



SRI AKILANDESWARI WOMEN'S COLLEGE

WANDIWASH

Thiruvannamalai District - 604408

GREEN AUDIT REPORT

2021 – 2022



DEPARTMENT OF ENVIRONMENTAL SCIENCES

Bishop Heber College (Autonomous)

Tiruchirappalli, Tamilnadu – 620 017




GREEN AUDIT



CERTIFICATE

This is to certify that a detailed **GREEN AUDIT** of **Sri. Akilandeswari Women's College, Wandiwash, Tamil Nadu** has been successfully conducted. The activities and measures carried out by the College have been verified based on the reports submitted and was found to be satisfactory. The College has evolved policies on Environment and Green campus in line with the Sustainable Development Goals. The efforts taken by the members of the faculty, students, support staff and the Management towards creating a strategic change in attaining holistic environmental sustainability is highly appreciated and commended.


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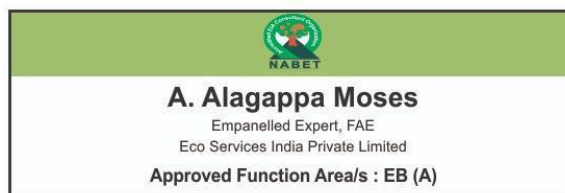

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NATIONAL ACCREDITATION BOARD FOR EDUCATION & TRAINING
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Category A Projects
(*vide AC MOM III, 2010 New Delhi*)
SA- 270th AC Meeting February 28 ,2020_Rev.01)

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(*vide AC MOM III, 2010*

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SA- 270th AC Meeting February 28 ,2020_Rev.01)

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PREFACE

An Environmental Audit is a tool comprising a systematic, documented, periodic and objective evaluation of how well a project, organization or equipment is performing with the aim of helping to safeguard the environment. The audit should facilitate management control of environmental practices and assess compliance with policy objectives and regulatory requirements.

A clean and healthy environment aids effective learning and provides a conducive learning environment.

Green audit is an official examination of the effects a college on the environment. It helps to improve the existing practices with the aim of reducing the adverse effects of these on the environment concerned.

Higher Educational Institutions are committed to preserve the environment within the campus through promotion of energy savings, recycling of waste, water use reduction, water harvesting etc.

Green audit visualizes the documentation of all such activities taking stock of the infrastructure of the college, their academic and managerial policies and future plans in the form of an environmental audit report.

Green audit can be a useful tool for a college to determine how and where they are using the most energy or water or resources; the college can then consider how to implement changes and make savings. It can also be used to determine the type and volume of waste which can be used for a recycling project or to improve waste minimization plan. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of green impact on campus.

Green audit promotes financial savings through reduction of resource use. It gives an opportunity for the development of ownership, personal and social responsibility for the students and teachers. Thus, it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more relevant.

The audit process involved initial interviews with management to clarify policies, activities, records and the co-operation of staff and students in the implementation of mitigation measures. Staff and students were given training how to collect the data for the green audit process. This was followed by staff and student interviews, collection of data through the questionnaire-based survey, review of records, observation of practices and observable outcomes. In addition, the approach ensured that the management and staff are active participants in the green auditing process in the college.

The baseline data prepared for the College will be a useful tool for campus greening, resource management, planning of future projects, and a document for implementation of sustainable development of the college. Existing data will allow the college to compare its programs and operations with those of peer institutions, identify areas in need of improvement, and prioritize the implementation of future projects. The green audit reports assist in the process of attaining an eco-friendly approach to the sustainable development of the college.

The results presented in the green audit report will serve as a guide for educating the college community on the existing environment related practices and resource usage at the college as well as spawn new activities and innovative practices. The Green Audit team expects the management to express their commitment to implement the recommendations.




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CHAPTER I

INTRODUCTION

Sri Akilandeswari Women's College then affiliated to Madras University - was **started** in the year **1995** by **Swamy Abedhanandha Educational Trust**, Wandiwash which was established in accordance with the wishes of Pujyashri Swamiji Abedhanandha Swarswathi. Now this college is affiliated to Thiruvalluvar University, Vellore from 2002.

The college is named after the presiding deity of Thellar Village where the Institution initially functioned.

The late Swamiji had a lofty vision of uplifting the rural womenfolk from poverty, Ignorance and lethargy which helped in the blossoming of this only Women's College in Thiruvannamalai District which provided value based education giving emphasis on morality and discipline. This helps in producing patriotic citizens of the future, fulfilling the present need of our holy land - BHARAT.

Initially, instructions were given for three Job - oriented Under Graduate Courses viz, Biochemistry, Microbiology and Nutrition Food Service Management and Dietetics with only 35 students, Principal, Faculty members and one office assistant.

In the subsequent year i.e.1996, the college moved to the present sprawling campus at Wandiwash with sturdy building and well equipped laboratories. The college has its academic excellence for the past 25 Years and it is recognized with 2(f) & 12 (B) status as per UGC act and permanent affiliated to Thiruvalluvar University, Vellore. We have been Re-accredited with "A" Grade by NAAC in 2016. Our main aim is to develop good morality and better quality in higher education. Now we are offering 10 UG Courses, 8 PG Courses & 3 Ph.D Courses in Bio-Chemistry, Microbiology and Commerce with the total Strength of 2700 students.

College buses are operated with 32 routes so as to cover various places including the remote areas where the private or Government buses are not available. Students are picked up from their door steps and this ensures the safety of the women students. This bus facilities have paved way

for rural students to have higher education without any hindrance of transport Facility.

Our College is sprawling with elegant buildings, adequate number of class rooms, well equipped laboratories, digitalized library, free wifi facility throughout the campus, rest rooms, health centre, well equipped English lab, well-furnished hostel inside the campus etc. Media centric learning system NPTEL - IIT Madras, Spoken Tutorial - IIT Bombay, Virtual labs and Vyas Live channel were introduced in our curriculum. Personality Development Programmes, Leadership Programmes, Student counseling, Employment and sports activities are also conducted effectively to make our students highly demanded in the employable market. Opportunities are created through placement cell by way of conducting campus interviews in assistance with leading companies such as TCS, HCL, WIPRO, Amazon and HP. Today many of our students are placed in high positions.

Free NET/SET coaching classes are conducted both for staff and PG final year students. Our college is recognized as “Local Chapter” for NPTEL-IIT Madras and Nodal Resources centre” for spoken tutorial- IIT Bombay online courses. MOUs are signed with Refsyn Biosciences, ASSET, R.Bhasakar & Co, Golden Jubilee Biotech park for women society, Open Space Foundation, Ambiga K.C.T.R Guidance & counseling centre, Sliver Buds, Kaashiv infotech, KH Bio Solutions and Research centre, Internshala, Saveetha institute of Medical and Technical Sciences, Centre for Rural Health and social Education, M.S Swaminathan Bio - Incubation centre, Golden Jubilee Biotech Park for Women Society, Vedha Technologies, Audacious Dreams Foundation, Women Entrepreneurs Association of Tamilnadu, Indira Gandhi National Open University, Shakespeare institute of English Studies, Yaavarum Keleer (ThiranValarSangam), Sriluck paints - Saibaba Scientific Glasses, ICT academy, Celonis (ICT Academy), Cisco (ICT Academy), Uipath (ICT Academy), Naandi Foundations Titan LeAP Learning Center for Rural Health and Social Education to ensure student;s Welfare.

With the blessing of Goddess Sri Akilandeswari and Swamy Abedhanandha, the College will continue its journey to achieve the goal for

which it was started. Thus the requirement of rural students community is taken care by our institution.

STRENGTH:

The support of the management and that of the staff has made the Institution to achieve a commendable position in the educational field. The management, staff and students stand as the strong pillars for the upliftment of the college. The latest method of new teaching methodology, technology and the support of the management helped this institution to achieve its goal. The importance of this institution is reflected in the form of increased percentage of student strength.

The implementation of new technologies in teaching methods, automation of library, e-book sources, inflibnet, commitment of the staff members, etc. have contributed much to the development of this institution. This, in turn has made students to achieve ranks, bringing awards and medals from Thiruvalluvar University. These laurels have paved way for the conduct of campus interviews to recruit candidates for various jobs. Today many of our students, are placed in high positions. Various 'Development Programmes' are organized for all the students to motivate and to inculcate self confidence, self direction and self esteem.

Initially in 1995 the college was started with three jobs oriented undergraduate courses and today this institution is offering 10 UG courses 8 PG courses and 3 M.Phil courses. Every year the management takes necessary steps to satisfy the needs of the students and the public by means of starting new professional courses which have job opportunities for rural women with 'Below Poverty Line (BPL)' status. Accordingly the infrastructural facilities are also increased to satisfy the needs.

The participation of students in extension activities through various clubs is yet another strength of this institution. Social service activities have created a great positive impact on the development of the college.

The vibrant Alumni Association is also a strength to this college which is registered under 'Society Registration Act of Tamilnadu'. Stake holders like Government, University, Alumni, Parents and General Public have very good relationship with the management, Principal and Staff, which is considered as the main reason for the successful and sustainable academic life of this great institutions.

OPPORTUNITIES:

- ❖ Existence of library facilities, internet facilities, technological updates in teaching-learning methodologies, laboratory facilities, industrial visits, invited lectures, seminars, workshops, etc. ensures 'Knowledge Management' in this institution.
- ❖ 'Goal setting' and 'Goal reaching' on time is evident through the conduct of relevant appropriate programmes like Yoga, Personality Development Programmes, Leadership programmes, Student counseling, Sports activities, etc,
- ❖ Anti-ragging committee and grievance committee ensures the safety of the women students in the college premises.
- ❖ Offering of excellent students supporting programmes like NSS, YRC, RRC, ECO club, Health & Nutrition club, LEO club, etc.
- ❖ Entrepreneur Development Programmes through the activities of Women Development Cell, Citizen Consumer Club, Fine Arts Committee, etc. students are trained to develop and to maintain mushroom cultivation, plantation of medicinal and herbal plants, preparation of Eco-friendly hand work items etc., to convert students into future entrepreneurs.

SPECIAL FEATURES:

- ❖ The infrastructure facilities of the college includes necessity number of class rooms, UG and PG laboratories, library, principal room, examination cell, staff rooms, etc, with inbuilt area of 63,485.82 sq.ft. and the administration block with the area of 2,918.70 sq.ft.

- ❖ Media centric learning system (NPTEL, V Labs, Vyas live Channel, N List, IIT Spoken Tutorial) introduced in the curriculum.
- ❖ Well Equipped English language Lab is available.
- ❖ The Library 2800 Sq.ft consists of nearly 10,000 books & 63 journals fully atomized with internet facility to access E-resources.
- ❖ Diploma and Post graduation courses in yoga are offered.
- ❖ Employment opportunities are created through placement cell by way of conducting campus interviews in assistance with leading companies such as TCS, HCL, WIPRO and HP.
- ❖ NET/SET Coaching classes are provided for both Staff and PG final year Students.
- ❖ General knowledge based quiz competition organized periodically.
- ❖ Academic Linkages with Refsyn Bioscience Pvt. Ltd., Vedha Technologies, ASSET and R.Bhaskar & Co.
- ❖ Availability of internet with Wi-Fi facility throughout the campus.
- ❖ Industrial visit and research laboratory visit are organized for science students to acquire working knowledge and skills.
- ❖ Extracurricular activities and entrepreneurship are inculcated through various clubs like Women Development Cell, Citizen Consumer Club, Fine Arts Committee, etc..
- ❖ Hygienic Hostel and Cafeteria are available.
- ❖ RO water facility available for drinking.
- ❖ Health Centre with Ambulance facilities is available inside the campus.
- ❖ Napkin vending machine and Destroyer are installed.
- ❖ Provision of Scholarship (State Government and Central Government) for eligible candidates.

BUS FACILITIES: (No. Of Buses 32)

The College buses are operated so as to cover various places including the remote areas where the Private or Government buses are not available. Students are picked from their door steps and this ensures the safety of the women students. This is the main reason for increase in enrolment of students year after year.

HOSTEL FACILITIES:

The college provides hostel facilities for the students who come from far distance. Safety, hygienic food, entertainment, etc. is provided. The inbuilt area of the hostel is 8,756.10 sq.ft.

We hope and expect that NIRF will register our college and permit as to apply for 'National Ranking' and thus rural students and thus educational institution will be appraised and elevated to the Global Standard.

