

GREEN AUDIT

2019-20 & 2020-21

AUDIT REPORT

Studied for

Manjara Charitable Trust's
**Smt. Sushiladevi Deshmukh
Senior College**

Khadgaon Road, Latur - 413531

Analysed by



24 December 2021



Disclaimer

Green Audit Team has prepared this report for the **Manjara Charitable Trust's Smt. Sushiladevi Deshmukh Senior College, Khadgaon Road, Latur - 413531** based on input data submitted by the College analysed by the team to the best of their abilities.

The details have been consolidated and thoroughly studied as per the various guidelines for Green Buildings available in National and International Standards; the report has been generated based on comparative analysis of the existing facilities and the prerequisites formulated by various standards. The inputs derived are a result of the inspection and research. These will further enhance and develop a Healthy and Sustainable Institution.

These can be implemented phase wise or as a whole depending on the decision taken by the Hon'ble Management and College. The warranty or undertaking, expressed or implied is made and no responsibility is accepted by Audit Team in this report or for any direct or consequential loss arising from any use of the information, statements or forecasts in the report.

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The Report is prepared by the Team of Greenvio Solutions under their brand and department – Sustainable Academe as Consultancy firm along with Ar. Nahida Shaikh as an Accredited Green Building Professional.

Greenvio Solutions

Developing Healthy and Sustainable Environments

We are an Environmental and Architectural Design Consultancy firm

Sustainable Academe is our department for conducting Audits

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Acknowledgement

Green Audit Assessment Team thanks the **Manjara Charitable Trust's Smt. Sushiladevi Deshmukh Senior College, Latur** for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are due to **Hon. Shri. Dilipraoji Deshmukh**, President; **Hon. Hon. Shri. Amitji Deshmukh**, Secretary; **Hon. Shri. Vijaymurti Shete**, **Hon. Shri. Najeer Ahemad M. Yaseen Sayyad**, **Hon. Shri. Shankarrao Chavan**, Trustee and everyone from the Management.

Our heartfelt thanks to Chairperson of the entire process **Dr. Ajay Patil, Principal, Sushiladevi Deshmukh Senior College** for his valuable inputs.

We are also thankful to **College's Task force the faculty members** who have collected data required **Dr. Mallikarjun Karajgi**, IQAC Coordinator and Teaching Staff Members **Dr. Kumar Bansode, Dr. Balu Kamble, Prof. Anita Gaikwad, Prof. Gurunath Deshmukh and Prof. Sanjayadevi Pawar**

The kind gesture for the inventory and data collection of the Non-Teaching Staff Members **Shri. Satyanarayan Bhutada, Smt. Chanda Kamble, Shri. Vikram Pathan, Shri. Balaji Kumbhar and Shri. Jivan Sable** is quite commendable.

We highly appreciate the assistance of the College Team for their support while collecting the data.

Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208

1. Introduction

1.1 About Manjra Charitable Trust

It was established twenty eight years ago, when the leading citizens from the different fields of life of Latur area, namely: **Late Hon. Shri. Vilasraoji Deshmukh** (Founder and Ex. Chief Minister of Maharashtra & Ex. Union Minister of India), **Late Adv. Shri. B. V. Kale** (Secretary), **Shri. Deshpriaji Deshmukh** (President, & MLC, Maharashtra), **Shri. Amitji Vilasrao Deshmukh** (Executive Trustee & MLA, Maharashtra), **Late Shri. Shivajirao Survate**, **Shri. Sayeed N. A. M. Yaseen**, **Shri. Shankarrao Chavan** and **Shri Vijaymurti Shete**. These honourable personalities with a great concern and a noble view established the college.

1.2 Vision and Mission Statement of College

Our Vision – Education for knowledge and Character building.

Our Mission – To provide opportunities of education to the students from rural area who are economically, socially and educationally weak.

1.3 Institution and the surrounding premises

Smt. Sushiladevi Deshmukh Senior College, Latur (MS), is unique single faculty college of the region, with 6.08 acres, pursuing excellence in education. Keeping in view the educational needs of the region, Manjra Charitable Trust, a local management committee, established Smt. Sushiladevi Deshmukh Senior College, Latur in the year 1991. It is a grant-in-aid institution formerly affiliated to Marathwada University, Aurangabad and is at present affiliated to S.R.T.M. University, Nanded since its formation. The U.G.C. has accorded status of 2(f) and 12 (b) to the college on 21st March 2005.

Out of 18 faculty of the college, 09 faculty members are Ph. D. holders and 08 faculty members are Recognised Research Guides. The college promotes and motivates the faculty for research and publication activities. The faculties of college have to their credit 227 different publications with an average of 40.86 per faculty during last four years. The college is also active in community and extension services through NSS unit. The college feels proud to mention here that the NSS unit has adopted

crematorium (Smashanbhumi) of Khadgaon village.

To keep pace with over changing global scenario, the college is taking co-operation of the Management, UGC, University, Teachers, Students, Parents and all stakeholders involved in the process and imparting education with its mission statement Education for knowledge and Character building.

The Premises is situated amidst the landscape serene of **Latur district of Maharashtra State** with immense peace and calmness in the surroundings. The college is surrounded by Residential areas on all sides. There is a frontal approach which provides quite a beautiful appreciation space while approaching the premise. The location of college is feasible to the nearby essential amenities such as Public Health Center, Fire Station, Civic body-Public administrative buildings, Recreational gardens and Police Station.

The College was established with an aim to educate the girl students in the vicinity for their social, economic and cultural enlistments, is to continuously enhance the teaching methods in order to provide students with an opportunity for their all-round development. It makes an effort to induce passion for learning along with the inspiration for decisive thinking and assessment, thereby helping them to become the best professionals in life.

The institution offers the following courses affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

- **Graduation - Bachelor of Arts (B.A.)**

The College offers only Bachelor of Arts course at UG level. At the UG level, teaching is imparted in 09 optional subjects in which all the subjects are divided into four groups viz,

- English/Marathi/Hindi,
- History/Sociology,
- Political-Science/Geography,
- Public-Administration and Economics.

- **Certificate Courses** – Industry linked courses as follows.

- Share Marketing – (Carrier Oriented Course)

- Foundation Course In Human Rights – (Foundation course)

The College aspires at training young women to be competent, committed and compassionate and lead in all walks of life. It has the following objectives.

- To motivate students for creativity and innovation.
- To provide quality higher education for holistic development of the students.
- To promote ethical and moral values.
- To inculcate scientific temper among the students.
- To create research aptitude of the students.
- To mould the students as responsible and respectable citizens of the society and nation, by inculcating in them, perfect discipline in terms of regularity, sincerity and punctuality.

