P.R.PATIL GROUP OF EDUCATIONAL INSTITUT'S, AMRAVATI

Report On

GREEN PRACTICES AUDIT 2017-19



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Green Audit Committee 2016-17

Internal Members of Green Audit Committee:-

Prof. Shital S. Deshmukh Coordinator, Green Audit

Prof. PoojaBaporikar Co-Coordinator, Green Audit

Prof. PalashAgrawal Member

External Expert Members of Green Audit Committee:-

1) Prof. Dr. Varsha D. Hutke,

Asst. Prof.,

Department of Botany,

Government Vidarbha Institute of Science

2) Mr. PoojaPramodraoDhande,

Range Forest officer, Social Forestry NandgaonKhandeshwar, 444708.

Green Objectives:

Today, the human society is facing severe environmental problems like climate change, greenhouse effect, energy crisis, depletion of natural resources, biodiversity loss, pollution of air, water, soil, etc. problems. The time has come to protect the natural environment through precise efforts. 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

The Green Audit of an institution is becoming a paramount important these days for self-assessment of the institution, which reflects the role of the institution in mitigating the present environmental problems.

About us:

P. R. POTE PATIL GROUP OF EDUCATIONAL INSTITUT'S, P.R.PATIL COLLEGE

OF ARCHITECTURE, Amravati has been providing a quality education to the rural and suburban students of Amravati region and adjacent districts. **PRPGEIis** always ahead in identifying their social responsibilities & dedicated to develop a beautiful green campus. Already our campus is situated in lush green area but still to mitigate the losses causes by construction of the campus, the college has been putting efforts to keep the environment clean since its inception.. But the auditing of this non-scholastic effort of the college has not been documented. Therefore, IQAC has decided to document the efforts by conducting the Green Audit. For that a committee has been formed to monitor the proper conservation and planning of the plants in the campus. The purpose of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards not only for Institute but to propagate it to nearby society.

Vision:

"To nurture ideas and skills in students through an insight of environment friendly and society oriented architecture with individual goodness of soul."

The main objectives of the green audit are to promote the environment management and conservation in the college campus and inculcate theses as basic habits in students

Mission:-

- To document the quality drinking water.
- Increase the plantation within and outside the institute campus.
- Conserve and protect the existing plantation with the participation of students.
- Control and regulate the sustainable utilization of water.
- To established proper methods of waste mangment.
- Promote and support ecotourism activities to aware the students.

1. Green landscaping with trees and plants

Though our institute is yet to complete a decade the Institute is lush green trees all around. Tree plantation activity regularly carried out. This activity helps in encouraging eco-friendly environment which provides pure oxygen within the institute and awareness among students. Dedicated staff is allotted for gardening and watering of all trees and plants. To save water drip irrigation system is also installed at some locations.

Not only in the campus college also actively participated in plantation drive organized by forest department at their forest sites. Also students and faculties have collected plastic waste bag of plantation from other plantation sites. College has also revived the barren street into a walk able leisure street by cleaning road sides out of plastic waste, installing seat outs out of metallic waste from college waste. Street sides are



decorated by tree and wall paintings.

List of Audited Plant:-

Sr. No.	Specific Name Of Plant	No.
1	Neem	104
2	Pimpal	98
3	Rain Tree	650
4	Saptpadi	36
5	Gulmohor	100
6	Neelgiri	78
7	Palm Trees(Family)	62
	Total	1128

1. Photographs of available greenery in the campus:-





Tree Plantation in CAMPUS:-

To create- green cover, eco-friendly atmosphere, at the college campus, every year plantationprogram is organized P. R. Patil college of Architecture, Amravati with involving all students, principal, and all facultymembers. In 2017-18, on world environment day 5th June 2017 program was organized as per the direction of Government of Maharashtra. Government of Maharashtra had a vision of planting of 2 Cr plants in the week. To support that activity we planted 100+ plants in the college campus & nearby to the campus.



