GREEN AUDIT

2022-23

P.K.M. COLLEGE OF EDUCATION KANNUR 670631 MADAMPAM

PRINCIPAL
P.K.M. COLLEGE OF EDUCATION
KAITHAPRAM. P. O., MADAMPAM
SREEKANDAPURAM, KANNUR DT.,-670631

P. K. M. COLLEGE OF EDUCATION
Affiliated to Kannur University
Accredited by NAAC with 'A' Grade

GREEN AUDIT TEAM

EXTERNAL AUDIT MEMBERS

External Auditor: Dr. Sreeja P
Asst. Professor & HOD
Dept. of Botany
Sir Syed College, Taliparamba

Local body Member: Dr. Philomina K V
Municipal Chairperson
Sreekandapuram Municipality

INTERNAL AUDIT MEMBERS

Convenor: Mrs. Jomol Jose
Asst. Professor Dept. of Natural science

Members: 1. Dr. Veena Appukuttan
(Asst. Professor in Social Science & IQAC Coordinator)

2. Dept. of Natural Science – STUENT TEACHERS

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AUTHENTICATION

This is to certify that we have conducted a green audit for P.K.M College of Education, Madampam to assess the efficiency of green initiatives by the college to maintain the campus eco-friendly. The measures and actions taken by the college management towards the development of the sustainable green environment are highly appreciable and commendable.

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(External Auditor)

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Dr. K.V. Philomina Teacher
Chairperson
Sreekandapuram Municipality

Mrs. Jomol Jose
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Asst. Prof. in Natural Science
Dept. of Natural Science

Date: 20-03-2023

Place: Madampam

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ACKNOWLEDGEMENT

The team responsible for this audit comprised of Dr. Veena Appukuttan (Asst. Professor in Social Science & IQAC Coordinator) under the supervision and direction of Mrs. Jomol Jose (Asst. Professor Dept. of Natural science, P.K.M College of Education, Madampam), would like to thank those individuals who contributed to this project, particularly the college management, Principal, P.K.M College of Education Madampam, all the faculties and staff who provided insights and comments as part of this audit.

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1.INTRODUCTION

About the college

P.K.M. College of Education, Madampam, Kannur is a Christian minority educational institution. The College was established in 1995 as a self-financing institution and was transformed into an aided college in 1997. It is affiliated to Kannur University and is recognized by NCTE and UGC under 2(f) & 12(B) category. This temple of learning is dedicated to the Sacred Heart of Jesus and is named after Prof. Joseph Kandoth, who was an educational visionary, social reformer and a zealous missionary. He initiated the historical migration of Knanaya Catholic Community which in turn changed the social and economic history of Malabar. P.K.M. College of Education is a temple of learning with difference among the scores of educational institutions in Kerala. The institution is run by the Arch Diocese of Kottayam, belonging to the Knanaya Catholic Community and has invariable relevance as a training institution moulding the prospective teachers for the community, in particular, and society, at large. The college aims to spell out the darkness of ignorance and illiteracy and radiate the glow of enlightment. The mission of the college is "To Nurture the Holistic Development of Prospective Teachers for a Just and Humane Society."

At present H.E. Mar. Mathew Moolakkat, Arch Bishop of Kottayam Diocese is the patron and H.E. Mar. Joseph Pandarasseril, the Auxiliary Bishop is the Manager. The college is accredited by NAAC with A grade (4-point scale), in the second cycle also.

Mission

To Nurture the Holistic Development of Prospective Teachers for a Just and Humane Society

Vision

Excellence and Committed Service in Every Realm of Teaching Endeavour.

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Table: 1.Course offered by the college

Bachelor of Education	English Malayalam Mathematics Natural science Physical science Social science

Table : 2 . Students and faculty strength

Total number of students	99
Teachers	9
Non – teaching staff	13
Total	122

PHYSICAL AREAS

Table 3: Area details of the PKM college of education campus

Sl. No	Class Rooms	Room No	Size in sq.m
1	English	19	63.48
2	Malayalam	18	64.38
3	Mathematics	31	63.33
4	Natural Science	10	43.32
5	Physical Science	11	64.44

6	Social Science	30	95.69
7	Staff Room	23	87.97
8	Office - 1	4	30.38
9	Office - 2	21	30.45
10	Principal Room	1	55.66
11	Multipurpose hall Auditorium	28	180.77
12	Multipurpose hall General class	16	180
13	Library cum Reading room	7	108.93
14	Seminar Hall	20	29.59
15	Canteen	24 , 26	82.67
16	IQAC	5	35.09
17	Psychology Room	17	30.63
18	Health fitness, Sports & Yoga room	33	119.94
19	Art &Drama	23	20.24
20	Visitors Room	3	40.19
21	Library store Room	9	20.11
22	IT Room	15	46.85
23	Conference hall	27	46.85
24	Common Room	34	15.88
25	Godown	36	42.84
26	Kitchen	12	7.16

