FAROOK TRAINING COLLEGE

GREEN AUDIT REPORT

Green Audit Team (2021)

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1 EXECUTIVE SUMMARY

The importance of sustainable development holds a special place in the contemporary educational process. The primary objective of education is to instill in students awareness that the Earth we inhabit is a shared resource for future generations. In our pursuit of this goal, we actively engage in a variety of academic and extension activities to cultivate an eco-friendly culture among our aspiring teachers throughout their pre-service professional degree courses.

Our emphasis lies in executing projects that are meticulously designed to establish an eco-friendly ethos both within and outside the college premises. Recognizing that educational institutions generate significant waste, we recognize the imperative of implementing a comprehensive waste management plan to foster sustainability and maintain a clean environment.

To transform our educational institution into an eco-campus, it is imperative to identify its environmental potential and assess the quality of soil, water, and air. This marks our inaugural attempt to conduct a green audit of our college, with a primary focus on energy consumption, water measurement, soil quality, waste management, and the identification of measures taken to green the college.

As educational institutes play a crucial role in contributing to environmental impact, this green audit is crucial for understanding and addressing our ecological footprint. Through this comprehensive assessment, we aim to pave the way for informed decisions and strategic initiatives that will not only enhance our institution's sustainability but also contribute positively to the broader environmental landscape

2 ABOUT THE COLLEGE

Farook College campus stands as a testament to a renaissance in the educational and socio-cultural dimensions of Malabar. The Farook Training College, the third institution within this esteemed campus, was established in 1961 by the Roulathul Uloom Association. Notably, it holds the distinction of being the first teacher education college managed by a Muslim minority in the state of Kerala. The primary mission was to advance education in the Malabar region, offering quality teacher education across all social strata and encouraging talented students, particularly from financially and socially marginalized sections, to pursue a career in teaching.

The institution responded to the pressing need for trained teachers in the region, a commitment so resolute that teachers had to be sourced from other parts of Kerala to fill the void in secondary schools. Over the past fifty years, the college has dedicated itself to academic and extension activities, all aimed at delivering quality teacher education to diverse segments of society.

In recognition of its groundbreaking contributions to teacher education, the college was elevated to the status of a research center in 2012. Currently, it offers a spectrum of courses in education at the undergraduate and postgraduate levels, including a UGC-approved diploma program in Early Childhood Care Education. Further, the college has been identified by IGNOU as a program center for B.Ed, M.Ed, MA education, and PDGET programs.

The accolades for Farook College continue, as in 2012, the institution was re-accredited by NAAC at Grade A, boasting a CGPA of 3.54 – the highest among teacher education colleges in Kerala. This recognition underscores the commitment to excellence and quality education that has been a hallmark of Farook Training College over its illustrious history

3 VISION AND MISSION OF THE COLLEGE

VISION

To become a centre par excellence of teacher education, unique in experience, value based in approach and pioneering in efforts for enriching and fulfilling life of all.

We aspire to be the most inclusive, dynamic and world class centre for teacher transformation and research, elevating the human spirit and enlightening the student community socially, culturally and professionally thereby creating a generation of future leaders with values and faith in humanity.

MISSION

To impart state-of-the-art knowledge into pre-service teachers in various educational disciplines and to inculcate in them a high degree of social consciousness and human values, thereby enabling them and their students to face the challenges of life with courage and conviction.

The vision and mission of the Institute mainly focuses on the following aspects:

- To be an excellent educational hub providing the students with outstanding opportunities,

empowering them to tackle the complex realities of the post modern world.

- To provide exemplary opportunities in education, training and research for the professional development of teacher educators and teacher trainees.
- To offer a dynamic and innovative teaching space catering to the needs of diverse population with a student-cantered, inclusive, and personalized learning approach.

It is our ardent aspiration to integrate the vision, mission, and values articulated by our institution into the core fabric of our community. To achieve this, we have proactively disseminated the vision and mission to all stakeholders through meticulously planned events.

