

7.1.6. Energy Audit of the Institution:



Appasaheb R. B. Garud Art's, Commerce and Science College,

Shendurni, Tal: Jamner, Dist- Jalgaon 424204

Energy Audit Report

THE SHENDURNI SECONDARY EDUCATION
CO-OP SOC. LTD., SHENDURNI

Submitted to

Principal,

Appasaheb R.B.Garud Art's, Commerce and Science College,

Shendurni, Tal: Jamner Dist- Jalgaon 424204

By

Dr. Sharad Bhimrao Patil

Department of Physics,

Appasaheb R. B. Garud Art's, Commerce and Science College,

Shendurni, Tal: Jamner



1. Introduction:

We enjoy a very comfortable life by using electric energy, but we must also be aware global issues. One of the most immediate benefits of saving electricity is the amount of money we will save each month on our utility bills. Another benefit of using less electricity is the positive impact you can have on the environment. Almost everything in a workplace setting

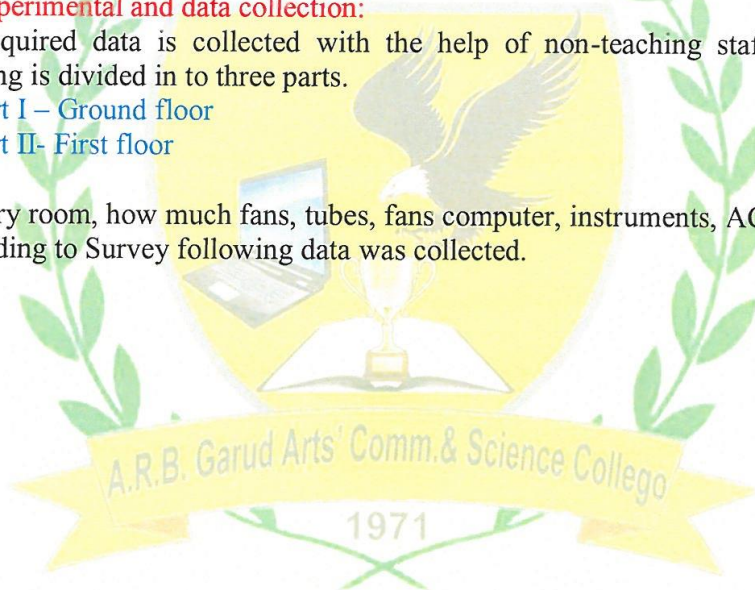
The Energy Audit is completed by considering, how many tubes, fans, A.Cs, electronic Instruments etc. in each classrooms and departments of the College.

2. Objectives:

- To analyze the energy flows in a building, and understand its energy dynamics.
- To reduce the amount of energy input into the building.
- To indicate how and where we can reduce energy consumption and save Energy costs.
- To learn how to work as a group.
- To be able to teach and promote knowledge to the others.

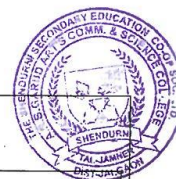
3. Experimental and data collection:

- All required data is collected with the help of non-teaching staff. In this survey building is divided in to three parts.
 - 1. Part I – Ground floor
 - 2. Part II- First floor
- In every room, how much fans, tubes, fans computer, instruments, AC, were measured. According to Survey following data was collected.





A building ground floor								
Room	Tube Light	CFL	LED	Fan	Refrigerator	Computer with laptop	LASER printer	Xerox Machine
Principal's office	2	1	6	2	--	3	2	1
Administrative office	3	1	8	4	--	8	4	1
Department of Physics and Lab.	-	--	1	1		1	--	--
Department of Chemistry and Lab.I	-	1	1	1	01	--	--	--
Chemistry and Lab.II	-	--	1	1	--	1	1	--
Department of Computer	1	1	2	2	--	22	1	--
Laddies Room	1	1	2	1	--	--	-	--
Department of Commerce	1	--	1	2	--	19	1	--
Competitive examination hall	4	2	1	3	--	5	--	--
Department of History	1	--	1	1	--	--	1	---
Department of English	1	--	1	1	--	17	1	--
Staff Room	3	--	1	2	--	--	--	--
Vice principal cabin	2	--	1	1	--	--	--	--
Exam Department	2	--	1	1	--	2	2	2
College porch and ground	8	--	10	3	--	--	--	--
Indoor stadium	11	--	30	10	--	--	--	--
Outdoor stadium	3	--	4	3	--	--	--	--
Library	2	2	6	6	--	3	1	--
Guest house	4	--	20	4	--	--	--	--
Seminar hall	3	1		8	--	1	--	--
Canteen	5	--		2	--	--	--	--
A building First , second floor								
Department of Politics	1	--	1	1	--	1	1	--
Department of Economics	--	1	1	1	--	1	1	--
Department of Botany and Zoology	--	1	1	2	--	1	--	--
Department of Marathi, Hindi and Geography	--	--	1	2	--	3	1	--
Mediation room	--	--	1	2	--	-	--	--
Conference hall	5	--	3	6	--	-	--	--
NSS and SDD Department	1	1	--	1	--	2	--	-
Ladies hostel	5	--		14	--	-	--	--
Total	69	13	105	88	1	80	17	--
Calculation	0.19*30	2.990 *30	6.3 *30	5.06 *30	2.76 *30	9.2 *0.5=4.6	0.475 *30	0.460 *30
Watts	5900	8900	18100.125	15100.8	8200.8	13800	1400.25	1300.8



A building ground floor								
Room	LCD projector	K Yan	Air conditioner	LCD TV	Sanitary Napkin	LED notice board	CCTV camera	PA System
Principal's office	--	1	1	1	--	--	1	--
Administrative office	--	-	--	1	--	--	3	--
Department of Physics and Lab.	--	--	--	--	--	--	1	--
Department of Chemistry and Lab.I	--	--	--	--	--	--	1	--
Chemistry and Lab.II	--	--	--	--	-	-	1	-
Department of Computer	1	-	-	-	--	--	1	--
Laddies Room	--	--	--	--	2	--	--	--
Department of Commerce	1	--	--	--	-	--	1	--
Competitive examination hall	--	-	-	1	-	--	1	--
Department of History	--	-	-	--	--	--	1	--
Department of English	1	--	--	--	--	-	1	-
Staff Room	--	--	--	--	--	--	1	--
Vice principal cabin	--	--	--	-	--	--	1	--
Exam Department	--	-	-	--	-	--	1	--
College porch and ground	--	--	--	--	--	1	4	--
Indoor stadium	--	--	--	-	--	--	1	--
Outdoor stadium	--	-	--	--	-	-	1	-
Library	--	--	--	1	-	--	3	--
Guest house	--	--	2	1	--	--	1	3
Seminar hall	1	--	--	--	-	--	1	--
Canteen	--	--	--	--	--	--	1	--
A building First , second floor								
Department of Politics	--	-	-	-	--	--	1	--
Department of Economics	--	--	--	--	--	--	1	--
Department of Botany and Zoology	--	--	--	--	--	--	1	--
Department of Marathi, Hindi and Geography	1	--	--	--	--	--	1	--
Mediation room	--	-	-	-	-	-	1	-
Conference hall	--	--	--	--	--	--	----	--
NSS and SDD Department	--	--	--	--	--	--	--	--
Ladies hostel	--	-	-	-	-	--	1	--
Total	5	1	3	5	2	1	32	3
Calculation	1.437 *30	0.028 *30	0.354 *30	0.28 *30	0.115 *30	0.0690 *30	3.280 *30	0.0086 *30
Watts	4300.11	84	1000.35	800.4	300.45	2000.7	9800.4	25.8

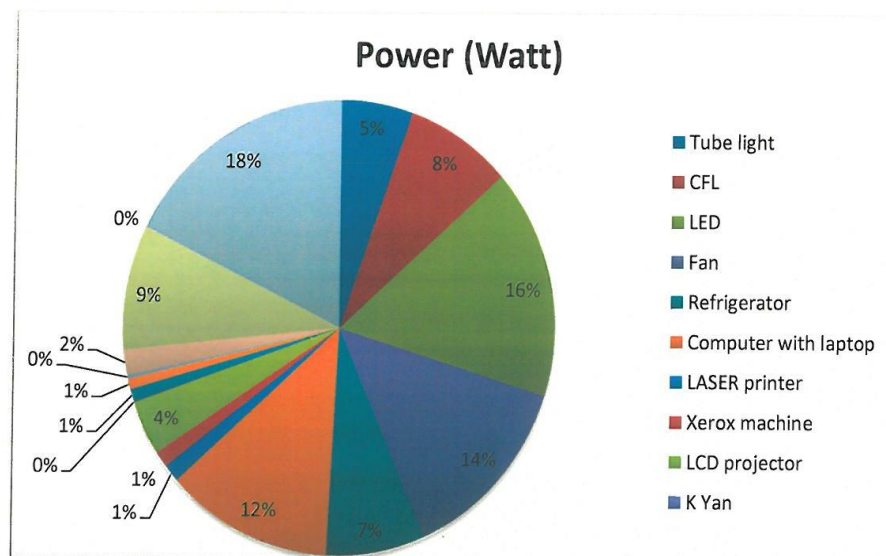


Fig:1 : Analysis of different electrical device with power (Circular Chart)

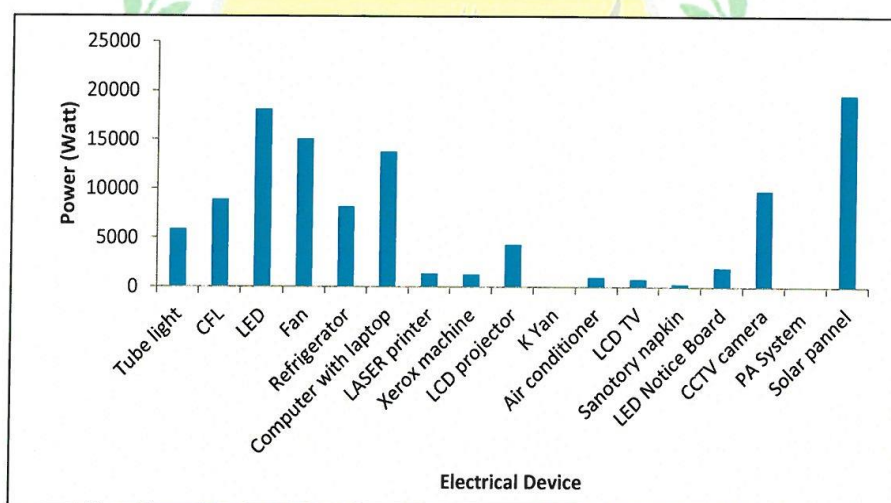


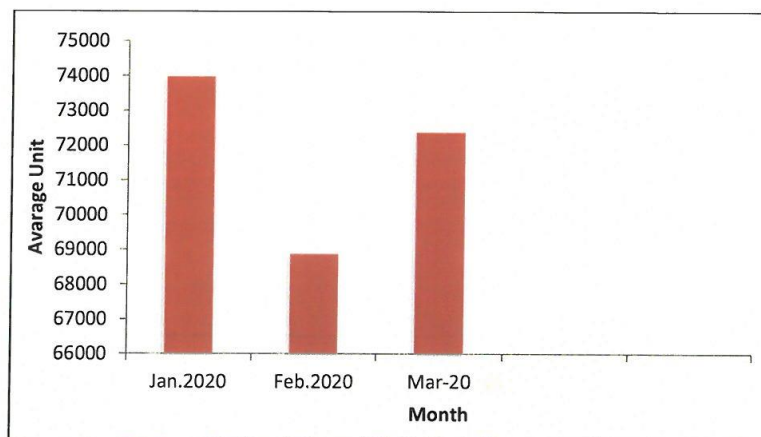
Fig:2 : Analysis of different electrical device with power (Bar)

Electrical audit is main concern about educational institutional. We collected data by considering tube light, CFL light, fan computer printer, AC and instruments. In our college most of the electricity required for the instruments which is 58.8% out of total energy. A.C. utilized 15.18%, printer utilized 1%, and computer required 12%. Fans required 14% and CFL light required 8%. And Solar panel provides 18% power. By using LED light we have save 13 to 15% power as compared to CFL ad tube light. To save the power our institute purchases the solar plant (4 Kwh per day). The total required energy is 92,215 watts. Figure 1 and 2 shows contribution of tube light, fan, computer, printer, AC and Solar panel instruments in total use of energy.