1.4 Assessment of the College

Below mentioned are the administrative details of the Institute.

Affiliations - The institution is affiliated to Swami Ramanand Teerth Marathwada University, Nanded.

Accreditation - The following are details of the reaccreditation of the Institute.

Cycle	First	Second
CGPA	78.00	2.80
Grade	B+	B++
Year	2004	2017

Table 1: NAAC Accreditation details of the Institute

The college is due to enter its Third cycle of NAAC Accreditation soon.

1.5 Achievements of the College

The college has a tremendous track record of excellence in Built form and educational services provided, below are some of the achievements of the prestigious Institute.

Name of the award	By whom	When was it received	For what
Best College Award (Urban)2019-20	Swami Ramanand Teerth Marathwada University, Nanded	2019	Best College Award
The Best Exam Centre Award	Y.C.M.O.U. Nashik	23/12/2016	Best Exam Centre
University merit	Swami Ramanand Teerth Marathwada University, Nanded	Summer 2014	B. A. Second Year English (Compulsory).
Silver Medalist	Indo-Nepal Badminton Tournament	Sept. 2015	Badminton Tournament
Winning Team captain	International Kho-Kho series	Nov. 2015	Kho-Kho

Table 2: Details of the Awards received

2. Institution overview

2.1 Populace analysis for Academic year 2019-20

2.1.1 Students data

The student data (shared by the College) shows there are total of **42 Girl and 131 Boys** students.

2.1.2 Staff data

Type	Male	Female	Total
Admin staff	05	01	06
Teaching staff	13	05	18
Non-Teaching staff	01	00	01
Total	19	06	25

Table 3: Staff data of the Institution for 2019-20

The staff data shows the premise has a total of **25** staff members.

2.2 Populace analysis for Academic year 2020-21

2.2.1 Students data

The student data (shared by the College) shows there are total of **59 Girl and 143 Boys** students.

2.2.2 Staff data

Type	Male	Female	Total
Admin staff	05	01	06
Teaching staff	13	05	18
Non-Teaching staff	01	00	01
Total	19	06	25

Table 4: Staff data of the Institution for 2020-21

The staff data shows the premise has a total of **25** staff members.

2.3 Total Institute Area & College Building Spread Area

The total site area is 6.08 acres and total built-up area is 31,728 sq. ft. for approx. 227 footfalls.

2.4 Institute Infrastructure

2.4.1 Establishment

The College is run by Manjra Charitable Trust, Latur. It is established in 1991. The Sanstha has rich tradition of Quality education of many years. The Building is a Reinforced Cement Concrete (RCC) framework building. **Overall the Infrastructure of the Building is excellent in terms of the Architecture Design and Green Building Design. The Premise covers quite a few of the requirements for a Green Habitat.**

2.4.2 Spatial Organisation

The overall ambience of the College is warm and inviting. The classrooms and other spaces have ample natural ventilation in the form of clear glass windows with fresh air ventilation. The architecture of the building is quite well designed. The colour palette not just helps the building to stand out but also provides an Institutional arena. It balances with the local architecture with the natural landscapes of huge trees all around. The design emphasis on providing calmness to the built form and gradually merges with the serene landscape.

The floor to floor height is more than 10 feet. There is no provision for lifts in the premise, there are with CCTV, Fire extinguishers, first aid box and amenities such as

2.4.2.1 Room-wise details

The room-wise details are mentioned below:

S. No	Room Name	Floor No
1	Principal Cabin	Ground Floor
2	Management Office	Ground Floor
3	Administrative Office	Ground Floor

4	Store Room	Ground Floor
5	Office	Ground Floor
6	Classroom	First Floor
7	Exam. Department.	First Floor
8	Language Department	First Floor
9	Social Science Department	First Floor
10	Computer Lab	First Floor
11	Geography Department and Lab	First Floor
12	IQAC, Cell and Department of English	First Floor
13	Ladies Room	First Floor
14	Wash Room	First Floor
15	Library	Second Floor
16	Reading Room	Second Floor
17	YCMOU, Centre	Second Floor
18	Canteen	Ground Floor
19	Indoor Sports Hall	Ground Floor

Table 5: Room-wise space details

2.4.4 Operation and Maintenance of the premises

The interview session with the staff regarding the operation and working hours is summarized in the table. The Institutions are open Monday to Saturday for full day. Sunday is an off for all. Below mentioned in the table are the average working hours. The detail wise timing for each is mentioned below the table.

S. No.	Section	Spaces	Time	Hours / day	Days in a year
1	Main Institutional College	Student areas and Teaching faculty	7:50 a.m. to 3:40 p.m.	7.7	200
2	General areas	Admin areas and library, Passage, staircase, toilet	9:00 a.m. to 4:00 p.m.	7	240

Table 6: Schedule of the timings of the premises

3. Green Building Study Audit

3.1 About the Green Building Study Audit

It is a systematic study of the aspects which make the Institution a sustainable and healthy premise for its inhabitants.

3.2 Analysis for the Green Building Study Audit

The procedure included detailed verification for the following:

Energy Audit

- Analysis of the Lights, Fans, AC, Equipment
- Renewable energy
- Scope for reducing the current energy bills if any
- Improvement in the thermal comfort of the campus

Green Audit

- Green initiatives
- Hygiene audit
- Water Audit - Analysis of the current water consumption of campus; Scope to include Rain water harvesting and Waste water treatment in campus
- Waste Audit - Current waste produced, its segregation and usage; Strategies to be adopted for waste management and awareness

Environmental Audit

- Analysis of the current landscape + hardscape of campus
- Analysis of the flora and fauna of campus
- Strategies adopted at present to enhance vegetation
- Measures that can be adopted for ecological improvement of campus

