

# GREEN AUDIT REPORT

2021-22



**ALPHONSA COLLEGE PALA**

**ARUNAPURAM P.O., PALA 686 574**

**Prepared by**

**NSS (UNIT 001), NCC, Department of Physics, Botany and Zoology**

***in association with***

**PERIYAR TIGER CONSERVATION FOUNDATION**

**THEKKADY**

## Audit team

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## INTRODUCTION

### **ALPHONSA COLLEGE**

Alphonsacollege Pala, Kottayam District is one of the pioneer institutions of higher education for women in the state of Kerala. Established in 1964 as a junior college with 400 students and 13 teachers, it has now attained the status of a First Grade Women's college. The institution at present is run under the stewardship of His Excellency Mar Jacob Muricken, the Manager and Rev. Dr. Sr. Reegenamma Joseph, the Principal.

The fundamental aim of the college is to impart sound learning to young women under circumstances congenial to their all-round development. It encourages the students to excel not only in academic pursuits, but also in every aspect of human endeavor to achieve perfection.

### **Vision statement of the college**

*'The perfect woman nobly planned'*

To create self reliant and liberated young women with traditional cultural values and moral integrity, who will be agents of social transformation in their families and society.

### **Mission statement of the college**

*'To equip our students with deep knowledge and globally acceptable skills'*

To develop values of self respect, tolerance, discipline, hard work and patriotism. To promote learning that will contribute to women empowerment by enabling women to become self reliant.

**Courses offered by the college****PG courses : 7**

<b>Sl. No:</b>	<b>Aided Courses</b>	
1		M.Sc Zoology
2		M.A. English
3		M.A. Political Science
4		M.A.Econometrics
	<b>Self – Financing</b>	
1		M.Sc Chemistry
2		M.A. English
3		M.Sc Clinical Nutrition and Dietetics

**UG Courses - 13**

<b>Sl. No:</b>	<b>Aided Courses</b>	
1		B. A English
2		B.Sc Physics
3		B.Sc Physics (Voc.)
4		B.A Economics
5		B.Sc Botany
6		B.Sc Chemistry
7		B.A History
8		B.Sc Zoology
9		B.Sc Mathematics
	<b>Self – Financing</b>	
10		B.Com
11		B.Sc Clinical Nutrition and Dietetics
12		B. Voc Fashion Technology
13		B.Voc Sports Nutrition and Physiotherapy

**The student and faculty strength of the college**

No: of students	1697
No: of teachers	83
No: of non- teaching staff	21
<b>Total</b>	

**Physical structure**

The college is located in about 9.5 acres of land. The built up area of the college is 7.9 acres.

Departments	16
Laboratories	13
Conference halls	4
Libraries	1 main library and department libraries
Auditorium	1
Canteen	1

**Objectives of green audit**

The main aim of this green audit is to assess the environmental quality and the management strategies being implemented at present in Alphonsa college. The specific objectives are:

- To monitor energy conservation pattern of the college
- To quantify the liquid and solid waste generation and management plans in the campus
- To impart environment management plans to the college
- Suggest recommendations to improve the green campus status of the college
- To assess water consumption pattern in the college

**Data collection pertaining to Green audit**

- List the water uses
- Sources of water
- Storage of water
- Quantity of water stored in your overhead water tank (in liters) Quantity of water pumped everyday (in liters)
- If there is water wastage, specify why Where does waste water come from? Where does

the waste water go?

- Uses of waste water in your institution
- Four ways that could reduce the amount of water used in your institution How many of the taps are leaky?
- Amount of water lost per day Water management plan Water saving techniques
- List ways that you use energy in your institution (Electricity, electric stove, kettle, microwave, LPG, firewood, Petrol, diesel and others)
- Energy saving methods employed in your institution Incandescent (tungsten) bulbs
- No: of fans installed in your college Cooling apparatus if any
- No: of trees (Mention the local names and scientific names)
- Fruit trees
- Medicinal plants
- No: of shrubs (Specify edible ones)

