2023

Green Audit Report

EcoShastra

Rayat Shikshan Sanstha's

Yashwantrao Chavan Institute of Science, Satara (Autonomous)

(Lead College, Karmaveer Bhaurao Patil University)

Green Audit Report

Submitted by

EcoShastra

INDEX

Rayat Shikshan Sanstha's

Yashwantrao Chavan Institute of Science, Satara.

(Autonomous)

(Lead College, Karmaveer Bhaurao Patil University)

About Rayat Shikshan Sanstha, Satara:

Rayat Shikshan Sanstha is one of the largest and leading educational institutes in India founded by the eminent educationist and social reformer Padmabhushan Dr. Karmaveer Bhaurao Patil in the year 1919 at village Kale in Karad Tahsil. The Sanstha has contributed immensely to educating the masses in Maharashtra. Social justice, humanity, and equality are the ideologies cherished by the Sanstha. Currently, the Sanstha operates through a network of 776 branches including 42 colleges, of which 6 colleges have autonomous status. It provides education to over 4.5 lakh students through a workforce of more than 13,000 employees.

About Yashwantrao Chavan Institute of Science, Satara (Autonomous):

Nestled in the hills of Sahyadri, is the historic and scenic city Satara, the location of Yashavantrao Chavan Institute of Science. The institute is a member of the family Rayat Shikshan Sanstha, a renowned educational trust, founded by Late Padmbhushan Dr. Karmaveer Bhaurao Patil.

Established in June 1958 as a Science wing of Chh. Shivaji College Satara, it was later established as a single faculty 'Science College' in June 1965. The science college was christened in 1986 as Yashavantrao Chavan Institute of Science in the honor of Late Shri. Yashavantrao Balawantrao Chavan, former Deputy Prime Minister of India and former President of Rayat Shikshan Sanstha.

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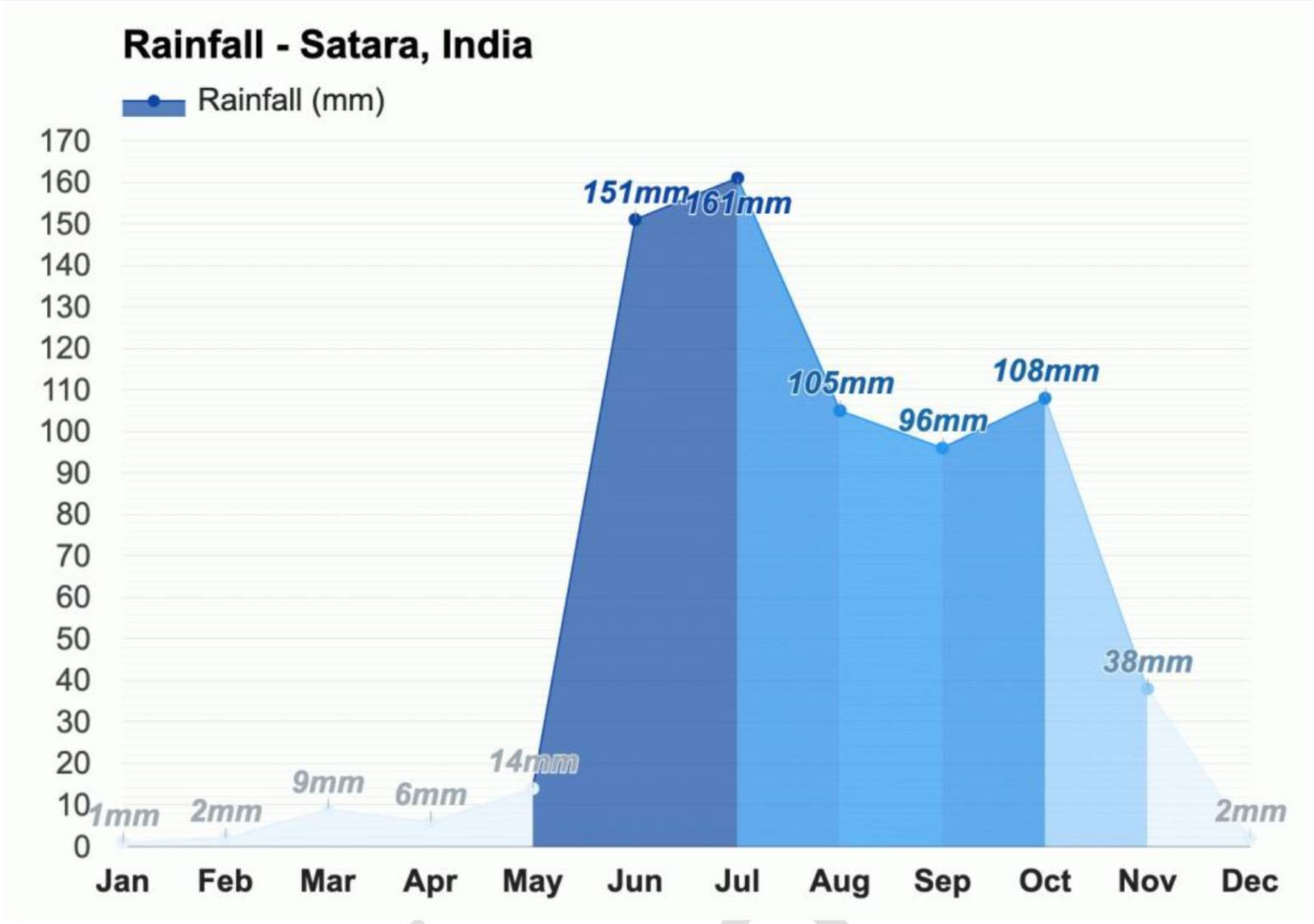
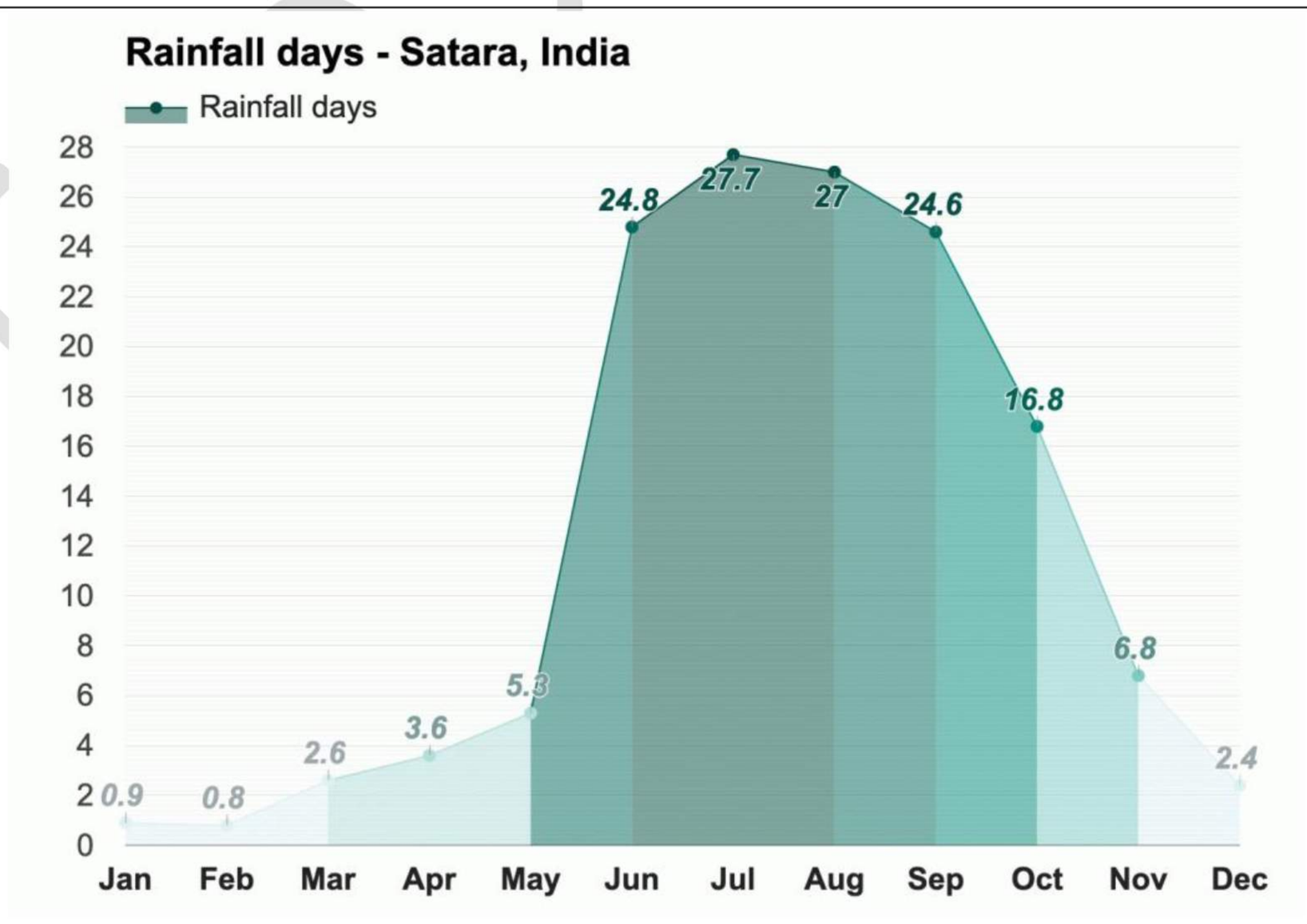
Average Rainfall (in mm) in Satara (Last 50 Years)



Rainfall (days) in Satara- Average Rainfall Days per month (Last 50 Years)



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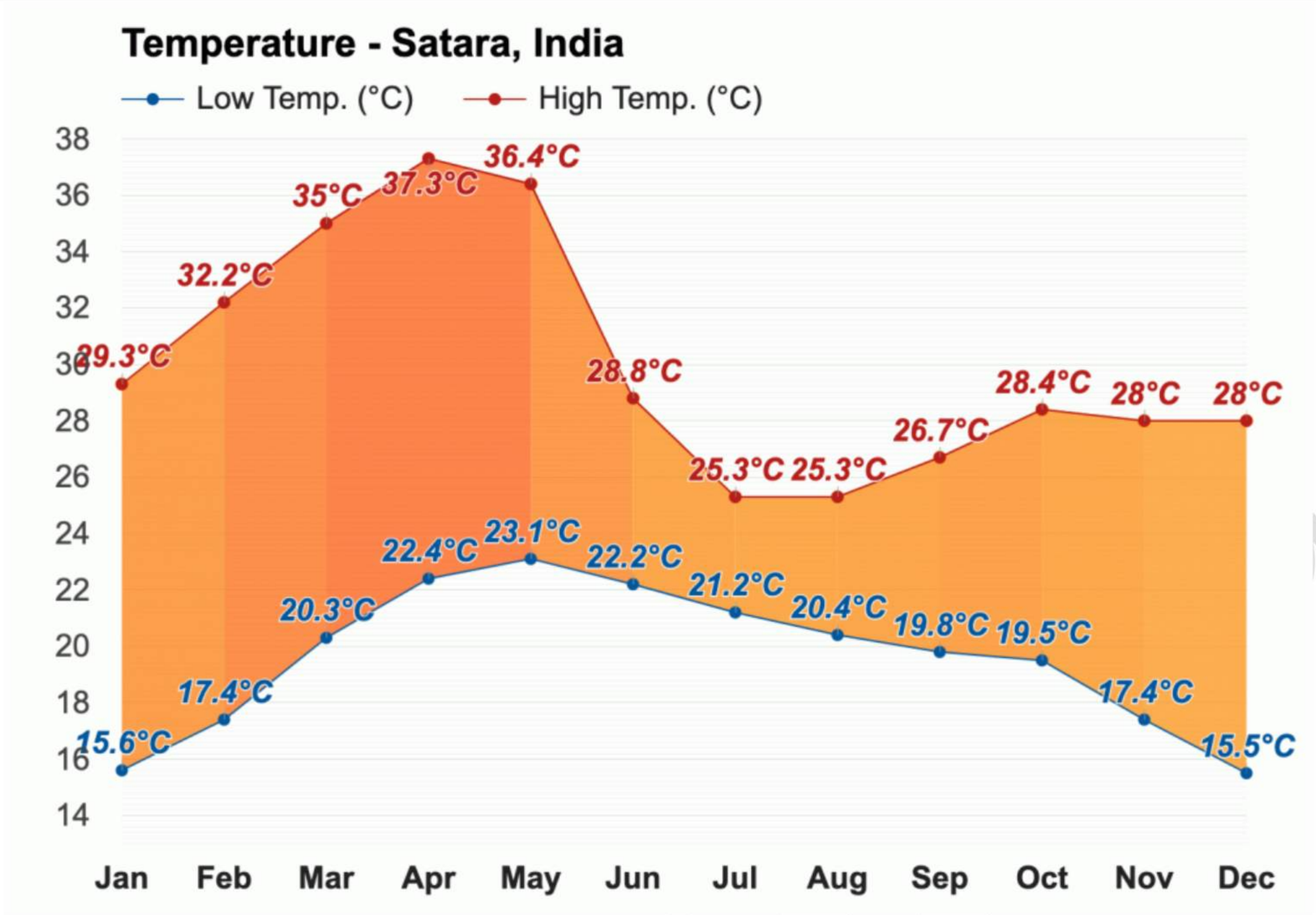
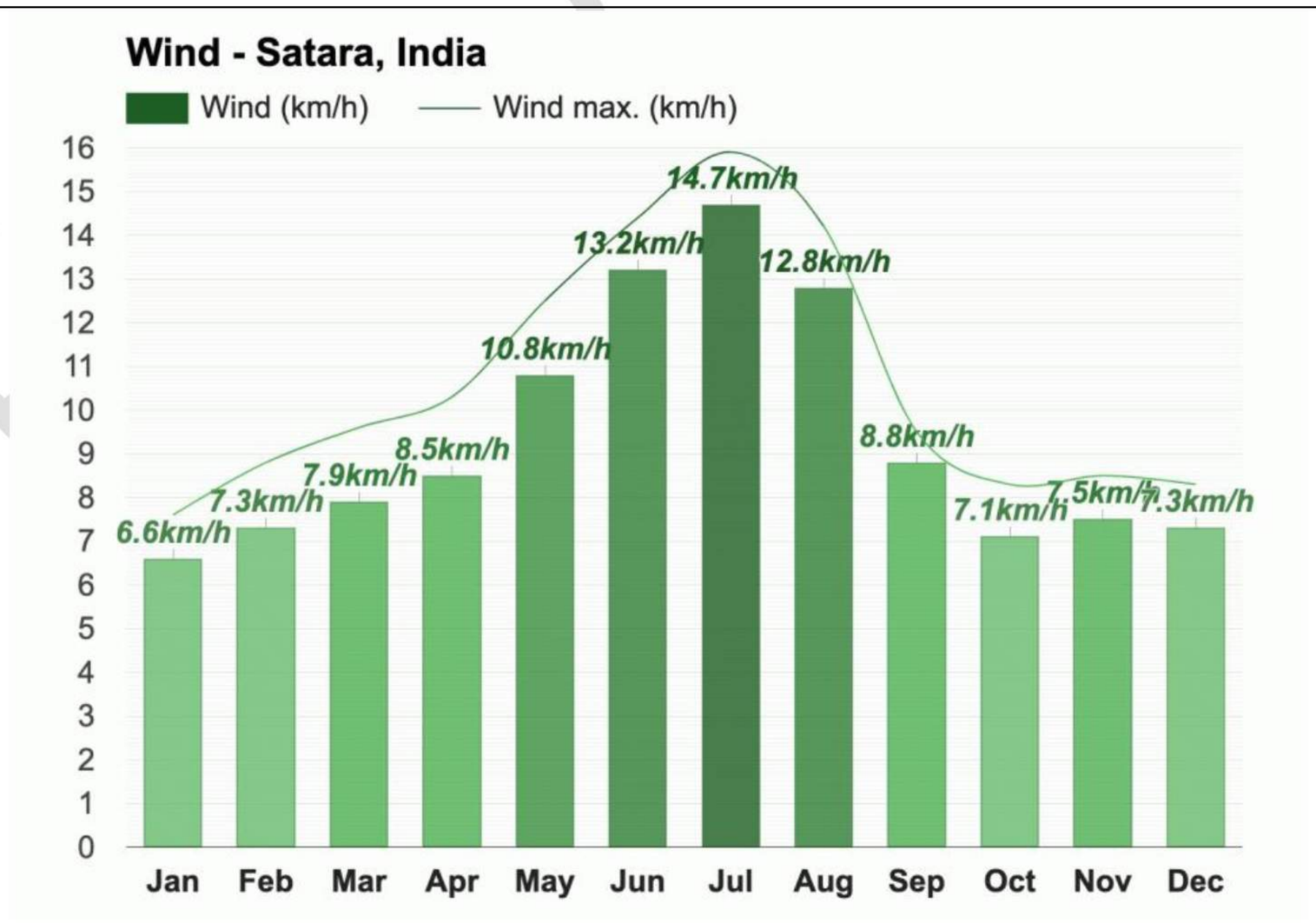


The average wind flow in Satara



Certificate

This is to certify that **'EcoShastra'**, has conducted a Green Audit of **'Yashwantrao Chavan Institute of Science, Satara'.** It has been observed that the campus not only implemented various Green Measures on the campus for the well-being of the staff and students on the campus but also has a separate **Green Policy** of the campus which helps to maintain a healthy environmental balance.

