CLIENT: Maniben M. P. Shah Mahila Arts College, Kadi
College Campus, Opp. N. C. Desai Petrol Pump Highway Road,
Kadi – Kalol Road, Kadi – 384440 - Gujarat
(Audit Period: June 2023 to May 2024)

CONTENT

Principal
Maniben M.P.Shah Mahila Arts College
Kadi - (N.G.)-384440

1) Executive Summary

A nation's growth starts from its educational institutions, where the ecology is thought as a prime factor of development associated with environment. A clean and healthy environment aids effective learning and provides an effective learning environment. Educational institutions now a day are becoming more sensitive to environmental factors and more concepts are being introduced to make them eco-friendly. To preserve the environment within the campus, various viewpoints are applied by the several educational institutes to solve their environmental problems such as promotion of the energy savings, recycle of waste, water reduction, water harvesting etc. The activities pursued by colleges can also create a variety of adverse environmental impacts. Environmental auditing is a process whereby an organization's environmental performance is tested against its environmental policies and objectives. Green audit is defined as an official examination of the college which has effects on the environment and as a part of such practice, internal Green Audit is conducted to evaluate the actual scenario at the campus.

Green audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste, which can be used for a recycling project or to improve waste minimization plan. Green auditing and the implementation of mitigation measures is a win-win situation for all the college, the learners and the planet. It provides staff and students better understanding of green impact on campus. Green auditing promotes financial savings through reduction of resource use. It gives an opportunity for the development of ownership, personal and social responsibility for the students and teachers. 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 towards a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

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In Maniben M. P. Shah Mahila Arts College, Kadi campus the audit process involved initial interviews with management to clarify policies, activities, records and the co-operation of staff and students in the implementation of mitigation measures. This was followed by collection of data through the questionnaire, review of records, observation of practices and observable outcomes. In addition, the approach ensured that the management and staff are active participants in the green auditing process in the college. The College is Private added college, affiliated to Hemchandracharya North Gujarat University, Patan and UGC 2f and 12B. The college is located in rural area (Kadi Taluka). It has 10 acres campus area with 432 Girls Students. There are ICT enabled 12 Class Rooms, Computer Lab, Psychology Lab, Smart Class, Gymnasium, Indoor Sports Room, Huge Sports Ground, Library with fully automation, Principal Office, Admin Office, Staff Room, IQAC Room, WDC Office, NCC Office, NSS Office, Girls Room, Disable Friendly Washroom, Ramp, Lush Green Garden etc.

The baseline data prepared for the Maniben M. P. Shah Mahila Arts College, Kadi will be a useful tool for campus greening, resource management, planning of future projects, and a document for implementation of sustainable development of the college. Existing data will allow the college to compare its programmes with those of peer institutions, identify areas in need of improvement, and prioritize the implementation of future projects. We expect that the management will be committed to implement the green audit recommendations. We are happy to submit this green audit report to the Maniben M. P. Shah Mahila Arts College, Kadi authorities.

satellite image

2) Acknowledgment

On behalf of the Environmental Audit & Consultancy Cell at Shree M. & N. Virani Science College, Rajkot, Rajkot, we would like to express our sincere gratitude to the management of MANIBEN M.P.SHAH MAHILA ARTS COLLEGE, KADI for entrusting us with the important task of conducting their Environmental Audit/Green Audit.

We deeply appreciate the cooperation extended by your team throughout the assessment process. This cooperation was instrumental in the successful completion of the audit.

We would also like to extend our special thanks to DR. Varshaben C. Brahmbhatt for their unwavering support. Their dedication proved to be invaluable in ensuring the project's completion. Finally, we thank all other staff members who actively participated in data collection and field measurements. Their contributions were essential to the smooth execution of the audit.

We are also thankful to:

SN	Name	Designation	Signature
1.	MR.NALINBHAI M.SHAH	SECRETARY	
2.	MRS.BELABEN N.SHAH	TRUSTEE	Bela N Shah.
3.	MR.D.K.CHAUDHARI	ASSO.PROFESSOR	
4.	DR.RATANBEN P.SOLANKI	ASSO.PROFESSOR	
5.	DR.JAIMINIBEN C. SOLANKI	ADHYAPAK SAHAYAK	J.C.Solanki
6.	MR.H.H.PARMAR	ASSO.PROFESSOR	
7.	MRS.D.D.SOLANKI	HEAD CLERK	

In closing, we would like to express our gratitude to **DR.HINA M.PATEL, PRINCIPAL OF MANIBEN M.P.SHAH MAHILA ARTS COLLEGE, KADI** for extending the opportunity to evaluate their esteemed campus's environmental performance.

3) Disclaimer

This Green Audit report has been prepared by the Environmental Audit & Consultancy Cell (EA&CC) at Shree M. & N. Virani Science College, Rajkot for of MANIBEN M.P.SHA MAHILA ARTS COLLEGE, KADI. It incorporates data submitted by college officials/representatives along with expert analysis by the EA&CC Audit team.

While all reasonable efforts have been made to ensure its accuracy, the report is based on information gathered in good faith. Conclusions are based on best estimates and do not constitute any express or implied warranty or undertaking. The EA&CC at Shree M. & N. Virani Science College, Rajkot, assumes no responsibility for any direct or consequential loss arising from the use of the information, statements, or forecasts in this report.

The findings presented in this report are based entirely on data provided by MANIBEN M.P.SHA MAHILA ARTS COLLEGE, KADI and gathered by the audit team during their audit & monitoring visit. It assumes normal operating conditions within the institution throughout the audit period. The auditors are unable to comment on environmental audit parameters outside the scope of the on-site surveys. Consequently, the report's findings are strictly limited to the timeframe during which the audit team conducted its assessment.

The EA&CC at Shree M. & N. Virani Science College, Rajkot, maintains strict confidentiality regarding all information pertaining to MANIBEN M.P. SHAH MAHILA ARTS COLLEGE, KADI. No such information will be disclosed to any third party except public domain knowledge or when required by law or relevant accreditation bodies.

This certificate is valid solely for the current Environmental Audit/Green Audit report. It may be automatically revoked if any significant changes occur in the quantity or quality of waste generation at the aforementioned institute.

EA&CC,
Shree M. & N. Virani Science College, Rajkot

4) Introduction

Since the 2019-20 academic year, the National Assessment and Accreditation Council (NAAC) requires all Higher Educational Institutions (HEIs) to submit an annual Environmental Audit/Green Audit report. This requirement falls under Criterion 7 of the NAAC accreditation process, which evaluates institutions for their environmental sustainability practices. NAAC, an autonomous body in India, assigns accreditation grades (A, B, or C) based on various criteria, including environmental stewardship.

Furthermore, conducting Environmental Audit/Green Audits aligns with the Corporate Social Responsibility (CSR) initiatives of HEIs. By implementing measures to reduce their carbon footprint, institutions contribute positively to mitigating global warming.