The Logo



Fig. 1 College Logo



Fig. 2. College Entrance



Fig. 3 Admin Building



Fig. 4. View of the Academic Buildings

CHAPTER II

CAMPUS ENVIRONMENTAL AUDIT

Campus Environmental Audit

An Environmental Audit is a tool comprising a systematic, documented, periodic and objective evaluation of how well a project, organization or equipment is performing with the aim of helping to safeguard the environment. The audit should facilitate management control of environmental practices and assess compliance with policy objectives and regulatory requirements. (European Environment Agency, European Commission 1999, Brussels).

Environmental auditing is a systematic, documented, periodic and objective process in assessing an organization's activities and services in relation to:

- Assessing relevant statutory and internal requirements
- Facilitating understanding of good environmental practices
- Promoting good environmental management
- Maintaining credibility with the public/clients
- Raising staff awareness and commitment to departmental environmental policy
- Exploring improvement opportunities
- Establishing the performance baseline for developing good sustainable practices.

Green Audit towards Sustainable Development

Sustainable Development (SD) is one of the biggest challenges of the twenty-first century and there can be no sustainability where educational institutions (Universities, Institutions of Higher Education, and Schools) promote un-sustainability. In modern society 'No institutions are better situated and more obliged to facilitate the transition to a sustainable future than schools, Colleges and Universities'.

Sustainable Development Goals (SDGs)

The 17 Sustainable Development Goals and 169 targets which has been proposed demonstrates the scale and ambition of this new universal agenda. They seek to build on the MDGs and complete has not been achieved. They seek to realize the human rights of all and to achieve gender equality and the empowerment of all women and Girls. They are integrated and in and indivisible and balance the three dimensions of Sustainable Development: the economic, social and environmental. The Goals and Targets will stimulate action over the next 15 years in areas of critical importance for humanity and the planet.



Fig. 5: SUSTAINABLE DEVELOPMENT GOALS

In spite of a number of SDGs and an ever increasing number of Universities / Institutions of Higher Educations and Schools becoming engaged with the principles and concepts of SD, especially in the developed world, most of them to be traditional in India.

Environmental Audit

Environmental auditing has become a valuable tool in the management and monitoring of environmental and sustainable development programs. The information generated from audit exercise provides important information to many different stakeholders.

Although seen primarily as a tool in commerce and industry, creative application of environmental auditing techniques can improve transparency and communication in many areas of society where there is a need for greater understanding of environmental and ecosystem interactions. The environmental audit is a systematic process that must be carefully planned, structured and organized. As it is part of a long term process of evaluation and checking, it needs to be a repeatable process which can be readily replicated and can reflect change in both a quantitative and qualitative manner.

Universities and Colleges are regarded as “Small Cities” due to their size, population and the multifarious activities, which have some serious direct and indirect impacts on the local environment.

Campus Green Audit

The campus environmental audit is a common tool that many colleges and universities have employed in recent years. A campus environmental audit is both a summary and a report card for a campus and a way to evaluate where and how resources are being used. An environmental audit is also the first step in being able to quantify whether or not current and/or future environmental efforts are actually making a difference. As such, an environmental audit is the beginning of the sustainability planning process. The results can be used to quantify what kinds of impacts the campus community has on the environment and what steps the college can take to reduce these impacts.

Green Audit

Green Audit is defined as systematic identification, quantification, recording, reporting and analysis of components of environmental diversity. The 'Green Audit' aims to analyse environmental practices within and outside the Institute, which will have an impact on the eco-friendly ambience and sustainable ecosystem. It is a useful tool that can be used to understand existing practices and resource use to highlight the prospects of introducing resource efficiency in the ecosystem. Green audit provides cognizance on scope for improvement of environment and ecosystem of the campus. Thus, it is imperative that Sri. Akilandeswari Women's College, evaluate its own status on environmental sustainability and contributes towards sustainable future.

Pre Audit Stage

The process of Green Audit started with a pre-audit meeting that has provided an opportunity to reinforce the scope and objectives of the audit. The deliberations focused on the procedures to be followed in conducting the audit. This meeting is an important prerequisite for conducting green audit as it provides the first opportunity to meet and interact with the auditee and deal with any matters of concerns. The audit protocol and audit plan were discussed in detail and a Green Audit team was constituted with a staff adviser and student members.

- a) Preliminary literature review of concepts and methodologies related to green audit.
- b) Discussion with the management staff on various systems installed in the campus.
- c) Awareness creation and interaction with the staff and students on the concept of green audit. Walk through the entire campus to understand the nature of water use, energy use and waste management systems in the campus.

Commitment of the College

The College has shown the commitment and keen interest towards conducting green audit and encourages green practices. The College is committed towards Education for sustainability and implementation of sustainable strategies, reducing carbon foot print and effective utilization of waste into wealth.

Goals and Objectives

The goal of Green audit is *“Ensuring Environmental Sustainability (EES) through reducing environmental foot print such as carbon, water, food, and land, management and conservation of the natural resource base, and the orientation of Education for Sustainable Development (ESD) by evolving Institutional policies on various environmental attributes in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations”*.

Objectives:

- To evolve institutional policies on various environmental attributes such as water, waste and sanitation and to assess the patterns of consumption of energy and water
- To measure the quantum of generation of wastes and hazardous substances
- To evaluate the level of awareness among the students regarding environmental resources
- To inculcate the concepts of 5 R principle such as Reduce, Refuse, Recover, Recycle and Repurpose among the stakeholders, thus making the organization as a better steward,
- To implement environmental management strategies so as to reduce overall environmental foot print.

Benefits of the Green Auditing

• More efficient resource management
• To provide basis for improved sustainability
• To create a green campus
• To enable waste management through reduction of waste generation, solid- waste and water recycling
• To create plastic free campus and evolve health consciousness among the stakeholders
• Recognize the cost saving methods through waste minimizing and managing
• Point out the prevailing and forthcoming complications
• Authenticate conformity with the implemented laws
• Empower the organizations to frame a better environmental performance
• Enhance the alertness for environmental guidelines and duties
• Impart environmental education through systematic environmental management approach and Improving environmental standards
• Benchmarking for environmental protection initiatives
• Financial savings through a reduction in resource use
• Development of ownership, personal and social responsibility for the College and its environment
• Enhancement of college profile
• Developing an environmental ethic and value systems in youngsters.
• Green auditing should become a valuable tool in the management and monitoring of environmental and sustainable development programs of the college.

Modules Campus Green Audit

Campus Green Audit (CGA) is a process of resource management. They are individual modules carried out in a defined interval illustrating an overall improvement or change in the institution over a period of time. The concept of Eco-friendly campus mainly focuses on the efficient use of energy and water; minimize waste generation, economic efficiency and reduction in environmental foot print. All these indicators are assessed in the process of Campus Green Audit. The CGA promotes conservation energy, water and waste management. The audit stages are as follows:

I. Pre-audit Stage

II. Audit Stage

- a. Audit for various environmental aspects
- b. Checking of documents and evaluation
- c. Review of Environmental Policy
- d. Review of Programmes or Activities

III. Post-audit Stage

- a. Land
- b. Energy
- c. Water
- d. Waste
 - i. Wastewater
 - ii. Solid Waste
 - 1. E Waste
 - 2. Biomedical waste
- e. Food
- f. Campus hygiene

IV. Processing of Data

- a. Development of questionnaire format to identify all water/energy using fixtures/ equipment and examine water or energy use patterns for individual buildings in the campus.
- b. Collection of secondary data from compilation of electricity bills, collecting records of pumps, generators, water quality analysis reports, civil and electrical etc.
- c. Semi-structured interview with maintenance manager, technicians, plumber and housekeeping staff on current situation and the past trends in water consumption, electricity consumption, waste management, waste generation etc.

V. Data Processing and analysis

The existing trends and patterns in water usage, energy usage and waste generation and management is analyzed in this step from the data collected from the previous step.

VI. Audit Recommendations and Reporting

Recommendation on the basis of results of data analysis and observations for Proper land use planning and Green belt development.

CHAPTER III

METHODOLOGY

Campus Green Audit Methods

The Campus Green Audit is an exercise that ensure the extent of implementation green policies adopted by the institution. The methodologies for the green audit are as follows:

1. Preparation of Campus Green Audit questionnaire based on the objectives
2. Constitution of Campus Green Audit Team with staff and students for each module
3. Data Collection:
 - a. Primary Data collection for each module by respective teams
 - b. Secondary Data collection by the team members
 - c. Collection of samples, observation, interviews and discussion with various staff members
 - d. Steps in primary and secondary data collection

Green Audit Components

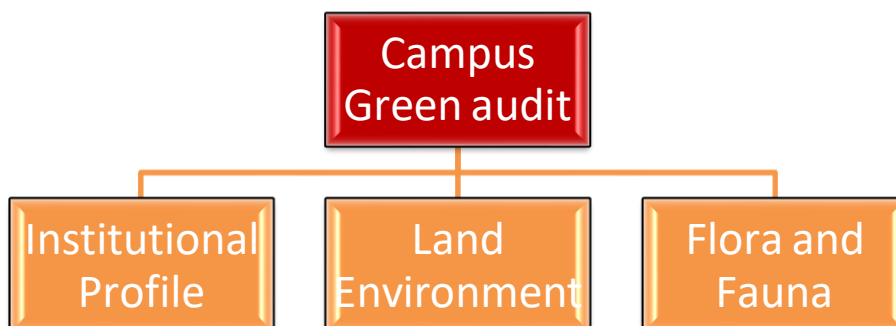


Fig. 6: Green Audit Components

Campus Green Audit Assessment Team: 2020-2021

S.No.	Name	Designation	Department	Aspect
1.	Dr. K. Jagathy	Head and Assistant Professor	Microbiology	Team Head
I	Green Audit			
2.	Dr. K. Vanmathiselvi	Assistant Professor	Microbiology	Land
3.	Dr. D. Bharathi	Assistant Professor	Zoology	Flora and Fauna
II	Environment Audit			
4.	Dr. K. Jagathy	Head and Assistant Professor	Microbiology	Air & Noise
5.	Dr. D. Bharathi	Assistant Professor	Zoology	Water
6.	1.Dr.K. Padhmalochana and 2. Mrs.A. Shoba	1.Head and Assistant Professor 2. Assistant Professor	1.Biochemistry 2. Chemistry	Wastewater
7.	Mrs. D.Rajaselvi Mrs.Sujatha	1.Head & Assistant Professor 2. Assistant Professor	1.Computer Applications 2.Computer science	Solid & E-Waste
8.	Dr.J. Sujatha	Assistant Professor	Microbiology	Food
III	Energy Audit			
	Mr. C.Kumaran	Assistant Professor	Physics	Energy
IV	Campus Hygiene			
9.	Mrs. E. Ezhilarasi	Assistant Professor	Tamil	Campus Hygiene

Land Audit Team

Environmental Aspect	Land
Name of the coordinator	Dr. K. Vanmathiselvi
Designation and Department	Assistant Professor, Microbiology

Audit Team -Students /Scholars

S.No	Name of The Students	Class	Department
1.	R.KARTHIKA	IUG	Mathematics

2.	GNANA SOUNDARI	IUG	Mathematics
3.	R.BAKKIYALAKSHMI	IIUG	Mathematics
4.	S.SUGANTHA	IIUG	Mathematics
5.	R.MANJULA	IIUG	Mathematics

Flora and Fauna Audit Team

Environmental Aspect	Flora and Fauna
Name of the coordinator	Dr. D. Bharathi
Designation and Department	Assistant Professor, Zoology

Audit Team -Students /Scholars

S.No.	Name of The Students	Class	Department
	Ainyul Muthahira	IUG	Microbiology
2.	M.Reshma	IUG	Microbiology
3.	S.Mahalakshmi	IIUG	Chemistry
4.	S.Snega Priya	IIUG	Chemistry
5.	R.Thazin	IIUG	Chemistry

Air and Noise Team

Environmental Aspect	Air and Noise
Name of the coordinator	Dr. K. Jagathy
Designation and Department	Head and Assistant Professor, Microbiology

Noise-Audit Team -Students /Scholars

S.No	Name of the Students	Class	Department
1.	J.Ramya	IUG	Physics
2.	V.Amirthavallithayar	IUG	Physics
3.	A.Nisha	IIUG	Physics
4.	M.Shirin banu	IIUG	Physics
5.	J.Sheema gousar	IIUG	Physics

Air-Audit Team -Students /Scholars

S.No	Name of The Students	Class	Department
1.	P.Sandhiya	IUG	Physics
2.	P.Jeevitha	IUG	Physics
3.	R.Kaaviya	IIUG	Chemistry
4.	Y.Kosalai	IIUG	Chemistry
5.	I.Padmavathi	IIUG	Chemistry

