



Vidya Vikas Mandal's  
**Yashwantrao Chavan Mahavidyalaya Karmala**  
Karmala-413203, Dist-Solapur, Maharashtra(India)



# **GREEN AUDIT REPORT**

## **2020-21 & 2021-22**



Affiliated  
to

Punyashlok Ahilyadevi Holkar Solapur University, Solapur

#### **About Institute:**

Yashwantrao Chavan College, Karmala, Tal Karmala, Dist Solapur had two faculties viz. Arts and Commerce since beginning. Later on the science wing was started in the academic year 2017-18 as a special case due to ever growing demand from the students in the rural region. The college is affiliated to Punyashlok Ahilyadevi Holkar Solapur University. The college offers undergraduate courses namely, B.A., B.Com, both Marathi medium and B. Sc. in English medium along with certificate courses.

#### **Goal**

Yashwantrao Chavan Mahavidyalaya, Karmala, aspire to establish itself as an institution of excellence thriving on the tri-pillars of inclusiveness, integrity and innovation. Equipped with advanced infrastructure and empowered with ingenuous minds it shall seek to design customized curricula to meet the growing challenges in higher education. In doing so, the college will offer diverse communities with rich academic experience and open the gates of knowledge and research for all, through successful global partnerships.

#### **Objectives**

- To cater education to the students from different socio-economic strata irrespective of caste, creed and class.
- To contribute significantly for overall personality development of students through academic, sports, cultural and extension activities.
- To impart a perfect blend of traditional and modern education
- To inculcate moral values and nurture a compassionate and progressive attitude.
- To sensitize the students for environmental issues and preservation of natural resources so as to contribute to economic growth of the nation in a sustainable manner.

#### **Mission**

"Our mission is to create and develop "Modern" youth as responsible citizen with multi-dimensional personalities by inculcating among students a blending of cultural awareness, compassionate and progressive attitude, scientific insights and time-tested traditional values".

## Preface

The concept of 'GREEN AUDIT-2020-21 & 2021-22' was put forth by Hon'ble Shri Vilas Ramchandra Ghumare Secretary, Vidya Vikas Mandal's Yashawantrao Chavan Mahavidyalaya, Karmala was established in 1966. He is involved in tree plantation programmes for the last 30 years. Being visionary and committed to upliftment of weaker section of society he is always proactive for environmental conservation. He has demonstrated how eco-friendly campus can provide healthy and comfortable atmosphere for the college going students. It was his idea to carry out green audit for the campus of Yashawantrao Chavan Mahavidyalaya, Karmala. We are happy to shoulder the responsibility.

Green audit of a college campus aims at understanding the present environmental status and to find out ways to internalize environmental issues which are well felt externally. It is also an attempt to develop initiative of all the stakeholders, viz. management, Principal, staff, students and parents to develop campus which ensures clean and green environment for learners. We also hope that such kind of exercise can develop environmental awareness among the families of students and in turn villages. With this vision in mind attempt has been made to document the green status of the campus adopting proper tools and methodology. For this, aspects like landscaping and plantation, solid waste management, recycling of waste water, conservation of energy, water conservation, naturally rainwater harvesting and minimum usage of paper, E-Waste collection, segregation of wet and dry waste, etc. have been considered for our observations.

We are happy to note that the college exhibits almost all the aspects of "Green Campus" with participation of stakeholders in true sense of the term. It is well reflected in the activities like tree plantation with good phyto-diversity, organic farming, natural rain water harvesting, waste water management, green building, use of renewable resources etc.

Besides this college, the Vidya Vikas Mandal's management runs Yashawantaro Chavan Mahavidyalaya and Namdeorao Jagtap Adhayapak Vidyalaya in Karmala.

The college was started initially with Arts and Commerce streams by enrolling 200 students with the aims i) to impart value – based education, embodying socio-cultural and commercial training in order to achieve all around development of the students personality, and ii) to encourage the students participation in corporate life and to make them self-confident and self-reliant.

It is a grant-in-aid two-faculty. Now College is affiliated to *Punyashlok Ahilyadevi Holkar* Solapur University, Solapur. It obtained permanent affiliation of the University for the UG programmes in 2002, and has been recognized by the UGC under 12 (B) and 2 (f) of the UGC Act in 1991 and 1996 respectively.

The changes in the fee structure are followed strictly as per the university and government rules and the fee structure is printed with the prospectus. The financial matters are authenticated through the university and the government auditors.

In all its quality effort in higher education the institution has built up a mechanism to monitor the performance of the institution by seeking feedback from the students, teaching, non-teaching staff, prominent alumni and stake holders.

Yashwantrao Chavan Mahavidyalaya, Karmala is a very popular college in the state of Maharashtra. It is one of the leading Colleges in Arts, Humanities and Social Sciences and Business Finance and Commerce. It is located in Karmala, Maharashtra. UG, PG courses taught & Research Centre are in this institution.

### **Acknowledgements:**

We are very much thankful to Principal Dr. Laxman Patil and IQAC coordinator Dr. Abhimanyu Mane. NAAC think tank team for motivating us and giving us the opportunity for energy audit. We would like to express our sincere thanks to Dr. Abhimanyu Mane, Head Department of English, and faculty members of English and all respected staff, faculty members and students those who have taken part in this audit survey for each department, labs, offices etc. of Yashvantrao Chavan Arts, Science and Commerce Mahavidyalaya, Karmala. We tried our best to present this energy report as per requirements of college and our expertise work.