Tree plantation campaign -2017-18 OFF CAMPUS

P.R.Patilcollege of architecture, Amravati in collaboration with Forest department actively participated in Tree plantation campaign of Maharashtra Govt. on 5 th July 2017. In this campaign of planting 4 core trees, other people from cities also joined along with PRPCOA students. Students have a nature trek in the Wadaliforest near Amravati and have selected barren Phutala lake bit for Plantation. Student has planted more than 200 plants also forest official gave them the proper training for tree planting. Not only that through voluntary contribution, PRPCOA students had collected all polythene bags placed and thrown here and there all over the site and disposed them safely. By doing this students and faculty had shown social and environment cohesion.

The event was inaugurated by the hands of Mr. Gawande,RFO Chandurrange and Ar. Sanjay W. Deshmukh , Principal Prpcoa. Event was assisted by Ar. KirtiHinge ,Prof. SnehalJawanjal.



2. Waste Management

Waste management is intended to reduce adverse effects of waste on human <u>health</u>, the <u>environment</u>, planetary resources and <u>aesthetics</u>.Proper management of waste is important as it eventually leads tobuild a better, sustainable and livable fresher environment.

Waste management includes the activities and actions required to manage <u>waste</u> from its inception to its final disposal. This includes collection, transportation, treatment and disposal of waste, along with minimization, recycling and reuse. Waste minimization in the form of proper waste segregation and utilization, the importance of pre-treatment of organic waste and combustible waste fraction does not only manage the waste but also generates products such as compost and renewable energy.

Green Waste come from college canteen, food remains, and Wasteavailable from the campus after grazing trees and lawnsare identified and collected separately. Earlier It was disposed to landfills but by considering the side effects of landfilldisposal Institute has decided to construct Composted pits for green and dry disposal. These wastes along with biomass are taken for composting. The manure so produced is utilized for maintaining vegetation in the campus.

Non-biodegradable waste is known as dry waste. Non-biodegradable wastes do not decompose by themselves and hence are major pollutants. Dry wastes can be recycled and can be reused.



Compost Pit near farm

Paper Waste: The main dry waste foundin institute is Paper waste like students used sheets, newspapers, used papers and journal files, sheet cover, cardboards, carton boxes, beverage and food containers,

- In 2017-18, Institute practices paperless communication by mail, SMS and whatsapp groups.
 Used one Single sided used papers reused for writing and printing in all internal college work like notices etc. Also University result examination work is also carried out through paperless communication. Institute has purchased ERP (Enterprise Resource Planning) software system for implementation of academic, training & placement and administrative works to reduce use of paper.
- Plastic Waste: Very less plastic waste is generated by office. Use of plastic is discouraged in
 college campus. But plastic beverage and food containers are generated in canteen are
 segregated and send for safe disposal. Few glass bottles are reused activity.
- Sanitary Waste: The incinerator along with Automatic Vending machine for sanitary napkin is installed at ladies toilet block.





INCINERATOR for sanitary pads

- E-Waste: E-waste means CDs, hard disk, keyboards and cables, and Cartridges which are absolute or faulty etc.E-waste is much more hazardous than other waste because electronic components contain cadmium, lead, mercury, and Polychlorinated biphenyls (PCBs) that can damage human health and the environment. Very less E-waste generated in the Institute and whatever generated are collected together and used to create artistic creation by students towards innovative model making in the premise.
- Construction & Workshop Waste: This is usually bulky and weighty material, generated during construction and renovation projects which include materials such as ceiling tiles, plumbing fixtures, carpeting, wood, concrete, bricks, fill dirt, etc. Whereas Workshop waste like broken chairs chains, left over construction materials, steel debris etc. are collected together and used to create artistic creation by students towards innovative model making in the premise.

Facility available in Campus for waste management:

Waste Recycling methods "BEST FROM WASTE"

PRPCOA has tradition conducting Saturday activity under the heading of 'BEST FROM WASTE'. All above mentioned waste from all over the campus used under the heading of 'BEST FROM WASTE' for student's activities conducted onevery Saturday. It is made available to students to enhance their creativity in return waste is recycled. One day earlier theme is announced. Student then goes to scrap house of PRPGEI and find suitable waste or scrap as per their need and ideas.

