Green Audit

Study Period (Two Years) 2021 – 2022 & 2022 - 2023

Sustainability study

AUDIT REPORT

Studied for

S. P. Mandali's

**R. A. Podar College of
Commerce and Economics (Autonomous)**

L.N. Road, Matunga,
Mumbai – 400019, Maharashtra, India

Studied in the capacity of

Accredited and Certified GBP

Studied by

Greenvia
Solutions

Website: https://thegreenviosolutions.co.in/

Email: greenviosolutions@gmail.com

Background reference image Sasin Tipchai on unsplash

Disclaimer

The Audit Team has prepared this report for the **S. P. Mandali's R. A. Podar College of Commerce and Economics (Autonomous)** located at _L.N. Road, Matunga, Mumbai – 400019, Maharashtra, India_ based on input data submitted by the Institute analysed by the team to the best of their abilities.

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

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Ar. Nahida Abdulla
Greenvio Solutions

Developing Healthy and Sustainable Environments
We are an Environmental and Architectural Design Consultancy firm
Sustainable Academe is our department for conducting Audits
Palghar District, Maharashtra- 401208
sustainableacademe@gmail.com

Acknowledgement

The Audit Assessment Team extends its appreciation to the **S. P. Mandali's R. A. Podar College of Commerce and Economics (Autonomous), Maharashtra** for assigning this important work of Green Audit. We appreciate the cooperation extended to our team during the entire process.

Our special thanks are extended are due to everyone from the Management.

Our heartfelt thanks extended to the Chairpersons of entire process **Dr. Shobana Vasudevan,** (Principal) and **Dr. Vinita Pimpale** (Vice Principal) for the valuable inputs.

We are also thankful to Institute's Task force who have played a major role in data collection.

We appreciate the cooperation of the **entire Teaching, Non-teaching, and Admin staff** for their support while collecting the data.

Sustainable Academe

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Contents

1. Introduction

1.1 About the Institute

R.A.Podar College of Commerce and Economics (Autonomous), Mumbai has had a long history, which commenced with the freedom struggle of India. The visionaries of that time realized that they should start an institution which would inculcate the indigenous values and have the thrust of social and cultural value system that are typical to the grand heritage of our country.

In August 1940, the trust known as 'Shikshana Prasaraka Mandali', Pune, made an application to the Bombay University for permission to start a Commerce College. The Industrialist and Philanthropist and a visionary, Seth Ramdeoji Anandilal Podar was deeply interested in the cause of education. He wished to build an institution in the memory of his brother Ramniranjan Anandialal Podar who had died at a young age. At the cost of Rs.1,50,000/- he constructed the building that houses the college today, and gifted it to the S.P. Mandali on the 7th of February 1941.

The Senate of Bombay University granted permission to start the College initially for a period of two years, with 150 students on its rolls. The College building with its famed clock tower was handed over by Seth Ramdeoji Anandilal Podar to the S.P. Mandali. Barrister M.R. Jayankar inaugurated the college building formally. The college was named "Ramniranjan Anandilal Podar College of Commerce". The Mandali has been rendering notable service under its motto of unflinchingly carrying out the mission undertaken and has kept up its well-defined objectives. The objectives in regard to Commerce education has been to extend popular and reasonably affordable higher education in Maharashtra and to develop an institution that would impart appropriate education both in Commerce and Economics.

The institution first started the B. Com. Degree course in 1942 and the word Economics was added to the name of the College. It has now become 'Ramniranjan Anandilal Podar College of Commerce and Economics'. The College received permanent affiliation from the University of Mumbai on 17th August, 1950.

1.2   Assessment of the Institute

1.2.1 Affiliations

The courses provided by the College have received their affiliation through the **University of Mumbai,** a public state university in Mumbai.

1.2.2 Certification

The College has received the following Certifications

- ➲ **AISHE** – The All India Survey of Higher Education code is C-34086
- ➲ **NIRF** – Participated and received rank in National Institutional Ranking Framework

1.2.3 Recognitions

The College has achieved the following recognitions:

- ➲ **Autonomous Status** - The College was conferred Autonomous status by the University Grants Commission (UGC).
- ➲ **Recognition of UGC** – The College has been recognized under section *2 (f) and 12(b) of the UGC Act, 1956* by University Grants Commission, New Delhi.

1.2.4 Accreditation

The following are details of the accreditation awarded by the National Assessment & Accreditation Council (NAAC) to the College.