**Bio-Geo Consultancy**

## GREEN AUDIT REPORT- 2020-21 & 2021-22

### Principal's Message



I am pleased to offer my message on the occasion of the publication of Report of 'Green Audit'. Yashwantrao Chavan College and being a part of the *Vidya Vikas Mandal* is truly a blessing. It is my honor and privilege to be writing to you as your principal. This is the place where an education movement was motivated by Vilas Ramchandra Ghumare sowed the seeds of education in the soil of Karmala.

I am pleased to deliver my message on the occasion of the release of the 'Green Audit' report. Working at Yashwantrao Chavan College and being a part of the *Vidya Vikas Mandal* is truly a blessing. It is my honor and privilege to write to you as your Principal.

I am aware that only infrastructure and impressive building do not create a desirable education. The powerful manpower with brilliant professional skills and sound knowledge of global world makes collage perfect. Our teachers play an important role in creating ideal and unique students with scientific, democratic, spiritual and universal principles. Elevated moral values and positive sense of globalization should be of prime concern in our college. Our many students and faculty have been presenting papers in nationalized and International conferences, and many have published their effort in research journals of reputation. Our quality in academics and connected area has been acknowledged by **NAAC** committee.

Most importantly, environmental values inculcated in our students help to create environmental concern in the villages around the college. We also try to train our students to identify environmental opportunities with the activities like organic farming, fish farming, fodder development, optimal use of water for agriculture, etc.

Green Audit is useful for all of us to understand environmental resources in scientific way. The report would be useful for us for future development. Efforts made by our institution for the protection of environment and biodiversity conservation have been well appreciated in the audit. It encourages us for further strengthening environment of our campus in particular and the areas around in general. I express my heartfelt thanks to expert members of team carrying out Green Audit of our campus.

**Dr. L. B. Patil**  
Principal

# Green Audit Report

{2020-21 & 2021-22}

## Index

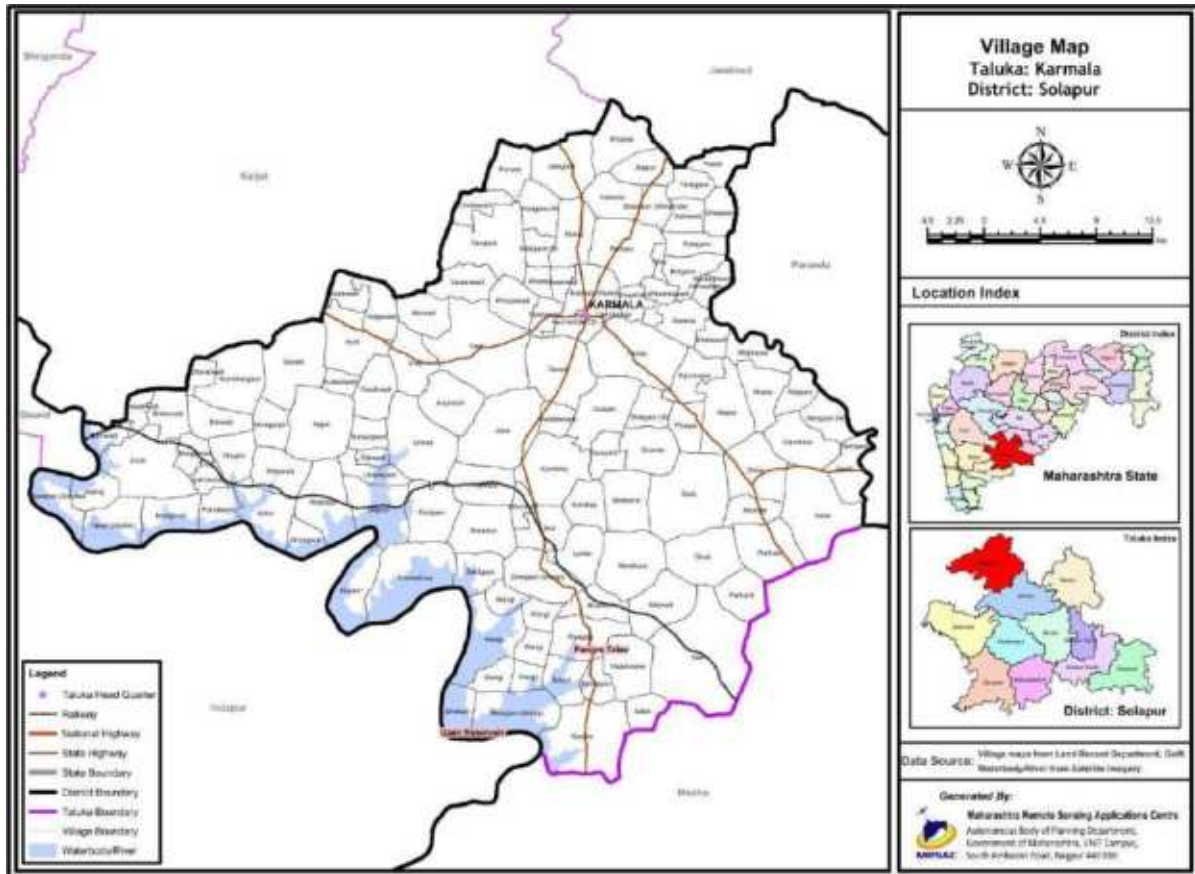
Sr. No	Content	Page No
1.	About Karmala Town	01
2.	Location map	02
3.	Meteorology/Climate	02
4.	Demography	03
5.	Introduction	04
6.	Objectives of the study	05
7.	Methodology	05
8.	Landscaping And Plantation	05
9.	Location wise Survey of College Campus plants	07
10.	Habit Survey of Campus Plants	07
11.	Number of Plants in College Campus	08
12.	List of Some Medicinal Plants in the College campus	09
13.	Theme Locality	11
14.	Solid Waste Management	11
15.	Liquid waste Management	11
16.	E- Waste Managements	12
17.	Items and Their Toxic Components	13
18.	Construction of tanks and bunds	14
19.	Energy Conservation	15
20.	Environment Awareness Program	15
21.	Department wise load consumption of the campus	16
22.	List of Activities with dates	16
23.	Photo gallery	17
24.	Certificate	19

