I REEN AUDIT

STUDY PERIOD (ONE YEAR) 2023 - 2024

Sustainability study AUDIT REPORT

Studied for

Rayat Shikshan Sanstha's, Annasaheb Awate Arts, Commerce and Hutatma Babu Genu Science College, Manchar Post-Manchar, Tal. Ambegaon, Dist. Pune.

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Pin code- 410 503, Maharashtra

Studied in the capacity of

Accredited and Certified Green Building Professional



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Disclaimer

The Audit Team has prepared this report for **Rayat Shikshan Sanstha's Annasaheb Awate Arts, Commerce and Hutatma Babu Genu Science College, Manchar** located at <u>Post-Manchar, Tal. Ambegaon, Dist. Pune Pin code- 410 503, Maharashtra</u> 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.

These can be implemented phase wise or as a whole depending on the decision taken by the internal team. The warranty or undertaking, expressed 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.

The audit is a thorough study based on the inspection and investigation of data collected over a period of time and should not be used for any legal action. This is the property of Greenvio Solutions and should not be copied or regenerated in any form.

The Report is prepared by the Team of Greenvio Solutions under their brand and department – Sustainable Academe as Consultancy firm with the Project Head - Ar. Nahida Shaikh who is as an Accredited and Certified Green Building Professional-Architect. Green Building consultancy is her forte and she is one of the most sought after names when it comes to providing excellent quality services within the stipulated time frame.

The Study is conducted in capacity of Accredited & Certified Green Building Professional with extensive experience.

Ar. Nahida Abdulla **Greenvio Solutions**

Developing Healthy and Sustainable Environments Solution Consumincy firm Sustainable Academe is our department for Fourier Solutions of the Solution Consumination of the Solution Solution Consumination of the Solution S



Acknowledgement

The Audit Assessment Team extends its appreciation to **Rayat Shikshan Sanstha's Annasaheb Awate Arts, Commerce and Hutatma Babu Genu Science College, Manchar, 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.

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

Sustainable Academe

Brand of Greenvio Solutions, Palghar District, Maharashtra- 401208



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1. Introduction

1.1 About the Institution

1.1.1 Vision

The Institute proposes <u>"Education for masses is principal instrument and the tool for</u> <u>eradication of all pervasive social evils and desirable effective social change. Education</u> <u>through self-help is a significant and chief drive of social change to achieve different</u> <u>tasks of nation building by establishing social equality and social justice."</u>

1.1.2 Mission

The Institute's information includes:

- To import higher Education through the University formal courses and non-traditional self financing and short term courses
- By imparting higher education for the upliftment of the backward, the depressed, and the underprivileged and tribal communities of the region
- To inculcate values and virtues among the students as mentioned the aims and the objectives of the college.

2. Overview

2.1 Summarised Populace analysis for 2023-24

2.1.1 Students data

The data (shared by Institute) shows there were 645 male; 930 female and thus 1,584 students.

2.1.2 Staff data

SI. No.	Particulars	Male	Female	Total
1	Admin Staff	06	04	10
2	Teaching Staff	50	30	80
3	Non-teaching Staff	14	02	16
Total		70	36	106

Table 1: Staff data of the Institution for 2023-2024

Above data documents 106 staff members.

Thus, total populace stands at 1,690 nos.



