



Shri Shivaji Education Society's
Shri Shivaji College of Education
SHIVAJI NAGAR, AMRAVATI 444 603 (M.S.) INDIA
NAAC Reaccredited 'A' Grade with CGPA 3.53

**GREEN, ENVIRONMENT AND ENERGY
AUDIT REPORT
2021-2022**



Prepared by
IQAC
Shri Shivaji College of Education, Amravati
And
Shri Shri Enviro Consultancy, Amravati

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Date,

To,
Principal,
Shri Shivaji College of Education,
Amravati

It is to certify that we Shri Shri Enviro Consultancy, Amravati conducted "GREEN, ENVIRONMENT AND ENERGY AUDIT" of the campus of Shri Shivaji College of Education, Amravati for the Academic Year 2021-2022.



S. V. Bute
Proprietor

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1. Introduction

The term environment refers to the sum total of physical, biological and cultural elements which are interlinked individually as well as collectively in myriad ways and which surrounds man at a given point in space and time. Physical elements (space, landforms, water bodies, climate, soils, rocks and minerals) determine the variable character of the human habitat, its opportunities as well as limitations. Biological elements (plants, animals, micro-organisms and man) constitute the biosphere. Cultural elements (economic, social and political) are essentially human made features, which go into the making of cultural milieu. All these elements are so intimately related with each other that changes in one affect the others.

Environmental degradation is a very serious problem worldwide which covers a variety of issues including pollution, biodiversity loss, and animal extinction, deforestation and desertification, global warming, and a lot more. The environmental degradation is deterioration of the environmental through depletion of resources which includes all the biotic and abiotic element that form our surrounding that is air, water, soil, plant, animals, and all other living and non-living element of the planet of earth. Environmental degradation is also having a useful aspect, more new genes have been created, and some species have grown as someones have declined. For natural selection, species are constantly regenerating as the environment changes, and human activity is the main driver's power. Human is also a product of nature; this shift is to natural replacement.

Most of the people about three-fourths of its population depends directly for their livelihood on activities based on natural resource and the remainder of the population relies on these resources directly for food, fuel, industrial output, and recreation. Most of the natural resources including the environment in India are in a serious state of degradation. The use of agriculture fertilizer is a major factor for the degradation of soil quality, soil erosion, salinity and general loss of fertility of agricultural land as well as the loss of the production of the quality crop. Similarly, groundwater aquifers are overexploited in many arid and semi-arid areas, surface water sources are highly polluted and consequently, water for drinking and irrigation is increasingly getting scarce and polluted. Fishery yields are declining, and air quality is deteriorating. Increasing levels of air, water, and land pollution pose a serious threat to human health and longevity. Good environmental management is essential for economic

growth and development. It is not a sometime mistakenly asserted just a luxury for wealthy countries concerned with aesthetics. Climate change and environmental degradation affect all types of development projects in all countries. If the development agencies are seriously contributing to the reduction of poverty in the communities in which they work, they must give consideration to the climatic and environmental hazards which impact their projects. Climate change and environmental degradation are proceeding rapidly and are already affecting many communities in developing countries. It is reported that slowing population growth could provide 16-29% of the emissions reductions, and suggested to be necessary by 2050 to avoid dangerous climate change. His study in 35 countries suggested that, slowed population growth could save 1.4 to 2.5 billion tons of carbon emissions per year by 2050, certainly help to solve the climatic problem.

The major factor of environmental degradation is human (modern urbanization, industrialization, overpopulation growth, deforestation, etc.) and natural (flood, typhoons, droughts, rising temperatures, fires, etc.) cause. Environmental pollution refers to the degradation of the quality and quantity of natural resources. Different kinds of human activities are the main reasons for environmental degradation. The automobile and industries increase the number of poisonous gases like SO_x, NO_x, CO, and smoke in the atmosphere. Unplanned urbanization and industrialization have caused water, air, soil, and sound pollution. Industrialization, urbanization, and sewage waste help to increase pollution of the sources of water. Similarly, the smoke emitted by vehicles and industries like Chlorofluorocarbon, nitrogen oxide, carbon monoxide, and other dust particles pollutes the air. Since man began to use tools and gradually formed a society, he began to play an important role in the evolution of the natural environment.

The term audit is derived from a Latin word “audire” which means to hear authenticity of accounts is assured with the help of the independent review. Audit is performed to ascertain the validity and reliability of information. Examination of books and accounts with supporting documents to detect and prevent error, fraud is the primary function of auditing. And its ultimate aim is to verify the financial position disclosed by the balance sheet and profit and loss accounts of a company In short, an audit implies an investigation and a report. The process of checking continues until the study is completed and the auditor prepare to report.

Environmental Audit is evaluation with objectives. As an evaluation tool, Maintenance of proper accounts on environment and natural resources will check their depletion and degradation and ultimately protect the loss of economic growth and public health and assist to measure economic performance more accurately. As such, economic growth has measured through the prevailing system of national income accounting is, far from reality and is overstated since it does not take into account the amount of natural resources used, the damage caused and the changes incurred by their use in economic growth. Environmental auditing is a management tool comprising a systematically documented, periodic and objective evaluation of the performance of the organization to protect the environment with the aim of facilitating management control of environmental practices.

The term “Green” means eco-friendly or not damaging the environment. This can acronymic ally is called as “Global Readiness in Ensuring Ecological Neutrality” (GREEN). Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of institute. It aims to analyze environmental practices within and outside of the concerned place, which will have an impact on the eco-friendly atmosphere.

Green audit is a valuable means for a college to determine how and where they are using the most energy or water or other resources; the college can then consider how to implement changes and make savings. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus, it is imperative that the college evaluate its own contributions toward a sustainable future. “Green Accounting” can be defined as, systematic identification quantification, recording, reporting & analysis of NAAC Sponsored Two Days National Seminar on “Green Auditing”, an umbrella term, is known by another name “Environmental Auditing”.

It is necessary to conduct a green audit in college campus because student aware of the green audit, its advantages to save the planet & they become good citizen of our country. Green audit and sustainable development process help to reduce the wastage and associated cost as well as increases the product quality. Obviously, there is relationship between Green

Audit and Sustainable Development of the any business organization. The primarily needs for achieving the sustainable development of the business are to determine the Green Audit policy. Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of institute.