## About Karmala Town:

The municipality was established at Karmala in 1867 and is now governed under the Maharashtra Municipalities Act, 1965. It covers an area of 11.9 square miles (31 km<sup>2</sup>). The municipal council is composed of 15 members with two seats being reserved for the scheduled castes. Karmala is the headquarters of the taluka bearing the same name. It is located about 12 miles (19 km) to the north of the Jeur railway station and about 82 miles (132 km) from the Solapur railway station. It has an average elevation of 562 metres (1,844 ft). The Karmala city is divided into 17 wards for which elections are held every 5 years. The Karmala Municipal Council has population of 23,199 of which 11,905 are males while 11,294 are females as per report released by Census India 2011. The Karmala fort was developed by **Rao Rambha Nimbalkar** when the zone was given upon him as his jagir.

Country	India
State	Maharashtra
District	Solapur
Government Body	Municipal Council
Elevation	562 m (1,844 ft)
Latitude & Longitude	18.42° N 75.20° E.
Total Population (2011)	23199
Official Languages	Marathi
Time zone	UTC+5:30 (IST)
PIN	413203
Telephone code	912182
Vehicle registration	MH-45

## Location:- Map



## Climate:

Karmala Weather Forecast. Providing a local hourly Karmala weather forecast of rain, sun, wind, humidity and temperature. The Long-range 12 day forecast also includes detail for Karmala weather today. Live weather reports from Karmala weather stations and weather warnings that include risk of thunder, high UV index and forecast gales. See the links below the 12-day Karmala weather forecast table for other cities and towns nearby along with weather conditions for local outdoor activities. Karmala is 559 m above sea level and located at 18.42° N 75.20° E. Karmala has a population of 22809. Local time in Karmala is 8:24:47 AM IST.



## Meteorology / Climate

Climate data for Karmala													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	36.7 (98.1)	39.7 (103.5)	43.8 (108)	44.1 (111.4)	45.0 (113)	42.9 (109.2)	37.5 (99.5)	36.2 (97.2)	37.6 (97.9)	38.9 (102.1)	37.3 (99.1)	36.1 (97)	45.0 (113)
Average high °C (°F)	32.0 (89.6)	33.9 (93.1)	37.7 (99.9)	39.8 (103.7)	40.2 (104)	34.0 (93.2)	29.9 (85.8)	29.5 (85.1)	30.9 (87.62)	33.3 (91.9)	31.7 (89.1)	30.1 (86.2)	33.6 (92.5)
Daily mean °C (°F)	21.9 (71.4)	24.0 (75.2)	26.8 (80.2)	30.1 (86.2)	31.7 (89.1)	29.2 (84.6)	27.4 (81.3)	26.5 (79.7)	27.6 (81.7)	26.9 (80.4)	24.1 (75.4)	22.5 (72.5)	26.6 (79.9)
Average low °C (°F)	12.1 (53.8)	13.5 (56.3)	17.9 (64.2)	21.7 (71.1)	23.3 (73.9)	24.0 (75.2)	23.8 (74.9)	24.1 (75.4)	21.9 (71.4)	20.0 (68)	15.2 (59.4)	13.7 (56.7)	19.3 (66.7)
Record low °C (°F)	4.7 (40.7)	5.1 (41.2)	8.9 (48)	12.6 (54.7)	15.0 (59)	19.5 (67.1)	20.3 (68.5)	19.7 (67.5)	15.6 (60.1)	11.9 (53.4)	6.4 (43.5)	5.9 (42.6)	4.7 (40.7)
Precipitation mm (inches)	0 (0)	0.1 (0.004)	1.2 (0.05)	9.9 (0.39)	20.4 (0.8)	75.8 (2.98)	99.4 (3.91)	65.7 (2.59)	62.1 (2.44)	42.6 (1.68)	14.8 (0.58)	2.1 (0.08)	394.1 (15.52)
Avg. precipitation days	0.0	0.01	0.05	0.3	1.1	5.9	9.5	7.6	5.3	2.1	1.0	0.2	33.06
% humidity	55	49	32	33	46	72	77	83	79	66	56	57	58.75
Mean monthly sunshine hours	290.0	281.1	304.8	312.5	327.7	172.0	118.1	105.8	189.7	265.6	295.1	299.3	2,961.7
<i>Source #1: Temperature and Precipitation: IMD 1990-2015)</i>													
<i>Source #2: Sun hours and Humidity: NOAA (1991-2007)</i>													