Certified issued in: September 2023 **Certificate valid till:** August 2024

Thombare S.P.

Shubham P. Thombare

Green Auditor

Eco Shastra Consultancy & Services BARAMATI (M.S.)

Dr. H. S. Patil

Lead Auditor

Green Audit Committee

Sr. No.	Name	Designation
1.	Dr. B. T. Jadhav	Chairman (Principal)
2.	Dr. H. S. Patil	Lead Auditor
3.	Dr. J. J. Chavan	Coordinator
4.	Dr. S. M. Gojare	Internal Green Auditor
5.	Mr. S. P. Thombare	External Green Auditor
6.	Mr. A. S. Jadhav	Member
7.	Mr. A. S. Choudhari	Member
8.	Dr. G. R. Attar	Member
9.	Ms. S. V. Nikam	Member

Biodiversity Audit

1. Biodiversity Audit:

Introduction:

The biodiversity of any institute defines the perspective of the institute towards the environment. More the diversity more the concern college has paid towards the environment. Keeping this in mind biodiversity audit is carried at Yashwantrao Chavan Institute of Science, Satara campus. This report includes the aims and objectives set for the audit, observation, conclusion, and recommendations.

Aims and Objectives:

1. Enlisting of species biodiversity of the campus.
2. Analyzing spatial features of the area.

Methodology:

1. **Field surveys:** Extensive field surveys are carried to enumerate floristic diversity and enlisting of faunal diversity.

2. **Collection and analysis of data:** The collected data from field surveys are tabulated and analyzed for deciding the biodiversity status of the campus.

3. **Discussion:** The aspects regarding the biodiversity audit and environment-centric approach of an institute are discussed in great detail.

4. **Recommendations:** The recommendations are issued after a detailed study of the data.

Observations and inventory

Sr. No.	Scientific Name of the plant	Number of individuals
1.	*Artocarpus heterophyllus*	1
2.	*Mimusops elengi*	1
3.	*Salacia chinensis*	1
4.	*Garcinia cambogia*	1
5.	*Polyalthia longifolia*	16
6.	*Pterospermum marsupium*	1
7.	*Semecarpus anacardium*	1
8.	*Dypsis lutescense*	15
9.	*Santalum album*	4
10.	*Putranjiva roxburghii*	12
11.	*Cestrum nocturnum*	4
12.	*Quasqualis indica*	4
13.	*Vetiveria zizinoides*	9
14.	*Polyscias* sp.	29
15.	*Kigelia pinnata*	1
16.	*Couroupitta guanensis*	2
17.	*Ficus elastic*	5
18.	*Holigarna arnottiana*	1
19.	*Pterygota alata*	1
20.	*Cissus quadrangularis*	2
21.	*Jasminum malabaricum*	1

22.	*Alternanthera brasiliana*	19
23.	*Swietenia mahagoni*	3
24.	*Pyrostegia venusta*	1
25.	*Garcinia indica*	3
26.	*Areca catechu*	1
27.	*Artocarpus heterophyllous*	1
28.	*Carica papaya*	2
29.	*Calophyllum inophyllum*	2
30.	*Ixora coccinea*	7
31.	*Colocasia macrorrhiza*	4
32.	*Diospyrus sp*	3
33.	*Pterygota alata*	1
34.	*Asystasia gangetica*	11
35.	*Musa sp.*	15
36.	*Erinocarpus nimmonii*	2
37.	*Euphorbia tirucalli*	2
38.	*Bambusa vulgaris*	28
39.	*Senseveria cylindrica*	4
40.	*Euphorbia sp.*	5
41.	*Acalypha hispida*	4
42.	*Tradescantia sp*	3
43.	*Senseveria trifasciata*	6
44.	*Syngonium podophyllum*	13
45.	*Schlephera sp*	16

46.	*Croton sp.*	3
47.	*Aglaonema sp*	2
48.	*Kalanchoe sp*	18
49.	*Acalypha wilkesiana*	16
50.	*Roystenia regia*	16
51.	*Ravenalla madagascarensis*	2
52.	*Hoya sp*	1
53.	*Nyctanthes arbor-tristis*	3
54.	*Ficus sp*	32
55.	*Murraya paniculata*	1
56.	*Duranta erecta*	8
57.	*Morus alba*	300
58.	*Hamelia patens*	300
59.	*Cycas revoluta*	156
60.	*Gnetum ula*	1
61.	*Araucaria heterophylla*	15
62.	*Podocarpus macrophyllus*	4
63.	*Thuja occidentalis*	11
64.	*Pandanus sp.*	8
65.	*Acacia concinna*	1
66.	*Coffea arabica*	1
67.	*Couroupita guianensis*	2
68.	*Zamia furfuracea*	3
69.	*Swietenia mahagoni*	3

70.	*Holoptelea integrifolia*	5
71.	*Centella asiatica*	50
72.	*Asparagus sp*	70
73.	*Pimenta dioica*	5
74.	*Pimpinella saxifraga*	4
75.	*Catharanthus roseus*	20
76.	*Nyctanthes arbor-tristis*	6
77.	*Rosa indica*	70
78.	*Tagetes erecta*	50
79.	*Caryota urens*	8
80.	*Combretum indicum*	4
81.	*Dypsis lutescens*	90
82.	*Clitoria ternatea*	80
83.	*Nerium oleander*	8
84.	*Duranta repens*	365
85.	*Spathodea campanulata*	6
86.	*Saraca asoca*	1
87.	*Ensete superbum*	15
88.	*Cestrum nocturnum*	8
89.	*Cestrum diurnum*	4
90.	*Vanda tessellata*	2
91.	*Eichhornia speciosa*	30
92.	*Salvinia molesta*	70
93.	*Hydrilla verticillata*	∞

94.	*Nymphaea sp.*	5
95.	*Ludwigia sp.*	2
96.	*Brugmansia suaveolens*	10
97.	*Crinum asiaticum*	20
98.	*Heliconia rostrata*	15
99.	*Rauvolfia serpentina*	8
100.	*Pithecellobium dulce*	5

Faunal Diversity:

Sr. No	Scientific Name	Common Name
	BUTTERFLIES	
1.	*Acraea violae* (Fabricius)	Tawny Coster
2.	*Appias libythea* (Fabricius)	Striped Albatross
3.	*Ariadne merione* (Cramer)	Common Castor
4.	*Castalius rosimon* (Fabricius)	Common Pierrot
5.	*Catopsilia pomona* (Fabricius)	Common Emigrant
6.	*Catopsilia pyranthe* (Linnaeus)	Mottled Emigrant
7.	*Chilades lajus* (Stoll)	Lime Blue
8.	*Danaus chrysippus* (Linnaeus)	Plain Tiger
9.	*Danaus genutia* (Cramer)	Striped Tiger
10.	*Delias eucharis* (Drury)	Common Jezebel
11.	*Elymnias hypermnestra* (Linnaeus)	Common Palm fly
12.	*Euploea core* (Cramer)	Common Crow
13.	*Eurema hecabe* (Linnaeus)	Common Grass Yellow
14.	*Euthalia aconthea* (Cramer)	Common Baron
15.	*Graphium agamemnon* (Linnaeus)	Tailed Jay
16.	*Graphium doson* (C. & R. Felder)	Common Jay
17.	*Hypolimnas bolina*(Linnaeus)	Great Egg fly
18.	*Ixias pyrene* (Linnaeus)	Yellow Orange Tip
19.	*Junonia almana* (Linnaeus)	Peacock Pansy
20.	*Junonia atlites* (Linnaeus)	Grey Pansy
21.	*Junonia orithya*(Linnaeus)	Blue Pansy
22.	*Leptosia nina* (Fabricius)	Psyche

23.	*Melanitis leda* (Linnaeus)	Common Evening Brown
24.	*Papilio demoleus* (Linnaeus	Lime Butterfly
25.	*Papilio polymnestor* Cramer	Blue Mormon
26.	*Papilio polytes* Linnaeus	Common Mormon
27.	*Parantica aglea* (Stoll)	Glassy Tiger
28.	*Tirumala limniace* (Cramer)	Blue Tiger
29.	*Ypthima baldus* (Fabricius)	Common Five Ring
30.	*Ypthima huebneri* Kirby	Common Four Ring
BIRDS		
31.	*Psittacula cyanocephala*	Plum headed parrot
32.	*Milvus migrans*	Kite
33.	*Chaetorhynchus papuensis*	Drongo
34.	*Accipeterbadius*	Shikra
35.	*Acrido therestristis*	Common Mynah
36.	*Aegithina tiphia*	Common Iora
37.	*Alcedo atthis*	Common Kingfisher
38.	*Apus affinis*	Little Swift
39.	*Ardeola grayii*	Pond Heron
40.	*Athene brama*	Spotted Owlet
41.	*Centropus sinensis*	Greater Coucal
42.	*Centropus parroti*	Southern Coucal
43.	*Cinnyris asiaticus*	Purple Sunbird
44.	*Columba livia domestica*	Pigeon
45.	*Columba livia*	Blue Rock Piegon
46.	*Copsychus saularis*	Oriental Magpie Robin
47.	*Corvus macrorhynchos*	Jungle Crow

48.	*Corvus splendens*	House Crow
49.	*Cyornis tickelliae*	Tickell's Blue Flycatcher
50.	*Dicrurus macrocercus*	Black drongo
51.	*Eudynamys scolopaus*	Asian Koel
52.	*Halcyon smyrnensis*	White breasted kingfisher
53.	*Icterus galbula*	Baltimore Oriole
54.	*Leptocoma zeylonica*	Purple Rumped Sunbird
55.	*Lonchur apunctulata*	Scaly Breasted Munia
56.	*Melopsittacus undulatus*	Parakeet
57.	*Merops orientalis*	Green Bee Eater
58.	*Ocyceros birostris*	Indian Grey Hornbill
59.	*Orthotomus sutorius*	Tailor Bird
60.	*Paradisa eidae*	Bird of Paradise
61.	*Parus cinereus*	Great Tit
62.	*Passer domesticus*	House Sparrow
63.	*Pericrocotus cinnamomeus*	Small Minivet
64.	*Prinia*	Prinia
65.	*Prinia socialis*	Ashy Prinia
66.	*Psittacula krameri*	Rose Ringed Parakeet
67.	*Ptyonoprogne concolor*	Dusky Crag Martin
68.	*Pycnonotus cafer*	Red Vented Bulbul
69.	*Rhipidura albiscapa*	Grey Fantail
70.	*Rhipidura albogularis*	White Spotted Fantail
71.	*Spilopelia senegalensis*	Laughing Dove
72.	*Sturnia pagodarum*	Brahminy Myna
73.	*Terpsiphone paradisi*	Asian Paradise Flycatcher

74.	*Treron phoenicopterus*	Yellow Footed Green Pigeon
75.	*Tyto alba*	Barn Owl
76.	*Vanellus indicus*	Red-Wattled Lapwing
77.	*Xantholaema haemacephala*	Coppersmith Barbet
MAMMALS		
78.	*Canis lupus familiaris*	Dog
79.	*Felis catus*	Cat
80.	*Herpestes edwardsi*	Mongoose
81.	*Mus musculus*	Mouse
82.	*Peramele morphia*	Bandicoot
83.	*Pteropus gigantia*	Indian flying fox
84.	*Rattus*	Rat
85.	*Funambulus palmarum*	Squirrel
86.	*Semnopithecus entellus*	Grey Langoor
REPTILES		
87.	*Chamaeleo zeylanicus*	Chameleon
88.	*Uropeltis ceylanicus*	Sheild tail snake
89.	*Bungarus caeruleus*	Common krait
90.	*Coelognathus helena*	Trinket snake
91.	*Sarada deccanensis*	Sarda
92.	*Calotes versicolor*	*Calotes*
93.	*Coelognathus helena*	Trinket Snake
94.	*Hemidactylus brookii*	Spotted house gecko
95.	*Hemidactylus flavivirids*	Gecko
96.	*Indotyphlops braminus*	Brahminy Blind Snake
97.	*Lissemys punctata*	Indian Flapshell turtle

98.	*Naja naja*	Cobra
99.	*Natrix natrix*	Grass Snake
100.	*Panthero phisobsoletus*	Rat Snake
AMPHIBIANS		
101.	*Euphlyctis cyanophlyctis*	Skittering Frog
102.	*Fejervarya limnocharis*	Cricket frog
103.	*Hyla cinerea*	Tree Frog
104.	*Rana tigrina*	Indian Bull Frog
105.	*Rhinella marina*	Cane Toad
ARACHNIDS		
106.	*Araneus mitificus*	
107.	*Argiope pulchella*	
108.	*Artema atlanta*	
109.	*Cyclosa hexatuberculata*	
110.	*Meotipa sahyadri*	
111.	*Neoscona molemensis*	
112.	*Oxyopes javanus*	
113.	*Pholcus phalangioides*	
114.	*Smeringopus elongatus*	
115.	*Telamonia dimidiata*	
116.	*Thomisus* Thomisus callidus	
117.	*Zosis geniculata*	
FISHES		
118.	*Hypophthalmichthys molitrix*	Silver carp
119.	*Catla catla*	Catla
120.	*Cirrhinus cirrhosus*	Mrigal

121.	*Clarius batrachus*	Mangur
122.	*Cyprinus carpio*	*Cyprinus*
123.	*Labeo rohita*	Labeo
124.	*Oreochromis niloticus*	Tilapia
125.	*Poecilia reticulata*	Guppy fish
126.	*Tilapia mossambica*	Tilapia
127.	*Tor puttitora*	Tor
PLANKTONS		
128.	*Acroperous sp.*	
129.	*Camptocerus*	
130.	*Canthocamptus*	
131.	*Cerodaphnia*	
132.	*Chydrorus*	
133.	*Cryptomonads*	
134.	*Cycops*	
135.	Diatoms	
136.	*Eubranchipus*	
137.	*Euglena*	
138.	Green algae	
139.	*Limnocalanus*	
140.	*Nauplius*	
141.	Red algae	
142.	*Simocephalus*	
143.	Yellow green algae	
144.	*Spirogyra*	
145.	*Zygnema*	

146.	*Pinnularia*	
147.	*Argyroneta aquatica*	

Discussion:

The 100+ plant species and 146 faunal species show the richness of the campus. The Grey Hornbill and Black Kite are the key species indicating the healthiness of the campus. The institute is trying its best to maintain the biodiversity on the campus as well as off-campus. Knowing the need for percolation of scientific knowledge in the society, the Botany department has carried various projects to collect taxonomic information about the plants belonging to nearby areas, and as a part of social responsibility around 500+ plants of different species are planted by the college in the surrounding village.

