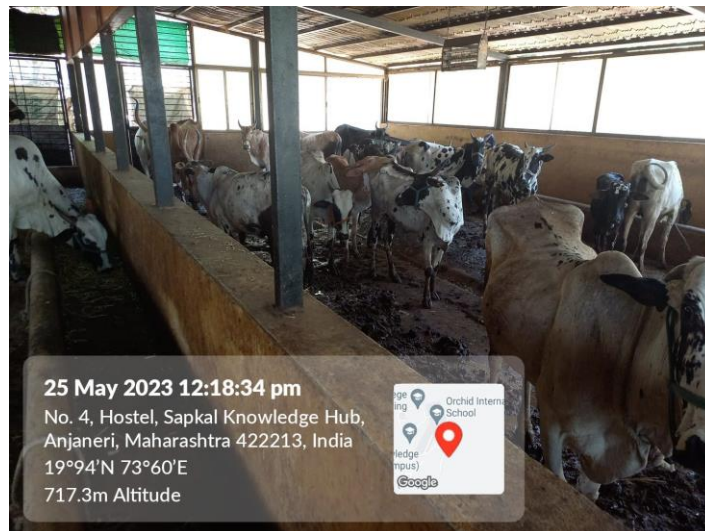
1. Presently, there are 34 no. of cows in the campus.
2. Collection and segregation of biodegradable waste is done at the garbage station.
3. This garbage station is available on campus & complete segregation is done & it is sent to the Vermicompost unit.
4. Vermicomposting is a natural process in which 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.
5. 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.
6. The solid waste before disposal is categorized into degradable and non-degradable waste.
7. The waste like remains of plants and kitchen waste are disposed by means of composting.



**Geotagged photo of Composting plant available in campus for garden waste**



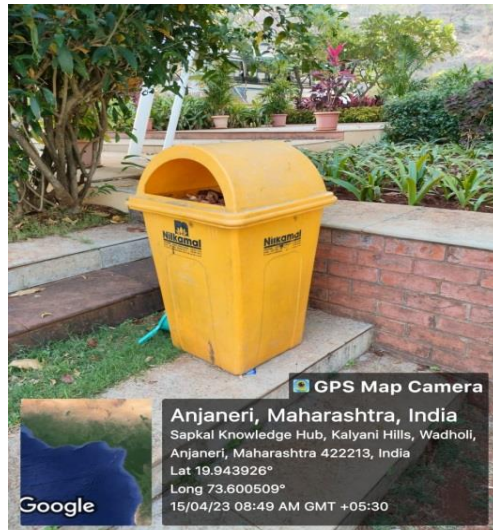
**Geotagged photo of cow dung collection in the campus**



**Geotagged photo of cow shade built in the campus**

**Table 3 Essential Details of Vermicomposting unit installed in the campus**

Sr. No.	Topic	Details
1	Title	Vermicompost Unit
2	Location	Kalyani Charitable Trust's, Late G. N. Sapkal College of Engineering, Nashik.
3	Raw Material	<ul style="list-style-type: none"> <li>• Organic waste coming out from the college campus.</li> <li>• The organic waste consists of plant leaves, stem, Other biodegradable waste etc.</li> </ul>
4	Manufacturing Capacity	Approximately 1 Ton of compost produced per Year.
5	Size Details	<ul style="list-style-type: none"> <li>• The Composting unit consists of 06 rectangular basket.</li> <li>• The size of each basket is 12 m x 4 m.</li> </ul>
6	Process Details	<ul style="list-style-type: none"> <li>• 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.</li> <li>• In this way 4 to 6 alternate layers of bio – waste &amp; cow dung is kept one over each other.</li> <li>• 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.</li> <li>• After this, the sufficient quantity of earthworms are added to these beds.</li> <li>• Earthworms &amp; microorganisms from cow dung act on this biodegradable material and convert it into valuable compost.</li> <li>• Then it is kept for 40 days.</li> <li>• After a certain period of 40 days, a good quality of compost is obtained.</li> </ul>
7	Uses Of Compost	This compost produced is used as a fertilizer in the entire college campus for the plants & grass lawn.
8	Advantages	<ol style="list-style-type: none"> <li>1. This is a complete green process with no waste produced.</li> <li>2. The organic waste generated in college is treated in college itself.</li> <li>3. The cost of the fertilizer is saved.</li> </ol>



**Geotagged photo of Garbage collection bins installed in the campus for degradable waste**



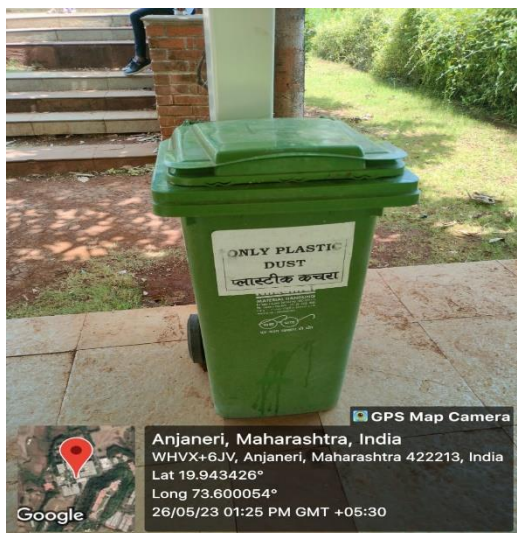
**Geotagged photo of collection of canteen waste in the institute**

### 8.1.2 Non-biodegradable waste

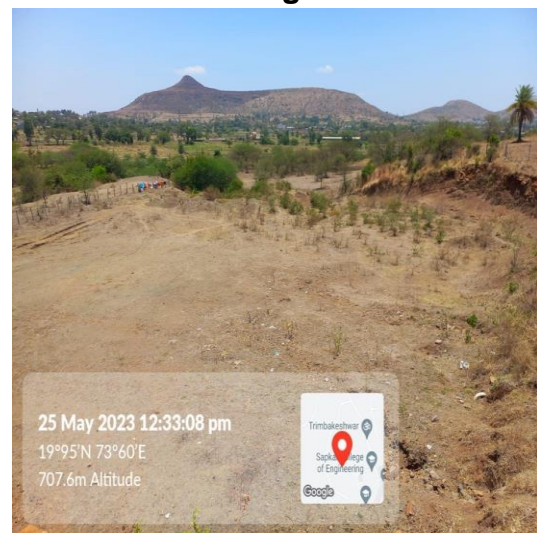
- This kind of waste includes plastic, paper, carton, corrugated boxes, empty containers etc.

