KAMLA P.G. COLLEGE & KAMLA SHIKSHAK PRASHIKSHAN MAHAVIDHYALAYA

DHOLPUR, RAJASTHAN

GREEN AUDIT REPORT

2023-2024



Prepared by EHS ALLIANCE



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CERTIFICATE





ACKNOWLEDGEMENT

EHS Alliance Services would like to thank the management of Kamla P.G College and Kamla Shikshak Prashikshan Mahavidhyalaya for assigning this important work of Green Audit. We appreciate the co-operation to the teams for completion of assessment.

First of all, we would like to thank **Prof. R. R. L. Sharma – Chairman** and **Mr. Mandeep Sharma – Director Kamla Shikshak Prashikshan Mahavidhyalaya** for giving us an opportunity to evaluate the environmental performance of the campus.

We would also like to thank *Dr. P. S. Tiwari – Principal (P.G. College) and Dr. Yugal Bihari Parashar- Principal (B.Ed. College)*, for their continuous support and guidance, without which the completion of the project would not have been possible. We are also thankful to other staff members who were actively involved while collecting the data and conducting field measurements.

We are also thankful to

Dr. Neeru Sharma	Asst. prof.
Dr. O.P. Upadhyay	Asst. prof.
Dr. L. P. Sharma	Assistant Professor
Dr. Manju Tiwari	Assistant Professor





DISCLAIMER

EHS Alliance Services Audit Team has prepared this report for Kamla P.G College and Kamla Shikshak Prashikshan Mahavidhyalaya based on input data submitted by the representatives of college complemented with the best judgment capacity of the expert team.

While all sensible care has been taken in its preparation, details contained in this report have been compiled in good faith based on information gathered.

It is further informed that the conclusions are arrived following best estimates and no representation, warranty or undertaking, express 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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Signature LEAD AUDITOR



CONCEPT AND CONTEXT

The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory from the academic year 2019–20 onwards that all Higher Educational Institutions should submit an annual Green, Environment and Energy Audit Report. Green Audit is assigned to the Criteria 7 of NAAC, National Assessment and Accreditation Council which is a self-governing organization of India that declares the institutions as Grade A, Grade B or Grade C according to the scores assigned at the time of accreditation. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through Carbon Footprint reduction measures.

In view of the NAAC circular regarding Green auditing, the College management decided to conduct an external environment assessment study by a competent external professional auditor. The green audit aims to examine environmental practices within and outside the college campus, which impact directly or indirectly on the atmosphere. Green audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of college environment. It was initiated with the intention of reviewing the efforts within the institutions whose exercises can cause risk to the health of inhabitants and the environment.

Through the green audit, a direction as how to improve the structure of environment and inclusion of several factors that can protect the environment can be commenced. This audit focuses on the Green Campus, Waste Management, Water Management, Air Pollution, Energy Management & Carbon Footprint etc. being implemented by the institution. The concepts, structure, objectives, methodology, tools of analysis, objectives of the audit as below:





INTRODUCTION

Now a days, the educational institutions are becoming more thoughtful towards the environmental aspects and as a result new and innovative concepts are being introduced to make them sustainable and eco-friendly. To preserve the environment within the institution, a number of viewpoints are applied by the several educational institutes to solve their environmental problems such as promotion of the saving the energy, waste recycle, water consumption reduction, water harvesting and many more...

The activities carried out by the institution can also create adverse environmental impacts. Green audit is defined as an official inspection of the effects a college has on the environment. Green Audit is conducted to evaluate the actual scenario at the institution campus. Green audit can be a useful tool for a university /college to determine how and where they are using the most of the energy or water or resources; the institution can then decide how to implement changes and make savings. It can also be used to determine the nature and volume of waste, which can be used for a recycling project or to improve waste minimization plan.