Water Audit Team

Environmental Aspects	Water
Name of the coordinator	Dr. D. Bharathi
Designation and Department	Assistant Professor, Zoology

Audit Team -Students /Scholars

S.No	Name of The Students	Class	Department
1.	R.Roopika	IUG	Chemistry
2.	B.Santhiya	IUG	Chemistry
3.	Manjula	IIUG	Commerce CA
4.	Pavithra .R	IIUG	Commerce CA
5.	Umamageshwari	IIUG	Commerce CA

Waste Water Audit Team

Environmental Aspects	Wastewater
Name of the coordinator	1. Dr.K. Padhmalochana and 2. Mrs.A. Shoba
Designation and Department	1. Head and Assistant Professor, biochemistry 2. Assistant Professor, chemistry

Audit Team -Students /Scholars

S.No	Name of The Students	Class	Department
1.	V.Bharathi	IIUG	Chemistry
2.	S.Hassana Parveen	IIUG	Chemistry
3.	KAVITHA P	IUG	CS I BATCH
4.	SRILEKHA S	IUG	CS I BATCH
5.	PAVITHR V	IUG	CS I BATCH

Solid and E Waste Audit Team

Environmental Aspects	Solid Waste and E Waste
Name of the coordinator	Mrs.D.Rajaselvi Mrs.Sujatha
Designation and Department	1.Head and Assistant Professor, Computer Applications 2. Assistant Professor, Computer Science

Audit Team -Students /Scholars

S.No	Name of The Students	Class	Department
1.	Lalitha.R	IUG B.Com(CA)	Commerce CA
2.	Immany temila.T	IUG B.Com(CA)	Commerce CA
3.	SUMAIYA BANU I	II CS I BATCH	CS
4.	SHARME K	II CS II BATCH	CS
5.	RAJESHWARI P	II CS II BATCH	CS

Food Team

Environmental Aspects	Food
Name of the coordinator	Dr. J.Sujatha
Designation and Department	Assistant professor, Microbiology

Audit Team -Students /Scholars

S.No	Name of The Students	Class	Department
1.	E.Vaisnavi	IUG	Chemistry
2.	B.Yuvasri	IUG	Chemistry
3.	S.Ayesha	IIUG	Microbiology
4.	M.Priyadharshini	IIUG	Microbiology

5.	S.Gayathri	IIUG	Microbiology
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Campus Hygiene Audit Team

Environmental Aspects	Hygiene
Name of the coordinator	Mrs. E. Ezhilarasi
Designation and Department	Assistant professor, Tamil

Audit Team -Students /Scholars

S.No	Name of The Students	Class	Department
1.	BHAVATHARANI K.	I CS II BATCH	CS
2.	POWSIYA BANU S.	I CS II BATCH	CS
3.	JEEVITHA T.	I CS II BATCH	CS
4.	Umamageshwari	IIUG B.Com(CA)	Commerce CA
5.	Sharmila Begam	IIUG B.Com(CA)	Commerce CA

Energy Audit Team

Environmental Aspects	Energy
Name of the coordinator	Mr. C. Kumaran
Designation and Department	Assistant professor, Physics

Audit Team -Students /Scholars

S.No	Name of The Students	Class	Department
	H.Priyadharshini	IIUG	Physics
	N.Yuvasri	IUG Chemistry	Chemistry
	R.Divya	IUG Chemistry	Chemistry
	JANAGAVALLI J	II CS II BATCH	CS
	YAZHINI V	II CS II BATCH	CS

CHAPTER IV

AUDIT STAGE

The Campus Green Audit (CGA) was carried out by the Post Graduate and Research Department of Environmental Sciences, Bishop Heber College (Autonomous), Tiruchirappalli, Tamilnadu. The CGA team constituted by the management during the pre-audit has done extensive data collection covering all the modules of green audit. The Campus Green Audit team comprises of Co-ordinators, Staff in-charge for each module and student volunteers.

Green Audit Team

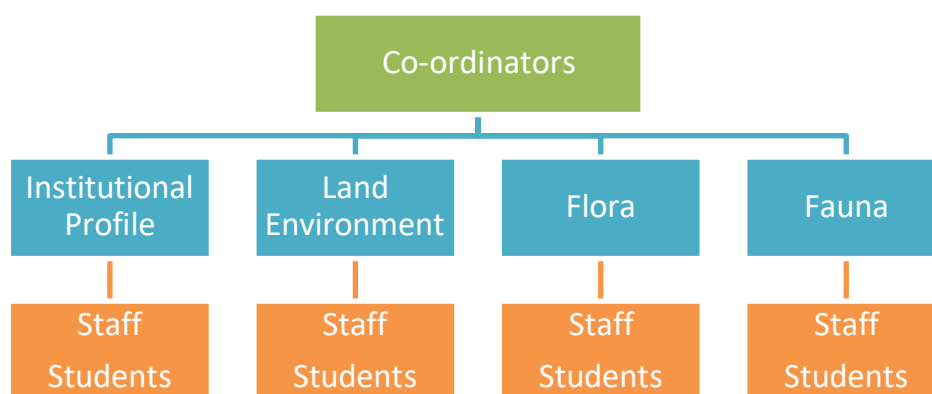


Fig. 7: Campus Green Audit Team

CHAPTER V LAND AUDIT

The College is located in a plain flat terrain with green cover augmenting the aesthetic value of the college. The campus has a total area of 60,223 m² or 14.875 acres. The Land Use attributes were identified as Built-up / constructed area, playground plantation/open space/garden/green cover with a good road network.

Table 1: Land Use Data

S. No.	Land Use	Sq. M
1.	Buildings	12360.00
2.	Green Area	6500.00
3.	Open Space	40000.00
4.	Parking	4743.00
5.	Play ground	5000.00

Layout of the campus



Fig.8 Lay out of the campus

Observation and Comments

- 1 The land use attributes include built-up area, playground area, sacred temple garden, plantation, green cover, open space, road network and storm water drains.
- 2 The campus has a green cover of 6500 m² which include avenue trees, shrubs, herbs, ornamental plants, and garden with green cover. The green cover in the campus is 10.79 % of the total area. As per the National Forest Policy, 1988 the institutions in plain area should have **33% green cover** and hilly areas should have 60%. The campus has only 10.79% of green cover and should increase green cover as per National Forest Policy 1988.
- 3 The campus has a total built up area of 12360 m² with buildings meant for academics, hostel, rest rooms, and parking.
- 4 The open space constitutes an area of 40,000 m²
- 5 Playground 5000 m² and parking are 4743 m².

CHAPTER VI

CAMPUS BIODIVERSITY

The natural landscape of the campus includes green vegetation, tree canopy cover, small lentic system and artificial rain water harvesting pond provides a unique environmental setting conducive for a wide range of floral and faunal diversity. Totally 174 species of plants are present in the College campus. The particulars of floral diversity are given in the following Tables and Figures:

Assessment of Flora and Fauna

OBJECTIVE:

- To identify the various species of Flora & Fauna in our college campus
- To document them in a scientific manner in order to preserve the Biodiversity by initiating ecological restoration & preservation of available **Flora & Fauna**

List of Trees in the Campus

S.No.	Botanical Name	Family	Vernacular Name	Numbers
1.	<i>Azadirachta indica</i>	Meliaceae	Neem	45
2.	<i>Artabotrys hexapetalus</i>	Annonaceae	Manoranjitham	2
3.	<i>Aegle marmelos</i>	Rutaceae	Maha vilvam	1
4.	<i>Annona squamosa</i>	Annonaceae	Sugar-apple	5
5.	Areca palm	Arecaceae	Areca palm	10
6.	Arenga palm	Arecaceae	Sugar palm	8
7.	<i>Bauhinia variegata</i>	Fabaceae	Mandarai	4
8.	<i>Bambusa vulgaris</i>	Poaceae	Bamboo	20
9.	<i>Borassus flabellifer</i>	Arecaceae	Palms	20
10.	<i>Cocos nucifera</i>	Arecaceae	Tengku	52
11.	Citrus lemon	Rutaceae	Lemon	4
12.	<i>Cassia fistula</i>	Fabaceae	Sarakonrai	2
13.	<i>Cinnamomum camphora</i>	Lauraceae	Camphor tree	1
14.	<i>Caryota obtusa</i>	Arecaceae	Christmas tree	1
15.	<i>Cycas sp.</i>	Cycadaceae	Sago palm	6
16.	<i>Cassia fistula</i>	Fabaceae	Golden shower	5
17.	<i>Dalbergia sissoo</i>	Fabaceae	Rose wood	1
18.	<i>Dyopsis ambositrae</i>	Arecaceae	Dyopsis	6
19.	Dragon tree	Asparagaceae	Dragon tree	3
20.	<i>Erythrina variegata</i>	Fabaceae	Kalyana murungai	12
21.	<i>Ficus carica</i>	Moraceae	Atthi	47
22.	<i>F. religiosa</i>	Moraceae	Arasha maram	4
23.	<i>F. benjamina</i>	Moraceae	Weeping fig	4
24.	<i>F. panda</i>	Moraceae	Ficus Panda	5
25.	<i>F. elastica</i>	Moraceae	Rubber plant	4

26.	<i>Guettarda speciosa</i>	Rubiaceae	Panneer poo tree	1
27.	<i>Moringa oleifera</i>	Moringaceae	Drumstick	20
28.	<i>Musa sp.</i>	Musaceae	Banana	10
29.	<i>Magnolia champaca</i>	Magnoliaceae	Champaca	2
30.	<i>Melia dubia</i>	Meliaceae	Malai vembu	4
31.	<i>Manilkara zapota</i>	Sapotaceae	Sapote	1
32.	<i>Murraya koenigii</i>	Rutaceae	Curry Tree	1
33.	<i>Manihot sp.</i>	Euphorbiaceae	Maravalli	5
34.	<i>Mimusops elengi</i>	Sapotaceae	Magilam Poo	7
35.	<i>Mangifera indica</i>	Anacardiaceae	Mango	12
36.	<i>Monoon longifolium</i>	Annonaceae	Ashoka	70
37.	<i>Mimusops elengi</i>	Sapotaceae	Magilam Poo	1
38.	<i>Magnolia champaca</i>	Magnoliaceae	Champaca	2
39.	<i>Madhuca longifolia</i>	Sapotaceae	Iluppai	2
40.	<i>Neolamarckia cadamba</i>	Rubiaceae	Cadamba	1
41.	<i>Nyctanthes arbor-tristis</i>	Oleaceae	Pavalamalli	1
42.	<i>Neottia sp.</i>	Orchidaceae	Bird's-nest orchid	5
43.	<i>Pongamia pinnata</i>	Fabaceae	Punnai	32
44.	<i>Pterocarpus santalinus</i>	Fabaceae	Semmaram	2
45.	<i>Phoenix sylvestris</i>	Arecaceae	Silver date palm	4
46.	<i>Pisonia alba</i>	Nyctaginaceae	Birdcatcher trees	2
47.	<i>Plumeria rubra</i>	Apocynaceae	Nela Sampangi	1
48.	<i>Phyllanthus acidus</i>	Phyllanthaceae	Siru Nelli	6
49.	<i>Phyllanthus emblica</i>	Phyllanthaceae	Nelli-k-kai	1
50.	<i>Psidium guajava</i>	Myrtaceae	Guava	4
51.	<i>Pithecellobium dulce</i>	Fabaceae	Kodukkappuli	2
52.	<i>Roystonea</i>	Arecaceae	Royal palm	20
53.	Royal Palm	Arecaceae	Cuban royal palm	20
54.	<i>Syzygium cumini</i>	Myrtaceae	Naval	5
55.	<i>Santalum sp.</i>	Santalaceae	Sandal wood	1
56.	<i>Swietenia macrophylla</i>	Meliaceae	Mahogany	2
57.	<i>Scorodocarpus sp.</i>	Olacaceae	Scorodocarpus	6
58.	<i>Thespesia populnea</i>	Malvaceae	Poovarasu	8
59.	<i>Tabebuia rosea</i>	Bignoniaceae	Vasanta rani	6
60.	<i>Tectona grandis</i>	Lamiaceae	Teak	10
61.	<i>Terminalia arjuna</i>	Combretaceae	Marutu	1
62.	<i>Tamarindus indica</i>	Fabaceae	Tamarind	2
63.	<i>Vitex negundo</i>	Lamiaceae	Nocchi	2
64.	<i>Withania coagulans</i>	Solanaceae	Panneer ilai chedi	4

