



JUBILEE MISSION COLLEGE OF NURSING

JUBILEE MISSION HOSPITAL TRUST – ARCHDIOCESE OF THRISSUR

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GREEN AUDITING MANUAL

JUBILEE MISSION COLLEGE OF NURSING

The College of Nursing was founded in the year, 2003. The College of Nursing is recognized to commence M.Sc. Nursing in four specialities (Medical - Surgical, OBG, Child health and psychiatry) with a total intake of 10 seats and Post Basic Diploma in Cardio-Thoracic Nursing (annual intake of 15 seats) from 2012 onwards. Today JUBILEE MISSION MEDICAL COLLEGE AND RESEARCH INSTITUTE, THRISSUR, a Christian minority Institution established and administered by the Jubilee Mission Hospital Trust, a charitable organization under the Archdiocese of Trichur has seven institutions placed under it. Jubilee mission college of Nursing is one among it.

MOTTO

“Service with LOVE”

MISSION

Transforming Lives with Love

VISION

“Bearing witness to Christ , the Healer Jubilee Mission Health Care Institutions strive to be a world leader in clinical outcomes, patient experience, medical education and research all guided by the principles of catholic ethics and affordability for patients.”

VALUES

- ✧ Compassion
- ✧ Integrity
- ✧ Team Work
- ✧ Excellence

Definition of green audit

Green auditing is a means of assessing environmental performance (Welford, 2002). It is a



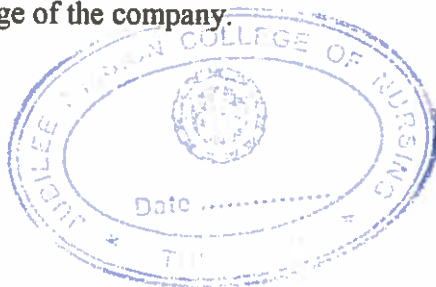
systematic, documented, periodic, and objective review by regulated entities of facility operations and practices related to meeting environmental requirements (EPA, 2003). It is otherwise the systematic examination of the interactions between any operation and its surroundings. This includes all emissions to air; land and water; legal constraints; the effects on the neighbouring community; landscape and ecology; the public's perception of the operating company in the local area. Green audit does not stop all compliance with legislation. Nor is it a 'green-washing' public relations exercise. Rather it is a total strategic approach to the organisation's activities (CBI, 1990).

1. Audit is a systematic approach.
2. Audit is conducted objectively.
3. Auditor obtains and evaluates evidence.
4. Evidence obtained and evaluated by the auditor concerns assertions about economic actions and events.
5. Auditor ascertains the degree of correspondence between assertions and established criteria.
6. Goal, or objective, of the audit is communicating the results to interested users.

Objectives of a green audit

1. **Verifying compliance:** Verifying compliance with standards or best available techniques.
2. **Identifying problems:** Detecting any leakage, spills or other such problems with the operations and processes.
3. **Formulating environmental policy:** Formulating the organisation's environmental policy if there is no existing policy.
4. **Measuring environmental impact:** Measuring the environmental impact of each and every process and operation on the air, water, soil, worker health and safety and society at large.
5. **Measuring performance:** Measuring the environmental performance of an organisation against best practices.
7. **Confirming environmental management system effectiveness:** Giving an indication of the effectiveness of the system and suggestions for improvement.
8. **Providing a database:** Providing a database for corrective action and future plans.
9. **Developing the organization's environmental strategy:** Enabling management to develop its environmental strategy for moving towards a greener corporate and performance culture.
10. **Communication:** Communicating its environmental performance to its stakeholders though reporting will enhance the image of the company.

General steps



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1. Systematic and comprehensive data collection
 2. Documentation with physical evidences
 3. Independent periodic evaluation with regulatory requirements and appropriate standards
 4. Systematic and comprehensive improvement and management of existing system

Types and purpose of auditing

There are numerous types and purpose of audits. Humphrey and Hadley (2000) basically divided environmental auditing into three types:

1. Compliance audits e.g. Regulatory, Environmental Management Systems and internal standards;
2. Single issue audits e.g. Waste minimisation, transport; and
3. Liability audits e.g. Pre-acquisition, divestment and insurance.

Green Audit committee

Fr. Shijo Maparanathukaran, Assistant Director, JMMC&RI.