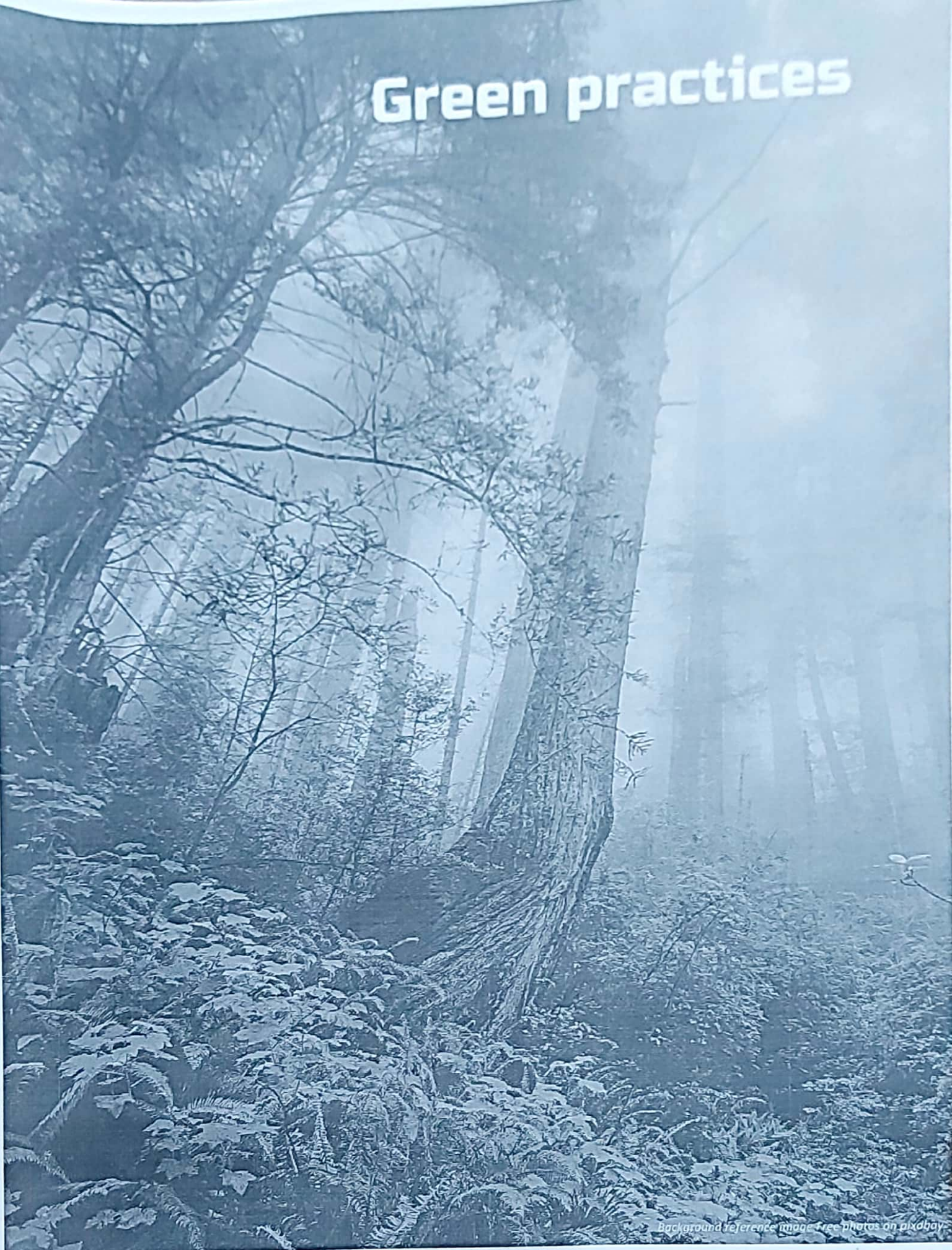
3.3 Strategy adopted for Green Building Study Audit

The strategies included data collection from admin department, actual inventory, investigation to check the operation and maintenance, analysis of the data collected and preparation of the Report.

3.4 Timeline of the activities for Green Building Study Audit

- 25 August 2021 – Discussion with the College
- 2 November 2021 – Survey of the Student and staff submitted
- 23 November 2021 – Data submitted by College
- 25 November 2021 – Submission of draft Report
- 24 December 2021 – Submission of Main Report

Green practices



Background reference image tree photos on pixabay



4. Green Practices Audit

The increasing global warming and climate change have made us realise that apart from the enormous strategies the individual small efforts need to be taken by individuals and Educational Institutes as the younger generations are the future of the world and once they are taught about these practices only then can we assume a better future.

4.1 Green practices

We observed the following points during the Site investigation:

- There is **availability of open space in the premise in addition to the provision of the multiple varieties of flora, Apiculture is practised in the premise.**
- There is **organic and vermin-composting process carried out for decomposition of organic matter of plants and it is used as an organic fertilizer and increase ecology, this is done through Vermiculture.**
- **Waste Water Treatment System** carried through the local Sewage treatment plant (STP) which is processed by the Local Municipality. This system works for the entire city and is a huge landmark in terms of Green practice for the entire Institution.
- **The ample vegetation benefit the users by providing shade.**
- The NSS Team, College authorities **jointly conduct initiatives for upgrading of the premises from environmental view.**

4.2 Community Development

The various community development programs conducted include Tree Plantation, Life Learning, Employability Skill program introduced for the youth, Blood Donation Camp, Food Kit Distribution Program to the neighbourhood community, Relief fund programs.

A lot of efforts get involved right from planning to execution. The main motive behind these is social welfare. This kind of a tough process is highly admirable. We respect and congratulate the Institute for the same.

4.3 Eco-friendly initiatives undertaken

The Institution has undertaken the following initiatives through **excellent efforts** towards save environment measures before pandemic. The NSS Department conducts various activities like tree plantation, nature cleanliness, visits to nearby flora and fauna, rural development initiatives.

4.3.1 Environment initiatives undertaken by College (2018-20)

- 21st June -Yoga Day
- 26th June –Rajarshi Shahu Maharaj Jayanti
- 25th July – Matoshri Day and Prize Distribution Ceremony
- 09th Aug.- Swami Rangnathan Jayanti
- 13th Aug. -State Elocution Competition-
- 13th Aug. –Yuvati Mandal
- 14th Aug. Prerna Day- Blood Donation Camp
- 23rd Aug.- Yoga and Spiritual Science –Staff Academy
- 26th Aug. –Sant Gadge Baba Swatchata Abhiyan
- 14th Sept. Hindi Day
- 16th Dec. –Regional Level Workshop on Mahila Atyachar Sadya Stithi vaSajag Akalan
- 18th Dec.- BOM Sanvad Melava
- 03rd and 04th Jan. National Level Workshop on E-Content Development.
- 27th Jan. to 02 Feb. -NSS- Camp
- 27th Feb. Marathi Bhasha Din

Due to lockdown, more social events could not take place physically after these.