Recommendations:

Following recommendations are issued after studying the collected data:

1. As the campus is rich in floristic diversity, efforts should be taken for raising seed banks in the campus, which can be useful in conserving biodiversity.
2. The plants from native flora should be preferred for further cultivational activities on the campus.

2022

Green Audit Report

EcoShastra

Rayat Shikshan Sanstha, Satara's

Yashwantrao Chavan Institute of Science, Satara, (M.S.)

Green Audit Report

Submitted by

EcoShastra
Consultancy & Services

Rayat Shikshan Sanstha, Satara's

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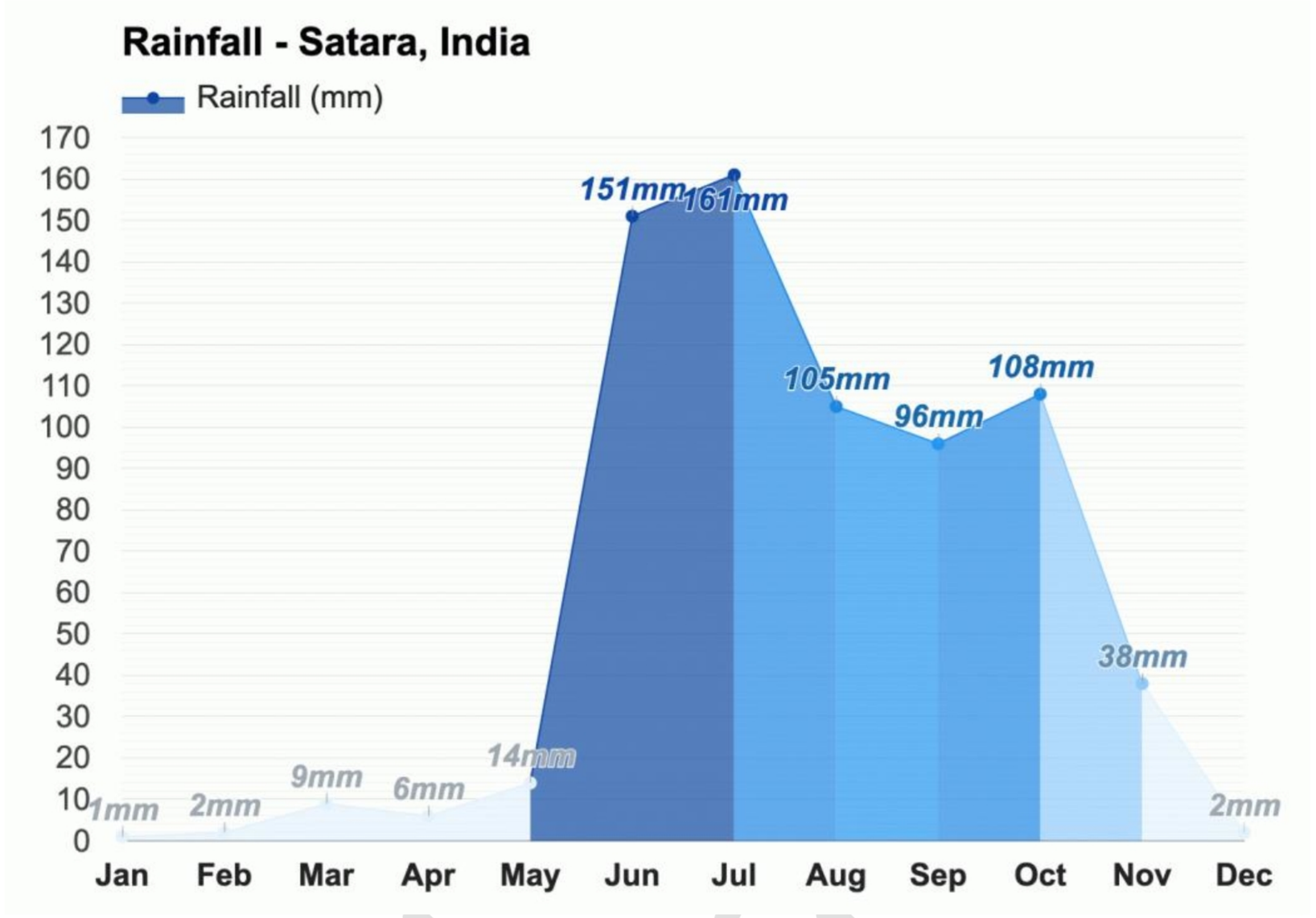
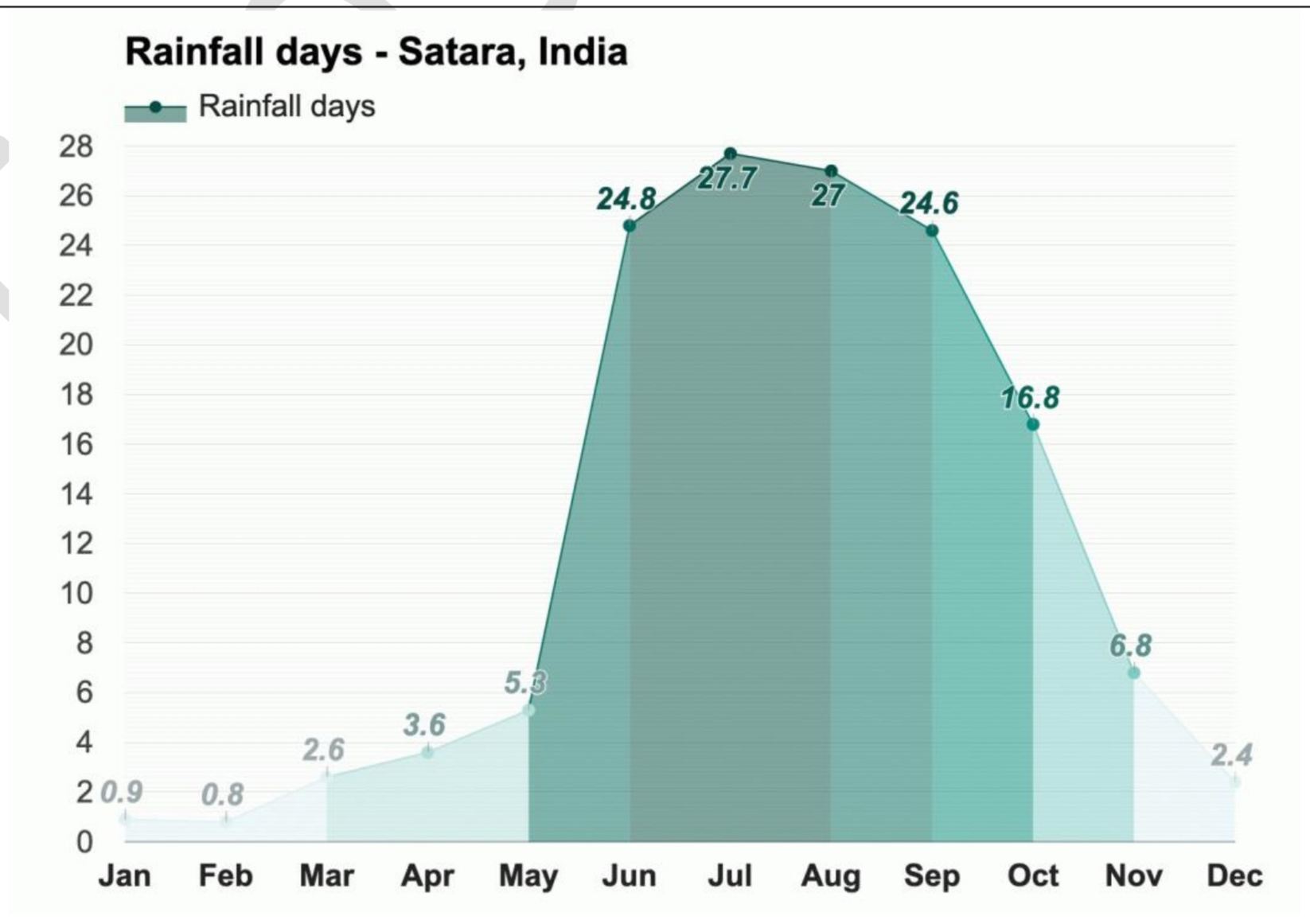


Rainfall in Satara- Average Rainfall Days per month (Last 50 Years)



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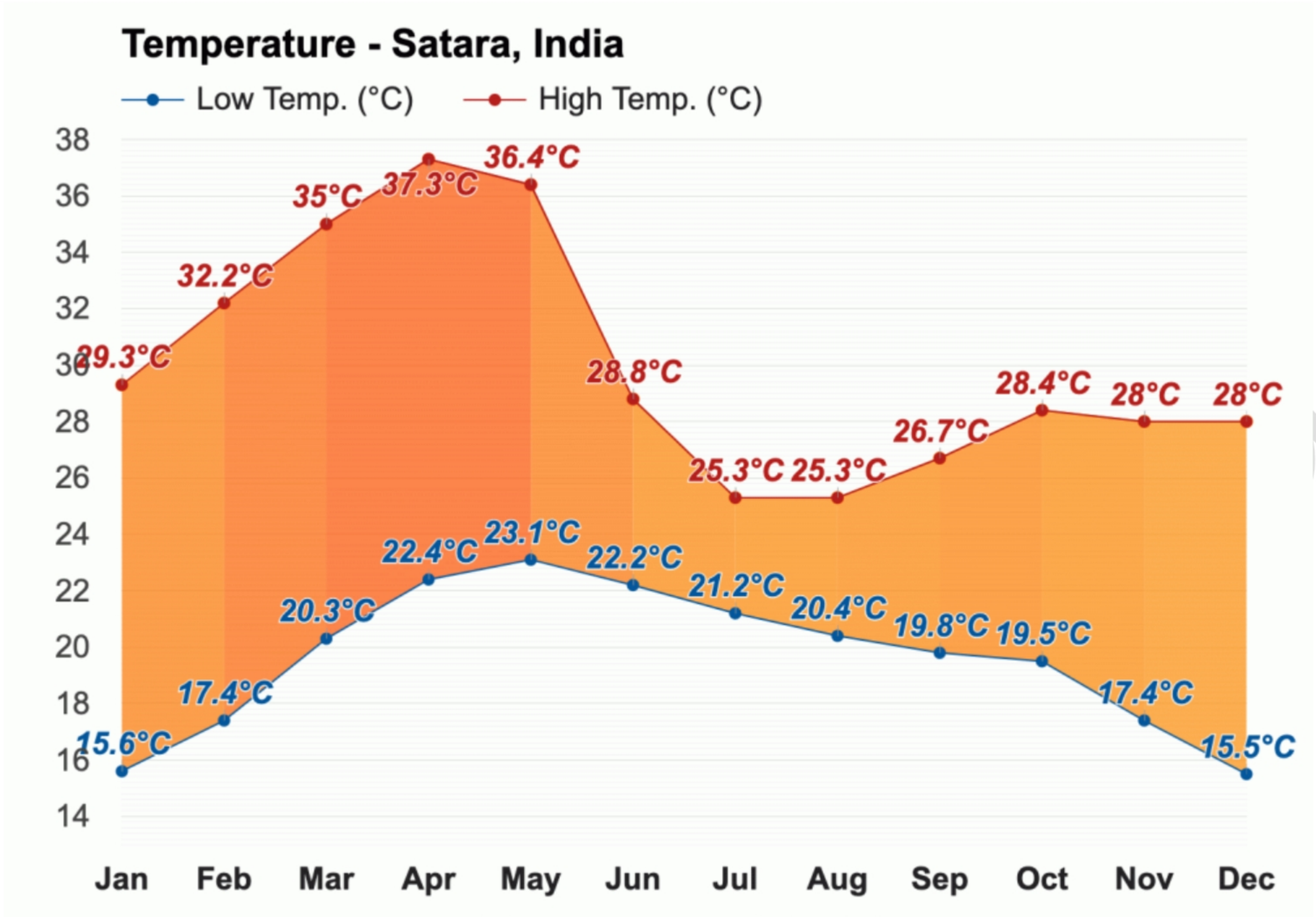
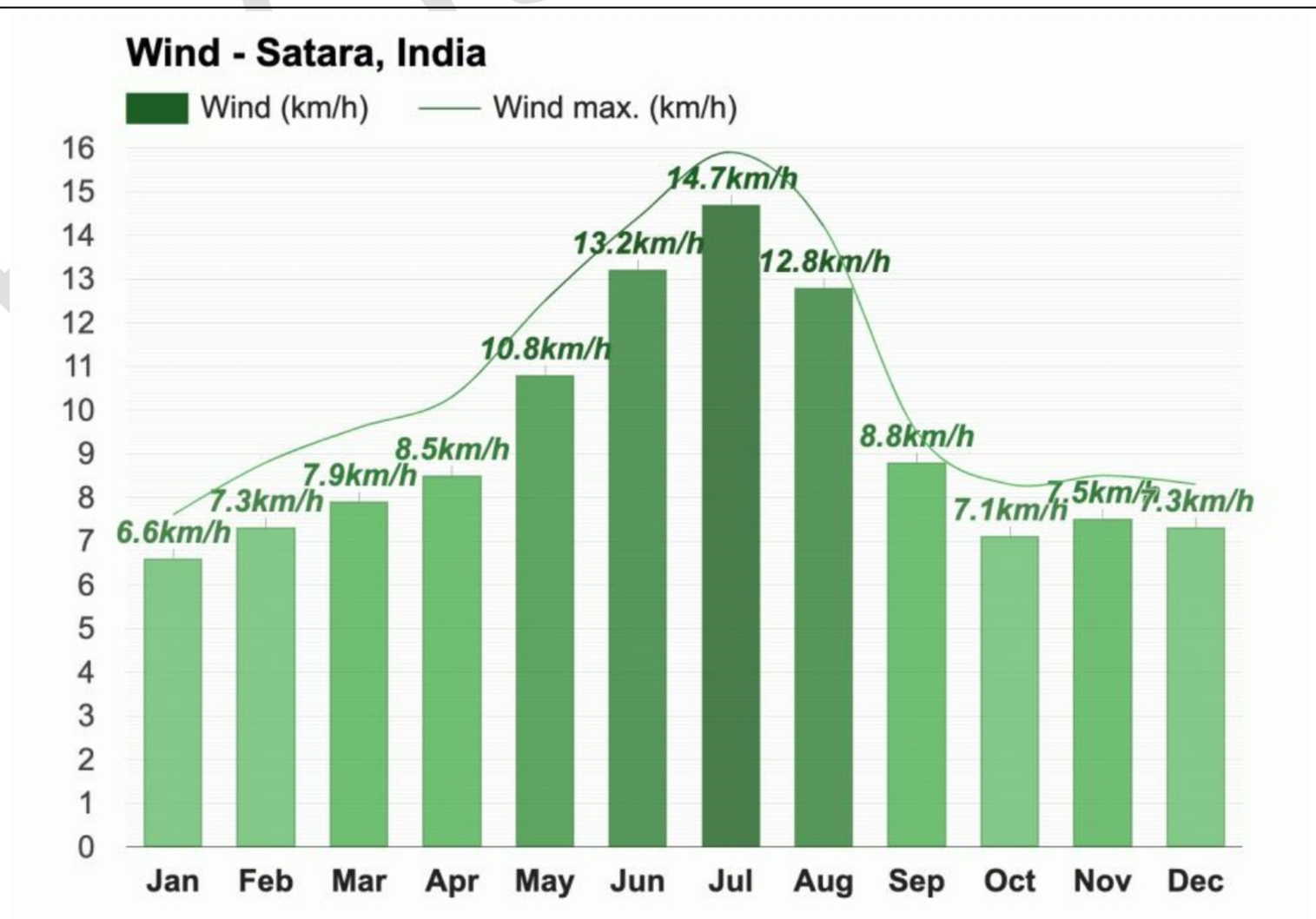


Average Wind Speed in Satara



Green Audit Committee

Sr. No.	Name	Designation
1.	Dr. B. T. Jadhav	Chairman (Principal)
2.	Dr. H. S. Patil	Lead Auditor
3.	Dr. J. J. Chavan	Coordinator
4.	Dr. V. B. Chopade	Internal Green Auditor
5.	Mr. S. P. Thombare	External Green Auditor
6.	Mr. S. J. Koli	Green Audit Expert
7.	Mr. A. S. Choudhari	Green Audit Expert
8.	G. R. Attar	Member

Solid Waste Audit

1. Solid Waste Audit

Introduction:

Yashwantrao Chavan Institute of Science, Satara is an environment-friendly educational institute, and for any environment-friendly institute, Solid Waste Audit is a crucial part. In educational institutes like YCIS having approximately 5000 stakeholders, Paper, chalk, Polythene, Glass, and Biomass are the major constituents for solid waste production. Although Paper, Chalk, and Biomass wastes are considered Bio-degradable wastes, their inappropriate management can raise environmental issues e.g., this waste can alter the water quality of a stream if it goes into the local water stream. Solid waste auditing gives an actual idea about solid waste generations on the campus and management strategies followed by the college. In this report, studies were carried out to analyze the solid waste profile of the college and corresponding waste management techniques.