Green auditing and the application of mitigation measures is a win-win situation for all the institutions, the learners and the mother earth. It can also result in health awareness and can promote the environmental awareness, values and beliefs. It provides a better understanding to staff and students about the Green impact on institution. Green auditing also upholds financial savings through reduction of resource usage. It gives an opportunity to the students and teachers for the development of ownership of the personal and social responsibility. The audit process involves primary data collection, site walk through with the team of university /college including the assessment of policies, activities, documents and records.





OVERVIEW OF THE COLLEGE

Kamla P.G. College, Dholpur, is permanently affiliated to Maharaja Surajmal Brij University, Bharatpur. College is situated at the heart of the city. Kamla P.G College founded in 2003 under the aegis of the Raman Society, and is a co-educational institute which provides equal opportunities of learning to both the boys and the girls. College is providing valued-based quality education in Science and Arts at both the Graduation and the Post-Graduation levels.

College has specific features, such as, well-experienced and qualified staff, innovative approach, discipline, healthy teaching-learning environment, spacious lush green campus, smart-room teaching through modern teaching aids, excellent infrastructure, central library, spacious laboratories, it has been attracting the students willing to build up their career in Science and Arts and to get a real higher education through hard work to join the courses here, and thus to prepare themselves to grab higher and higher horizons of achievements and success.

The college is dedicated to the pursuit of knowledge, striving for holistic excellence, emancipating and empowering the traditionally neglected girl-child through quality education and the ability to face peer pressure in a constantly evolving modern world.



As a unique experiment, probably the first of its kind in the country to provide higher education to students, a well-formed institution, named "Kamla Shikshak Prashikshan Mahavidhyalaya, Dholpur, Rajasthan" was established by the Raman Society, Dholpur. The college provide full-



fledged facilities for recreation, games, sports, music, etc. The students are coached to pursue studies leading to some programs. The Institute is inspired by a vision of a person drawn from life, and its prime purpose is the higher education and training of students. It extends its services to members of other communities to the extent possible. It also seeks to develop in its students the ability to think logically, critically, and creatively, and to communicate effectively. By striving after character formation based on the love of God and the service of people the college endeavors to contribute to the training of citizens who live by the principles of social justice, equality of opportunity, genuine freedom, and respect for religious and moral values enshrined in the constitution so that all people may live with human dignity and self-respect.



FACILITIES AT THE CAMPUS

LIBRARY

The Library is the heart of any Institution. Books, Readers and Staff are the basic trinity of the Library and the best interaction among these three basic constituents brings the desired effects in an institution.

The Library of KAMLA P.G. COLLEGE is an excellent well-stocked computerized one with all the required reading materials. The Library is enriched with books of academic interest, Journals, periodicals and various electronic information sources. The Library also provides Current Awareness Service (CAS) and Reprographic facility to the students. All students have access to college library, which offers facility and service on a wide range of materials to support academic pursuit of Students.





COMPUTER LAB

KAMLA P.G. COLLEGE has four spacious, air conditioned and centrally controlled and monitored Computer Laboratories. 200 well equipped and operational systems with current edition of antivirus, licensed software and latest configuration of hardware are made available to the students for their convenience in adapting to modern technology.

Aims and Objectives

To nurture, harness and explore the potential of the students with the principles of including educational, social, cultural and spiritual awakening has yielded better employability amongst the students.

To provide specific need-based education and training opportunities for continuous professional development and all round education to each student through enjoyable and innovative curriculum by giving individual guidance to each student "Who is going to mould our future citizens of India

Mission

- ✓ The vision of the college is the holistic development of the students by imparting traditional and modern education along with making them competent as digital learners for the upliftment of the future generations studying in the Schools of rural India.
- ✓ To focus on women's education for the real upliftment of future generations.
- ✓ To produce quality teachers competent in all aspects for imparting quality education in educational institutes.
- ✓ To promote skill development in youth, especially in rural backward areas.