3. Observation

Audit team headed by e Accredited & Certified Gree	external expert - Ar. Nahida Abdulla en Building Professional, ISO IA (IMS)
Audits covered:	uilding up gradation of the premises Environment Gunder Audit audit In ministration
Institute: Annarabel Ausate Auto	Commence & Date: 16-12-202
Hutatura Balan Gem	Science College.
Document objective: I	nferences of the Site visit
Observations (Positive aspects)	Suggestions (Improvement aspects)
Gree	n Audit
- Cleanliness (Hygiene); 'No	- Undertake Unnat Bhasat
plastic " 31 vermi - compost for	-Abhiyan project
(waste); 3 types of rain	- Document facilities &
tank & bit)	oltoplay same
Gender Energ	y Audit
- Posh 3 Viduarthi March	- Newsletter
doing instation	- Magzing
.J minutices	
	undertake 5DG 5,10,16
Environn	nent Audit
- AQI levels around 57 ppm	- Undertake carbon
- Good green course	sequestration study on
(Orugen hub, medianal,	Institute level
botamical, organic from 2	
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Name: I Que to average a vit Designation: I Q AC Co-ordinator	Signation Strand Nan OMrs. F. A. Synkh Designation Sopert Coord
For the said Institute	For The Greenvio Solution

Plate 1: Evidence files related to inferences





Plate 2: Evidence files related to proof





Plate 3: Evidence files related to induction



4 | Page Evidence documents for Site visit of external audit team Audit team headed by external expert - Ar. Nahida Abdulla Accredited & Certified Green Building Professional, ISO IA (IMS) Audit objective: Green Building up gradation of the premises Gender Ferergy audit Environment audit Institute; Amasaheb Avale Arts Commerce Date: 16-12-2024 Hutatina Baller Glun Vience College. Document objective: Exit Meeting attendance sheet S. No. Name Committee Designation Signature 1. Mrs. F. A. Shaikh External **Project Coordinator** 2. Ar. Nahida Abdulla External Project Head Ms. H. J. Gavit 3. Internal IGAC Co-Ordinator Mr. S.T. Pokale 4. Internal Member SIF Signature & round seal Name: Ms. H. J. Gewil-Designation: IQAC Co-ordinator pordinator For the said Institute For **Invio Solutions** The Website: thegreenviosolutions.co.in Email: greenviosolutions@gmail.com Greenvin

Plate 4: Evidence files related to discussion



4. Investigation

The following results were carried out during visit on **<u>16 December 2024</u>**.

4.1 Drinking water testing



Figure 1: Water testing investigation study of all water coolers

4.2 Macro summary study

S. No.	Block	Filter specific location	Actual level	Required level	Inference
1.	Main block	Cooler 1 at 12:32	92	50	TDS levels are
2.		Cooler 2 at 12:38	91	50	relativey high

Table 2: Drinking water testing details



5. Documentation

5.1 Green Practices Audit

5.1.1 Green practices

The practices undertaken as an awareness/ sensitization activity with stakeholder involvement have been documented below: (June 2023 to May 2024)

S. No.	Name of the event	Why and how was it celebrated?	Туре	Date
1	Plastic Free Campus Activity	Physical	02-08-2023	
2	Creation of Oxygen Hub	Tree plantation was carried by students in association with Nature Club	Physical	2023
3	Clean Campus Green Campus - Tree Plantation	Tree plantation activity was carried out in association with Dnyanshakti Vikas Vahini, Manchar	Physical	06-09-2023
4	Students Field Visit to Vermicompost Unit	visit to vermicompost unit was organized for college students to spread an awareness to students on organic waste management.	Physical	20-03-2024
5	StudentsFieldVisittoApicultureUnit	visit to Apiculture unit was organized for college students to spread an awareness on Honey Bees vital role in pollination and their contribution in interconnected ecosystem.	Physical	20-03-2024
6	Miyawaki Garden	Tree plantation was carried out in concept of Miyawaki in association with Manchar, Nagarpanchayat.Total 60000 samplings were planted in 6 acres of land.	Physical	2023

Table 3: Details of the environmental initiatives undertaken by Institute

5.1.2 Community development

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

S. No.	Туре	Since	Coordinator name
1	National Service Scheme (NSS)	1973	Dr. R. B. Gawade
2	National Cadet Corps (NCC)	1967	Mr. R. P. Muthe
3	Earn while you learn scheme	1966	Mr. T. Y. Randive

Table 4: Details of the extension initiatives by the Institute



5.2 Waste Audit

5.2.1 Waste management (Parameters adopted)

The following practices are common to entire campus.