The units utilized by college



Month	Unit Utilized
Jan.2020	72400
Feb.2020	74000
March 2020	76000



4. Conclusion:

Data generated in energy audit are useful for to understand the energy distribution and utilization of college. The college needs maximum 92,015 Watts for electricity. As total power consumption by using solar panel we have use 18% power.

5. Suggestions:

- ☐ Turn off lights and equipment when not in use.
- ☐ Use available sunlight to illuminate your work spaces.
- ☐ Replace incandescent light bulbs with compact fluorescent lamps.
- ☐ Use LED bulbs for save more electricity.
- ☐ Energy Audit.
- ☐ Install occupancy sensors to automatically turn off lights.
- ☐ Control direct sunlight through windows with screens or film.
- ☐ Tune-up your HVAC units (clean and check refrigerant charge).
- ☐ Install programmable thermostats.
- ☐ Purchase ENERGY STAR office equipment.



Gopal
Head

Department of Physics
A.R.B. Garud Arts, Commerce
& Science College, Shendurni
Tal. Jamner Dist. Jalgaon-424204

V. P. N.

PRINCIPAL

Appasaheb R.B. Garud Art's
Commerce & Science College,
Shendurni-424204 Tal. Jamner
Dist- Jalgaon (M.S.)



7.1.6.1. Environmental/Green Audit:



**APPASAHEB RAGHUNATHRAO BHURAO GARUD
ARTS, COMMERCE AND SCIENCE COLLEGE
SHENDURNI, TAL. JAMNER, DIST. JALGAON
MAHARASHTRA 424204**



**Green Audit Report
2014-15 to 2018-19**



Since 1971

॥ SHREE ॥
॥ नहि ज्ञानेन सदृशं पवित्रमिह विद्यते ॥

The Shendurni Secondary Education Co-op Society's
APPASAHEB R. B. GARUD ARTS,
COMMERCE and SCIENCE COLLEGE, अण्णासाहेब र. भा. गरुड कला,
SHENDURNI, TAL. JAMNER, वाणिज्य आणि विज्ञान महाविद्यालय,
DIST. JALGAON (424204) शेंदुर्णी, ता.जामनेर, जि.जळगांव (४२४२०४)

Affiliated to North Maharashtra University Jalgaon (M5, India) NAAC Re-Accredited 'B' Grade (2.58) ISO - 9001:2008 Certified

Dr. Vasudeo Ramesh Patil, M Sc Ph D Principal web www.vasudeopatil13@gmail.com email vasupatil13@gmail.com	www.arbgarudcollege.ac.in E-mail: garudcollege@gmail.com Recognition-U.G.C 2 F & 12 B F.No.1-1/2004(CPP-1) Feb 2010	Mr. Sanjay Bhaskarrao Garud, B.Com, D.B.M. Chairman The Shendurni Secondary Education Co-op Society Ltd. Shendurni Tal. Jamner
---	--	---

Outward No. / जावक क्र. १६१-२४/२०१८१९

Date / दिनांक : २४/०८/२०१८

प्रति,
चेअरमन : प्राचार्य डॉ.व्ही.आर.पाटील
सदस्य
डॉ. निलेश डी. वाघ (बहिस्थ)
डॉ. प्रशांत एस.देशमुख
डॉ.श्याम जीवन साळुंखे
डॉ. आजिनाथ.एन.जिवरग
(Environment/ Green Audit committee)

विषय : नियमित सभा आयोजित करून अंतिम अहवाल सादर करण्याबाबत .

महोदय ,

आपली महाविद्यालयाच्या Environment/Green Audit committee च्या चेअरमन । सदस्य पदी सन २०१८ - २०२२ ह्या कालावधीसाठी नियुक्ती करण्यात आलेली आहे . आपण आपल्या समितीमधील संबंधित असलेल्या चेअरमन । सदस्या सोबत नियमित पणे सभा आयोजित करून क्विटा सभा घेऊन समिती गतिशील करावी आणि त्याप्रमाणे सभेतील कामकाजाची नोंद - अहवाल रजिस्टर तयार करून अंतिम अहवाल वर्षाच्या शेवटी सादर करावा.



Appasaheb R. B. Garud Art's
Commerce & Science College
Shendurni Tal. Jamner

"SAVE THE MOTHER EARTH"



**APPASAHEB RAGHUNATHRAO BHAURAO
GARUD ARTS, COMMERCE AND SCIENCE
COLLEGE
SHENDURNI, TAL. JAMNER, DIST. JALGAON
MAHARASHTRA 424204**



कै. आपणासो. बाबुलाल देवचंद पगार यांच्या स्मरणार्थ
महाराष्ट्र शासन छत्रपती शिवाजी महाराज राज्यस्तरीय वनश्री पुरस्कार प्राप्त

निसर्ग-मित्र समिती व ग्रामीण विकास शिक्षण संस्था, नाशिक
राज्यस्तरीय पर्यावरण रत्न पुरस्कार

मा. संजय भास्करराव गरुड, अध्यक्ष - श्री शेंदूर्णी सेकंडरी एज्युकेशन सोसा. लि., जळगाव
आपण आपल्या परिसरात वृक्षारोपण, वृक्षसंवर्धन, पाणी आडवा - पाणी जिरवा,
पशू-पक्षांची जोपासना व प्रदूषणमुक्त दिवाळी अभियान राबवून पर्यावरणाचे उल्लेखनीय
कार्य करित आहेत. या उल्लेखनीय कार्याची दखल घेऊन आपणास
कै. आपणासो. बाबुलाल देवचंद पगार पर्यावरण रत्न
पुरस्काराने सन्मानित करण्यात येत आहे. पर्यावरणाच्या राष्ट्रीय उपक्रमाला हार्दिक शुभेच्छा....

प्रेमकुमार अहिरे
संस्थापक

रमेश आप्पा पगार
सरचिटणीस - ग्रामीण विकास शिक्षण संस्था, नाशिक

पवन रमेशशेट सुराणा
अध्यक्ष - नृक्षमित्र रमेशशेट सुराणा प्रतिष्ठान, कागणे

मोजन्य : वनश्री पुरस्कार विजेते कै. रमेशशेट बाळाराम सुराणा, कागणे यांच्या स्मरणार्थ

1971



The Shendurni Secondary Education Co-op Society's Appasaheb Raghunathrao Bhaurao Garud Arts, Commerce and Science College Shendurni, Tal. Jamner Dist. Jalgaon, is deeply concerned and unconditionally believes that there is an urgent need to address these fundamental problems and reverse the trends. The college has initiated "The Green Campus" program five years back that activity promote the various projects for the environment protection and sustainability.

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 methodology include: physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. It works on the several facets of Green Campus including water Conservation, Tree Plantation, Waste Management, paperless work, Alternative Energy and Mapping of Biodiversity. With this in mind, the specific objectives of the audit are to evaluate the adequacy of the management control framework of environment sustainability as well as the degree to which the Departments are in compliance with the applicable regulations, policies and standards. It can make a tremendous impact on student health and learning college operational costs and the environment. The criteria, methods and recommendations used in the audit were based on the identified risks.

INTRODUCTION

Green audit can be defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyze environmental practices within and outside the college campus, which will have an impact on the eco-friendly ambience. It was initiated with the motive of inspecting the work conducted within the organizations whose exercises can cause risk to the health of inhabitants and the environment. Through Green Audit, one gets a direction as how to improve the condition of environment and there are various factors that have determined the growth of carrying out Green Audit.

Green audit is assigned to the criteria VII of NAAC, National assessment and Accreditation Council which is a self-governing organization of India which declares the institutions different Grades according to the scores assigned during the accreditation.



About the College

The Shendurni Secondary Education Co-op Society's Appasaheb Raghunathrao Bhaurao Garud Arts, Commerce and Science College Shendurni, Tal. Jamner Dist. Jalgaon, Maharashtra is a NAAC (B) grade with CGPA 2.58 in Second Cycle of NAAC Assessment and Accreditation 48 years young college having Three faculties- Arts, Commerce and Science. The college is located in the rural area with beautiful campus. The college main building shows separate laboratories of Chemistry, Botany, Zoology, Physics Functional English, Computer science and Commerce. The college has adopted the Green Campus system for environmental conservation and sustainability. The Green Campus has been active since last 10 years both as a group of sub committees that actively promote the various projects. The college administration works on the several facets of Green Campus including Water Conservation, Tree Plantation, Waste Management, etc.

Objectives of the study

The main objective of the green audit is to promote the Environmental Management and Conservation in the College Campus. The purpose of the audit is to identify, quantify, describe and prioritize framework of Environmental Sustainability in compliance with the applicable regulations, policies and standards. The objectives of carrying out Green Audit are:

- ❖ To introduce and aware students to real concerns of environment and its sustainability.
- ❖ To secure the environment and cut down the threats posed to human health to analyzing the pattern and extent of resource use on the campus.
- ❖ To establish a baseline data to assess future sustainability by avoiding the interruptions in environment
- ❖ To bring out a status report on environmental compliance.
- ❖ To maintain college campus is plastic free, etc.



Methodology

In order to perform green audit, the methodology include different tools such as preparation of physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations. The study covered the following areas to summarize the present status of environment management in the campus:

Observations and Recommendations

- 1) Water Supply management: Rain Water Harvesting, use of minimum water, etc.
- 2) Energy use and conservation
- 3) Waste Management
- 4) Green Area
- 5) No Vehicle Day
- 6) Tree Adoption Scheme
- 7) State level award(राज्यस्तरीय पर्यावरण रत्न पुरस्कार)

1) Water Supply management

Water is a key driver and is vital to development of Biodiversity, Agriculture, Humans as well as the Economy. With recent experiences across the world and in India, the water scarcity and security is emerging issues. The state of Maharashtra has also faced severe impact of the water scarcity in the recent past. Therefore water management is a crucial step of sustainable development and it also has been made an integral part of the Sustainable Development Goals (SDGs).