This activity helps our students to gain hands on practice and at the same time to reduce our expenses, wherever possible. The remaining waste is handed over to central maintenance department which handed over to an external e-waste recycling agency.

Artifacts so generated are stored in modeling workshop. The exhibition of such artifacts was arranged in technical events and many of them are gifted to the eminent guest coming to the institutes. Many artifacts are installed all around the Campus.

Scrap from workshop, Paper waste, cardboards, carton boxes helps our students to gain hands on practice and at the same time to reduce our expenses, wherever possible. Student used these waste to prepare many installations, campus decoration, and Origami and craft activities. Various articles like paper banquets (instead of bouquets), mementos, dustbin chandelier etc. are prepared from campus waste only.





Different types of e-waste generated in the Institute like damaged C.D.s, CPUs, Hard Disk Drives, Monitors, Keyboards, Cables, and Cartridges etc. are collected together and used to create artistic creation by students towards innovative model making in the premise.

• Scrap from workshop, Paper waste, cardboards, carton boxes, Different types of e-waste generated in the Institute like damaged C.D.s, CPUs, waste from canteen like glass &bisleri bottle are collected together. It is then used for students activities conducted onevery Saturday.







Peacock from Compact disk and Tyre waste



Workshop
Wastelike broken



pipes, chairs ,chains, left over construction materials, steel debris etc. are collected together and used to create artistic creation by students towards innovative model making in the premise.



Water Quality Audit & Water conservation

We all take water for granted. It is one of those resources that most people do not put a lot of thought into, but in order to continue enjoying that free supply of water for many more years, changes must be made.

A. Water required for the daily use

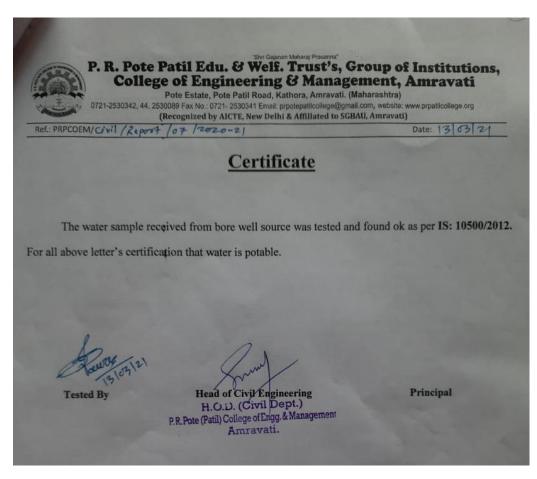
On an average the total use of water in the college is ~25,000 Liter/Day. The major use of water is in common washroom, canteen and at exteriors to watering the plants.

Table for Water Used:-

Sr. No.	Water Used For	A Day purpose
1	Domestic Purpose including canteen.	~10,000 Lit/day
2.	Agricultural Gardening	~15,000 Lit/day
Total wat	ter used per day	~25,000 Lit/Day

B. Water Quality Audit

A water audit is an on-site survey and assessment to determine and improve efficiency water use. In survey water used at bathrooms, toilets, laboratory, garden and of as well as leakages and over flow of water from overhead tanks is also been evaluated. This indicator addresses water consumption, water sources, irrigation, storm water, appliances and fixtures. In 2018, PRPCOA has started Water quality audit.