#### Current Status

- Non-degradable waste like, plastic wrappers, sheets, etc., are collected at source by placing trash bins at suitable locations.
- Waste is dumped into the ground by making a dump area approximately 12 x 10 m in size. After filling of this dump, it is covered.
- Institute has taken an innovative initiative of replacement of plastic polybags with cotton bags. These bags are utilized during felicitations of resource persons or given to visitors to keep their belongings.




**Geotagged Photo of Dustbins for collection of non-degradable waste**




**Geotagged photo of non-bio degradable waste dump area**



**Geotagged photo of plastic polybags replaced with cotton bags**



Kalyani Charitable Trust's  
**Late G. N. Sapkal College of Engineering**  
 Kalyani Hills, Anjaneri, Trimbakeshwar Road,  
 Nashik - 422 213




Ref No: KCT's/LGNSCOE/ESTT./2022-23/13CB)


Date: 06/06/2022

**Notice**

All the teaching, non-teaching faculty members and students are hereby informed that our institution has taken a significant step towards environmental conservation by implementing a complete ban on plastic items such as plastic bags, bottles, cups, plastic sheet, files, films, thermocol etc. in our campus with immediate effect.

The faculty members and students are informed to take the necessary step towards bringing these instructions into practice.



  
**Prof. (Dr.) S.B. Bagal**  
 Principal

CC to:

1. Office Copy
2. All HoDs
3. Notice Boards

**Geotagged photo of Notice on Plastic Ban**

**Recommendation**

1. Systematic storage and disposal of non-degradable waste through environmentally friendly process / practice should be ensured.



## 8.2 E-Waste management

### Current status

- 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 e – waste collected in the institute has been given to a certified e – waste recycler named Rapid Techno from Nashik.

TAX INVOICE

**KALYANI CHARITABLE TRUST**  
Sapkal Knowledge Hub  
Kalyani Hills, Anjaneri-Wadholi,  
Trimbakeshwar Road, Nashik – 422213  
PAN NO - AAAAK3179R, TAN NO - MUMK17799F  
Mobile: 9403897898

To:  
Rapid Techno,  
Shramik Nagar,  
Nashik – 422 012,  
Maharashtra

Invoice No.: 17  
Date: 19.11.2021

Sr. No.	Particulars	Qty.	Total
1.	Desktop (includes CPU and Monitor as a set) @ Rs. 490/- per set	87	Rs. 42,630/-
Total		87	Rs. 42,630/-

Invoice Amount in words: - INR Forty-two thousand and six hundred thirty only ✓

Account Holder Name	KALYANI CHARITABLE TRUST
Bank Name	Union Bank of India
Bank A/C No.	113711100001820
Bank IFSC Code	UBIN0532380
Bank Branch Name	Rasca Colony, City Branch, Nashik

*c/c*  
paid on Date  
25/11/2021

**Rapid Techno**  
Nashik

**Kalyani Charitable Trust**  
Authorized Signatory

Page 1 of 1

**Geotagged Photo of agreement between the institute and certified e – waste recycler**

### Recommendation

Regular monitoring of E-waste generated should be done and record should be maintained.

## 8.3 Liquid Waste Management

### Current status

- Presently, the liquid waste generated through toilets is disposed off into the septic tank constructed by the institute.
- Care is taken to avoid leakage of liquid waste into mainstream water.
- The waste water from RO plant is sent to lake constructed by the institute by gravity through the bunds constructed in the campus.