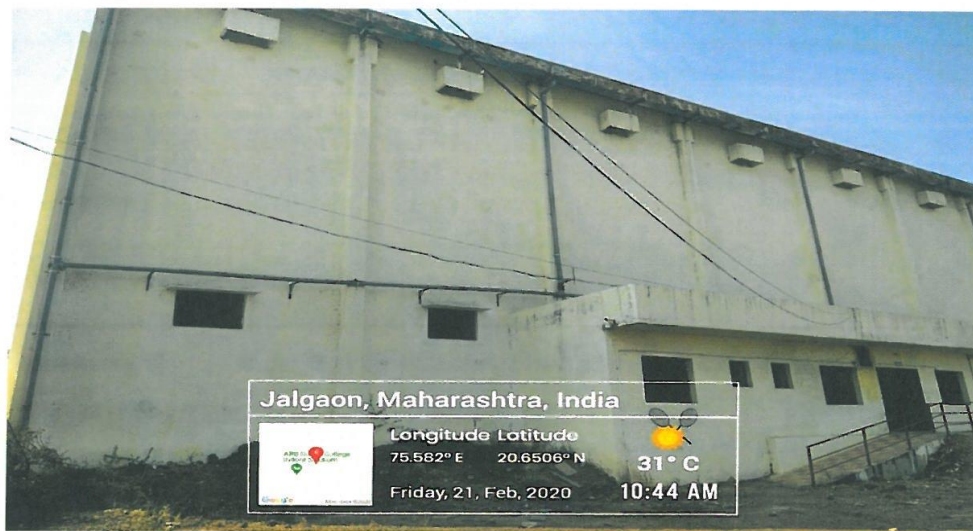
Unplanned rural growth and economic development has placed unprecedented pressures on natural resources especially on water. Increasing demand for the water in rural areas such as Shendurni highlights the necessity of the overall water management.

Observations

The study observed that water supply is taken from Borewell, which recharged with **Rain water harvesting project situated in the college campus**. RO filtered fresh Water is used for drinking purpose, canteen, toilets, laboratory and gardening. During the survey, no loss of water is observed. On an average the total use of water in the



college is 5,000 L/day, which includes 1,000 L/day for domestic purposes, 2,000 L/day for gardening and 2,000 L/day for different laboratories. Gardens are watered by using drip irrigation system to save water. This is one of the unique steps towards greening practices.



Water storage tank: this tank is used to store rain water which is collected from terrace



Percolation tank no 1

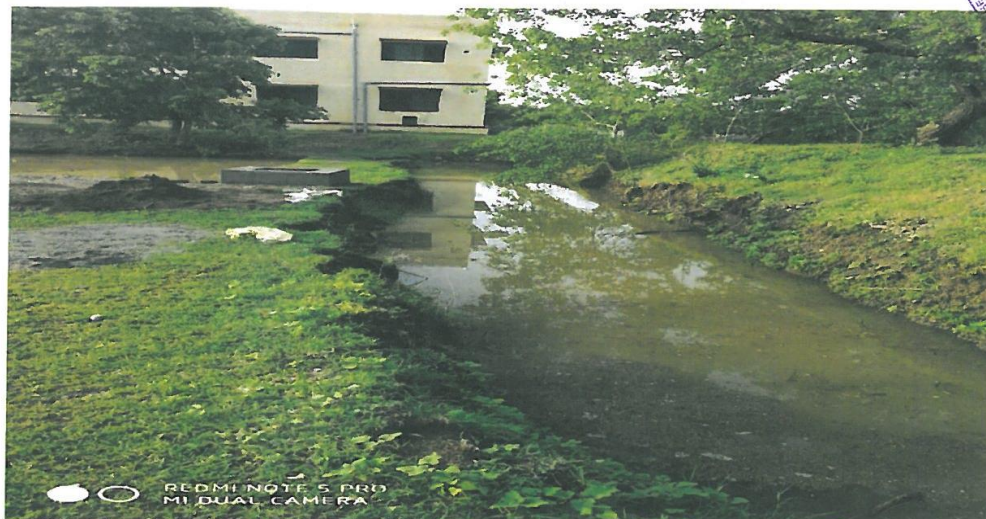


Percolation tank no 2









Rain water percolation around bore well

Recommendations

- Similarly, periodical cleaning of water tanks is very essential.
- Reuse and recycle of water system is necessary.
- Based on the water consumption about 90% of the water supplied is converted in to the waste water either through the washrooms, chemical laboratories, etc.
- It was observed that there is no separate drainage system for collecting and transporting liquids from chemical laboratories.

Sewerage Management

- Based on the water consumption about 90% of the water supplied is converted in to the waste water either through the washrooms, chemical laboratories, etc.
- It was observed that there is no separate drainage system for collecting and transporting sewage and liquids from chemical laboratories.

2) Energy use and conservation

Data generated in energy audit are useful for to understand the energy distribution and utilization of college. The college needs maximum 92,015 Watts for electricity.

As total power consumption by using solar panel we have use 18% power.

In science departments like physics, chemistry, mathematics, botany and zoology electricity was shut down after occupancy time is one of the green practices for energy conservation.



Observations

- Large numbers of LED lamps are used.
- Photovoltaic cells are not installed in the campus.

Recommendations

- Installation of LED lamps instead of CFL
- Support renewable and carbon-neutral electricity options.

Electrical Load Calculations in the College

Sr. No.	Description	Total Nos.
01	Tubes	69
02	CFL Bulbs	13
03	LED Bulbs	105
04	Fans	88
05	Refrigerators	01
06	Computers including Laptop	80
07	LASER printers	17
08	Xerox machines	04
09	LCD projectors	05
10	K-Yan (All in Education Instruments with Projector and PC)	01
11	Air conditioners	03
12	Electric pump (3H.P.)	03
13	LCD Television	05
14	Sanitary Napkin Vending Machine with Disposal	02
15	LED Notice Board	01
16	CCTV Camera	32
17	Public Address System (Audio)	03

The units utilized by college

Month	Unit Utilized
Jan.2020	72400
Feb.2020	74000
March 2020	76000



3) Waste Management

This indicator addresses waste production and disposal of different wastes like paper, food, plastic, biodegradable, construction, glass, dust etc. and recycling. Solid waste includes wasted materials resources that could be channeled into better service through recycling, repair and reuse. Unscientific handling of solid waste can create threats to everyone. The survey focused on volume, type and current management practice of solid waste generated in the campus.

Observations

The total solid waste collected in the campus is 10 kg/day. Waste generation from tree droppings is a major solid waste generated in the campus. The waste is segregated at source by providing separate dustbins for bio-degradable (Sanitary Napkin Disposal Machine) and plastic waste. Segregation of chemical waste generated in chemistry laboratory is also practiced. Single sided used papers reused for writing and printing in all departments. Very less plastic waste is generated by some departments, office, garden, canteen, etc. but it is neither categorized at point source nor sent for recycling. Paper waste, Metal waste and wooden waste is stored and given to authorized scrap agents for further processing. Few glass bottles are reused in the laboratories. Awareness program among farmers is also conducted in the village nearby.

Recommendations

- Provide sufficient, accessible and well publicized collection points for recyclable waste
- Single sided papers to be used for writing and photocopy.
- Important and confidential papers after their validity to be sent for pulping
- No segregation of the common garbage in the campus.
- Most of the times the horticulture waste and other common garbage from the campus is burnt near the parking lot which pose a threat to the environment and the human health.
- Chemical / other hazardous waste (liquid & solid) needs to be disposed as per government norms.
- Recyclables viz. paper, metal scrap etc. is disposed of / sold out to scrap dealers a tender procedure, and however no information is available on the recyclables.



4) Green Area

Plants, a great creation of almighty god serves in many ways like health, recreation and socio economic up-liftment of human been for our present, future generations. A plant not only beautifies the campus but it also imparts life and colors to a particular areas. As the plants has many fold importance. In this regards the beautiful campus of the college is enriched with the plant wealth of about 1097 plants in all. They are divided in to 35 different plant species belonging to different plant families.

To nurture the nature college has campus beautification committee through which varieties of the plants were planted through college funding's even the ladies hostel campus was also beautified.

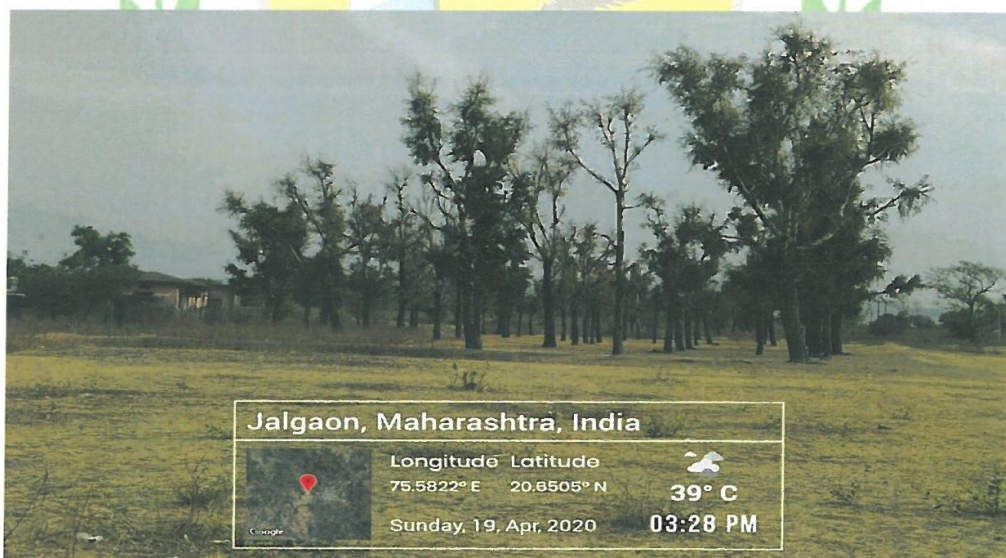
College also took interest in the Mission of Govt. of Maharashtra of Plantation target; our college also gave contribution of squirrel in this regards. In all the way college aimed to enrich and beautifies the campus to create aesthetic value recreational and healthy atmosphere in the college campus which may better helpful in teaching and learning process.

Table: Rich flora of our college campus

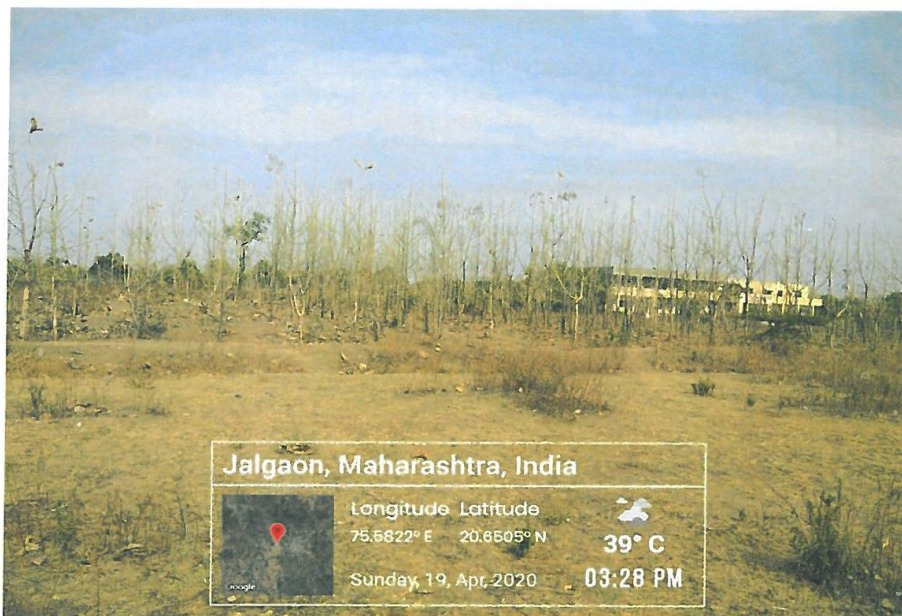
Sr. no	Botanical name of plant / trees	Family	Local name of plant	No of plant / trees
1	<u>Bougainvillea spectabilis L.</u>	Nyctaginaceae	कागदी फूल	12
2	<u>Cebra pentandra L.</u>	Malvaceae	सफेद रेशमी कापूस	7
3	<u>Alstonia scholaris L.</u>	Apocyanaceae	सप्तपर्णी	6
4	<u>Ficus benjamina L.</u>	Moraceae	नांदरूक	8
5	<u>Delonix regia L.</u>	Caesalpinaceae	गुलमोहर	19
6	<u>Ficus benghalensis, L.</u>	Moraceae	वड	21
7	<u>Aegle marmelos L.</u>	Rutaceae	बेल	3
8	<u>Dalbergia sissoo L.</u>	Fabaceae	सिसम	143
9	<u>Mangifera indica - L.</u>	Anacardiaceae	आंबा	4
10	<u>Azadirachta indica L.</u>	Meliaceae	नीम	39
11	<u>Tamarindus indica L.</u>	Fabaceae	चिंच	8
12	<u>Tabernaemontana divaricata L.</u>	Apocynaceae	चाँदनी	6
13	<u>Ficus religiosa L.</u>	Moraceae	पिंपळ	6
14	<u>Terminalia arjuna L.</u>	Combretaceae.	अर्जुन सतोड़ा	1
15	<u>Syzygium cumini L.</u>	myrtaceae	जाम्बूळ	7
16	<u>Tectona grandis L.</u>	verbenaceae	साग	526
17	<u>Sesbania bispinosa L.</u>	Fabaceae	शेवरी	1