**Photographs of Shri Shivaji College of Education:
Building**



Aesthetic Garden



Botanical Garden



Parking



Girls Common Room



Multipurpose Hall



Ph. D. Cell



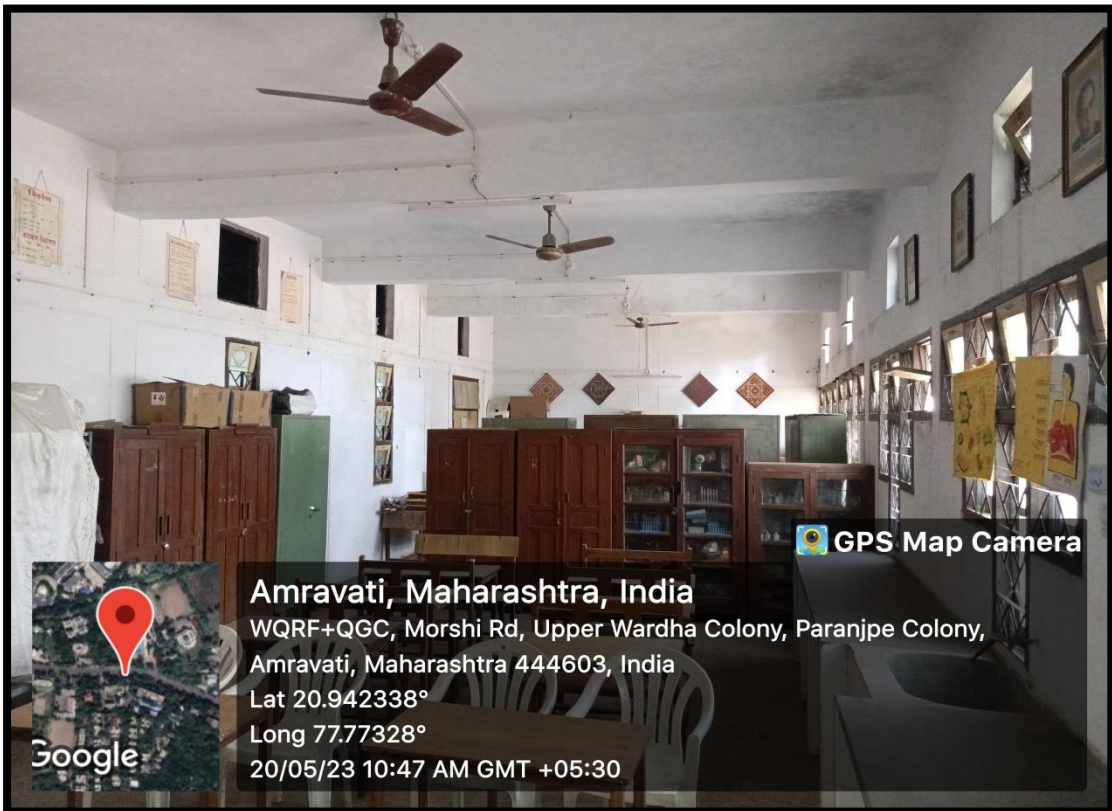
Knowledge Resource Centre (Library)



Solar Panel



Science Lab



2. About College

Shri Shivaji College of Education was established in June 1960 and is run by well known Shri Shivaji Education Society, Amravati founded by Dr. Panjabrao Deshmukh. The college is affiliated to Sant Gadge Baba Amravati University, Amravati (M.S.) India and is located in the heart of Amravati city on old N. H. no. 6. The college have two storied building, a huge play ground, boy's and girl's hostels and ample resources required for Education and Physical Education studies. Principal and the staff of college always take initiatives to conduct various activites and exert for the betterment of student's mental and physical performance.

2.1 Vision of the college

To provide healthy environment for all round development of pupils and impart qualitative and valuable service in the field of teacher education to provide well-trained and responsible teachers to the society in the field of education.

2.2 Mission of our college

1. To impart qualitative and valuable services in the field of teacher education to the students.
2. To inculcate discipline in terms of regularity, sincerity and punctuality among students.
3. To provide atmosphere for the all round development of the students.
4. To develop civic sense among students.
5. To inculcate values among students.
6. To develop aesthetic sense among students.
7. To provide responsible teachers to the society.
8. To attain community and social development through infrastructural facilities of institution.
9. To provide facilities in research work to the research scholars in the field of education.
10. To develop school- institution- community networking.
11. To turn out physically sound and mentally alert teachers.
12. To create sportive atmosphere among the college and society.
13. To provide healthy atmosphere for the society.
14. To encourage youths in development of all round personality through education.
15. To Relize the dream of late Dr. Panjabrao Allies Bhausaheb Deshmukh of creating society useful, mentally alert and physically sound youths for the society.

2.3 Institution Distinctiveness

The college was founded by Dr. Panjabrao alias Bhausaheb Deshmukh, an erudite scholar, an educationalist, agriculturalist and the union minister of Agriculture, Govt. of India, who recognized the need of teacher training. The institute has been established in 1960. Shri shivaji college of education is the only privately managed aided institute of teacher training in the Sant Gadge Baba Amravati university. This is the only aided institute in entire Amravati district.

Vision of the institution is to mold and empower students in the pursuit of Knowledge, values and social responsibility and help them to achieve excellence in the field of education. The institution is always inspires the students in the pursuit of knowledge, values and social responsibility.

All teaching faculty members are having Ph.D.

Institution have highly qualified and dedicated faculty to impart and inculcates the cultural and social values among the stakeholders.

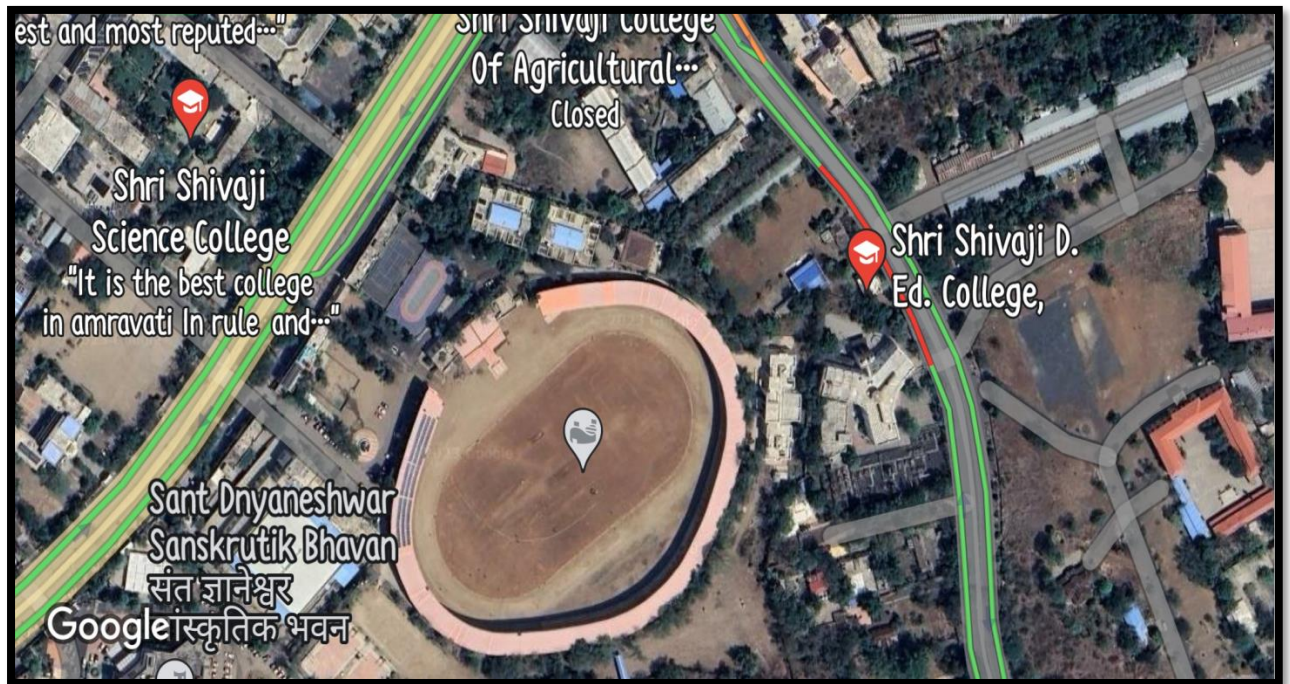
Adequate and well- maintained infrastructure, well-equipped Laboratories, Girls'hostel.