In response to the NAAC mandate, the College management opted for an external Environmental Audit/Green Audit conducted by a qualified professional auditor.

Environmental Audit/Green Audit entails a comprehensive environmental assessment, examining both on-campus and off-campus practices that directly or indirectly impact the environment. In essence, it is a systematic process of identifying, quantifying, recording, reporting, and analysing environmental aspects within the institute setting.

Environmental Audit/Green Audits originated as a tool to evaluate institutional activities that might pose risks to human health and the environment. It provides valuable insights for improvement, guiding institutions towards environmentally responsible practices and infrastructure.

The specific areas covered by this audit include Green Campus initiatives, Waste Management, Water Management, Air Pollution Control, Energy Management, and Carbon Footprint reduction strategies employed by the college.

The following sections delve deeper into the concept, structure, objectives, methodology, analytical tools, and overall goals of this Green Audit.

Educational institutions are increasingly prioritizing environmental concerns. As a result, innovative concepts are emerging to make campuses more sustainable and eco-friendly. Numerous institutions are adopting various approaches to address environmental challenges within their facilities, such as promoting

energy conservation, waste recycling, water use reduction, and rainwater harvesting.

The activities of educational institutions can have both positive and negative environmental impacts. A Green Audit is a formal evaluation process that assesses the college's environmental footprint. It provides a comprehensive picture of the current environmental conditions on campus.

Green Audits are a valuable tool for colleges to identify areas of high energy, water, or resource consumption. This allows institutions to implement targeted changes and achieve cost savings. Additionally, Green Audits can analyse the nature and volume of waste generated, leading to improved recycling programs or waste minimization plans.

Green auditing and the implementation of mitigation measures offer a win-win scenario for institutions, students, and the environment. It can foster health and environmental awareness, promoting values and beliefs that benefit everyone. Green Audits also provide an opportunity for staff and students to gain a deeper understanding of the impact their institution has on the environment.

Furthermore, Green Audits can translate into financial savings by encouraging a reduction in resource usage. This process also empowers students and teachers to develop a sense of ownership for personal and social environmental responsibility.

The Green Audit process typically involves collecting primary data, conducting a site visit with college representatives, and reviewing relevant policies, activities, documents, and records.

OBJECTIVE AND SCOPE

The broad aims/benefits of the Environmental Audit/Green Audit would be

- Environmental education through systematic environmental management approach
- Improving environmental standards
- Benchmarking for environmental protection initiatives
- Sustainable use of natural resource in the campus.
- Financial savings through a reduction in resource use

- Curriculum enrichment through practical experience
- Development of ownership, personal and social responsibility for the College campus and its environment
- Enhancement of College profile
- Developing an environmental ethic and value systems in young people

OUTCOMES OF ENVIRONMENT AUDIT TO EDUCATIONAL INSTITUTIONS

There are many advantages of environment audit to an Educational Institute:

1. Protect the environment in and around the campus.
2. Recognize the cost saving methods through waste minimization and energy conservation.
3. Empower the organization to frame a better environmental performance.
4. Portrays good image of institution through its clean and green campus.

5) Audit Team

SN	Name of Auditor	Designation
1	Prof. Ravi S. Tank	Director
2	Prof. Jagniyant H. Lunagariya	Environmental Engineer
3	Prof. Hemil R. Chavda	Chemical Engineer
4	Dr. Mahesh M. Savant	Chemist
5	Dr. Abhijit S. Joshi	Microbiologist

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Ref. No. Date :

ENVIRONMENT POLICY

The relationship between the Maniben M.P.Shah Mahila Arts College, Kadi and nature is a long and enduring one, something that students and staff of the college are aware of. The buildings of this educational institution situated in Kadi taluka of Mehsana district, North Gujarat. Since 1991, the college has always had sustainable initiatives at the core of all activities. 25% of the 10 acre lush campus in the Diplomatic Enclave has been built up. The rest of the campus can be categorized as playgrounds, lawns and gardens. A huge area is left in its natural form and acts as a natural habitat for biodiversity and a large variety of species of grasses, herbs, shrubs and trees. The Green Campus and Environment Conservation Policy encourage students and staff to take the lead in creating positive change toward the conservation of the Environment. These initiatives call for a thorough review of all infrastructural, and administrative functions from the standpoints of energy efficiency, sustainability and the environment.

Objectives of the Policy

- To conserve energy and water resources within the campus by ensuring technological interventions, reduction in consumption, and creating awareness among staff and students.
- To fulfil the responsibility as a stakeholder by indulging in outreach activities for social development.
- To indulge with the local community to raise awareness about environmental issues and promote good practices for the safety of the environment.
- To practice and promote the 4 R principles of Reduction, Reuse, Recycle and Recover.
- To ensure the conservation of biodiversity within and around the college campus.
- To regularly carry out self-assessments to monitor our progress in cleanliness and sanitation management, greenery management, energy conservation, and water conservation.
- To invite certified external agencies to regularly conduct Environment, Green, and Energy audits.
- To participate in government programs to make the campus plastic free and implementing policy on E-governance to minimize the use of paper.
- To improve the infrastructure on campus for maximum energy conservation, water conservation, and making campus disable friendly.
- To provide a barrier-free environment to differently-abled students and faculty

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The focus areas of this policy are:

1. **Green Audits :**

   To assess the college's contributions to a sustainable future, colleges can conduct green audits to determine the types and volumes of waste they produce. These audits can help colleges identify ways to improve their environmental practices, such as recycling projects, waste minimization plans, and reducing resource usage.

2. **Promoting sustainable resource use:**

   Colleges can promote sustainable resource use on campus and beyond by defining priority areas and methods for implementing, managing, and evaluating environmental plans. These plans may include reducing energy and raw material consumption, and protecting and conserving ecological systems and resources.

   a. **Green Campus Initiatives:**

   - To promote beautification of college campus through landscaping
   - Minimizing the use of packaged food
   - Ban the use of plastic
   - Organize tree plantation drives

   b. **Alternative sources of Energy and Conservation Measures:**

- Reduce energy consumption by switching off all electrical devices when not in use.
- Phase out all high energy consuming lights by replacing them with LED lights.
- Refrain from using air conditioners except where necessary and at energy efficient temperatures.
- Support staff to take round to check and shut down electrical devices if on active mode.

c. Water conservation:

- Install rainwater harvesting system in the college.
- Install sanitary pad incinerators in girls' room.
- Install waste segregation systems in the college.
- Instal Open Well recharge/ Borewells

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d. Management of Degradable and Non-degradable Waste o Solid Waste Management:

- Maintaining leak proof taps, Regular rounds by the caretaker to take immediate steps to stop any water leakage through taps, pipes, tanks, toilet flush, etc.
- Minimizing the use of water by constructing efficient toilets.
- Extra/unused water to be poured to the plants/trees in the college campus.
- Display boards near washrooms and water coolers to create awareness about water conservation.

