

Khwaja Moinuddin Chishti Language University

Lucknow, U.P.

Environmental Audit Report

2020 - 2021

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AUDITED BY

Prof. Samban Sayed

Prof. Ehtesham Ahmad

Independent Auditor *Er. Ashutosh Kumar Srivastava*

ॐ आशुतोष कुमार श्रीवास्तव
रेगुलर प्रमाणित
पूर्वोत्तर रेलवे वरेली

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REGISTRAR
KHWAJA MOINUDDIN CHISHTI
LANGUAGE UNIVERSITY,
LUCKNOW

Environmental Audit

1. Environmental Audit

The twentieth century has heralded an era of remarkable progress, marked by significant advancements in modernization and industrialization. While these developments have undeniably improved human comfort and luxury, they have also led to detrimental consequences for our environment. The widespread use of natural resources, deforestation, wildlife exploitation, and the accumulation of solid waste have marred the beauty of our planet and rendered it increasingly inhospitable.

In recent times, there has been a growing awareness of global environmental issues such as global warming, the greenhouse effect, ozone depletion, and climate change. These challenges serve as a clarion call from Mother Earth urging humanity to embrace sustainable development practices. Now more than ever, it is imperative for us to unite and take concerted action towards building a sustainable environment.

Recognizing the urgency of environmental conservation, Hon'ble Prime Minister Shri Narendra Modi ji initiated the Swachh Bharat Abhiyan, emphasizing the importance of cleanliness and environmental hygiene. Additionally, the University Grants Commission has mandated the "Green Campus, Clean Campus" mission for all higher educational institutions, underscoring the critical role of academia in promoting environmental sustainability.

In line with these initiatives, the Government of India has formulated the National Education Policy 2020, emphasizing the importance of equipping future generations with knowledge about environmental impacts and sustainability. It is imperative that the coming generations learn to strike a balance between environmental preservation and developmental progress.

Environmental Audit emerges as a powerful ecological tool to address contemporary environmental challenges. By systematically identifying, quantifying, documenting, reporting, and monitoring environmentally significant components within a specified area, the audit process enables institutions to assess their environmental impact comprehensively. It serves as a vital mechanism for monitoring and managing energy and water resource usage, waste generation, and pollution levels.

Through environmental auditing, institutions can foster environmental awareness, promote resource conservation, and instill values of ecological balance and ethics. By embracing the principles of green auditing, organizations can chart a course towards environmental improvement while minimizing adverse impacts on nature.

1.1 Goals of the Environment Audit

The Environment Audit conducted at Khwaja Moinuddin Chishti Language University was meticulously planned with specific aims and objectives:

- Assess the effectiveness of waste management facilities within the university premises.
- Promote the adoption of the Waste to Wealth policy to maximize the utilization of all waste materials.
- Cultivate a culture of environmental awareness and responsibility among all members of the university community.
- Document and commend the implementation of green practices initiated by the university.

- Identify and evaluate both the strengths and weaknesses of existing green initiatives.
- Conduct comprehensive surveys to gauge the practical implementation of sustainable practices.
- Analyze survey data to derive actionable insights and propose solutions for identified environmental challenges.
- Identify and assess potential environmental risks to develop strategies for mitigation.
- Establish short-term objectives to guide the immediate priorities of the environmental audit program.
- Set long-term objectives aimed at gathering baseline environmental data and addressing persistent environmental concerns.
- Encourage active participation from both staff and students in adopting sustainable practices to optimize resource utilization and minimize environmental impact.

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1.2 Objectives of Environment audit

The objectives of the environmental assessment at Khwaja Moinuddin Chishti Language University encompass a holistic review of current practices impacting the environment, including water and air quality, resource utilization efficiency, and waste management. These objectives are outlined as follows:

1. Evaluate existing practices to identify their environmental implications, spanning areas such as water and air quality, as well as the optimization of resource usage and waste management protocols.
2. Compile an Environmental Statement Report detailing the green practices adopted by different university departments, support services, and administrative buildings.
3. Establish both short and long-term goals, as well as a clear vision and mission statement, to guide the implementation of green practices across the campus.
4. Identify and analyze key environmental issues prevalent within the university environment, prioritizing areas for intervention and improvement.
5. Develop and execute an Environmental Management Plan (EMP) across various departments, ensuring its periodic review and updates to align with evolving environmental objectives.
6. Conduct assessments to gauge the effectiveness and efficiency of green practices, facilitating ongoing evaluation and enhancement of environmental performance metrics.