4.3.2 General activities Conducted by NSS unit

- Cleaning campaign in the society, Afforestation through tree plantation
- Creating awareness of such issues as social problems, education and cleanliness
- Awareness Rallies about environment, cleanliness
- Organization of health camps, Street plays

4.4 Survey Results

4.4.1 Participation

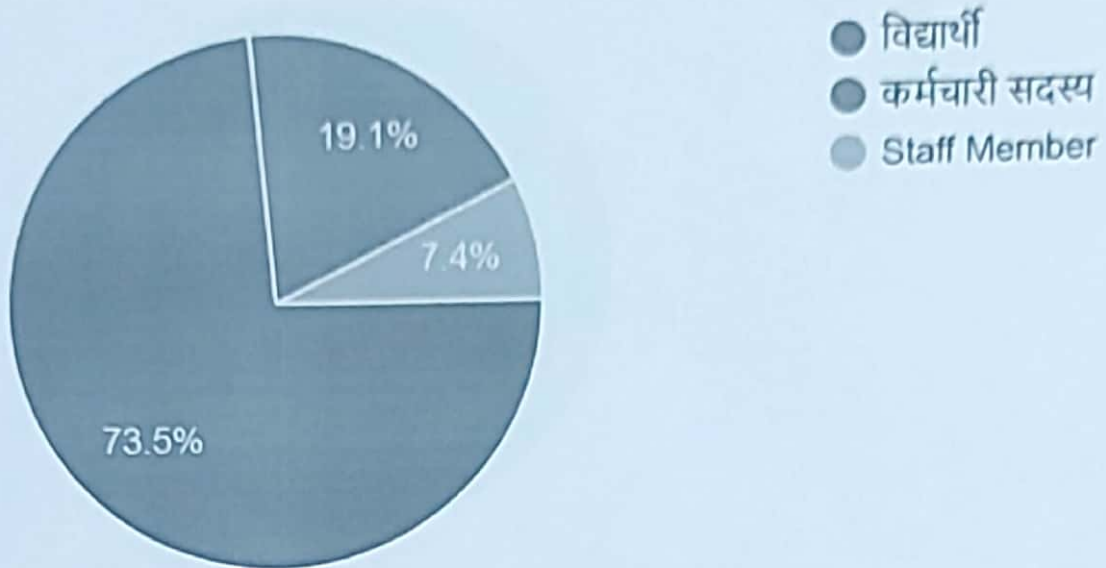


Figure 1: Participation analysis in the survey

A total of **68 responses** were received out of which 73.5% were students.

4.4.2 Rate the Green awareness practices in College

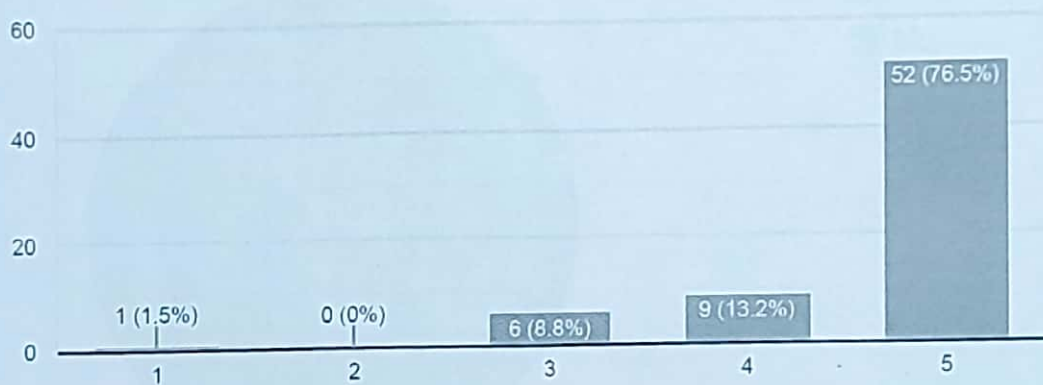


Figure 2: Green awareness practices in College

There were mixed responses received the highest was for **rating 5 (Excellent) at 77%** followed by **13% for rating 4 (Very Good)**.

4.4.3 Does your College conduct environment awareness programs/ webinars/ plantations/ cleanliness or similar programs?

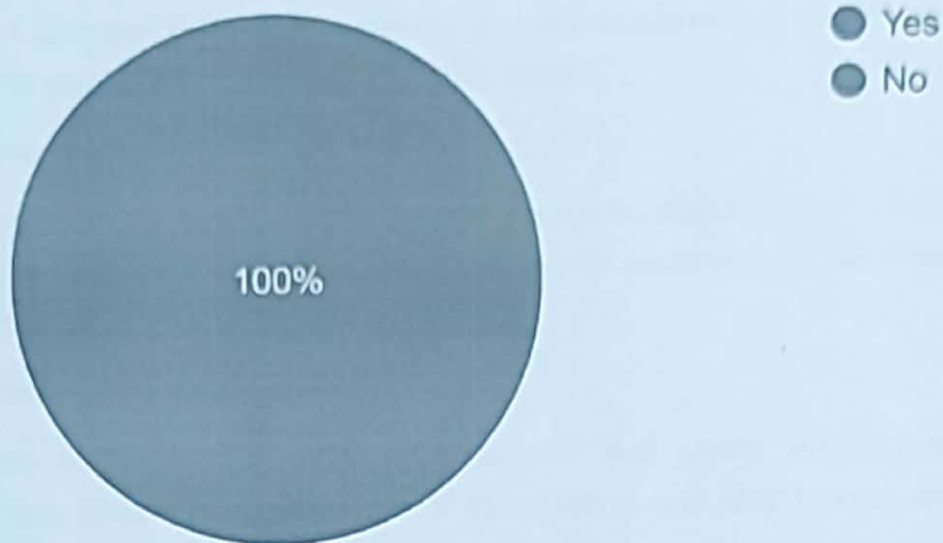


Figure 3: Green awareness practices In College

The students, staff **100%** of responses confirmed activities are conducted which is very excellent.