S. No.	Туре	Current practice	Proposed practice
1.	Solid waste (Toilets)	Soak pits are constructed for collection of solid wate from toilet in which they are naturally decomposed. The generated liquid wate during the process is disposed via the pipeline attached.	Biogas plant can be proposed
2.	Organic waste (Regular)	The organic waste is used to prepare compost via vermicomposting unit developed within the college campus for inhouse consumption.	<section-header><image/></section-header>



3.	Liquid waste (Toilets, wash basins)	Soak pits are constructed for collection of liquid wate from toilet/ laboratories in which they are naturally decomposed. The generated liquid wate during the process is disposed via the pipeline attached.	No changes
4.	Chemical waste from laboratories	Hazardous and non-hazardous chemical wastes are segregated and collected separately. Non-hazardous waste are disposed with the regular waste.	No changes
5.	Toxic waste from laboratories	Toxic chemicals such as strong acids/ bases/ carcinogenic chemicals are treated with neutralizing agent and then disposed.	No changes
6.	Bio-waste (Sanitary)	Microbial waste is autoclaved first and then disposed with organic wate.	No changes
7.	Medical waste (Pharmacy etc.)	The medical waste such as blood and lancets are treated with dettol before disposal.	No changes

Table 5: Details of the waste management practices

5.2.2 Dustbins study

There are 33 dustbins in indoor and 16 dustbins in outdoor areas.



5.3 Water Audit

5.3.1 Water availability and consumption

5.3.1.1 Source of Primary water supply

The facilities are noted below:

S. No.	Туре	Nos.	Capacity (litres)	Last cleaning date	Any water testing done externally? If yes details
1	Underground	-	-	-	-
2	Overhead	3	10,000	30-10-2024	No
3	Fire tank	-	-	-	
4	Rain water harvesting	3	8,000	30-10-2024	No
5	RO Plant	3	6,000	21-10-2024	No

Table 6: Water tanks in the premises



Plate 5: Water RO and cooler in the premises

5.3.1.2 Source of Secondary water supply

The Institute uses water supply for secondary usages such as watering plants, toilets, and wash basins and other spaces.

S. No.	Туре	Available (Yes/ No)	Functional (Yes/ No)	Depth in ft.	Recharged? (Yes/ No)	Capacity (litres)	Nos.	Overflow connected to rain water harvetsing pit/ Any specific output (tap)
1	Dug/ Bore wells	Yes	Yes	175	Yes	5 HP	1	No
2	Driven wells	Yes	Yes	56	Yes	1,00,000	2	No

Table 7: Details about the wells in the premises



5.3.1.3 Source of Tertiary water supply

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

S. No.	Source	Size (in ft.)	Capacity	Connected to which output/ Used for what purpose
1	Farm pond	3,025	1.25L	Agriculture
2	Underground pit	-	-	-
3	Above ground tank	7	8,000	3 tanks for Distilled water generation in laboratories

Table 8: Rain water harvesting details



Plate 6: Rain water harvesting pits in the campus

5.3.1.4 Source of Reusing waste water

This initiative is 'NOT' practiced.

5.3.1.3 Water proportion study

This section studies the total consumption of water and its proportion with the water recharged and saved on the premises.

- As per the Chapter 2 of the Report, total footfalls in premises were **1,690 nos.**
- As per NBC norms for Educational buildings with boarding facilities the water requirement is 90 litres per head for drinking water and 45 litres per head for flushing (secondary) purposes thus making it 135 litres/ per day.
- However, in practical usage a stakeholder can use minimum of 0.25 or 0.5 to 1 litres for drinking and 6 to 8 litres for secondary purposes, thus reframing the norm to actual requirement of 0.25 + 6 = 6.25 litres