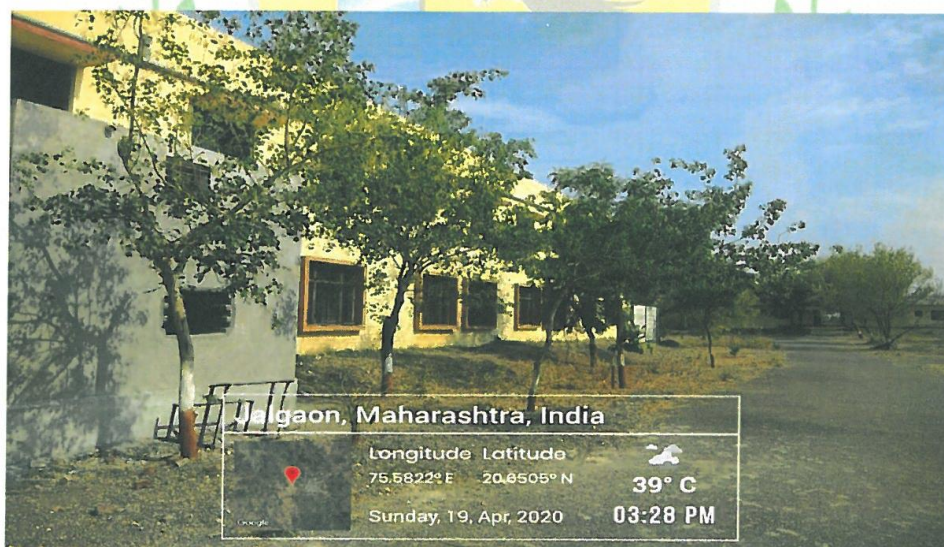
18	<i>Hyophorbe lagenicaulis</i> L.	<u>Arecaceae</u>	बोटल पाम	2
19	<i>Citrus limon</i> L.	<u>Rutaceae</u>	लिम्बू	2
20	<i>Moringa oleifera</i> L.	<u>Moringaceae</u>	शेवगा	1
21	<i>Thuja occidentalis</i> L.	<u>Cupressaceae</u>	मोरपंखी	1
22	<i>Plumeria</i> sp. L.	<u>Apocynaceae</u>	चाफा	1
23	<i>Hardwickia binata</i> L.	<u>Fabaceae</u>	अंजन	60
24	<i>Butea monosperma</i> L.	<u>Fabaceae</u>	पळस	153
25	<i>Annona squamosa</i> L.	<u>Annonaceae</u>	सीताफळ	2
26	<i>Erythrina</i> sp. L.	<u>Fabaceae</u>	पंगार	1
27	<i>polyalthia longifolia</i> L.	<u>Annonaceae</u>	अशोका	12
28	<i>Ficus racemosa</i> L.	<u>Moraceae</u>	उंबर	1
29	<i>Ziziphus mauritiana</i> L.	<u>Rhamnaceae</u>	बोर	7
30	<i>Phyllanthus emblica</i> L.	<u>Phyllanthaceae</u>	आवला	1
31	<i>Vachellia nilotica</i> L.	<u>Fabaceae</u>	बामूळ	25
32	<i>Bauhinia racemosa</i> L.	<u>Fabaceae</u>	आपटा	5
33	<i>Dalbergia retusa</i> L.	<u>Fabaceae</u>	शिसव	2
34	<i>Aloe</i> L.	<u>Asphodelaceae</u> (<u>Liliaceae</u>)	कोरपड	04
35	<i>Passiflora</i> L.	<u>Passion flowers</u>	कृष्णकमळ	01
Total Plants:				1098



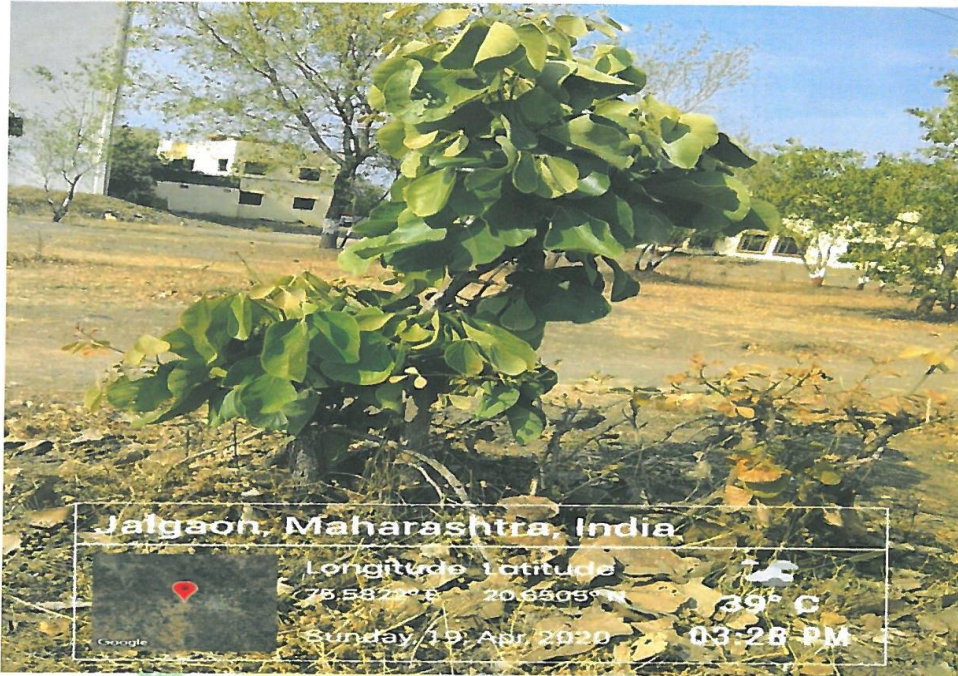
<u><i>Hardwickia binata</i></u> L.	<u>Fabaceae</u>	अंजन
------------------------------------	-----------------	------



<i>Tectona grandis L.</i>	verbenaceae	साग
---------------------------	-------------	-----



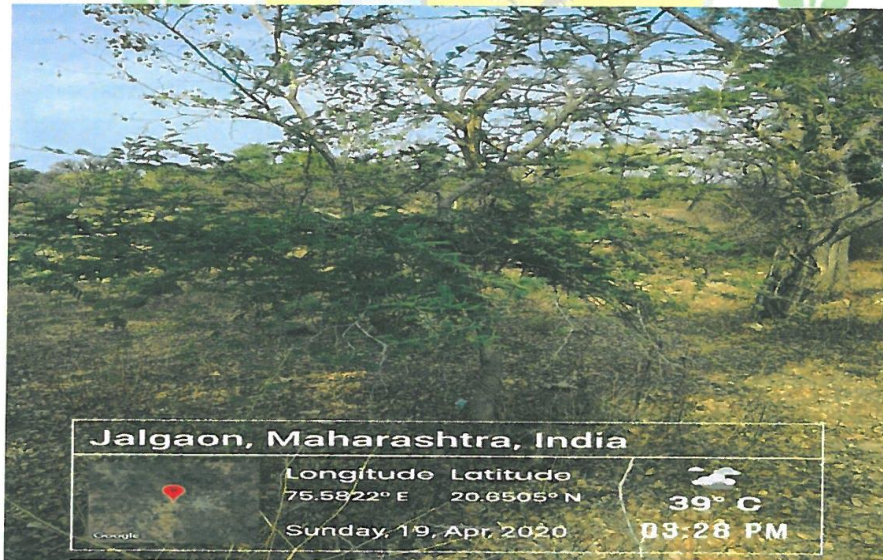
<i>Dalbergia sissoo L.</i>	Fabaceae	सिसम
----------------------------	----------	------



Butea monosperma L.

Fabaceae

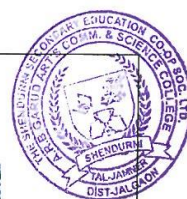
पळस



Vachellia nilotica L.

Fabaceae

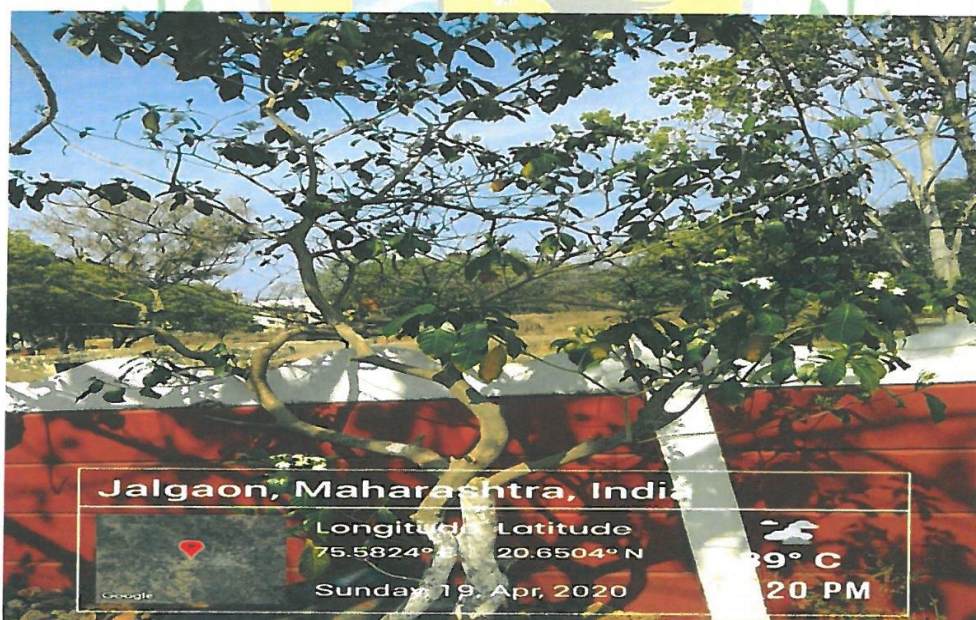
बामूल



Mangifera indica - L.

