Shri. Shahu shikshan Prasarak Seva Mandal, Peth Vadgaon

SHRI VIJAYSINHAYADAV COLLEGE, PETH VADGAON

Environment Audit

(2020-21)

Introduction

a. **Environment Audit for Environmental Protection:**

- Environment Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of various establishments. It aims to analyze environmental practices within and outside of the concerned sites, which will have an impact on the eco-friendly ambience. The purpose of Environment Auditing is to assess periodically the compliance of completed or on-going activities with the requirements of legislation, measures proposed in environmental policies, environmental management systems and environmental schemes or the provisions of standards and contracts.

b. **Benefits of Environment Audit:**

- Ensuring legislative compliance.
- Reducing environmental impacts.
- Reducing waste, water and energy costs.
- To safeguard the environment and natural resources.
- Empower the organization to frame a better environmental performance.
- It portrays good image of institution through its clean and green campus.
  - Finally, it will help to build positive impression for the upcoming NAAC visit.

c. **NAAC criteria VII Environmental Consciousness :**

Environment Audit is assigned to the criterion VII of NAAC. National Assessment and Accreditation Council which is a self-governing organization that declares the institutions as Grade A , Grade B or Grade C according to the scores assigned at the time of accreditation of the institution.   The intention of Environment Audit is to upgrade the environmental condition in and around the institution. It is performed by considering some environmental parameters like water and wastewater management, energy conservation, waste management, air monitoring, etc. for making the institution more eco-friendly.

Students are the major strength of any academic institution. Practicing green actions in any educational institution will inculcate the good habit of caring nature in students. Many environmental activities like plantation and nurturing saplings and trees, cleanliness drives, bird watching camp, no vehicle day, rain water harvesting visits to ecologically important places through green clubs will make the student a good citizen of country.

d. **Profile of Shri. Shahu shikshan Prasarak Seva Mandal, Peth Vadgaon:**
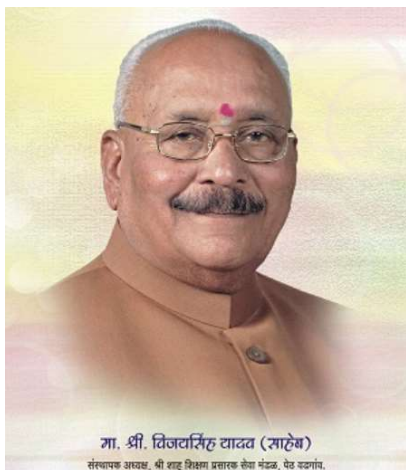
Shri. Shahu Shikshan Prasarak Seva Mandal, Peth Vadgaon was established in 1968 by Late, Shri. Balasaheb Mane and Shri. Vijaysinha Yadav Saheb with objective of imparting liberal and efficient Pre-Primary, Primary, Secondary, Higher Secondary, Higher and Professional education by opening the schools and colleges at the rural area.

Sanshta is now a leading educational institute in Kolhapur district of Maharashtra state, which has created a history by establishing ten educational institutions imparting education from the Pre-Primary to Graduate level.

Peth Vadgon is a historical place famous for Arts, Culture, Sports and Co-operative sectors. Educational, Social Economical and Cultural views of Late Shri. Balwantrao Arjojirao Yadav alias 'Abhaji' followed continuously by the members of Sanstha to impart more educational and extension facilities for the society. Our Sanstha innovates new educational projects for the society and are running them successfully. The part of this, Sanshta has started Shri. Balawantrao Yadav Jr. College of Arts and Commerce in 1981 and Science in 2000, which have good result records in H.S.C. Examination.

In 1999 Sanstha has started Senior College with Arts facility and Science faculty in 2000. The College is named as Shri. Vijaysinha Yadav Arts and Science College, in the honor of Shri. Vijaysinha Yadav Saheb Who is well known personality in Hatkanangale Tahsil, and a honorable President of the Sanstha. Today, Sanstha runs:

Mrs. Vijayadevi Yadav International School, Peth Vadgaon.

Shri Balavantrao Yadav School (Marathi Branch), Peth Vadgaon.

Kalyani Pol English Medium School, Peth Vadgaon.

Shri Balavantrao Yadav High School and Junior College of Arts, Commerce and Science, Peth Vadgaon.

Shri Vijaysinha Yadav Arts and Science College, Peth Vadgaon.

Sou. Vijayadevi Mahila Adyapak Vidyalaya (D. T. Ed.), Peth Vadgaon.

Savitribai Phule Mahila Shikshan Shastra College, Peth Vadgaon.

B. C. A. College, Peth Vadgaon.

ABOUT COLLEGE:

Peth Vadgon is a semi-urban area and adjacent area is rural. Therefore, it is very difficult to take higher education to both semi-urban and rural students particularly girls. Considering this fact Shri Shahu Shikashan Prasarak Seva Mandal has established college in 1999. In this year only 60 students were enrolled for B. A. Part-I and today it reached up to 241 students in the similar class and these number of students come up to 991. The College not only makes its quantitative growth but also qualitative growth. Our students placed in the Shivaji University ranks, various Govt., Semi-Govt. and Private sector also.

Our teaching and administrative staff is highly qualified, devoted, experienced, dedicated and student oriented.

SPECIAL SUBJECTS:

B. A. :   1) Marathi   2) Hindi 3) English 4) Economics   5) Geography   6) Sociology
          7) Political Sc. 8) History
B. Sc. : 1) Chemistry   2) Physics 3) Zoology 4) Microbiology   5) Computer Science

COLLEGE BUILDING

COLLEGE PROFILE IN BRIEF

NAME OF THE COLLEGE   :   Shri VijaysinhaYadav college Peth Vadgaon

ESTABLISHMENT   :   1999

Shri VijaysinhaYadav college Peth Vadgaon, consist of 02 buildings, is situated in Peth Vadgaon village with necessary infrastructure for the departments of all the faculties. A proper care is taken to provide basic amenities for the students & the staff members. The facilities are as follows….