Dr. Angela Gnanadurai, Principal, JMCON.

Mr. Harikrishan Pisharadi, HOD, Maintaince JMMC&RI).

Dr. Sr. Philo Reshmi ,Vice Principal (Academic), JMCON.

Dr. Sr. Tresa Anto ,Vice Principal (Clinical), JMCON.

Mrs. Sheeja Sebastian, Assistant Professor, JMCON.

Mrs. Justy Joy, Assistant Professor, JMCON.

Mrs. Shibi P George Tutor, JMCON.

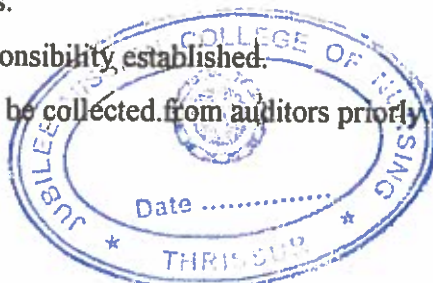
The audit process: Three main areas of activity:

- Pre-audit
- On-site audit
- Post-audit

Pre-audit activities

The pre-audit activities usually include the following:

1. The sites / area /division that are to be audited need to be determined and selected.
2. The auditee should be informed of the date of the audit.
3. The audit scope should be identified.
4. The audit plan is designed to accommodate changes based on information gathered during the audit and effective use of resources.
5. Audit team and assignment of responsibility established.
6. The chosen working papers should be collected from auditors priorly



7. The background information on the facility including the facility, organisation and processes, and the relevant regulations and standards, should be collected.
8. The background information on the site's historical uses, and the location of soil and groundwater contamination should be collected.
9. The pre-audit questionnaire should be sent to auditee in confined time.

On-site audit activities

The on-site audit is the most important step of the audit procedure. This includes:

1. The purpose of audit, the procedure and the time schedule are discussed between auditors and auditee..
2. On site inspection the audit team may discover matters which are important to the audit but which are not identified at the planning stage.
3. The on-site phase requires the audit team to develop a working understanding of how the facility manages the activities that influence the environment.
4. Assessing strengths and weaknesses of the auditee's management controls and risks associated with their failure need to be established.
5. Gathering audit evidence involves collecting data and information using audit protocol.
6. Evaluating the audit evidence against the objectives established for the audit.
7. An exit meeting takes place once all of audit findings have been finalised with facility personnel.

Post-audit activities

1. Post-audit activities begin with the preparation of a draft report.
2. The draft report should be reviewed by the facility personnel directly involved in the audit.
3. The final report should be derived from it and it should then be distributed to all interested parties within the organisation.
4. It is important for management to follow-up the report and develop an action plan to implement those audit findings.(Humphrey and Hadley (2000)

Analytic Components

1. Analysis of Environmental awareness survey
2. Analysis of Air quality
3. Analysis of Water quality and usage
4. Analysis of Soil quality
5. Analysis of Energy consumption and costs
6. Analysis of Waste generation and disposal



REPORT

PART I. Analysis of Environmental awareness among the staff and students

- a. Questionnaire survey – Staff
- b. Questionnaire survey – Students
- c. Required time - One week
- d. Mode of survey data collection - Survey form through Email by googlr forms
- e. Questionnaire:
 1. Four point Likert scale
 2. Open ended question to gather data

The result of the environment awareness survey was as follows:

Level of awareness	Response obtained	Percentage of level of awareness
Adequate awareness	170	93.92
Moderate awareness	11	6.08
Inadequate awareness	0	0

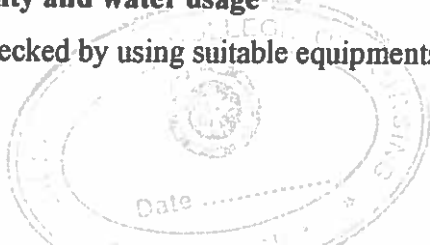
Part II – Analysis of Air quality

In our college campus we have enormous tress and plants which contribute to the continuous Oxygen supply. These green environment act as a reservoir of oxygen and eliminator of carbon dioxide. Even though situated in the urban area, Jubilee garden is enriched with a green belt including trees like cashew,coconut,Asoka trees,Teak etc and various vegatbles and fruits.