Cycle	First	Second	Third
CGPA	N.A.	3.63	3.68
Grade	A+	A	A+
Year	2004	2011	2017

Table 1: NAAC Accreditation details of the Institute

The College is due to enter its Fourth cycle of NAAC.

2. Overview

2.1 Summarised Populace analysis for 2022-2023

2.1.1 Students data

The data (shared by the Institute) shows there were **5,066 students.**

2.1.2 Staff data

S. No.	Type	Male	Female	Total
1	Teaching staff	15	30	**45**
2	Non-Teaching staff	30	09	**39**
Total Staff Members		**45**	**39**	**84**

Table 2: Staff data of the Institution for 2022-2023

The staff data shows the Institute premises **84 Staff Members.**

2.2 Summarised Populace analysis for 2021-2022

2.2.1 Students data

The data (shared by the Institute) shows there were **4,965 students**

2.2.2 Staff data

S. No.	Type	Male	Female	Total
1	Teaching staff	12	32	**44**
2	Non-Teaching staff	30	09	**39**
Total Staff Members		**42**	**41**	**83**

Table 3: Staff data of the Institution for 2021-2022

The staff data shows the Institute premises had **83 Staff Members.**

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3. Research

3.1 Site & Institute Building Spread Area

The Institute spread over **0.62 acres** with a built-up area comprising of **5,055 sq. m.**

3.2 Institute Infrastructure - Spatial Organisation

2.3.1 Establishment

The Institute established and began its operations in **1941.**

2.3.2 Spatial Organisation

The Institute has the following spatial features:

- Heritage and historic building made of stone with a striking feature of clock tower

- Amenities such as common room for girls, hall for programmes, library and more

- Facilities such as drinking water, washrooms, biometric, and more

- Special features such as 'Green Gym' in outdoor areas

4. Evidence

Plate 1: Group photo with the team and display about 'Tobacco free campus' measures undertaken

Plate 2: Investigation of the system – Seating areas, fire extinguisher and e-waste bins
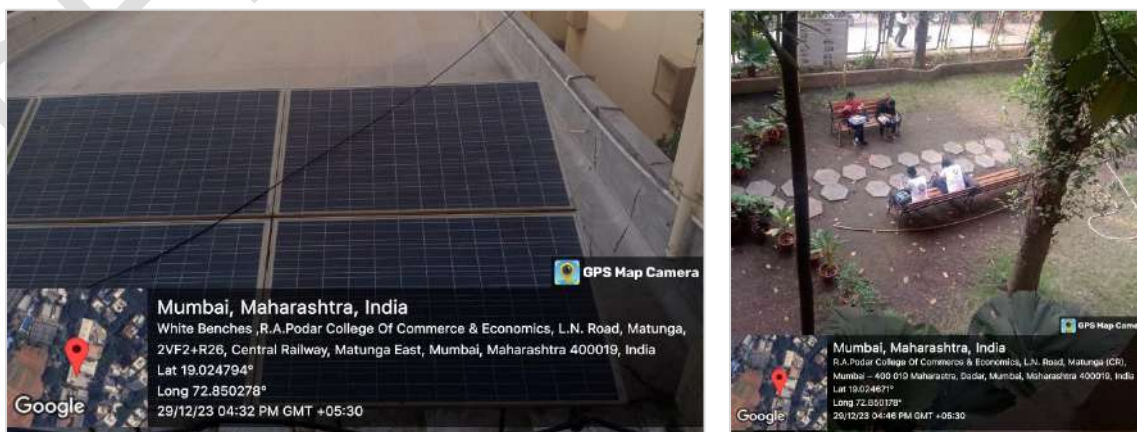
Plate 3: Rooftop solar panels and green gym

5. Documentation

5.1   Green Practices Audit

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

5.1.1 Green practices

We observed the following points during the Site investigation and data verification of the premises; these are common for all the Buildings in the premises.

- **Silent and peaceful atmosphere –** *The Institute is located amidst residential areas which are well designed thus these help to maintain the pollution under control and provide a healthy ambience.*

- **Hygiene committee -** *The Institute has a hygiene committee which undertakes multiple programs and necessary actions towards the maintenance of cleanliness in the premises.*

- **Green gym –** *This is a unique feature of the campus for overall well-being of stakeholders of the premises.*

- **Garden development –** *The team undertakes activities related to the enhancement of the landscape features of the premises.*

5.1.2 Community development

The details of ***extension initiatives*** under various heads in Institute are documented below:

S. No.	Type	Coordinator name
1	National Service Scheme (NSS)	Vinita Pimpale
2	National Cadet Corps (NCC)	Major Gawande
3	Earn while you learn scheme	Kavita Jajoo

Table 4: Details of the extension initiatives by the Institute

The study suggests that the team should increase the environmental activities.