Vision

- ✓ Comitted to ensure the physical, mental and moral growth of the students for holistic development.
- ✓ To impart the fusion of traditional, modern and digital education to make them fine human being of digital India





AUDIT PARTICIPANTS

On behalf of Kamla P.G College and Kamla Shikshak Prashikshan Mahavidhyalaya

P.G. College		B.Ed College	
Dr. P. S. Tiwari	Principal	Dr. Yugal Bihari Parashar	Principal
Dr. Neeru Sharma	Asst. prof.	Dr. L. P. Sharma	Assistant Professor
Dr. O.P. Upadhyay	Asst. prof.	Dr. Manju Tiwari	Assistant Professor
Dr. Archana Shama	Asst. prof.	Dr. Nitu Sharma	Assistant Professor
Dr. Abhayvir Singh	Asst. prof.	Dr. Veenu Chaturvedi	Assistant Professor
Dr. K. K. Upadhyay	Asst. prof.	Mr. Pawan Kumar Tyagi	Assistant Professor
Dr. Gauri Dixit	Asst. prof.	Mr. Gajendra Giri	Assistant Professor
Shri Krishan Murari	Asst. prof.	Mr. Vishnu Shrotiya	Office Assistant
Shri Neeraj Babu	Asst. prof.		
Shri Pushpendra Kumar	Asst. prof.		

On behalf of EHS Alliance Services

Name	Position	Qualifications
Dr. Uday Pratap	Lead	Ph.D. , PDIS, QCI – WASH, Lead Auditor ISO
	Auditor	14001:2015
Ms. Pooja Kaushik	Co-Auditor	M.Sc., Field Expert, QCI – WASH



EXECUTIVE SUMMARY

Green auditing is an essential step to identify and determine whether the institutional practices are sustainable and ecological. Traditionally, we were upright and efficient users of natural resources. But over the period of time, excessive usage of resources like water, electricity, petrol, etc. have become habitual for everyone especially, in urban and semi-urban areas. It is actually the right time to check if we (our process) are consuming more than required resources? Whether we are using resources sensibly?

Green audit standardizes all such practices and provides an efficient way to use natural resources. In the time of climate change and resource exhaustion it is necessary to re-check the processes and convert then in to green and sustainable. Green audit provides an approach for the same. It also increases overall awareness among the folks working in institution towards the eco-friendly environment.

This is the second attempt to conduct green audit of this campus for fulfilment of NAAC criteria. This audit was mainly focused on greening indicators like consumption of energy in terms of electricity and fossil fuel, quality of soil, water usage, vegetation, waste management practices and carbon foot print of the campus. Initially a questionnaire was shared to know about the existing resources of the campus and resource consumption pattern of the students and staff in the campus.

GREEN AUDIT - ANALYSIS

1.1 GENERAL INFORMATION

1. Does any Green Audit conducted earlier?

Yes, this is second external audit organized by the College

2. What is the total strength (people count) of the Institute?

Students Male: 373 Female: 243 Total: 616

Teachers (including guest faculty) Male: 22 Female: 8 Total: 30

Non-Teaching Staff Male: 12 Female: 5 Total: 17

Total Strength Male: 407 Female: 256 Total: 663



3. What is the total number of working days of your campus in a year?

There are one hundred and eighty working days in a year.

4. Where is the campus located?

The campus is located Near Narrow Gauge Railway Line, Girraj Colony, Dholpur, Rajasthan

5. Which of the following are available in your institute?

Garden area	Available
Playground	Available
Kitchen	Available
Toilets	Available
Garbage Or Waste Store Yard	Available
Laboratory	Available
Canteen	Available
Hostel Facility	Not Available
Guest House	Not Available

6. Which of the following are found near your institute?

Municipal dump yard
Garbage heap
Public convenience
Sewer line
Stagnant water
Open drainage
Industry – (Mention the type)
Bus / Railway Station
Market / Shopping complex

Not in vicinity of institute No Garbage heaps Public convenience is available Approximately 0.5 KM sewer line within campus No stagnant water No No Dholpur Bus stand, and Dholpur railway station Available