3. Involving students/ Staff/ Community:

- Colleges can involve students in environmental sensitivity programs and activities, such as developing technologies for reducing, reusing, and recycling waste. Colleges can also encourage students to use public or college transportation systems and vehicle pooling
- To organize workshops/webinars for students and faculty members regularly.
- Encourage student clubs to hold tree plantation events
- To proactively hold regular cleanliness drives within the campus and motivate students and staff members to conduct workshops, activities, and programs to promote the importance of cleanliness and sanitation.
- Participation in the activities under Swachh Bharat Abhiyan with the help of services provided by NSS and NCC.

MANIBEN M.P. SHAH MAHILA ARTS COLLEGE KADI

7) General Information

a. Does any Green Audit conducted earlier? (Yes/No): **YES**

b. Total Area of the college = **10 ACRES (Acre/m²/Other please specify)**

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

AY	Students			Teaching Staff			Non-Teaching Staff			Total		
	M	F	Trans	M	F	Trans	M	F	Trans	M	F	Trans
2023-24	00	432	00	05	15	00	04	03	00	09	450	00

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

Month	No. of Working Days
July-23	26
August-23	25
September-23	21
October-23	21
November-23	18
December-23	25
January-24	26
February-24	25
March-24	24
April-24	23
May-24	25
June-24	21
Total	**280**

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

Municipal dump yard	**NO**
Garbage heap	**NO**
Public convenience	**YES**
Sewer line	**YES**
Stagnant water	**NO**
Industry – (Mention the type)	**YES (COTTON INDUSTRIES)**
Bus / Railway station	**YES**
Market / Shopping complex	**YES**
Play Ground	**YES**

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

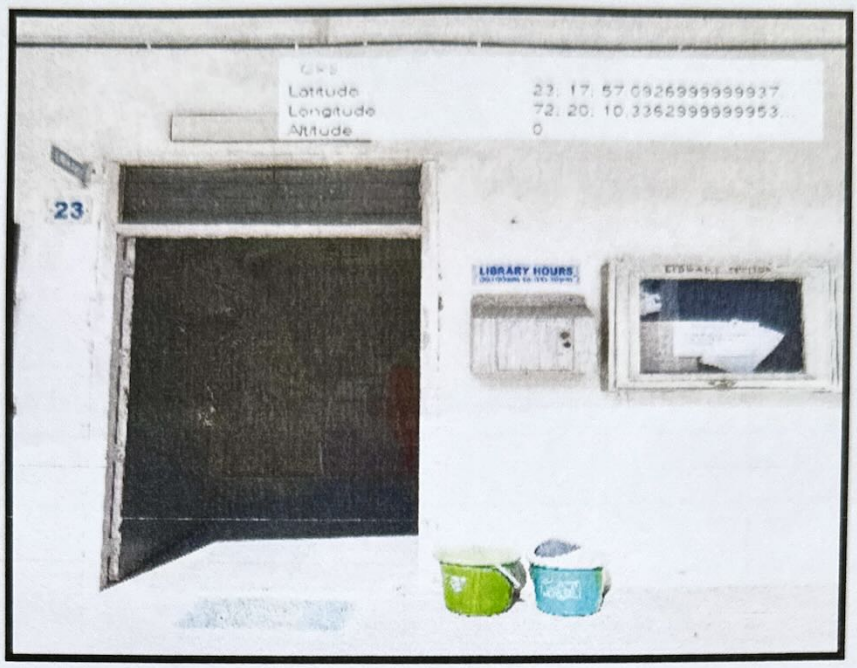
Type of waste		**Response**	**Detail(s) of Waste Generated**	**Quantity of Waste Generated (kg)**
Solid	Biodegradable	YES	LEAVES, PAPERS	1
	Non-biodegradable	(No)	PLASTIC, SANITARY NAPKINS,	--
	e-waste	(No)	NO	--
Liquid	--	(No)	RO WATER	--
Gas	--	(No)	NO	--

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

- **Installed incinerator to destroy used sanitary napkins.**

- **Installed dry waste management machine for leaves, papers, vegetables waste etc. and generate compost.**

- Put dustbins in all lobbies.



h. Do you use recycled paper in institute? : No

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

Poster competition activities	**YES**
Campaigns	**YES**
Rally	**YES**
Webinars and seminars	**YES**
Others (Please specify)	**Various Awareness Programme**

j. Is there a garden in your institute?

Garden	**YES**	**Area = 5600 sq.ft.**

k. Total number of Plants in Campus?

SN	Species of Tree	No of Trees
1.	Neem Tree	25
2.	Ixora	50
3.	Chlorophytum	72
4.	Liliya	100
5.	Singapuri Ixora	70
6.	Hibiscus	85
7.	Karan	75
8.	Banana Plant	01
9.	Pheonix Plant	03
10.	Chameli	35
11.	Bottom Palm	05
12.	Mehndi	02
13.	Aleowera	02
14.	Rose	02
15.	Pennisetum	01
16.	Vicks Tulsi	02
17.	Ajwain Plant	02
18.	Curry Leaves	01
19.	Pimpri Mool	01
20.	Elite Green Silver Plant	02
21	Mogra	25
	TOTAL	**561**

l. List uses of water in your institute

Basic use of water in campus	KL/Day (in LTRS)
Drinking	500
Gardening	1300
Kitchen and Toilets	1000
Others	2000
Hostel	NA
Total	**4800**

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

SN	Storage Type	Capacity (in Litres)	Quantity	Total (in Litres)
1.	OVER HEAD TANK	30,000	01	30,0000
2.	UNDER GROUND TANK	40,000	02	40,000
3.	Any Other (Specify)	--	--	--
			TOTAL STORAGE CAPACITY	**70,000**

n. Electricity Consumed

Month	Electricity Consumed (kWh)
July-23	1.41
August-2	1.31
September-23	1.58
October-23	1.80
November-23	2.22
December-23	1.45
January-24	1.37
February-24	1.91
March-24	1.33
April-24	2.22
May-24	1.83
June-24	2.30
Total	**20.73 units**

8) Green Initiatives by the Institute

➢ Punit Sagar Abhiyan: Cleaning of Kadi Canal.:

Organized by: Department of NCC, Maniben M.P. Shah Mahila Arts College, Kadi
Date:19th December 2023
Venue: Kadi Canal, Kadi
Total Cadets Participating: 50
Introduction:
On 19th December 2023, the NCC Department of Maniben M.P. Shah Mahila Arts College, Kadi, actively participated in the Punit Sagar Abhiyan by organizing a canal cleaning drive at the Kadi Canal. This initiative is part of a nationwide campaign aimed at cleaning water bodies and raising awareness about the importance of preserving aquatic ecosystems.
Objectives:
- To clean and remove waste from the Kadi Canal.
- To raise awareness among the community about the harmful effects of water pollution.
- To foster a sense of environmental responsibility and civic duty among the NCC cadets.
Participation:
A total of 50 NCC cadets from the college took part in the cleaning drive. They were accompanied by NCC officers and faculty members who provided guidance and support throughout the event.
Activities:
1. Briefing Session:
The event began with a briefing session where the objectives of the Punit Sagar Abhiyan were discussed. The cadets were given instructions on how to safely and effectively clean the canal, including the proper use of cleaning tools and protective gear.
2. Canal Cleaning:
The cadets, divided into smaller groups, were deployed along different sections of the Kadi Canal. They removed plastic waste, debris, and other pollutants from the water and surrounding areas. The waste was collected in bags and later segregated for proper disposal.
3. Waste Management:
The collected waste was categorized into recyclable and non-recyclable materials. Recyclable items were set aside for recycling, while non-recyclable waste was disposed of in designated areas.
4. Awareness Drive:
In addition to cleaning, the cadets engaged with local residents, explaining the significance of keeping the canal clean and the broader implications of water

pollution on health and the environment. Pamphlets with information on reducing water pollution were distributed to the community members.