P. R. Pote Patil Edu. & Welf. Trust's, Group of Institutions, College of Engineering & Management, Amravati

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Ref.: PRPCOEM/

Date: 01 08 2019

Analysis of Bore Well Water Sample

Analysis carried out at Dept. of Civil Engineering PRPCOEM, Amravati

Description of Sample Taken

Date :- 27/07/2019 Time: 10.30 AM

Source Type : Bore Well- I Tested on: 27/07/2019

Parameter	Result	Standard, Limits as per (IS : 10500/2012)
Colour	2	5
Odour	agreeable	agreeable
Taste	agreeable	agreeable
Turbidity (NTU)	2	5
Total Dissolve Solids (mg/I)	375	500
PH	7.2	6.5 to 8.5
Chloride (mg/I)	83	. 250
Free residual Clorine (mg/I)	Nil	0.2
Hardness (ppm)	102	75 to 115
	5.3	5 to 6
Dissolve Oxygen (ppm)	Nil	Nil
BOD	INII	

Note: - The result are based on sample received in the laboratory

Tested By

Head of Civil Engineering H.O.D. (Civil Dept.)

P.R. Pote (Patil) College of Engg. & Management Amravati.



P. R. Pote Patil Edu. & Welf. Trust's, Group of Institutions, College of Engineering & Management, Amravati Pote Estate, Pote Patil Road, Kathora, Amravati. (Maharashtra) Pote Estate, Pote Patil Road, Kathora, Amravati. (Maharashtra) (Recognized by AICTE, New Delhi & Affiliated to SGBAU, Amravati) Date: 25 01 18

Ref.: PRPCOEM/

Date: 28/01/18

Analysis of Bore Well Water Sample Analysis carried out at Dept. of Civil Engineering PRPCOEM, Amravati

Description of Sample Taken

Date :- 23/01/2018 Time: 10 AM

Source Type : Bore Well Tested on: 24/01/2018

Parameter	Result	Standard, Limits as per (IS : 10500/2012)
Colour	2	5
Odour	agreeable	agreeable
Taste	agreeable	agreeable
Turbidity (NTU)	2	5
Total Dissolve Solids (mg/I)	362	500
F!	7.3	6.5 to 8.5
Chloride (mg/I)	92	250
Free residual Clorine (mg/I)	Nil	0.2
lardness (ppm)	106	75 to 115
Dissolve Oxygen (ppm)	5.3	5 to 6
OD	Nil	Nil

Note: - The result are based on sample received in the laboratory

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Ref.: PRPCOEM/ Civil Report 100/2020-21 Date: 12

Analysis of Bore Well Water Sample

Analysis carried out at Dept. of Civil Engineering PRPCOEM, Amravati

Description of Sample Taken

Date :- 5/03/2021 Type: Bore Well Tested on: 6/03/2021

Parameter	Result	Standard, Limits as per (IS : 10500/2012)
Colour	2	5
Odour	agreeable	agreeable
Taste	agreeable	agreeable
Turbidity (NTU)	2	5
Total Dissolve Solids (mg/l)	343	500
P ^H	7.2	6.5 to 8.5
Chloride (mg/l)	97	250
Free residual Clorine (mg/1)	Nil	0.2
Hardness (ppm)	98	75 to 115
Dîssolve Oxygen (ppm)	5.2	5 to 6
BOD	Nil	Nil

Note: - The result are based on sample received in the laboratory

Tested By

Head of Civil Engineering H.O.D. (Civil Dept.)

P.R.Pote (Patil) College of Engg. & Management Amravati.

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Ref.: PRPCOEM/ Civil 1 Repost / 15/2019-20

Date: 07/02/2020

Analysis of Bore Well Water Sample

Analysis carried out at Dept. of Civil Engineering PRPCOEM, Amravati

Description of Sample Taken

Date :- 28/01/2020 Type: Bore Well Tested on: 29/01/2020

Parameter	Result	Standard, Limits as per (IS : 10500/2012)
Colour	2	5
Odour	agreeable	agreeable
Taste	agreeable	agreeable
Turbidity (NTU)	3	5
Total Dissolve Solids (mg/I)	367	500
PH	7.3	6.5 to 8.5
Chloride (mg/I)	89	250
Free residual Clorine (mg/I)	Nil	0.2
Hardness (ppm)	101	75 to 115
Dissolve Oxygen (ppm)	5.2	5 to 6
BOD	Nil	Nil

Note: - The result are based on sample received in the laboratory

Head of Civil Engineering H.O.D. (Civil Dept.) P.R. Pote (Patil) College of Engg. & Management Amravati.