**Geotagged photo of septic tank constructed by the institute**

## 8.4 Hazardous Chemicals Waste Management

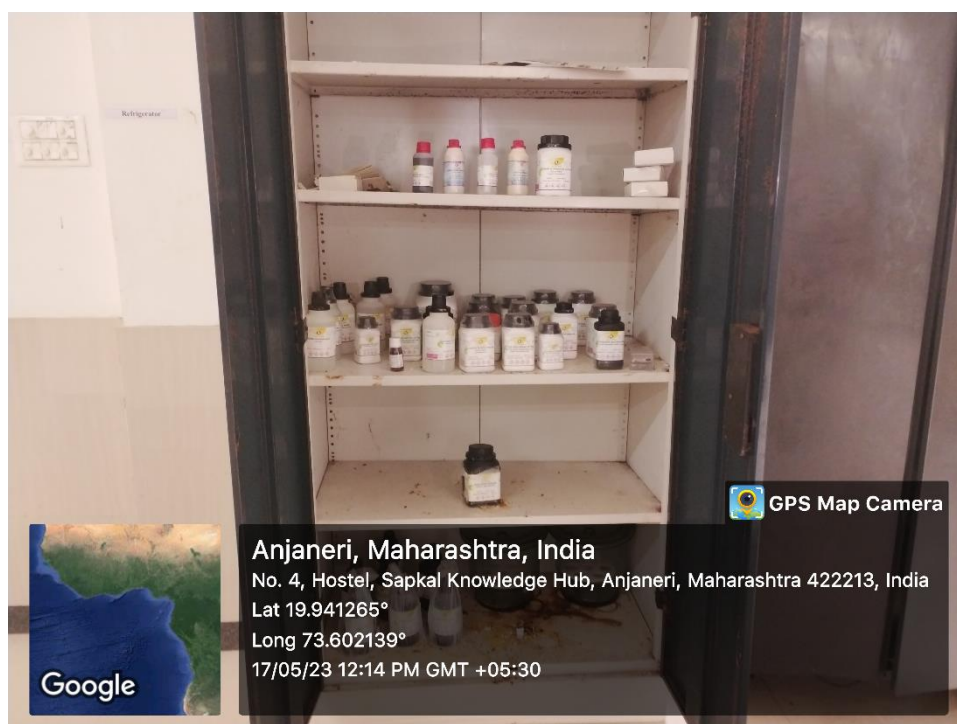
### Hazardous Chemicals

#### Current status

- Presently no hazardous chemicals are used on campus.
- Most of the chemicals used the laboratories are used in diluted form.
- Proper training is given to concerned team members about proper storage, handling as well as utilization of such chemicals.
- General awareness is also created about hazards associated with mishandling of chemicals through precautionary posters displayed in the laboratories.
- Concerned team members are aware about information through MSDS.

#### Recommendation

1. Flammable and toxic chemicals should be stored in separate metallic cupboards in a cold and dry place.
2. Material Safety Data Sheet (MSDS) for hazardous chemicals needs to be maintained.



**Geotagged photo of chemical storage facility**

## 9. Clean and Green Campus Initiatives

### 9.1 Restricted Entry of Automobiles

1. Complete implementation of "vehicle parking at main gate" has been done to restrict the movement of vehicles inside the campus.
2. All the faculty and staff members park their vehicles in the parking and then walk up to their respective departments.
3. The institute has 8 buses & 3 passenger vehicles for transportation.
4. The students are charged reasonably and staff members are provided free transport facility to discourage them from using their own vehicles.
5. Institute has contributed in reducing use of private vehicles by providing transportation facility.
6. The use of bicycles in the campus is promoted and encouraged by the institute management.
7. The institute has provided free bicycles in the campus for the residential students and staff.
8. All the pathways have Natural slope for vehicles to slow down in campus.
9. The List of vehicles approaching the campus is given in the following table.

Sr. No.	Vehicle Name	Capacity	No. of vehicles
1.	Buses	40 persons	08
2.	Passenger vehicles	05 Persons	03

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



Ref No: KCT's/LGNSCOE/ESTT./2022-23/411(B)


Date: 13/01/2023

### Notice

All the teaching, non-teaching faculty members and students are hereby advised to use college transport / public transport / bicycles for commuting to college to promote green initiatives of the college. All shall also disseminate the idea of making use of college transport / public transport / bicycles wherever possible, reduce pollution and sustain a green planet.

The faculty members and students are informed to take the necessary step towards bringing these instructions into practice.



  
**Prof. (Dr.) S.B. Bagal**  
Principal

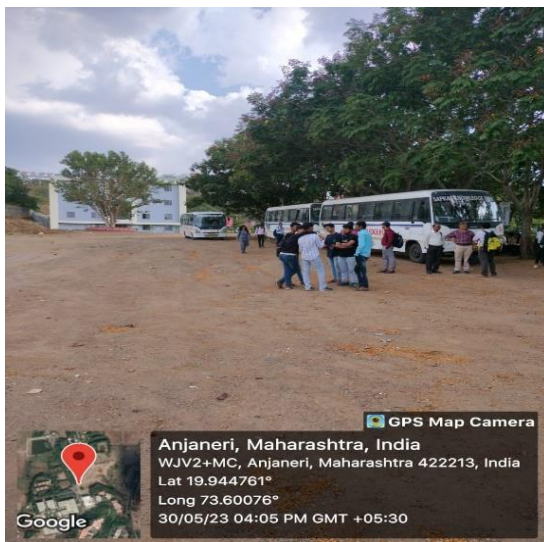
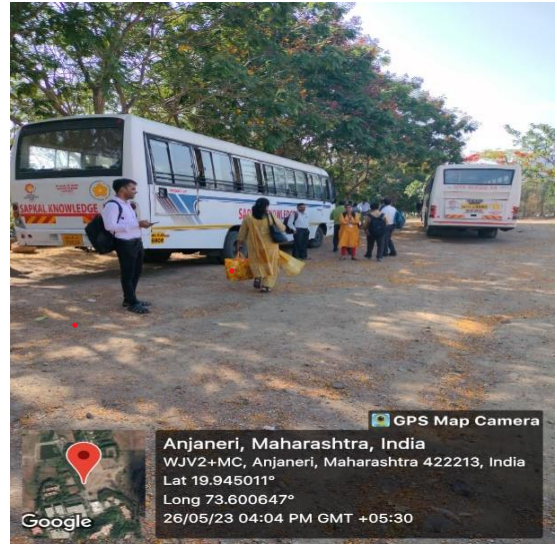
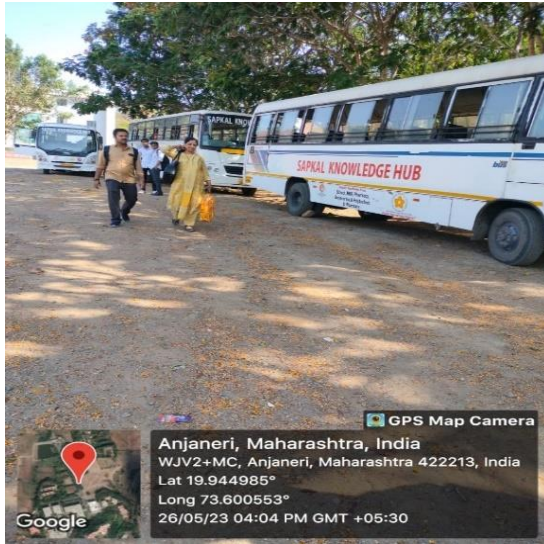
CC to:

1. Office Copy
2. All HoDs
3. Notice Boards

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



### Geotagged photo of car parking near entrance of the institute



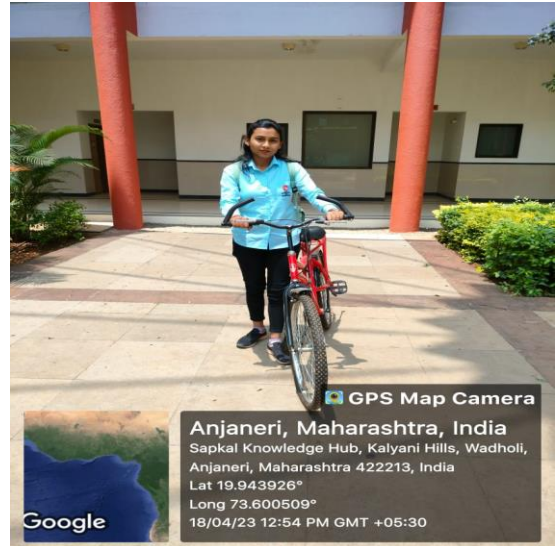
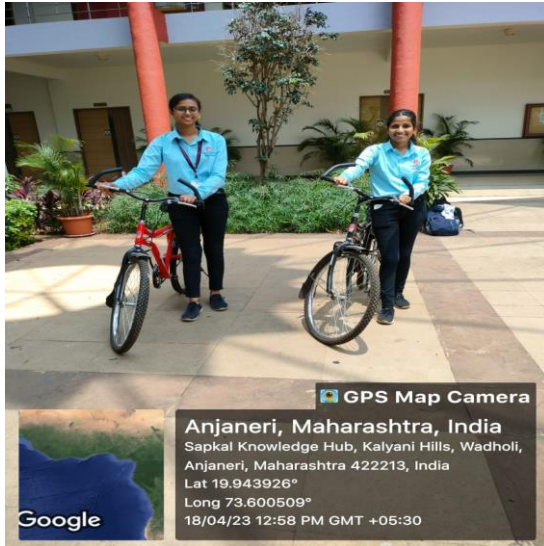
**Geotagged photo of faculty waking from college building to main parking**



**Geotagged photo of bus facility provided by the institute for students and faculty member and staff**



**Geotagged photo of passenger vehicles provided by the institute for students and faculty member and staff**



**Geotagged photos of bicycles provided by the institute for residential students and staff**





**Geotagged photo of Use of carpooling concept by faculty members for  
commutation**

**Recommendation**

1. PUC Certificate and fitness certificate of all the vehicles entering in the premises should be monitored regularly.
2. Use of e – vehicles should be promoted in the premises.

## 9.2 Pedestrian friendly pathways

1. The pathways in the campus are pedestrian friendly, with no obstruction from moving vehicles.
2. The dedicated pathways are provided with sufficient width for the pedestrians.
3. The covered pathways are constructed to commute between two connected buildings.
4. Clearly visible signboards are placed in the campus at salient places indicating the directions for different locations.
5. White coloured clear side marking is done on the pathways.
6. Provision of sufficient light on these pathways is made in case of night time use.
7. Institute has also developed an amphitheater; wherein trees are planted and various cultural and technical events are organized by the institute. This Amphitheatre connects various sections of the institute.



**Geotagged photo of clearly visible signboards for places in the campus**



College of Engineering  
Anjaneri, Maharashtra, India  
Trimbakeshwar Rd, Anjaneri, Maharashtra 422213, India  
Lat 19.94444°  
Long 73.60057°  
06/04/22 11:08 AM



College of Engineering  
Anjaneri, Maharashtra, India  
WHVX+RV9, Anjaneri, Maharashtra 422213, India  
Lat 19.944455°  
Long 73.600002°  
06/04/22 11:12 AM

**Geotagged photo of broad pedestrian friendly pathways in the campus**

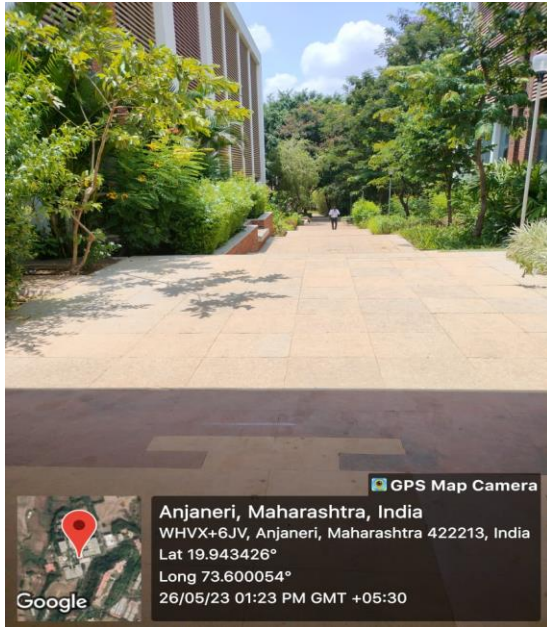


GPS Map Camera  
Anjaneri, Maharashtra, India  
WHVX+6JV, Anjaneri, Maharashtra 422213, India  
Lat 19.943426°  
Long 73.600054°  
26/05/23 01:23 PM GMT +05:30