Infrastructure Facilities

1] Teaching and Learning Facilities

Our college acquires 4.5 acres of land. It has 15 Departments affiliated to Shivaji University, Kolhapur for the under graduate courses that includes(Faculty ofArts)Marathi,Hindi,English,Sociology,History,PoliticalScience,Economics,Geography,and (Faculty of Science) Chemistry, Physics, Mathematics, Computer Science, Botany, Zoology and Microbiology. The lectures are conducted subject wise in **14** Classrooms. Other infrastructure supportive facilities include a Faculty room(01),well equipped Laboratories(08),Auditorium(01),Language Lab(01), separate cabins for all science faculty, Open Air theatre(01), Shri. Chh. Shivajiraje Academy for competitive Exam Guidance, well equipped Central Library with 15555 titles with Internet facility, awell-furnished reading room for boys and girl student and for faculty, Newspaper section, well equipped IQAC room, well- maintained computer laboratory with internet facility, Entrepreneurship Development Cell etc.

For smooth functioning of examination, college has separate strong room for examination. To receive the question paper from university by SRPD System, college has separate room along with Xerox machine with scanner. For security purpose college has set up 12 CCTV cameras which cover the college building and library. The college has water purified plant with 1000 litters per hour capacity that provides purified drinking water to students, staff and the society.

All these different sections directly and indirectly help the teaching and learning process. Thus, the college has proper and adequate infrastructure to facilitate effective teaching and learning.

Methodology

a. Questionnaire survey:

It includes administrative issues associated with the planning of audit, selecting the personnel for the audit team, preparing the audit protocol used by organization, obtaining background information, etc. The scope of the audit was defined at this step. It was decided that the information related to Water and Wastewater management, Energy conservation, Green belt, Carbon inventory, Solid waste management, Hazardous waste management, Air and noise quality status, activities of nature club, etc. should be gathered for the audit purpose. For collecting data related to these different areas, specific questionnaires were prepared.

b. Onsite visit and observations:

The data related to above mentioned areas was collected by visiting each and every facility of college campus. The questionnaires were filled up according to the present situation. Photographic documentation was also done with the help of sophisticated camera.

c. Data analysis:

After collection of secondary data, the reviews related to each environmental factor were taken by the Environment Audit team. The data was tabulated, analysed and graphs were prepared using computer. Depending upon the observations and data collected, interpretations were made. The lacunas and good practices were documented. The Environmental Management Plan (EMP) was prepared for the next academic year in order to have better environmental sensitization. Finally, all the information was compiled in the form of Environment Audit Report.

Environmental Auditing Process

Planning

Choosing Audit Team

Collection of Data

Analysing Results of Audit

Evaluating Audit

Overview of Environment Audit

a. Profile of Shri VijaysinhaYadav college Peth Vadgaon Kolhapur :

    Shri VijaysinhaYadav college Peth Vadgaon Kolhapur is situated in Maharashtra in the Kolhapur District and it is at altitude of 710 fts above mean sea level.

Satellite image of Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur Campus

Source: Google Earth

a) Main Road	**f) Library**
b) Entrance	**g) Parking**
c) Open Space	**h) Canteen**
d) College Office	**j) Play Ground**
e) Class rooms & Labs	**i) Gymkhana**

Sr.	Particular	Content		
1.	Name of the project	"SHRI VIJAYSINHAYADAV COLLEGE PETH VADGAON, KOLHAPUR"		
2.	Name, contact number & address of Proponent	Name	Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur	
		Address	Peth Vadgaon, Tal- Hatkangale, Dist- Kolhapur, Maharashtra.	
		Telephone		
		Email ID		
3.	Name, contact number & address of Consultant	Name	SSP Nature Solution Environment Consultant Pvt. Ltd.(OPC)	
		Address	Kolhapur	
		Telephone		
		Mobile	**9881981112**	
		Email ID	**ssp.naturesolutions@gmail.com**	
4.	Type of project:	Educational		
5.	Location of the project	Peth Vadgaon, Tal- Hatkangale, Dist- Kolhapur, Maharashtra.		
6.	Whether in Corporation/ Municipal / other area	Peth Vadgaon Grampanchayat		
7.	Total Plot Area (sq.ft.)	Sr. No.	Particulars	Area in sq. ft.
		1.	Construction area	43093
		2.	Open Space + Playground	94400
		3.	Open Parking + Shed	12000
		4.	**Total Open Space**	**104400**
		5.	**Total Plot Area**	**152625**
8.	Permissible FSI (Local body)	**1.10**		
9.	Ground-coverage percentage (%) *(Note: Percentage of plot not open to sky)*	**31.60 %** **(Note: Open space % is 68.40%)**		
10.	Height of the building	**9 to 10 meters**		

b. Water and Wastewater Audit:

Water audit can be defined as a qualitative and quantitative analysis of water consumption to identify means of reducing, reusing and recycling of water. Water Audit is nothing but an effective measure for minimizing losses, optimizing various uses and thus enabling considerable conservation of water in irrigation sector, domestic, power and industrial as well. A water audit is a technique or method which makes possible to identify ways of conserving water by determining any inefficiencies in the system of water distribution. The measurement of water losses due to different uses in the system or any utility is essential to implement water conservation measures in such an establishment.

Water accounting is the process of communicating water resources related information and the services generated from consumptive use in a geographical domain, such as a river basin, a country or a land use class; to users such as policy makers, water authorities, managers, etc.