1.3 Benefits of Environment Audit to an Educational Institute

The Environment audit presents a multitude of benefits to Educational Institutes, serving as a cornerstone for sustainable practices and environmental stewardship:

1. Environmental Protection: Safeguarding the environment within and surrounding the campus premises.

2. Enhanced Environmental Performance: Empowering the institute to elevate its environmental standards and practices.
3. Resource Management Efficiency: Optimizing resource utilization for improved efficiency.
4. Effective Waste Management: Reducing waste generation and managing solid waste effectively.
5. Promotion of Health Consciousness: Advocating for a plastic-free campus and fostering health awareness among stakeholders.
6. Cost Savings: Identifying cost-saving methods through waste minimization and management.
7. Legal Compliance: Ensuring adherence to relevant environmental laws and regulations.
8. Environmental Awareness: Increasing awareness of environmental guidelines and responsibilities among stakeholders.
9. Environmental Education: Providing environmental education through a systematic environmental management approach, thereby raising environmental standards.
10. Establishment of Benchmarks: Setting benchmarks for environmental protection initiatives to track progress and performance.
11. Ownership and Social Responsibility: Cultivating a sense of ownership and social responsibility towards the University and its environment.
12. Ethical Development: Fostering the development of environmental ethics and value systems among students and staff.
13. Positive Impression: Building a positive reputation through green initiatives, particularly in anticipation of accreditation visits such as NAAC assessments.

1.4 Water Audit

Water, a fundamental resource vital for sustenance, is facing increasing scarcity on a national scale. This scarcity stems from multiple factors including population growth, rising living standards, and the rapid pace of industrialization and urbanization. These factors collectively escalate the demand for freshwater, exerting immense pressure on available water resources. Furthermore, the unchecked discharge of industrial effluents further deteriorates the quality of water bodies, exacerbating the crisis.

In response to this pressing issue, Honorable Prime Minister Narendra Modi initiated the 'Jal Shakti Abhiyan' as a national mission on water conservation. This campaign urges citizens to unite in addressing water scarcity by adopting measures to conserve every precious drop of water and advocating for comprehensive water audits across all sectors.

A water audit entails a comprehensive analysis, both qualitative and quantitative, of water consumption patterns. Its primary objective is to identify avenues for reducing, reusing, and recycling

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water, thereby fostering sustainable water management practices. By scrutinizing water usage across various sectors including irrigation, domestic, power, and industrial, water audits serve as indispensable tools for minimizing losses and optimizing water usage.

Accurate measurement and assessment of water losses originating from different sources within a system are crucial for devising effective conservation strategies. Through the implementation of water audits, organizations and utilities can proactively work towards preserving this invaluable resource, ensuring its availability for future generations.

1.5 Water Audit Process

The process of conducting a water audit are:

- Data Collection
- Site Assessment
- Measurement and Monitoring
- Data Analysis
- Identify Opportunities
- Develop Action Plan
- Implementation
- Monitoring and Evaluation
- Documentation and Reporting
- Continual Improvement

1.6 Importance of Water Audit

1. **Methodical Approach:** Conducting a water audit involves a systematic process that meticulously examines water consumption patterns and usage across various sectors.
2. **Potential for Surprising Discoveries:** The audit may uncover unexpected or surprising results, shedding light on previously unnoticed areas of water usage or loss.
3. **Facilitation of Solutions:** Identifying specific problems through the audit makes it easier to devise targeted solutions aimed at addressing water conservation challenges effectively.
4. **Implementation of Attractive Measures:** Insights gained from the audit can inform the implementation of attractive mechanisms designed to incentivize water conservation behaviors and practices.

It is evident that the requirement for water varies significantly depending on several factors such as climate, cultural practices, dietary habits, and levels of development. Communities with populations ranging from 20,000 to 100,000 typically require 100 to 150 liters per person per day, while larger communities exceeding 100,000 individuals may require 150 to 200 liters per person per day.

According to standards set by the WHO Regional Office for Southeast Asia, schools typically need 2 liters of water per student for drinking purposes and 10-15 liters per student for water-flush toilets. Additionally, administrative facilities, excluding staff accommodations, generally necessitate 50 liters per person per day for various activities and functions.

1.7 Water Quality Test

In the realm of water quality assessment, various criteria are established to ensure the suitability of

water for different purposes, depending on its intended use. Among these, one of the most stringent standards is designated as the "Designated Best Use," particularly significant for areas where water is utilized for organized outdoor bathing activities.

Outlined below are the primary water quality criteria specifically tailored for bathing water, along with their underlying rationale:

Microbiological Contamination: The presence of fecal coliform and fecal streptococci, measured in Most Probable Number (MPN) per 100 milliliters, serves as a crucial indicator of potential sewage contamination. These parameters are vital for safeguarding against health hazards associated with exposure to harmful pathogens.

pH Level: Maintaining the pH within the range of 6.5 to 8.5 is essential for ensuring optimal conditions for skin contact during outdoor bathing activities. This range provides protection to sensitive body parts, including the skin, eyes, nose, and ears, from potential irritation or discomfort.

