

# Analysis of the Accessibility and User-Friendliness of Lavatory Facilities for Staff and Students in Naraguta Campus of University of Jos, Nigeria

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**Abstract:-** Lavatory facilities in academic institutions are critical for maintaining hygiene, safety, and well-being, especially for staff, students, and persons with disabilities. This study assesses the accessibility and user-friendliness of lavatories on the Naraguta Campus of the University of Jos, Nigeria, focusing on availability, suitability for persons with disabilities, hygiene, and maintenance. Using a mixed-methods approach involving surveys and physical inspections, this study reveals the shortcomings in facility design, maintenance, and access. Recommendations for upgrading infrastructure, improving maintenance practices, and addressing water shortages are provided.

**Keywords:-** Accessibility, Lavatory Facilities, User-Friendliness, Persons with Disabilities, Hygiene, Maintenance, University of Jos, Naraguta Campus, Safety, Water Supply, Higher Education.

## I. INTRODUCTION

The quality and maintenance of lavatory facilities on university campuses are crucial determinants of the overall well-being of students and staff. These facilities play an essential role in safeguarding public health, ensuring comfort, and supporting the learning environment. Lavatories that are clean, well-maintained, and adequately equipped foster a sense of safety and care, which is especially important in an academic context where both students and staff spend significant time daily [1]. Properly maintained lavatories help prevent the spread of diseases and ensure that individuals can focus on their academic tasks without distraction.

Inadequate lavatory facilities can have far-reaching consequences. Research has demonstrated a direct correlation between substandard lavatories and negative outcomes such as poor academic performance, reduced morale, and even increased absenteeism. According to [2], poor sanitation infrastructure contributes to lower attendance rates, as students often avoid using such facilities and may even miss classes due to related health concerns. Furthermore, inadequate lavatory conditions can undermine the mental well-being of staff, leading to reduced productivity and engagement [3]. In some instances, the lack of access to properly maintained lavatories has been associated with

increased incidents of illness, absenteeism, and declining performance across academic institutions [4]

A key aspect often overlooked in the assessment of campus lavatory facilities is accessibility for persons with disabilities. Accessible lavatories ensure equitable access for all individuals, including those with mobility impairments [5]. The presence of accessible lavatories promotes a more inclusive and dignified campus experience. This is aligned with global initiatives and frameworks, such as those advocated by [6] and the World Health Organization, which emphasize the importance of inclusive sanitation in educational settings. Accessible sanitation is not only a matter of convenience but also one of human rights, enabling individuals to fully participate in academic and social life without facing unnecessary barriers [7]. Failure to provide such facilities has been shown to exacerbate social exclusion and limit opportunities for people with disabilities to pursue higher education [8]

In Nigeria, the importance of addressing accessibility and user-friendliness in campus infrastructure cannot be overstated, particularly within a growing urban and academic population [9]. The Naraguta Campus of the University of Jos serves as a case study in this regard, as it represents a large and diverse university community. This study focuses on assessing the current state of lavatories on this campus, with an emphasis on accessibility, user-friendliness, and maintenance challenges. The findings presented in this article aim to inform policies and structural improvements, providing data-driven recommendations to enhance the user experience for both students and staff. Ultimately, the study seeks to contribute to the broader discourse on sanitation equity and infrastructure development in Nigerian universities, highlighting the need for long-term solutions that benefit the entire campus community [10].

## II. METHODOLOGY

This study employed a mixed-methods research design, combining both qualitative and quantitative approaches to gather comprehensive data. The use of mixed methods allowed for a more robust analysis by capturing both numerical trends and the nuanced experiences of lavatory users. Surveys were distributed to a sample population of 200 students and 50 staff members across the Naraguta Campus

to collect data on user experiences related to the conditions of lavatory facilities. The survey questions focused on various factors including cleanliness, accessibility, user-friendliness, and perceived safety and privacy.

In addition to the surveys, physical inspections of 30 lavatories were conducted. These inspections evaluated the current state of the facilities, particularly in terms of accessibility for persons with disabilities, overall hygiene, privacy provisions, and the safety features available in the lavatories. The inspections aimed to assess whether the

lavatories met the basic standards for functionality and user comfort.

The combination of survey data and physical inspections provided a holistic view of the situation, allowing for an analysis that not only identified general patterns but also highlighted specific challenges faced by different user groups. The findings were systematically analyzed to identify recurring themes, common challenges, and potential solutions. Through this mixed-methods approach, the study was able to offer data-driven insights and recommendations for improving lavatory facilities at the Naraguta Campus.