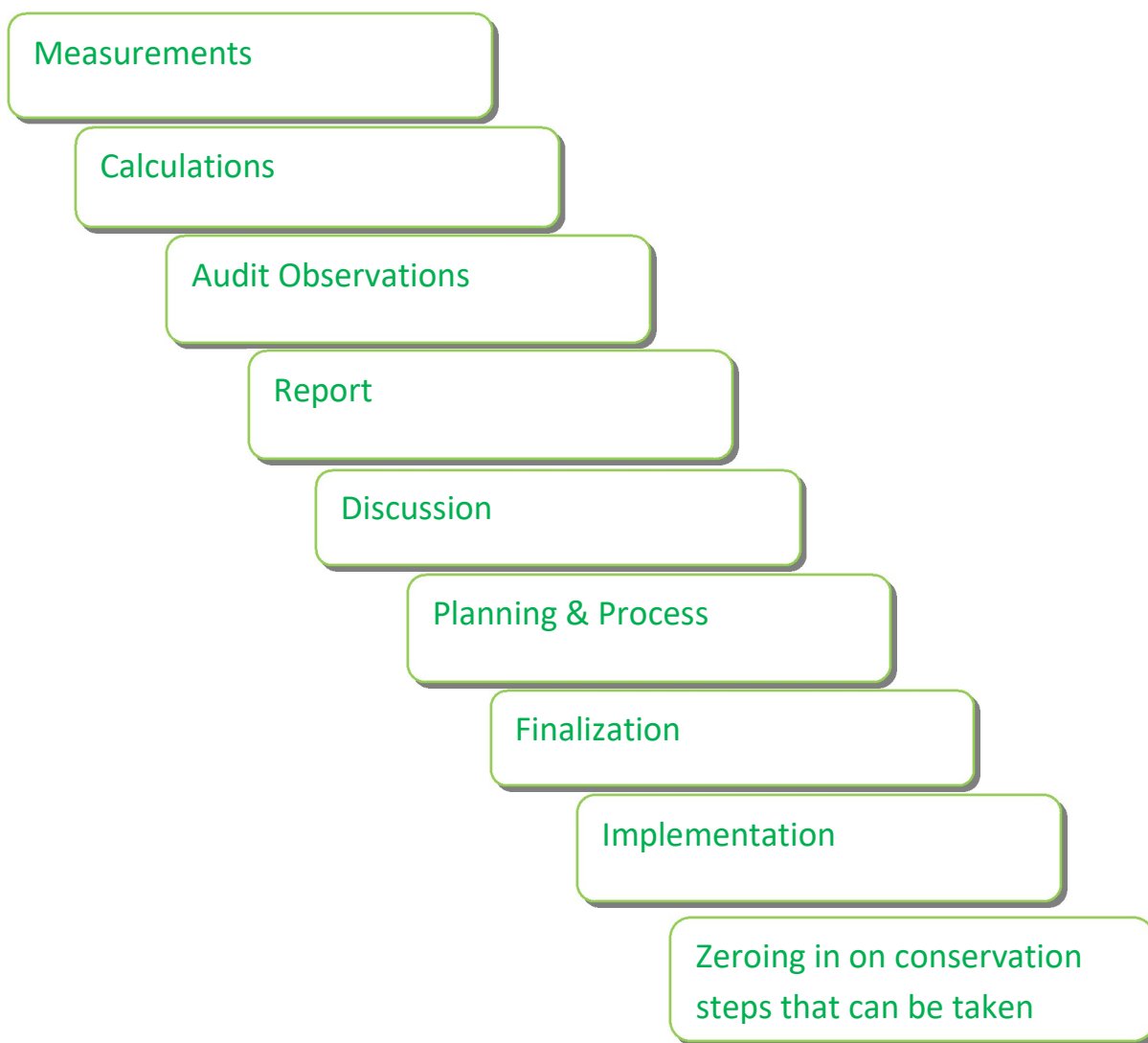**Importance of Water Audit**:

- Water audit improves the knowledge and documentation of the distribution system.
- Identifies the problem and risk areas and a better understanding of what is happening to the water after it leaves the source point.
- Leads to reduced water losses.
- Improved financial performance.
- Improved reliability of supply system.
- Efficient use of existing supplies.
- Better safeguard to public health and property and reduced legal liability.
- Reduced disruption, thereby improving level of service to customers.
- Large potential cost savings that can be achieved by water harvesting, through the recycling of water and the use of rain water.

It is observed that a number of factors like climate, culture, food habits, work and working conditions, level and type of development, and physiology determine the requirement of water. The community which has a population between 20,000 to 100,000 requires 100 to 150 liters per person (capita) per day. The communities with a population can consume over 100,000 — 150 to 200 liters person (capita) per day. As per the standards provided by WHO Regional office for South East Asia Schools requires 2 liters per student; 10-15 liters per student if water-flushed toilets, Staff accommodation requires 30 liters per person per day and for sanitation purposes it depends on technology.

i)   Water Audit:

Water usage can be defined as water used for all activities which are carried out on campus from different water sources. This includes usage in all residential halls, academic buildings, on campus and on grounds. Wastewater is referred as the water which is transported off the campus. The wastewater includes sewerage, residence, hall waters used in cooking, showering, clothes washing as well as wastewater from chemical and biological laboratories which ultimately going down in sink or drainage system.

Water Audit Process:

- Measurements
- Calculations
- Audit Observations
- Report
- Discussion
- Planning & Process
- Finalization
- Implementation
- Zeroing in on conservation steps that can be taken

ii)   Overall water consumption in Shri Vijaysinha Yadav college Peth Vadgaon Kolhapur:

From the data collected for water audit of Shri Vijaysinha Yadav College Peth Vadgaon, Kolhapur, the water distribution and water consumption pattern is noticed as follow. The college is having main building for administrative work as well for teaching work. For the water audit purpose we categorized the college campus area into three buildings namely as Building A (Main Building and office), Building B, Library, Garden. In water audit study the daily water consumption by all Buildings is found to be as follows.

Daily water consumption by All Buildings

Daily water consumption by A Building							
Site	Toilet	Laboratory	Kitchen	Garden	Drinking	Wash Basin	Water loss during Filling	Total
Total use of Water (liters/day)	4850	4000	450	2650	2250	780	20	15000
Percentage	32.34	26.67	3	17.67	15	5.2	0.14	100
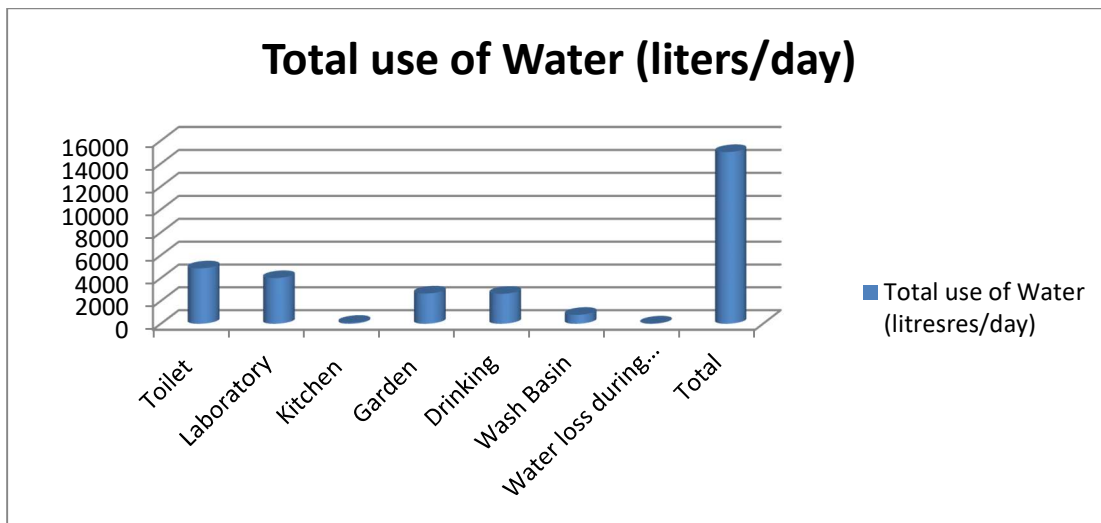
Graph No. 3.1 Daily water consumption by all buildings