Anacardiaceae

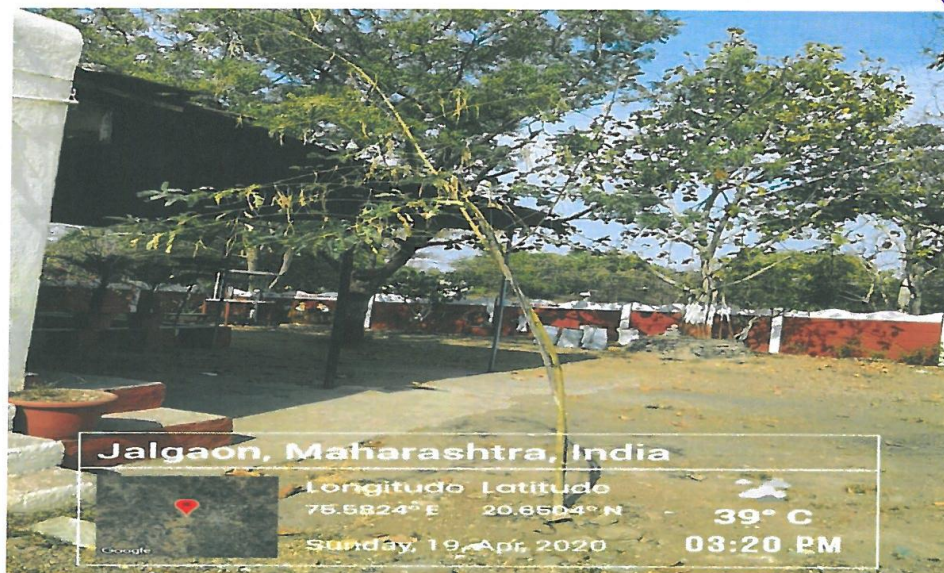
आंबा



Tabernaemontana divaricata L.

Apocynaceae

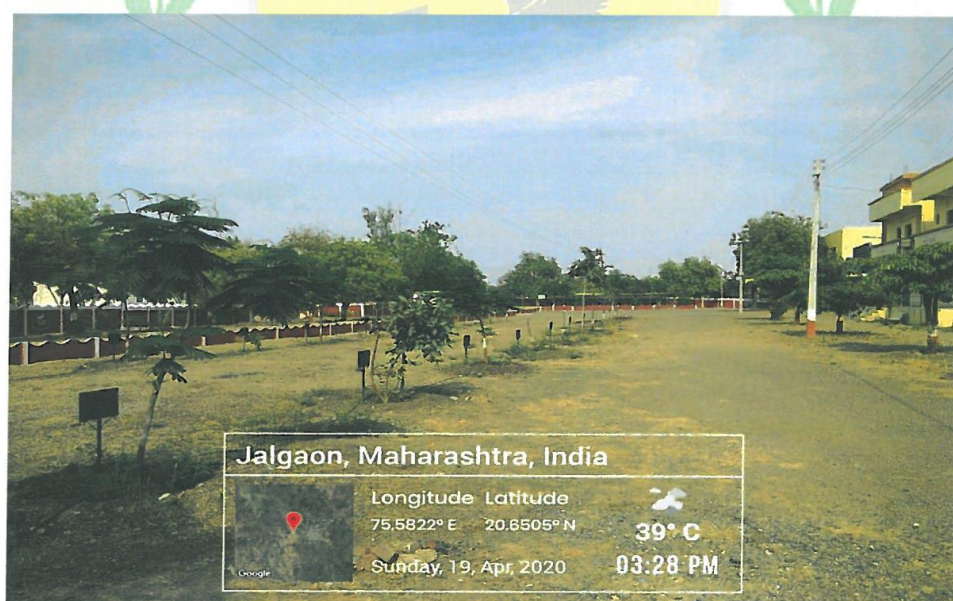
चाँदनी



Sesbania bispinosa L.

Fabaceae

शेवरी



Delonix regia L.

Caesalpinaceae

गुलमोहर



Jalgaon, Maharashtra, India



Longitude Latitude

75.5824° E 20.6504° N



39° C

Sunday, 19, Apr, 2020

03:20 PM

Ficus benghalensis, L.

Moraceae

वड



Jalgaon, Maharashtra, India



Longitude Latitude

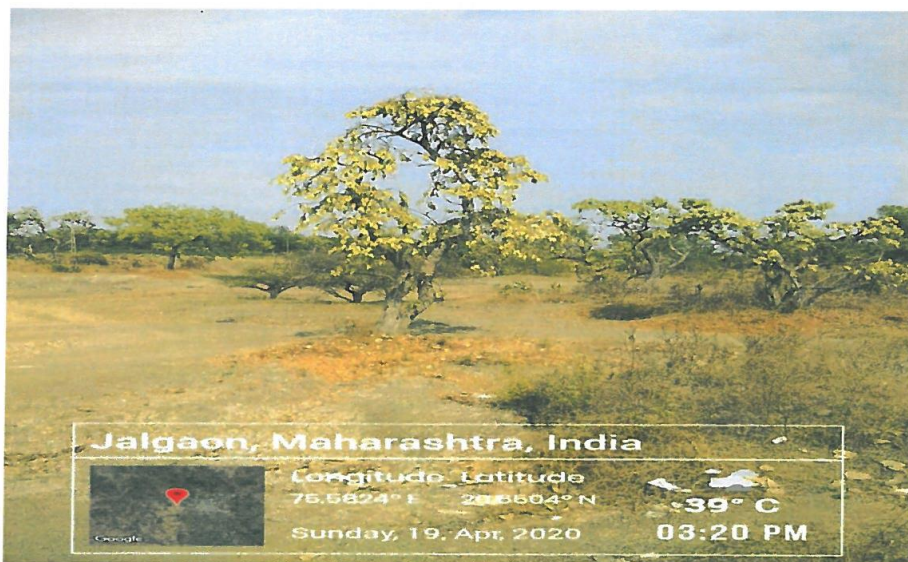
75.5824° E 20.6504° N



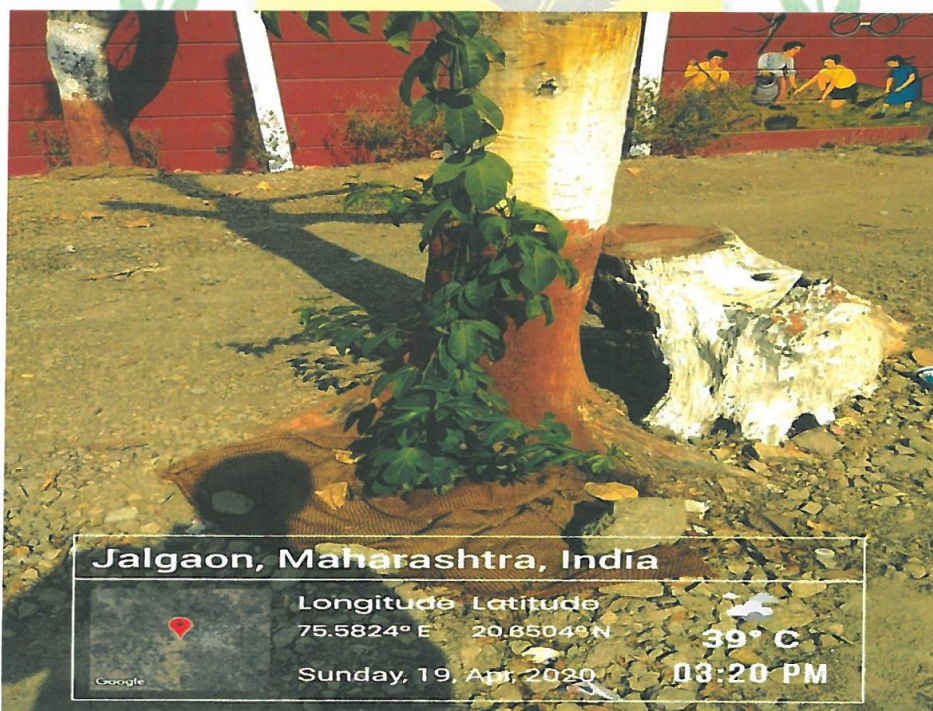
39° C

Sunday, 19, Apr, 2020

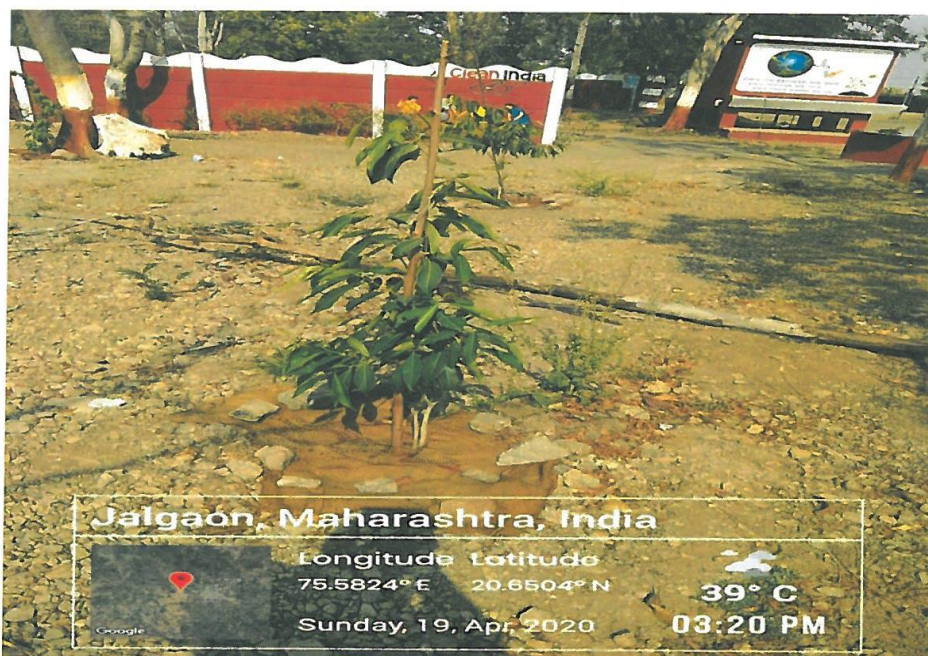
03:20 PM



<i>Butea monosperma</i> L.	Fabaceae	पळस
----------------------------	--------------------------	-----



<i>Passiflora</i> L	Passion flowers	कृष्णकमळ
---------------------	---------------------------------	----------



Syzygium cumini L.

myrtaceae

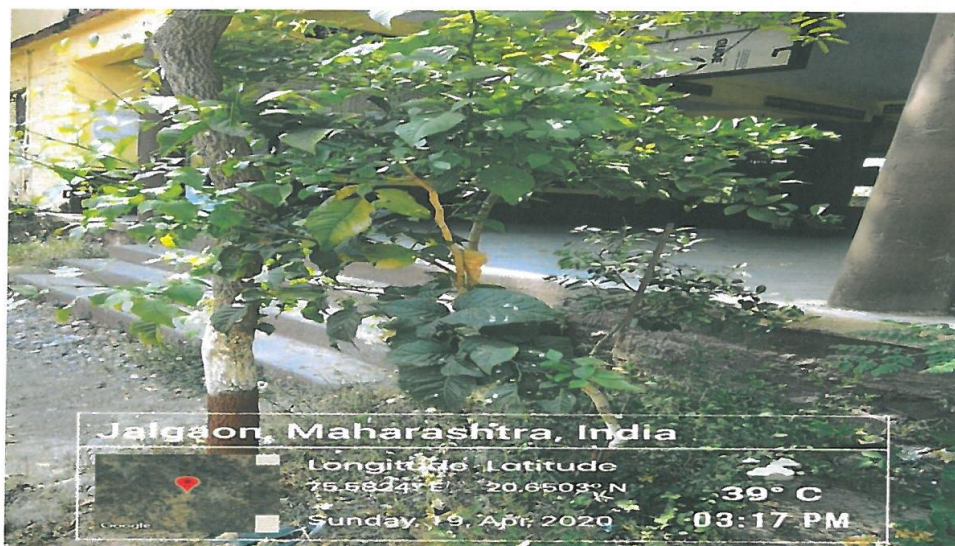
जाम्बूळ



Alstonia scholaris L.