1.2 WASTE MINIMIZATION AND RECYCLING

1. Does your institute generate any waste? If so, what are they?

Yes, following types of wastes are being generated by the college

- Solid waste
- Paper waste
- Plastic waste
- Horticulture waste
- Laboratories waste
- E-waste

2. What is the approximate amount of waste generated per day? (in Kg approx.)

Biodegradable waste - 15 Kg



Non-biodegradable waste -3 Kg Hazardous Waste - 2 Kg Others < 2 Kg

3. How is the waste managed in the institute? By Composting, Recycling, Reusing, Others (specify)

- > Food waste and horticulture waste is collected into composting pits
- > Rain water harvesting well is there in campus for ground water recharge
- *E-waste collection and management through recycled authorized vendor*
- Laboratory waste is managed through sand bucket

4. Do you use recycled paper in institute?

Yes, college uses single sided used paper for rough work, assessment work and prints

5. How would you spread the message of recycling to others in the community?

Following are the ways through which college is spreading the awareness about recycling

- *Waste plastic collection drives*
- > Installation of Dustbins for waste plastic collection, e-waste collection and recycling
- > Tie-ups with authorized e-waste collection agency
- Awareness among the Students by Webinars, seminars, Sign Boards, Posters, etc.

6. Can you achieve zero garbage in your institute? If yes, how?

Not yet achieved. Possible through waste management policy and planning.

- 1. Minimization of waste production
- 2. Awareness workshops & trainings for students and faculty on Waste management

1.3 GREENING THE CAMPUS

1. Is there a garden in your institute?

Yes, about 23760 Sq ft areas are developed as Gardens.

2. Do students spend time in the garden?

Yes, students spend around 2-4 Hours during winters.

3. Total number of Plants in Campus?

Plant type with	approx. count
Full grown Trees	32
Small Trees	48
Hedge Plants	860
Grass Cover sqm	23760 Sq ft



4. Is the College campus having any Horticulture Department? (If yes, give details)

Yes, Total 2 staff (maali) deployed in horticulture department

5. How many Tree Plantation Drives organized by campus per annum?

Plantation Drive is organized by campus. In the last FY. 120 plants were planted. Survival rate is more than 70%.

6. Is there any Plant Distribution Program for Students and Community?

Yes, Plantations distribution drives conducted in nearby Villages under Unnat Bharat. Saplings are gifted to guests instead of bouquets.

8. Is there any Plant Ownership Program?

No

1.4 WATER AND WASTEWATER MANAGEMENT

1. List uses of water in your institute

Basic use of water in campus:

Drinking – 19.19 KL/month

Gardening – 99.33 Kl/month

Kitchen and Toilets – 125.52 KL/month

Others - 9.10 KL/month

Hostel – 0.00 KL/Month

Total = 253.15 KL/Month

2. How does your institute store water? Are there any water saving techniques followed in your institute?

College stores water in terrace tanks.

Saving Techniques

- > Avoid overflow of water-controlled valves are provided in water supply system.
- Close supervision for water supply system.
- Push taps are installed for water conservation
- > Water Conservation awareness for new students
- Sprinklers usage for gardening and grass cover



3. Locate the point of entry of water and point of exit of waste water in your institute.

Entry - Water comes from Municipal corporation supply and borewells *Exit*- From Canteen, Toilets, and Labs through covered drainage which is connected to public sewage

4. Write down ways that could reduce the amount of water used in your institute

Basic ways:

- Close the taps after usage
- Water Conservation awareness for new students
- Maintenance and monitoring of valves in supply system to avoid overflow, leakage and spillage
- Push taps are installed to save water
- Water recycling and use of sprinklers for gardening

1.5 ANIMAL WELFARE

1. List the animals (wild and domestic) found on the campus (dogs, cats, squirrels, birds, insects, etc.)

1-2 dogs, 20+ butterfly species, 20+ Squirrels and 20+ Birds are found in campus. A variety of bird's species and other flora and fauna are available, so institute is doing their bit for bio diversity conservation.