The total water consumption per day for all buildings is found to be 15,000 lit/day.

c.Total Electric Energy Audit :

An electricity audit is simply an audit or calculation of how much electricity you are using in your home and of where that electricity is going. An energy audit is an analysis of a facility, indicating how and where that facility can reduce energy consumption and save energy costs. Its insight to energy efficiency and conservation can lead to significant savings on the company's utility.

Importance of Electric energy Audit:
• The audit will not only inform you of opportunities but provide you with financial analysis. This will enable prioritization based on financial benefit and return on investment.
• Provide you with solid, easy to understand technical information regarding the proposed energy conservation measures.
• A good quality audit will analyze your historical energy use and find potential issues using statistical methods.
• Provide you with emissions analysis to help you understand the benefits of your decisions from an environmental standpoint.
• Understand where energy is used and which areas are worth focusing on the most (energy hogs).
• Provide you with benchmark information to help you understand your energy use performance compared to others in your field and area.

Table No. 3.14: Number of Electrical equipment's and their energy consumption at College.

Sr. No	Instruments	Number	Watt's	Used Time in Hrs	Total Consumption (KWh)
1	Computer	82	80	2	13.12
2	Printer	9	110	2	1.98
3	Fan	49	110	2	10.78
4	Tube light	5	40	1	0.2
5	Tube light LED	29	20	1	0.58
6	LED Bulb	9	9	1	0.081
7	LED Bulb	3	12	1	0.036
8	Wi Fi Machine	2	20	1	0.04
9	Thumb Machine	1	5	0.3	0.0015
10	Bell	2	20	0.7	0.028
11	Xerox Machine	1	240	4.33	1.0392
12	Projector	1	150	85	12.75
13	Amplifier	1	120	160	19.2
14	Fridge	1	240	260	62.4
15	Ex-form	1	90	70	6.3
16	Weight Machine	1	60	110	6.6
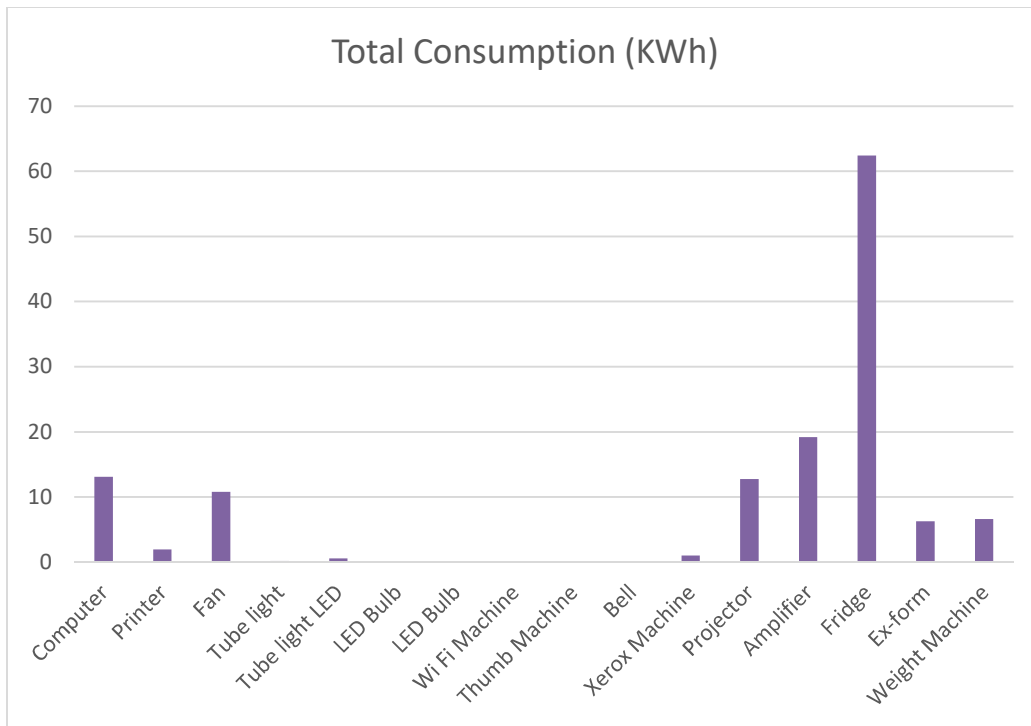
Graph No.3.11: Number of Equipments and their energy consumption at College,

- **Solar System for Electricity:**

Solar power is pollution free and causes no greenhouse gases to be emitted after installation. Reduced dependence on foreign oil and fossil fuels. Renewable clean power that is available every day of the year, even cloudy days produce some power.

The solar is installed on library building with capacity of 10 kw, and right now only used for library building using only 5.20 kw. Whatever available balance will be reversed to MSEB.

Solar Panel

d. Solid waste audit:

Solid waste management is becoming a major public health and environmental concern world over. Improper solid waste disposal leads to substantial negative environmental impacts e.g., pollution of air, soil, water and generation of greenhouse gases from landfills. Many insect borne diseases are spread through garbage. Therefore, it is necessary to manage the solid waste appropriately to reduce the load on waste management system. The intention of this inventory is to find out the quantity, volume, type and current management practice of solid waste generation in Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur.