LIST OF HERBS IN THE CAMPUS

S.No.	Botanical Name	Family	Vernacular Name
1.	<i>Aloe vera</i>	Asphodelaceae	Aloe
2.	<i>Allium sativum</i>	Amaryllidaceae	Garlic
3.	<i>Annona reticulata</i>	Annonaceae	Custard apple
4.	<i>Abelmoschus esculentus</i>	Malvaceae	Ladies' fingers
5.	<i>Alternanthera sessilis</i>	Amaranthaceae	Sissoo spinach
6.	<i>Benincasa hispida</i>	Cucurbitaceae,	Ash gourd
7.	<i>Bambusa sp.</i>	Poaceae	Bamboos
8.	<i>Beta vulgaris</i>	Amaranthaceae	Beet
9.	<i>Brassica nigra</i>	Brassicaceae	Black mustard
10.	<i>Chile sp.</i>	Solanaceae	Capsicum
11.	<i>Cymbopogon citratus</i>	Poaceae	Grasses
12.	<i>Coleus amboinicus</i>	Lamiaceae	Mint

13.	Citrus hystrix	Rutaceae	Kaffir lime
14.	Coriandrum sativum	Apiaceae	Coriander
15.	Cyperus articulatus	Cyperaceae	Jointed flatsedge
16.	Cucumis sativus	Cucurbitaceae,	Cucumber
17.	Coccinia grandis	Cucurbitaceae,	Kowai fruit
18.	Citrullus lanatus	Cucurbitaceae,	Watermelon
19.	Cantaloupe sp.	Cucurbitaceae	Sweet melon
20.	Cyamopsis tetragonoloba	Fabaceae	Cluster bean
21.	Chrysopogon zizanioides	Poaceae	Vetiver
22.	Datura metel	Solanaceae	Devil's trumpet
23.	Foeniculum vulgare	Apiaceae	Fennel
24.	Hibiscus sabdariffa	Malvaceae	Roselle
25.	Jasminum officinale	Oleaceae,	Jasmine
26.	Luffa aegyptiaca	Cucurbitaceae,	Sponge gourd
27.	Lagenaria siceraria	Cucurbitaceae,	Bottle gourd
28.	Musa sp.	Musaceae	Banana
29.	Murraya koenigii	Rutaceae	Curry tree
30.	Ocimum basilicum	Lamiaceae	Basil
31.	Ocimum tenuiflorum	Lamiaceae	Holy basil
32.	Phyllanthus emblica	Phyllanthaceae	Amla
33.	Piper longum	Piperaceae	Long pepper
34.	Psidium guajava,	Myrtaceae,	Guava
35.	Prunus amygdalus	Rosaceae	Almond
36.	Raphanus raphanistrum	Brassicaceae	Radish
37.	Sesamum indicum	Pedaliaceae	Sesame
38.	Solanum melongena	Solanaceae	Brinjal
39.	Solanum lycopersicum	Solanaceae	Tomato
40.	Saccharum officinarum	Poaceae	Sugarcane
41.	Senna auriculata	Fabaceae	Avaram
42.	Strobilanthes callosa	Acanthaceae	Karvi
43.	Sesbania grandiflora	Fabaceae	Agathi Keerai
44.	Saccharum officinarum	Poaceae	Sugarcane
45.	Trigonella foenum-graecum	Fabaceae	Fenugreek
46.	Tamarindus indica	Fabaceae	Tamarind
47.	Trichosanthes cucumerina	Cucurbitaceae	Snake gourd
48.	Trigonella foenum-graecum	Fabaceae	Fenugreek
49.	Trichosanthes dioica	Cucurbitaceae	Pointed gourd
50.	Vigna unguiculata	Fabaceae	Cowpea

LIST OF SHRUBS IN THE CAMPUS

S.No.	Botanical Name	Family	Vernacular Name
1.	Agloriima white	Araceae	Chinese evergreens
2.	Alamanta sp.	Apocynaceae	Dogbane
3.	Agalipha variegatga	Euphorbiaceae	World flora
4.	Aralia sp.	Araliaceae	Spikenard
5.	Bougainvillea glabra	Nactaginaceae	Paper Flower
6.	Bauhinia rufescens	Fabaceae	Kachnar
7.	Brassica rapa	Brassicaceae	Mustards
8.	Borassus aethiopum	Arecaceae	African fan palm
9.	Codiaeum variegatum	Euphorbiaceae	Crotan plant
10.	Chamaecyparispisifera	Cupressaceae	Threadleaf false cypress
11.	Capsicum sp.	Solanaceae	Chili Peppers
12.	Cestrum nocturnum	Solanaceae	Night-blooming Jasmine
13.	Caesalpinia pulcherrima	Fabaceae	Peacock Flower
14.	Cordyline fruticosa	Asparagaceae	Ti plant
15.	Crinum americanum	Amaryllidaceae	Florida swamp-lily
16.	Ceodes umbellifera	Nyctaginaceae	Birdlime tree
17.	Chlorphytum Sp.	Asparagaceae	Spider plant

18.	<i>Codiaeum variegatum</i>	Euphorbiaceae	Garden croton
19.	<i>Cascabela thevetia</i>	Apocynaceae	Yellow oleander
20.	<i>Datura sp.</i>	Solanaceae	Datura
21.	<i>D.reflexa</i>	Asparagaceae	Song of India
22.	<i>Dieffenbaechia seguine</i>	Araceae	Dumbcane
23.	<i>D.amoena</i>	Araceae	Dumbcane
24.	<i>D. tropic tropic marianne</i>	Araceae	Dumbcane
25.	<i>Dracaena fragrance</i>	Asparagaceae	Cornstalk dracaena
26.	<i>D.angustifolia</i>	Asparagaceae	Cornstalk dracaena
27.	<i>Dracaena trifasciata</i>	Asparagaceae	Snake plant
28.	<i>Dracaena reflexa</i>	Asparagaceae	Song of India
29.	<i>D.variegata</i>	Asparagaceae	Song of India
30.	<i>Duranta erecta</i>	Verbenaceae	Golden dewdrop
31.	<i>Durantagolden sp.</i>	Verbenaceae	Duranta
32.	<i>Ephedra californica</i>	Ephedraceae	Desert Tea
33.	<i>Elaeocarpus angustifolius</i>	Elaeocarpaceae	Blue Marble Tree
34.	<i>Euphorbia pulcherrima</i>	Euphorbiaceae	Magilkunni
35.	<i>E. tithymaloides</i>	Euphorbiaceae	Euphorbia
36.	<i>Eranthemum sp.</i>	Acanthaceae	Eranthemum
37.	<i>Ferula assa-foetida</i>	Apiaceae	Giant Cabuya
38.	<i>Gardenia sp.</i>	Rubiaceae	Gardenia
39.	<i>G. jasminoides</i>	Rubiaceae	Gardenia
40.	<i>Goepertiamakoyana</i>	Marantaceae	Peacock Plant
41.	<i>Grevillea sp.</i>	Proteaceae	Grevillea
42.	<i>Graptophyllum pictum</i>	Acanthaceae	Caricature-plant
43.	<i>Hamamelis sp.</i>	Hamamelidaceae	Witch Hazel
44.	<i>Haworthiopsis fasciata</i>	Asphodelaceae	Zebra Haworthia
45.	<i>Hibiscus syriacus</i>	Malvaceae	Rose of Sharon
46.	<i>Ixoracoccinea sp.</i>	Rubiaceae	Jungle geranium
47.	<i>Jasminum officinale</i>	Oleaceae	Common Jasmine
48.	<i>Jetropha multifida</i>	Euphorbiaceae	Jatropha multifida
49.	<i>Lawsoniainerme sp.</i>	Lythraceae	Marudani
50.	<i>Leea rubra</i>	Vitaceae	Red Leea
51.	<i>Murraya exotica</i>	Rutaceae	Orange Jasmine
52.	<i>Mimosa pudica</i>	Fabaceae	Sleepy plant
53.	<i>Nigella sativa</i>	Ranunculaceae	Black Kodia
54.	<i>Nerium oleander</i>	Apocyanaceae	Chevarali
55.	<i>Ophiopogon japonicus</i>	Asparagaceae	Mondograss
56.	<i>O.Jaburan Variegated</i>	Asparagaceae	Giant Lily Turf
57.	<i>O. planiscapus</i>	Asparagaceae	Mondo grass
58.	<i>Polypodiopsida sp.</i>	Polypodiaceae	Fern
59.	<i>Plumbago auriculata</i>	Plumbaginaceae	Cape leadwort
60.	<i>Polyscias guilfoyle</i>	Araliaceae	Wild coffee
61.	<i>Pisonia alba</i>	Nyctaginaceae	Birdcatcher
62.	<i>Polyscias balfouriana,</i>	Araliaceae	Dinner plate aralia
63.	<i>Pseuderanthemum sp.</i>	Acanthaceae	Yellow-vein eranthemum
64.	<i>Rhapis sp.</i>	Arecaceae	Dwarf lady palm
65.	<i>Ricinuscommunis</i>	Euphorbiaceae	Castor bean
66.	<i>Scheffleararboricola</i>	Araliaceae	Schefflera
67.	<i>Stachytarphetaindica</i>	Verbenaceae	Seemai nayuruvi
68.	<i>Seleniumiycopersicum</i>	Solanaceae	Tomato
69.	<i>Sansevieria sp.</i>	Asparagaceae	Devil's tongue
70.	<i>Thuja sp.</i>	Cupressaceae	Morpankhi
71.	<i>Thujaoccidentalis</i>	Cupressaceae	Arborvitae
72.	<i>Thuja Compacta</i>	Cupressaceae	Dumbcane

73.	Tabernaemontana coronaria	Apocynaceae	Nandiavattum
74.	Yucca aloifolia	Asparagaceae	Aloe yucca

LIST OF ORNAMENTAL PLANTS

S.No.	Botanical Name	Family	Vernacular Name	
1.	Argimone maxicana	Papaveraceae	Mexican prickly poppy	Common/NA
2.	Amaryllis belladonna	Amaryllidaceae	Naked-lady-lily	Common/NA
3.	Alstonia scholaris	Apocynaceae	Blackboard tree	Common/NA
4.	Asparagus densiflorus	Asparagaceae	Asparagus fern	Common/NA
5.	Agave desmettiana	Agavaceae	Smooth agave	Common/NA
6.	Aglaonema nitidum	Araceae	Silver queen	Common/NA
7.	Alocasia odora	Araceae	Elephant ear plant	Common/NA
8.	Asparagus setaceus	Asparagaceae	Climbing	Common/NA
9.	Araucaria columnaris	Araucarioaceae	Christmas tree	Common/NA
10.	Acalypha wilkesiana	Euphorpiaceae	Copper leaf	Common/NA
11.	Actino strobilus arenarius	Cupressaceae	Sand plane	Common/NA
12.	Aegle marmelos	Rutaceae	Stone apple	Common/NA
13.	Agave palmeri	Asparagaceae	Foxtail Agave	Common/NA
14.	Asparagus densiflorus	Asparagaceae	Asparagus fern	Common/NA
15.	Bougainvillea sp.	Nightaginaceae	Kagaji pool	Common/NA
16.	Butea monosperma	Fabaceae	Flame-of-the-forest	Common/NA
17.	Bryophyllum sp.	Crassulaceae	Flaming katy	Common/NA
18.	Beaucarnea sp.	Asparagaceae	Ponytail palm	Common/NA
19.	Bambusa vulgaris	Poaceae	Lemon bamboo	Common/NA
20.	Cyperus rotundus	Cyperaceae	Coco-grass	Common/NA
21.	Carex oshimensis	Cyperaceae	Japanese sedge	Common/NA
22.	Caladium bicolor	Araceae	Heart of Jesus	Common/NA
23.	Catharanthus roseus	Apocynaceae	Graveyard plant	Common/NA
24.	Canna indica	Cannaceae	Sarbada phool,	Common/NA
25.	Calotropis sp.	Apocynaceae	Milkweeds	Common/NA
26.	Cascabela thevetia	Apocynaceae	Yellow oleander	Common/NA
27.	Combretum indicum	Combretaceae	Rangoon creeper	Common/NA
28.	Cordyline sp.	Asparagaceae	Tiplant	Common/NA
29.	Campsis radicans	Bignoniaceae	Trumpet Vine	Common/NA
30.	Calophyllum inophyllum	Callophyllaceae	Beautyleaf	Common/NA
31.	Colocasia esculenta	Pandanaceae	Elephant ear plant	Common/NA
32.	Caladium bicolor	Araceae	Heart of Jesus	Common/NA
33.	Codiaeum variegatum	Euphorbiaceae	Croton	Common/NA
34.	Calophyllum inophyllum	Callophyllaceae	Indian-laurel	Common/NA
35.	Codiaeum variegatum	Euphorpiaceae	Croton	Common/NA
36.	Cynodon dactylon	Poaceae	Bermuda grass	Common/NA
37.	Colocasia esculenta	Araceae	Elephant ear plant	Common/NA
38.	Chamaedorea microspadix	Arecaceae	Hardy bamboo palm	Common/NA
39.	Dieffenbachia amoena	Araceae	Dumbcane	Common/NA
40.	Duranta erecta	Verbenaceae	Skyflower.	Common/NA
41.	Dracaena trifasciata	Asparagaceae	Snake Plant	Common/NA
42.	Dracaena marginata tricolor	Asparagaceae	Corn plant	Common/NA
43.	Dieffenbachia seguine	Araceae	Dumb cane	Common/NA
44.	Dieffenbachia bowmannii	Araceae	Dumb cane	Common/NA
45.	Dieffenbachia x bausei	Araceae	Dumb cane	Common/NA
46.	Dracaena reflexa	Asparagaceae	Song of India	Common/NA