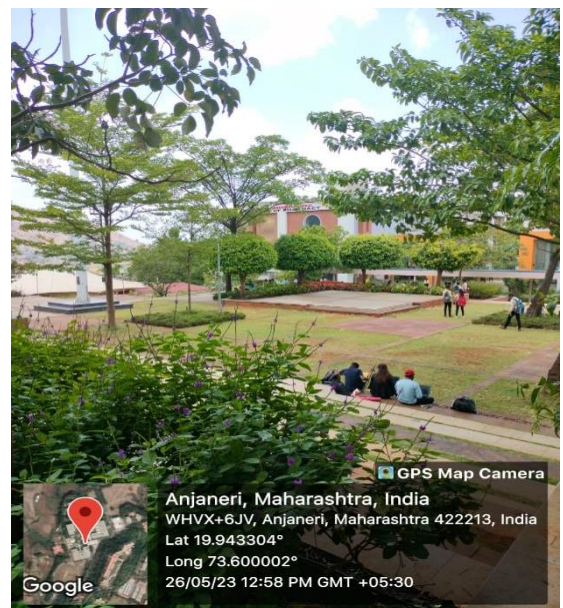
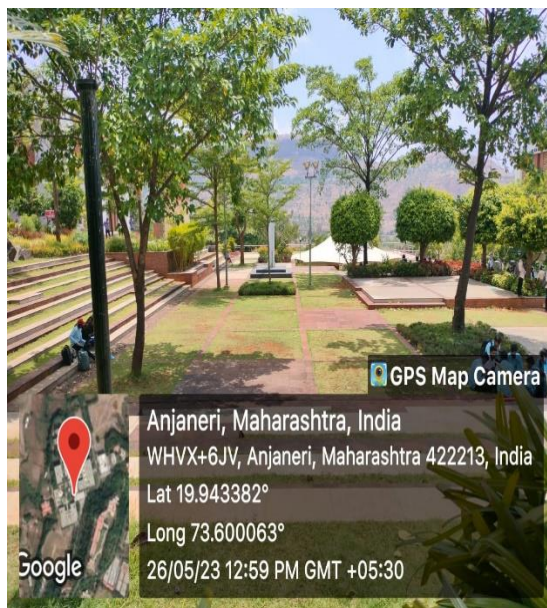


GPS Map Camera  
Anjaneri, Maharashtra, India  
WHVX+6JV, Anjaneri, Maharashtra 422213, India  
Lat 19.94333°  
Long 73.600057°  
26/05/23 12:59 PM GMT +05:30

**Geotagged photo of covered pathways connecting two building in the campus**



**Geotagged photo of sufficiently wide walking space in the campus**



**Geotagged photo of amphitheater developed by the institute**

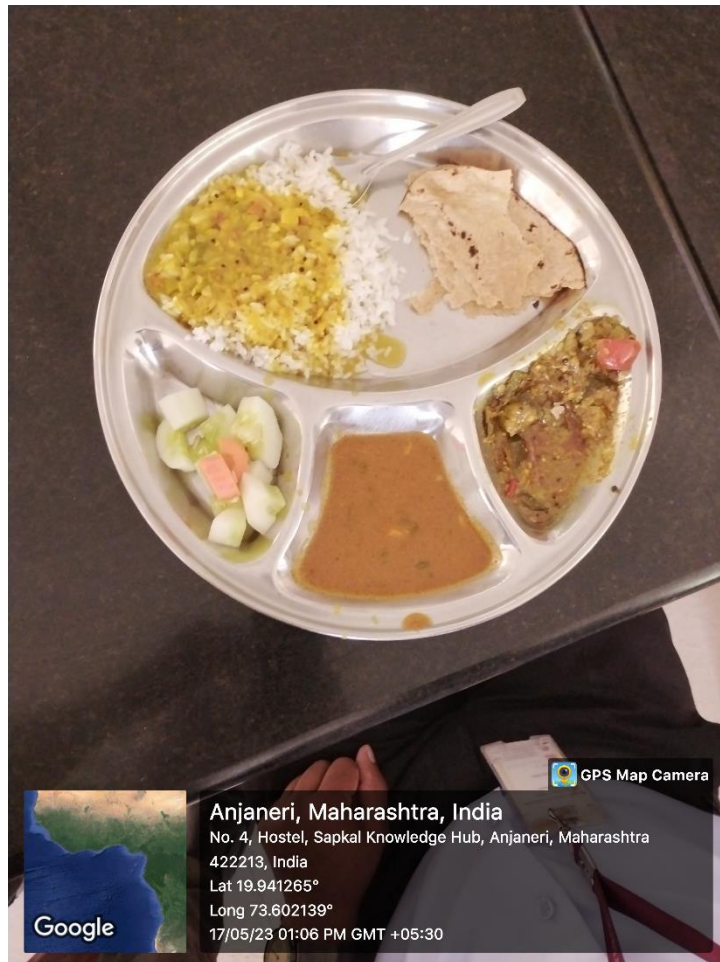
### 9.3 Ban on use of plastics

#### Current Status

1. Institute has initiated replacement of plastics by paper, glass and steel.
2. Tea is served in **Chai Glasses** made of glass and not plastic.
3. Lunch and other food items are served to faculty and students in steel plates and no plastic plates are used for the purpose.
4. The subject manual required for academic evaluation of students is made of paper instead of plastic files.
5. Institute also encourages its suppliers to use paper bags and wrappers and not to use plastics.
6. Informative sign boards have been displayed to motivate the students and staff members to maintain a plastic free environment.
7. Instructions are displayed at various locations so that the campus remains plastic free. The institute has also designed their own paper and cotton bags and motivates the faculty and students to use them instead of plastic ones.
8. Students have initiated an awareness program about a ban on plastics.
9. Institute has displayed the instructions about a ban on Single Use plastic across the campus.