This survey related to solid waste generation would be helpful for making the college more environments friendly.

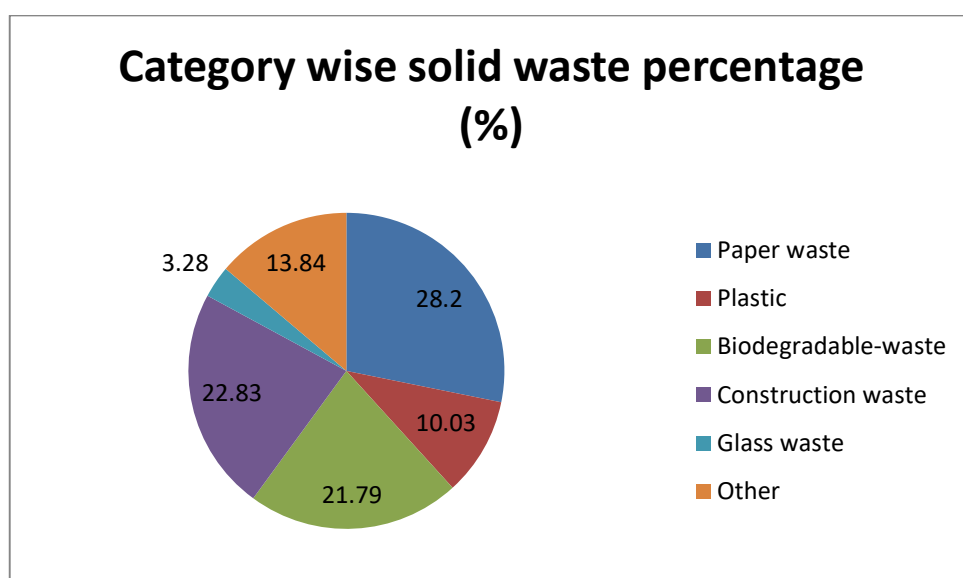- **Generation of solid waste in Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur:**

Category wise solid waste generation at Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur (kg/month)

Category of waste	Paper waste	Plastic	Biodegradable-waste	Construction waste	Glass waste	Other	Total solid waste
Quantity kg/month	16.3	5.8	12.6	13.2	1.9	8.0	57.8
Percentage (%)	28.20	10.03	21.79	22.83	3.28	13.84	100
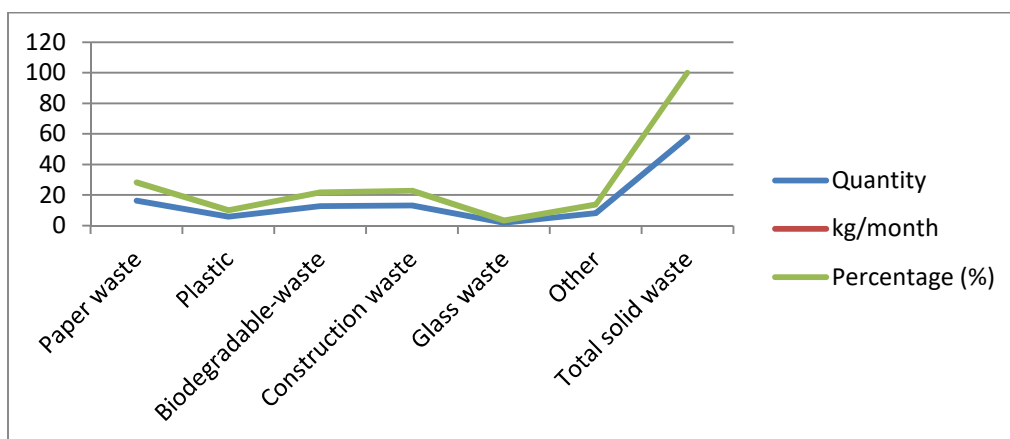
Category wise solid waste generation at Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur

The average amount of solid waste generated per month in Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur was 57.8 kg/month. On the basis of observations the highest quantity of solid waste generated is paper waste which is about 16.3 kg/month and construction waste is about 12.6 kg/month respectively. The examination department generated paper waste in large quantity in the college. The glass waste is produced in minimum quantity i.e. 1.9 kg/month. Besides, the above mentioned wastes, plastic waste is generated in the form of plastic wrappers of food items, old broken chairs, old broken water tank, etc.

Category wise solid waste percentage (%)

- **Plastic waste generation and its distribution in college campus**

Category	Plastic kg/ month				Total
	Hard	Soft	Carry bags	Other	
Quantity	0.98	0.82	2.1	1.90	5.8
Percentage	16.89	14.13	36.20	32.75	100

Categorization of plastic waste at Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur (kg / month):
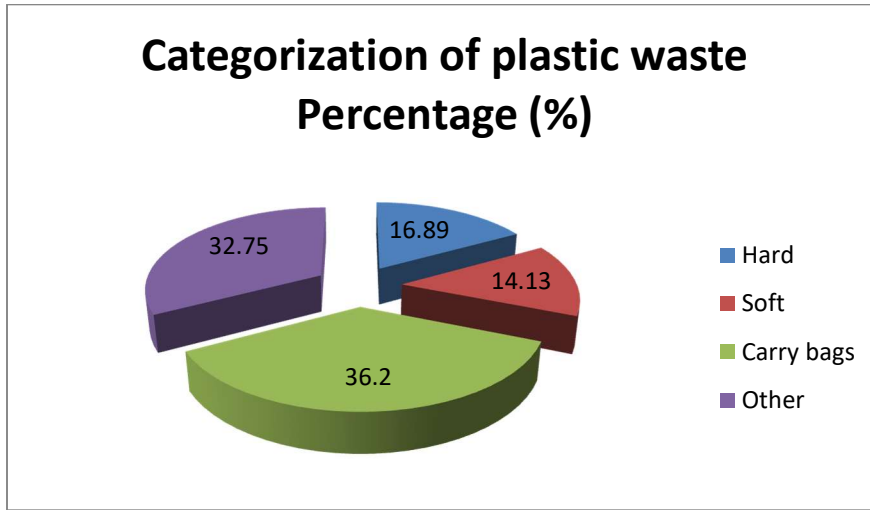
The graph shows that the hard plastic and carry bag waste is generated in higher amount which is 36.2% and 32.75% respectively. The soft plastic and other plastic waste also generated in the college is 14.13% and 16.89% respectively

e. Hazardous waste audit:

Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur is one of the well known educational institutes having 3852 student strength. This college caters the facility for Science, Arts and Commerce faculties' students in their campus. Only chemistry department having chemicals hazardous waste but they provided their chemical and water treatment plant at the back side. That image is enclosed at the bottom. If there is other waste is produces will hand over to the particular authority.

f. E-waste:

Generation of e-waste is found on every educational institute. It is observed that the E-waste generated at Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur is of Schedule II category. Computers, Printers, Laptops, Scanners, Internet Routers and Xerox machines are used for administrative work. . The wire required for the connectivity also gets included in the e waste. The college has its own computer laboratory of 50 computers. The library uses some electronic scanners which after its use can become e-waste. Presently, the college is dispatching the e waste to Shri Prince Shivaji Maratha Boarding House main office where the waste is collected centrally and it is given to authorised e waste collector.

Key Observations:

- The average waste generated in the college is. 57.8 Kg/month
- Highest quantity of solid waste is of paper waste 16.3 Kg/month
- Biodegradable waste is 12.6 Kg/month.
- Plastic waste is about 5.8 % to the total solid waste on the college campus.
- Some of the classrooms were found without solid waste baskets.
- There is need of some improvements into the collection of solid waste.
- Solid waste is to be segregated at the source.
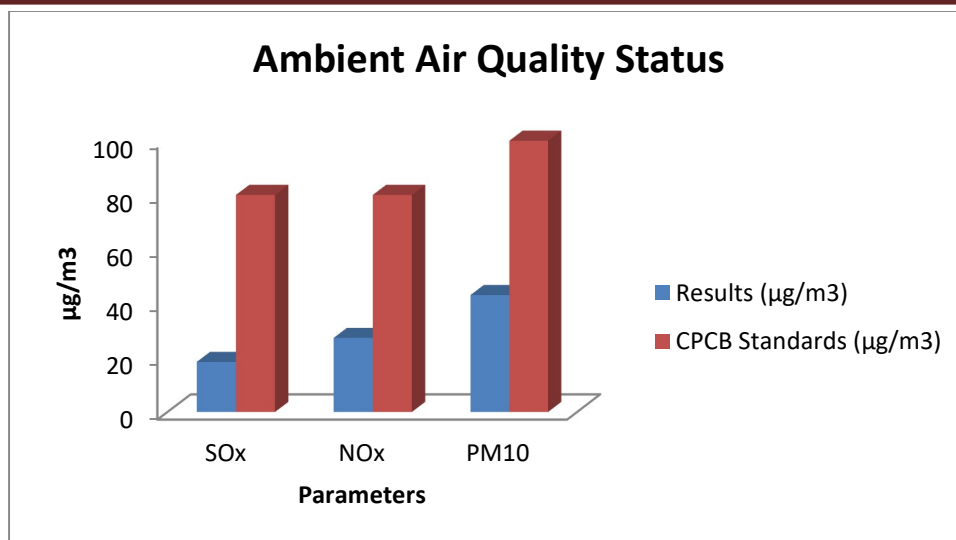
g. Ambient air quality status:

Ambient air sampling is important part of environmental monitoring. Particulate matter and trace gases sampling were carried out on the college campus. The sampling was carried out using calibrated Handy Dust Sampler APM 821 with flow rate 1 lit/min equipped with glass fibre filter paper (size 25 mm). The sampling period was 2 hrs.

Sulphur dioxide (SO_2) and Oxides of Nitrogen (NOx) in the air were estimated with West and Gaeke method and Jacob and Hochheiser modified method respectively. Particulate matter (PM_{10}) was measured gravimetrically. The samples were collected and analyzed in the approved laboratory. The details of air quality status in the college are given as bellow:

Ambient air quality status of Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur

Sr. No.	Parameters	Results ($\mu g/m^3$)	CPCB Standards ($\mu g/m^3$)
1	SO_2	18.47	80
2	NO_2	27.31	80
3	PM 10	43.11	100

It was observed that all the air quality parameters analyzed were within the Ambient Air Quality Standards of Central Pollution Control Board, India. The air quality is good in the college campus as well as surrounding.

Ambient air quality status of Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur.

h. Ambient noise monitoring status:–

Ambient noise monitoring was carried out in different areas of college campus like at college campus entry, college gate, corridor, floor and ladies hostel. The sampling was carried out using calibrated Sound Level Meter (AZ 8921) by logarithmic scale in Decibels (dB). The noise readings were collected in the college campus and calculated. The details of noise status in college campus are given as below:

Ambient Noise levels in Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur.

| Sr. No.	Site Name	Results dB (A) Leq	Standards (Day Time) dB (A) Leq
1	Front gate	56.18	50
2	College Campus	52.04	50
3	Class Room	56.82	50
4	Computer Lab	54.27	50
5	Library	48.54	50
6	Canteen	51.10	50

Note: - 1. All parameters expressed in dB (A) Leq.

      2. Monitoring is carried during day time.

      3. Day time is from 6.00 a.m. to 10.00 p.m.

It is observed from the table that the Ambient Noise levels overall in college is on higher side except ladies hostel as compared to the standards of Central Pollution Control Board for the day time.