## Demographics:

Karmala is a Taluka located in Solapur district of Maharashtra. It is one of 11 Talukas of Solapur district. There are 123 villages and 1 towns in Karmala Taluka. As per the Census India 2011, Karmala Taluka has 53719 households, population of 254489 of which 132700 are males and 121789 are females. The population of children between age 0-6 is 31054 which is 12.2% of total population. The sex-ratio of Karmala Taluka is around 918 compared to 929 which is average of Maharashtra state. The literacy rate of Karmala Taluka is 66.3% out of which 73.22% males are literate and 58.77% females are literate. The total area of Karmala is 1593.01 sq.km with population density of 160 per sq.km. Out of total population, 90.88% of population lives in Urban area and 9.12% lives in Rural area. There are 13.84% Scheduled Caste (SC) and 1.7% Scheduled Tribe (ST) of total population in Karmala Taluka.

## **Karmala Population Facts**

Number of Households	53719
Population	254489
Male Population	132700 (52.14%)
Female Population	121789 (47.86%)
Children Population	31054
Area	1593.01 km <sup>2</sup>
Population density/km <sup>2</sup>	160
Sex-ratio	918
Literacy	66.3%
Male Literacy	73.22%
Female Literacy	58.77%
Scheduled Tribes (ST) %	1.7%
Scheduled Caste (SC) %	13.84%

### **Introduction:**

Yashvantrao Chavan Mahavidyalaya, Karmala established in 1966 leads 26 acres area of campus, where with senior college there is administrative building, canteen, Secondary and higher secondary school. About 3000 population provided with facility of water, canteen, toilet, electricity.

Before establishment of this campus it was bare land, after construction of various building we develop greenery in surrounding area of the building, with keeping view to creates eco-friendly environment in this campus we are aware about sustainable use of this campus, we undertake activities like landscaping and plantation, processing and reuse of solid waste of the plant debris and canteen, recycling of the waste water, rainwater harvesting, energy conservation, e-waste management keep the environment of the campus clean and fresh enhance educational environment.

Green audit is defined as it is ultimately about corporate responsibility. It is the process of assessing the environment impact of an organization, process, project, product etc. An examination of what a company is doing to prevent its business activities from harming the environment.

We are making green audit of campus and facilities to keep environment of college campus eco-friendly, we conduct following activities

## **Objectives of the study:**

The main objective of the green audit to promote the environment management and conservation in the college campus. The purpose of the audit is to identify, quantify, describe and priorities frame work of environment sustainability in compliance with the applicable regulations, policies and standards.

The main objectives of carrying out Green audit are.

- To introduce and aware students regarding importance of our surrounding environment and its protection.
- To secure the environment and minimize the threats posed to human health by 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 that are more difficult to handle and their corrections requires high cost.
- To bring out a status report on In order to perform Green audit, the methodology environment due to the activities of the institution.
- To find the innovative ideas to minimize the future threats to the environment.

## **Methodology:**

Included different tools such as survey of campus plant, physical inspections 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 summaries the present status of environment management in the campus;

- Water management
- Energy conservation
- Waste management
- E-waste management
- Green area management

## **Landscaping and Plantation:**

Important Aim and objective of plantation are as below

### **Aim:**

- 1) To develop campus eco-friendly
- 2) To creates healthy environment for learning

## **Objectives:**

- 1) Plants provides natural oxygen
- 2) Plants keeps surrounding environment clean and cool
- 3) Plants protect from dust which are collected on foliage
- 4) Trapping of dust on leaves creates dust free environment in building.
- 5) Increase aesthetic view of the campus
- 6) Plants are important it creates natural habitat for birds and animal.

## **Landscaping:**

Landscape is an art to develop specific space of land into green with aesthetic view commonly called as 'beautification'. Earlier our college campus land was a bare land. After establishment of the Yashvantrao Chavan Mahavidyalaya, Karmala, in year 1966 landscaping is done, 26 acres of land has various buildings such as hostel, canteen, school, senior college, junior college toilet building, staff quarters and ladies hostel surrounding area of the building were bare land of rocks because of water scarcity it was very difficult to made campus green, it was disaster for us because without plants how this campus can breath after 16 years of efforts now our project developed as one of the Eco-friendly campus whole campus is divided for specific type of plantation now in our campus green by planting of 35 species of plants. Students of earn & learn, N.S.S., Nature Club, Department of Botany and non-teaching staff take care of the campus and keep the campus green and clean.

## **Plantation:**

### **Aims and Objectives:**

- 1) To create healthy environment
- 2) To develop the natural habitat in the campus
- 3) Increase oxygen level of the campus.
- 4) Keep surrounding environment cool.
- 5) Plants give shade.
- 6) Plant gives natural habitat for birds and animals including micro-organism

Plantation of plant sapling had been implemented as per location, different variety of plans are planted in various places with keeping aesthetic view and type of soil texture.