4.4.4 Do you participate in such events?

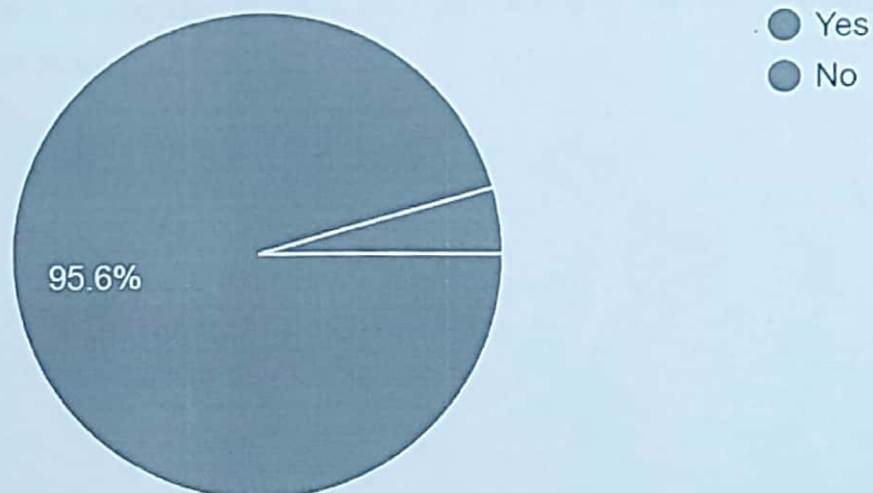


Figure 4: Green awareness practices in College

The students, staff **almost 96%** of the responses confirmed their participation, **this is an excellent response.**

4.5 Recommendations for a Sustainable Habitat by Greenvio Solutions

We have found that the current practices are very excellent and thus there are only minimal recommendation with respect to this section.

a) Plant as a gift

As a kind gesture the guests visiting the premise can be asked to plant a small plant in the premise itself and they can be even given plants/ bouquet from the flowers of the plants in the premise as a gift.

b) Environmental awareness

There can be various artworks on compound wall giving message of saving environment through the joint efforts of the students and staff thereby making the student socially and environmentally responsible citizen.

c) Tree adoption scheme

The college can adopt One Faculty – One tree adoption scheme which is one of its kind practice, this can be very beneficial especially during the summer season.

d) Signages on the plants mentioning scientific names

The practice of having the names of each plant and tree will provide awareness among the staff and students.

Waste Audit



Background reference image: Daria Tankilevich on pexels

5. Waste Audit

Waste is an inevitable part of our lives. Over the years as the awareness about waste management techniques has given a rise to rethink how the waste can be avoided from being sent to the landfills. The audit provides an approximation of the types of waste generated, location of waste collections, disposal techniques used, waste segregation methodologies adopted, waste management strategies that are implemented in addition to the newer ways the can be adopted aiming to make the premise clean and sustainable. Here sustainable refers to a broader aspect to analyse whether the current techniques are having positive or negative effect on the stakeholders of the premises.

5.1 Waste produced

The types of waste collected in the campus are as follows. These are separated before processing and not given to the local Corporation. The details of the quantity and type of waste are as follows.

S. No.	Type of waste	Source and quantity	Current Disposal method	Can be treated/ recycled?	Methodology
1	Solid waste	Toilets—Biodegradable waste of 20kg per week	Sewage Treatment plant	Yes	CONTINUE - with the current practice
2	E-waste	Computers - Non-biodegradable waste as per the annual year usage	Sent to Vendor	Yes	CONTINUE - with the current practice
4	Dry waste in form of leaves	Open space & plantations, papers - Non biodegradable waste of 6kg per week	Vermi - Composting	Yes	CONTINUE - with the current practice
4	Liquid waste	Toilets, washbasins – Around 200 – 250 litres per week during general times and 50 litres at present	Sewage Treatment plant	Yes	CONTINUE - with the current practice

Table 7: Summary of the types of waste produced in the premises

5.1.2 Bins summary

There are 33 Dustbins in the premise with volume of 7 litres (small) and of plastic material. The analysis of dustbins is presented below.

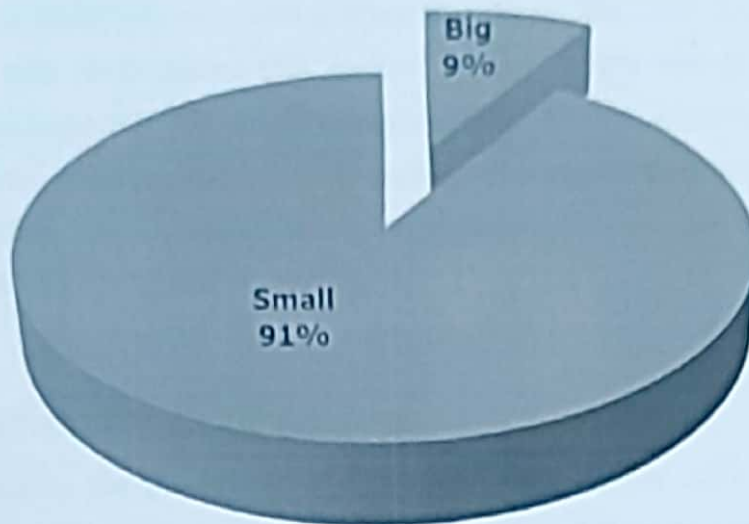


Figure 5: Analysis of dustbins in the premise

The above analysis shows **91%** are Small bins and **9%** are big bins present in the premise.

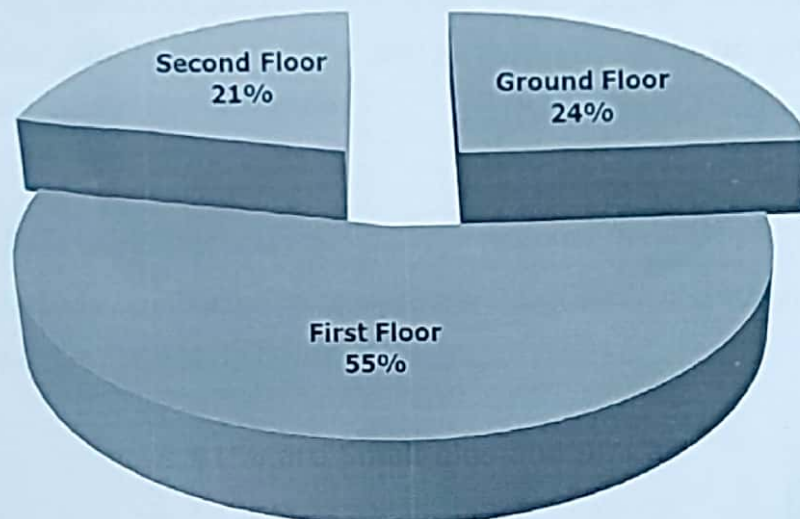


Figure 6: Analysis of dustbins floor wise in the premise

The above analysis shows **55%** are present in the First floor, **24%** on the Ground floor and **21%** on the First floor.

5.2 Waste handling

Quantification wise as per Interview and survey it was found that the Solid, Dry leaves collected is approximately 60 kg per week. The liquid and hazardous waste (septic tanks) is approximately 200 litres per week. The waste produced on campus is

segregated. The staffs are very well trained and do an excellent job. We observed the concern and dedication the entire Team shows towards the College management aspect. We highly appreciate these efforts and way of working. The solid waste is handled through Organic and Vermi-composting. The liquid waste is handled through Sewage Treatment Plant (STP) installed by the local Municipality.