5. Post-Activity Reflection:

After completing the cleaning activities, the cadets gathered for a reflection session. Here, they shared their experiences and discussed the impact of the drive. Faculty members reiterated the importance of sustaining these efforts to protect local water bodies.

Outcome:

The Punit Sagar Abhiyan at Kadi Canal was a resounding success, with a significant amount of waste removed from the water body. The event not only helped in cleaning the canal but also educated the community about the importance of maintaining clean and healthy water sources. The cadets demonstrated commendable dedication and teamwork throughout the event.

Conclusion:

The NCC Department of Maniben M.P. Shah Mahila Arts College, Kadi, successfully conducted the canal cleaning drive under the Punit Sagar Abhiyan on 19th December 2023. The efforts of the cadets and the support from the faculty contributed to the positive outcome of the event. The department plans to continue its participation in such environmental initiatives to ensure the preservation of natural resources and to instill a sense of environmental stewardship among the cadets.

- College Campus and Classroom Cleaning Drive.:

Organized by: Department of NCC, Maniben M.P. Shah Mahila Arts College, Kadi
Date: 26th September 2023
Venue: College Campus, Maniben M.P. Shah Mahila Arts College, Kadi
Total Cadets Participating: 52

Introduction:

On 26th September 2023, the NCC Department of Maniben M.P. Shah Mahila Arts College, Kadi, organized a campus and classroom cleaning drive. This event was a part of the Swachh Bharat Abhiyan, aimed at promoting cleanliness and hygiene within educational institutions.

Objectives:

- To maintain cleanliness and hygiene in the college campus and classrooms.
- To create awareness among students about the importance of a clean and healthy environment.
- To instill the values of discipline and community service among the NCC cadets.

Participation:

A total of 52 NCC cadets actively participated in the cleaning drive. The event also saw the involvement of faculty members, who guided the cadets and ensured the smooth execution of the activity.

MANIBEN M. P. SHAH MAHILA ARTS COLLEGE KADI

Activities:

1. Briefing Session:

The event began with a briefing session where the NCC officers explained the significance of cleanliness and outlined the tasks to be performed. The cadets were divided into groups, each assigned to specific areas of the college campus and classrooms.

2. Campus Cleaning:

The cadets, equipped with cleaning tools, thoroughly cleaned various parts of the campus, including the gardens, pathways, and common areas. Litter was collected, and proper disposal methods were followed.

3. Classroom Cleaning:

Special attention was given to cleaning the classrooms. The cadets dusted the furniture, cleaned the blackboards, and ensured the floors were spotless. Windows and doors were also wiped clean.

4. Waste Management:

The collected waste was segregated into biodegradable and non-biodegradable categories. The biodegradable waste was appropriately disposed of in compost pits, while non-biodegradable waste was sent for recycling.

5. Awareness and Reflection:

After the cleaning activities, the cadets gathered for a reflection session where they shared their experiences and insights. Faculty members emphasized the importance of maintaining cleanliness as an ongoing responsibility and not just a one-time event.

Outcome:

The cleaning drive was highly successful, with the campus and classrooms left spotless and hygienic. The event also served as a practical lesson in environmental responsibility for the cadets, reinforcing the values of cleanliness and community service.

Conclusion:

The NCC Department of Maniben M.P. Shah Mahila Arts College, Kadi, successfully conducted the campus and classroom cleaning drive on 26th September 2023. The active participation of the cadets and the dedication displayed by all involved contributed to the success of the event. The department plans to hold regular cleaning drives to sustain the cleanliness of the college premises and to continue promoting the Swachh Bharat Abhiyan.

- **Cleanliness Campaign:**

Objective: To maintain a clean and hygienic college campus, promoting a healthy environment for students, faculty, and staff.

Date: 29-9-2023

Time: 10:00 AM - 1:00 PM

Venue: College Campus

Participants: Students, Faculty, and Staff of Maniben M P Shah Mahila Arts College, Kadi

Agenda:

1. Inauguration and awareness session (10:00 - 10:30 AM)
2. Cleanliness drive (10:30 AM - 12:30 PM)
   - Division of participants into teams for different areas of the campus
   - Cleaning of classrooms, corridors, canteen, library, and toilets
   - Removal of waste and disposal
3. Refreshments and encouragement (12:30 - 1:00 PM)

Activities:

- Cleaning of the campus, including classrooms, corridors, canteen, library, and toilets
- Removal of waste and disposal
- Awareness session on importance of cleanliness and hygiene
- Encouragement and appreciation for participants

Pre-Campaign Preparation:

- Promotion of the campaign through posters, social media, and announcements
- Coordination with college authorities and faculty members
- Arrangement of necessary cleaning materials and equipment
- Division of participants into teams for different areas of the campus

Post-Campaign Follow-up:

- Sharing of campaign photos and outcomes on social media and college website
- Encouragement of students, faculty, and staff to maintain cleanliness
- Planning of regular cleanliness drives to reinforce the habit.

"Green Village Initiative":

Tree Plantation event at the adopted village of Visalpur

Objective: To promote environmental conservation and sustainability in the adopted village of Vislpur through tree plantation.

Date: 18-07-2023

Time: 10:00 AM - 1:00 PM

Venue: Adopted Village of Vislpur

Participants:

- Students, Faculty, and Staff of Maniben M P Shah Mahila Arts College, Kadi
- Villagers of Vislpur

Agenda:

1. Inauguration and welcome (10:00 - 10:15 AM)
2. Tree plantation ceremony (10:15 - 12:00 PM)
   - Planting of trees by participants
   - Explanation of the importance of tree plantation
3. Interaction with villagers and awareness session (12:00 - 1:00 PM)
   - Discussion on environmental conservation and sustainability
   - Distribution of saplings to villagers

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Activities:
- Tree plantation ceremony
- Awareness session on environmental conservation and sustainability
- Interaction with villagers and distribution of saplings

Pre-Event Preparation:
- Coordination with village authorities and villagers
- Selection of tree species and procurement of saplings
- Preparation of the village site for tree plantation
- Promotion of the event through posters, social media, and announcements

Post-Event Follow-up:
- Sharing of event photos and outcomes on social media and college website
- Encouragement of villagers to care for the planted trees
- Planning of future sustainability initiatives and events in the adopted village.