Dissolved Oxygen Concentration: A minimum dissolved oxygen concentration of 5 milligrams per liter is necessary to prevent the proliferation of anaerobic organisms and the production of obnoxious gases. This threshold ensures adequate oxygen levels for aquatic life and prevents the accumulation of pollutants in the water column.

Biochemical Oxygen Demand (BOD): BOD levels serve as an indicator of the organic pollution load in the water. By maintaining BOD levels below 3 milligrams per liter, the water body can effectively mitigate oxygen-consuming pollutants and prevent the production of obnoxious gases, thereby preserving water quality and ecological balance.

These criteria are established to mitigate the risks associated with sewage contamination and organic pollution, thereby ensuring the safety and well-being of individuals engaging in outdoor bathing activities. The desirable and permissible limits are set to accommodate fluctuations in environmental conditions, such as seasonal variations and changes in flow dynamics, while simultaneously upholding stringent standards for water quality and purity.

1.8 Water quality in India Source UNICEF Repository

Water scarcity and quality issues plague both rural and urban regions across India, depriving many of access to safe and high-quality drinking water. In most cases, water sources primarily consist of rivers or underground aquifers, such as wells. However, the natural composition of groundwater poses significant challenges to its purity.

Groundwater, being a universal solvent, has the capacity to dissolve various substances it comes into contact with over time. Consequently, the water obtained from wells often carries a plethora of dissolved compounds, including lead, arsenic, mercury, radium, chloride, iron, and copper. While many of these substances are harmless in small quantities, elevated levels beyond prescribed thresholds can pose serious health risks, ranging from mild ailments to potentially fatal consequences.

Understanding the impact of each of these contaminants on human health is imperative. For instance, exposure to lead can result in neurological disorders, particularly in children, while arsenic contamination is linked to skin lesions, cancers, and other severe health complications. Mercury exposure may lead to neurological and developmental issues, especially in fetuses and infants, while

radium exposure increases the risk of cancer. High levels of copper can cause gastrointestinal distress.

Analyzing available data can provide insights into the extent of contamination across various states. Identifying types of contamination, policymakers can prioritize interventions and allocate resources effectively. Coordinated concerted efforts are necessary to ensure safe drinking water across the country.

1.9 Drinking Water Quality

The Gomti River, a significant water source, is monitored for groundwater quality of the region. The following criteria are followed:

- A. Drinking Water Source with no treatment
 - Total Coliforms Organism / 100 ml: 500
 - pH: between 6.5 and 8.5
 - Dissolved Oxygen: 6 mg/l or more
 - Biochemical Oxygen Demand: 5 mg/l or less
- B. Drinking water source after treatment
 - Total Coliforms Organism / 100 ml: 50
 - pH: between 6.5 and 8.5
 - Dissolved Oxygen: 5 mg/l or more
 - Biochemical Oxygen Demand: 5 mg/l or less
- C. Propagation of Wildlife and Fisheries
 - Total Coliforms Organism / 100 ml: 500
 - pH: between 6 to 9
 - Dissolved Oxygen: 4 mg/l or more
 - Biochemical Oxygen Demand: 5 mg/l or less
- D. Irrigation, Industrial Cooling, and Domestic Use
 - pH: between 6.5 to 8.5
 - Dissolved Oxygen: 4 mg/l or more
 - Free Ammonia (as N): 1.2 mg/l or less
- E. Other uses:
 - pH: between 6.0 to 8.5
 - Electrical Conductivity at 25°C: 2500 µmhos/cm or less
 - Sodium absorption Ratio: 9 or less
 - Boron: Max. 2 mg/l

These criteria serve as benchmarks for the protection of public health, wildlife, and agricultural activities reliant on water resources.

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Sr. No.	Locations
1.	Admin Building
2.	Library
3.	Academic Building
4.	Girls Hostel
5.	Boys Hostel
6.	RUSA Building

Water Consumption in KMC Language University, Lucknow

Details of Water Motor

Sr. No.	Water Motor Location	Pumpi
1.	Academic Block	
2.	Library	
3.	Girl's Hostel	
4.	Vice Chancellor's House	
5.	Boy's Hostel	
6.	Staff Quarter	
7.	Guest House	
8.	Beside the Guest House	
9.	Behind the Admin Block	

Details of Water Motor

Sr. No.	Water Motor Location	No. of water tanks	Capacity in liter
1.	Academic Block	21	1000
2.	Admin Block	9	1000
3.	Guest House	9	1000
4.	Gymnasium	2	1000
5.	Library	4	1000
6.	Type – 2 Residence	6	1000
7.	Type – 3 Residence	12	500
8.	Type – 4 Residence	12	1000
8.	Boy's Hostel	9	1000
9.	Girl's Hostel	7	1000
10.	Vice Chancellor's House	2	1000
11.	F. O. House	1	1000
12.	Registrar's House	1	1000
13.	Student's Facility Center	3	1000
14.	RUSA Building	2	10000
15.	Overhead tank	1	20000

1.10 Groundwater

Groundwater monitoring shows the characteristic of the area and agricultural uses. The ranges from 260 to 300 µmhos/cm electrical conductivity, indicating moderate mineralization.