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OBJECTIVES OF THE AUDIT

- To recognize the initiative taken by institution towards the environment.
- To secure the environment and reduce the threats posed to human health.
- To provide baseline information to enable institutions to evaluate and manage environmental change, threat, and risk.
- To diagnose and resolve environmental problems.
- To identify the effects of institutions on the environment and vice versa.
- To control the impact of institutional activities on the environment.
- To suggest the best protocols for sustainable development organization and environment.
- To assess environmental performance and the effectiveness of the measures to achieve the defined objectives and targets.
- To identify the different pressures on institutions to improve their environmental performance.
- To ensure that the natural resources are utilized properly as per the national policy of environment.
- To establish the parameters for maintaining the health and welfare of the community of the institution.
- To set the procedure for disposal of all types of harmful wastes.

2. TARGET AREAS OF GREEN AUDITING

1.Water Audit

This indicator assesses the quantity of water in a system and its utilization, and wastage and provides a measure to conserve the water. Since our institution is falling into water scarcity, it is important to audit the water as a measure to conserve water in the best possible ways.

2. Waste Management Audit

Waste management is one of the most challenging aspects of the institution. Wastes can be classified into three types viz biodegradable, non-biodegradable, and hazardous. The

biodegradable wastes include those from food wastes, canteen, and toilets. Non-biodegradable includes litter wastes such as plastics, glass wares, tins, etc. And hazardous wastes include those from e wastes, chemicals, etc which cause long-term issues to human health and also to the environment. Hence it is important to practice scientific waste management

3. GREEN AUDIT

Green auditing in institutions, also known as environmental audits or eco-audits, is a systematic assessment of an educational institution's environmental performance, resource utilization, and compliance with environmental regulations. It aims to identify areas of improvement and suggest measures to reduce environmental impact and enhance sustainability. Green audits play a crucial role in promoting environmentally responsible practices and fostering a culture of sustainability within institutions.

4. OBJECTIVES OF GREEN AUDITING IN INSTITUTIONS

The primary objectives of green auditing in institutions include:

1. Identifying and evaluating environmental impacts: Green audits help institutions understand and quantify their environmental footprint by assessing their resource consumption, waste generation, and emissions.

2. Promoting compliance with environmental regulations: Green audits ensure that institutions adhere to applicable environmental laws and regulations, minimizing the risk of legal penalties and reputational damage.

3. Enhancing environmental management practices: Green audits provide valuable insights into the effectiveness of an institution's environmental management system, enabling them to identify areas of improvement and implement more sustainable practices.

4. Reducing environmental costs: By identifying and addressing waste management practices and inefficiencies, green audits can help institutions reduce their energy, water, and waste disposal costs.

5. Promoting a culture of sustainability: Green audits raise awareness among faculty, staff, and students about environmental issues and encourage them to adopt more sustainable behaviors.

5. METHODOLOGY ADOPTED

I. Field visit:

The purpose of the field visit is to analyze the biodiversity status, utilization of different sources, and waste management practices. The green audit team conducted field visits during specific intervals and collected the data on different indicators.

II. Group discussion:

Group discussions were held with Bhoomithrasena, Eco club, Nature club, NSS, faculties, office staff, and management on various strategies of target areas.

III. Survey:

The green audit team conducted surveys on various aspects of target areas by preparing, distributing, and collecting survey forms with different headings. All the departments, offices, canteen, and libraries participated in the detailed questionnaire survey study.

6. AUDIT REPORT

Water Management:

The College uses a well and a rainwater harvesting unit on the campus, pumping 8000L of water daily. To reduce water waste, they adopted microscale analysis. The average monthly water usage is 1,31,250L.

Water audit

Indicators	Response
Source of Water	Well
No. of Well	1
Horsepower – Motor	2.5HP
Depth of well –Total	250 feet
Water level	110 feet
Storage of Water Number of water tanks	4

Capacity of tank	8000L
Quantity of water pumped every day	4375L per day
Wastage of water **Any water wastage/why?** Water usage for gardening	 350L
Wastewater sources	Washroom,
Use of wastewater	
The fate of wastewater from the lab	
Whether wastewater from labs mixed withgroundwater	
Any treatment for lab water Whether any eco-friendly method practiced in labs	
Any leaky taps	No
Alternate sources **Rainwater harvests available**	Available
Capacity of storage	5000L
Groundwater recharge is available	Yes
Water management Any water conservation strategies carried out	 Rainwater harvesting is the prior method.

Waste management

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It is one of the major challenges for an eco-friendly campus. Both the collection and disposal raise major challenges ahead of the institution. The following are the major categories of waste inside the campus.