➢ **Environmental Awareness Campaign at Indroda Park, Gandhinagar**

Campaign Objective:
- To educate students and staff about environmental conservation and sustainability
- To promote awareness about the importance of protecting natural resources
- To encourage individuals to take action in reducing their environmental footprint

Itinerary:
- Date: 05-10-23
- Time: 9:00 AM - 1:00 PM
- Location: Indroda Park, Gandhinagar
- Participants: Students and staff of Maniben M P Shah Mahila Arts College, Kadi

Agenda:
1. Introduction and welcome (9:00 - 9:30 AM)
2. Guided park tour and environmental education session (9:30 - 11:00 AM)
3. Tree plantation activity (11:00 - 11:30 AM)
4. Interactive session on sustainable practices and waste management (11:30 AM - 12:15 PM)
5. Conclusion and pledge-taking ceremony (12:15 - 1:00 PM)

Activities:
- Guided tour of Indroda Park to learn about flora and fauna
- Tree plantation activity to promote afforestation
- Interactive session on sustainable practices, such as reducing plastic use, conserving water, and using public transport
- Waste management session to educate on proper waste disposal and recycling

Expected Outcomes:
- Increased awareness about environmental conservation and sustainability among students and staff
- Encouragement of individual actions to reduce environmental footprint
- Promotion of community involvement in environmental protection

Pre-Campaign Preparation:
- Coordinate with Indroda Park authorities for permissions and arrangements
- Promote the campaign among students and staff through posters, social media, and announcements
- Prepare educational materials and interactive session plans

Post-Campaign Follow-up:
- Share campaign photos and outcomes on social media and college website
- Encourage students and staff to share their experiences and pledge to continue sustainable practices
- Plan follow-up activities to reinforce environmental awareness and action.

- **Event Name: Dangarva Village Cleanliness Drive:**

Date: 18-3-2024
Location: Dangarva Village
Participants:
- Students: 50
- Faculty: 5

Objective: To promote cleanliness and hygiene in the adopted village of Dangarva and create awareness among villagers about the importance of sanitation.

Activities:
- Cleaning of village streets, public areas, and water bodies
- Removal of waste and disposal
- Awareness session on importance of cleanliness and hygiene
- Distribution of dustbins and sanitation materials to villagers

Outcomes:
- Cleanliness of the village improved significantly
- Villagers showed enthusiasm and participated in the cleanliness drive
- Students and faculty demonstrated teamwork and dedication to social cause
- Awareness created among villagers about importance of sanitation and hygiene

Feedback:
- Villagers appreciated the initiative and requested regular cleanliness drives
- Students expressed satisfaction and willingness to participate in future social initiatives
- Faculty members praised the students' enthusiasm and dedication to the cause

Future Plans:
- Regular cleanliness drives in adopted villages
- Expansion of cleanliness initiatives to other villages
- Involvement of more students and faculty members in social initiatives
- Collaboration with local authorities and organizations for greater impact.

- Event Name: Distribution of Tulsi Seeds and Tree Plantation with the collaboration of Rotary Club of Kadi

Date: 01-07-2023
Location: College Campus
Participation:

- College Students: 70
- Rotary Club of Kadi Members: 10
- Faculty and Staff: 20

Objective: To promote environmental conservation and sustainability by planting Tulsi seeds and trees on the college campus.

Activities:

- Plantation of Tulsi seeds and trees
- Awareness session on importance of environmental conservation
- Distribution of Tulsi saplings to students and staff

Outcomes:

- 100 Tulsi seeds and 50 trees planted on the college campus
- Students and staff showed enthusiasm and participation in the event
- Awareness created about the importance of environmental conservation
- Collaboration with Rotary Club of Kadi strengthened

Feedback:

- Students expressed satisfaction and willingness to participate in future environmental initiatives
- Faculty and staff praised the students' enthusiasm and dedication to the cause
- Rotary Club of Kadi members appreciated the college's commitment to environmental conservation

Future Plans:

- Regular tree plantation drives on the college campus
- Expansion of environmental initiatives to adopted villages
- Involvement of more students and faculty members in sustainability projects
- Collaboration with local organizations for greater impact.

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- **Distribution of kunda for birds at Dangrva Village.**

Date: 23-03-24

The distribution kunda for birds at Dangrva Village by Maniben M.P. Shah Mahila Arts College in Kadi, with the collaboration of Rotary Club of Kadi was a Commendable and impactful initiative. This project, a collaborative effort involving 50 dedicated students and several esteemed faculty members, aimed to provide a sustainable solution for the hydration of birds, particularly during the harsh summer months when water sources are scarce.

The project was led by prominent faculty members, including Prof. H.H. Parmar, Prof. D.K. Chaudhari, Prof. Jitendra Vihol, Prof. Bharti, and Dr.Trultaben.. Their guidance and supervision played a crucial role in the successful execution of this initiative. Each of these educators brought their unique expertise and commitment to the project, ensuring that the students were well-prepared and motivated to make a significant difference.

The students of Maniben M.P. Shah Mahila Arts College were enthusiastic participants in this initiative. They were involved in various stages of the project, from planning and organizing to the actual distribution of the earthen troughs. The students' engagement in this project was not just an educational experience but also a lesson in empathy and community service. They learned about the importance of conserving nature and the role humans play in protecting the environment and its inhabitants.

The earthen troughs were selected for their eco-friendly and sustainable qualities. Made from natural materials, these troughs are not only biodegradable but also provide a safe and suitable drinking source for birds. The decision to use earthen materials was rooted in the understanding that these are more compatible with the environment and are less likely to cause harm to the birds.

Distribution of the troughs was strategically planned to cover various areas where birds are known to frequent. The students conducted surveys to identify these locations, ensuring that the troughs were placed in places where they would be most effective. This meticulous planning was crucial for the success of the project, as the Support of Rotary Club of Kadi it maximized the chances of the birds finding and using the water troughs.

The community response to this initiative was overwhelmingly positive. Local residents appreciated the efforts of the students and faculty, recognizing the importance of providing water for birds. Many community members expressed their support by helping to maintain and refill the troughs, showing a collective responsibility towards the wellbeing of local wildlife.

The initiative also had a broader impact on the students involved. It instilled in them a sense of responsibility towards nature and taught them valuable lessons about teamwork, planning, and community service. The hands-on experience of working on a project that directly benefits the environment was an enriching addition to their academic curriculum.

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Furthermore, the project aligned with the college's mission to foster a sense of social responsibility among its students. By involving students in such meaningful activities, Maniben M.P. Shah Mahila Arts College is not only educating them academically but also nurturing them into responsible citizens who are aware of their role in society and the environment.