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Ret.: PRPCOEM/ CIVIL / Report 104/2020-21

Date: 03/09 2020

Analysis of Bore Well Water Sample

Analysis carried out at Dept. of Civil Engineering PRPCOEM, Amravati

Description of Sample Taken

Date :- 25/08/2020 Type: Bore Well Tested on: 26/8/2020

Parameter	Result	Standard, Limits as per (IS: 10500/2012)
Colour	3	5
Odour	agreeable	agreeable
Taste	agreeable	agreeable
Turbidity (NTU)	2	5
Total Dissolve Solids (mg/I)	362	500
PH	7.3	6.5 to 8.5
Chloride (mg/I)	92	250
Free residual Clorine (mg/I)	Nil	0.2
Hardness (ppm)	106	75 to 115
Dissolve Oxygen (ppm)	5.3	5 to 6
BOD	Nil	Nil

Note: - The result are based on sample received in the laboratory

Tested By

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H.O.D. (Civil Dept.)
P.R. Pote (Patil) College of Engg. & Management Amravati.

C. Water conservation facilities available in Campus

1. water harvesting at the campus is done by Recharging Bore wells through soak/recharge pits

To assess harvestable quantity of rainwater, we need average rainfall intensity over some time period and hence the mean annual rainfall figure is commonly used. Annual average rainfall of Amravati city is around 808 mm.

A Catchment area is an area of land where surface water from rain gets collected and drains towards the down slope usually towards the exit of the basin and joins to the bore well /recharge pits. To assess roof-top rainwater harvesting potential, the catchment area is taken to be the roof.

Calculate potential supply of rainwater from the catchment area

Volume of water available from Block 1(Seminar hall=603sqm) = 4.82 lakh litres volume of water available from Block 2 (Main block=550sqm) = 4.40 lakh litres volume of water available from Block 3(Studio2nd yr=520.4sqm) =4.16 lakh litres volume of water available from Block 4(1styr.studio=228sqm) = 1.82 lakh litres

Total volume of water available 15.2 lakh litre

Therefore total water available for harvesting (20% transportation losses) = 12.16 lakh litre

Institute has rainwater harvesting system in place to capture both surface water as well as the building roof top rain water. Rain water from the roof of the building is captured and taken down through pipes. The rain water so collected from the roof top is channelized to the recharge pits. There are also underground recharge pits to collect the rainwater. This help to recharge the tube well as well as ground water, this system also increase the ground water table of the surrounding premises.



Recharge pits at Block 1 & Block2





Along with this perforated paver blocks are installed all around so that rain water falling on ground should percolate through and not drain off.

Cleanliness and Environment Awareness Campaigning "

On the eve of 2nd October 2017, Birth anniversary of Mahatma Gandhi and former prime ministerLalBahadurShashtri under cleanliness campaign P.R. Patil college of Architecture decided to run cleanliness and beautification campign. Student and staff cleanup road side from Rajendragarden to ITI colony. IN this voluntary work all dry waste is collected and safely disposed. Not only that student planted smallshrubs and saplings along road side and shows their social responsibility.

In this campaign, Ar, Prof. Sanjay Deshmukh, Principal PRPCOA and Prof. Sarang Holey actively participated along with student to boost-up students moral.







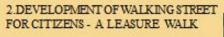
Cleanliness campaign at Circular road ITI colony

SOCIAL AWARENESS CLEANLINESS & PAINTING CAMPAIGN

In 2017-18, our institute conducted wall painting campaign at the prominent points of the city. Nearly 104 students and staff members participated in the campaign. Wall painting included the topics like social awareness, DE adduction and traffic safety measures. Two prominent square are cleaned and beautification of those areas are done by our students along with faculty member.

In same year our institute actively participated in tree plantation campaign run by forest Department which targeted one crore tree plantation in all over the state. For this campaign our student along with staff not only participated in tree plantation but also collected all the polythene carry bags left after this campaign for its safe disposal.