Since the college is located adjacent of main roads and therefore, the major source of noise is automobile noise, rolling noise. The human communication and transportation are causing high level sound. It is advisable to increase the green cover in the surrounding to avoid noise.
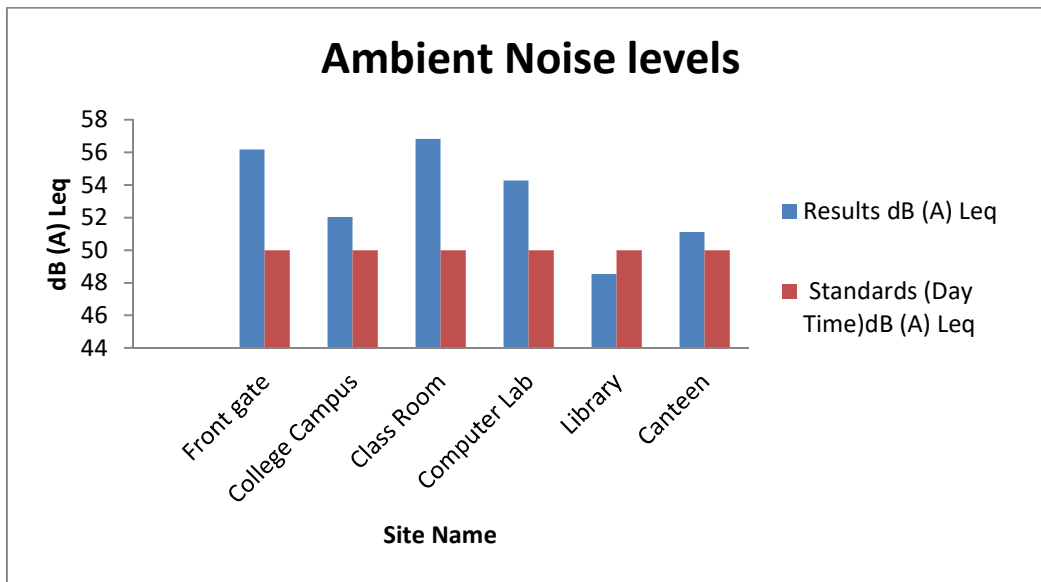
Ambient Noise levels in Shri VijaysinhaYadav college Peth Vadgaon, Kolhapur.

- **Parking and traffic management:**

  Traffic generated from this project will confluent on 15 m wide road to college.

  Parking statement:

Total parking area	2425.74 m2
Area per car	25 m2 for 4 wheeler
	4 m2 for two wheeler

(Width of all internal roads (m) : No internal roads for vehicles, there are only walk ways)

- **Bird's diversity:**

The diversity among birds is striking. ... Birds live in a variety of different habitats. Birds that live in different habitats will encounter different foods and different predators. Birds can be carnivores (feeding on other animals), herbivores (feeding on plants), or generalists (feeding on a variety of foods).

Sparrow, crow, bulbuls, Eagle, Pigeon, Cuckoo, Bat, Butterfly, hornbill, etc these species are seen regularly around the campus.

i. Details of tree census in College campus:

The beginning of the 21st century brought growing concern about global warming, climate change, food security, poverty, and population growth. CO_2 is a principle component causing global warming. Atmospheric carbon dioxide levels have increased to 40% from preindustrial levels to more than 390 parts per million CO_2. On this background it is a need of time to cover the educational campuses with green cover interrelated with climate change.

The current is a present status of tree cover, vegetation and carbon storage assessment of area under Shri VijaysinhaYadav college Peth Vadgaon Kolhapur Campus. In an era of global warming and climate change; carbon emission, carbon sequestration, mitigation, adaptation are the keywords in academia. Carbon sequestration is a phenomenon of converting atmospheric carbon i.e. CO_2 in to other pools of carbon such as vegetation, soil, ocean etc. in various forms to mitigate global warming. It is one of the important clauses of Kyoto Protocol. Current tree census methodology has been adopted from the guidelines set by Indian Institute of Remote Sensing, Dheharadoon, Govt. of India.

- **Total number of trees enumerated on Shri VijaysinhaYadav college Peth Vadgaon Kolhapur campus:**
  All the collected data was tabulated and analysed with the help of MS- Excel spreadsheets and objected findings were extracted by using various factors given by Inter governmental Panel on Climate Change (IPCC).

- **Total number of trees enumerated on Shri VijaysinhaYadav college Peth Vadgaon Kolhapur campus:** Total 328 numbers of trees with more than 10 cm girth and height more than 4 ft have been enumerated. Girth and height of every tree has been measured.

- **Total No. of species identified in Shri VijaysinhaYadav college Peth Vadgaon Kolhapur campus**

Sr. No.	Trees (Scientific name)	Number
1	Adansonia digitata	2
2	Allangium salvifolium	1
3	Alstonia macrophylla Wall. devil tree	2
4	Alstonia scholaris	3
5	Annona squamosa L. Sugar apple	1
6	Aurucaria columnaris	2
7	Azadirachta indica	3
8	Bauhinia racemosa	1
9	Bauhinia racemosa	1
10	Bauhinia sp.	3
11	Bixa orellana	1
12	Boughainvillea spectabilis	30
13	Butea monosperma	1
14	Carica papaya	1
15	Caryota urens L. Fish tail Palm	2
16	Cascabella thevetia	1
17	Cassia alata	1
18	Cassia fistula	1
19	Citrus limon	1
20	Cocos nucifera	63
21	Cycas revoluta	5
22	Delonix regia	4
23	Drypetes roxburghii	4
24	Ficus benghalensis	4
25	Ficus benjamina L. Wiping fig.	29
26	Ficus hispida	1

27	Ficus racemosa	1
28	Ficus religiosa	2
29	Gmelina arborea	2
30	Gossypium sp.	1
31	Grewia tilifolia	1
32	Hibiscus rosa-sinensis L. China rose	19
33	Ixora coccinia	11
34	Jasminum sp.	3
35	Jatropha integirrima	3
36	Lagerstroemia indica	1
37	Lagerstroemia speciosa Pers. Pride of India	1
38	Leucaena leucocephalus	1
39	Mangifera indica	2
40	Melia azadirech	4
41	Millingtonia hortensis	1
42	Mimusops elengi	2
43	Murraya koenigii	3
44	Musa paradisiaca	3
45	Mussaenda belilla	2
46	Mussanda frundosa	1
47	Neolamarkiana kadamba	1
48	Pandanus tectorius	1
49	Phyllanthus emblica	3
50	Plumeria alba	2
51	Plumeria pudica Jacq. Champa	20
52	Psidium guajava	3
53	Pterospermum acerifolium	3
54	Ravanala madagascarensis	5
55	Roystonia regia	22
56	Sapindus emarginatus L. leaf soap nut	1