**Table -I : Location wise Survey of College Campus plants**

<b>Sr. no</b>	<b>Location</b>	<b>No of Plants</b>
<b>1</b>	College Porch-1 (Inside)	<b>10</b>
<b>2</b>	College Porch-2 (Outside)	<b>128</b>
<b>3</b>	College front side (Including Right & Left)	<b>18</b>
<b>4</b>	Botanical Garden(Including front side)	<b>275</b>
<b>5</b>	Canteen Surrounding	<b>08</b>
<b>6</b>	Indoor hall Surrounding	<b>49</b>
<b>7</b>	Play Ground	<b>148</b>
<b>8</b>	Staff Parking	<b>03</b>
<b>9</b>	Girls Parking	<b>08</b>
<b>10</b>	Boys Parking	<b>12</b>
<b>11</b>	College main road (Both side)	<b>41</b>
<b>12</b>	Main gate right patch	<b>00</b>
<b>13</b>	Main gate entrance	<b>02</b>
<b>14</b>	Washroom side	<b>03</b>
<b>15</b>	College back side	<b>260</b>
<b>16</b>	D. Ed. College surrounding area	<b>29</b>
<b>Total no. of plants</b>		<b>994</b>

**Table –II : Habit Survey Of Campus Plants**

<b>Sr.No</b>	<b>Habit</b>	<b>Number</b>
<b>1</b>	Trees	<b>579</b>
<b>2</b>	Shrubs	<b>246</b>
<b>3</b>	Herbs	<b>152</b>
<b>4</b>	Climbers	<b>17</b>

**Table –III : Number of Plants Present in Campus**

Sr. No.	Botanical Name	Common Name	Family	Habit	No. of Plants
1	<i>Aeglemarmelos</i> (L) Curreia	Bel	Rutaceae	Tree	2
2	<i>Albizialebbeck</i> (L) Benth	Rain Tree	Miomsaceae	Tree	4
3	<i>Aloe vera</i> (L.) Burm.f.	Korphad	Liliaceae	Herb	13
4	<i>Alstoniascholaris</i> (L.) R. Br.	Satptarni	Apocynaceae	Tree	10
5	<i>Annonasquamosa</i> L.	Shitaphal	Annonaceae	Tree	11
6	<i>Azadirachataindica</i> L	Kaduneem	Meliaceae	Tree	33
7	<i>Bauhoniapurpuria</i> L.	Bauhonia, Apta	Fabaaceae	Tree	4
8	<i>Bombaxcieba</i> L.	Katesavar(Silk cotton)	Malvaceae	Tree	2
9	<i>Bougainvillea spectabilis</i> Willd.	KagdiPhul	Nyctaginaceae	Climber	15
10	<i>Buteamonosperma</i>	Palas	Fabaceae	Tree	1
11	<i>Cascabelathevetia</i> L. (Lippold)	Bitti	Apocynaceae	Shrub	4
12	<i>Cassia fistula</i> Linn	Bahawa	Fabeaceae	Tree	11
13	<i>Combretumindicum</i> (L.)	Madhumalti	<a href="#">Combretaceae</a>	Climper	1
14	<i>Cycas revolute</i> Thunb.	Cycas	Cycadaceae	Tree	47
15	<i>Cyperusalternifolius</i> Rottb.	Umbrella palm	Cyperaceae	Herb	2
16	<i>Dalbergiasisoo</i> Roxb.	Shisham	Fabaceae	Tree	1
17	<i>Delonixregia</i> Rafin	Gulmohor	Caesalpinaceae	Tree	25
18	<i>Durantaerecta</i> L.	Golden duranta	Verbenaceae	Shrub	170
19	<i>Eucalyptus globulus</i> Labill.	Neelgiri	Myrtaceae	Tree	11
20	<i>Ficusbengalensis</i> L.	Banyan Tree	Moraceae	Tree	32
21	<i>Ficusbenjamina</i> L.	Ficus tree	Moraceae	Tree	1
22	<i>Ficus elastic</i> Roxb.exHornem.	Rubber Tree	Moraceae	Tree	59
23	<i>Ficusracemosa</i> Roxb.	Umber/Audumber	Moraceae	Tree	19
24	<i>Gliricidiasepium</i> Kunth	Giripishpa	Fabaceae	Tree	61
25	<i>Hyophorbelagenicaulis</i> (L.H.Bai ley) H.E.Moore	Bottle palm	Arecaceae	Tree	3
26	<i>Jacaranda mimosifolia</i> D. Don	Neelgulmohar	Bignonaceae	Tree	16
27	<i>Leucaenaleucocephala</i> (Lam.) de Wit	Subabul	Mimosaceae	Tree	15
28	<i>Mangiferaindica</i> L.	Mango	Anacardiaceae	Tree	2
29	<i>Micheliachampaca</i> (L.) Baill. ex Pierre.	Champa	Magnoliaceae	Tree	2
30	<i>Moringaoleifera</i> Lam	Shevga	Moringaceae	Tree	7
31	<i>Murrayakoenigii</i> (L.) Spreng	Curry Leaf	Rutaceae	Tree	3
32	<i>Nyctanthes arbor-tristis</i> L.	Parijat	Oleaceae	Shrub	3