ICT facilities in teaching learning and administrative process.

Research center in Education is established for Ph.D. aspirant students. This center is recognized by Sant Gadge Baba Amravati University.

2.4 Geographical Location with Campus Satellite Image

Land use map of the study area have been prepared using the help of Google map.



2.5 Land Use Data

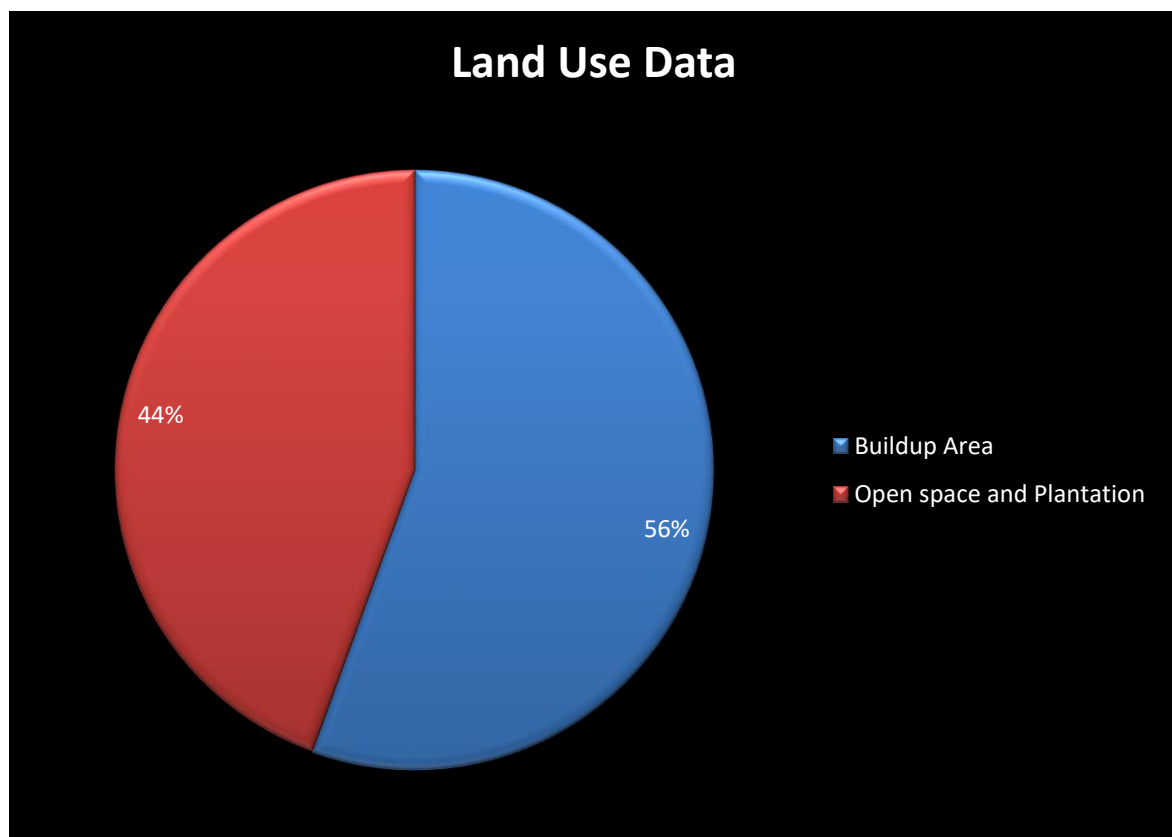
Shri shivaji college of Educaation, Amravati is within the geo-position between Latitude - 20.941769°N and longitude Latitude 20.941769°E in Amravati, Maharashtra, India. It encompasses an total area of about 18000 Sqm.

The college has following land use pattern:

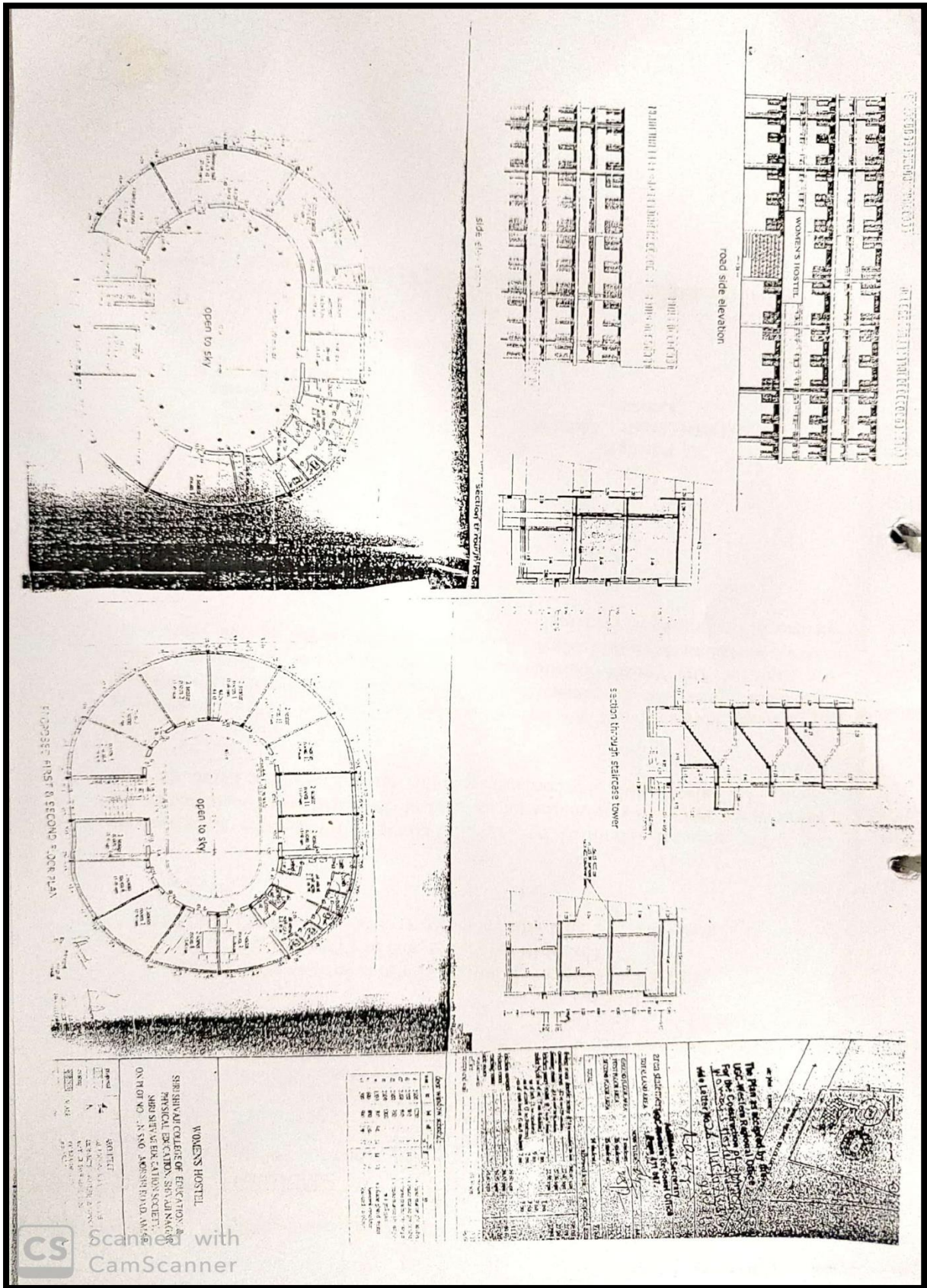
Categories of Land Use Area in sqm

Buildup Area	10000
Open space and Plantation	8000
Total Area	18000

The total area of Shri shivaji college of Education is 18000 sqm out of which the buildup area 55.55 % (i.e. 10000 sqm) and open space and plantation area is 44.44 % (i.e. 8000 sqm).



Collage Layout Plan



CS Scanned with CamScanner

3. Aim and Objective

The main objective of the environment, green and energy audit is to promote the Environment Management and Conservation in the College Campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards.

The main objectives of carrying out Green Audit are:

- To identify strength and weakness in green practices conducted in college campus with regard to the water, air, noise, solid waste, energy, transportation for efficient resource management etc.
- To estimate and reduce the energy consumption of the college.
- For waste management through reduction of waste generation, solid waste etc.
- To document and minimize consumption of water in college.
- For developing an environmental ethic and value systems in youngsters.
- To increase environmental consciousness throughout the campus among all the stakeholders.
- To motivate staff as well as students for optimized sustainable use of available natural resources to empower the organizations to frame a better environmental performance and to enhancement of college profile.

4. Methodology

This is the first attempt to conduct green, environmental and energy audit of Shri Shivaji College of Education, Amravati. In order to perform green environmental and energy audit, the methodology divided into three stages i.e. Pre-Audit stage, Audit stage and Post Audit stage.

The Audit Process:

In achieving a successful audit, the value of good planning and preparation cannot be overemphasized. Proper planning should ensure that appropriate resources and equipment are available and adequate time is allocated to carry out the audit in the most efficient and effective way.

4.1 Pre-Audit Stage

Pre- Audit stage is primary stage of green audit and various preparatory works. The first action of pre-audit is to conduct the pre-audit meeting with different representative of stakeholder of college. A pre-audit meeting provided an opportunity to face to face discussion on green audit. The pre-audit meeting was held at Shri Shivaji College of Education, Amravati on starting of session. The pre-audit activity includes the identified and establishing the scope and objective of audit. Dividing the college campus according to green audit performing point of view. The audit plan was designed based on available resources, time duration for achieving the sustainability. The target areas of green auditing, audit team and assignment of responsibility were established. Collection and review of all necessary documents, relevant standards were collected and preparation of questionnaire for audit.

4.2 Audit Stage / On-Site Audit Activity

The audit stage include survey by questionnaire, review of documents and records, review of policies, interviewing of key persons (stakeholders), physical inspection of college campus, monitoring and analysis of air, water, noise quality, flora and fauna, energy consumption, solid waste generation and disposal, carbon footprint in campus.

4.2.1 Survey by Questionnaire

Data for green environmental and energy audit report preparation was collected by questionnaire survey method. Questionnaires prepared for actual green auditing in the college campus is based on the guidelines, rules, acts and formats prepared by Ministry of Environment and Forest, New Delhi, Central Pollution Control Board. Most of the guidelines and formats based on road aspects and some of the issues or formats were not applicable for college campus. The sets of questionnaires were prepared as solid waste, energy, water, solid waste, etc. With the help of questionnaires some data related to audit is collected from students, employers by interaction with them. All the questionnaires comprise general information of the concerned section.

4.2.2 Review of Documents and Records

In this step the audit team collect the entire document which essential for performing green audit. Documents were collected from office and different sources of college. Documents and records include college map, college campus layout, college annual report, college prospectus, total numbers of staff and student, electricity bill and water sources and bill, infrastructure details, rain water harvesting project, solar plates, NAAC guideline document regarding to green audit, eco-friendly activities and programmes conduct by college etc. All collected document was properly read and study by consulting agency and noting used for future analysis.

4.2.3 Physical Inspection of College Campus

Physical inspection of college includes the onsite inspection and monitoring of college campus. The college and its premises were visited and analyzed by the audit teams several time to gather information. The audit team was in the college to inspect the campus regarding to the data related to infrastructure, biodiversity and tree census, transportation (vehicles), energy survey, solid waste generation, carbon footprint, water use and waste etc. All data is verified personally by audit team. Personal observations were made during the onsite visit. For monitoring of water use, number of times of filling of tanks per day, time for overflowing etc is periodically supervised.

4.2.4 Interviewing of Key Persons (Stakeholders)

In order to collect information for auditing interviews were conducted with the management, principal, office staff, teaching and non-teaching staff, students and other stakeholders of the college. Interview was conducted regarding to strength and weaknesses of green practices taken by college.

4.3 Post Audit Stage

The post audit stage includes the data analysis and preparation of green audit report and follow up plan. All data collected through survey by questionnaire, review of documents and records, review of policies, interviewing of key persons (stakeholders), physical inspection of college campus, monitoring and analysis of air, water, noise quality, were cross checked during the personal visit. All data were tabulated in excel spreadsheets and further analysed by using different software to find out the result in percentile format. For better understanding of the results and to avoid complications, averages and percentages of the tables were calculated. Audit findings are generated by evaluating the audit evidence collected before and during the site inspection against the audit criteria. Interpretation of the overall outcomes is included in final green audit report with possible recommendations. Only information that has been verified should be used as audit evidence. In follow up plan include periodic monitoring of environmental status of campus and the implementation of recommendation suggested by green audit expert etc will be follow.