- No: of herbs (Medicinal ones) No; of climbers
- Soil type
- Mention the area covered with soil Usual visitors to the institution
  1. Birds (No: and local names)
  2. Odonates (No: and local names)
  3. Butterflies (No: and local names)
  4. Other animals (Eg: Squirrel, snake, frog etc)
- Ornamental plants (Flowering plants)
- Collection, segregation and management of waste
  - Solid
  - Liquid
- Major observations
- Major recommendations

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**GREEN AUDIT REPORT****Water Audit**

Sources of water : 2 Wells and 1 pond

Storage of water

Well No:1 – 12 m depth

Well No: 2 – 15 m depth

Pond – 6 m depth

Quantity of water stored in your overhead water tank (in liters)

No: of water tanks – 8

Capacity of tanks – 6000 L (1 tank)

3000 L (2 tanks)

2000 L (3 tanks)

1000 L (1 tank)

Quantity of water pumped everyday (in liters) : 18000 L

If there is water wastage, specify why : Nil

Where does waste water come from? : Laboratories and Canteen

Where does the waste water go? : Waste water is kept in a large covered pit.

(After neutralization waste water from laboratories is kept in this large covered pit. ‘Micro scale analysis’ is implemented for chemistry students)

Uses of waste water in your institution : Nil

Four ways that could reduce the amount of water used in your institution

How many of the taps are leaky? : Nil

Amount of water lost per day : Nil

Water management plan

Water saving techniques : Nil

List ways that you use energy in your institution(Electricity, electric stove, kettle, microwave, LPG, firewood, Petrol, diesel and others):



**Energy Audit**

Printers – 52

Motor – 2

Photostat machine – 5

Computer – 199

Laptops - 10

Projector - 10

Printer – 6

Lab equipments

LPG cylinders used in canteen / Labs – 13 (per month)

Generator - 1

Firewood : Using firewood in the canteen .

**Petrol, diesel**

No: of cars used 20

No: of two wheelers used - 8

Energy saving methods employed in your institution

- Introduction of CFL bulbs
- Installed solar panels for office

Incandescent (tungsten) bulbs :553 (including CFL, CFL tube light, LED bulb and LEDtube light)

No: of fans installed in your college : 342

Cooling apparatus if any : 06

No: of trees (Mention the local names and scientific names)

Fruit trees

Medicinal plants

No: of shrubs (Specify edible ones)

No: of herbs (Medicinal ones)

No; of climbers

Ornamental plants (Flowering plants)

## LIST OF PLANTS IN THE CAMPUS

<u>Common/localname</u>	<u>Scientific Name</u>	<u>No of trees</u>
Akki	Blighia sapida	3
AmericanMahagony	Swietenia mahagoni	1
Arali	Nerium oleander	1
Asoka Chethi	Saraca asoca	1
Bamboo	Bambusa vulgaris	4
Bidi leaf tree	Bauhinia racemosa	4
Cactus	Cactus Cactaceae	1
Caesalpinia	Caesalpinia caesalpinia	4
Chamba	Syzygium javanica	2
Coconut	Cocos nucifera	8
Coffe	Coffea arabica	2
Crescentia cujuta	Crescentia cujete	1
Cury Leaves	Murraya koenigii	2
Elennji	Mimusops elengi	1
Gooseberry	Ribes uva-crispa	2
Guava	Psidium guajava	6
Henna	Lawsonia inermis	2
Indian banyan	Ficus benghalensis	1
Indian tulip tree	Thespesia populnea	3
Jackfruit Tree	Artocarpus heterophyllus	12
Kanikonna	Cassia fistula	1
Kudappana	Corypha umbraculifera	1
Lemon	Citrus lemon	2
Mango Tree	Mangifera indica	7
Mangosteen	Garcinia mangostana	3