Carbonates, primarily in the shallow groundwater, are present in Kathwara in Balrampur. The limit of 100 mg/l is an acceptable level.

Notably, pesticides are not prescribed standards in aquifers in Lucknow. It is advisable to perform comprehensive monitoring for public health.

2. Waste Management

At KMC Language University, waste management practices are steadfast commitments to environmental sustainability that address the needs of the community engaged.

Waste Reduction

One of our primary goals is to reduce waste, faculty, and staff. Through regular audits, we are encouraging better practices in our campus to reduce consumption and waste.

Furthermore, we are promoting the use of Plastic water bottles. We are encouraging the use of such as reusable water bottles to reduce generation but not to eliminate.

Transitioning to digital formats, embracing digital formats. Electronic documents are implemented to reduce paper waste.

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resources.

Recycling and Composting Programs:

In line with our commitment to sustainability, KMC Language University has established recycling stations across campus. These stations are equipped with designated bins for paper, plastic, glass, and metal, making it convenient for students, faculty, and staff to segregate recyclable materials. Through clear signage and ongoing educational efforts, we ensure proper sorting, maximizing recycling rates, and diverting recyclable materials from landfills.

Complementing our recycling initiatives, we have also implemented composting programs to manage organic waste on campus. Food scraps and other biodegradable materials are collected and composted, turning them into nutrient-rich soil amendments for landscaping and gardening purposes. This closed-loop system not only reduces waste sent to landfills but also promotes soil health and supports sustainable landscaping practices.

Hazardous Waste Management:

At KMC Language University, we prioritize the proper management of hazardous materials to prevent environmental contamination and protect public health. Chemicals, batteries, and electronic waste are managed in strict accordance with disposal protocols. Specialized collection points and trained personnel ensure the safe handling and disposal of hazardous waste streams, mitigating potential risks to both the campus community and the environment.

Community Engagement and Partnerships:

Collaboration is key to our waste management efforts at KMC Language University. We actively engage with local authorities, waste management agencies, and community organizations to share best practices, leverage resources, and promote sustainable waste management initiatives at the local level. By working together, we can amplify our impact and create lasting change in our community.

Moreover, our students play a vital role in driving sustainability initiatives on campus. Through various student-led endeavors such as clean-up drives, recycling competitions, and sustainability workshops, they actively contribute to waste reduction and environmental conservation efforts. These initiatives not only foster a sense of ownership and empowerment among students but also cultivate a culture of environmental responsibility that extends beyond the campus boundaries.

In conclusion, sustainable waste management is a fundamental pillar of our commitment to environmental stewardship at KMC Language University. Through comprehensive waste reduction, recycling and composting, hazardous waste management, and community engagement efforts, we are working towards creating a cleaner, greener, and more sustainable campus environment for current and future generations.





خواجہ معین الدین چشتی اردو، عربی-فارسی یونیورسٹی، لکھنؤ
ख्वाजा मुईनुद्दीन चिश्ती उर्दू, अरबी-फ़ारसी विश्वविद्यालय, लखनऊ
Khwaja Moinuddin Chishti Urdu, Arabi-Farsi University, Lucknow
U.P. STATE GOVERNMENT UNIVERSITY

दिनांक: 10/07/2018

कार्यालय ज्ञाप

विश्वविद्यालय द्वारा माननीय कुलपति जी के आदेशानुसार विश्वविद्यालय में पर्यावरण लेखा
परीक्षा समित (Environmental Audit Committee) का गठन तीन वर्षों अथवा
अग्रिम आदेशो तक किया जाता है जिसका विवरण निम्नवत् है-

1. प्रो० सय्यद हैदर अली (व्यवसाय प्रबंधन विभाग)
2. डॉ सौबान सईद (उर्दू विभाग)
3. डॉ नलिनी मिश्रा (शिक्षाशास्त्र विभाग)
4. श्री शबीह हैदर (लेखाकार, वित्त कार्यालय)
5. श्री आशुतोष श्रीवास्तव (मंडल अभियंता, पूर्वोत्तर रेलवे बरेली)

(अशोक कुमार अरविन्द)
कुलसचिव

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