- ✓ On environmental audit it was found that the campus need to maintained systematically and more efficiently.
- ✓ The students and faculty of Jubilee mission college of Nursing were given awareness through a video about the importance of maintenance of air quality.
- ✓ It can be implemented by taking measures like planting and maintaing trees and plants and by promoting avoidance of plastic use in campus
- ✓ It is decided to check air quality with standardized measuring methods in future.

Part III – Analysis of Water quality and water usage

Water quality should be checked by using suitable equipments at selected water outlets.



Water quality parameters evaluated are

- ✓ Temperature
- ✓ Thermometry
- ✓ Ph
- ✓ Potentiometry
- ✓ DO
- ✓ Azide modification
- ✓ BOD
- ✓ Azide modification
- ✓ Nitrate Brucine
- ✓ Sulfanilic acid method
- ✓ Phosphate
- ✓ Stannous chloride method
- ✓ Potassium
- ✓ Flame photometry

Part IV – Analysis of Soil quality

Soil quality should be checked by using MAM App of Department of Kerala (Department of soil survey and soil conservation) at selected sampling points inside the campus.

Analysis for

- ✓ Organic carbon
- ✓ Phosphorous
- ✓ Pottassium
- ✓ Boron (B)
- ✓ Zinc (Zn)
- ✓ Manganese (Mn)
- ✓ Iron (Fe)
- ✓ Copper (Cu)
- ✓ Boron (Mo)



Nutrient Status

Potassium	308.79 Kg/Ha High
Manganese	43.78 ppm High
Boron	0.10 ppm Low
Copper	3.00 ppm High
Iron	89.24 ppm High
Sulphur	90.17 ppm High
Zinc	4.77 ppm High
Soil pH	6.60 Acidic

CHECK FERTILIZER RECOMMENDATION

Fertilizer Recommendation Banana - Others

Organic Fertilizer

Type of Fertilizer	Quantity of fertilizer
Compost or Farmyard Manure	15.0 Kg
Vermi Compost	2.0 Kg
Ash	1.5 Kg
Groundnut Cake	1.0 Kg

Inorganic Fertilizer

Type of Fertilizer	Quantity of fertilizer
Urea	1.348 Kg
Dainhoe	1.184 Kg

Fertilizer Recommendation Coconut - Good management

Ash	5 Kg/palm
Azospirillum	200 g/palm
Groundnut Cake	1.0 Kg

Inorganic Fertilizer

Type of Fertilizer	Quantity of fertilizer
Urea	1054 g/palm
Rajphos	592 g/palm
MOP	960 g/palm
Lime	0.54 Kg/plant
Organic Matter	15-25 Kg/palm

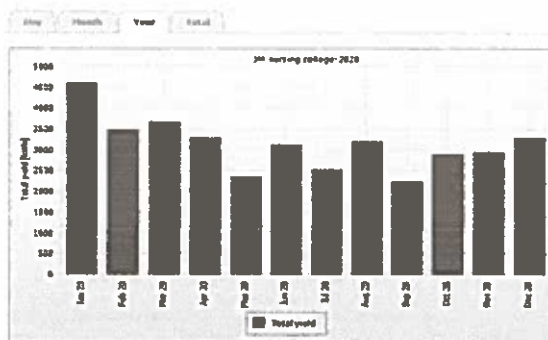


Part V – Analysis of Energy utilization

Information in energy billings and cost records could be systematically collected and analysed for saving both energy and costs. Energy conservation and usage of non renewable energy sources are the two major concerns in this aspect in Jubilee. Nursing college commissioned solar panel in may 2019 and from that we were able to produce 40-50% of energy needed by our own.



Monthly generated solar energy 2020



Part VI - Analysis of Waste disposal

Waste generated per day is collected systematically in different colour bags. The inmates of jubilee are well aware of the waste disposal and they complete their roles perfectly by placing the waste in appropriate codes. The collected bags are safely transported to the disposal area on daily basis. The collected waste materials are taken to central incinerator situated at jubilee mission medical college campus for safe disposal. The menstrual pads collected are disposed in the incinerator in the campus itself which is collected in yellow colour bins.

The students of college are taking initiatives for the use of reuse of papers by collecting in different boxes. The green protocols are made by the college and students are taking part in these and plastic free campus is one of the near future goal of our institution.

Post-audit activities

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PRINCIPAL

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10/6/21
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