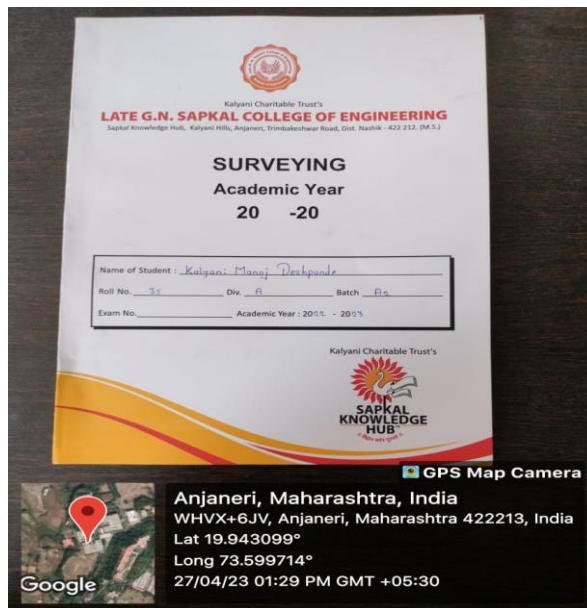
Geotagged photo of steel plates used in campus



**Geotagged photo of steel plates used in campus**



Geotagged photo of chai glasses used in campus



Geotagged photo of subject manual made of paper instead of plastic



Geotagged photo of information signboards for plastic free campus

## 9.4 Landscaping with trees and plants

1. The campus has significant greenery covering all over and is maintained by a team of around 50 gardeners.
2. All these efforts have been honored by the Government of Maharashtra with 'Chatrapati Shivaji Maharaj Vanashree Award' in 2016.
3. The institute is also awarded with Clean and Green Campus award.
4. Presently, a total of 10+ landscape gardens are developed.
5. In addition to these, Medicinal Plant Garden has been developed in the campus.
6. 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.
7. The details about various plants are as given in the following Table.

Sr. No.	Name	Type	Scientific names	Location	Nos.
1	Bottle Palm	Grass	Hyophorbe Lagenicaulis	Ladies Hostel	200
2	Areca Palm	Grass	Dyopsis 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	<u>Ziziphus mauritiana</u>	Boys hostel	7
35	Sag/Teak	Tree	Tectona grandis	Cricket ground	50
Total					1791

8. Total number of trees planted is 1791.

9. Total area covered under gardens is 23,933.64 sq.m.

10. Institute has also been awarded by Government of Maharashtra for development of barren lands in nearby area and tree plantation activity.

11. Gift is be given to the campus visitor in the form of saplings.

### **Recommendations**

1. Tree ownership can be given to employees.



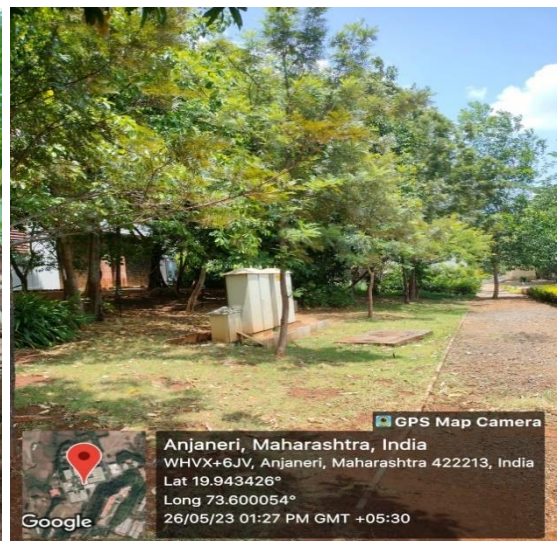
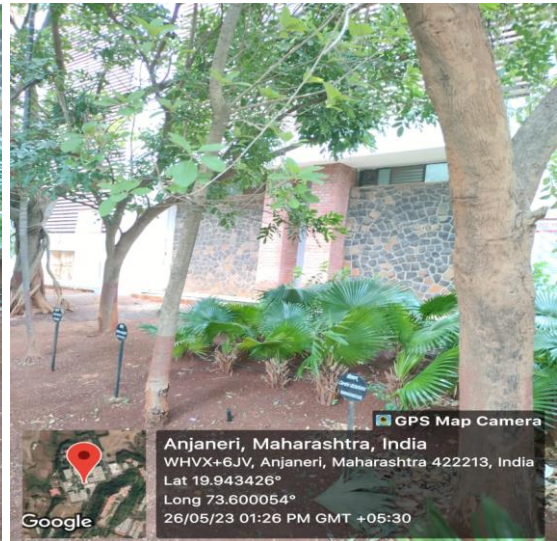
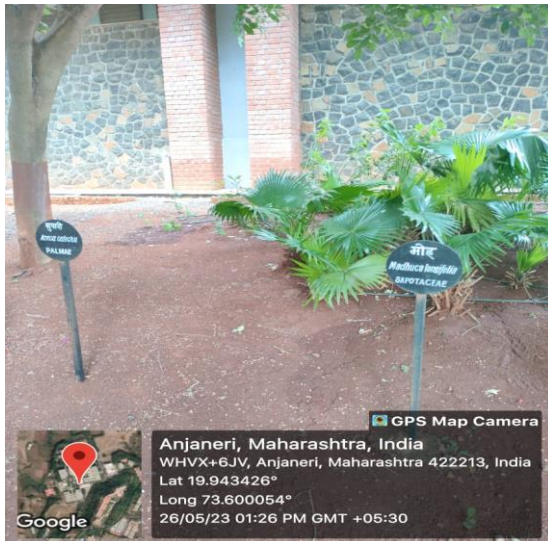
**Geotagged photo of landscaping near main admin building**