Plate 4: NSS and NCC cadet boards at the entrance

5.2 Waste Audit

Waste is an inevitable part of our lives. Over the years the awareness about waste management techniques has given a rise to rethink how the waste can be avoided being sent to the landfills. The audit provides an approximation of the types of waste generated, location of waste collections, disposal techniques used, waste segregation methodologies adopted, and waste management strategies that are implemented in addition to the newer ways that can be adopted aiming to make the premise clean and sustainable.

5.2.1   Waste produced

There are 92 dustbins in indoor areas and 4 in outdoor areas (large bins).

S. No.	Type	Proposed disposal
1	Solid waste (Toilets)	*Biogas plant can be designed*
2	Organic waste (Regular)	Dedicated compost pit is available, continue with practice
3	Liquid waste (Toilets, wash basins)	*Water treatment plant can be designed and practiced*
4	Chemical waste from laboratories	Not applicable
5	Toxic waste from laboratories	
6	E-waste	Bin is available, continue with practice
7	Plastic waste	*Sign an MoU and undertaken programs, workshops for recycle*
8	Paper waste	
9	Bio-waste (Sanitary)	Not applicable
10	Medical waste (Pharmacy etc.)	
11	Construction waste and reuse	

Table 5: Details of the waste management practices

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Plate 5: Waste bins in the campus
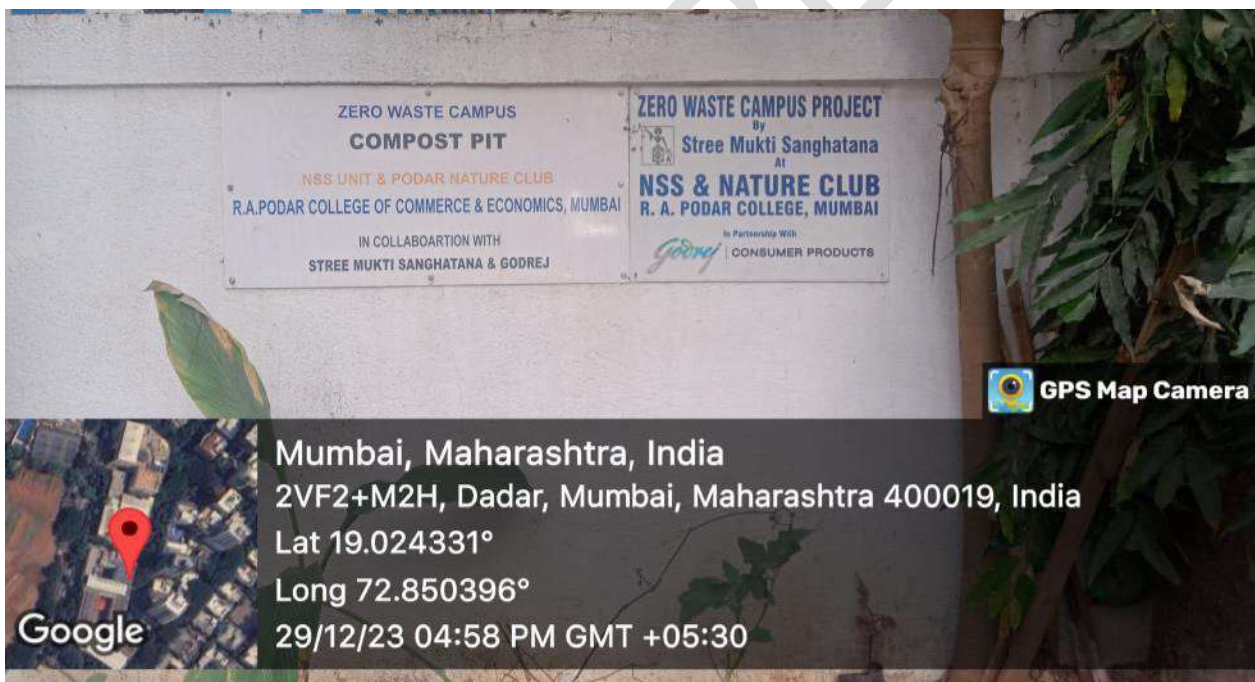
Plate 6: Compost bin in the premises