Aims and objectives:

i. To calculate total solid waste generation on the campus.
ii. To classify solid waste according to categories and places.
iii. To analyse the obtained data and find key solid waste generation places.
iv. To discuss present-day Waste-Management Strategy of the campus
v. To issue appropriate recommendations considering different parameters like solid waste generation, management strategies, etc.

Methodology:

1. Data collection:

While collecting data, solid wastes like papers, polythene, glass, chalks, etc. are stored separately in a dustbin for a week for each mentioned place and weighed on a balance at end of the week. Solid waste like kitchen and food waste are weighed each day and disposed of, the data of all seven days are added and represented separately.

2. Data analysis:

The average of obtained data of three academic years is represented in tables and analyzed in excel by pie diagrams and bar diagrams.

3. Comment on Recommendations:

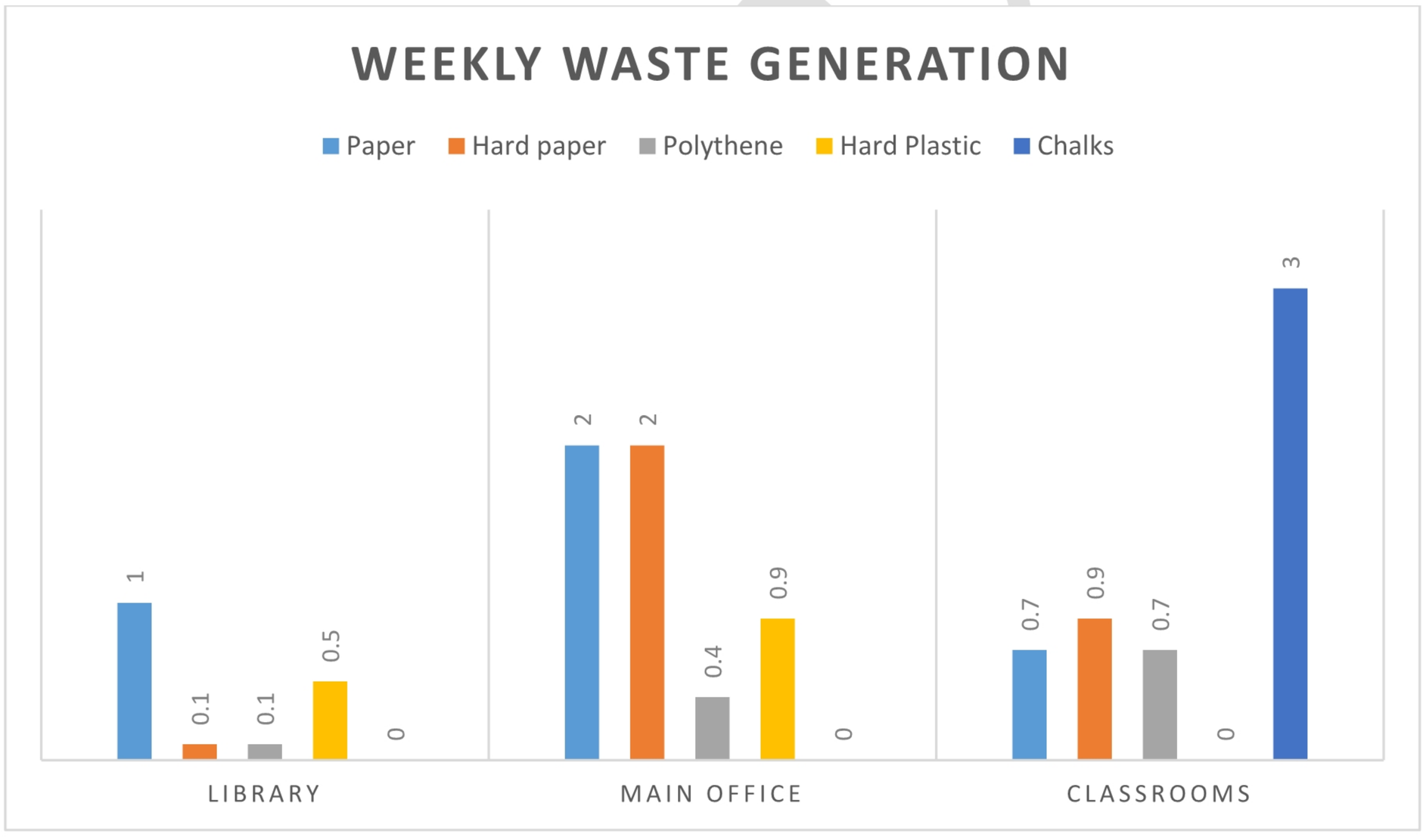
The comments have been made considering the number of stakeholders, the amount of total waste generation, the present-day waste disposal method, and research has been done to recommend more efficient methods of solid waste management.

Observations:

Solid Waste Accounting by Weight

Place	Paper	Hard paper	Polythene	Hard Plastic	Chalks
Library	1	0.1	0.1	0.5	-
Main office	2	2	0.4	0.9	-
Classrooms	0.7	0.9	0.7	0	3
Total	**3.7**	**3**	**1.2**	**1.4**	**3**

TABLE 1 Weekly Waste of Offices, Classrooms & Library in Kilograms. (Apx.)

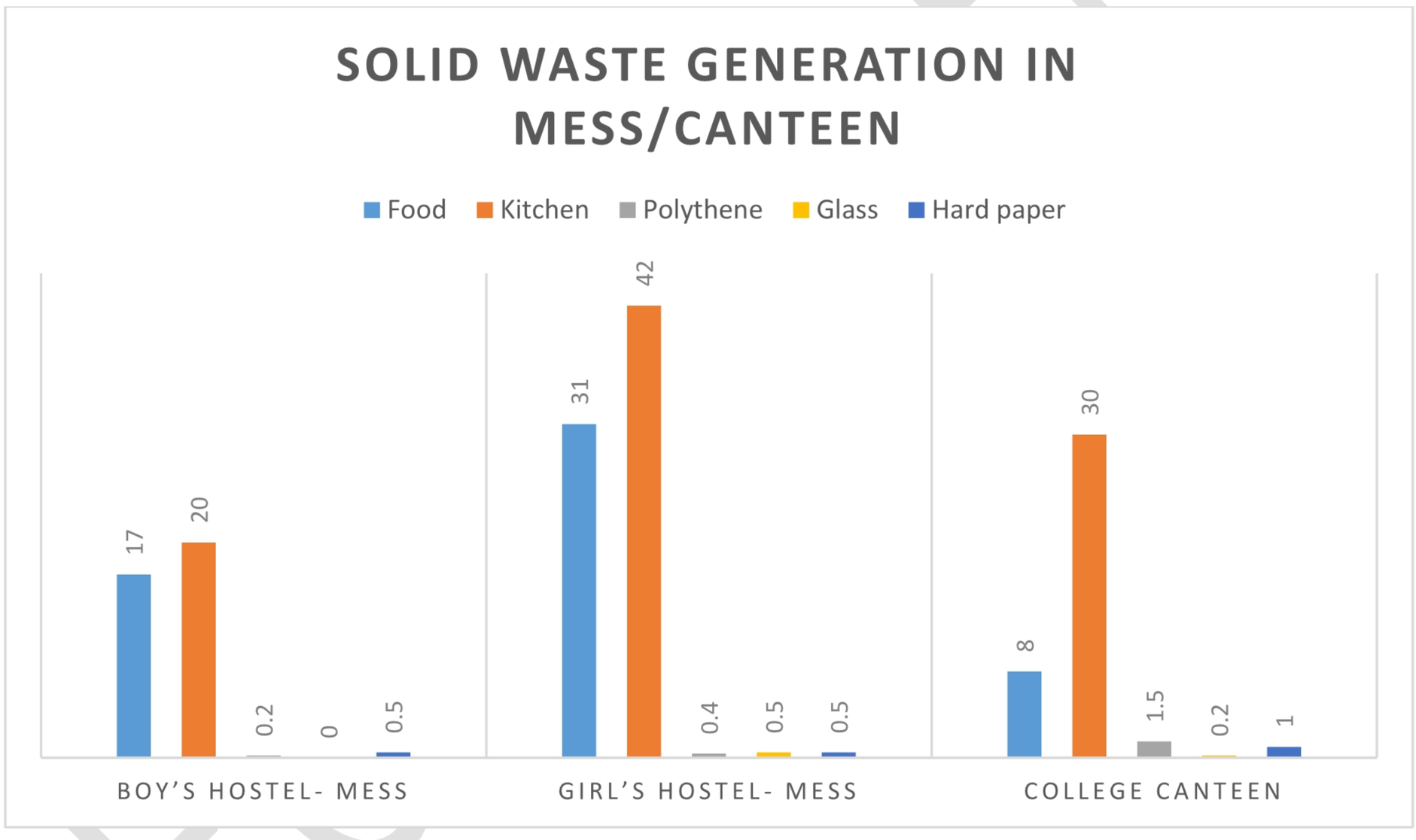


Departments	Paper	Hard paper	Polythene	Hard Plastic	Glass	E - waste
Science	7	2	0.45	0.25	0.6	0.5

TABLE 2 Weekly Faculty Wise Solid Waste Generation of College in Grams

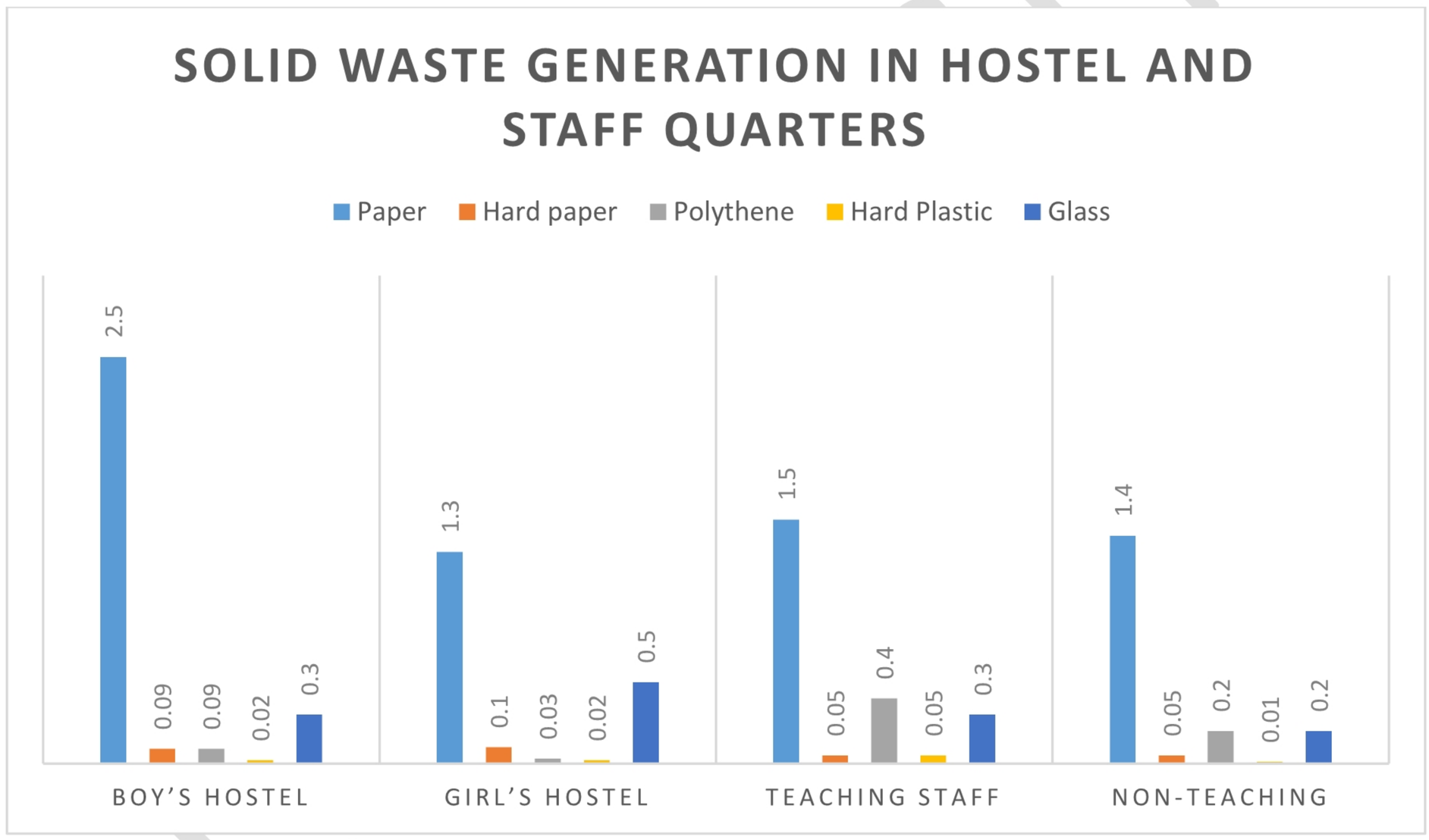
Place	Food	Kitchen	Polythene	Glass	Hard paper
Boy's Hostel- Mess	17	20	0.2	-	0.5
Girl's Hostel- Mess	31	42	0.4	0.5	0.5
College Canteen	8	30	1.5	0.2	1
Total	**46**	**92**	**2.1**	**0.7**	**2**

TABLE 3 Mess and Canteen – Weekly Solid Waste Generation in Kilo-Grams



Place	Paper	Hard paper	Polythene	Hard Plastic	Glass
Boy's hostel	2.5	0.09	0.09	0.02	0.3
Girl's hostel	1.3	0.1	0.03	0.02	0.5
Teaching staff	1.5	0.05	0.4	0.05	0.3
Non-Teaching	1.4	0.05	0.2	0.01	0.2
Total	6.7	0.29	0.72	0.1	1.3

TABLE 4 Hostels and Staff Quarters – Weekly Waste Generation in Kilograms



Conclusion:

Paper, Food and Kitchen waste are the major constituents of solid waste generation on the campus. Hard Paper, and Hard Plastic, are the minor components of solid waste generation. After detailed studies, we can conclude that the campus has a negligible amount of polythene generation.