5.3 Waste management

The college reuses the papers. It was informed newspapers were given in bulk to Raddi and not to Municipal Corporation **thereby not adding to landfill site**. Ample measures are taken to maintain hygiene. **No smell problem or health related issues due to the waste are there**. There are adequate numbers of bins present in all parts of building. **The waste does not pollute the ground or surface water**. The wastes from toilets are discharged to main drains through underground covered channels (Safety Tanks) thus avoiding any incident. **There is no problem of air pollution from waste as informed**.

5.4 Survey Results

An online survey was conducted to analyse the views about the Waste management practices adopted in College, following is the result received.

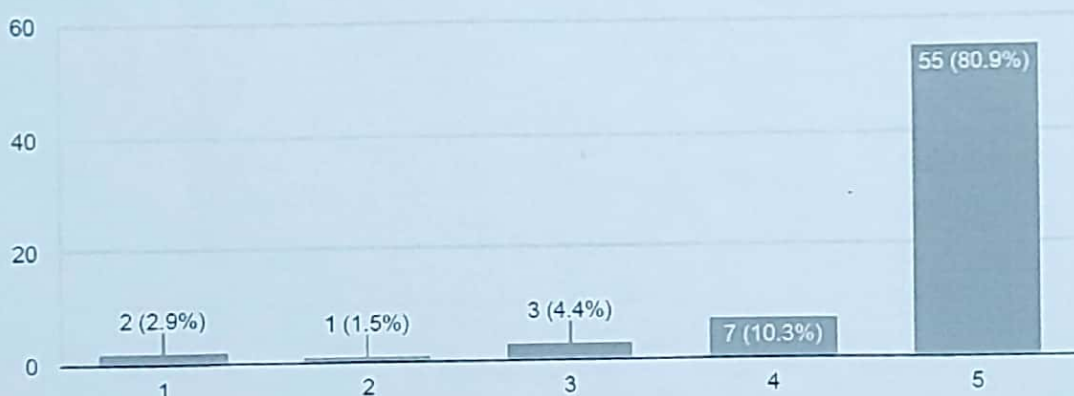


Figure 7: Waste management practices in College

There were mixed responses received the equal also the highest was for **rating 5 (Excellent) for 81% and rating 4 (Very good) at 10%**

5.5 Recommendations for a Sustainable Habitat

The following practice can be adopted for further up gradation.

a) Zero Waste

The college can undertake a zero organic waste protocol. The following practices can be adopted as part of the same. The food waste generated by the students and staffs are taken by them to their own home, so that, minimum waste is generated inside the premises.

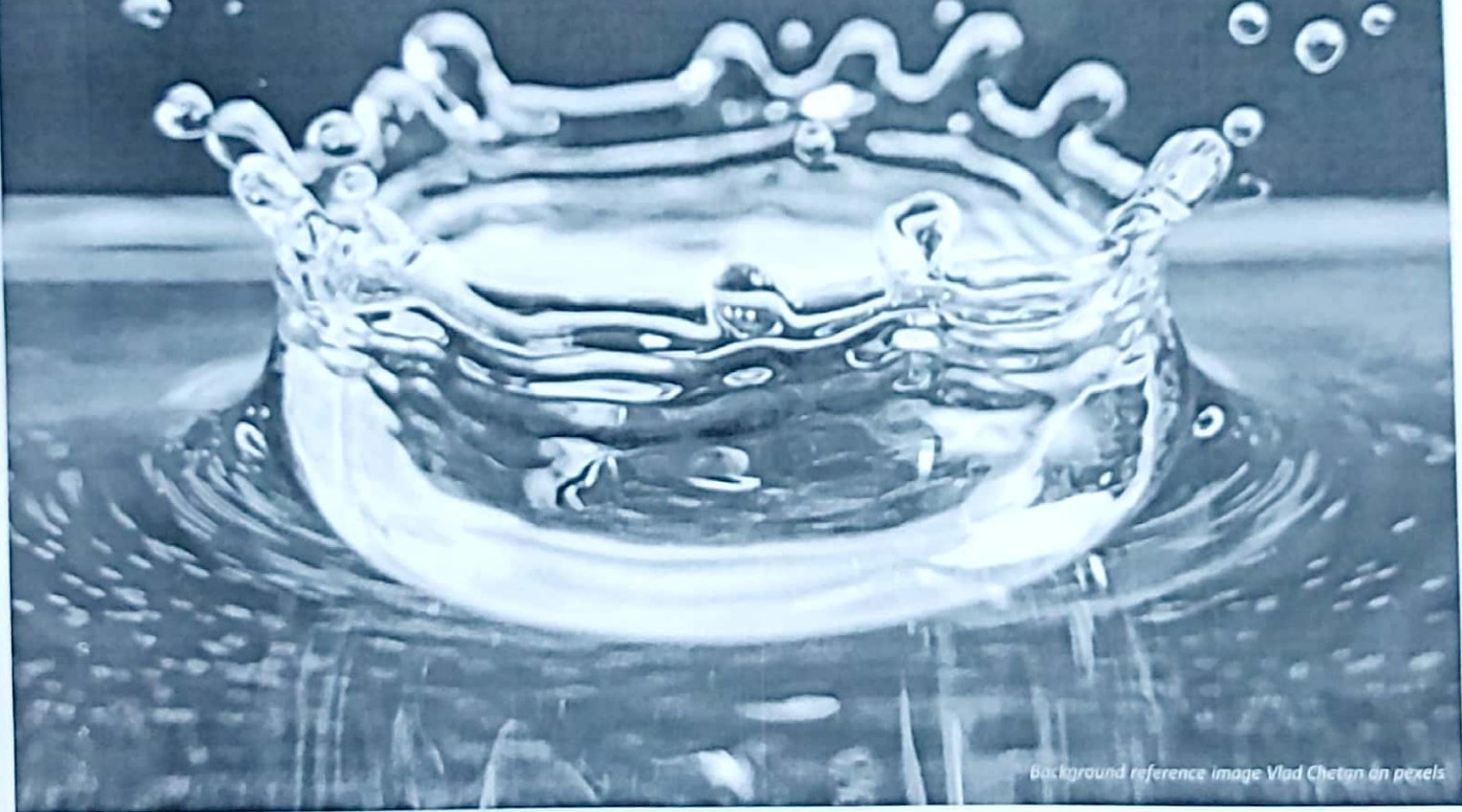
b) Incinerators

The Incinerators should be installed in Girls toilets for disposal of sanitary napkins

c) Twin Dual Litter Dustbin Bins

There should be more number of dual litter dustbins at various locations in areas such as Canteen, open spaces. This would inculcate the awareness of waste segregation among students.