In conclusion, the Distribution of earthen troughs for birds from Dangrva Villege by Maniben M.P. Shah Mahila Arts College was a significant initiative that showcased the collaborative efforts of students and faculty members. Under the leadership of Prof. H.H. Parmar, Prof. D.K. Chodhari, Prof. Jitendra Vihol, Prof. Bharti, and Dr.Trultaben, the project successfully addressed a crucial need for the local bird population while imparting valuable lessons to the students involved. This initiative stands as a testament to the college's commitment to environmental conservation and community service.

9) Audit Methodology

The purpose of the audit was to ensure that the practices followed in the campus are in accordance with the Green Policy adopted by the institution. The criteria, methods and recommendations used in the audit were based on the identified risks. The methodology includes: preparation and filling up of questionnaire, physical inspection of the campus, observation and review of the document, interviewing responsible persons and data analysis, measurements and recommendations. The methodology adopted for this audit was a three-step process comprising of:

1. Data Collection – In preliminary data collection phase, exhaustive data collection was performed using different tools such as observation, survey communicating with responsible persons and measurements.

Following steps were taken for data collection:

- Site Visit
- Data about the general information was collected by observation and interview.
- The power consumption of appliances was recorded by taking an average value in some cases.

2. Data Analysis - Detailed analysis of data collected include: calculation of energy consumption, analysis of latest electricity bill of the campus, Water consumption, Waste Generation and Greenery Management.

3. Recommendation – On the basis of results of data analysis and observations, some steps for reducing power and water consumption were recommended. Proper treatments for waste were also suggested. Use of fossil fuels has to be reduced for the sake of community health.

The above target areas particular to the University was evaluated through questionnaire circulated among the students for data collection.

The following data collected for the following areas during the assessment.

1. Environment & Waste Management
2. Energy Management
3. Water Management

10) Monitoring, Observations & Recommendations

AAQM Analysis

SR No.	Location Name	Parameter	Result (µg/m3)	Permissible limit (µg/m3)	Analytical Method
1.	Nr. College Building Entrance	PM10	31.8	100	IS 5182: Part 23
		PM2.5	19.3	60	IS 5182: Part 24
		SO2	7.6	80	IS 5182: Part 02
		NOx	21.7	80	IS 5182: Part 06

Noise Monitoring

SR No.	Location Name	Result dB(A)
1.	Nr. Main Gate	57.8
2.	Nr. Building Entrance	52.1
3.	Nr. Sports Building	50.3
4.	Nr. Principal Office	48.2
5.	Nr. Girls Common Room	47.6
6.	Nr. Physiotherapy college	51.7
7.	Nr. Parking	51.9
8.	Nr. Play Ground	48.7
9.	Nr. Commerce college	53.7
10.	Nr. Backside of Building	46.3

Water Analysis

SN.	Parameter	Unit	Bore Water	Municipal Water	Method
1	pH	pH Unit	8.2	7.8	IS 3025 (Part-11): 1983 (RA 2006)
2	Temperature	C	27	27	IS 3025 (Part 9) : 1984
3	Suspended solid	mg/L	0	0	IS 3025 (Part-17): 1984 (RA 2012)
6	Total Dissolved Solid	mg/L	871	502	IS 3025 (Part-16): 1984 (RA 2006)
7	Sulphate	mg/L	35.25	27.75	IS 3025 (Part-24): 1986 (RA 2009)
8	Turbidity	NTU	0	0	IS 3025 (Part-10): 1984 (RA 2006)
9	Alkalinity	mg/L	54.9	18.3	IS 3025 (Part-23): 1986 (RA 2003)
10	Chloride	mg/L	427	52.5	IS 3025 (Part-32): 1988 (RA 2007)
11	Calcium	mg/L	112	48	IS 3025 (Part-40): 1988
12	Magnesium	mg/L	7.68	7.0	IS 3025 (Part-46): 1988
13	Hardness	mg/L	290	120	IS 3025 (Part-21): 2009

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Observations:

- **Land Use:** The College is spread over 10 acres of land area.
- **Green Initiatives:** The College supports efforts to eliminate plastic from campus. Students are advised to avoid using plastic on campus. The college organizes regular cleanliness drive to collect biodegradable and non-biodegradable waste. Non-biodegradable waste and e-waste are cleaned periodically by Municipal Corporation or managed by storing it in a safe place. Biodegradable waste is self-composting.
- **Fire & Safety:** The college building is also safe through state of the art housed Fire safety system.
- **Infrastructure:** The current building has modern infrastructure, especially modern classrooms with a seating capacity of over 500 students. There are more than 21 rooms, including smart class rooms, which are used by both faculty and students. The college is also equipped with sports facilities and a rich library. A computer laboratory facility is also available for science stream students.
- **Energy Consumption:** While the college has a solar energy generation facility, the overall energy consumption patterns, including electricity, water, and other resources, should be assessed to identify potential environmental impacts and energy efficiency opportunities.
- **Potential for Water Harvesting:** The presence of a functional borewell suggests potential for implementing rainwater harvesting systems to further conserve water resources.
- **Green Energy Utilization:** The College's adoption of rooftop solar power reflects a proactive approach towards utilizing renewable energy sources.
- **Community Engagement Potential:** The College's environmental efforts can be extended to engage the local community in sustainability practices.
- **Beautiful Campus Greenery:** The presence of over 550+ trees on campus creates a pleasant and environmentally friendly atmosphere.
- **Abundant Natural Light:** The well-designed college building maximizes natural light, promoting energy efficiency and a positive learning environment.

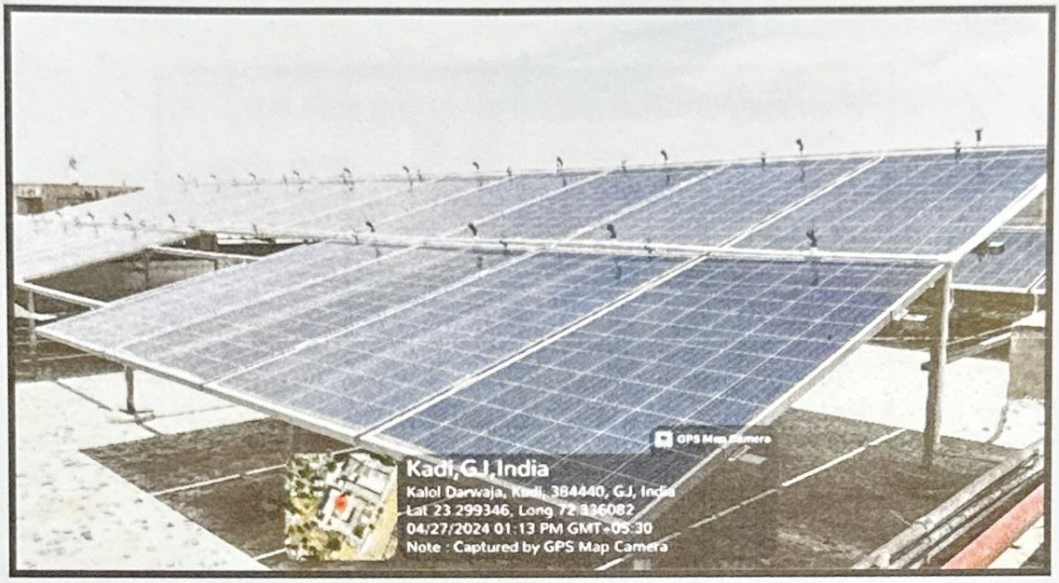
Recommendations:

- **Water Conservation Measures:**
  - Install sensor-based faucets in washrooms and urinals to minimize water waste.
  - Implement water meters at various locations across campus to monitor and optimize water consumption.
- **Green Campus Initiatives:**
  - Expand the display of informative posters and slogans promoting the benefits of a green and clean campus.
  - Develop a dense plantation area using the Miyawaki method to create an oxygen bank and enhance campus greenery.
- **Energy Efficiency:**
  - Conduct drive to promote energy conservation, potentially including a designated "power saving day" each quarter.
  - Establish a regular cleaning and maintenance schedule for the rooftop solar panels to ensure optimal energy production.

References

- 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

11) Photographic Evidences



Tree Plantation By NCC Department of College

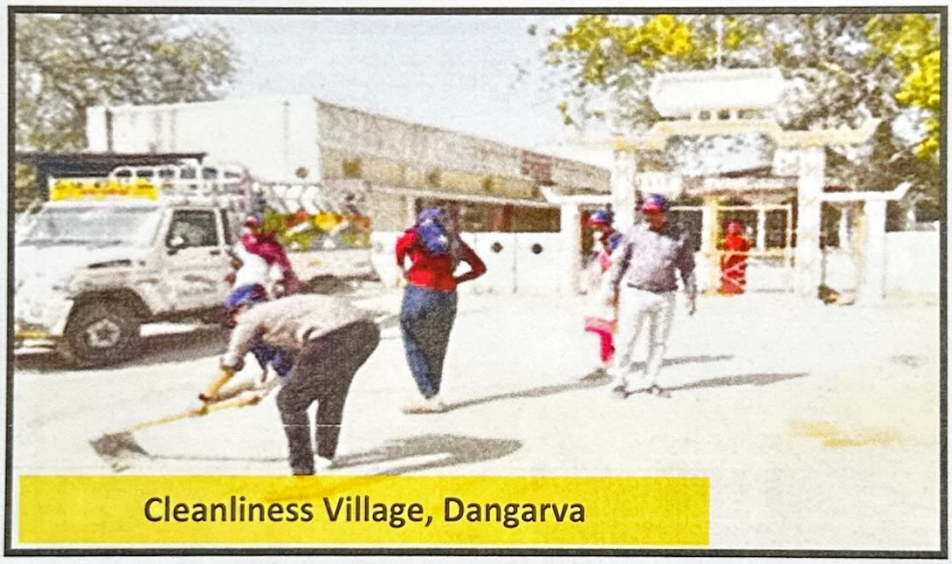
Tree Plantation By NSS & Rotary Club of

College Campus Cleanliness By NSS

College Campus Cleanliness By NSS

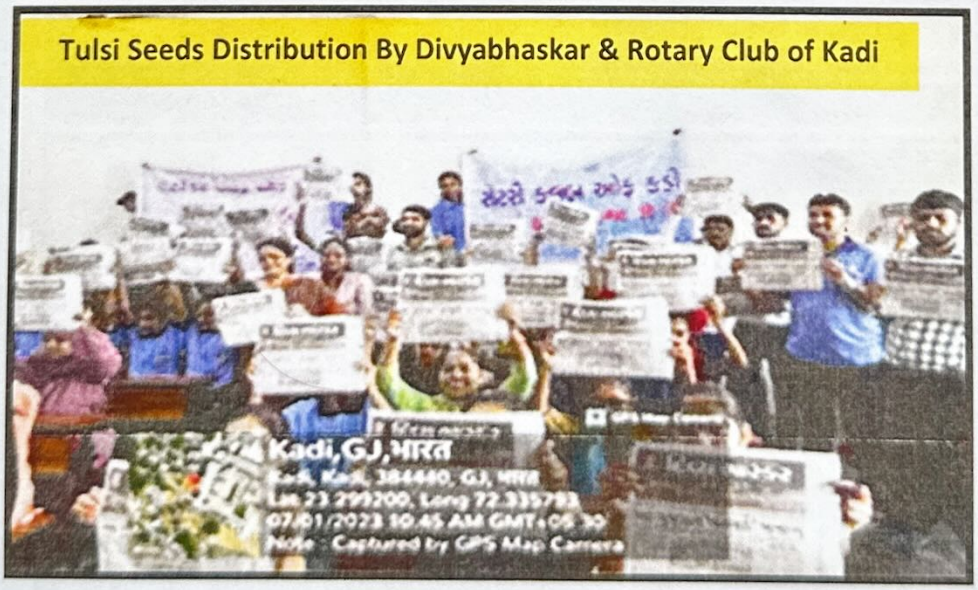
Environment Awareness Campaign

Tree Plantation Adopted Village Under



Cleanliness Village, Dangarva

Tulsi Seeds Distribution By Divyabhaskar & Rotary Club of Kadi



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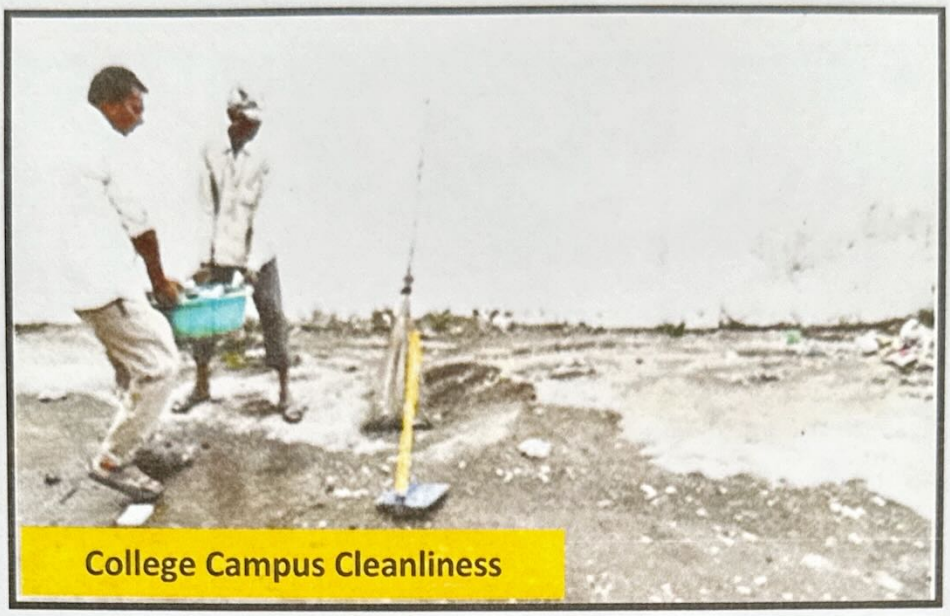
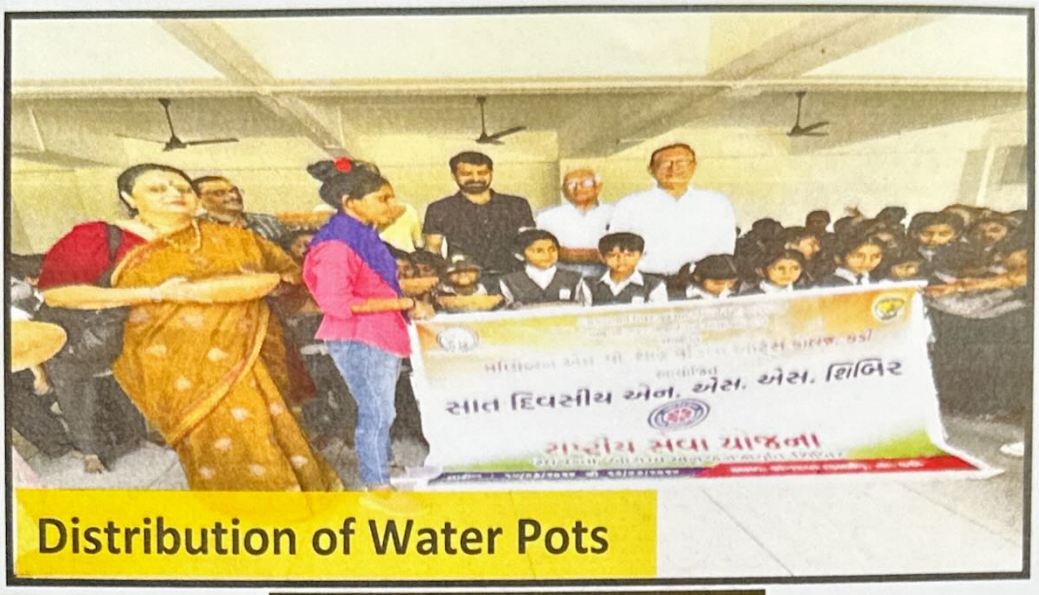


College Campus Cleanliness

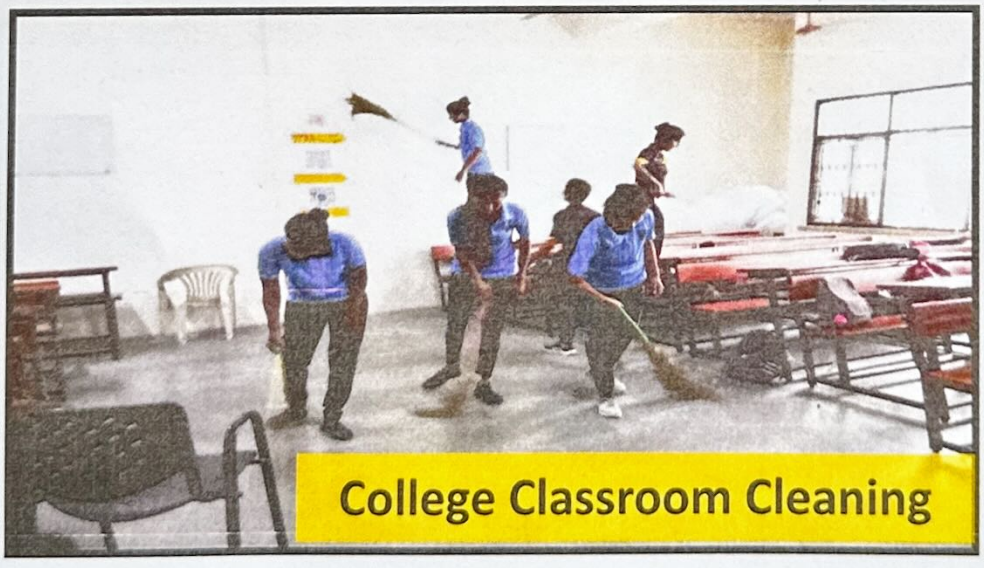
Tree Plantation Dada Gram Ashram, Sanand

Save Water Rally



Distribution of Water Pots

Cleaning of Kadi Canal



College Classroom Cleaning

6) Environmental Policy

SARVODAY KELAVANI SAMAJ MANAGED
Shri Manibhai Virani & Smt. Navalben Virani Science College
(An Autonomous College affiliated to Saurashtra University, Rajkot)
NAAC Assessment & Accreditation Cycle - III: 'A++' grade with CGPA 3.65 on 4 point scale

Environmental Audit Certificate

Maniben M. P. Shah Mahila Arts College, Kadi

College Campus, Opp. N. C. Desai Petrol Pump Highway Road, Kalol Road, Kadi - 384440 - Gujarat - India

For the AY (2023-24)