- To create the healthy environment for every age group this activity was proposed.
- ·A joggers track was made for moming and evening walk.
- ·Relaxation points sit outs were made out of waste material.
- Tree paintings were made by students consisting of social messages.
- *Decoration at the passe (Temple)
- *The students of 1st 2nd &3nd year participated with great zeal.

3.JAIL PAINTING

- *This activity is framed in such a way so it could serve a better place to live in for the prisoners.
- *With the permission of Jail Superintendent This activity is in progress....

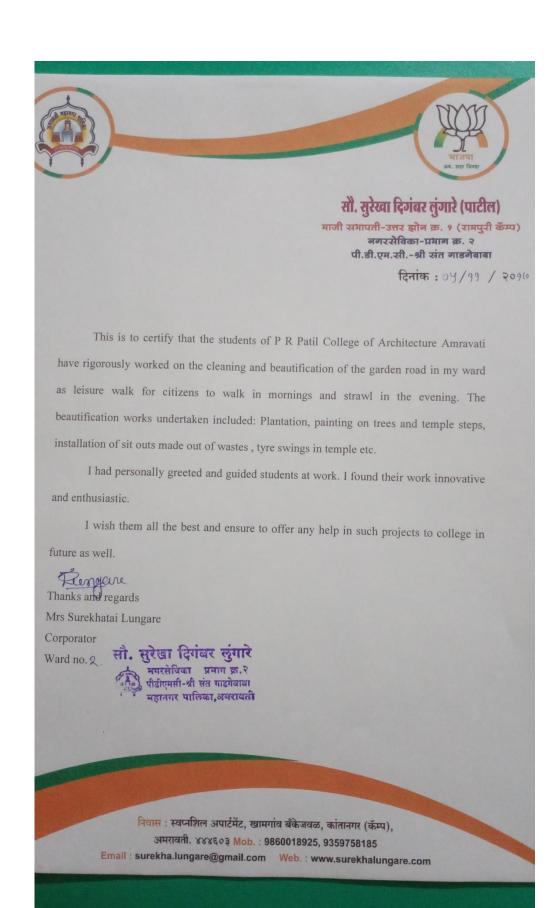








Plantation and Beautification through wall painting at Prominent square of City: R T O Square



In 2017-18, our institute conducted wall painting campaign at the prominent points of the city. Nearly 104 students and staff members participated in the campaign. Wall painting included the topics like social awareness, DE adduction and traffic safety measures. Two prominent square are cleaned and beautification of those areas are done by our students along with faculty member.



Social Awareness through wall painting at Prominent square of City: PanchawatiChouk

To promote green values through "Bicycle rally"

In every year of gathering, Bicycle rally has been conducted on different days and for different goals or for giving awareness messages to the society. This rally was inaugurated on 5th of March2018. This rally was started from Panchavati and it was over on campus. Everyone in the staff and students from different departments has gathered at the location of Panchavati, then everyone has travelled together towards our institute campus by their owned bicycle. This time, the bicycle rally was for motivating green mobility and to celebrate a woman's day in the campus.



Landscaping Activity

For understanding of practical detail in construction, landscape development and architectural presentation, the special activity was conducted. For 3rd and 4th yr. students we arranged this outdoor activity every year for 2nd, 3rd, 4th yr. students except 1st yr. students. During this activity, the Students has designed a O.A.T., stage for flag hosting and many more things. Simultaneously, the students have learned the basics of construction from layout to execution. The students have zealfully designed and execute all the things and during this, student has enjoyed a lot.











DESIGN COMPETITIONS (TIGER TECH 18) (Event)

Maharashtra Department of Forest has organized a competition named "Melghat Tiger Tech", organized at V.N.I.T. campus ,Nagpur on 25 March 2018. The topic was based on A Project Presentation for wildlife and nature conservation, where 4th yr. had designed forest camp with maximum ventilation, and indigenously designed light and cooling system by minimizing external energy source. For this, they selected as a Finalist.