5. Observations

GREEN AUDIT

5.1 Floral Diversity of College

The Shri Shivaji College of Education area is immensely diverse with a variety of tree species performing a variety of functions. College has developed aesthetic and botanical garden in the premises and also develops ornamental plants in earthen pot in college corridors. To create- green cover, eco-friendly atmosphere, pure oxygen at the college campus, plantation program is organized every year. The trees of the college have increased the quality of life, not only the college fraternity but also the people around of the college. Many species of birds are dependent on these trees mainly for food and shelter. Nectar of flowers and plants is a favourite of birds and many insects. Leaf – covered branches keep many animals, such as birds and squirrels. Thus, the college has been playing a significant role in maintaining the environment this includes the plants, greenery and sustainability of the campus to ensure that the buildings confirm to green standards. Total 249 different plants species become recorded during the physical inspection of college campus and total 62 different ornamental plants develop in earthen pot.

List of plants species found in the campus is as below:

Sr. No.	Common Name	Botanical Name	Number
Aesthetic Garden			
1	Ashoka	<i>Saraca asoca</i>	12
2	Mango	<i>Mangifera indica</i>	03
3	Chandan	<i>Santalum album</i>	06
4	Jamun	<i>Syzygium cumini</i>	04
5	Parijat	<i>Nyctanthes arborescens</i>	02
6	Plam	<i>Roystonea regia</i>	05
7	Sitafal	<i>Annona reticulate</i>	02
8	Yellow elder	<i>Tecoma stans</i>	05
9	Yellow Jacaranda	<i>Tipuana tipu</i>	03
10	Kanchan	<i>Bauhinia variegata</i>	04
11	Jaswant	<i>Hibiscus rosa-sinensis</i>	01
12	Kadubadam	<i>Terminalia catappa</i>	01
13	Thuja	<i>Thuja compacta</i>	04

14	Heena	<u>Lawasonia inermis</u>	42
15	Neem	<u>Azadirachta indica</u>	01
	Total		95
Botanical Garden			
1	Mango	<u>Mangifera indica</u>	01
2	Chandan	<u>Santalum album</u>	03
3	Jamun	<u>Syzygium cumini</u>	02
4	Parijat	<u>Nyctanthes arborescens</u>	01
5	Sitafal	<u>Annona reticulate</u>	01
6	Kanchan	<u>Bauhinia variegata</u>	05
7	Jaswant	<u>Hibiscus rosa-sinensis</u>	03
8	Indian Horse Chestnut	<u>Aesculum indica</u>	08
9	Heena	<u>Lawasonia inermis</u>	03
10	Neem	<u>Azadirachta indica</u>	01
11	Ashoka	<u>Saraca asoca</u>	03
12	Amala	<u>Phyllanthus emblica</u>	01
13	Nilgiri	<u>Eucalyptus globulus</u>	01
14	Peepul	<u>Ficus racemosa</u>	01
15	Lemon	<u>Citrus limon</u>	01
16	Jasmine	<u>Tabernaemontana divaricata</u>	03
17	Cluster	<u>Ficus racemosa</u>	02
18	Papaya	<u>Carica papaya</u>	01
19	Banyan	<u>Ficus benghalensis</u>	01
20	Jungle cork	<u>Holoptelea integrifolia</u>	02
21	Rose	<u>Rosa indica</u>	12
22	-	Schleinitzia	04
	Total		60
Open Space and Parking			
1	Heena	<u>Lawasonia inermis</u>	75
2	Thuja	<u>Thuja compacta</u>	01
3	Sitafal	<u>Annona reticulate</u>	01
4	Jamun	<u>Syzygium cumini</u>	02
5	Chandan	<u>Santalum album</u>	02

6	Neem	<u><i>Azadirachta indica</i></u>	01
7	ABC (Unknown Species)	-	05
8	DEF (Unknown Species)	-	03
9	GHI (Unknown Species)	-	01
10	JKL (Unknown Species)	-	03
	Total		94
	Pot species	Total	62