**Geotagged photo of tree plantation in the campus**

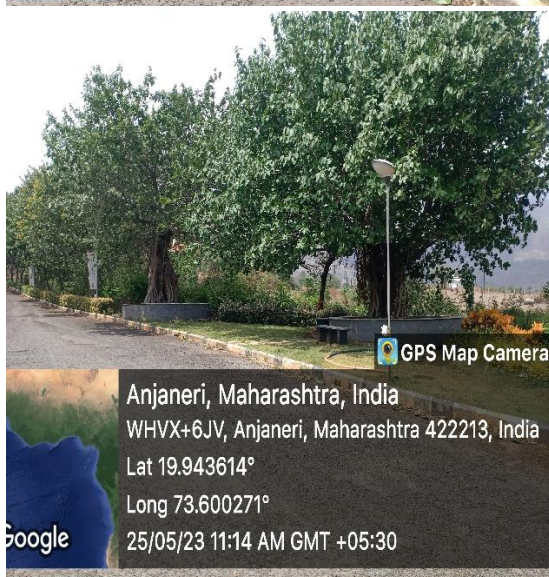


Geotagged photo of medicinal plant garden developed in the institute





**Geotagged photo of medicinal plantation in the campus**



**Geotagged photo of old trees preserved in the campus of institute**



**Geotagged photo of tree plantation near guesthouse**





**Geotagged photo of tree plantation activity carried out by the institute**



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 करून गौरविण्यात येत आहे.

ठिकाण : नागपूर

दिनांक : ३०/०४/२०१६

सुधीर मुनगटीवार

मंत्री

वित्त आणि नियोजन, वने  
महाराष्ट्र शासन

सामाजिक वनीकरण महासंचालनालय, वनविभाग महाराष्ट्र राज्य



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

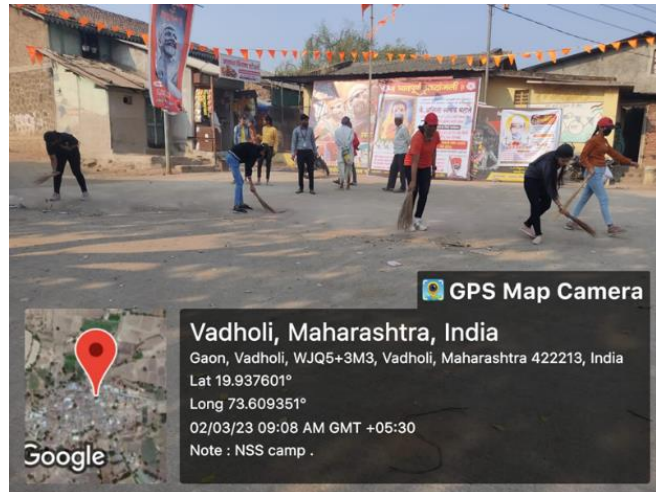




**Geotagged photo of Gift is be given to the campus visitor in the form of saplings**

## 10. Beyond the campus environmental promotion activities

There are several activities undertaken by institute for community environmental promotion.



2018-19



Tree plantation on Founders day 20<sup>th</sup> July 2018





**Cleanliness drive under the activity “Nirmal Pheri” Organized by Trimbak nagar parishad**



**Student volunteers participated in Swachh Bharat summer internship program at Wadholi and Anjaneri village**



**Cleaning of water reservoir at Harihar fort under Swachh Bharat Abhiyaan**



**CCT work for water conservation at Pimpalad village**

**2019-20**



**Kalsubai Mountain Cleanliness drive by NSS Volunteers on 2<sup>nd</sup> Oct. 2019**



**Ganapati Nirmaly sankalan at Navashya Ganapati 12<sup>th</sup> Sept. 2019**



**Ganapati Nirmaly Sankalan at Someshwar on 12<sup>th</sup> Sept. 2019**



**Wall paintings of social messages was drawn by the NSS Volunteers at Kachurli village during camp, 2020**



**Student Made CCT at Kachurli Village during Special camp, 2020  
2020-21**





**Tree plantation during covid lockdown at home by volunteers**



2021-22



**Water reservoirs cleaning activity at Pegalwadi village, Trimbakeshwar**



**Tree Plantation at Pegalwadui village during NSS camp**



**Swachh Bharat Abhiyaan during camp at pegalwadi village**

2022-23



Latitude: 19.946633  
Longitude: 73.599061  
Elevation: 748.7±100 m  
Accuracy: 78.2 m  
Time: 22-08-2022 10:53  
Note: Tree Plantation

Powered by NoteCam

लोकनामा

## युवा दिनानिमित्त सपकाळ नॉलेज हबमध्ये वृक्षारोपण

लोकनामा प्रतिनिधी

**नाशिक :** लेट. जी. एन. सपकाळ कॉलेज ऑफ इंजिनियरिंग व सावित्रीबाई फुले पुणे विद्यापीठाच्या राष्ट्रीय सेवा योजनेतर्गत जागतिक युवा दिनाचे औचित्य साधून सपकाळ महाविद्यालयात विविध उपक्रम घेण्यात येत आहेत. यांतर्गत रेड रिबन क्लब जिल्हा रुग्णालय यांच्यातर्फे सोमवारी (दि. २२) एड्स जनजागृतीसाठी पोस्टर स्पर्धा व वृक्षारोपण करण्यात आले.

सपकाळ नॉलेज हबचे व्यवस्थापकीय संचालक डॉ. रवींद्र



सपकाळ, उपाध्यक्ष कल्याणी सपकाळ यांनी युवा दिनानिमित्त आयोजित उपक्रमाला शुभेच्छा दिल्या.