47.	<i>Duranta repens variegata</i>	Verbenaceae	<i>Duranta repens</i>	Common/NA
48.	<i>Duranta goldiana</i>	Verbenaceae	<i>Duranta goldiana</i>	Common/NA
49.	<i>Duranta repensvariegata</i>	Verbenaceae	<i>Duranta repens</i>	Common/NA
50.	<i>Dypsis lutescens</i>	Arecaceae	Butterfly palm	Common/NA
51.	<i>Euphorbia tirucalli</i>	Euphorbiaceae	Pencil plant	Common/NA
52.	<i>Epipremnum aureum</i>	Araceae	Money plant	Common/NA
53.	<i>Euphorbia milii</i>	Euphorbiaceae	Euphorbias	Common/NA
54.	<i>Euphorbia hirta</i>	Euphorbiaceae	Asthma-plant	Common/NA
55.	<i>Euphorbia cotinifolia</i>	Euphorbiaceae	<i>Euphorbia cotinifolia</i>	Common/NA
56.	<i>Furcraea sp.</i>	Asparagaceae	Green-aloë	Common/NA
57.	<i>Furcraea foetida</i>	Asparagaceae	False agave	Common/NA
58.	<i>Ficus microcarpa</i>	Moraceae	Chinese banyan	Common/NA
59.	<i>Ficus benjamina</i>	Moraceae	Weeping fig	Common/NA
60.	<i>Ficus benjamina</i>	Moraceae		Common/NA
61.	<i>Ficus elastica</i>	Moraceae	Rubber tree	Common/NA
62.	<i>Gloriosa superba</i>	Colchicaceae	Tiger claw	Common/NA
63.	<i>Hymenocallis littoralis</i>	Amaryllidaceae	Beach spider lily	Common/NA
64.	<i>Hibiscus rosa-sinensis</i>	Malvaceae,	Chinese hibiscus	Common/NA
65.	<i>Ixora coccinea</i>	Rubiaceae	Jungle flame	Common/NA
66.	<i>Lantana camara</i>	Verbenaceae	Lantana	Common/NA
67.	<i>Licula Grandis</i>	Arecaceae	Ruffled fan palm	Common/NA
68.	<i>Monstera deliciosa</i>	Araceae	Swiss cheese plan	Common/NA
69.	<i>Mussaenda erythrophylla</i>	Rubiaceae	Ashanti blood	Common/NA
70.	<i>Melaleuca bracteata</i>	Myrtaceae	Revolution gold	Common/NA
71.	<i>Nyctanthes arbor-tristis</i>	Oleaceae	Parijat	Common/NA
72.	<i>Nerium oleander 'Nana'</i>	Apocynaceae	Oleander	Common/NA
73.	<i>Nephrolepis exaltata</i>	Lomariopsidaceae	Fishbone fern	Common/NA
74.	<i>Ophiopogon</i>	Asparagaceae	Mondo grass	Common/NA
75.	<i>Ophiopogon variegata</i>	Asparagaceae	Variegated mondo grass	Common/NA
76.	<i>Philodendron tripartitum</i>	Araceae	Variegated mondo grass	Common/NA
77.	<i>Polyscias guilfoylei</i>	Araliaceae	Geranium aralia	Common/NA
78.	<i>Phormium tenax</i>	Asphodelaceae	New Zealand Flax	Common/NA
79.	<i>Pandanus amaryllifolius</i>	Pandanaceae	Pandan leaves	Common/NA
80.	<i>Phormium tenax</i>	Asphodelaceae	New Zealand Flax	Common/NA
81.	<i>Plumeria rubra</i>	Apocynaceae	Dogbane family	Common/NA
82.	<i>Polyalthia longifolia</i>	Annonaceae	alse ashoka tree	Common/NA
83.	<i>Rosa sp.</i>	Rosaceae	Rose	Common/NA
84.	<i>Ravenala madagascariensis</i>	Strelitziaceae	Travellers palm	Common/NA
85.	<i>Saraca asoca</i>	Fabaceae	Ashoka tree	Common/NA
86.	<i>Senna auriculata</i>	Fabaceae	Avaram	Common/NA
87.	<i>Sansevieria trifasciata</i>	Asparagaceae	Snake plant	Common/NA
88.	<i>Schefflera arboricola</i>	Araliaceae	Dwarf umbrella	Common/NA
89.	<i>Scindapsus aureus</i>	Araceae	Marble queen	Common/NA
90.	<i>Syagrus romanzoffiana</i>	Arecaceae	Queen palm	Common/NA
91.	<i>Tradescantia spathacea</i>	Commelinaceae	Oyster plant	Common/NA
92.	<i>Thuja sp.</i>	Cupressaceae	Thujas	Common/NA
93.	<i>Thrinax radiata</i>	Araceae	Florida thatch palm	Common/NA
94.	<i>Thuja occidentalis</i>	Cupressaceae	Thuja (Green giant)	Common/NA
95.	<i>Tradescantia spathacea</i>	Asparagaceae	Moses-In-The -Cradle	Common/NA
96.	<i>Washingtonia filifera</i>	Araceae	Desert fan palm	Common/NA
97.	<i>Zoysia tenuifolia</i>	Poaceae	Korean grass	Common/NA

LIST OF MEDICINAL PLANTS

S.No.	Botanical Name	Family	Vernacular Name	Status
1.	<i>Araucaria columnaris</i>	Araucariaceae	Cook pine	Common/NA
2.	<i>Azadirachta indica</i>	Meliaceae	Neem	Common/NA
3.	<i>Artabotrys odoratissimus</i>	Annonaceae	Manorangini	Common/NA
4.	<i>Annona squamosa</i>	Annonaceae	Custard Apple	Common/NA
5.	<i>Annona reticulate</i>	Annonaceae	Custard apple	Common/NA
6.	<i>Ageratum conyzoides</i>	Asteraceae	Billygoat-weed	Common/NA
7.	<i>Acalypha indica</i>	Euphorbiaceae	Indian acalypha	Common/NA
8.	<i>Allamanda cathartica</i>	Apocynaceae	Golden trumpet	Common/NA
9.	<i>Amaranthus viridis</i>	Amaranthaceae	Slender amaranth	Common/NA
10.	<i>Achyranthes aspera</i>	Amaranthaceae	Chaff-flower	Common/NA
11.	<i>Alstonia scholaris</i>	Apocynaceae	Blackboard tree	Common/NA
12.	<i>Abrus precatorius</i>	Fabaceae	Rosary pea	Common/NA
13.	<i>Alysicarpus monilifer</i>	Leguminosae	Necklace-Pod Alyce Clover	Common/NA
14.	<i>Aegle marmelos</i>	Rutaceae	Bael	Common/NA
15.	<i>Adhatoda vasica</i>	Acanthaceae	Malabar nut	Common/NA
16.	<i>Asystasia gangetica</i>	Acanthaceae	Foxglove	Common/NA
17.	<i>Aponogeton natans</i>	Aponogetonaceae	Floating Lace Plant	Common/NA
18.	<i>Abrus precatorius</i>	Fabaceae	Rosary pea	Common/NA
19.	<i>Andrographis paniculata</i>	Acanthaceae	King of Bitters	Common/NA
20.	<i>Aglaonema commutatum</i>	Araceae	Chinese Evergreen	Common/NA
21.	<i>Boerhavia diffusa</i>	Nyctaginaceae	Spreading Hogweed	Common/NA
22.	<i>Boerhavia erecta</i>	Nyctaginaceae	Erect spiderling	Common/NA
23.	<i>Bauhinia purpurea</i>	Leguminosae	Hong Kong Bauhinia	Common/NA
24.	<i>Borreria hispida</i>	Rubiaceae	Landrina	Common/NA
25.	<i>Bassia latifolia</i>	Sapotaceae	Butter Tree	Common/NA
26.	<i>Borassus flabellifer</i>	Arecaceae	palmyra palm	Common/NA
27.	<i>Biophytum petersianum</i>	Oxalidaceae	Tengkurung	Common/NA
28.	<i>Blumeo dendron tokbrai</i>	Euphorbiaceae	Biophytum	Common/NA
29.	<i>Blumea lacera</i>	Asteraceae	Lettuce-Leaf Blumea.	Common/NA
30.	<i>Costusspeciosus</i>	Costaceae	Crepe Ginger	Common/NA
31.	<i>Caesalpinia pulcherrima</i>	Caesalpiniaceae	Peacock flower	Common/NA
32.	<i>Canna indica</i>	Cannaceae	Indian Shot	Common/NA
33.	<i>Codiaeum variegatum</i>	Euphorbiaceae	Croton,	Common/NA
34.	<i>Catharanthus roseus</i>	Apocynaceae	Periwinkle	Common/NA
35.	<i>Citrus limon</i>	Rutaceae	Lemon	Common/NA
36.	<i>Cynodon dactylon</i>	Poaceae	Bermuda grass	Common/NA
37.	<i>Coccinia indica</i>	Cucurbitaceae	Ivy Gourd	Common/NA
38.	<i>Cleome viscosa</i>	Capparaceae	Asian spiderflower	Common/NA
39.	<i>Corchorus aestuans</i>	Tiliaceae	Jute	Common/NA

40.	<i>Chromolaena odorata</i>	Asteraceae	Siam weed	Common/NA
41.	<i>Cyanotis axillaris</i>	Commelinaceae	<i>Cyanotis axillaris</i>	Common/NA
42.	<i>Clitoria ternatea</i>	Leguminosae	Butterfly pea	Common/NA
43.	<i>Calophyllum inophyllum</i>	Clusiaceae	Tamanu	Common/NA
44.	<i>Carissa spinarum</i>	Apocynaceae	Conkerberry	Common/NA
45.	<i>Canthium coromandelicum</i>	Rubiaceae	Coromandel Boxwood.	Common/NA
46.	<i>Cissus quadrangularis</i>	Vitaceae	Veldt grape	Common/NA
47.	Veldt grape	Cyperaceae	<i>Cissus quadrangularis</i>	Common/NA
48.	<i>Canna indica</i>	Cannaceae	Indian Shot,	Common/NA
49.	<i>Clerodendrum inerme</i>	Verbenaceae	Indian Privet	Common/NA
50.	<i>Crotalaria medicaginea</i>	Fabaceae	Trefoil Rattlepod	Common/NA
51.	<i>Cordia domestica</i>	Boraginaceae	Assyrian plum	Common/NA
52.	<i>Duranta erecta</i>	Verbenaceae	Golden dewdrop	Common/NA
53.	<i>Dipteracanthus patulus</i>	Acanthaceae	Vedichchedi	Common/NA
54.	<i>Dactyloctenium aegyptium</i>	Poaceae	Egyptian crowfoot grass	Common/NA
55.	<i>Desmodium triflorum</i>	Leguminosae	Creeping Tick Trefoil	Common/NA
56.	<i>Dalbergia latifolia</i>	Leguminosae	Sitsal	Common/NA
57.	<i>Dalbergia sissoides</i>	Leguminosae	Malabar black/rose wood	Common/NA
58.	<i>Desmodium triflorum</i>	Leguminosae	Creeping Tick Trefoil,	Common/NA
59.	<i>Dypsis glutescens</i>	Arecaceae	Bamboo palm,	Common/NA
60.	<i>Dracaena trifasciata</i>	Dracaenaceae	Snake Plant	Common/NA
61.	<i>Dracaena reflexa</i>	Dracaenaceae	Song of India	Common/NA
62.	<i>Dieffenbachia seguine</i>	Araceae	Dumb cane	Common/NA
63.	<i>Erythrina indica</i>	Leguminosae	Indian coral tree	Common/NA
64.	<i>Euphorbia thymifolia</i>	Euphorbiaceae	Laghududhika	Common/NA
65.	<i>Eleusine indica</i>	Poaceae	Indian goosegrass	Common/NA
66.	<i>Evolvulus alsinoides</i>	Convolvulaceae	Dwarf morning-glory	Common/NA
67.	<i>Eragrostis viscosa</i>	Poaceae	Lovegrass	Common/NA
68.	<i>Epipremnum aureum</i>	Araceae	Money Plant	Common/NA
69.	<i>Euphorbia milii</i>	Euphorbiaceae	Crown-of-thorns Plant	Common/NA
70.	<i>Emilia sonchifolia</i>	Asteraceae	Lilac tasselflowe	Common/NA
71.	<i>Euphorbia hirta</i>	Euphorbiaceae	Asthma-plant	Common/NA
72.	<i>Ficus benjamina</i>	Moraceae	Weeping fig,	Common/NA
73.	<i>Ficus microcarpa</i>	Moraceae	Malayan Banyan,	Common/NA
74.	<i>Ficus religiosa</i>	Moraceae	Sacred fig	Common/NA
75.	<i>Ficus racemosa</i>	Moraceae	<i>Ficus racemosa</i>	Common/NA
76.	<i>Ficus hispida</i>	Moraceae	Opposite leaf Fig	Common/NA
77.	<i>Flueggea leucopyrus</i>	Euphorbiaceae	Bushweed	Common/NA
78.	<i>Guettarda speciosa</i>	Rubiaceae	Sea Randa	Common/NA
79.	<i>Gomphrena dispersa</i>	Amaranthaceae	Globe amaranth,	Common/NA
80.	<i>Glycosmis parviflora</i>	Rutaceae	Flower axistree	Common/NA
81.	<i>Hamelia patens</i>	Rubiaceae	Scarlet bush	Common/NA
82.	<i>Hibiscus rosa-sinensis</i>	Malvaceae	Chinese hibiscus,	Common/NA
83.	<i>Hemigraphis colorata</i>	Acanthaceae	Red Ivy	Common/NA
84.	<i>Heteropogon contortus</i>	Poaceae	Black Speargrass	Common/NA
85.	<i>Hyptis suaveolens</i>	Lamiaceae	Pignut	Common/NA