Apocyanaceae

सप्तपर्णी



Aegle marmelos L.

Rutaceae

बेल



Delonix regia L.

Caesalpinaceae

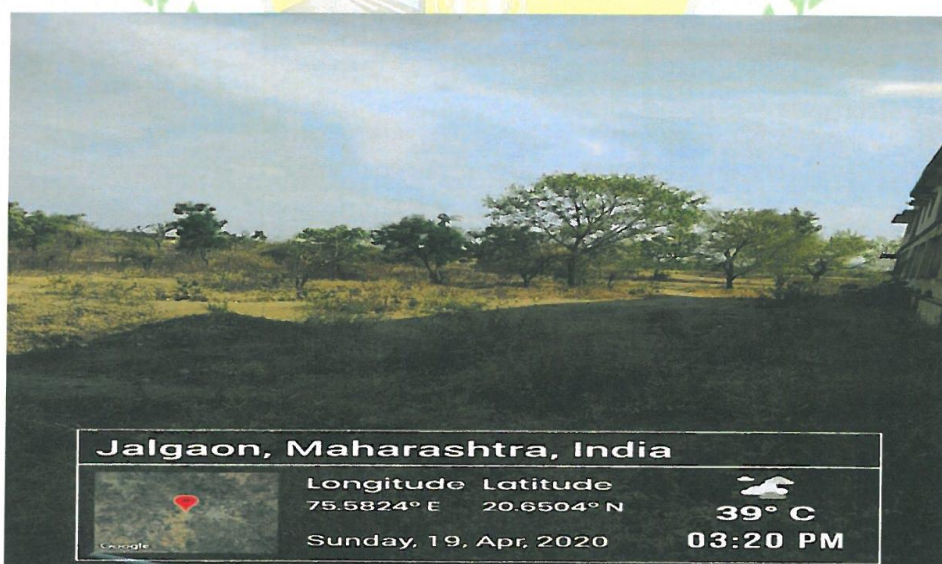
गुलमोहर



Hyophorbe lagenicaulis L.

[Arecaceae](#)

बोटल पाम



Vachellia nilotica L.

[Fabaceae](#)

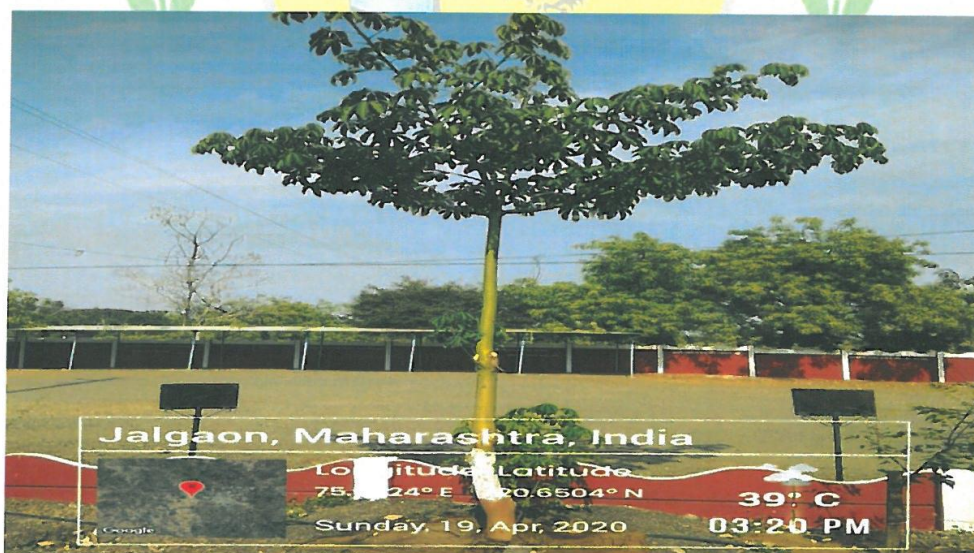
बाभूळ



Ficus religiosa L.

Moraceae

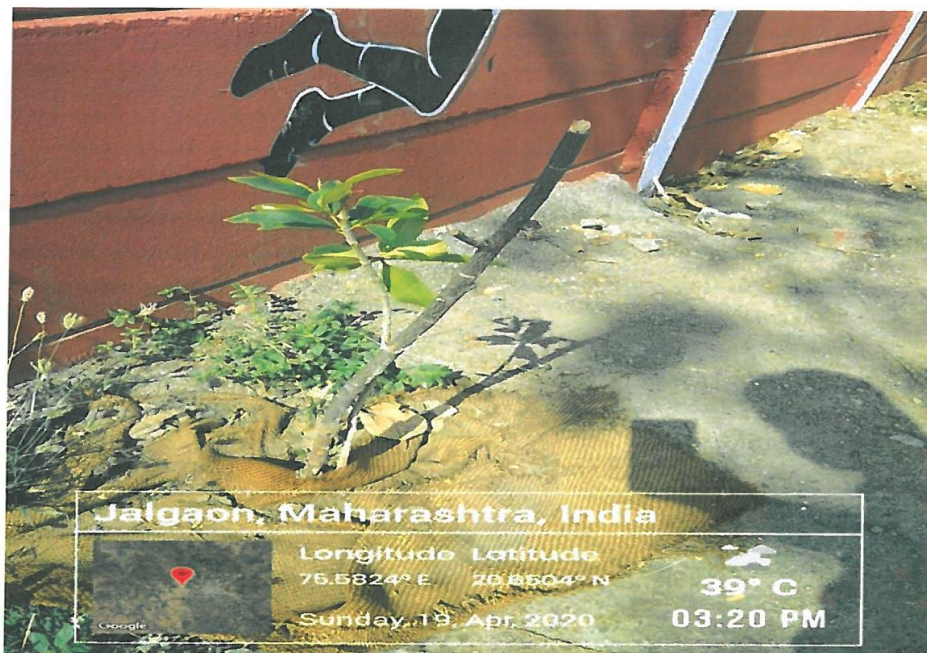
पिंपळ



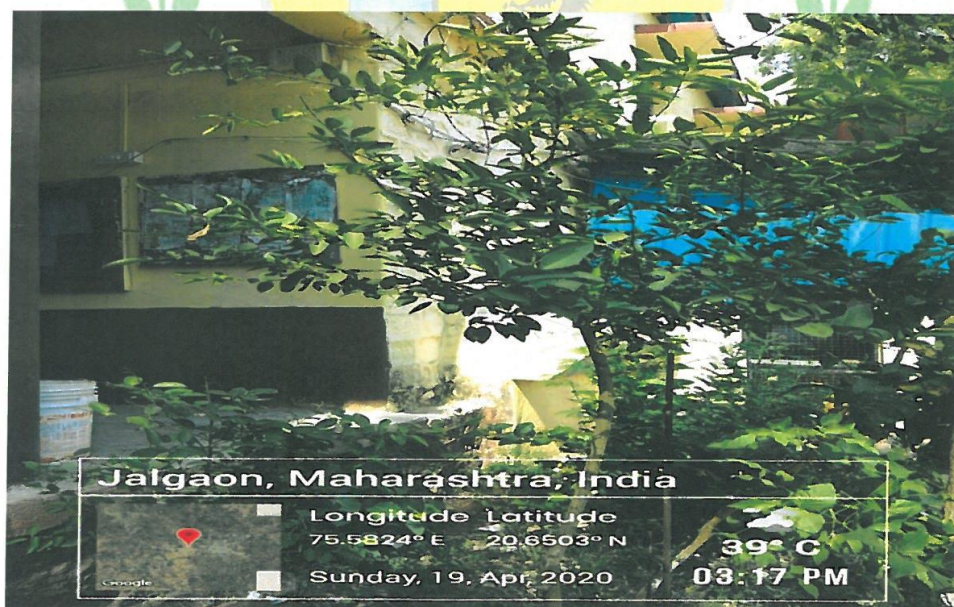
Cebra pentandra L.

Malvaceae

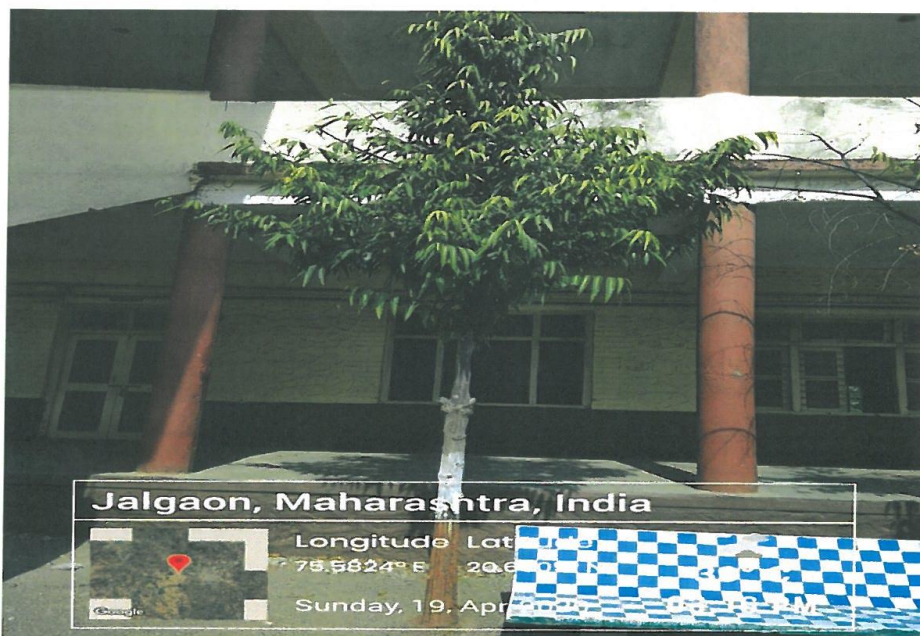
सफेद रेशमी कापूस



<i>Syzygium cumini</i> L.	myrtaceae	जाम्बू
---------------------------	-----------	--------



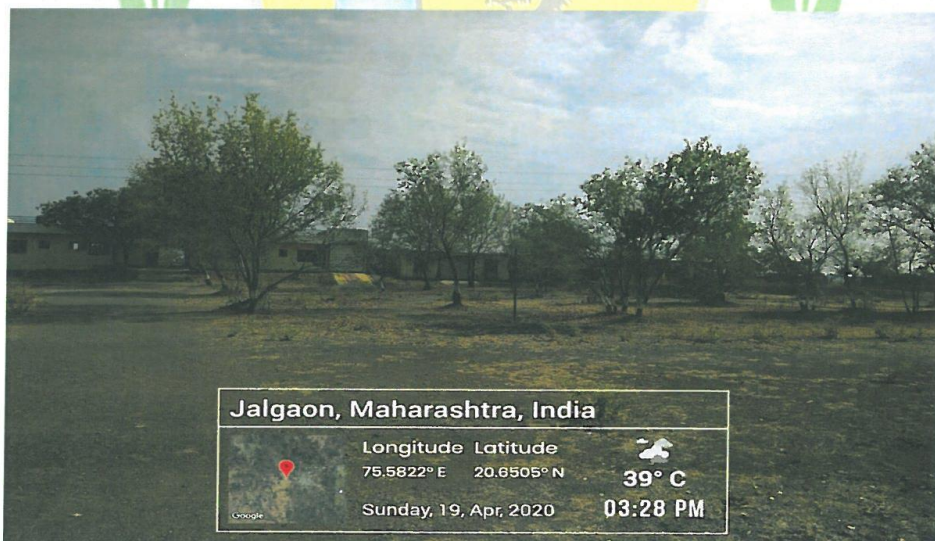
<i>Citrus limon</i> L.	Rutaceae	लिम्बू
------------------------	----------	--------



polyalthia longifolia L.