From the Managing Committee to the Principal, faculty members, and administrative staff at various administrative levels, each contributor is aligning their actions with the elements of the institution's vision and mission. This commitment is evident in the strategic planning and execution of all activities led by these stakeholders.

We have employed various communication channels such as induction meetings, parents' meetings, the college website, college handbook, information bulletins, and display boards. Through these mediums, we strive to convey the essence of our vision and mission to all stakeholders, ensuring that it permeates every facet of our institution.

Every academic and non-academic initiative within the institution draws strength from the underlying principles of our vision and mission. This intentional fusion propels us forward on our journey towards realizing the institution's overarching vision.

This comprehensive approach extends the assimilation of the institution's vision, mission, and values into the very nature of governance, shaping our perspective plans, and fostering active participation of teachers in decision-making bodies. By embedding these principles in our daily practices, we aim to create a unified and purpose-driven community committed to the fulfillment of our institution's vision.

4 PHYSICAL STRUCTURE

The college is located in about 2.016 acres (8158.79 m2) of land.

Table 1: Physical Structure

Departments	9
Classrooms	16
Laboratories	10
Conference Halls	6
Rooms for Differently abled students	2
Playground	1
Shuttle Court	1
Pedagogic Park	1
Libraries	1 main and department libraries
Auditorium	1

5 STUDENTS AND FACULTY STRENGTH

Table 2: Student Faculty Strength

Number of students	211	
Number of teaching staff	23	
Number of non- teaching Staff	14	
Gents		38
Ladies		210
Total	248	

6 OBJECTIVES OF GREEN AUDIT

In recent times, the significance of conducting a green audit for institutions has grown considerably, serving as a crucial tool for self-assessment. This audit not only reflects the institution's commitment to environmental responsibility but also highlights its role in addressing contemporary environmental challenges.

The objectives of the Green Audit at Farook Training College are multifaceted:

- ***Effective Environmental Management System***: The primary goal is to recommend an effective environmental management system tailored for the college. This involves assessing current practices and proposing strategies that align with environmental sustainability principles.
- ***Quality Assessment of Water, Air, and Soil***: A critical aspect of the green audit is the evaluation of the quality of water, air, and soil on the college premises. This provides essential data to understand the environmental impact and identify areas for improvement.
- ***Monitoring Energy Consumption and Waste Management***: The audit aims to monitor and document the energy consumption patterns within the institution. Additionally, it assesses the efficiency of the waste management system in place, with the goal of optimizing resource use and minimizing environmental impact.
- ***Documentation of Floral Diversity***: A key focus is on documenting the floral diversity present within the college campus. This information not only contributes to the broader understanding of local ecosystems but also aids in the conservation and promotion of biodiversity.
- ***Categorization of Plants and Vegetables***: The green audit includes categorizing and documenting the various plants and vegetables grown within the college premises. This information can be valuable for promoting sustainable practices, such as organic farming or landscaping initiatives.

METHODOLOGY ADOPTED

The purpose of the audit is to align the practices of the college with the green policies of both the nation and the state. The adopted methodology involves a comprehensive approach that encompasses data collection, quality testing, on-site visits, analysis, classification, and documentation of plants on the campus. The process also involves keen observation, thorough review of documentation, and meticulous data analysis. The following methods have been adopted:

QUALITY TEST

The quality of water and soil was tested and the amount of different constituents has been identified.

SURVEY

A survey was conducted among the students, staffs and non teaching staffs to collect the data with respect to waste disposal and its management.

ONSITE VISIT

In order to have systematic and transparent documentation, onsite visit had also been arranged by the expert team.

DOCUMENTATION OF PLANTS

Identification and documentation of plants inside the campus was done by the nature club.

7 GREEN INITIATIVES

The college has embraced a green protocol from its early days, making strenuous efforts to maintain a green campus by celebrating relevant days with tree planting and care initiatives. All activities are planned in accordance with the green protocol, and on the first day of college, students receive a detailed orientation on the importance of keeping the campus green and free of plastic waste.