Table Categories of waste

Sl No	Waste Stream	Items	Disposal method
1	Solid Waste	Plastics, paper and metals.	• The institution promotes digital filing. • Paper waste is hand over to agencies for recycling. • The college has entered into an agreement with Harithakarmasena for waste disposal including plastics, paper and metals.
2	E-Waste	Computers, electricals, electronics	• College has an MOU with relevant agencies and are renewed from time to time. • Purchasing of devices with increased lifetime. • The buy back policy of the retailers utilised to purchase new computers and batteries for outdated computers and laptop.
3	Biodegradable Waste	Food wastes	• Waste Pit • Biogas Plant • Vermi Compost
4	Grey water from Urinals/washroom	Waste water	• Waste pits

7. KEY ATTRIBUTES OF GREEN CAMPUS

Maximize the proportion of waste that is recycled and minimize the quantity of non-recyclable goods

College makes specific arrangements for events, such as cultural events, internal and external seminars, and conferences, where significant recyclable waste is likely to be produced, to both minimize the waste produced and maximize what is recycled/reused. Promote the reuse of items and waste recycling among staff, students, and conference guests.

Minimize consumption of water.

Regular checking and maintenance of pipelines are done to control water wastage. For that repairing sources of water leakage, such as dripping taps and showers as quickly as possible and carrying out regular checking and maintenance of pipelines are done to control water wastage. The institution has also made arrangement to install appliances that reduce water consumption.

We encourage a decrease in water usage among staff, students, and conference guests and usean efficient and hygienic water storage mechanism to minimize the loss of water during storage.

Large water filters with coolers are placed at strategic locations in the college for the students and ensure regular service.

Establishment of Rainwater Harvest and Water Recharging System

A rainwater harvesting system, which is well- maintained and keep leakage-proof. And, water recharging systems are established for borewells and open well distinctly.

Introduction of biogas plant

To reduce the biodegradable wastes and to meet energy requirements, a biogas plant was introduced. It is a continuous source of renewable energy.

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Introduction of chemical waste tanks

Chemical wastes from the laboratories are collected in tanks which was one of the major concerns in the waste management system.

Minimize the use of chemical pollutants

We ensure that all cleaning products used by college staff have a minimal detrimental impact on the environment, i.e., are biodegradable and non-toxic. We are trying to minimize the use of fertilizers and pesticides on college grounds. Different clubs such as Bhoomithrasena club and Nature club take initiative for these kinds of activities.

Ensure that the buildings conform to green standards

New constructions on the campus comply with the green standard. It offers a reduction in the usage of energy and water usage.

The institution also ensure that improvements, purchases, and developments are environmentally sound The college is positive about increasing greenery by planting in front of the college and maintaining potted plants as much as possible. It makes initiatives to purchase efficient and environmentally sound appliances to fulfil the commitments and consider replacing the old stock with 'greener', more efficient alternatives.

8. SUMMARY OF FINDINGS

During the academic year, the college witnessed a notable positive transformation in environmental practices. The strategic increase in waste bins not only led to a reduction in overall waste production but also served to mitigate potential harm to the local flora and fauna. Simultaneously, the emphasis on efficient energy utilization and the maintenance of effective water segregation practices demonstrated a steadfast commitment to sustainability and responsible environmental stewardship. In response to the need for recycling, efforts were made to promote the reuse and recycling of items among staff, students, and conference guests, aiming to minimize waste produced and maximize recyclable materials. Furthermore, the introduction of a biogas plant and chemical waste tanks marked significant steps forward in enhancing the college's environmental infrastructure, contributing to a holistic approach to waste management and conservation. The collective endeavors of departments and students showcase a commendable awareness of the ongoing need for environmental protection,

extending these practices beyond the immediate challenges of the pandemic and underscoring the vital importance of sustained conservation measures.

9. RECOMMENDATIONS FROM THE EXTERNAL AUDIT TEAM

1. Implement an additional rainwater harvesting system.

2. Establish rainwater recharge pits to enhance groundwater levels.

3. Plant more trees and plants to enhance biodiversity level and increase the water-holding capacity of the ground.

4. Nurture a culture of 'no litter' among stakeholders.

5. Strict implementation for the collection of biodegradable and non-biodegradable wastes separately.

10. SUGGESTIONS BY EXTERNAL AUDITORS

- Incorporation of waste bins in different areas of campus to avoid waste accumulation
- Install water conservation measures, such as rainwater harvesting system.
- Advice on the establishment of a monitoring and reporting system to regularly assess and track the progress of green initiatives, enabling the organization to continuously improve its environmental performance
- Encourage the adoption of paperless practices by promoting digital documentation, electronic communication, and online reporting to reduce paper consumption and associated environmental impacts
- Recommend strategies for reducing waste generation, promoting recycling initiatives, and implementing proper waste disposal methods to minimize environmental impact.

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