Discussion:

Yashwantrao Chavan Institute of Science is a well-known institute in Satara. The institute is famous for conducting curriculum-based activities and delivering social, moral, and ethical values to its stakeholders. The various awareness programs and movements encouraged students as well as staff to abandon use of single time use plastic. The only source of reusable-polythene generation in the campus is canteen, as the raw material like milk having polythene wrap is brought from the market.

Paper waste ranks second in the total solid waste generation index of the campus. The library, office, and science departments are key sources for paper waste generation. The solid waste is collected in different dustbins for dry waste, wet waste and polythene. The collected waste is then transferred the municipal waste collection van.

Recommendations:

1. Paperless Campus:

i. The software like NewGenLib, Green Stone should be used to manage libraries, so as the reduce the paper waste generation in libraries.

ii. The steps like preference should be given to cloud storage instead of hardcopy prints for storing office-related documents and paper.

iii. The surveys and tests can be conducted on online platforms like Google forms.

iv. The one-side used papers should be reused for printing.

Water Audit

2. Water Audit

Introduction:

Water is a primary component of every system and the quality and availability of water are the factors that define the health of the system. In education institutes having science faculty, PG departments, and research center, the amount of chemical-mixed wastewater generation is considerable. The institute like Yashwantrao Chavan Institute of Science, Satara which is having around 5000 stakeholders, PG departments, chemistry labs, and research centers, it is necessary to build appropriate water storage systems, and check on the water demand, ensure efficient use of water and develop appropriate wastewater management system. The campus of Yashwantrao Chavan Institute of Science, Satara, holds several trees, a canteen, and a toilet which are key sink areas for non-potable water. Whereas water purifiers on the campus, as well as in the canteen, are major potable water storage systems. All the detailed study regarding the water system of the campus is reported in this report.

Aims and objectives:

- To describe the water storage system of the campus in great detail.
- To estimate the total potable and non-potable water demand of the campus.
- To compare data regarding water storage systems and estimated water demand.
- To recommend specific techniques to use water efficiently.

Methodology:

1. Data Collection

i. Water storage system:

The water storage system of the college is documented by organizing broad interviews with the college staff and spot inspection by audit experts.

ii. Potable and non-potable water demand:

For estimating the water demand of the campus, surveys are carried out among all the stakeholders and staff through the digital way (Google forms), the collected data is then analyzed and represented in Microsoft Excel.

iii. Wastewater management system:

The data on the wastewater management system is collected by visiting the places on the campus by audit experts.

2. Data Analysis

The collected data from digital surveys, interviews, and spot visits is then analyzed by MS-Excel and represented in suitable diagrams.

3. Comments and Recommendations

The comments and recommendations have been made considering the number of stakeholders, the total water demand, water storage system, wastewater generation, and wastewater management system.

Observations:

Water storage details:

Sr. No.	Non-Potable Water Storage System	Capacity in Litres
Campus (including toilet)		
1.	Swimming tank	661717
2.	G-building tank	55000
3.	Annex Building Tank	5000
Hostel		
1.	2 tanks of 5000 lit each	10,000
2.	2 tanks of 4000 lit each	8,000
3.	5 tanks of 2000 lit each	10,000
Canteen/Mess		
1.	Canteen	5000
3.		
Garden Supply		
1.	Tank	15, 000 Lit.
2.		
Total		7,69,717

Sr. No.	Potable Water Storage System	Capacity in Litres
Campus		
1.	Office building (30K lit at ground floor + 10K lit at tower)	40,000
2.	G- building (30K lit at ground floor + 10K lit at tower)	30,000
3.	C- building (30,000 lit at ground floor)	40,000
4.	M- Building (10K lit at tower)	10,000
5.	Annex building (10K lit at tower)	10,000
Hostel		
1.	Girl's hotel	1000
2.		
Canteen/Mess		
1.	Municipal corporation Water supply	
2.		
Total		**1,31,000 (excluding canteen)**

WATER USAGE

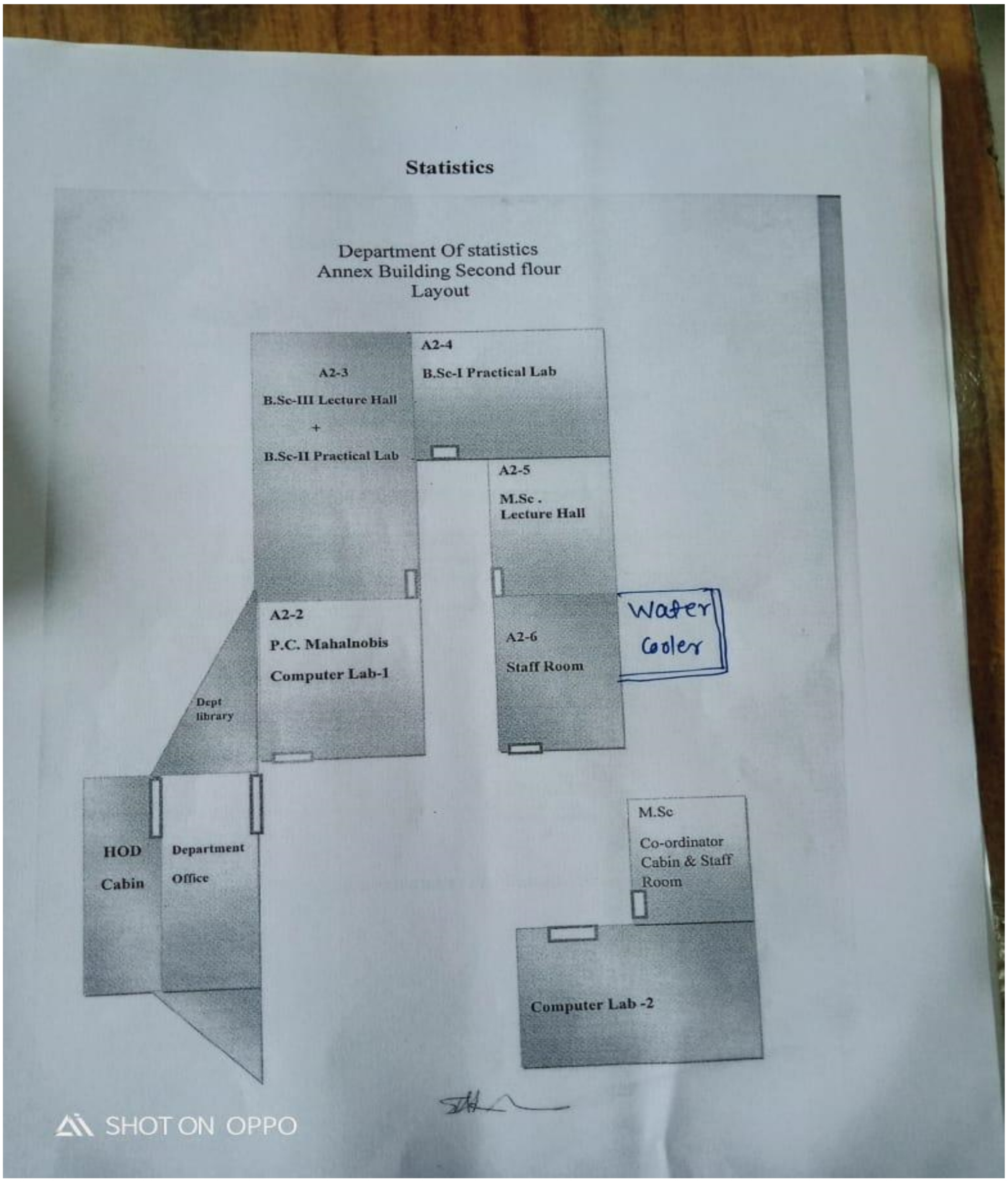
Water users	Number
Students	4038
Teaching staff	62
Non-teaching staff	74
Total	4174

The total number of taps including toilets, washrooms, garden, departments.

Sr. No.	Place	Number of taps
1.	Boy's toilet	60
2.	Girl's toilet	45
3.	Garden	4
Departments		
4.	Zoology & Fisheries	31
5.	Physics	13
6.	Microbiology	24
7.	Botany	32
8.	Chemistry	40
9.	Forensic Science	6
10.	Electronics	7
11.	Food Processing	11
12.	Statistics	5
13.	Mathematics	5
14.	Computer Science (Entire)	6
	Total	**289**

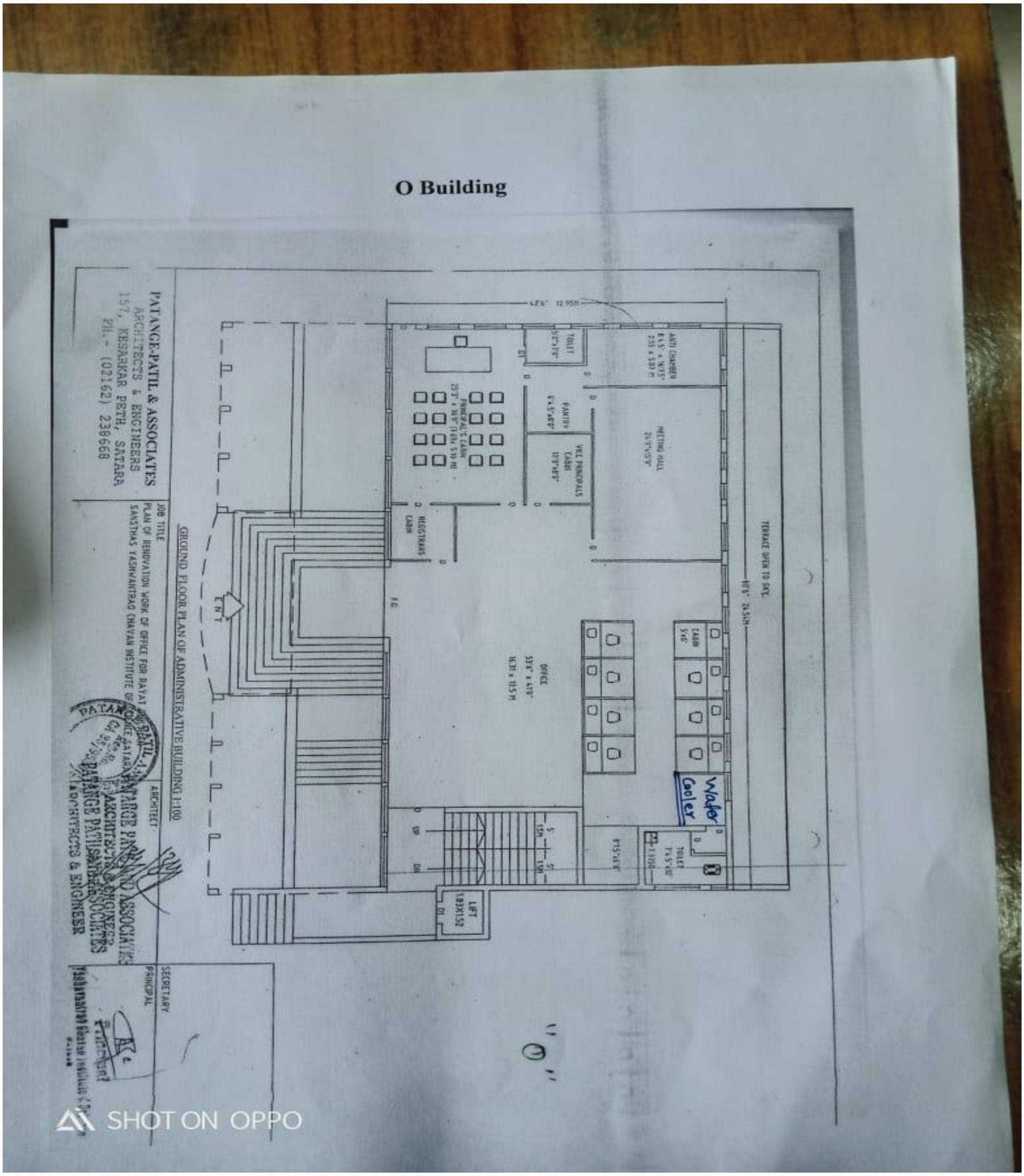
Campus Map: Indicating Locating of Water Cooler

Sr. No	Place	No. of Water Cooler
1	Cafeteria	01
2	Canteen	01
3	Near Basketball Ground	01
4	Ladies Hostel	02
5	Boys Hostel	03
6	Gurukul	01
7	Gymkhana	01
8	Office	01
9	Stat Department	01
10	MPSC centre	10


Statistics
Department Of statistics
Annex Building Second flour
Layout
A2-4
B.Sc-I Practical Lab
A2-3
B.Sc-III Lecture Hall
+
B.Sc-II Practical Lab
A2-5
M.Sc .
Lecture Hall
A2-2
P.C. Mahalnobis
Computer Lab-1
Dept
library
A2-6
Staff Room
Water
Cooler
HOD
Cabin
Department
Office
M.Sc
Co-ordinator
Cabin & Staff
Room
Computer Lab -2
SHOT ON OPPO


Rayat Shikshan Sanstha's
Yashavantrao Chavan Institute of Science, Satara
Campus Map
D Building
Phalatan Nivas
Staff Quarters
H Building
B Building
C Building
Botanical Garden
To Chh Shivaji College
Canteen
Water Cooler
M Building
Volleyball Ground
Poly House
GymKhana
Swimming pool
Water Cooler
Leisure Place
Basket Ball Ground
NSS
A Building
O Building
G Building
Parking
Tea Stall
Cycle Stand
To Kolhapur
D.P
We are here
To Satara
Index
You Are Here
Lawn / Duranda
Tree
Road
SHOT ON OPPO

O Building


PATANGE-PATIL & ASSOCIATES
ARCHITECTS & ENGINEERS
157, KESARKAR PETH, SATARA
PH.- (02162) 238668
JOB TITLE
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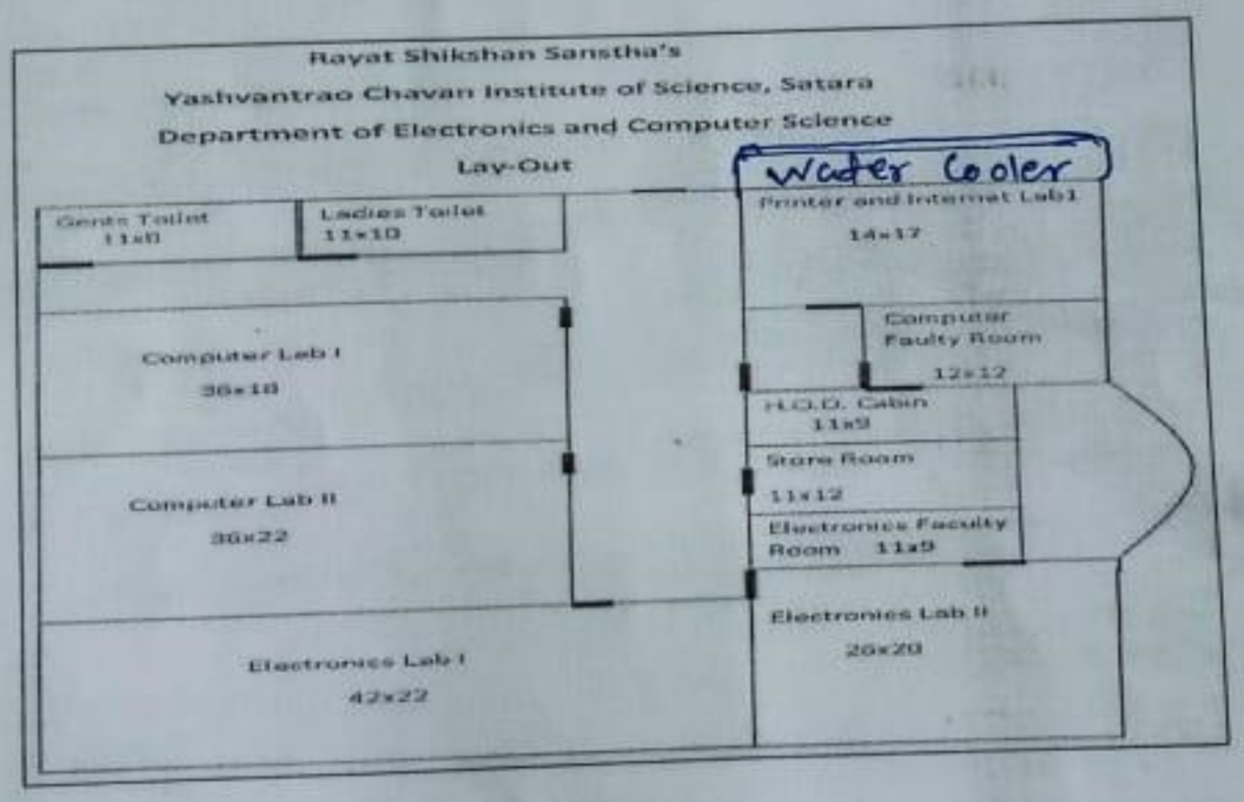
N OF ADMINISTRATIVE BUILDING 1-100
ARCHITECT
SECRETARY
PRINCIPAL
PATANGE PATIL & ASSOCIATES
ARCHITECTS & ENGINEERS
Water Cooler
LIFT
SHOT ON OPPO

Electronics and Computer Science

Rayat Shikshan Sanstha's

Yashavantrao Chavan Institute of Science, Satara.