33	Phyllanthusemblica L.	Avala	Phyllanthaceae	Tree	2
34	Pithecellobiumdulce (Roxb.) Benth	Vilayti Chinch	Fabaceae	Tree	13
35	Plumeriarubra L.	Red Chaffa	Apocyanaceae	Tree	2
36	Plumeria obtuse L.	White Chaffa	Apocyanaceae	Tree	1
37	Pongamiapinnata (L.) Pierre	Karanj	Fabeaceae	Tree	14
38	Psidiumguajava L.	Peru	Mrytaceae	Tree	1
39	Ricinuscommunis L.	Erand	Euphorbiaceae	Shrub	5
40	Saracaashoka L	Ashoka	Fabaceae	Tree	13
41	Santalum album L.	Chandan	Santalaceae	Tree	5
42	Sennasiamea (Lam.) Irwin et Barneby	Kashid	Caesalpinaceae	Tree	5
43	SpathodeacampanulataP. Beauv.	Fountain tree	Bignoniaceae	Tree	13
44	Syzygiumcumini (L.)	Jamun	Euphorbiaceae	Tree	2
45	Tabernaemontanadivaricata (L.) R.Br. ex Roem. &Schult.	Tagar	Apocynaceae	Shrub	1
46	Tamarindusindica L.	Chinch	Fabaceae	Tree	27
47	TerminaliacatappaL.	Indian Badam	Combretaceae	Tree	2
48	Thespesiapopulnea(L.) Sol. ex Corrêa	Ran bhendi	Malvaceae	Tree	1
49	Thujaoccidentalis L.	Morpankhi	Cupressaceae	Tree	19
50	Ziziphus jujube Mill	Ber / Bor	Rhamnaceae	Tree	3
Varieties 50					719

**Table- IV : List of Some Medicinal Plants in the College campus**

Sr. No	Botanical name	Local name	Part used	Uses
1	Aegle marmelos (L) Curreia	Bel	Leaves, Fruits	Fever, Eye diseases, Diarrhea, skin diseases, cough.
2	Aloe vera (L.) Burm.f.	Korphad	Leaves	Digestive system disorders, skin care, Inflammation
3	<i>Azadirachata indica</i> L.	Kadu-Neem	Leaves , seeds	Expectorant cure digestive germs & worms
4	Bixa orellana L.	Shandri	Seeds, Leaves	Laxative, cardiotoxic, hypotensive, expectorant, and antibiotic. Used in pharmaceutical, cosmetic, textile, and especially food industries
5	Butea monosperma	Palas	Leaves, Flowers	leprosy, strangury, gout, skin diseases, thirst sensation; flower juice is used to treat eye diseases
6	<i>Cassia fistula</i> Linn.	<u>Bahava/ Amaltash</u>	Whole Plant	Leaves used for erysipelas, malaria, rheumatism, and ulcers, buds used for biliousness, constipation, fever,

				leprosy, and skin disease and fruit for abdominal pain, constipation, fever, heart disease, and leprosy.
7	<i>Cynodon dactylon</i> (L.) Pers.	Durva	Whole Plant	Anasarca, cancer, convulsions, cough, cramps, diarrhea, dropsy, dysentery, epilepsy, headache, hemorrhage, hypertension, hysteria, measles, rubella, snakebite, sores, stones, tumors, urogenital disorders, warts and wounds.
8	<i>Dalbergia sisoo</i> Roxb.	Shisham	Leaves, Stem, Seeds, bark.	Obesity, vitiligo, fever, non healing wounds, ulcers, intestinal parasites & timber, fuelwood
9	<i>Eucalyptus globulus</i> Labill.	Neelgiri	Leaves, Stem	Arthritis and skin ulcers. Eucalyptus oil is also used to ease cold symptoms and provide respiratory health benefits. mouthwashes and cold remedies
10	<i>Hibiscus rosa-sinensis</i> L.	Jaswand	Fruits, Leaves, Bark	Treating wounds, inflammation, fever and coughs, diabetes, infections caused by bacteria and fungi, hair loss, and gastric ulcers
11	<i>Jatropha curcas</i> L	Mogliera nd	Seeds, Leaves	Biodiesel production and skin care, cancer, digestive, respiratory and infectious diseases.
12	<i>Justicia adhatoda</i> L.	Adusa	Leaves, roots, flowers, and bark	Cough, colds, asthma, to liquefy sputum, as a bronchodilator, bronchial catarrh, bronchitis, and tuberculosis.
13	<i>Kalanchoe pinnata</i> (Lam.) Pers	Panphuti	Leaves	Headache, to cure cuts and wounds, eye diseases. skin's tone and elasticity, helping to smooth wrinkles and fine lines.
14	<i>Lantana camara</i> L.	Tantani/ Haladi Kunku	Leaves, Stem & Roots	Cancers, chicken pox, measles, asthma, ulcers, swellings, eczema, tumors, high blood pressure, bilious fevers, catarrhal infections, tetanus, rheumatism, malaria, antiseptic, antispasmodic.
15	<i>Ocimum sanctum</i> L.	Ram tulsi	Whole plant	Bronchitis, bronchial asthma, malaria, diarrhea, dysentery, skin diseases,
16	<i>Oroxylum indicum</i> (L.) Benth. ex Kurz	Tetu	Leaves, Stem Roots, Seeds, Pods.	Treatment of jaundice, arthritic and rheumatic problems, gastric ulcers, tumors, respiratory diseases, diabetes, and diarrhea and dysentery
17	<i>Phyllanthus emblica</i> L.	<u>Avala</u>	Fruit, Leaves	Diarrhea, jaundice, inflammation, hair care, reduces stress.
18	<i>Saraca ashoka</i> L	Ashoka	Branch of plant	Use in milk secretion in mother
19	<i>Santalum album</i> L.	Chandan	Bark, stem	Use in food and cosmetics.