57	Spathodia campanulata	1
58	Syzygium cumini	3
59	Tabernaemontana citrifolia	3
60	Tamarindus indica	9
61	Tectona grandis	4
62	Terminalia catapa	4
63	Thuja orientalis	11
64	**Total Number of Trees**	**328**

Sr. No.	Shrubs (Potted and Ground)(Scientific name)	Number
1	Pimenta dioica (L.) Merr. Allspice	1
2	Allamanda cathartica	1
3	Allamanda violacea	1
4	Aloe sp.	1
5	Asparagus sp.	2
6	Bambusa sp.	2
7	Canna indica	2
8	Canna sp.	5
9	Catharanthus roseus	7
10	Catharanthus roseus	
11	Chrysanthemum sp.	8
12	Costus specciosus crepe ginger	1
13	Crinum asiaticum L. Spider lily	3
14	Croton sp.	30
15	Dianthus chinensis L. China pink	4
16	Diffenbachia mariana	15
17	Dracaena marginata	15
18	Drypetes roxburghii	1
19	Duranta hedge	125
20	Euphorbia milii	5

21	Lisstona chinensis Fan palm	1
22	Hamelia patens	3
23	Hydrilla verticillata	1
24	Ixora coccinia	5
25	Jasminum sambac	3
26	Kydia calycina	1
27	Mirabilis jalapa	3
28	Mussaenda sp.	2
29	Nerium indicum	15
30	Nymphaea nauchali	5
31	Ocimum sanctum	7
32	Ocimum tenuiflorum	5
33	Opuntia sp.	1
34	Oxalis richardiana	
35	Polianthus tuberosa	5
36	Pothos money plant	22
37		
38	Rhoeo spathacea (Sw.) Stearn	25
39	Rosa sp.	18
40	Tabernaemontana citrifolia	3
41	Tagetes erecta zendu	6
42	Tinospora cordifolia Giloe	12
	Total shrubs	**372**

Environmental protection through activities conducted

COLLEGE BUILDING

Principal Cabin

College office

Classrooms

Zoology

Computer Science

Chemistry

Mathematics

Laboratories

Physics

Chemistry

Microbiology

Botany

Library Front Side

Library In Side

Study Room

Library Porch

Drinking water facility

Botanical Garden

Composting peat

Gymkhana

Kho Kho Ground

Gola Fek

Kabbadi Ground

Football Ground

Play Ground

Parking

Front Side of Canteen

Seeting Arrengment For Girls

Seeting Arrangment For Boy's

Kitchen

Canteen

CONCLUSION AND MANAGEMENT PLAN

The SSP Nature Solutions Environment consultant Pvt. Ltd., Kolhapur has conducted a Environment Audit of Shri VijaysinhaYadav college Peth Vadgaon Kolhapur in the academic year 2020-21. Environment Auditing is the process of identifying and determining whether institution practices are eco-friendly and sustainable. The main objective of college to carry out Environment Audit is to check green practices followed by college and to conduct a well formulated audit to understand where we stand on a scale of environmental soundness.

Conclusions:

From the Environment Audit conducted by college following are some of the conclusions which can be taken for improvement of the college campus to become environment friendly college campus.

1. College takes efforts to dispose majority waste by using proper methods.
2. Confidential paper waste is disposed properly.
3. Glass waste is to be disposed properly.
4. Electricity consumption is more at some departments.
5. Use of CFL lamps in the college is minimum. Its use should be encouraged and now converted to LED lights.
6. Toilets and bathrooms are consuming more water.
7. Roof top rain water harvesting should be planned which is useful for filling up of tanks on campus.
8. E-waste segregation, handling and disposal are properly done.
9. Practice of waste segregation to be initiated.
10. Air quality on the campus is good.
11. Conduct more seminars and group discussions on environmental education and awareness.

Recommendations:

Following are some of the key recommendation for improving campus environment.

1. College should develop its own Environmental Policy by using guidelines given in Environment Audit document.

2. The data related to all measured environmental parameters should be monitored and recorded regularly and information be made available to administration.

3. The college should develop internal procedures to ensure its compliances with environmental legislation and responsibility be fixed to carry out it in practice.

4. Wherever possible the waste should be reused or recycled.

5. All street lighting should be changed to LED lights to save electricity.

6. Rain water harvesting must be installed.

7. Drip irrigation for gardens and vegetable cultivation can be initiated.

8. Practice of waste segregation to be initiated.

ENVIRONMENT MANAGEMENT PLAN:

By understanding the dynamics of present situation of resource utilization and current practices of waste disposal we have prepared an Environment Management Plan (EMP) for the Shri VijaysinhaYadav college Peth Vadgaon Kolhapur Dist. Kolhapur. This plan not only will provide the strengths, weaknesses and remedies for the green and clean campus but also give priority of the sector where the college has to give more efforts to improve its environment.

Sector	Strengths	Suggestions
Solid Waste		
Paper	1. Pulping of major portion of papers i.e. answer sheets, bills and other administrative papers. 2. Use of one sided papers in many departments and main building	• Towards paperless office: More use of e-mails, e-money transfer and advance IT technology for communication
Plastic	Reuse of plastic at some departments	• Segregation of waste at the source and sending plastic waste for recycling • Ban on Plastic carry bags in College premises
Biodegradable waste	Solid waste generated	• Segregation of solid waste help in composting process
Energy		
Electricity	Use untraditional source of energy	• Employment of more solar panels and other renewable energy sources. • Electrification of street lights by solar power. • Use of solar pumps for water tanks. • General awareness about electricity saving.
Fuel	Use of public Transport system is comparatively more by staff and students.	• 'Cycle on rent' service for student • General awareness about efficient use of fuel.
Water		
Water utilization	College has potential of Rain water harvesting.	• Installation of automatic water pumps to avoid overflowing losses • Proper and timely maintenance of plumbing at all departments • Installation of rain water harvesting assembly.

Hazardous Waste		
E-waste	• E waste is sent to E waste collection center at Kolhapur.	• There must be segregation of e-waste from regular waste and also among the e-waste. • E-waste in all forms not only computers, should be collected properly
Air and Noise		
Air and Noise	Air quality is still in good condition	The plantation can be increased by vertical gardening.
Tree Census		
Tree Vegetation	There is requirement of Tree Plantation	Avoid monoculture, variety of species should be planted in campus area