2. Does your institute have a Biodiversity Program or a KARUNA CLUB?

Yes, college actively organizes awareness through various campaigns and activities including seminars, poster competition, etc.

1.6 CARBON FOOTPRINT - EMISSION & ABSORPTION

1. Electricity used per year - CO2 emission from Electricity

(electricity used per year in kWh/1000) x 0.84 14489 kWh/1000 x 0.84

= 14489/1000x0.84

= 12.17 tons



2. LPG/PNG used per year - CO2 emission from LPG/PNG

(LPG/PNG used per year in KG) x 2.68 170 x 2.68 =170 x 2.68 =0.46 tons

3. Diesel used per year CO2 emission from HDS (Diesel)

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(Diesel used per year in litres) x 2.99
=1200 x 2.99
= 1200 x 2.99
=3.59 tons
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4. Transportation per year (car) CO2 emission from transportation (Bus and Car)

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There are 2 cars owned by college
=(2*4*2*180/100)*0.02
=0.58 tons
```

Total CO2 emission per year is 16.79 tons

After considering carbon absorption capacity of campus, the total carbon emission is 14.72 tons

CARBON ABSORPTION BY FLORA IN THE INSTITUTION

There are 32 full grown trees and 48 semi grown trees of different species, on the campus spread over 23760 sq ft.

Carbon absorption capacity of one full grown tree 22 kg Co2 Therefore Carbon absorption capacity of 32 full-grown trees $32 \times 22 \text{ kg Co2} = 0.70 \text{ tons of Co2}$.

The carbon absorption capacity of 48 semi-grown trees is 30% of that of full-grown trees. Hence the carbon absorption 48×6.8 kg of Co2 = 0.33 tons of Co2

There are approximately Hedge Plants 860 of various species being raised in the gardens and grown in the areas where no buildings are built Carbon absorption of bush plants varies widely with their species. Certain bushes absorb very high level of Co2 where as some others absorb very low level of Co2. In the absence of a detailed scientific study, 200g of Co2, absorption is taken per bush (in consultation with Environmental Science specialists). Based on this, total carbon absorption of bushes is 860 x 200 g = 0.17 ton of Co2

The lawns on the campus have buffalo grass, Mexican grass and indigenous grass species and cover a total area of 23760 sq. ft. Carbon absorption capacity of a 10 sq. ft. area of lawn is 1 g per day Therefore, carbon absorption by lawn area 23760 x 365 x 0.1 g Co2 = 0.87 tons Co2 per year.

Total of carbon absorption capacity of the campus is 2.07 tons.



GREEN INITIATIVES BY CAMPUS

Solid Waste Management

- Collect paper waste produced on campus and collaborate with scrap dealers for recycling.
- College does composting for solid wate management