20	<i>Tinospora cordifolia</i> Miers	Gulvel	Stem, Leaves	an anti-inflammatory, anti-diabetic, and even as an anti-cancer agent.
21	<i>Vitex negundo</i> L.	Nirgudi	Leaves, Seeds, Roots.	Relieves muscle aches and joint pains, to treat excessive vaginal discharge, edema, skin diseases, pruritus, helminthiasis, rheumatism and puerperal fever.

**Table - V : Theme Localities**

Sr. No.	Theme	Location	Plants
1	Oxygen rich	Main road, College campus	Tulsi, Pimpal, Neem
2	Beauty	Botanical Garden, Front of college	Ficus, Croton, Cynadon, Palm, Cycas.
3	Medicinal Plants	Botanical garden	Bahava, Adulsa, Tulsi, Palas, Tetu, Korpad,
4	Shade	Botanical garden, college road, Ladies Hostel, Girls Parking, Canteen front side.	Chinch, Avala, Ficus, Sena., Bitti, Gulmohar
5	Avenue	College road and way to botanical garden, Hostel	Bitti, Gulmohar, Nilgiri, False Ashok, Neem,
6	Palms	College front, Indoor Stadium front side.	Areca palm, fish-tail palm
7	Gymnosperms	Botanical garden	Cycas, Thuja, X-mas tree,

### 1. Solid Waste Management:

The college activities have very less impact on the environment as the college is very responsive of generating less waste and recycling it and by passing it through the scientific ways that enable the used material to be recycled ensuring that less natural resources are used. Waste generated on the campus is segregated as a solid waste, liquid waste, and e-waste.

For the collection of regular solid waste (Dry and Wet) garbage bins are kept at different places on the campus and in laboratories. The collected solid waste is picked up by Municipal Corporation, Karmala time to time for proper disposal and recycling. Waste from plants is also collected and used in Vermicomposting units for preparation of organic compost.

### 2. Liquid waste Management:

Liquid waste are the Liquids such as wastewater, fats, oils or grease (FOG), used oil, liquids, solids, gases, or sludges and hazardous household liquids. These liquids that is hazardous or potentially harmful to human health or the environment. They can also be

discarded commercial products classified as “Liquid Industrial Waste” such as cleaning fluids or pesticides, or the by-products of manufacturing processes. There are general regulatory requirements relating to waste, additional regulations apply to generate, store, transport, treat and disposal of hazardous and liquid wastes.

Yashvantrao Chavan Mahavidyalaya, Karmala, believes in “Go green and keep our campus clean”. College pivotal operations have very less impact on the environment as the institute is very conscious of generating less waste and recycling it by passing it through a system that enables the used material to be reused ensuring that less natural resources are consumed. Environmental initiatives like use of renewable energy, Rain water harvesting, Sewage treatment plants, Zero water discharge, No smoking zone, waste management system etc have been implemented. Environment consciousness is embodied in the heart of the college by tree plantations from NSS/ NCC every year which is the predominant motive of the management to maintain the pristine purity and beauty of the college and also to provide a congenial atmosphere for the academic and non-academic pursuit

The liquid wastes generated in the campus include Sewage, Laboratory, and canteen effluent waste. The above waste is transferred through pipes from different laboratories and through soak pit tank stored in big tank. The laboratory waste water does not contain hazardous chemicals and periodical monitoring is done by the maintenance team.

The waste chemicals mixed water from laboratory passes through concealed pipe line into soak pit & recycled water is used for the watering trees or non-potable usage. Liquids are diluted by getting mixed with the washroom and toilet liquid wastes in to the common drainage.

### **Types of liquid waste:**

- Waste water
- Fats and oils
- Sewage and sludge
- Hazardous household liquids
- Organic wastewater
- Inorganic wastewater

### **E- Waste Management:**

E-Waste, electronic waste comprises of waste generated from used electronic devices and house hold appliances which are not fit for their original intended use.

### **Aim and objective:**

E-waste is the future coming environmental problem will create hazards to our environment, it is non-degradable waste can pollute water, soil and air.

With keeping this view we are aware about destructive material mainly metal, insulating materials present in the e-waste like CD, scrap, mobile like devices, computer waste like wiring, metals, and unused pen drive.