To initiate green initiatives, a nature club named Natura has been established, organizing various activities both inside and outside the college. Each class is assigned a specific area as their green field, and it is their responsibility to maintain it as a green, eco-friendly, and plastic waste-free zone throughout their course.

Field trips are frequently organized by the nature club to sensitize students to environmental issues. In 2015, students undertook an innovative project to cultivate vegetables for tribes in Nilambur. Collaborating with Kadalundi Grama Panchayat Krishi Bhavan, the college arranged special training in

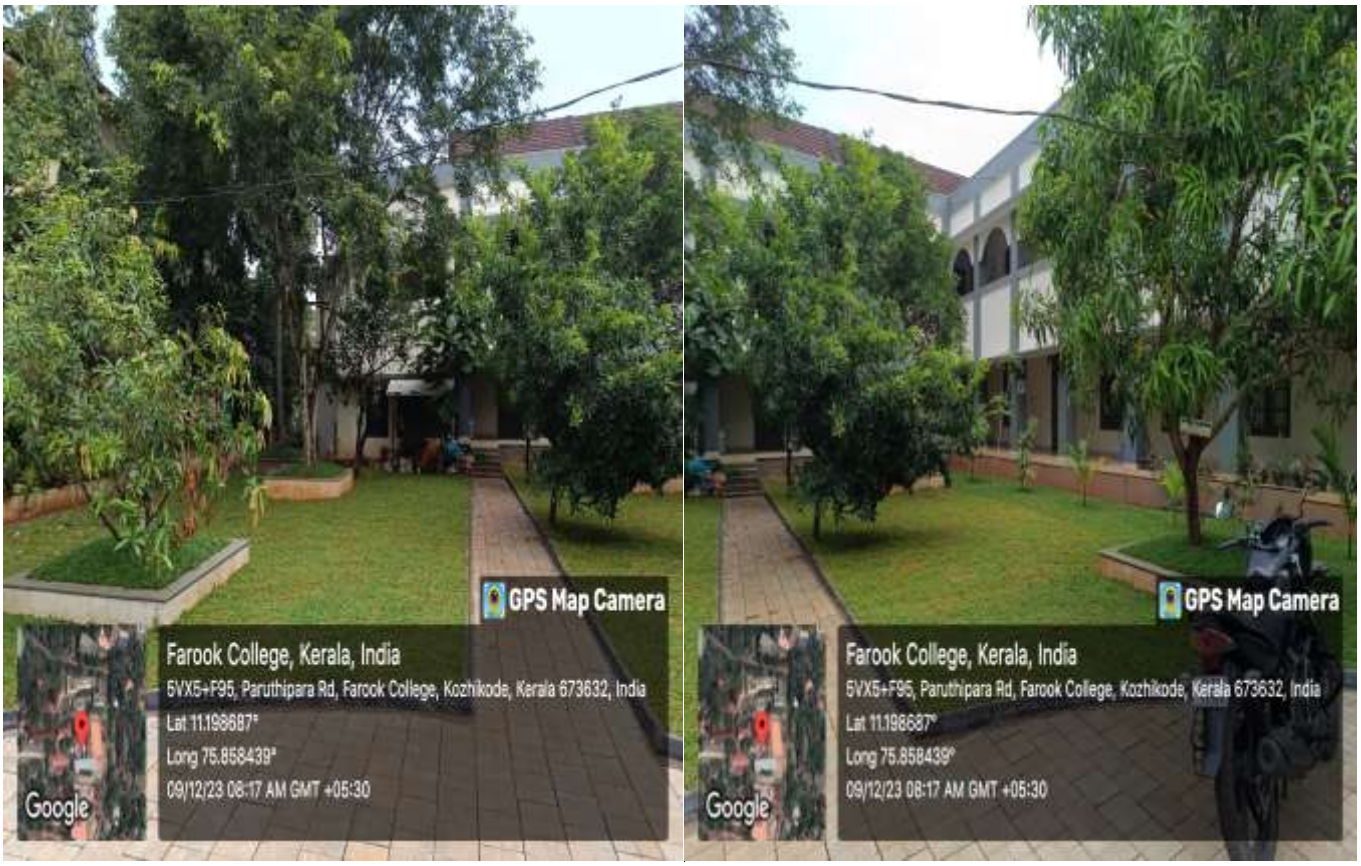
organic farming for B.Ed students to support the mid-day meal program of an adopted school.