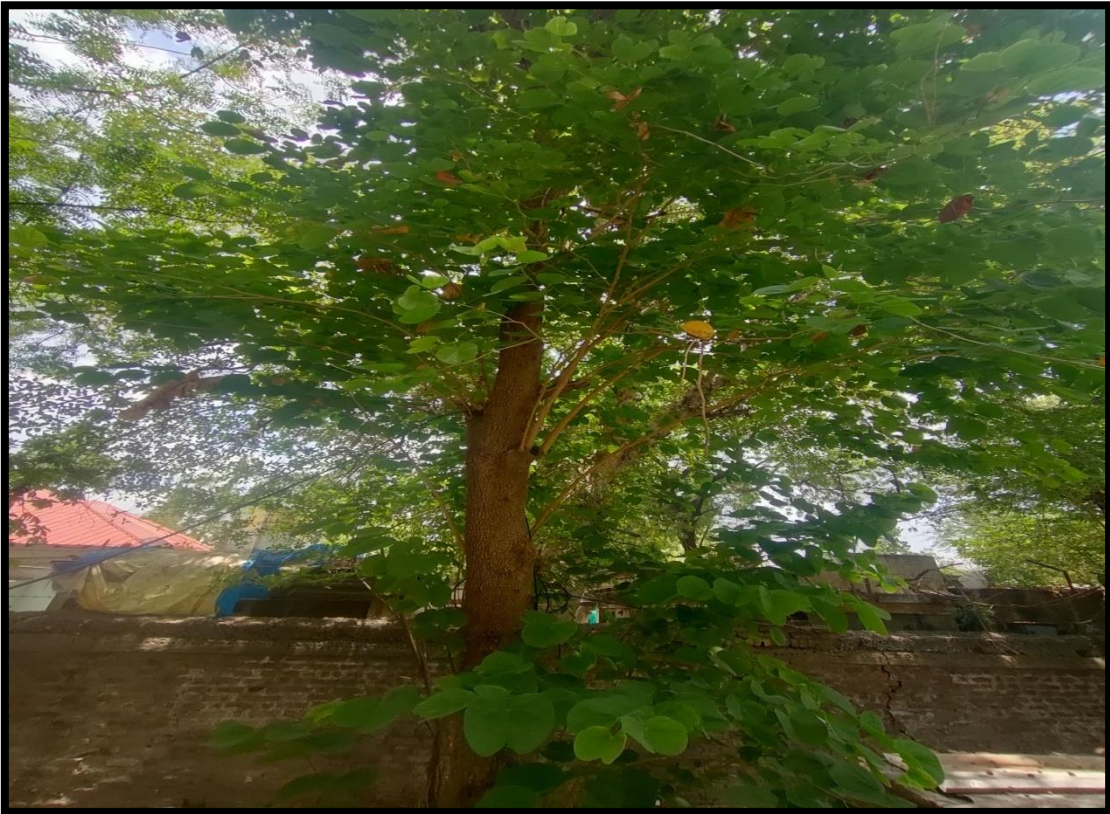
Mangifera indica



Royal poinciana



Bauhinia variegata



Santalum album



Emblica officinalis



Azadirachta indica



Saraca asoca



Terminalia catappa



5.2 Faunal Diversity of College

Shri Shivaji College of Education is located geo-position between Latitude - 20.941769°N and longitude Latitude 20.941769°E in Amravati City, Maharashtra State, India. College campus consists of main building, aesthetic and botanical garden area, open place, parking etc. So, campus green cover, openness and availability of food and water is suitable for different faunal species. In the fauna, several species of butterflies, dragonflies, moths, spiders, amphibians, reptiles, birds and mammals have been recorded and documented from the college campus. Many animals are present in campus are dependent on the trees mainly for food and shelter. Flowers and fruits are eaten by monkeys, and nectar is a use by birds and many insects. Leaf – covered branches of tree keep many animals, such as birds and squirrels, out of reach of predators.

The faunal diversity from different habitats in Shri Shivaji Science College Amravati Campus is very rich represented by various groups of animals. So far, the faunal studies have recorded a total of 87 species, of which 15 species of Butterflies. 05 species of dragonflies, 06 species of moths, 08 species of spiders, 05 species of Mammals, 36 species of Birds, 06 species of Reptiles, and 06 species of Amphibians.

Highest number of birds and butterfly species were recorded from Gardens of College campus followed by open land, Road side plants, mixed scrub and seasonal ponds. This pattern of high species diversity in Botanical and Aesthetic garden is due to high plant diversity, heterogeneous habitat availability and protection.

Indian rock agama



Common garden skink



Asian toad



Indian tree frog



Ground skimmer



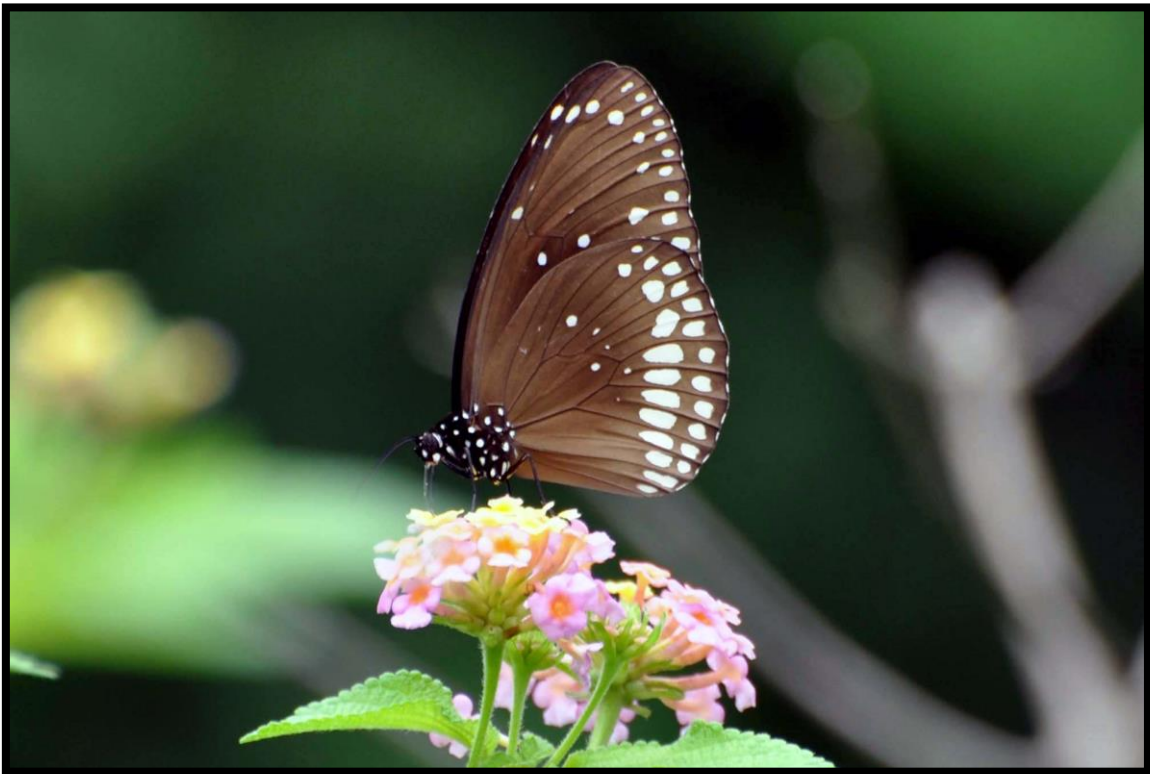
Alexandrine Parakite



White-breasted Kingfisher



Common Crow



Lime Butterfly



Five striped Squirrel



Hanuman Langur



5.3 Solid Waste Audit

Solid waste pollution is a biggest problem of 21st century. The “Use and throw” culture is highly growing and spreading in society. When useful things become useless, they are thrown out as a waste, it makes serious affect to environmental. Solid waste audit includes the waste production and disposal of different wastes like paper, food, plastic, biodegradable, hazardous, construction, glass, E- waste etc. Shri Shivaji College of Education basically education (B.Ed.) College, overall population of college is near about 118.

During the onsite audit of solid waste overall 16.5 kg per day biodegradable waste generated it is mainly consist of dropping of leave. Quantity of biodegradable waste varies according to season. Biodegradable waste also mainly consists of leaves and waste paper of office, library and students. Most of the departments including office, library is major contributing in the paper waste generation. Very less amount of plastic waste generated near about 100 gm per day during the working days of college. E-waste generated in the campus is very less in quantity. Administration conducts the awareness programmes regarding E-waste Management with the help of various departments. Metal waste, e-waste and wooden waste is stored and given to authorized scrap agents for further processing.

Overall college campus having open area with plantation so tree dropping waste such as leaves become naturally mix with soil and decomposed. Waste bins are placed at several points in the college to collect food waste and these are collected by workers. The college has adopted pit composting and vermicomposting activity in open space for tree leave in campus. The main purpose of this is to reduce biodegradable waste in the college campus. Manual generated through pit composting activity is utilised for gardening activity. Paper waste can be reduced by maximizing e-communication and e-learning. College adapted the use of one side papers is for reducing paper waste.