The study suggests that the following measures should be adopted:

- ⮱ **Dry waste bins with coding in each space**

- ⮱ **Separate waste bins each for paper/ plastic/ e-waste should be collected on a monthly basis for awareness drive for further recycling and sensitization purposes**

Plate 7: E-waste bins in the campus

5.3   Water Audit

Water is one of the basic needs. Pure drinking water is a resource that needs to be preserved efficiently. A water audit helps to identify the sources of water consumption, and the water requirement by the premises is met by these sources. The effective usage of water without any wastage should be a mandatory practice. Understanding the techniques as per site context to increase water conservation in terms of awareness and practice can be identified and executed as part of this exercise.

5.3.1   Water availability and consumption

5.3.1.1   Source of Primary water supply

The Institute requires water from the Local Municipality for drinking water purposes. **The details are documented below:**

S. No.	Type	Nos.
1	Underground	2
2	Overhead	3
3	Rain water harvesting tank	1

Plate 8: Water tanks available in the premises

The study suggests that the space requires of tanks can be documented with mention of size, capacity usage, Institute name, colour coding and last maintenance date mentioned on each facility.

5.3.1.2   Source of Secondary water supply

The Institute uses the following sources of water supply for secondary usages such as watering plants, kitchen, toilets, and wash basins and other spaces. **There are no sources available as wells or bore wells in premises.**

5.3.1.3   Source of Tertiary water supply

The tertiary source of water is **the source of water harvesting.**

Since, the campus is located in an urban area of Mumbai the local governance does not allow the bore well or well or rain water pit of large size in premises.

5.3.1.4　　　Source of Reusing waste water

This initiative is not practiced.

__The study suggests that keeping the site context and constraints in mind the waste water treatment plant or mechanism is not a compulsion at present, however it can be explored.__

5.3.2 Areas of water usage

Based on the inventory done and data shared by the staff we found that the premise has the facilities such as:

- ➲ General toilets for male
- ➲ General toilets for female
- ➲ Taps for gardens and toilet facilities

__The study suggests that daily documentation of water supply should be undertaken.__

Plate 9: Drinking water facility in the premises

5.4 Health and Hygiene Audit

The hygiene is a part and parcel of our daily life. It is extremely essential to keep the surroundings clean in the same manner as we would want our houses to be.

Educational Institutes have a bigger role to play in order to affect the young minds in the positive manner through better hygienic practices.

5.4.1 Facilities available

The Institution has washroom facility, hand wash, drinking water and dustbin facilities.

The study suggests that the current practices are good enough.

5.4.2 Hygiene aspects

The investigation conducted physically states that the campus was extremely spic and span, clean with no odour issues.

Certain good features of the campus are noted:
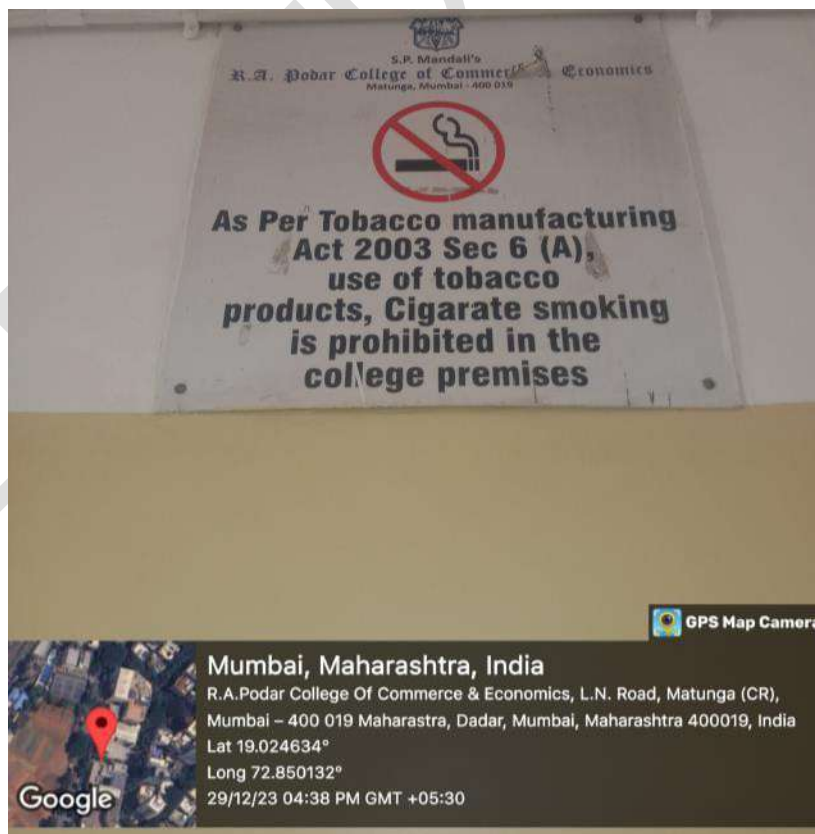
Plate 10: Display board about ban on use of tobacco