Department of Electronics and Computer Science Lay-Out:



Head

Dept of Electronics & Computer Science
Y.C. Institute of Science, Satara

Calculations:

1. **Non-Potable Water Demand:** (excluding laboratory use)

Per Head Non-Potable Water Demand Calculated by analyzing data of personal individual water use collected by Google Forms. (719 Responses)

Net **Non-Potable Water Demand** is: 04 Lit/head/day

Number of Users = 4174

Total **Non-Potable Water Demand** = 16,696 Lit/day

Total **Non-Potable Water** storage system capacity= 7,69,717 lit

Discussion: After considering water flow to the laboratory and garden including leakage and wastage, the water storage system is properly built considering water demand.

2. **Per Head Potable Water Demand:**

Per Head Potable Water Demand Calculated by analyzing data of personal individual water use collected by Google Forms.

Net **Potable Water Demand** is: 02 Lit/head/day

Number of Stakeholders = 4174

Total **Potable Water Demand** = 8,348 Lit /day

Total **Potable Water** storage system capacity = 1,31,000 lit + Municipal Water Supply

Recommendations: By calculations, it is recommended to install at-least 4 Potable water storage system tanks dispersed on the campus.

Discussion:

The key water sources on the campus are-

1. Municipal Water Supply
2. Rainwater harvesting unit having collection capacity of 1,16,000,00 lit per year
3. Two Wells and one Borewell

The institute is well organized in the sense of water management.

Recommendations:

1. **Wastewater disposal:**

   The healthy practice should be adopted for wastewater disposal at Chemistry laboratories, which includes- keeping three separate containers for the chlorinated chemicals, non-chlorinated chemicals, and water-miscible chemicals. The generated waste chemicals are then suggested to be hand-over to the water treatment laboratories.

Noise Audit

3. Noise Audit

Introduction:

Yashwantrao Chavan Institute of Science, Satara, believes in students' utmost development by providing quality education. The institute takes all moral, ethical, social responsibilities that will enhance students' focus in all aspects of the course curriculum. For the same, the institute has taken in its policy that, the institute will have silent but happening premises which will lead to better growth of students. This report includes the data, calculations, analysis, and discussion about the noise index of the campus and corresponding standards set by government agencies.

Aims and Objectives:

1. To analyze noise level in campus considering road traffic parameters, different noise indices, and altitudinal response.
2. Recommend healthy practices to minimize or maintain noise levels.

Methodology:

1. **Review of literature and Government standards:** This audit procedure included a review of government policies related to noise standards in educational institutes.

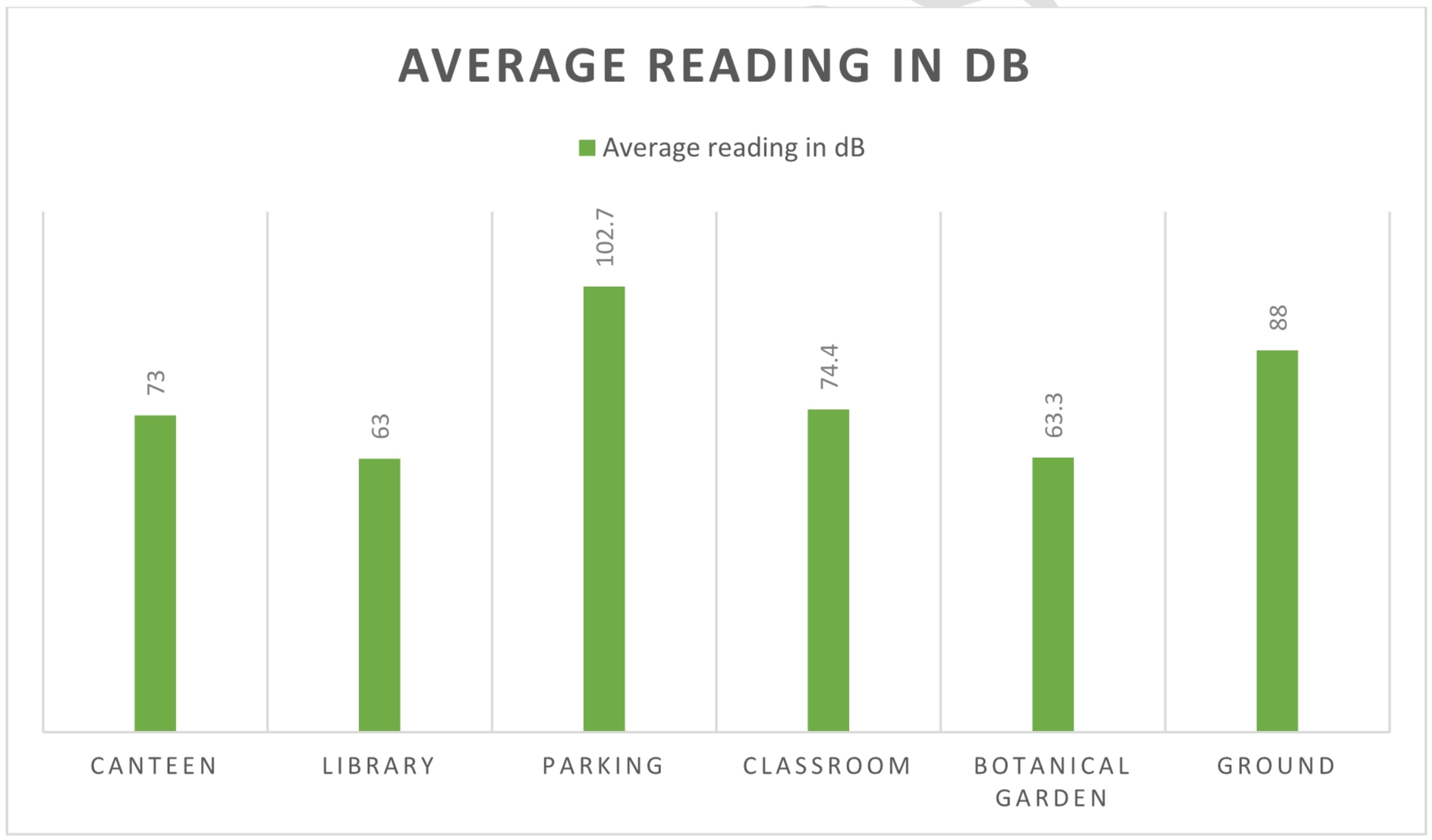
2. **Data Collection:** The data regarding noise is collected from different locations and times. Noise Meter is used for the collection of data in decibels.

3. **Result and Conclusion:** The result and conclusion are drawn after the detailed analysis of the literature reviewed and the data collected.

Map of Yashwantrao Chavan Institute of Science, Satara

Observations:

Sr. No.	Location	Time slot	Average reading (db)
1.	Canteen	10:00 am to 05:00 pm	73
2.	Library	10:00 am to 05:00 pm	63
3.	Parking	10:00 am to 05:00 pm	102.7
4.	Classroom	10:00 am to 05:00 pm	74.4
5.	Botanical Garden	10:00 am to 05:00 pm	63.3
6.	Ground	10:00 am to 05:00 pm	88



Conclusion:

The key place for noise generation is Parking, which shows the highest (Average for the location) i.e. 102.7 dB and Classrooms, Main Building, Library, and Botanical Garden have lowest (Average for the location) noise generation i.e. approximately near to 60-65 dB.

Discussion:

The standards set by CPCB (Central Pollution Control Board) for silent zones include noise levels of 55dB in the daytime and 45 dB in the nighttime. The core study areas of the college premises are meeting the standards set by CPCB for the educational institute and so the college can be considered as a silent zone as it meets the standards set by CPCB. The highest level of noise in the campus is at the entrance gate (69.5 dB), which is due to the vehicular noise on the street next to the entrance gate. The lowest noise level in the campus is near the classroom, library, and botanical garden (51 dB ±2 dB), which is due to the architectural planning of the infrastructure and dense vegetation on the campus.

Recommendations:

The following recommendations are made to monitor the noise level in campus:

1. It is recommended to plant more trees near the boundary of the college campus, which will reset the noise level caused by vehicular traffic on the road.

Biodiversity Audit

4. Biodiversity Audit:

Introduction:

The biodiversity of any institute defines the perspective of the institute towards the environment. More the diversity more the concern college has paid towards the environment. Keeping this in mind biodiversity audit is carried at Yashwantrao Chavan Institute of Science, Satara campus. This report includes the aims and objectives set for the audit, observation, conclusion, and recommendations.

Aims and Objectives:

1. Enlisting of species biodiversity of the campus.
2. Analyzing spatial features of the area.

Methodology:

1. **Field surveys:** Extensive field surveys are carried to enumerate floristic diversity and enlisting of faunal diversity.

2. **Collection and analysis of data:** The collected data from field surveys are tabulated and analyzed for deciding the biodiversity status of the campus.

3. **Discussion:** The aspects regarding the biodiversity audit and environment-centric approach of an institute are discussed in great detail.

4. **Recommendations:** The recommendations are issued after a detailed study of the data.

Observations and inventory

Sr. No.	Name of the plant	Number of individuals
1.	*Artocarpus sp*	1
2.	*Mimusops elengi*	1
3.	*Salacia chinensis*	1
4.	*Garcinia cambogia*	1
5.	*Polyalthia longifolia*	16
6.	*Pterospermum marsupium*	1
7.	*Semecarpus anacardium*	1
8.	*Dypsis lutescense*	15
9.	*Santalum album*	2
10.	*Putranjiva roxburghii*	1
11.	*Cestrum nocturnum*	4
12.	*Quasqualis indica*	4
13.	*Vetiveria zizinoides*	9
14.	*Polyscias* sp.	29
15.	*Kigelia pinnata*	1
16.	*Couroupitta guanensis*	2
17.	*Ficus elastic*	5
18.	*Holigarna arnottiana*	1
19.	*Pterygota alata*	1
20.	*Cissus quadrangularis*	1
21.	*Jasminum*	1

22.	*Alternanthera brasiliana*	19
23.	*Swietenia mahagoni*	3
24.	*Pyrostegia venusta*	1
25.	*Garcinia sp*	2
26.	*Areca catechu*	1
27.	*Artocarpus heterophyllous*	1
28.	*Carica papaya*	2
29.	*Calophyllum inophyllum*	2
30.	*Ixora coccinea*	7
31.	*Colocasia macrorrhiza*	4
32.	*Diospyrus sp*	3
33.	*Pterygota alata*	1
34.	*Asystasia gangetica*	11
35.	*Musa sp.*	15
36.	*Erinocarpus nimmonii*	2
37.	*Euphorbia tirucalli*	2
38.	*Bambusa vulgaris*	28
39.	*Senseveria cylindrica*	4
40.	*Euphorbia sp.*	5
41.	*Acalypha hispida*	4
42.	*Tradescantia sp*	3
43.	*Senseveria trifasciata*	6
44.	*Syngonium podophyllum*	3
45.	*Schlephera sp*	16

46.	*Croton sp.*	3
47.	*Aglaonema sp*	2
48.	*Kalanchoe sp*	18
49.	*Acalypha wilkesiana*	16
50.	*Roystenia regia*	16
51.	*Travellers palm*	2
52.	*Hoya sp*	1
53.	*Nyctanthes arbor-tristis*	3
54.	*Ficus sp*	32
55.	*Murraya paniculata*	1
56.	*Duranta erecta*	∞
57.	*Morus alba*	300
58.	*Hamelia patens*	∞
59.	*Cycas revoluta*	156
60.	*Gnetum gnemon*	4
61.	*Araucaria heterophylla*	15
62.	*Podocarpus macrophyllus*	4
63.	*Thuja occidentalis*	11
64.	*Pandanus sp.*	8
65.	*Acacia concinna*	1
66.	*Coffea arabica*	3
67.	*Couroupita guianensis*	1
68.	*Zamia furfuracea*	3
69.	*Swietenia mahagoni*	3

70.	*Holoptelea integrifolia*	5
71.	*Centella asiatica*	50
72.	*Asparagus sp*	70
73.	*Pimenta dioica*	5
74.	*Pimpinella saxifraga*	4
75.	*Catharanthus roseus*	20
76.	*Nyctanthes arbor-tristis*	6
77.	*Rosa indica*	70
78.	*Tagetes erecta*	50
79.	*Caryota urens*	40
80.	*Combretum indicum*	4
81.	*Dypsis lutescens*	90
82.	*Clitoria ternatea*	80
83.	*Nerium oleander*	8
84.	*Duranta repens*	∞
85.	*Spathodea campanulata*	6
86.	*Saraca asoca*	50
87.	*Ensete superbum*	15
88.	*Cestrum nocturnum*	8
89.	*Cestrum diurnum*	4
90.	*Vanda tessellata*	2
91.	*Eichhornia speciosa*	30
92.	*Salvinia molesta*	70
93.	*Hydrilla verticillata*	∞

94.	*Nymphaea sp.*	5
95.	*Ludwigia sp.*	2
96.	*Brugmansia suaveolens*	10
97.	*Crinum asiaticum*	20
98.	*Heliconia rostrata*	15
99.	*Rauvolfia serpentina*	8
100.	*Pithecellobium dulce*	5

Faunal Diversity:

Sr. No	Scientific Name	Common Name
BUTTERFLIES		
1.	*Acraea violae* (Fabricius)	Tawny Coster
2.	*Appias libythea* (Fabricius)	Striped Albatross
3.	*Ariadne merione* (Cramer)	Common Castor
4.	*Castalius rosimon* (Fabricius)	Common Pierrot
5.	*Catopsilia pomona* (Fabricius)	Common Emigrant
6.	*Catopsilia pyranthe* (Linnaeus)	Mottled Emigrant
7.	*Chilades lajus* (Stoll)	Lime Blue
8.	*Danaus chrysippus* (Linnaeus)	Plain Tiger
9.	*Danaus genutia* (Cramer)	Striped Tiger
10.	*Delias eucharis* (Drury)	Common Jezebel
11.	*Elymnias hypermnestra* (Linnaeus)	Common Palm fly
12.	*Euploea core* (Cramer)	Common Crow
13.	*Eurema hecabe* (Linnaeus)	Common Grass Yellow
14.	*Euthalia aconthea* (Cramer)	Common Baron
15.	*Graphium agamemnon* (Linnaeus)	Tailed Jay
16.	*Graphium doson* (C. & R. Felder)	Common Jay
17.	*Hypolimnas bolina*(Linnaeus)	Great Egg fly
18.	*Ixias pyrene* (Linnaeus)	Yellow Orange Tip
19.	*Junonia almana* (Linnaeus)	Peacock Pansy

20.	*Junonia atlites* (Linnaeus)	Grey Pansy
21.	*Junonia orithya*(Linnaeus)	Blue Pansy
22.	*Leptosia nina* (Fabricius)	Psyche
23.	*Melanitis leda* (Linnaeus)	Common Evening Brown
24.	*Papilio demoleus* (Linnaeus	Lime Butterfly
25.	*Papilio polymnestor* Cramer	Blue Mormon
26.	*Papilio polytes* Linnaeus	Common Mormon
27.	*Parantica aglea* (Stoll)	Glassy Tiger
28.	*Tirumala limniace* (Cramer)	Blue Tiger
29.	*Ypthima baldus* (Fabricius)	Common Five Ring
30.	*Ypthima huebneri* Kirby	Common Four Ring
BIRDS		
31.	*Psittacula cyanocephala*	Plum headed parrot
32.	*Milvus migrans*	Kite
33.	*Chaetorhynchus papuensis*	Drongo
34.	*Accipeterbadius*	Shikra
35.	*Acrido therestristis*	Common Mynah
36.	*Aegithina tiphia*	Common Iora
37.	*Alcedo atthis*	Common Kingfisher
38.	*Apus affinis*	Little Swift
39.	*Ardeola grayii*	Pond Heron
40.	*Athene brama*	Spotted Owlet
41.	*Centropus sinensis*	Greater Coucal
42.	*Centropus parroti*	Southern Coucal
43.	*Cinnyris asiaticus*	Purple Sunbird
44.	*Columba livia domestica*	Pigeon

45.	*Columba livia*	Blue Rock Piegon
46.	*Copsychus saularis*	Oriental Magpie Robin
47.	*Corvus macrorhynchos*	Jungle Crow
48.	*Corvus splendens*	House Crow
49.	*Cyornis tickelliae*	Tickell's Blue Flycatcher
50.	*Dicrurus macrocercus*	Black drongo
51.	*Eudynamys scolopaus*	Asian Koel
52.	*Halcyon smyrnensis*	White breasted kingfisher
53.	*Icterus galbula*	Baltimore Oriole
54.	*Leptocoma zeylonica*	Purple Rumped Sunbird
55.	*Lonchur apunctulata*	Scaly Breasted Munia
56.	*Melopsittacus undulatus*	Parakeet
57.	*Merops orientalis*	Green Bee Eater
58.	*Ocyceros birostris*	Indian Grey Hornbill
59.	*Orthotomus sutorius*	Tailor Bird
60.	*Paradisa eidae*	Bird of Paradise
61.	*Parus cinereus*	Great Tit
62.	*Passer domesticus*	House Sparrow
63.	*Pericrocotus cinnamomeus*	Small Minivet
64.	*Prinia*	Prinia
65.	*Prinia socialis*	Ashy Prinia
66.	*Psittacula krameri*	Rose Ringed Parakeet
67.	*Ptyonoprogne concolor*	Dusky Crag Martin
68.	*Pycnonotus cafer*	Red Vented Bulbul
69.	*Rhipidura albiscapa*	Grey Fantail
70.	*Rhipidura albogularis*	White Spotted Fantail

71.	*Spilopelia senegalensis*	Laughing Dove
72.	*Sturnia pagodarum*	Brahminy Myna
73.	*Terpsiphone paradisi*	Asian Paradise Flycatcher
74.	*Treron phoenicopterus*	Yellow Footed Green Pigeon
75.	*Tyto alba*	Barn Owl
76.	*Vanellus indicus*	Red-Wattled Lapwing
77.	*Xantholaema haemacephala*	Coppersmith Barbet
MAMMALS		
78.	*Canis lupus familiaris*	Dog
79.	*Felis catus*	Cat
80.	*Herpestes edwardsi*	Mongoose
81.	*Mus musculus*	Mouse
82.	*Peramele morphia*	Bandicoot
83.	*Pteropus gigantia*	Indian flying fox
84.	*Rattus*	Rat
85.	*Funambulus palmarum*	Squirrel
86.	*Semnopithecus entellus*	Grey Langoor
REPTILES		
87.	*Chamaeleo zeylanicus*	Chameleon
88.	*Uropeltis ceylanicus*	Sheild tail snake
89.	*Bungarus caeruleus*	Common krait
90.	*Coelognathus helena*	Trinket snake
91.	*Sarada deccanensis*	Sarda
92.	*Calotes versicolor*	*Calotes*
93.	*Coelognathus helena*	Trinket Snake
94.	*Hemidactylus brookii*	Spotted house gecko

95.	*Hemidactylus flavivirids*	Gecko
96.	*Indotyphlops braminus*	Brahminy Blind Snake
97.	*Lissemys punctata*	Indian Flapshell turtle
98.	*Naja naja*	Cobra
99.	*Natrix natrix*	Grass Snake
100.	*Panthero phisobsoletus*	Rat Snake
AMPHIBIANS		
101.	*Euphlyctis cyanophlyctis*	Skittering Frog
102.	*Fejervarya limnocharis*	Cricket frog
103.	*Hyla cinerea*	Tree Frog
104.	*Rana tigrina*	Indian Bull Frog
105.	*Rhinella marina*	Cane Toad
ARACHNIDS		
106.	*Araneus mitificus*	
107.	*Argiope pulchella*	
108.	*Artema atlanta*	
109.	*Cyclosa hexatuberculata*	
110.	*Meotipa sahyadri*	
111.	*Neoscona molemensis*	
112.	*Oxyopes javanus*	
113.	*Pholcus phalangioides*	
114.	*Smeringopus elongatus*	
115.	*Telamonia dimidiata*	
116.	*Thomisus* Thomisus callidus	
117.	*Zosis geniculata*	
FISHES		

118.	*Hypophthalmichthys molitrix*	Silver carp
119.	*Catla catla*	Catla
120.	*Cirrhinus cirrhosus*	Mrigal
121.	*Clarius batrachus*	Mangur
122.	*Cyprinus carpio*	*Cyprinus*
123.	*Labeo rohita*	Labeo
124.	*Oreochromis niloticus*	Tilapia
125.	*Poecilia reticulata*	Guppy fish
126.	*Tilapia mossambica*	Tilapia
127.	*Tor puttitora*	Tor
PLANKTONS		
128.	*Acroperous sp.*	
129.	*Camptocerus*	
130.	*Canthocamptus*	
131.	*Cerodaphnia*	
132.	*Chydrorus*	
133.	*Cryptomonads*	
134.	*Cycops*	
135.	Diatoms	
136.	*Eubranchipus*	
137.	*Euglena*	
138.	Green algae	
139.	*Limnocalanus*	
140.	*Nauplius*	
141.	Red algae	
142.	*Simocephalus*	

143.	Yellow green algae	
144.	*Spirogyra*	
145.	*Zygnema*	
146.	*Pinnularia*	
147.	*Argyroneta aquatica*	

Discussion:

The 100+ plant species and 146 faunal species show the richness of the campus. The Grey Hornbill and Black Kite are the key species indicating the healthiness of the campus. The institute is trying its best to maintain the biodiversity on the campus as well as off-campus. Knowing the need for percolation of scientific knowledge in the society, the Botany department has carried various projects to collect taxonomic information about the plants belonging to nearby areas, and as a part of social responsibility around 500+ plants of different species are planted by the college in the surrounding village.

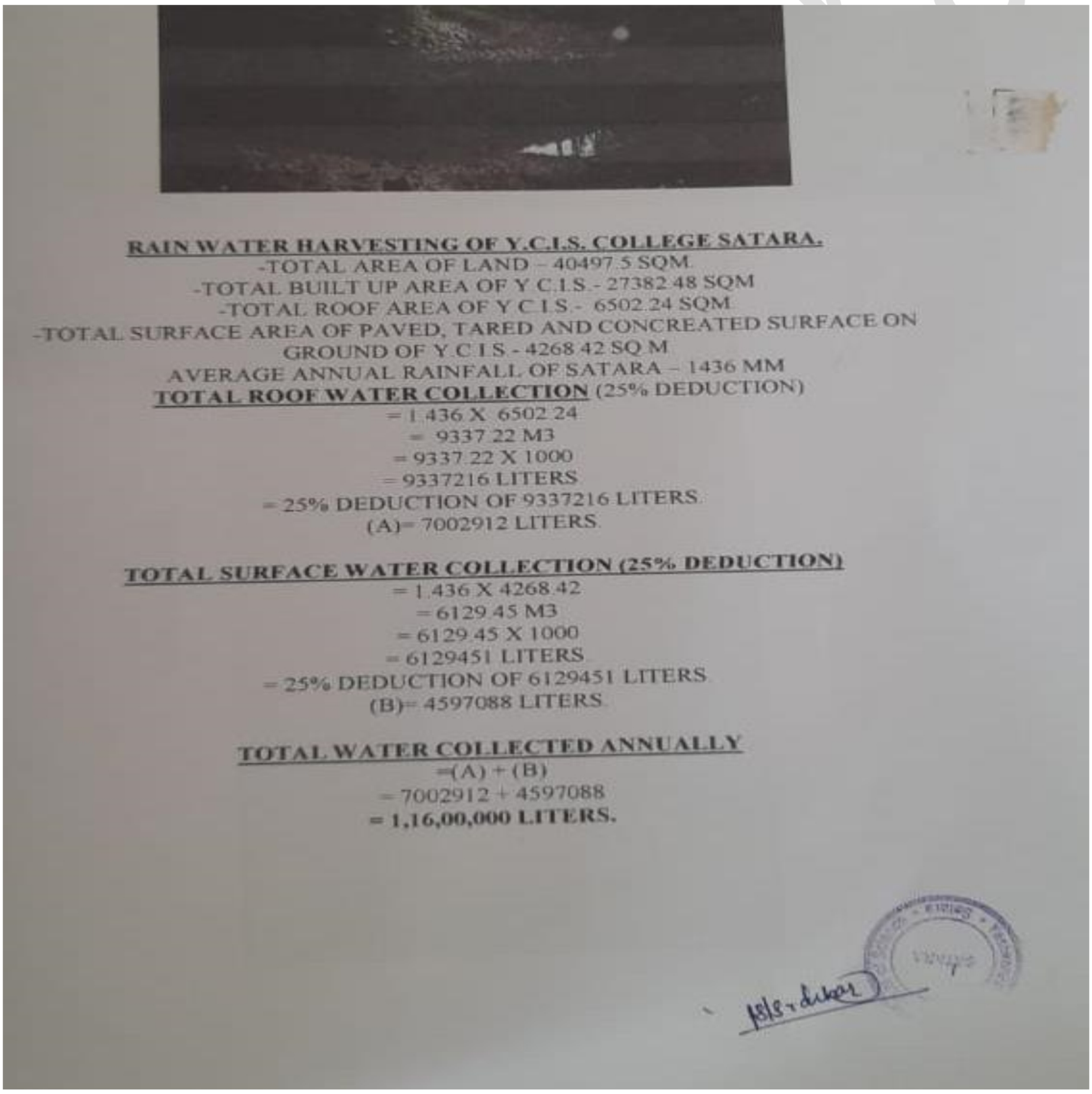
Recommendations:

Following recommendations are issued after studying the collected data:

1. As the campus is rich in floristic diversity, efforts should be taken for raising seed banks in the campus, which can be useful in conserving biodiversity.
2. The plants from native flora should be preferred for further cultivational activities on the campus.

ANNEXURE

Supportive documents rain water harvesting unit



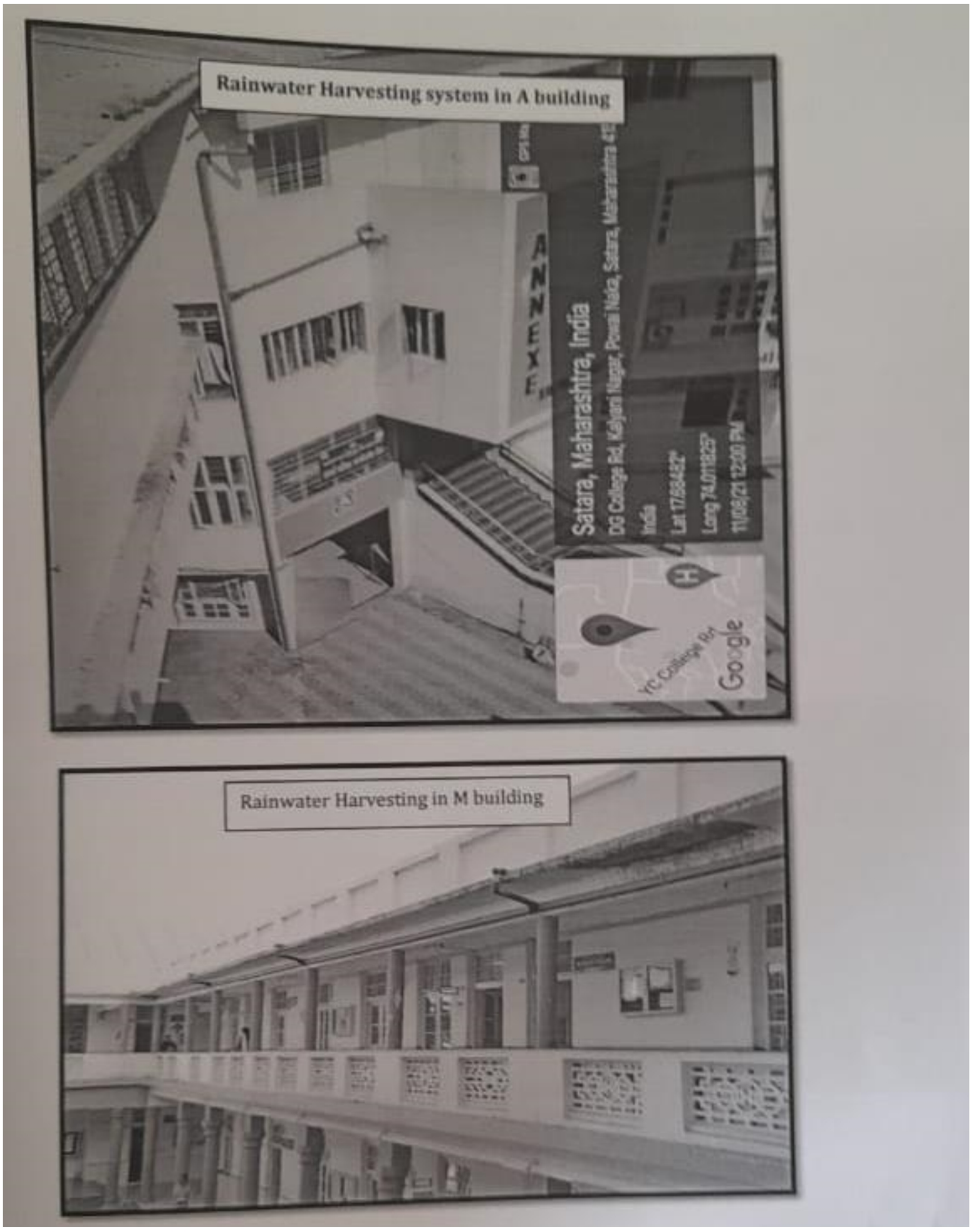
RAIN WATER HARVESTING OF Y.C.I.S. COLLEGE SATARA.