Solid Waste Data:

Sr. No.	Location	Type Biodegradable Waste/ Plastic Waste/ E-waste	Contents
1	Library	Biodegradable	Paper
2	Computer Centre	E- Waste	Keyboard CPU Mouse AC
3	Physiology Lab	Biodegradable	Paper
4	Science Lab	Biodegradable/Plastic	Packing Material
5	Girl Common Room	Biodegradable	Sanitary Waste
6	Dept. of Physical Education and Sport	Biodegradable	Paper
7	Administrative Office	Biodegradable	Paper
8	Staff Room	Biodegradable/Plastic	Paper/Drinking Bottle
9	Multipurpose Hall	Biodegradable/Plastic	Paper/Plastic Cups
10	Research Cell (YCMOU)	Biodegradable	Paper
11	Botanical Garden	Biodegradable	Leaves/Branches
12	Aesthetic Garden	Biodegradable	Leaves/Branches
13	Method Room Commerce/Social Science/Language	Biodegradable/Plastic	Paper/Wrapper
14	ET Lab	Biodegradable/Plastic	Paper/Wrapper

ENVIRONMENTAL AUDIT

5.4 Water Audit

The study observed that the corporation tap water and borewell water are main sources of water in College. Overall one borewell present in to the aesthetic garden back side of main building and one corporation tap located at botanical Garden. Water is used for drinking purpose, toilet, gardening etc. Overall tap water is use for drinking purpose and borewell water is used for gardening purpose. During the onsite audit no loss of water is observed neither by any leakages nor by over flow of water from overhead tanks in all over the college campus.

On an average the total use of water in the Shri Shivaji College of Education campus is 1600 to 2000 L/Day, which include 500 to 700 L/Day for gardening, 250 to 300 L/Day in main building for staff and students drinking purposes, 600 L/Day used for the toilet and urinal. According to seasonal variation consumption of water is affected.

Sources of Water

Following are the sources of water in college campus

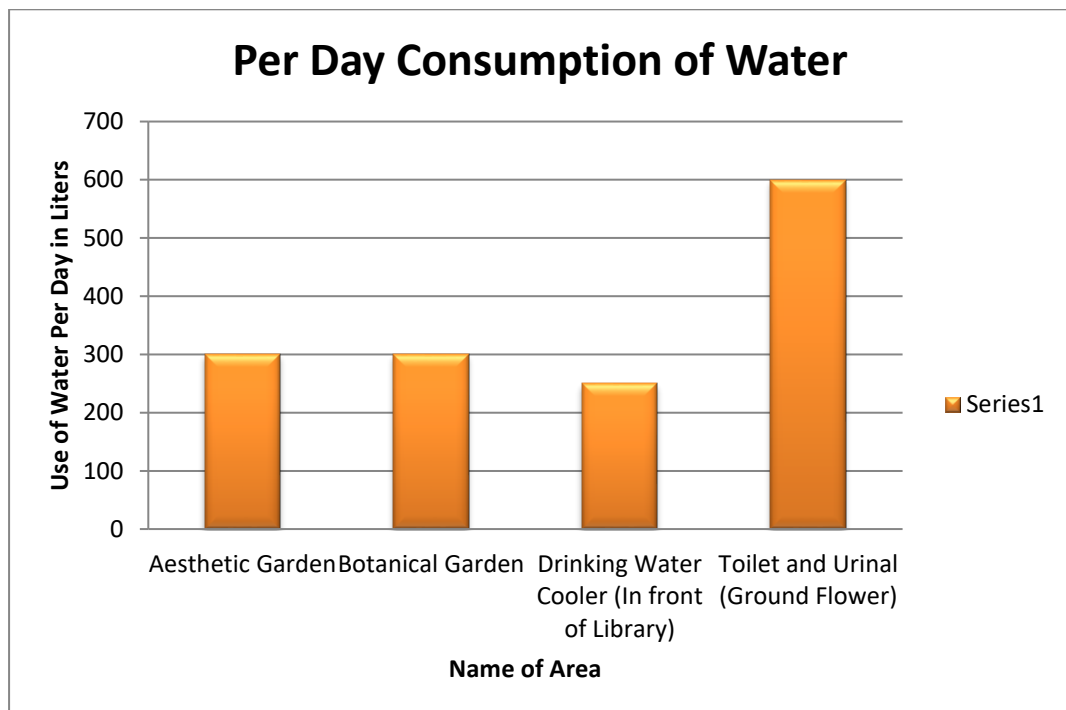
Sources	Well	Corporation	Bore	Other
Total No. & Location	-	Total No. of Tap – 01 Location – Botanical Garden	01 Aesthetic Garden (In Well)	-

Capacity & Per Day Use of Water

Following are the campus location wise capacity of storage tank and per day consumption of water in college campus

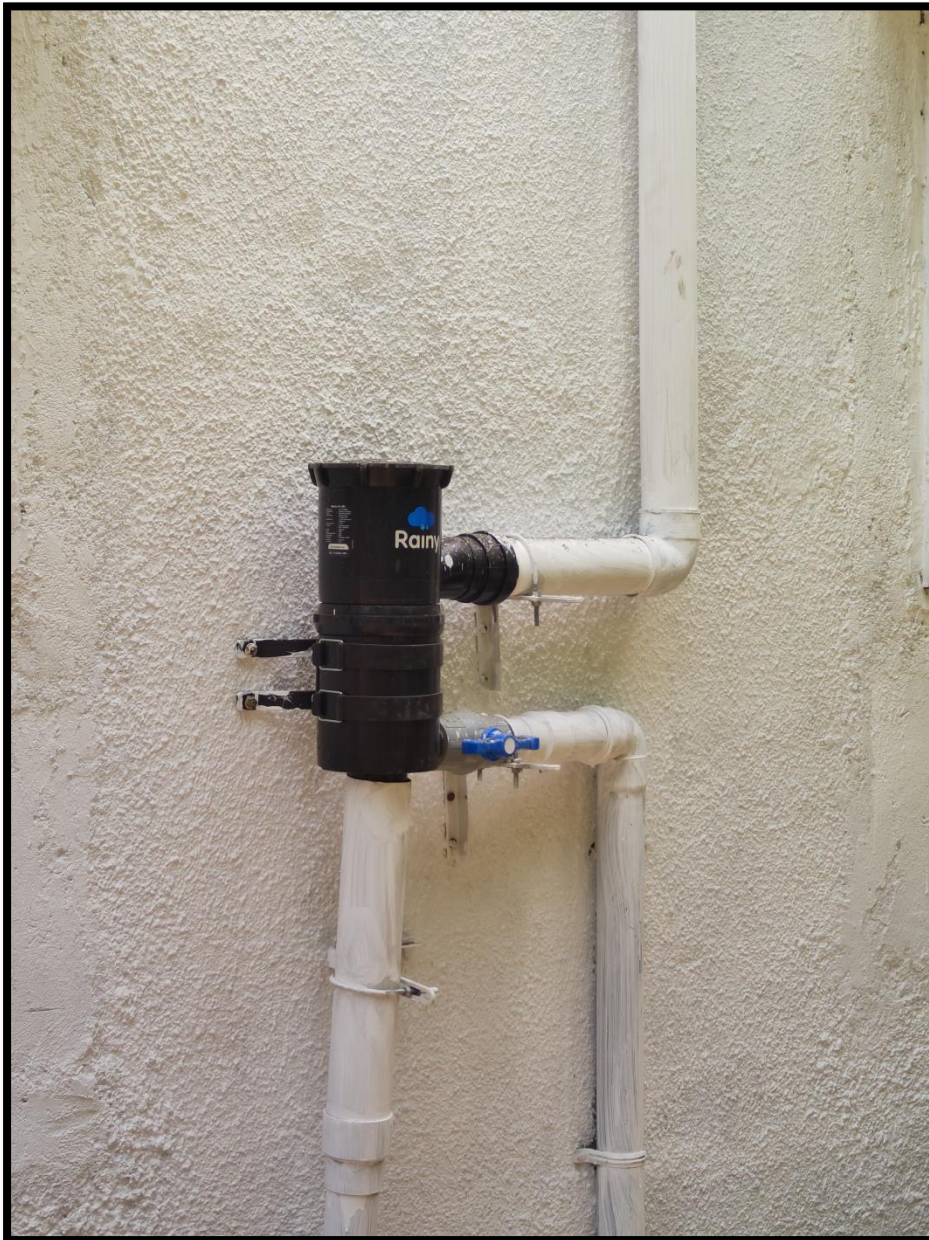
Sr. No.	Name of Area	Source of Water	Capacity of Storage Tank (Lit)	Use Per Day (Lit)
1	Aesthetic Garden	Well	-	300
2	Botanical Garden	Well	-	300 to 400
3	Drinking Water Cooler (In front of Library)	Amravati Mahanagar Palika	2000	250 to 300
4	Toilet and Urinal (Ground Flower)	Well	2000	600