### **Items and Their Toxic Components:**

<b>Sr. No.</b>	<b>Item</b>	<b>Components</b>
1	Refrigerator	CFC/HC/Rubber
2	PC & Laptops	CRT, Fluorescent Lamp, Copper
3	Television	Metal, CRT, Plastic BRF
4	Washing Machine	Rubber, Electric Wire, Metal & Motor
5	Computer Batteries	Cadmium
6	Capacitor & Transformer	PBC
7	Printer Circuit Board	Lead & Cadmium
8	Cathode Ray Tubes	Lead Oxide & Cd
9	Cable Insulation / Coating	PVC
10	Switches & Flat Screen Monitor	Mercury

### **Activity / Observations:-**

With keeping view to minimize the pollution created through the e-waste, we have carried out the scientific disposal of e-waste by two ways

- 1) Collection of e- waste in e- waste box
- 2) Reuse of the component of unused electronic devices.

### **Collection of E-Waste:**

We have installed e- waste box it the Electronics laboratory, and our students, staff put unused electronic devices and component like CD, PD, memory card, sim card, etc.it also collected and few of reuse and remaining e-waste is given to e-waste scrap purchaser for proper reuse and disposal of such e-waste. Awareness is done by electronic subject faculty members to class to class by telling about e-waste and its impact on environment.

This activity runs throughout the year and e-waste is collected in e-waste box, On 10 December 2021 in Campaign of e- waste collection, total 2 kg of e- waste was collected and out

of this some was reused for preparation of best from waste activity. And some items were repaired.

**Recommendations:-**

1. Always purchase recycled resources where these are both suitable and available.
2. Reuse devices after repairing.

**Construction of tanks and bunds:**

The College has artificial built-up tank (approximate 50 lakh liters) in which the campus rainwater harvesting is done in the rainy season.



**Maintenance of water bodies and distribution system in the campus:**

In summer time the canal irrigated water is stored in the tank.



**Recommendations:-**

1. Increase the Pits for rain water harvesting.
2. Construct the underground tank for the storage of rain water harvest.

## **Energy Conservation:**

### **Aim:**

- 1) To minimize the use of natural resources
- 2) Conservation of energy

### **Objective:**

- 1) To save non-conventionally produce electric energy
- 2) Use of conventional source of energy
- 3) Minimization of electric expenses

### **Activity/ Observations:**

Energy conservation is the burning problem of the country, there is pressure due to great demand for electricity and shortage of this non-conventional source of energy.

We have implemented energy conservation programs with three ways

- 1) Use of LED tube in the college building
- 2) Use of solar water heater
- 3) Solar power plant for electricity production

## **Environment Awareness Program**

### **• Aim and objective:**

To plan, organize and implement programs like landscape and plantation, water management & conservation, and rain water harvesting. To provide education that prepares students for leadership and social responsibility teaching them to think and communicate effectively and develop a global awareness.

To introduce environmental education programs for strengthen the existing ecological and environment related training infrastructure.

- To provide consultancy to other institutions and organizations in for the establishment of similar institutions with a view to bringing sustainability.
- To organizer training programs for vocation list of environmental careers.
- To strengthen Global Environmental Education Programs for standardization of greening- activities.
- To introduce environmental education programs in strengthen the existing ecological and environment related training infrastructure.
- To provide environmental education that prepares students for leadership and social responsibility by teaching them to think and communicate effectively and develop global environmental awareness and sensitivity.

### List of Activities with Dates:

<b>Sr. NO.</b>	<b>ACTIVITY NAME</b>	<b>Date</b>
<b>1.</b>	Watershed Management Visit	21/10/2022
<b>2.</b>	Disaster Management Program	05/06/2021
<b>3.</b>	Nursery Visit	26/8/2022
<b>4.</b>	Tree Plantation	22/8/2022
<b>5.</b>	Ozone Day	16/09/2022
<b>6.</b>	<i>Nala</i> Bunding Visit	23/03/2022
<b>7.</b>	Disaster Management 1 Day Program	20/03/2022
<b>8.</b>	Tree Plantation by Department of Geography	21/10/2022
<b>9.</b>	Visit to Organic Farming	24/03/2022
<b>10.</b>	Environmental Awareness	05/06/2021
<b>11.</b>	Importance and Conservation of Plants	22/08/2022
<b>12.</b>	Tree Plantation by NSS students	22/08/2022
<b>13.</b>	NSS other some activities	18/11/2022



## Photo-gallery









## BIO-GEO CONSULTANCY

School, Colleges, Company Green, Carbon Credit Audit etc.  
Neelkanth Society, Bombay Sappers Colony, Wadgaonsheri, Pune. 14  
Email ID [jyotirammore@gmail.com](mailto:jyotirammore@gmail.com) Mobile Number : 8983349170

### CERTIFICATE

### GREEN AUDIT

*This is certified that Vidya Vikas Manda's prepared by Bio-Geo Consultancy with due cooperation of the principal and staff of Yashvantrao Chavan Arts, commerce & Science College Karmala, Tal Karmala, Dist - Solapur, Maharashtra State, India, has conducted in December 2022 to assess the green initiative planning, efforts, activities, implemented in the college campus like plantation, Waste Management, Rain Water Harvesting, Conservation of Energy, Paperless Technology & Various Environmental Activities. This Green Audit is also aimed to assess impact of green initiatives for maintenance of the campus eco-friendly.*

*Place : Karmala*

*Date : 10/01/2023*

**(Dr. Praveen G. Saptarshi)**  
Auditor

**(Dr. Jyotiram More)**  
Coordinator