Plate 11: Green gym display board in outdoor areas
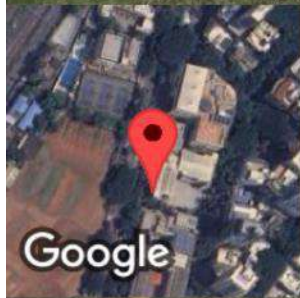
Plate 12: Green gym in outdoor areas

6. Suggestion

6.1 Section-wise suggestions

The following suggestions are to be considered as a ***first priority*** for implementation. These **should be executed within the next 2.5 years** from the date of Report submission.

⮑ **General aspects (Indoors areas)**

- o Zoning of the site w.r.t. space wise analysis

- o Signboards, signages, information and display boards at relevant locations

⮑ **Library in the Campus**

- o Install book drop box system at the entrance of the library

- o Upgrade smart scanning system for every book

⮑ **Carpets**

- o Green carpets could be placed outside drinking water and toilet blocks

- o This will add to hygiene areas and keep the water spillage under control

⮑ **Awareness displays**

- o E-waste management chart can be displayed in spaces that have computers such as offices and laboratories.

- o Going paperless, Print less etc. awareness boards could be displayed.

6.2   General suggestions

> The following are consolidated study related to 'entire Institute' should be considered as ___second priority___ once section wise recommendations are implemented.

6.2.1   Green practices audit

- **Plant as a gift -** As a kind gesture, the guests visiting the premise can be asked to plant a small plant on the premise itself and they can be even given plants/bouquets from the flowers of the plants on the premise as a gift.

- **Environmental awareness -** There can be various slogans in local and national language on the compound wall giving the message of saving the environment through the joint efforts of the students and staff thereby making the student socially and environmentally responsible citizens.

6.2.2   Waste Audit

- **Documentation** – Improve and increase the documentation and visibility/ reflectance of the environment related events on the website, social media handles

- Tie up with **Bisleri International regarding their 'Bottles for change program'** also with **'Thereco'** for their waste management.

- Invite companies such as **'Thaely'** and **'Recharkha'** to undertake skill development workshops.

6.2.3   Water Audit

No changes proposed for this section

6.2.4   Health and Hygiene Audit

- **Signboards** – The Institute should have multiple signboards about 'No smoking' and 'Healthy premises' at every nook and corner of the Institute.

- **Compound wall** – The compound wall should have awareness messages about 'No Smoking' and 'No Tobacco'

7. Compilation

The study is based on the data collected, analyzed, rechecked, and confirmed through multiple modes. For the quality study, some standards/ notes have been referred to. These are listed and noted below. However, no direct references have been used anywhere. These are used as a base to analyze and study the data collected.

National references

- Uniform Plumbing Code – India, 2008

- IGBC Green Existing Buildings – Operation & Maintenance (O&M) Rating system, Pilot version, Abridged Reference Guide, April 2013

- IGBC Green Landscape Rating system, March 2013

International references

- BOMA Canada Waste Auditing Guide, Best Environmental Standards, BOMA BEST – Canada

- Used only for understanding Universal design - Universal Accessibility Guidelines for Pedestrian, Non-motorized vehicle and Public Transport Infrastructure – Report guidelines by Samarthyam (National center for Accessible Environments) – an initiative supported by Shakti Sustainable Energy Foundation and www.umassd.edu

- The city of Cheyenne, Streetscape/ Urban Design elements - Wyoming Planning Association, Gillette, Wyoming, United States

- Streetscape elements – Chapter 6 on San Francisco

- American lung association https://www.lung.org/

- Study related to air pollution https://www.airgle.com/

- Exploring the light pollution https://education.nationalgeographic.org/

- Accessibility study https://www.washington.edu/

- Urban heat island effect https://www.epa.gov/heatislands/what-you-can-do-reduce-heat-islands