Water Audit



Background reference image Vlad Chetan on pexels



6. Water Audit

Water is one of the basic needs. Pure drinking water is a resource which needs to be preserved efficiently. Water audit helps to identify the sources of water consumption, the water requirement by the campus met by these sources. The points and effective usage of without any wastage. Understanding the techniques which are best suited to the site to increase water conservation in terms of awareness and practice.

6.1 Water availability and consumption

6.1.1 Sources of Primary water supply

The main source of water is through well. The College requires water from the Local Municipality. The total water consumption through the tanks on site is by 1 tank of 8,000 litres.

6.1.2 Sources of Secondary water supply

There is 1 well available on the site as underground water facility with daily water being pumped for using submersible pump of 5 HP. On a daily basis water is pumped from per well for usage depending on the need.

6.2 Water requirement

The main areas of water requirement and type of usage is as follows

- **Drinking water** – Consumption of around 1,050 litres of water through Aquaguard like system available in the premise, the taps and water cooler.
- **Toilet blocks**– General usage by occupants in toilets, urinals, bathrooms, wash basins using approx. 250 litres of water daily
- **Cleaning of the premises** – The entire Institution is very well maintained with respect to hygiene and cleaning is one of the major uses of water requirement. **The toilet areas are cleaned twice on a daily basis.**
- **Garden and surrounding open space** – Cleaning, watering the plants requires approximately more than good amount of water, keeping in mind the scale of the open spaces there is supply system connected directly and the

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- **Garden and surrounding open space** – Cleaning, watering the plants requires approximately more than good amount of water, keeping in mind the scale of the open spaces there is supply system connected directly and the

plants, trees are hardly watered regularly. Though, they are watered on alternate days in winter season and about 2-3 times a day in summer season on a regular climate day it is watered 3 days a week and in rainy season it is dependent on the monsoon showers.

6.3 Areas of water usage

Based on the inventory done and data shared by the staff it was found that the premise has the following facilities:

- Urinals – 25 Nos.
- Toilets (Boys) – 3 Nos.
- Toilets (Girls) – 2 Nos.
- Wash basins – 11 Nos.
- Taps (Indoors) – 3 Nos.
- Taps (Outdoors) – 1 Nos.

As per the data shared by the College and on site observation, it was noted that there is no water wastage of water in the form of Cleanliness of toilets.

6.4 Site investigation about water management.

The college has an excellent management system which is very appreciable. We have observed the following points.

- **There was no water leakage in the entire premise;** the pipes are well maintained with adequate hygiene.
- **The premise has an efficient water management in terms of operations and maintenance.**
- The toilets were kept very tidy and are cleaned every day. **The waste water does not mix with ground water and gets directed to storm water drains to the Sewage Treatment Plant.**
- **The college has natural rainwater harvesting system which is very useful.** There is sufficient number of taps in the premise.

6.5 Survey Results

An online survey was conducted to analyse the views about the Water management practices adopted in College, following is the result received.

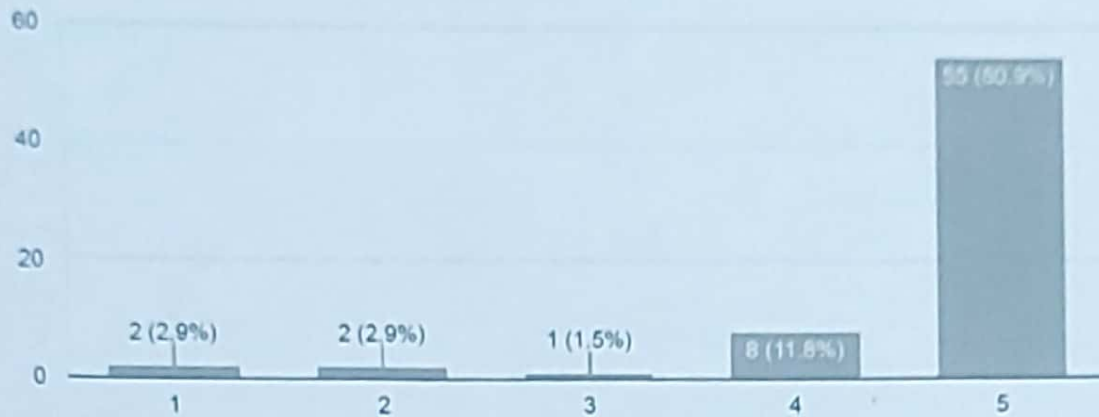


Figure 8: Water management practices in College

There were mixed responses received the highest was for **rating 5 (Excellent) at 81%** followed by **12% for rating 4 (Very Good)**.

6.6 Recommendations for a Sustainable Habitat

Below mentioned are few suggestions for better water management practices in the premise.

a) Universal Toilet

At least 1 toilet should be made for specially abled as per universal design norms.