Per Day Consumption of Water:



Rain Water Harvesting Unit

Shri Shivaji College of Education build up Rain Water Harvesting Unit which located at back side of main building. Rain water collected on terries of main building is collected through this unit and pass to the borewell situated at aesthetic garden. This Unit help to recharge of bore well in college campus.



5.5 Air Audit

Air quality in the academic college is very important for producing good educational atmosphere as well as for the health of the students, faculty, staff and other stake holder of the college. The overall ambient air quality data for shri shivaji college of Education Amravati for the last one year shows that there are very less polluted particles in ambient air; AQI for SO₂ & NO_X parameters are within the range of Indian living standards, there are a number of factors responsible for this cleanliness, calmness in this area. It is observed that college is located near to the heavy traffic area so mostly outside traffic contributed to air quality level. But other than that ambient air quality of college campus is very satisfactory and it is due to the plantation in college campus and surrounding area. Other than vehicles there is no other source of air pollution observed in college campus. Most of the students and non-teaching staff use public transport to reach college. A very beautiful large number and variety of trees present. Every year college organized tree plantation programme in college campus.

5.6 Noise Audit

Noise pollution is one of the biggest problems of our society. Unwanted sound or sound at wrong place at wrong time is considered as a noise pollution. The major source of noise identified in the college campus has been predominantly the vehicular movement, and the transportation activities. The noise levels / Sound pressure level (SPL) measurements were carried out using precision sound level meter or dB meter. The noise level measurement was periodically carried out at different locations, at well inside the college campus. Other than staff and student vehicles no more source of noise are identified in college campus.

Noise Quality:-

Sr. No.	Name of Area	Minimum Noise Level Intensity in dB	Maximum Noise Level Intensity in dB
1	Aesthetic Garden	58.2	60.1
2	Botanical Garden	60.3	63.3
3	Parking	60.9	63.7
4	Staff Room	50.3	53.4
5	Library	46.5	49.8
6	YCMOU Centre	46.22	48.13
7	Multipurpose Hall	47.10	50.6
8	Class Room	47.5	50.9

ENERGY AUDIT

5.7 Electricity and Energy Audit

The main energy source on campus is electricity from the Maharashtra State Electricity Board (MSEB). Electricity is utilised for performing different academic activities in all departments, library, office, etc. It is observed that the total electricity consumption of the college for different purposes is approximately 393.75 kw/month. During the onsite visit, major consumption of electric appliances like fans, lights, bore well machines, office appliances like computers, etc. is noted. Other than the bore well machine and air conditioners no other source of high electricity consumption is found. The college adapted the use of CFL and LED bulbs for lighting purposes and eco-friendly electric appliances. At the terrace of main building college establish the solar panel system in March 2023 of 5025 Wt capacity.

Numbers of Electric Appliances

Sr. No.	Name of Location	Fan	Tube Light	LED Light	Printer	AC	Ex. Fan	Street Light	Computer	Refrigerator
1	Poarch (Ground)	-	04	03				01		
2	Stairs	-	02	-	-	-				
3	Poarch (Upper)	-	05							
4	Girl Common Room	01	01							
5	Sport Room	01		01					01	
6	Library	04		04					05	01
7	Stock Room	03		10			02			
8	Principal Room	04	04	08	01	02	01		01	01
9	Administrative Office	03	02	06	02				04	
10	Staff Room	04	02	12	02	02			06	02
11	Meeting Hall	07		13		03			01	
12	Office Room	02	01	02						
13	Multipurpose Hall	13	02	14						
14	Psychology Room	03	02							

15	Research Cell		02		01		01			
16	Science Lab	04	01	06						
17	Computer Centre	05	09	01	01	02	03		11	01
18	Method Room	01	01							
19	ET Room	02	02							
20	Method Room Social Science	02	02							
21	Method Room Language	08	05	04						
22	Sport Room	01	01							
23	YCMOU Room	02	02	04						
	Total	70	50	78	07	09	07	01	30	04

Solar Panel



6. Recommendations

- The limited the use of air-conditioners in college campus.
- Vehicle pooling should be promoted both among students and faculty and use of bicycles should be promoted as a policy of the institution.
- Promote the indoor plantation in all departments of college.
- Cleaning of tube-lights/bulbs to be done periodically, to remove dust over it.
- Provide sufficient, accessible and well-publicized collection points for recyclable waste, with responsibility for recycling clearly allocated.
- Green (biodegradable), Yellow (plastic) and red (e-waste) colored bins are use in the class rooms for the waste segregation.
- Ban of plastic carry bags in college campus.
- Training in bag making from polyester, and cotton materials for students.
- Waste segregation is done regularly.

7. Green Initiatives of College



Plantation Programme



Plantation Programme



Cleanliness Drive



Cleanliness Drive



Cleanliness Drive



Plantation Programme