Annonaceae

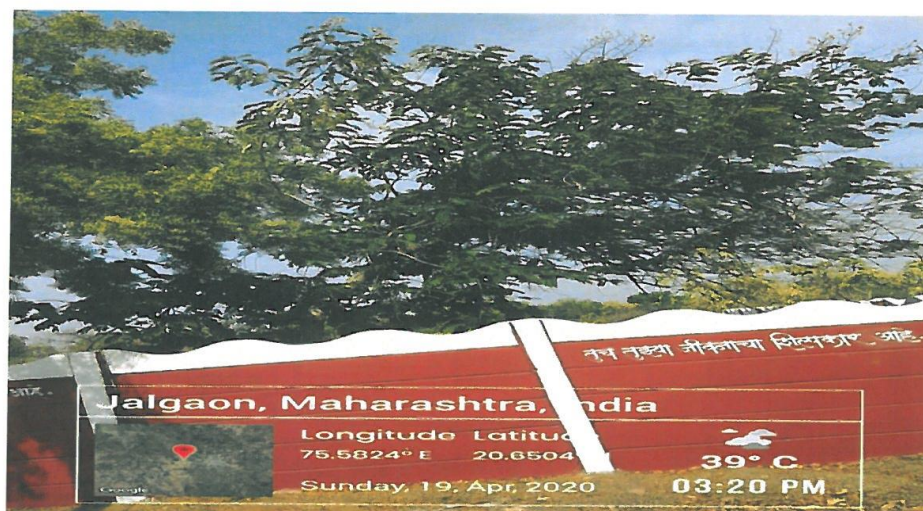
अशोका



Dalbergia sissoo L.

Fabaceae

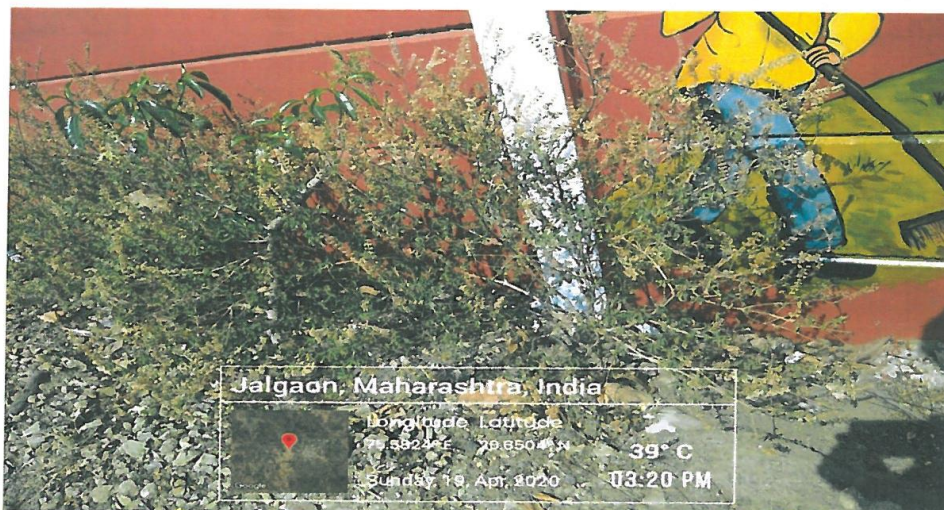
सिसम



<i>Dalbergia retusa</i> L.	Fabaceae	शिसव
----------------------------	----------	------



<i>Ficus benjamina</i> L.	Moraceae	नांदरूक
---------------------------	----------	---------



Basil L.

Lamiaceae (mint family)

तुळस



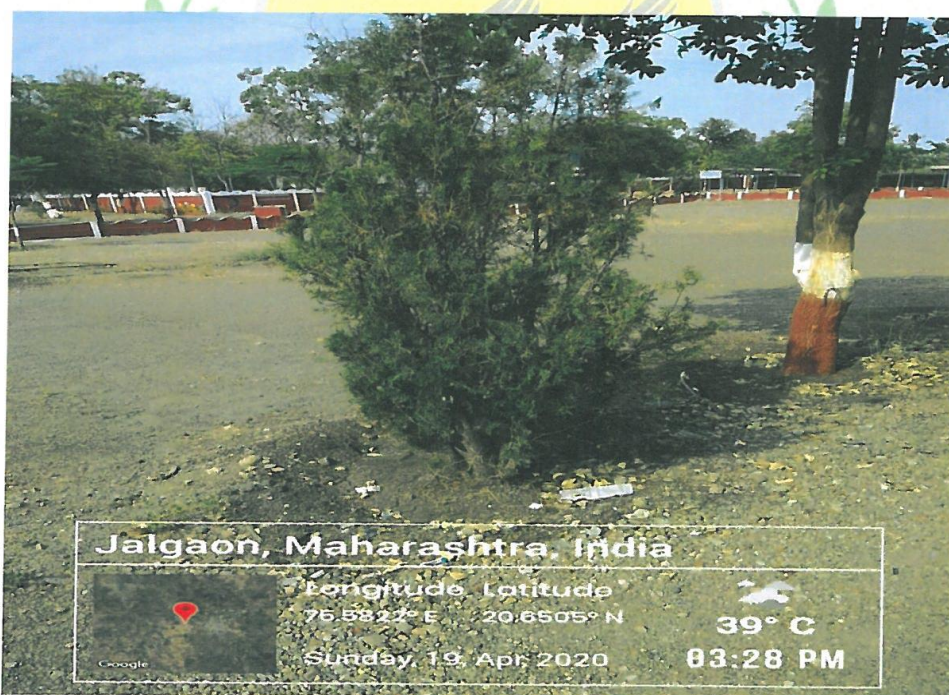
Ficus racemosa L.

Moraceae

उंबर



<u>Jasminum sambac</u> L.	<u>Oleaceae</u>	मोगरा
---------------------------	-----------------	-------



Jalgaon, Maharashtra, India

Longitude, Latitude

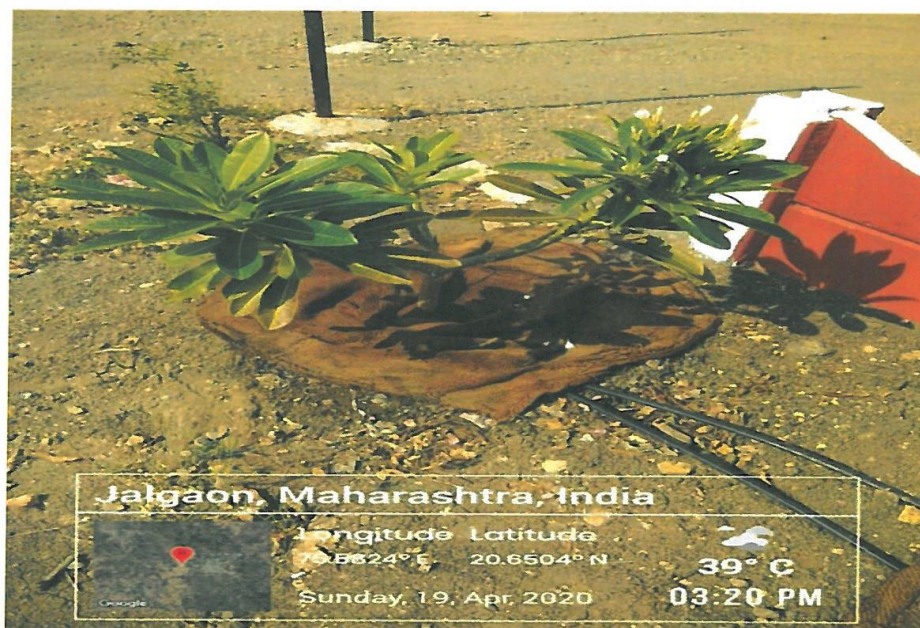
76.5812° E 20.6505° N

39° C

Sunday, 19, Apr, 2020

03:28 PM

<u>Thuja occidentalis</u> L.	<u>Cupressaceae</u>	मोरपंखी
------------------------------	---------------------	---------



<i>Plumeria L</i>	Apocynaceae	चाफा
-------------------	-------------	------



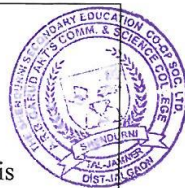
<i>Tamarindus indica L.</i>	Fabaceae	चिंच
-----------------------------	----------	------



<u><i>Bougainvillea spectabilis L.</i></u>	Nyctaginaceae	कागदी फूल
--	---------------	-----------

Recommendations

- Reviews periodically the list of trees planted in the garden, allot numbers to the trees and keep records. Give scientific names to the trees.
- Promote environmental awareness as a part of course work in various curricular areas, independent research projects and community service.
- Ensure that an audit is conducted annually and action is taken on the basis of audit report, recommendation and findings.
- Celebrate every year 5th June as 'Environmental Day' and plant trees on this day to make the campus greener.



5) No Vehicle Day

As far as Environment conservation as well as Green Audit is concern, the college, is following No Vehicle Day on Every Friday of the Week with few exceptions. Every staff and faculty member is coming to the college without vehicle and by walking for the purpose to save environment and fuel.







The Shendurni Secondary Education Co-operation Society Shendurni,
Appasaheb R.B.Garud Art's, Commerce And Science College
Shendurni, Tal- Jamner, Dist- Jalgaon 424204

 **Every Friday :
No Vehicle Day** 

Save the nature *Save the petrol* *Healthy living*

हवा पाणी आरोग्य, ईंधन व पर्यावरणाच्या संवर्धनासाठी
आठवड्यातील दर शुक्रवारी
महाकिल्यालयात वाहन प्रवेश निषिद्ध

The Shendurni Secondary Education Co-op Society, shendurni
APPASAHEB R.B.GARUD ART'S, COMMERCE & SCIENCE COLLEGE,
SHENDURNI TAL-JAMNER DIST-JALGAON [424204]

No Vehicle Day : Every Friday

 **Be Part of
Clean & Healthy
Environment** 

For Students & Teachers



6) Tree Adoption Scheme

Shendurni is a drought prone zone and during year 2018-19, the water level of this area is going very low due to this problem every faculty member, staff and students adopting each and every tree to watering it and save it for that purpose everybody bringing 5 liters of water every day from their home and watering to the respective adopted tree.