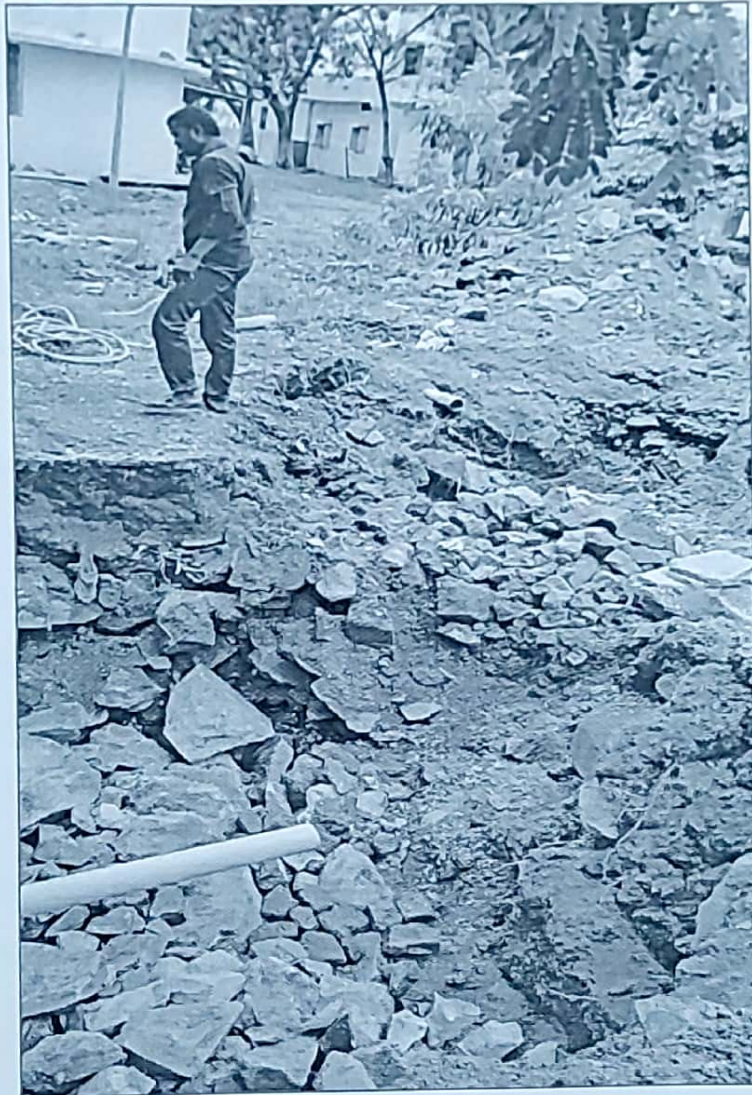
b) Toilet flush system

Replace the existing single flush cisterns with dual flush, if possible to include waterless urinals or e-toilets.

c) Waterless urinals

There can be provision of waterless urinals as a Green Building initiative in the premise, either the existing ones can be replace with such a facility of new toilets can be constructed in this manner.

On-site Investigation and physical verification
Rain water harvesting area in the premises



Health & Hygiene Audit



Background reference image: Curology on unsplash



7. Health and Hygiene Audit

The hygiene is a part and parcel of our daily life. It is extremely essential to keep the surroundings clean in the same manner as we would want our houses to be. Educational Institutes have a bigger role to play in order to affect the young minds in the positive manner through better hygienic practices.

7.1 Facilities available

The Institution has the following facilities as part of the premise.

- Washroom facility in each of the Building.
- Hand wash facility
- Drinking water facility in the form of Water coolers and taps
- Ample number of dustbins in the premise

7.2 Smoke Exposure

As per the Site visit the following analysis **has a positive impact on premises.**

- The college has No Smoking on its compound wall as part of the awareness.
- Canteen uses Gas cylinders for cooking, there is no utilisation of fire wood. Thus **there is no smoke from burning of fire wood and any health issues related to the same.**
- The **garbage in premise is not burnt** and there is not air pollution because of it.
- The Institution is a tobacco and smoke free campus which helps in adapting to a Healthy Institution
- There is parking provision inside the campus there is slight issue of dust owing to the same but it is **balanced with the good vegetation in the premise.**

7.3 Hygiene

As per the Site visit the following analysis **has a positive impact on premises.**

- For overall hygiene of the students and staff there are facilities such as

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Washroom facility on ground floor, hand wash. The hygiene of toilet areas is well maintained. **The entire campus is cleaned twice on a daily basis. It is very appreciating that there are only few Maintenance staff who strive their best to take care of the entire premise in the most excellent way possible.**

- There staff keep a regular check about the operation and maintenance of the equipments each floor.
- Water management initiative with appropriate hygiene is undertaken. The areas of water tanks in site on ground floor are clean and no mosquito breeding spots are there.
- There are pest controls program practiced with appropriate sanitation facilities and Annual Maintenance Contract for pest control is done once a year by professional Pest control units
- The food premises and equipments are cleaned as per schedule with special care taken to avoid any water stagnation. The food waste and other refuse are removed periodically from food handling areas to avoid accumulation.
- As part of Tree Plantation programme the initiative of **Swachh Bharat Abhiyan of Govt. of India** is undertaken during various occasions.
- There are appropriate storage areas which are well maintained.

7.4 On-site investigation

During the physical verification of the site, the following points were noted.

- All the facilities are cleaned on a daily basis.
- The Maintenance staffs are allotted the responsibility of the washroom hygiene and they do a very commendable and excellent job to maintain hygiene of the premise.

7.5 Recommendations for a sustainable habitat

As per site verification for this audit the efforts of the College are highly appreciable as they are very well maintained.

8. Towards a Healthy & Sustainable Institution

8.1 Inputs by Greenvio Solutions

Based on the analysis of the study of premises in addition to the recommendations provided in each section of Ecological, Water, Waste and Energy Audit the College can adopt the following strategies towards a Healthy and Sustainable Institution practices.

- a) **Kitchen garden** - There can be provision of kitchen garden practices in a designated area of the open space this would enhance the biodiversity and be useful in training students and staff about the healthy practices and vegetables grown which would be used in Canteen. It helps in capacity building. The smaller steps taken have huge impacts when each student would adopt these practices in their homes or societies and grow kitchen garden, terrace garden there will be a long term benefit for the environment as a whole.
- b) **Cutlery in the Canteen** – The regular plastic and steel plates, spoons used in Canteen can be replaced with eco-friendly and organic leaves, paper straw, disposable plates, edible spoons and tables made out of sugarcane waste or bamboo. This will be first of its kind initiative to be adopted and practiced thus also inculcating the healthy practices in students.
- c) **Signages** – In addition to the signages being in regular language there can be additional signages in braille language for the specially abled students.
- d) **Additional fire safety** - There should be fire extinguisher minimum two per floor.

8.2 Survey Results

An online survey was conducted to analyse the student and staff views about what changes according to you can be undertaken for Green audit improvement in College premise and activity, some of the key responses are listed below. Whereas many responses **stated there were no changes requires because the present practices are excellent.**

- It's well planned in college.
- It already good.
- It's already beautiful.

Some of the suggestions by the Students and staff are listed below:

- Planting of trees by classification.
- Recording of trees from time to time
- Maintaining of trees planted by micro-cameras in places .
- Compulsory of one tree per group per year keeping in view the number of students.

However, it should be noted that the College has taken up multiple initiatives and because of Pandemic the students have not practically visited the campus so many of these points are not mandatory at the moment.

9. References

1. Uniform Plumbing Code – India, 2008
2. IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013
3. IGBC Green Landscape Rating system, March 2013
4. BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST - Canada
5. Climate data <https://en.climate-data.org/asia/india/maharashtra/latur-24306/>
6. Used only for understanding Universal design - Universal accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthyam (National centre for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation.