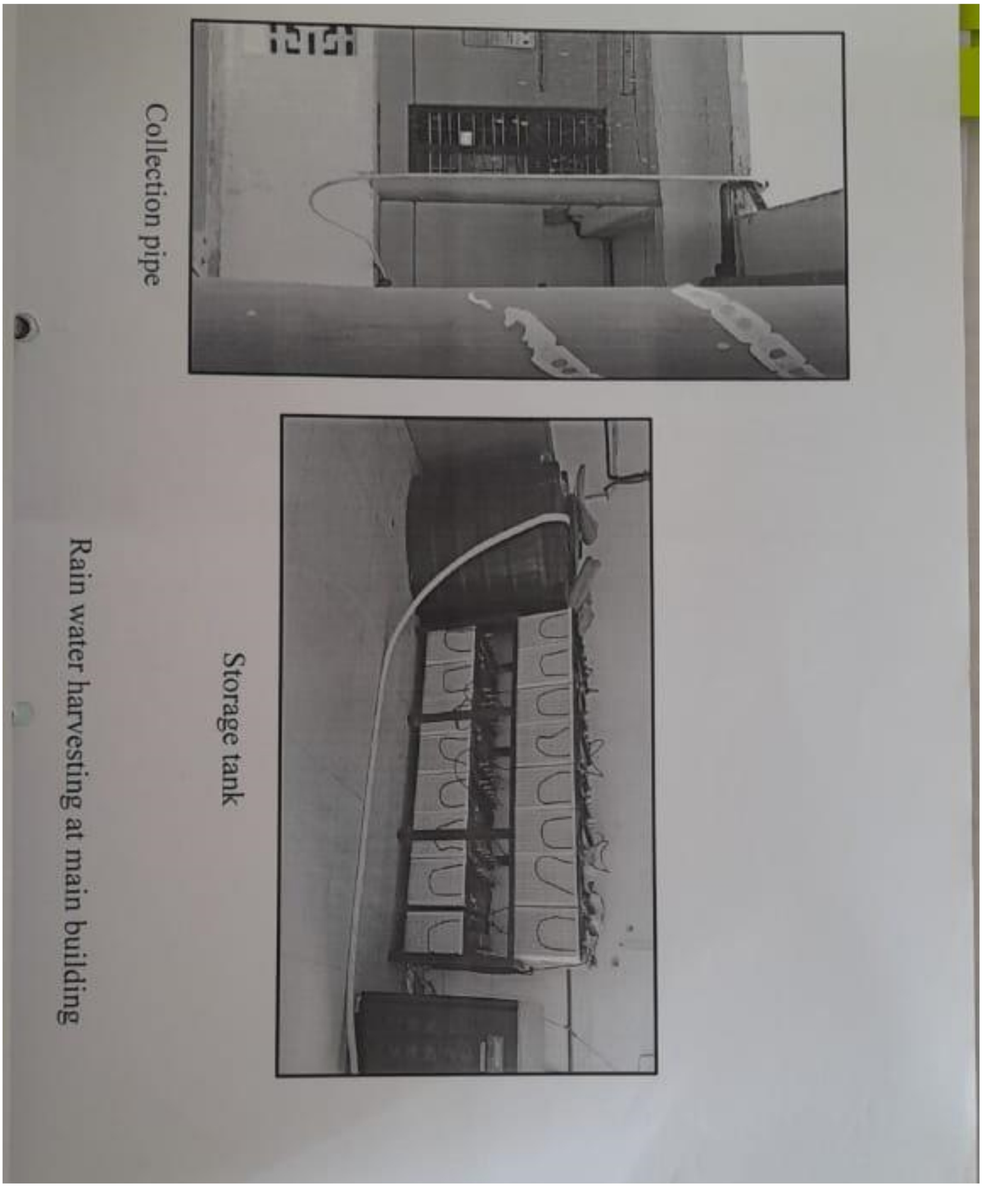
-TOTAL AREA OF LAND – 40497.5 SQM.
-TOTAL BUILT UP AREA OF Y C.I.S.- 27382.48 SQM
-TOTAL ROOF AREA OF Y C I S.- 6502.24 SQM
-TOTAL SURFACE AREA OF PAVED, TARED AND CONCREATED SURFACE ON GROUND OF Y C I S - 4268.42 SQ M
AVERAGE ANNUAL RAINFALL OF SATARA – 1436 MM

TOTAL ROOF WATER COLLECTION (25% DEDUCTION)
= 1.436 X 6502.24
= 9337.22 M3
= 9337.22 X 1000
= 9337216 LITERS
= 25% DEDUCTION OF 9337216 LITERS
(A)= 7002912 LITERS

TOTAL SURFACE WATER COLLECTION (25% DEDUCTION)
= 1.436 X 4268.42
= 6129.45 M3
= 6129.45 X 1000
= 6129451 LITERS
= 25% DEDUCTION OF 6129451 LITERS
(B)= 4597088 LITERS

TOTAL WATER COLLECTED ANNUALLY
=(A) + (B)
= 7002912 + 4597088
= 1,16,00,000 LITERS.

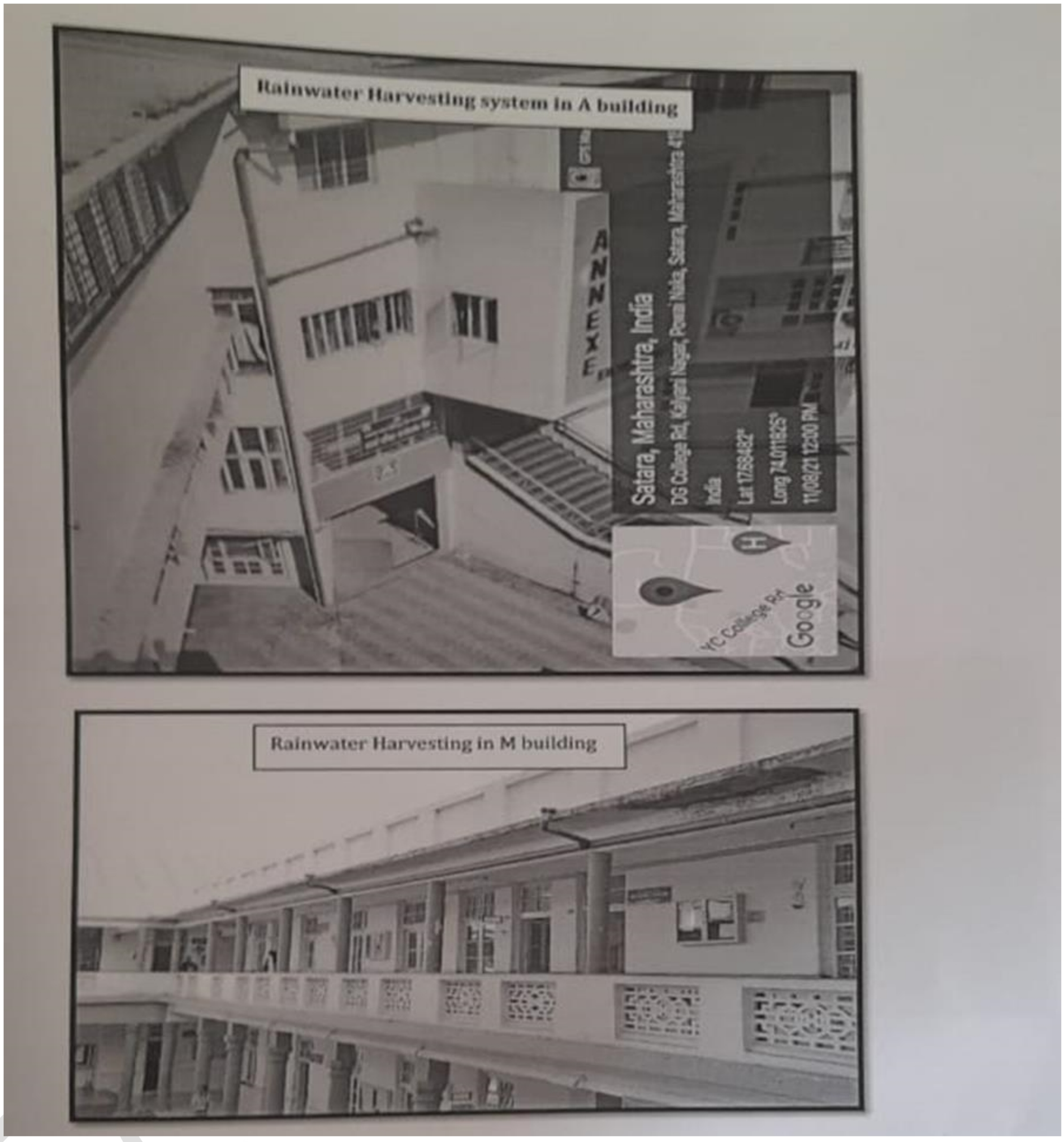

Rainwater Harvesting system in A building
Satara, Maharashtra, India
India
Lat 17.683432°
Long 74.011825°
11/08/21 12:00 PM
YC College Rd
Google
Rainwater Harvesting in M building



Collection pipe

Storage tank

Rain water harvesting at main building


Rainwater Harvesting system in A building
ANNEXE
Satara, Maharashtra, India
DG College Rd, Kahari Nagar, Pawai Naka, Satara, Maharashtra 415
India
Lat 17.6884827°
Long 74.0116825°
11/08/21 12:00 PM
YC College Rd
Google
Rainwater Harvesting in M building

Environmental

Green Audit Report

Rayat Shikshan Sanstha's

Yashavantrao Chavhan Institute of Science,

Satara

Year: 2019-20 & 2020-21

Auditor's Report-2019-20 and 2020-21

Principal

Yashvantrao Chavan Institute of Science, Satara

We have made Green Audit of the Yashvantrao Chavan Institute of Science, Satara as of 2019-20 and 2020-21 on the basis of three basic criterion Environmental Policy adopted by the college, Environment Programmes and Linkages and Environment Practices. College has developed its own Environment policy and organizing different Environment programmes to inculcate values of conservation and involvement of society. These basic things are the responsibility of the college. Our responsibility is to express an opinion on these things.

We have audited the accompanying Green Audit statements of Yashvantrao Chavan Institute of Science, Satara which comprise the criterion wise report as of 2019-20 and 2020-21 compliance of previous year. Those standards require that we plan and perform the audit to obtain reasonable assurance about the Environmental Protection and conservation and information provided in the report free from material misstatement.

An audit includes examining on a test basis evidences supports the statements and also includes assessing the aspects which are related to environment in the field visit to premises of the college. The role of teaching, non teaching staff students and stakeholders with respect to environment of the premises and social responsibility is taking into account. The procedure selected depends upon the auditor's judgments. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our opinion.

In our opinion the statements referred to above presents fairly evidences and in all criteria respect the environmental conditions during the year and functioning and execution of the various programme is strengthen. College accepted the generally accepted green auditing standards and contributing in improving the environmental conditions.

Coordinator's Signature

Chairman's Signature

Head
Department of Geography
Chhatrapati Shivaji College
Satara.

DEPARTMENT OF GEOGRAPHY * CHHATRAPATI SHIVAJI COLLEGE * SATARA

Date: 18/01/2021

Place: Satara

Environmental Green Audit Report-2019-20 & 2020-21

Audited Activity: Environment Policy Review, Collaborative Activities and Programmes, Environment practices

Organization: Yashvantrao Chavan Institute of Science, Satara

Auditor (s): 1. Dr. S. B. Zodage -Chairman

2. Dr. A.S. Patil -Coordinator

Audit Scope: Audit for the year 2019-20 and 2020-21

Audit Trail: Audit reports of consecutive years

Observations: The activities and measures carried out by the college have been verified based on submitted report was found satisfactory.

Findings: The efforts taken by the principal, faculty members and students towards environment and students towards environment and sustainability is highly appreciated and commendable suggestions are given separately so it will be better for self evaluation. The current situation in the premises is environment friendly and suitable for conducting college hours regularly.

Coordinator's Signature

Chairman's Signature

Head
Department of Geography
Chhatrapati Shivaji College
Satara.

DEPARTMENT OF GEOGRAPHY
SATARA
CHHATRAPATI SHIVAJI COLLEGE

Date: 18/01/2021

Place: Satara

AUDITOR'S OPINION STATEMENT

We have Examined the that Rayat Shikshan Santha's, Yashvantrao Chavan Institute of Science, Satara for Environmental Green Audit of their campus in the academic year 2019-20 and 2020-21 have submitted necessary data and credentials for scrutiny. The activities and measures carried out by the college have been verified based on submitted report made in accordance with generally accepted auditing standards and accordingly tests was found satisfactory. This certificate is given against the academic year 2019-20 and 2020-21.

The efforts taken by the principal, faculty members and students towards environment and students towards environment and sustainability are highly appreciated and commendable. Highlights and suggestions are given separately so it will be better for self evaluation. It is also observe that current situation in the premises is environment friendly and suitable for conducting college hours regularly.

Coordinator's Signature

DEPARTMENT OF GEOGRAPHY
SATARA
CHHATRAPATI SHIVAJI COLLEGE

Chairman's Signature

Head
Department of Geography
Chhatrapati Shivaji College
Satara.

Date: 18/01/2021

Place: Satara

Environmental Green Audit Report

- **Highlights:**
  - Criterion-I
  - Diffusion of better awareness about the environmental issues among the students and faculties, staff members.
  - Institution involved in organizing different programmes, seminars, workshops, conferences to create awareness about environment protection and conservation.
  - Community participation is remarkable.
  - Criterion-II
  - Tree Plantation Campaign in adopted village should be undertake.
  - Observing different Environmental conservation day's and week's.
  - NSS activities related to Cleanliness Campaign awareness.
  - Rallies for social cause.
  - Participation in the community development is remarkable.
  - Criterion-III
  - Rain water harvesting and soaking pits.
  - Office automation.
  - Use of Non Conventional Energy resource, Solar Systems in office and solar water heater in hostels.
  - Use CFL Bulbs.

- **Suggestions**:
  - Criterion-I
  - Review Environmental objectives.
  - Proceedings of the Campus Eco-friendly committee should be maintained.
  - Display of boards and slogans related to the Environment cleanliness and conservation
  - Upload Environment policy of your college on college website and make it dynamic for display of environment related activities.
  - Give botanical nomenclature to trees in the premises.
  - Criterion-II
  - Participatory involvement with NGO's and GO's should be increase

- Reports should be prepared about programmes related to Environmental conservation day's and week's.
- Organize competitions for creating awareness about environment conservation among the students and staff and in adopted village, e.g. Rangoli competition, essay competition, in the premises competition, elocution competition, etc.
- Give detail account of support services like NSS activities related to environment, water conservation, eradication of superstitions' etc.

➢ Criterion-III

- Collect data related to air and noise pollution on No Vehicle Day and working days.
- Drinking water tanks should be cleaned regularly and kept reporting of it.
- Monitoring mechanism should be created for utilization of water and wastage of water.
- Comparative chart should prepare about the light bills before and after installation of Solar panels and started use of CFL bulbs.
- The committees for RTI and other redressals should be created to sort out the stakeholder problems.
- Complaint and suggestion box should be kept.
- Organize Mock/ Dummy drill exercise on emergency.

Coordinator's Signature

DEPARTMENT OF GEOGRAPHY • CHHATRAPATI SHIVAJI COLLEGE • SATARA

Head
Chairman's Signature
Department of Geography
Chhatrapati Shivaji College
Satara.

Date: 18/01/2021

Place: Satara