- Reduce use of paper by supporting digitization of attendance and internal assessment records.
- Take initiatives to spread awareness amongst students about food wastage and ways of minimizing it
- The habit of reusing and recycling non-biodegradable products
- Organizing workshops for students on solid waste management.
- There is ban on single use plastic and plastic crockery in the campus.

Liquid Waste Management

- Maintain leak proof water fixtures.
- Minimize the use of water by constructing more Indian style toilets instead of western style toilets.
- Continued employment of a caretaker to take immediate steps to stop any water leakage through taps, pipes, tanks, toilet flush etc.
- Reuse of wastewater generated by the Reverse Osmosis (RO) system for gardening purpose.
- Urinals are installed in boy's washroom to reduce water wastage

E-waste Management

 College has a separate storeroom for the safe storage of electronic waste. After a certain interval of time college disposes of the E-waste to concerned agencies through the auction process.

Rain water harvesting

• College has a rainwater harvesting well for better groundwater recharge.

> Air Pollution Reduction

• Personal Vehicles (Students) are not allowed in the campus



ESTD. -2015

Contact No.: 7791907988

KAMLASHIKSHAKPRASHIKSHANMAHAVIDHYALAYA

(Affiliated to Maharaja SurajmalBrij University, Bharatpur& Recognized by NCTE) Girraj Colony, DHOLPUR (RAJ.)-328001 E-Mail-kamlacollege1@gmail.com; Website-www.kspm.org.in

Date: 21/06/2023

CIRCULAR

This is to bring to your notice that to promote less use of paper Kamla Shikshan Prashikshan Mahavidyalaya is insisting you to take print only when it is required, do your maximum communication through digital mode.

> Dr. Y B Parashar (Principal)

Principal Kamla Shikshak Prashikshan Mahavidhyalaya DHOLPUR (Raj.)

Distribution

- 1. All staff member
- 2. All pupil teacher

inator IQAC Kamla Shikshak Prashikshan Mahavidhyalaya DHOLPUR (Raj.)



RECOMMENDATIONS

- Environmental parameters shall be included in purchase policy to achieve a cradle to grave approach for sustainability.
- > College should start drip irrigation to save water in campus
- Flow rate of taps should be checked, it should not be more than 2.5 litres/minute.
- Arrange training programmes on environmental management system and nature conservation for schools and local people.
- Involve lower hierarchy staff in environmental awareness programmes and campaigns.
- Messages should be displayed at various locations to Aware the Peoples about Energy Savings
- Water Meter should be installed at every building of institute for monitoring of water consumption per capita.
- > Borewell permission should be taken from authorised government department