The college displays boards inside and outside its premises to declare its plastic waste-free status. All induction programs emphasize the importance of greening the campus. Classrooms, offices, staffrooms, and the library are equipped with designated collection points for waste disposal.

Various programs are organized on occasions such as World Environment Day and Gandhijayanthi, focusing on tree planting and campus cleaning. The college provides eco-friendly products like bags and cups to students and staff. During the Community Living Camp program, one activity involves cleaning and greening the campus, with students grouped to clean specific areas and plant saplings.

In collaboration with Kadalundi Gramapanchayath, the staff and students participated in cleaning the flood-affected Kadalundi Community Reserve. The college promotes the use of bicycles for student movement within the campus, and most students from Calicut and Malappuram districts use public transport.

Efforts have been made to reduce paper usage for communication with the University and other offices. The college has organized UGC-sponsored national seminars on environmental issues in 2013 and 2017, featuring sessions led by eminent environmentalists. Research on environment-related concepts like sustainable development and disaster management is actively promoted. Hostel facilities are provided to students from other districts, and all campus roads are lined with trees, contributing to a green and eco-friendly environment. Recently, the college initiated the documentation of the campus flora to enhance students' scientific knowledge



8 LAND USE ANALYSIS

Physical infrastructure is a crucial component of any educational institution. Attempts have been made to map the land use of the college in order to identify land consumption within the built-up area and to ensure the eco-friendly construction of buildings.

LAND USE DATA OF THE COLLEGE

Table 3: Land Use Data

Land Area	8156.79 Sq.Meter
Plantation Area	3773.77 Sq.Meter
Built up Area	4383.02 Sq.Meter

AREA OCCUPIED BY VARIOUS BUILDINGS

The college building has four main blocks with two or more floors and all the blocks are well surrounded with trees and plants.

Table 4: Area Occupied

Sl no	Name of the Building	Number of floor	Area Occupied
1	Main Block	2	
2	Library Block	3	
3	Auditorium Block	1	
4	B.Ed Block	3	

9 DOCUMENTATION OF TREES AND PLANTS

We are making sincere efforts to periodically plant trees and maintain our campus as an area rich in diversity with a variety of trees and plants. Initiatives have been taken to identify and document the trees within the campus

Table 5: Documentation of Trees and Plants

Sl no	Botanical Name	Family	Common Name	Total
1	*Annona muricata*	Annonaceae	Prickly custard apple	1
2	*Artocarpus Hetrophyllus*	Moraceae	Jack Fruit Tree	1
3	*Artocarpus incises*	Moraceae	Bread fruit	1
4	*Averrhoa bilimbi*	Oxalidaceae	Bilimbi	1
5	*Azadiracta indica*	Meliaceae	Neem	2
6	*Bauhinia variegate*	Caesalpiniodea	Purple orchid tree	2
7	*Caesalpinia sappam*	Caesalpiniodea	Sappan wood	1
8	*Cassia fistula*	Caesalpiniodea	Golden shower	3
9	*Cocosnucifera*	Arecaceae	Coconut	1
10	*Cupressus torulosa*	Cupressssaceae	Monterey cypress	1
11	*Cycas circinalis*	Cycadaceae	Fern palm	1
12	*Garcinagummicuta*	Clusiaceae	Chinees juniper	1
13	*Mangifera indica*	Anacardiaceae	Mango tree	4
14	*Lawsoniainermis*	Lythraceae	Henna plant	1
15	*Juniperus chinensis*	cupressaceae	Chinees juniper	1
16	*Manikara zapota*	Sapotaceae	Sapota	1
17	*Morindacitrifolia*	Rubiaceae	Great morinda	2
18	*Nephelium lappaceum*	Sapindaceae	Rambutan	1
19	*Phyllanthus emblica*	Euphorbiaceae	Indian gooseberry	1
20	*Polyalthia longifolia*	Annonaceae	Mast tree	14
21	*Pongamia pinnata*	Fabaceae	Hongay oil tree	3
22	*Psidium guajava*	Myrtaceae	Guava	1
23	*Syzygiumcumini*	Myrtaceae	Black palm	1
24	*Tectona grandis*	Verbanaceae	Teak	1