86.	<i>Ixora sambiranensis</i>	Rubiaceae	Chinese ixora	Common/NA
87.	<i>Ixora coccinea</i>	Rubiaceae	Scarlet jungle flame	Common/NA
88.	<i>Iseilema calvum</i>	Poaceae	Flinders grass	Common/NA
89.	<i>Iseilema laxum</i>	Poaceae	Musal grass	Common/NA
90.	<i>Indigofera linnaei</i>	Leguminosae	Birdsville indigo	Common/NA
91.	<i>Jasminum auriculatum</i>	Oleaceae	Jasmine molle	Common/NA
92.	<i>Leucaena leucocephala</i>	Mimosaceae	Jumbay	Common/NA
93.	<i>Leucas aspera</i>	Lamiaceae	Thumbai	Common/NA
94.	<i>Leucas zeylanica</i>	Lamiaceae	Ceylon slitwort	Common/NA
95.	<i>Livistona chinensis</i>	Arecaceae	Chinese Fan Palm	Common/NA
96.	<i>Mangifera indica</i>	Anacardiaceae	Mango	Common/NA
97.	<i>Moringa oleifera</i>	Moringaceae	Horseradish tree	Common/NA
98.	<i>Melochia nodiflora</i>	Sterculiaceae	Hornbeam Leaved Melochia.	Common/NA
99.	<i>Mimusops elengi</i>	Sapotaceae	Tanjong Tree	Common/NA
100.	<i>Musa paradisiaca</i>	Musaceae	Edible banana	Common/NA
101.	<i>Melia azedarach</i>	Meliaceae	Chinaberry tree	Common/NA
102.	<i>Melia dubia</i>	Meliaceae	Malabar Neem.	Common/NA
103.	<i>Morindapubescens</i>	Rubiaceae	Aal	Common/NA
104.	<i>Micrococca mercurialis</i>	Euphorbiaceae	Mercury Doughwood.	Common/NA
105.	<i>Muntingia calabura</i>	Tiliaceae	Buah Cheri	Common/NA
106.	<i>Mollugo nudicaulis</i>	Molluginaceae	Naked-Stem Carpetweed.	Common/NA
107.	<i>Mirabilis jalapa</i>	Nyctaginaceae	Four o'clocks	Common/NA
108.	<i>Melia dubia</i>	Meliaceae	Malabar Neem	Common/NA
109.	<i>Macroptilium atropurpureum</i>	Fabaceae	Purple Bush-Bean.	Common/NA
110.	<i>Nyctanthes arbor-tristis</i>	Oleaceae	Tree of Sadness	Common/NA
111.	<i>Neolamarckia cadamba</i>	Rubiaceae	Bur-flower Tree	Common/NA
112.	<i>Oxalis corniculata</i>	Oxalidaceae	Creeping woodsorrel,	Common/NA
113.	<i>Ocimum americanum</i>	Lamiaceae	Lime Basil	Common/NA
114.	<i>Oldenlandia polyclada</i>	Rubiaceae	Two-flowered Oldenlandia	Common/NA
115.	<i>Ophiopogon intermedius</i>	Asparagaceae	Himalayan Lily turf	Common/NA
116.	<i>Oldenlan diabiflora</i>	Rubiaceae	Twoflower mille grains	Common/NA
117.	<i>Oldenlandia affinis</i> .	Rubiaceae	Blue Diamond Flower	Common/NA
118.	<i>Pisonia grandis</i>	Nyctaginaceae	Grand devil's-claw	Common/NA
119.	<i>Punica granatum</i>	Lythraceae	Pomegranate	Common/NA
120.	<i>Phyllanthus amarus</i>	Phyllanthaceae	Child Pick-A-Back	Common/NA
121.	<i>Phyllanthus maderaspatensis</i>	Euphorbiaceae	Madras Leaf-Flower	Common/NA
122.	<i>Plumeria alba</i>	Apocynaceae	White frangipani	Common/NA
123.	<i>Polyalthia longifolia</i>	Annonaceae	False ashoka	Common/NA
124.	<i>Spathodea campanulata</i>	Bignoniaceae	African Tulip Tree	Common/NA
125.	<i>Physalis minima</i>	Solanaceae	Bladder Cherry	Common/NA
126.	<i>Parthenium</i>	Asteraceae	Santa-Maria	Common/NA

	<i>hysterophorus</i>			
127.	<i>Peltophorum ferrugineum</i>	Caesalpiniaceae	Yellow Flame	Common/NA
128.	<i>Phoenix pusilla</i>	Arecaceae	Ceylon date palm	Common/NA
129.	<i>Pithecellobium dulce</i>	Mimosaceae	Madras Thorn	Common/NA
130.	<i>Phyllanthus emblica</i>	Euphorbiaceae	Indian gooseberry	Common/NA
131.	<i>Phyllanthus simplex</i>	Euphorbiaceae	Amla	Common/NA
132.	<i>Pedilanthus tithymaloides</i>	Euphorbiaceae	Zigzag Plant	Common/NA
133.	<i>Phoenix pusilla</i>	Arecaceae	Ceylon date palm	Common/NA
134.	<i>Pandanus amaryllifolius</i>	Pandanaceae	Pandan	Common/NA
135.	<i>Ptychospermamacarthurii</i>	Arecaceae	MacArthur Palm	Common/NA
136.	<i>Phyllostachys aurea</i>	Poaceae	Fish Pole Bamboo	Common/NA
137.	<i>Pseuderanthemum carruthersii</i>	Acanthaceae	Purple False Eranthemum	Common/NA
138.	<i>Pseuderanthemum atropurpureum</i>	Acanthaceae	Purple False Eranthemum	Common/NA
139.	<i>Polyscias fruticosa</i>	Araliaceae	Ming aralia	Common/NA
140.	<i>Platyclusus orientalis</i>	Cupressaceae	Oriental thuja	Common/NA
141.	<i>Rhoeo discolor</i>	Commelinaceae	Boat Lily	Common/NA
142.	<i>Rhynchosia minima</i>	Fabaceae	Least snout-bean	Common/NA
143.	<i>Ravenala madagascariensis</i>	Euphorbiaceae	Traveller's Palm	Common/NA
144.	<i>Ruellia tuberosa</i>	Acanthaceae	Meadow Weed	Common/NA
145.	<i>Rhapis excelsa</i>	Arecaceae	Bamboo Palm	Common/NA
146.	<i>Syzygium cumini</i>	Myrtaceae	Java Plum,	Common/NA
147.	<i>Syzygium alternifolium</i>	Myrtaceae	Mogi	Common/NA
148.	<i>Solanum nigrum</i>	Solanaceae	Makoi	Common/NA
149.	<i>Solanum trilobatum</i>	Solanaceae	Red Pea Eggplant	Common/NA
150.	<i>Sida acuta</i>	Malvaceae	Common Wireweed	Common/NA
151.	<i>Swietenia macrophylla</i>	Meliaceae	Broad-leafed Mahogany	Common/NA
152.	<i>Scoparia dulcis</i>	Scrophulariaceae	Licorice weed	Common/NA
153.	<i>Sida cordata</i>	Malvaceae	Heartleaf fanpetals	Common/NA
154.	<i>Sida acuta</i>	Malvaceae	Common Wireweed	Common/NA
155.	<i>Swietenia macrophylla</i>	Meliaceae	Broad-leafed Mahogany	Common/NA
156.	<i>Sauropus androgynus</i>	Euphorbiaceae	Star gooseberry	Common/NA
157.	<i>Synedrella nodiflora</i>	Asteraceae	Cinderella Weed	Common/NA
158.	<i>Scoparia dulcis</i>	Scrophulariaceae	Licorice weed	Common/NA
159.	<i>Tabernaemontana divaricata</i>	Apocynaceae	Pinwheelflower	Common/NA
160.	<i>Tabebuia rosea</i>	Bignoniaceae	Pink poui	Common/NA
161.	<i>Tridax procumbens</i>	Asteraceae	Coatbuttons	Common/NA
162.	<i>Tinospora cordifolia</i>		Guduchi	Common/NA
163.	<i>Tectona sp.</i>	Lamiaceae	Teak	Common/NA
164.	<i>Trianthema portulacastrum</i>	Aizoaceae	Giant Pigweed	Common/NA
165.	<i>Toddalia asiatica</i>	Rutaceae	Orange climber	Common/NA

166.	Teramnus labialis	Fabaceae	Bujacia gampsonychia	Common/NA
167.	Thunbergia erecta	Acanthaceae	King's Mantle	Common/NA
168.	Thespesia populnea	Malvaceae	Portia tree	Common/NA
169.	Tradescantia spathacea	Commelinaceae	Boat Lily	Common/NA
170.	Vigna radiata var. sublobata	Fabaceae	Tradescantia spathacea	Common/NA
171.	Ziziphus mauritiana	Rhamnaceae	Indian plum	Common/NA

HABITAT FORMS

a.	Xerophytes	Aloe vera, Opuntia, Agave americana, Dracaena trifasciata, Cactus, Esparto, Geoffroea decorticans, Nerium oleander, Agave americana, Witchweed, Opuntia, Euphorbia virosa, Argemone mexicana, Euphorbia, Acacia, Calotropis
b.	Medophytes	Solidago, Daffodil, Cantharanthus roseus, Rosaidea rosa
c.	Hydrophytes	Water Lillies, Hydrilla, Ceratophyllum, Marsilea

FAUNA

BUTTERFLIES

	Common Name	Scientific Name	Status/Schedule
1.	African babul blue	Azonus jesus	Common/NA
2.	Banded peacock	Papilio crino	Common/NA
3.	Blue pansy	Junonia orithya	Common/NA
4.	Blue tiger	Tirumala limniace	Common/NA
5.	Chocolate pansy	Junonia iphita	Common/NA
6.	Common albatross	Appias albina	Common/NA
7.	Common banded awl	Hasora chromus	Common/NA
8.	Common baron	Euthalia aconthea	Common/NA
9.	Common castor	Ariadne merione	Common/NA
10.	Common cerulean	Jamides celeno	Common/NA
11.	Common crow	Euploea core	Common/NA
12.	Common emigrant	Catopsilia pomona	Common/NA
13.	Common evening brown	Melanitis leda	Common/NA
14.	Common guava blue	Virachola isocrates	Common/NA
15.	Common gull	Cepora nerissa	Common/NA
16.	Common Jezebel	Delias eucharis	Common/NA
17.	Common leopard	Phalanta phalantha	Common/NA
18.	Common mormon	Papilio polytes	Common/NA
19.	Common nawab	Charaxes athamas	Common/NA