- Plant Ownership Program should be initiated Several Trees should be Planted and owned by Visitors as well as students. The Nameplates should also be displayed near the plants.
- > Green building guidelines for future expansion projects of the campus.

CONCLUSION

This audit involves considerable team discussions and meetings with key staff members on a variety of environmental-related topics. The eco club of Kamla P.G College and Kamla Shikshak Prashikshan Mahavidhyalaya promotes conservation of resources.

Overall, 60% of Kamla P.G College and Kamla Shikshak Prashikshan Mahavidhyalaya is for landscaping. The college makes a significant effort to act in an environmentally responsible manner and takes into account the environmental effects of the majority of its activities. The recommendations in this report suggests some more ways in which the college can work to improve its practices and develop into a more sustainable institution.



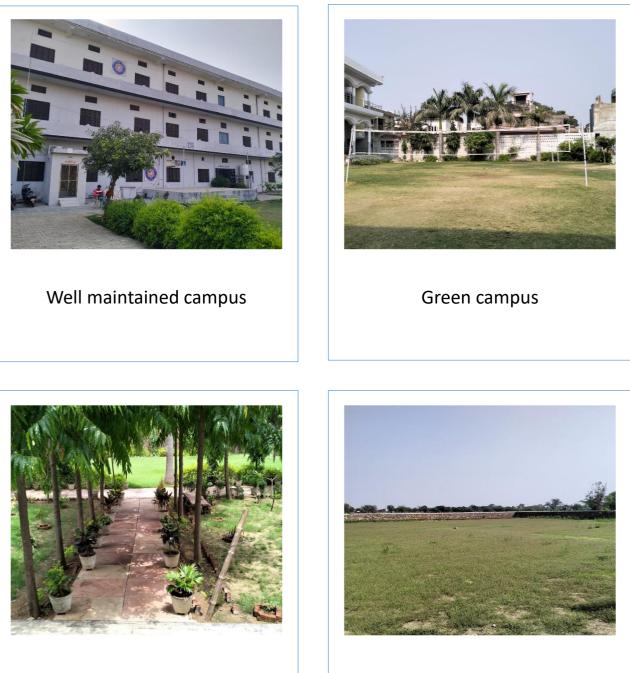
It's important to begin a few things, such as initiating drip irrigation, and increase plantation drives. Additionally, we strongly advise to sign MOU with third party authorised vendors for waste management such as plastic, paper, metal, C&D, etc.

REFERENCE

- The Environment [Protection] Act 1986 (Amended 1991) & Rules-1986 (Amended 2010)
- > The Petroleum Act: 1934 The Petroleum Rules: 2002
- > The Central Motor Vehicle Act: 1988 (Amended 2011) and The Central Motor Vehicle
- Rules:1989 (Amended in 2005)
- Energy Conservation Act 2010.
- The Water [Prevention & Control Of Pollution] Act 1974 (Amended 1988) & the Water (Prevention & Control of Pollution) Rules – 1975
- The Air [Prevention & Control Of Pollution] Act 1981 (Amended 1987) The Air (Prevention & Control of Pollution) Rules – 1982
- The Gas Cylinders Rules 2016 (Replaces the Gas Cylinder Rules 1981)
- E-waste management rules 2016
- Electrical Act 2003 (Amended 2001) / Rules 1956 (Amended 2006)
- The Hazardous Waste (Management and Handling and Trans-boundary Movement) Rules, 2008 (Amended 2016)
- > The Noise Pollution Regulation & Control rules, 2000 (Amended 2010)
- > The Batteries (Management and Handling) rules, 2001 (Amended 2010)
- Relevant Indian Standard Code practices



ANNEXURE – PHOTOGRAPHS OF ENVIRONMENT CONSCIOUSNESS



Lush green campus

Sports Ground





Paving stone installed in campus



Color coded dustbins

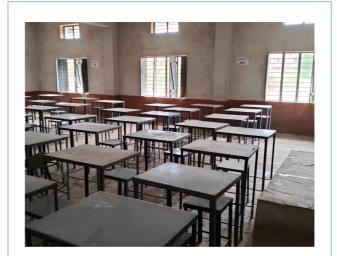


Ornamental plants in campus



Indoor plants in campus





Classrooms as per NBC guidelines with more than 40% window ratio



Spacious and well equiped labs

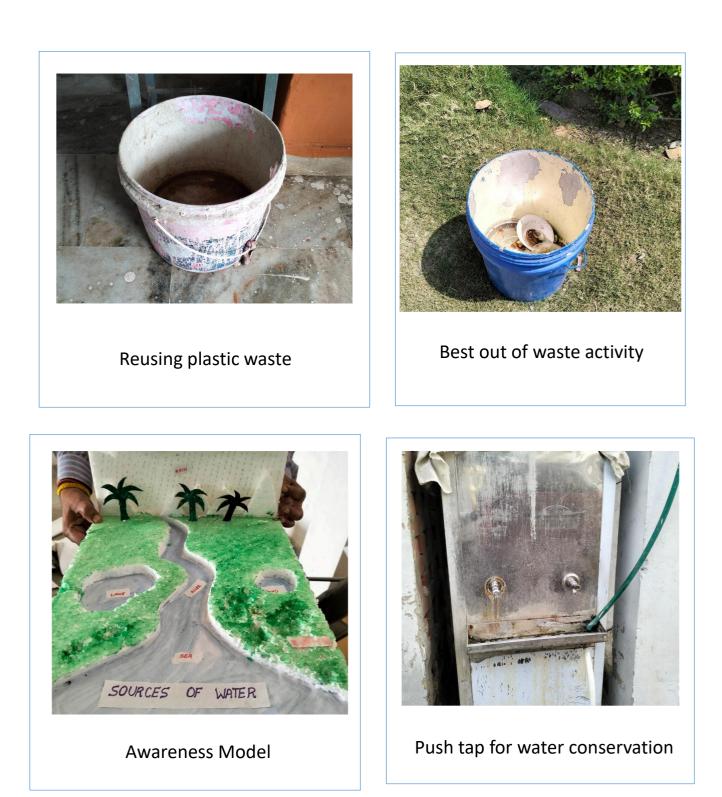


Rainwater harvesting well



Bird feeder - part of bio diversity





*********** END OF THE REPORT **********