### III. FINDINGS

Table 1. Accessibility of Lavatory Facilities on Naraguta Campus

Lavatory Feature	Accessible to General Population (%)	Accessible to Persons with Disabilities (%)
Centrally Located Lavatories	85%	10%
Ramps	0%	5%
Wheelchair-Friendly Entrances	15%	10%
Accessible Fixtures (e.g., grab bars)	0%	10%
Adequate Signage for Accessibility	20%	5%

Source : Field Survey, 2024.

Table 2. User Satisfaction with Lavatory Facilities

Aspect	Satisfied (%)	Neutral (%)	Dissatisfied (%)
Cleanliness	30%	20%	50%
Safety (non-slip floors, lighting)	40%	15%	45%
Privacy (locks, partitions)	35%	25%	40%
Water Availability	25%	15%	60%
Overall User-Friendliness	40%	20%	40%

Source : Field Survey, 2024

Table 3. Frequency of Maintenance Issues

Maintenance Issue	Percentage of Respondents Reporting Issues (%)
Broken Fixtures	45%
Leaking Pipes	40%
Non-functional Water Closets	50%
Unclean Lavatories	62%
Inadequate Waste Disposal	38%

Source : Field Survey, 2024

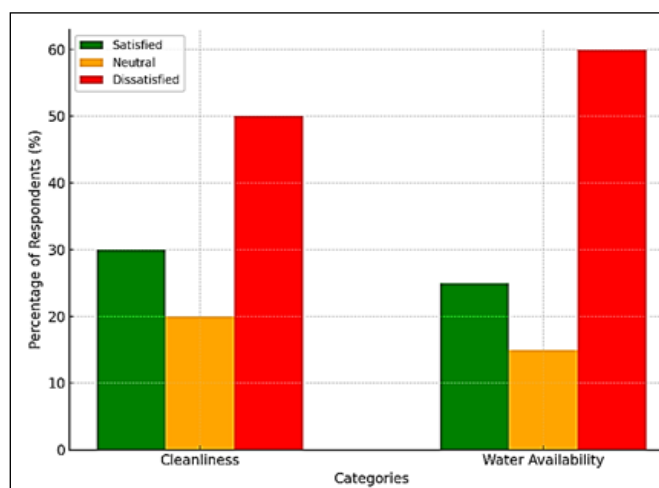


Fig 1. User Perceptions of Lavatory and Water Supply

Source : Field Survey, 2024.

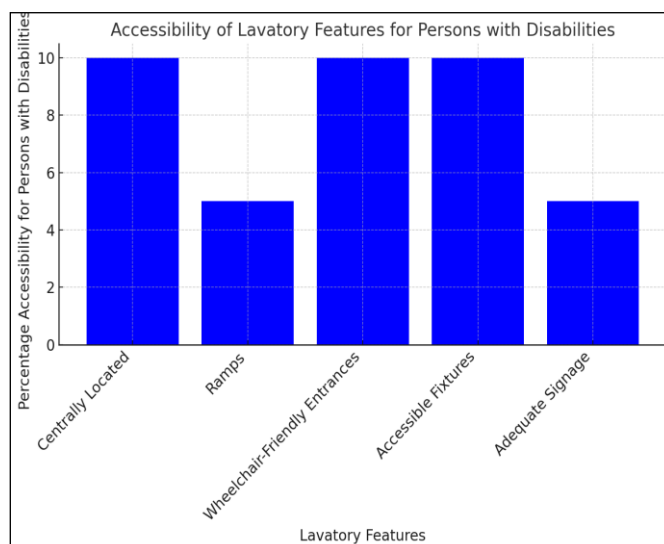


Fig 2. Accessibility of Lavatory Features for Persons with Disabilities

Source : Field Survey, 2024.

### A. Analysis of Findings

The data presented in this study sheds light on several key issues affecting the accessibility, user-friendliness, and maintenance of lavatory facilities at Naraguta Campus, University of Jos. The findings are summarized as follows:

#### ➤ Accessibility:

The accessibility of lavatory facilities for persons with disabilities is notably deficient. Only 10% of centrally located lavatories are accessible to persons with disabilities. Other critical features that support accessibility, such as ramps and wheelchair-friendly entrances, are present in a mere 5% to 10% of lavatories. In addition, essential accessible fixtures like grab bars and proper signage were found in only 5% to 10% of facilities. These statistics highlight a significant shortfall in inclusive design and access, leaving much of the campus population underserved.

### B. User Satisfaction:

50% of respondents expressed dissatisfaction with the cleanliness of the lavatories, while only 30% were satisfied. This indicates widespread concern over the sanitary conditions of the facilities.

Water supply issues were a major concern, with 60% of users reporting dissatisfaction due to frequent water shortages. Only 25% of respondents were satisfied with the availability of water.