In addition to the collection and documentation of trees, efforts have also been made to estimate the annual expenditure for greening practices within the campus, excluding salary components. Every year, we celebrate Environment Day, Earth Day, Water Day, and Ozone Day by initiating tree-planting activities.

EXPENDITURE ON GREEN INITIATIVES DURING LAST 5 YEARS

Table 6: Expenditure on Green Initiatives during last five years

Financial year	Tree plantation amount in gardening and lawn works (in INR lakhs)	Purchase of LEDs
2020-21	.1	6
2019-20	.08	8
2018-19	.08	6
2017-18	.07	5
2016-17	.1	4

10 WASTE MANAGEMENT

The college has embraced a highly systematic and advanced waste management approach since its inception. Designated as a plastic waste-free campus, meticulous efforts have been undertaken to segregate and manage all types of waste effectively. The waste management system involves the initial step of segregating waste at collection points strategically located in areas such as classrooms, offices, staffrooms, and verandas.

Dr. Afeef Tharavattath, the coordinator of the nature club, oversees the waste management process diligently. The collected waste is categorized into biodegradable and non-biodegradable types twice a week. Non-biodegradable waste is sent to recycling units, while biodegradable waste is directed to special pits designed for disintegration at high temperatures. Food waste is managed through a ring composting mechanism in collaboration with the Ramanattukara municipality, with staff members overseeing the process and transforming it into useful plant manure.

For the disposal of biodegradable sanitary pads, a disposal mechanism with a collection pit is set up in the ladies' washroom, where the pads are burnt at regular intervals. Senior faculty members provide explicit instructions to students during induction programs regarding proper waste management and measures to maintain the campus's cleanliness.

Liquid waste, mainly from handwashing areas and washrooms for both genders, is utilized for watering plants or directed to specially constructed pits in the ground. Electronic waste, including gadgets such as overhead projectors, epidiascopes, and computers, is managed through a buy-back policy and recycling. Unusable gadgets are transferred to recycling points, and computers unfit for college use are donated to feeding schools.

In summary, the college employs a comprehensive waste management mechanism, driven by the collaborative efforts of students and both teaching and non-teaching staff. A dedicated waste management team within the nature club gathers data, analyzes current practices, and recommends improvements. To encourage proper waste disposal among students, the college offers small rewards and incentives for waste reduction achievements.

11 WATER RESOURCE MANAGEMENT

Given the prevalent water scarcity in the college's location, proactive measures have been implemented to ensure the proper harvesting of rainwater. The primary sources of water for drinking and other purposes are a natural well and a bore well. Water scarcity is particularly acute during the months of March, April, and May. To address this, the campus maintains three pits with a combined capacity of 30,000 liters, crucial for effectively retaining water in the soil.

In collaboration with the parent institution, the college has devised a new project to regularly recharge wells. Channels have been specifically designed from the terrace to collect water, directing it through pipes to flow freely into pits near the well. This initiative aims to enhance the waterlogging capacity of the soil. Additionally, there are plans to construct an underground water storage facility in the area before the open-air auditorium, with support from the parent institution.