लोकमत

शेंदुर्णीला जलदिन साजरा

लोकमत न्यूज नेटवर्क

शेंदुर्णी, ता. जामनेर : अप्पासाहेब रघुनाथराव भाऊराव गरुड कला वाणिज्य आणि विज्ञान महाविद्यालयात जलदिन साजरा करण्यात आला. यावेळी विविध योजना व विकास कामांचा आढावा स्नेहदिप गरुड यांनी घेतला. प्रत्येक कर्मचार्याने एक-एक

झाड दत्तक घेऊन प्रत्येक प्राध्यापक व कर्मचारी पाच लीटर पाणी महाविद्यालयात सोबत आणून झाडांना देतील अशी माहिती प्राचार्य डॉ. वासुदेव पाटील यांनी दिली. उपप्राचार्य प्रा. एन.एस.सावळे, उपप्राचार्य डॉ. संजय भोळे, उपप्राचार्य डॉ. एस.जे. सालुंखे, डॉ. दिनेश पाटील, डॉ. दीपक जाधव, शिक्षक व शिक्षकेतर कर्मचारी उपस्थित होते.





झाडांना मुलांप्रमाणे जगविण्याचा संकल्प

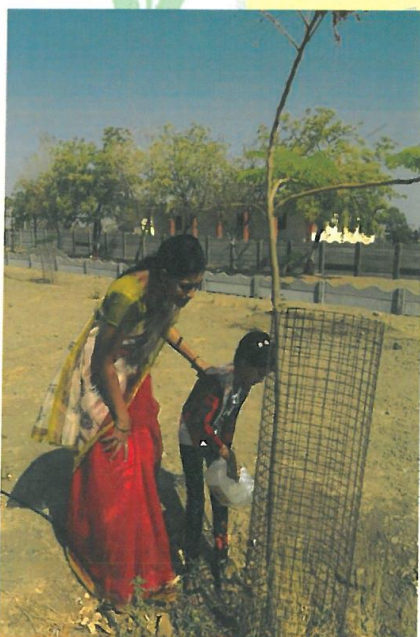
गरुड महाविद्यालयाचा अभिनव उपक्रम

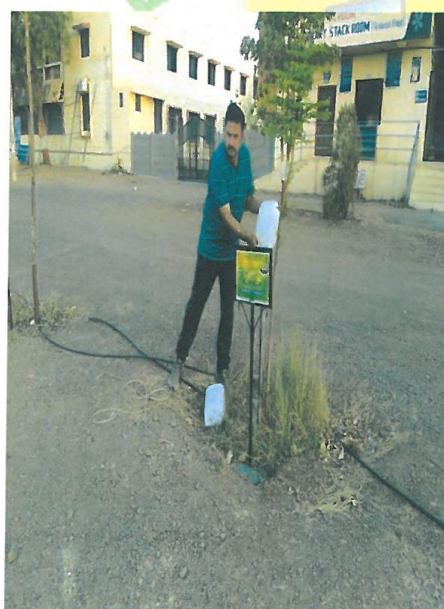
योगेश सोनार : सकाळ वृत्तसेवा

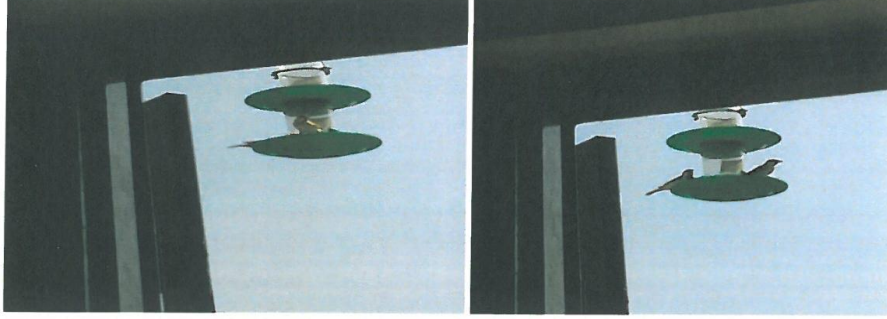
शेदुर्णी (ता. जामनेर), ता. २३ : सूर्य आग ओकत असल्याने तीव्र उन्ह्याचा फटका मानव, पशुपक्ष्यांबरोबरच झाडांनाही बसत आहे. महाविद्यालयातही पाण्याचा तुटवडा भासत आहे. त्यामुळे प्रत्येक प्राध्यापक व कर्मचारी यांनी महाविद्यालय परिसरातील झाडांजवळ आपल्या पात्यांच्या नावाचा फलक लावून त्या झाडाचे आपल्या पात्यांप्रमाणे संगोपन करण्याचा संकल्प केला. तसेच प्राध्यापकांनाही धरून पाच लिटर पाणी आणण्याची सक्ती करण्यात आली आहे.

महाविद्यालयात झालेल्या कार्यक्रमात स्नेहदिप गरुड यांनी सांगितले, की प्रत्येकाने सामाजिक बांधीलकी जोपासायला हवी, वृक्षसंवर्धन प्रत्येकाची जबाबदारी आहे. कर्तव्य आहे. महाविद्यालयाचे प्राचार्य यांनी संकल्पना मांडली की, प्रत्येक प्राध्यापक

व कर्मचारी यांनी धरून महाविद्यालयात येताना मोबत पाच लिटर पाण्याची कॅन मोबत आणायची व झाडांना पाणी देतील. त्या झाडाची कायमस्वरूपी जबाबदारी घेतील. या उपक्रमाचे सर्वानी स्वागत करून जबाबदारी स्वीकारली. यासाठी विद्यार्थ्यांनी सहभागात जबाबदारी स्वीकारली. उपप्राचार्य प्रा. एन. एम्. सावळे, उपप्राचार्य डॉ. संजय भोळे, उपप्राचार्य डॉ. एस. जे. सालुंखे, डॉ. दिनेश पाटील, कर्मचारी उपस्थित होते. गरुड महाविद्यालयाच्या उपक्रमाचा इतर शाळांनाही आदर्श घ्यावा. प्रत्येक विद्यार्थ्याने व शिक्षकांनी वृक्षारोपणासाठी पुढाकार घेतला तरी, भरपूर संवर्धन होईल. ज्या परिसरात शाळा, महाविद्यालयांमध्ये पाणी टंचाई असेल त्या ठिकाणी शिक्षक व विद्यार्थ्याला पाणी आणण्यास सांगितले व रोज वृक्षांना दिले तर झाडे जगतील. विद्यार्थ्यांनाही वृक्ष संवर्धनाची जबाबदारी देऊन त्यात मार्काची तरतूद करायला हवी.







7) State level award(राज्यस्तरीय पर्यावरण रत्न पुरस्कार)



संजय गरुड यांना 'पर्यावरण रत्न' पुरस्कार

तभा वृत्तसेवा
शेंदुर्णी, ३ जानेवारी







येथील सामाजिक राजकीय व शैक्षणिक आधारस्तंभ असलेले संजय गरुड हे संस्था पातळीवर आणि नगर पातळीवर वेळोवेळी वृक्षारोपण पर्यावरण संरक्षण स्वच्छता इत्यादींसाठी विविध कार्यक्रमांचे आयोजन करत असतात तसेच त्यांनी संस्था परिसरामध्ये वृक्षारोपणावर विशेष भर दिल्यामुळे त्यांना यांच्या या सामाजिक कार्याचा आढावा घेत निसर्ग मित्र समिती धुळे व ग्रामीण विकास शिक्षण संस्था नाशिक आयोजित के. अण्णासाहेव

वावूलाल देवचंद पगार स्मरणार्थ दिला जाणारा पुरस्कार त्यांना बहाल करण्यात आला.


पुरस्काराचे वितरण जिल्हा परिषद सभागृह जळगाव, याठिकाणी करण्यात आले. शाल, श्रीफळ, स्मृतिचिन्ह या स्वरूपात हा पुरस्कार प्रदान करण्यात आला. हा पुरस्कार संजय गरुड यांच्या अनुपस्थितीत त्यांचे बंधू प्रा. सुनील गरुड यांनी स्वीकारला.


तसेच याप्रसंगी आ. राजूमामा भोळे, अतुल भाऊ निकम, प्रेमकुमार अहिरे, रमेश आप्पा पगार, पवन रमेश शेठ सुराणा, परदेशी आदी उपस्थित होते






कै. आण्णासो.बाबुलाल देवचंद पगार यांच्या स्मरणार्थ
महाराष्ट्र शासन छत्रपती शिवाजी महाराज राज्यस्तरीय वनश्री पुरस्कार प्राप्त
निसर्ग-मित्र समिती व ग्रामीण विकास शिक्षण संस्था, नाशिक
राज्यस्तरीय पर्यावरण रत्न पुरस्कार
मा. संजय भास्करराव गरुड, अध्यक्ष - श्री शेंदुर्णी सॅकंडरी एज्युकेशन सोसा. लि., जळगाव
आपण आपल्या परिसरात वृक्षारोपण, वृक्षसंवर्धन, पाणी आडवा - पाणी जिरवा,
पशू-पक्षांची जोपासना व प्रदूषणमुक्त दिवाळी अभियान राबवून पर्यावरणाचे उल्लेखनीय
कार्य करित आहेत. या उल्लेखनीय कार्याची दखल घेऊन आपणास
कै. आण्णासो. बाबुलाल देवचंद पगार पर्यावरण रत्न
पुरस्काराने सन्मानित करण्यात येत आहे. पर्यावरणाच्या राष्ट्रीय उपक्रमाला हार्दिक शुभेच्छा....


प्रेमकुमार अधिरे
संस्थापक

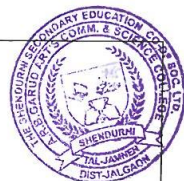

रमेश आप्पा पगार
सरचिटणीस - ग्रामीण विकास शिक्षण संस्था, नाशिक


पवन रमेशशेठ सुरणा
अध्यक्ष - वृक्षमित्र रमेशशेठ सुरणा प्रतिष्ठान, फागणे

सौजन्य : वनश्री पुरस्कार विजेते कै. रमेशशेठ बाळाराम सुरणा, फागणे यांच्या स्मरणार्थ

A.R.B. Garud Arts' Comm. & Science College

1971



CONCLUSIONS

Considering the fact that the institution is predominantly an undergraduate and partial postgraduate college, there is significant environmental research both by faculty and students. The environmental awareness initiatives are substantial. The vermicomposting and horticulture practices are noteworthy. Besides environmental awareness programs initiated by the administration shows how the campus is going green. Few recommendations are added to curb the menace of waste management using ecofriendly and scientific techniques. This may lead to the prosperous future in context of Green Campus and thus sustainable environment and community development.

As part of green audit of campus we carried out the environmental monitoring of campus includes Illumination, noise level, ventilation and indoor air quality of the class room. It was observed that Illumination and ventilation is adequate considering natural light and air velocity present. Noise level in the campus well within the limit i.e. below 50 db at day time.

Environment Audit Committee

Name Of Member	Designation	Sign
Prin. Dr. Vasudev. R. Patil	Chairman	
Dr. Nilesh D. Wagh	External Member	
Dr. Shyam J. Salunkhe	Member	
Dr. Prashant S. Deshmukh	Member	
Dr. Ajinath N. Jivrag	Member	



Principal
Appasaheb R.B. Garud Art's
Commerce & Science College
Shendurni-424204, Tal. Jamner



PRINCIPAL
Appasaheb R.B. Garud Art's
Commerce & Science College,
Shendurni-424204 Tal. Jamner
Dist- Jalgaon (M.S.)