Many users were also dissatisfied with safety and privacy within the lavatories. Issues such as broken locks, damaged partitions, and slippery floors were frequently reported, contributing to poor user experiences.

#### ➤ Maintenance Issues:

The study revealed an alarmingly high frequency of maintenance problems affecting the lavatories. Key findings include:

- 62% of respondents reported issues with unclean lavatories, making it the most frequently cited issue.

- 50% of respondents reported water closets that were not functioning properly, contributing to widespread frustration.
- 45% of users indicated that broken fixtures, such as taps and doors, were a major concern.
- 40% of users reported problems with leaking pipes, adding to the maintenance challenges.
- 38% of respondents highlighted inadequate waste disposal systems as a persistent issue, exacerbating the poor sanitation conditions.

Overall, the findings point to significant challenges in the accessibility, cleanliness, maintenance, and overall usability of the lavatory facilities on the Naraguta Campus. These issues reflect gaps in campus infrastructure that need urgent attention to improve the health, safety, and comfort of users.

#### ➤ Challenges Identified

The study identified several structural and operational challenges impacting the lavatory facilities on the Naraguta Campus:

- Both survey responses and physical inspections revealed a significant lack of regular maintenance. Issues such as broken fixtures, leaking pipes, and non-functional water closets were reported in 45% of the surveyed lavatories [11]. highlight that irregular maintenance is a prevalent issue in Nigerian educational institutions, often attributed to inadequate funding and oversight. This lack of regular upkeep leads to deteriorating conditions and further compounds user dissatisfaction.
- Frequent water shortages were identified as a recurring issue across many lavatories. This problem leads to unsanitary conditions and unpleasant odors, which are major concerns for users. As noted by [12], water supply issues are a common challenge in several Nigerian universities, where inadequate infrastructure frequently causes disruptions in essential services.
- Privacy was compromised in several lavatories due to broken locks, damaged partitions, and malfunctioning

doors. These issues undermine user comfort and discourage the use of these facilities, particularly among female users, who may feel vulnerable under such conditions [13]. Ensuring privacy in lavatory facilities is crucial for creating a safe and comfortable environment for all users.

#### IV. DISCUSSION

The findings of this study underscore several critical areas where improvements are necessary to enhance the accessibility and user-friendliness of lavatory facilities at the University of Jos:

##### ➤ Accessibility

The accessibility of lavatories on the Naraguta Campus was found to be inconsistent, particularly in relation to persons with disabilities. While many lavatories are centrally located, making them accessible to most students and staff, several barriers impede access for persons with disabilities. Specifically, the lack of ramps, uneven walkways, and narrow doorways prevent wheelchair users from accessing these facilities. According to [14], inadequate attention to the needs of persons with disabilities often leads to their exclusion from essential campus facilities. This situation is mirrored at the University of Jos, where only a small number of lavatories meet international accessibility standards. The failure to ensure accessibility for all users limits the inclusivity of campus infrastructure and hinders equitable access to essential services.

The lack of accessible lavatories for persons with disabilities is a major concern, hindering the inclusiveness of the campus environment. This issue aligns with previous studies emphasizing the importance of accessibility in promoting social inclusion and equality in higher education [15]. Addressing this gap is essential for ensuring that all campus members can fully participate in academic and social activities.

##### ➤ User-Friendliness

The overall user-friendliness of the lavatories on campus is compromised by poor maintenance, inconsistent cleanliness, and safety hazards. Cleanliness emerged as a major concern, with 62% of survey respondents reporting that lavatories are often unclean, particularly during peak usage periods. This finding aligns with the research of [16], who noted that the maintenance of public lavatories in educational institutions is frequently neglected, resulting in hygiene issues that negatively impact user satisfaction.

Safety hazards were also prevalent in the inspected lavatories. Many facilities had broken tiles, slippery floors, and inadequate lighting, all of which present risks to users. According to [17] safety measures such as non-slip flooring and adequate lighting are critical for preventing accidents in lavatory facilities. These deficiencies not only compromise user safety but also exacerbate the challenges faced by persons with disabilities, who may be particularly vulnerable to such hazards. Improving safety and cleanliness is essential

for enhancing the overall user-friendliness of the facilities on campus.

The issues related to hygiene and safety further highlight the need for improved maintenance and operational practices. The study indicates a pressing need for regular and consistent maintenance schedules, alongside increased funding for infrastructure upgrades. Adequate water supply, enhanced safety features, and improved privacy measures are critical for significantly boosting user satisfaction and health outcomes.

By addressing these challenges, the University of Jos can enhance the overall quality of its lavatory facilities, thereby improving the health, safety, and comfort of its students and staff. The implementation of effective maintenance strategies, infrastructure improvements, and inclusive design principles will contribute to a more equitable and user-friendly campus environment.

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