20	Common pierrot	Castalius rosimon	Common/NA
21	Common rose	Pachliopta aristolochiae	Common/NA
22	Common sailer	Neptis hylas	Common/NA
23	Common wanderer	Pareronia valeria	Common/NA
24	Crimson rose	Pachliopta hector	Common/NA
25	Crimson tip	Colotis danae	Common/NA
26	Danaid eggfly	Hypolimnna misippus	Common/NA
27	Dark-branded bushbrown	Mycalesis mineus	Common/NA
28	Dark blue tiger	Tirumala septentrionis	Common/NA
29	Forget me not	Catachrysops strabo	Common/NA
30	Gram blue	Euchrysops cnejus	Common/NA
31	Euchrysops cnejus	Euchrysops cnejus	Common/NA
32	Grass demon	Udaspes folus	Common/NA
33	Indian red flash	Baspa melampus	Common/NA
34	Indian palm bob	Suastus gremius	Common/NA
35	Indian sunbeam	Curetis thetis	Common/NA
36	Joker	Byblia ilithyia	Common/NA
37	Lemon pansy	Junonia lemonias	Common/NA
38	Lesser rice swift	Borbo bevani	Common/NA
39	Lime blue	Chilades lajus	Common/NA
40	Lime butterfly	Papilio demoleus	Common/NA
41	Pea blue	Lampides boeticus	Common/NA
42	Peacock pansy	Junonia almana	Common/NA
43	Plain orange tip	Colotis eucharis	Common/NA
44	Plains blue royal	Tajuria jehana	Common/NA
45	Rice swift	Borbo cinnara	Common/NA
46	Rounded palm-redeye	Erionota torus	Common/NA
47	Spot swordtail	Graphium nomius	Common/NA
48	Striped tiger	Danaus genutia	Common/NA
49	Tailed jay	Graphium agamemnon	Common/NA
50	Tailless line blue	Prosotas dubiosa	Common/NA
51	Tamil grass dart	Taractrocera ceramas	Common/NA
52	Tawny coster	Acraea violae	Common/NA
53	Three-spotted grassy yellow	Eurema blanda	Common/NA
54	Tiny grass blue	Zizula hylax	Common/NA
55	Wandering psyche	Leptosia nina	Common/NA
56	White orange tip	Lxias marianne	Common/NA
57	Yellow pansy	Junonia hierta	Common/NA

58	Zebra blue	Leptotes plinius	Common/NA
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INSECTS

S.No	Common name	Scientific Name	Status/Schedule
1	Ants	Formica rufa	Common/NA
2	Asian ant mantis	Odontomantis pulchra	Common/NA
3	Asian weaver ant	Oecophylla smaragdina	Common/NA
4	Ant	Tetraponera rufonigra	Common/NA
5	Asturianu	Jansenia rugosiceps	Common/NA
6	Asian Honey Bee	Apis cerana	Common/NA
7	Asturianu	Odontomantis pulchra	Common/NA
8	Arachnid.	Nephila kuhli	Common/NA
9	Bees	Anthophila sp.	Common/NA
10	Banded hornet	Vespa tropica	Common/NA
11	Black stream glider	Trithemis festiva	Common/NA
12	Black soldier fly	Hermetia illucens	Common/NA
13	Black mud daubers	Sceliphron madraspatanum	Common/NA
14	Brown-spotted Locust	Cyrtacanthacris tatarica	Common/NA
15	Beetles	Lampetis coerulescens	Common/NA
16	Bloody Net-winged Beetle	Lycus sanguineus	Common/NA
17	Bicolored Shield Ant	Meranoplus bicolor	Common/NA
18	Bugs	Eurybrachys tomentosa	Common/NA
19	Bicolor Ant Mimick Jumping Spider	Myrmarachne melanocephala	Common/NA
20	Big-headed Lagoon Fly	Eristalinus megacephalus	Common/NA
21	Black Golden Orbweaver	Nephila sp.	Common/NA
22	Common backswimmer	Notonecta glauca	Common/NA
23	Cockroaches	Blattodea sp.	Common/NA
24	Common picture wing	Rhyothemis variegata	Common/NA
25	Common torrent hawk	common torrent hawk	Common/NA
26	Carpenter Bee	Xylocopa tenuiscapa	Common/NA
27	Coconut Rhinoceros Beetle	Oryctes rhinoceros	Common/NA
28	Crimson marsh	Trithemis aurora	Common/NA

	glider		
29	Ditch Jewel	Brachythemis contaminata	Common/NA
30	Dragonfly	Potamarcha congener	Common/NA
31	Dragonfly	Diplacodes trivialis	Common/NA
32	Desert cockroach	Therea petiveriana,	Common/NA
33	Dirt-colored seed bugs	Neolethaeus typicus	Common/NA
34	Destroyer Ant	Trichomyrmex destructor	Common/NA
35	Darth Maul Bug	Spilostethus hospes	Common/NA
36	Decorative silver orb spider	Leucauge decorata	Common/NA
37	Darth Maul Bug	Spilostethus hospes	Common/NA
38	Flower flies	Hover flies sp.	Common/NA
39	Ferruginous Glider	Tramea limbata	Common/NA
40	Grasshopper	Caelifera sp.	Common/NA
41	Giant Honey Bee	Apis dorsata	Common/NA
42	Globe skimmer	Pantala flavescens	Common/NA
43	Giant honey bee	Apis dorsata	Common/NA
44	Giant honey bee	Apis dorsata	Common/NA
45	Giant golden orb weaver	Nephila pilipes	Common/NA
46	Harlequin Roach	Neostylopyga rhombifolia	Common/NA
47	House fly	Musca domestica	Common/NA
48	Indian duskhawker	Gynacantha dravida	Common/NA
49	Indian Black Ant	Camponotus compressus	Common/NA
50	Indian Grass Mantis	Schizocephala bicornis	Common/NA
51	Indian Black Ant	Camponotus compressus	Common/NA
52	Indigo Dropwing	Trithemis festiva	Common/NA
53	Jumping spiders	Stenaelurillus shwetamukhi	Common/NA
54	Jewel beetles	Sternocera chrysis	Common/NA
55	Jade Jumping Spider	Siler semiglaucus	Common/NA
56	Jumping spiders	Chrysilla volupe	Common/NA
57	Lady beetle	Anegleis cardoni	Common/NA
58	Long-horned beetles	Priotyrannus mordax	Common/NA
59	Ladybird Beetle	Coccinella	Common/NA

		transversalis	
60	Lesser fruit fly	Drosophila melanogaster	Common/NA
61	Ladybird beetle	Coccinella transversalis	Common/NA
62	Man-faced Stink Bug	Catacanthus	Common/NA
63	Menida	Menida formosa	Common/NA
64	Mud daubers	Parapsammophila erythrocephala	Common/NA
65	Mantids	Odontomantis pulchra	Common/NA
66	Mango Stem Borer	Batocera rufomaculata	Common/NA
67	Moths	Euchariomyia dives	Common/NA
68	Ornamental Tree Trunk Spider	Herennia multipuncta,	Common/NA
69	Ornamental tree trunk spider	Herennia multipuncta	Common/NA
70	Oriental Latrine Fly	Chrysomya megacephala	Common/NA
71	Paper wasp.	Ropalidia marginata	Common/NA
72	Praying mantis	Hierodula membranacea	Common/NA
73	Praying mantis	Hierodula coarctata	Common/NA
74	Potter wasp	Delta pyriforme	Common/NA
75	Potter wasps.	Oreumenoides edwardsii	Common/NA
76	Pear-shaped Opadometa	Leucauge fastigata	Common/NA
77	Phasmid	Trachythorax sparaxes	Common/NA
78	Parathespis	Parathespis humbertiana	Common/NA
79	Red dwarf honey bee	Apis florea	Common/NA
80	Red-tailed spider wasp	achypompilus analis	Common/NA
81	Red Palm Weevil	Rhynchophorus ferrugineus	Common/NA
82	Red Palm Weevil	Rhynchophorus ferrugineus	Common/NA
83	Red Dwarf-Honey Bee	Apis florea	Common/NA
84	Rufous-legged Grasshopper	Xenocatantops humilis	Common/NA
85	Stick insect	Carausius morosus	Common/NA
86	Silverfish	Lepisma saccharinum	Common/NA

87	Stick insect	Phasmida sp.	Common/NA
88	Slender Skimmer	Orthetrum sabina	Common/NA
89	Seed bug	Horridipamera nietneri	Common/NA
90	Seed bugs	Oncopeltus nigriceps	Common/NA
91	Slender skimmer	Orthetrum sabina	Common/NA
92	Surinam Cockroach	Pycnoscelus surinamensis	Common/NA
93	Scutellarid bug	Solenosthedium rubropunctatum	Common/NA
94	Stick insect	Trachythorax sparaxes	Common/NA
95	Spheg melanosoma	Chlorion splendidum	Common/NA
96	Soldier flies	Menida formosa	Common/NA
97	Spider	Argiope taprobanica	Common/NA
98	Teak Trunk Borer	Stromatium barbatum	Common/NA
99	Tiger beetles	Lophyra cancellata	Common/NA
100	Termites	Coptotermes formosanus	Common/NA
101	Viceroy	Limenitis archippus	Common/NA
102	Violin mantis	Gongylus gongylodes	Common/NA
103	Western honey bee	Apis mellifera	Common/NA
104	Water skipper	Gerridae sp.	Common/NA
105	Wasp	Vespidae sp.	Common/NA
106	Wandering Glider	Pantala flavescens	Common/NA
107	Windowed Carpenter	Xylocopa fenestrata	Common/NA
108	Wasps	Leucospis histrio	Common/NA
109	White Lynx Spider	Oxyopes shweta	Common/NA
110	Whip scorpions	Thelyphonus sepiaris	Common/NA
111	Wasps	Decorative Vleispider	Common/NA
112	Yellow fever mosquito	Aedes aegypti	Common/NA

MOLLUSCANS

S No	Common English Name	Scientific Name	Status
1	Air-breathing land snails	Ariophanta exilis	Common/NA
2	African Giant Snail	Lissachatina fulica	Common/NA
3	Common English Name	Scientific Name	Status
4	Tropical Leatherleaf Slug Laevicaulis alte	Common/NA	

Crustaceans

S No	Common English Name	Scientific Name	Status
1	Common English Name	Scientific Name	Status
2	Fresh water Crab	Trichodactylidae	Common/NA
3	Fresh water Crab	Potamidae	Common/NA
4	Fresh water Crab	Gecarcinucidae	Common/NA
5	Fresh water Crab	Parathelphusinae	Common/NA

Fishes

S. No.	Common English Name	Scientific Name	Status
1.	Kendai' meen	Indian Major Carps	Common/NA
2.	Keluthi	Catfishes	Common/NA
3.	Snakehead	Murrels	Common/NA

Reptiles

S No	Common English Name	Scientific Name	Status
1	Banded Kukri Snake	Oligodon arnensis	Common/NA
2	Barred Wolf Snake	Lycodon striatus	Common/NA
3	Black-headed Snake	Sibynophis subpunctatus	Common/NA
4	Common Bronzeback Tree Snake	Dendrelaphis tristis	Common/NA
5	Common Krait	Bungarus caeruleus	Common/NA
6	Eeled Indian Mabuya		
7	Flowery Wolf Snake	Lycodon anamallensis	Common/NA
8	Indian Cobra	Naja naja	Common/NA
9	Indian Chameleon	Chamaeleo zeylanicus	Common/NA
10	Oriental Garden Lizard	Calotes versicolor	Common/NA
11	Oriental Rat Snake	Ptyas mucosa	Common/NA
12	Rock Dragon	Psammophilus dorsalis	Common/NA
13	Russell's Viper	Daboia russelii	Common/NA
14	Spotted House Gecko	Hemidactylus parvimaclulatus	Common/NA
15	Split Keelback	Atretium schistosum	Common/NA

BIRDS

S. No.	Common English Name	Scientific Name	Status
1.	Asian Koel	Eudynamys scolopaceus	Common/NA
2.	Black Drongo	Dicrurus macrocercus	Common/NA
3.	Barn Owl	Tyto alba	Common/NA
4.	Common Kingfisher	Alcedo atthis	Common/NA
5.	Common Myna	Acridotheres tristis	Common/NA
6.	Cattle Egret	Bubulcus ibis	Common/NA