Environmental Audit for the period **June 2023 to May 2024** has been conducted for the **Maniben M. P. Shah Mahila Arts College, Kadi, College Campus, Opp. N. C. Desai Petrol Pump Highway Road, Kalol Road, Kadi - 384440 - Gujarat - India** to assess the green initiatives planning and efforts implemented in the college campus like Green Campus Management. This Environmental Audit is also aimed to assess eco-friendly initiatives of the Institute towards sustainability.

It is believed that the institution has presented authentic data on various aspects of working of the institute before the audit team. The recommendations are based on the data presented before the team as they existed at the audit time. This certificate is valid for the audit period only. However, it is subject to automatic cancellation in case of any change in prevailing green practice or misleading data. The findings reported in this audit report are entirely based on data furnished by the institute and data collected by the audit team during the audit. Thus, the findings reported in this audit report are strictly limited to the period when the audit was conducted.

The Environmental Quality in the campus is found **adequate and efficacious**.

Ravi S. Tank
(Recognised Schedule-I Environmental Auditor, Gujarat Pollution Control Board-GPCB Gandhinagar, Gujarat)

I/c. Director,
Environmental Audit & Consultancy Cell,
Atmiya University,
Rajkot-Gujarat-360005-India

Director
Environmental Audit & Consultancy Cell
Shri Manibhai Virani & Smt. Navalben Virani Science College, Rajkot

I assure that the data presented is authentic to the best of my knowledge & I agree to comply with the recommendations received this report within a year at maximum after the internal review.

Dr. Hina M. Patel,
Principal,
Maniben M. P. Shah Mahila Arts College, Kadi
College Campus, Opp. N. C. Desai Petrol Pump Highway Road,
Kalol Road, Kadi - 384440 Gujarat-India

MANIBEN M.P. SHAH MAHILA ARTS COLLEGE Kadi (N.G.) 384440 KADI

Principal
Maniben M.P.Shah Mahila Arts College
Kadi - (N.G.)-384440