The college conducts an annual audit of campus vegetation to optimize water storage. An artificial pond situated in front of the main block serves the dual purpose of storing rainwater and watering plants and trees. The water sources within the campus include one well and a bore well,

collectively supplying 6,000 liters of water daily. Efforts are made to repurpose water from hand washing areas for plant irrigation, and water from washrooms is directed to specially designed pits in the earth for responsible disposal. These sustainable water management practices align with the college's commitment to environmental conservation in the face of water scarcity challenges

Table 7: Water Resources

Sl no	Parameter	Number
1	Well	1
2	Bore well	1
3	Number of motors used	3
4	Horse power -motor	1
5	Depth of well	15 feet
6	Depth of bore well	250 feet
7	Number of water tank	3
8	Capacity of tank	6000L

WATER QUALITY TEST

Samples from different locations were collected from the well and analyzed for its quality.

PHYSICAL EXAMINATION

Table 8: Physical Examination

Sl no	Parameters	Results	Acceptable limit IS 10500
1	Colour	<1	5
2	Taste and odour	Agreeable	Agreeable
3	Electrical conductivity	104	50-800
4	Turbidity	0.6	5
5	Total dissolved solid	10	500

CHEMICAL EXAMINATION

Table 9: Chemical Examination

Sl no	Parameters	Results	Acceptable limit IS 10500
1	Total hardness	20	200
2	Calcium hardness	10	
3	Magnesium hardness	10	
4	Alkalinity	16	200
5	Chloride	10	250
6	pH	6.89	6.5-8.5
7	Calcium	4.008	75
8	Magnesium	2.43	30
9	Sulphate	BDL	200
10	Ammonia	0.095	0.5
11	Iron	0.122	0.3
12	Total coli form	210	100
9	Fecal coli form	BDL	100

12 SOIL QUALITY MEASUREMENT

Soil samples were collected from three location and analysed for its quality

Table 11: Soil Quality Analysis

Parameter	Ground
pH	5.81
Nitrogen	201.60
TDS	26
EC	51
Phosphorus	33.49
Sulphur	91.84
Calcium	332.20
Potassium	113.46

13 ENERGY AUDIT REPORT

Since its inception, the college has been proactive in minimizing energy consumption by replacing old filament bulbs with energy-efficient CFL bulbs and tube lights, as well as low-energy-efficient fans. To oversee the usage of electric devices, two non-teaching staff members have been assigned the responsibility of monitoring regularly. The college's average electricity consumption stands at 1086 kWh, with an approximate monthly electricity bill amounting to 9340. Detailed power requirements are outlined in the table below, illustrating the energy consumption patterns of the college

Table 11: Energy Audit

Sl no	Electrical appliances	Number	Operational hours in normal working day	kW	Average number of working days in a month	Total consumption of energy(kWh)
1	LED bulb and tube	62	8	0.009	24	107.136
2	CFL bulb and tube	98	8	0.01	24	188.16
3	Projector	6	5	0.05	24	36
4	Speakers	4	4	0.05	24	19.2
5	Fan	124	8	0.02	24	476.160

6	Computers and laptops	53	5	0.09	24	572.2
7	Printers	10	1	0.03	24	7.2
8	Photostat machines	3	1	0.5	24	36
9	Scanner	1	1	0.021	24	0.504
10	UPS	6	1	0.36	24	51.5
11	Sanitary napkin incin-erates	1	1		24	
12	Motor pump	2	1	0.745	24	35.76
13	Refrigerator	1	8	0.1	24	19.2
14	A C	5	1	0.340	24	40.8
15	LED TV	8				

14 CARBON FOOT PRINT ANALYSIS

Total number of vehicle used : 56

Number of bicycles used : 3

No of two wheelers used-average distance and amount of fuel: 25, 750 km,2500

Number of cars used-average distance and amount of fuel: 15, 600km, 35000

Number of person using public transportation: 210

Number of generator used per day: 1

Amount of fuel used: 300