7.	Rufous Treepie	<i>Dendrocitta vagabunda</i>	Common/NA
8.	Yellow-billed Babbler	<i>Argya affinis</i>	Common/NA
9.	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	Common/NA
10.	Greater Coucal	<i>Centropus sinensis</i>	Common/NA
11.	House Crow	<i>Corvus splendens</i>	Common/NA
12.	House Sparrow	<i>Passer domesticus</i>	Common/NA
13.	Indian Spot-billed Duck	<i>Anas poecilorhyncha</i>	Common/NA
14.	Large-billed Crow	<i>Corvus macrorhynchos</i>	Common/NA
15.	Little Egret	<i>Egretta garzetta</i>	Common/NA
16.	Marsh Sandpiper	<i>Tringa stagnatilis</i>	Common/NA
17.	Pied Cuckoo	<i>Clamator jacobinus</i>	Common/NA
18.	Red-vented Bulbul	<i>Pycnonotus cafer</i>	Common/NA
19.	Rose-ringed Parakeet	<i>Psittacula krameri</i>	Common/NA
20.	Rock Pigeon	<i>Columba livia</i>	Common/NA
21.	Spotted Owlet	<i>Athene brama</i>	Common/NA
22.	Shikra	<i>Accipiter badius</i>	Common/NA
23.	Temminck's Stint	<i>Calidris temminckii</i>	Common/NA
24.	Temminck's Stint	<i>Calidris temminckii</i>	Common/NA
25.	White-eyed Buzzard	<i>Butastur teesa</i>	Common/NA

LIST OF MAMMALS

Sl.No.	Common Name	Scientific name	Status
1	Bonnet Macaque	<i>Macaca radiata</i>	Common/NA
2	Cattle	<i>Bos taurus</i>	Common/NA
3	Domestic Dog	<i>Canis familiaris</i>	Common/NA
4	Domestic Cat	<i>Felis catus</i>	Common/NA
5	Indian Flying Fox	<i>Pteropus giganteus</i>	Common/NA
6	Indian Grey Mongoose	<i>Urva edwardsii</i>	Common/NA
7	Indian Hare	<i>Lepus nigricollis</i>	Common/NA
8	Three-striped Palm Squirrel	<i>Funambulus palmarum</i>	Common/NA

Green Cover in the Campus

The campus has a green area of 10% which doesn't fulfill the norms of green area recommended by the National Forest Policy of India, 1988 and is well within the limits.

Tools to Measure Carbon Absorption

Assumptions

1. Number of mature trees in 1 acre = 700

2. Carbon absorption capacity of 700 trees is equivalent to carbon emitted by a speeding car for 26,000 miles

3. 26,000 miles = 41,843 km

4. Average km. covered by a car per litre of petrol is 20 km

5. Total quantity of petrol consumed by the car $(41,843/20) = 2092L$

Observation and Comments

- 1 The campus has 64 grown trees, the carbon emitted by a car due to consumption of 1 litre of petrol is 2.3 kg CO₂.
- 2 At this rate the total quantity of carbon emitted by 2092 litres of petrol $(2092 \times 2.3 \text{ kg}) = 4812 \text{ kg CO}_2$ or 4.8 tonnes of CO₂.
- 3 Therefore, the carbon absorption of **One full-grown tree is 4812/25 192.48 kg CO₂.**

The footprint calculation is based on
The standard unit of 1 litre petrol = 2.3 kgCO₂.

Carbon absorption by flora in the Institution

Carbon absorption capacity of one full-grown tree = 192.48 kg CO₂.

1. Therefore the carbon absorption capacity of 30 full-grown trees in the Campus is $(64 \times 192.48 \text{ kg CO}_2) = 12318.72 \text{ kg of CO}_2$.

CARBON OFFSET

The College has signed an MoU with Mr. Thalopathy, a Landlord in Wandiwash for a period of five years. The carbon sequestration by the plants present in the land owned by Mr. Thalopathy will be taken into account of the College.

CHAPTER VII

CONCLUSION

Conclusion

Green Audit is the most efficient way to identify the strength and weakness of environmental sustainable practices and to find a way to solve problem. Green Audit is one kind of professional approach towards a responsible way in utilizing economic, financial, social and environmental resources. Green audits can “add value” to the management approaches being taken by the college and is a way of identifying, evaluating and managing environmental risks (known and unknown). There is scope for further improvement, particularly in relation to waste, energy and water management. The college in recent years considers the environmental impacts of most of its actions and makes a concerted effort to act in an environmentally responsible manner. Even though the college does perform fairly well, the recommendations in this report highlight many ways in which the college can work to improve its actions and become a more sustainable institution.

Observations and Comments

Land

- 1 The land use attributes include built-up area, playground area, sacred temple garden, plantation, green cover, open space, road network and storm water drains.
- 2 The campus has a green cover of 6500 m² which include avenue trees, shrubs, herbs, ornamental plants, and garden with green cover. The green cover in the campus is 10 % of the total area.
- 3 As per the National Forest Policy, 1988 the institutions in plain area should have **33% green cover** and hilly areas should have 60%. The campus comply with the National Forest Policy 1988, as it has **28%**

green cover with avenue trees, and gardens. The terrain of the campus is plain.

Flora

The campus has fully grown trees, shrubs, herbs, ornamental plants, and green cover spread over an area of 6500 m². The campus has a good landscape with signed buildings and gardens.

Fauna

The details of faunal diversity in the campus is as follows:

S. No.	Fauna	No. of species
1.	Butterflies	58
2.	Insects	112
3.	Molluscs	04
4.	Crustaceans	05
5.	Fishes	03
6.	Reptiles	15
7.	Birds	25
8.	Mammals	08

Carbon absorption by flora in the Institution

Carbon absorption capacity of one full-grown tree = 192.48 kg CO₂.
Therefore the carbon absorption capacity of 30 full-grown trees in the Campus is (43 × 192.48 kg CO₂) = **12318.72 kg of CO₂**.

CARBON OFFSET

The College has signed an MoU with Mr. Thalopathy, a Landlord in Wandiwash for a period of five years. The carbon sequestration by the plants present in the land owned by Mr. Thalopathy will be taken into account of the College.

Comments

- ❖ The campus should the green cover from 28% to 33%
- ❖ The Biodiversity in the campus is well maintained through sacred garden, temple with family God and ethically bound students and staff.

SPIDERS



REPTILES



AVES





MAMMALS



VIII REFERENCES

- Agarwal.S.K,** Environmental Audit,” Environmental Management New concept, Eco-informatics, APH publishing corporation.Vol.1, pp (135-165). 2002
- Alagappa Moses and Sheeja. K.M.** Campus Environmental Audit And Assessment for Water and Wastewater Management. Dissertation submitted to Bharathidasan University. 2005
- Alagappa Moses, A., Edwin Chandraskaran. G and Jhonsely Sajitha, C.** Design and layout of waste water Treatment plant for a college community, Indian Journal of Environmental Protection, Vol:16(6),pp(401-405). 1995
- Al-TamimiNedhal, FadzilSharifahFairuz Syed.** Energy Efficient Envelope Design for High-Rise Residential Buildings in Malaysia. Architectural Science Review. 2012; 55(2):119-27.
- Al-TamimiNedhal, FadzilSharifahFairuz Syed and Abdullah Adel.**Relationship between Window-to-Floor Area Ratio and Single-Point Daylight Factor in Varied Residential Rooms in Malaysia. *ISSN (Print): 0974-6846: ISSN (Online) : 0974-5645. Indian Journal of Science and Technology, Vol 9(33), DOI: 10.17485/ijst/2016/v9i33/86216, 2016*

APHA American Public Health Association (APHA). Standard methods for the examination of water and waste water, 20th Edition. 1998

April A. Smith., 'Campus Ecology. A guide to assessing environmental quality and creating strategies for change'. April A. Smith and the student environmental action coalition. Copyright 1993 by April Smith and the tides foundation / student E.A.C., Published in the united states by living planet in the united states by living planet press. Pg-foreword, 1993.

Badrinath.S.D and Raman.N.S. Environmental Audit-A Management Tool, Indian Journal of Environmental protection, vol:13 (12),pp(881-894), 1993

Chandra Sekar K., Daniel R.J.R. and GadagkarR. Animal species diversity in Western ghats. Technical report 5, centre for ecological sciences, Journal of the Indian institute of Science, Bangalore. 1984.

Chandra Prakash Naga, Chandra Shekhar Sen, Shakti Singh Dagdi. Energy audit in Govt. Polytechnic College, Ajmer campus. *Vol-3 Issue-3 2017. IJARIE-ISSN(0)-2395-4396. www.ijarie.com*

Clair N. Sawyer, Perry L. Mc Carty, Gene F. Perkin. Chemistry for Environmental Engineering and Science, Mc. Graw Hill Series in Civil and Environmental Engineering. 2002

Fadzi SF, Tamimi ANA. The Impact of Varied Orientation & Wall Window Ratio (WWR) to Daylight Distribution in Residential Rooms. Malaysia: CIBW107 International Symposium. 2009; p. 478-86.

Gary.V.K., Simmi Goel and Renuka Gupta, 2001 Ground water Quality of an average Indian City : A case study of Haisar (Haryana), Journal of Indian Water Work Association, Vol:33(3), pp (237-242).

IMA and FEMDAT (2001) "Guidelines on Biomedical Waste Management" Why? What? How? When? For generators in Tamil Nadu. Prepared by

Indian Medical Association, Tamil Nadu branch (IMA), and Federation of Medical and Dental Association of Tamil Nadu (FEMDAT). Chennai.

Kim J, de Dear R. Nonlinear relationships between individual IEQ factors and overall workspace satisfaction. *Build Environ* 2012;49:33 e44.

Liz Farkaz, Chole Hartley, Matt McTavish, Jenny Theherge, Tony waterfall, 1991, Investigation of a campus cyclical water system.

Mathew K.M., 1995. An excursion flora of central Tamil Nadu, India. Oxford and IBH publication, Co., New Delhi.

Naba Kumar Patnaik, 2000, Environmental Audit-A perspective of Environmental Management and Audit, Edited by: Sasibhushana Rao p, and MohanaRaoP, Chap:24.,pp(282-291).

Nanda Kumar,1998 Waste Water treatment by using Wind Mill Savonious Rotor M.Sc., Dissertation submitted to Bharathidasan University, Tiruchirappalli.

Olaniya,M.S., R.V.Bhoyor and A.D.Bhide(1998) Effects of solid waste Disposal on land.Indian journal of environmental health.

Phillips D. Taylor & Francis: Lighting Modern Buildings. 2013 Jun 17.

Ramanujam.R,2001, water Conservation-Need of the day Method and techniques in Kerala context, Journal of Indian Water work Association, Vol:33(!),pp(5-13)

Ramaswamy S.V. and Razi B.A., 1973 Flora of Bangalore dt., Prasaranga University of Mysore.

Ravichandran and Manivanan.V,2004, Environmental audit for BHC campus with reference to water &Energy.

Rob Fetter and Alyssa Mudd, 1993, The Brown, the Green, and the Grey: Auditing water Use at Brown University.

- Santra S.C., Chatterjee T.P. and Dos A.P., 2005.** College Botany practical vol I and II New central Book Agency privates Ltd., Kolkata.
- Shyuamal L., 1994.** The birds of Indian Institute of science campus-changes in Avifauna, Newsland 34(1), 7-9.
- Sivaramakrishnan K.G., Venkataraman K., Moorthy R.K., Subramanian K.A., and Utkarsh G., 2000.** Aquatic insect diversity and ubiquity of the Western Ghats, centre for Research in Aquatic Entomology, Department of Zoology, Madura college, Madurai.
- Srinivasa Reedy, 2001,** water for New millennium, journal of Indian Water Works Association, vol:33(2)(135-142).
- SurendraVarma., 1999.** Bird diversity on the campus of the Indian Institute of science, Asian Elephant Research and conservation centre, centre for ecological sciences, Indian institute of science (IISc) Bangalore.
- Suresh H.S and Harish R. Bhat , 1998.** Flora of the Indian Institute of science campus, Centre for Ecological sciences, Journal of the Indian Institute of science, Bangalore.
- UmshMolani, 2000,**Environmental Audit, Environmental Management and Audit, Edited by:Sasibhuxhana Rao P and Mohana Rao P,Chap(28),pp(323-329).
- UNESCO.** Norms and Standards for Educational facilities. Training materials in educational planning and administration facilities. Division of Educational Policy and planning. EPP/TM.17. 1985.
- Venkatraman,G,1966,** A note on the occurrence of large scale fish mortality along the Chaliyar River near BeyPore.J.Mar.Biol.Ass.Indian vol:8.