Maruthu	Terminalia arjuna	4
Moringa	Moringa oleifera	2
Mulberry	Morus alba	2
Banana	Musa musa	124
Neem	Azadirachta indica	2
Panineer chamba	Syzygium jambosa	4
Papaya	Carica papaya	10
Podocarpus	Podocarpus podocarpus	1
Powder Puff	Calliandra brevipes	1
Rambutan	Nephelium lappaceum	1
Sappota	Manilkara zapota	3
Tamarindus	Tamarindus indica	1
Teak	Tectona grandis	15
Thuja	Thuja occidentalis	1
Thuja	Thuja Thuja	1
Vaka (Gulmohar)	Delonix regia	2
Vatta	Macaranga peltata	3

Soil type : Karimannu, chelimannu, poozhimannu, Vettukallu and manal. Mention the area covered with soil:

**Usual visitors to the institution:**1. **Birds** (No: and local names)

<b>Sl.No:</b>	<b>Local name</b>
1	Kaakka
2	Pravu
3	Moonga
4	Maramkothi
5	Myna
6	Erattavalan
7	Erattathalachi
8	Karikilappeda
9	Kokku
10	Kozhi
11	Eranda
12	Pullu
13	Manjakkili
14	Uppan
15	Kuyil
16	Pachilakkudukka
17	Eriyan
18	Kuruvi

## 2. Odonates (No: and local names)

**Dragonflies**

<b>Sl. No:</b>	<b>Local name</b>
<b>1</b>	<b>Onathumpi</b>
<b>2</b>	<b>Soochivalanthumpi</b>
<b>3</b>	<b>Kallanthumpi</b>
<b>4</b>	<b>Swamithumpi</b>
<b>5</b>	<b>Thurumpanthumpi</b>
<b>6</b>	<b>Chuvannavayaranthumpi</b>

3. **Butterflies** (No: and local names)

<b>Sl. No:</b>	<b>Local name</b>
1	Nattukudukka
2	Malabar rose
3	Chakkarasalabham
4	Vazhanasalabham
5	Malabar ravan
6	Krushnasalabham
7	Aralisalabham
8	Neelakkaduva
9	Chocolate salabham

4. **Other animals** (Eg: Squirrel, snake, frog etc)

<b>Sl. No:</b>	<b>Local name</b>
1	Annaan (Squirrel)
2	Eli (Rat)
3	Vaaval (Bat)
4	Cow
5	Pachathavala (Frog)
6	Marathavala
7	Chorithavala
8	Cherappampu(Rat snake)
9	Moorkhanpampu (Cobra)
10	Valavazhuppanpampu (Krait)

### Collection, segregation and management of waste

1. Solid
2. Liquid

Different types of waste generated in the college and their disposal

Types of waste	Particulars/ Source	Disposal method
E - waste	Computers, electrical and electronic parts	Direct selling
Plastic waste	Pen, Refill, Plastic water bottles and other plastic containers, wrappers etc	Direct selling
Solid waste	Damaged furniture, paper waste and food waste	<b>Damaged furniture</b> – Reuse after repair/ maintenance energy conservation. <b>Paper waste</b> - Direct selling/ Giving for recycling <b>Food waste</b> – using for Biogas production
Chemical waste	Laboratory waste	Neutralize with water and waste water is kept in a large covered pit.
Waste water	Washing, urinals and bathrooms	Soak pits
Glass waste	Broken glasswares from the labs	Direct selling
Sanitary napkin		Napkin incinerators (8 Nos)

**Major observations:**

- Active Environment friendly clubs (BhoomithraSena Club, Birds Club International, Nature Club, Biofarming)
- Observation of important days such as World environment day, World water day, Ozone day etc.
- Meenachil river bank protection by planting bamboo saplings
- Constructed a 10,000 L rain water harvesting pond.
- Bio gas plant for managing canteen waste.
- Installed solar panels for office.
- Planted many tree saplings inside the campus.
- Distribution of tree saplings to our students
- Recycling of paper waste.

**Major recommendations:**

- Apply rain water harvesting methods. The wells can be recharged with rain water from rooftops of the building. The area of rooftop is 33,108. 68 m<sup>2</sup>.
- Liquid waste from the laboratory should be managed properly
- Install solar panels
- Avoid the use of plastic in the campus









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