- Thus, 6.25 litres x 1,690 populace x 215 (Min. working nos. of days) = 22,70,938 litres is the total water requirement (Average assuming certain nos.)
- Bifurcating this study further we can assume 0.25 litres x 1,690 populace x 215 days = 90,838 litres for drinking and primary purposes

As per shared data, the summary of all capacities is:

Туре	Source	Capacity	Specific type total
Secondary	Well	1,00,000	1,000 litres
Tertiary	Farm pond 1,25,000		1 33 000 litres
Tertiary	Above ground tank	8,000	1,55,000 miles
Primary	Overhead	10,000	
Primary	Rain water harvesting	8,000	24,000 litres
Primary	RO Plant	6,000	
Total		2,57,000 litres	

Table 9: Summary of all types

➡ However, team did not inform any kind of deficiency in availability of water supply.



5.4 Health and Hygiene Audit

There are facilities such as dustbin are available; in certain areas odours issue was observed.



Plate 7: Awareness posters in the campus



6. Suggestion

The suggestion (inference) would act as a 'PLAN OF ACTION' to implement all the suggestions in a detailed manner.

- Conduct the 'Before' and 'After' study with photos
- Document the same in 'Action taken report'

S. No.	Aspect with evidence if any	Suggestion
1.	Green practices aspect	Mandatory programs should be conducted on following
		days
		o January
		i. Wd. Braille Day
		• February
		ii Wd. Pulses day
		iii. Intd. Polar Bear Day
		iv. NI. Science day
		o March
		i. Wd. Wildlife day
		II. Inta. Action for Rivers
		iv. Wd. Sparrow day
		v. Wordl forest day/ Intl. day of happiness
		vi. Wd. Water day
		vii. Wd. Meteorological & resources day
		• April
		ii. World health day
		iii. Wd Atmosphere Day
		iv. Intd. Earth day
		v. Intd girl in ict/ Wd. Safety, health
		I. WO MIGRATORY BIRD Day
		iii. Wd. Bee day
		iv. Intd. Biological diversity
		v. Wd. No tobacco day
		o June
		I. Wd. Bicycle day
		iii. World Oceans Day
		iv. Global Wind Day
		v. Wd. Combat drought
		vi. Sustn. Gastronomy day



		vii. Intd. Of the tropics
		 vii. Intd. Of the tropics July Intd. Of cooperatives & World Day Free of Plastic Bags Soil conservation W. Soil conservation day W. Population day W. Mangrove Ecosystem August Intd. Indigenous day September Intd. Clean blue sky Intd. Literacy/ Clean-up Day World ozone day V. Intd. Of peace/ Zero Emission Day Intd. Aware food loss October W d. Nature day W d. Nature day W d. Habitat day W d. Wildlife day W d. Cotton day W d. Cotton day W d. Cotton day W d. Food day Wil. Climate Action W. W. Clites day November W d. Tsunami awareness W d. Energy/ Diabetes W W. Toilet day
		i. Wd. Soil day
2	Water aspect	Wherever tans supply regular/ non-notable water introduce a
2.	Aspect area:	board stating 'Not suitable for drinking'
	Display board	Similarly intrdouce 'Drinking water don't wash here'
		board on or above every drinking water cooler/ filter
3.	Water aspect	Undertake check of every water cooler and display last checking date
	Aspect area:	beside the cooler and the report on website.
	Facility inspection	



4.	Water aspect	Every water tank/ external pit/ water cooler should be painted with
	Aspect area:	information as follows:
	Information display	Nos.
		Capacity in cu. Litres or litres
		Usage – Primary (Drinking); Tertiary (Rain water) and Secondary (Cleaning, washing, flushing, watering etc.)
		Last cleaning maintenance date and by whom
		Name and logo of the Institute
5.	Health & Hygiene aspect	Introduce zone boards (Optional through mention of state/ central
	Aspect area:	
	through signages	<image/> <text><text></text></text>

Table 10: Observation based suggestion study of the campus



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.

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



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