पोस्टर स्पर्धेमध्ये राष्ट्रीय सेवा योजनेच्या विद्यार्थ्यांनी सहभाग नोंदविला होता. स्पर्धेमध्ये प्रथम क्रमांक मिथुन आडे, द्वितीय क्रमांक सय्यद फरीदा आफ्रिन शहबाज

यांना गौरवण्यात आले. सहभागी स्पर्धकांना प्रमाणपत्रे देण्यात आली. त्यानंतर महाविद्यालय परिसरात स्वातंत्र्याच्या अमृतमहोत्सवानिमित्त एक हजार ०७५ सागाची रोपे लावण्यात आली. याप्रसंगी जिल्हा रुग्णालयाचे जिल्हा कार्यक्रम अधिकारी योगेश परदेशी यांनी विद्यार्थ्यांना एड्स जनजागृतीबाबत

मार्गदर्शन केले.

कार्यक्रमास सुनीता बोरसे, जिल्हा रुग्णालयाचे जिल्हा पर्यवेक्षक योगेश खुर्दळ, सपकाळ नॉलेज हब संस्थेचे प्रशासकीय अधिकारी डॉ. सचिन हारक, सपकाळ अभियांत्रिकी महाविद्यालयाचे प्राचार्य डॉ. एस. बी. बागल, फार्मसीचे प्राचार्य डॉ. आर. एस. बच्छाव, एनएसएस कार्यक्रम अधिकारी प्रा. किशोर काळे उपस्थित होते. सूत्रसंचालन प्रा. डॉ. राजेश कासार यांनी, तर स्पर्धा परीक्षक म्हणून प्रा. पूनम तळमळे, प्रा. शांतल शिंदे यांनी काम पाहिले.

### Tree plantation Activity



Tree plantation on Founder's Day 20<sup>th</sup> July 2022



**Swachh Wari- Nirmal Wari Survey Program at Trimbakeshwar**



Tree Plantation by NSS Volunteers at Wadholi village during camp



**Wall painting for awareness on clean and green India Wadholi village during camp**



**Dam Construction at Wadholi village during camp**

### **Recommendation**

1. Collection and proper disposal of plastic waste from various **Palakhis** (Holy Processions) marching towards Trimbakeshwar.
2. Awareness on **Ban on Plastics**, particularly during Shравan month to the devotees visiting Trimbakeshwar can be organized.

## **11. Acknowledgement**

Green audit team of **WeBuild Pathways Pvt. Ltd, Nashik** wishes to express sincere gratitude towards the wholehearted cooperation and support extended by the Chairman and Managing Director **Dr. Ravindra G. Sapkal Sir**, Principal **Dr. Sahebrao B. Bagal**, NAAC Coordinator **Dr. Vikram Kolhe**, Green Audit Coordinator **Prof. Madhuri Khairnar** and other team members of various support departments of Late G. N. Sapkal College of Engineering, Nashik, during the entire course of the green audit. Without their untiring enthusiasm and involvement, this green audit study would have been left incomplete.



EMBARK • ENVISION • ENRICH

# CERTIFICATE

**“Green Audit Certificate”**

is awarded to

**Kalyani Charitable Trust’s Late G. N. Sapkal College of Engineering (LGNSCOE),**

**Sapkal Knowledge Hub, Kalyani Hills, Anjaneri, Trimbakeshwar Road, Nashik – 422213**

**This certificate is issued based on Green Audit Report**

Certificate No – **WBPPL/GA/02**

Green Audit Report issue date – **29<sup>th</sup> May 2023**

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

**Sumant D. Parkhi**  
Director & EMS Auditor



**WeBuild Pathways Pvt. Ltd.**

H.O.: 24, Sarthak, Bhavanjali Nagar, Opp. Godavari Heights, Anandvalli, Gangapur Road, Nashik - 422 013. (Maharashtra) INDIA

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Web: [www.webuildpathways.com](http://www.webuildpathways.com), E-mail: [webuildpathways@gmail.com](mailto:webuildpathways@gmail.com)

**Dr. Hitesh R. Thakare**  
Energy Auditor

# CERTIFICATE

The Certification Body  
of TÜV SÜD South Asia Private Limited

certifies that



**WEBUILD PATHWAYS PVT.LTD**  
24, SARTHAK, BHAVANJALI NAGAR, ANANDWALI,  
GANGAPUR ROAD NASHIK – 422013, MAHARASHTRA, INDIA

has implemented Quality Management System  
in accordance with **ISO 9001:2015**  
for the scope of

**Scope 1 - Provision of Consultancy for ISO 9001, ISO 14001, ISO 45001,  
ISO 50001, ISO 22000, IATF 16949, ISO 21001, ISO 27001, ISO 20000-1,  
ISO 22301 BCMS, SA 8000.**

**Scope 2 - Conducting Green audit, energy audits, environment audit &  
safety audits, second party audits as per Scope 1.**

**Scope 3 - Conducting in house and open house trainings on ISO  
standards as per Scope 1.**

The certificate is valid from **2023-06-03** until **2026-06-02**

Subject to successful completion of annual periodic audits

The present status of this certificate can be obtained through TÜV SÜD website by scanning below QR code and by entering the certificate number (without spaces) on web page. Further clarifications regarding the status & scope of this certificate may be obtained by consulting the certification body at [info.in@tuvsud.com](mailto:info.in@tuvsud.com)

Certificate Registration No. **99 100 23202**

Date of Initial certification: **2023-06-03**

Issue Date: **2023-06-03** Rev. **00**



Rahul Kale  
Head of Certification Body  
of TÜV SÜD South Asia Private Limited,  
**Mumbai**  
Member of TÜV SÜD Group

