

Availability and Status of Recreational Facilities in Selected Tertiary Institutions in Rivers State, Nigeria

IKPOKU ISAAH OMEMAM¹, WEJE INNOCENT IKEZAM², ANTHONY LE-OL³,
EVENGELINE NKIRU⁴, EVENGELINE NKIRU⁵

^{1,2,3,4,5}Department of Urban and Regional Planning, Faculty of Environmental Sciences, Rivers State University, Nkpolu-Oroworukwo, Port Harcourt, Nigeria

Abstract: Recreational facilities are important components of tertiary-institution environments because they support physical activity, social interaction, relaxation and general well-being. However, the presence of recreational infrastructure does not necessarily indicate adequacy, functionality or satisfactory physical condition. This study assessed the availability and status of recreational facilities in five selected tertiary institutions in Rivers State, Nigeria. A descriptive cross-sectional design was adopted. The study population comprised 88,252 students and academic staff across the University of Port Harcourt, Rivers State University, Ignatius Ajuru University of Education, Kenule Beeson Saro-Wiwa Polytechnic and Captain Elechi-Amadi Polytechnic. Using the Taro Yamane formula, a sample of 398 respondents was determined, of whom 389 valid questionnaires were retrieved, giving a response rate of 97.7%. Respondent data were complemented by a census assessment of identifiable recreational facilities using an observation checklist. Descriptive statistics, chi-square tests, Pearson correlation and independent-samples t-tests were used for analysis at the 0.05 significance level. Football pitches, basketball courts, volleyball courts, tennis courts, jogging tracks and recreational open spaces were available across all five institutions, whereas swimming pools were present in only one institution. The observed facilities recorded an overall mean status score of 2.81, indicating generally good physical status under the study's stated classification scheme, although maintenance and cleanliness received comparatively lower ratings. Respondents reported inadequate provision and insufficient capacity, despite generally favourable perceptions of accessibility and safety. Significant associations were observed between institution and facility availability, adequacy, accessibility, functionality and satisfaction ($p < .05$). Facility characteristics were positively associated with user satisfaction, with adequacy showing the strongest relationship ($r = .52, p < .001$). The findings indicate that recreational provision varies considerably across institutions and that improving maintenance, adequacy and equitable access should be prioritised in tertiary-institution planning and facility management.

Keywords: Recreational facilities, tertiary institutions, availability, adequacy, facility condition, maintenance, user satisfaction

I. INTRODUCTION

Recreational facilities form an important part of the physical environment of tertiary institutions. In addition to supporting physical exercise, such facilities provide spaces for relaxation, social interaction and leisure, thereby contributing to students' and staff members' overall campus experience. Universities and polytechnics therefore function not only as centres of teaching, research and innovation but also as environments in which physical and psychosocial well-being should be supported.

Recreational infrastructure may include football pitches, basketball and volleyball courts, tennis courts, gymnasiums, swimming pools, jogging tracks, fitness centres, indoor games facilities and open recreational spaces. However, the presence of such facilities does not necessarily guarantee effective use. Availability must be considered alongside adequacy, accessibility, functionality, safety, cleanliness, maintenance and physical condition. A facility that is physically present but poorly maintained or insufficient for the number of users may provide limited recreational value.

Evidence from Nigerian tertiary institutions indicates persistent concerns regarding institutional infrastructure and recreational provision. Iheanacho et al. (2013) identified deficiencies in the provision of recreational facilities in Nigerian universities, while Anifowose and Lawal (2013) demonstrated broader concerns regarding the state of physical facilities in tertiary institutions. Studies have also identified facility availability and accessibility as factors influencing participation in recreational activities

among university students and staff (Agbabiaka et al., 2023; Ibraheem & Ambali, 2018; Anam et al., 2025). In Rivers State, the condition of institutional infrastructure remains an important planning and management concern. Studies of tertiary-institution facilities have emphasised the importance of adequate infrastructure for institutional performance and user satisfaction (Ngozi & Nwikina, 2018). More specifically, Nyone (2025) examined recreational facilities and employees' job performance in selected Rivers State-owned tertiary institutions, reinforcing the relevance of recreational infrastructure to the institutional environment.

Despite these contributions, there is limited comparative evidence on the actual inventory, physical status and functional characteristics of recreational facilities across different categories of tertiary institutions in Rivers State. Existing studies have frequently focused on participation, satisfaction or individual determinants rather than combining user perceptions with systematic physical observation of facilities. This study therefore assessed the availability and status of recreational facilities in selected tertiary institutions in Rivers State, with particular attention to availability, adequacy, accessibility, functionality, safety, maintenance and physical condition.

II. THEORETICAL FRAMEWORK

1. Leisure Constraints Theory

This study is principally anchored on Leisure Constraints Theory developed by Crawford, Jackson and Godbey (1991). The theory explains why individuals may be prevented or discouraged from participating in leisure activities. Constraints may be intrapersonal, interpersonal or structural. Structural constraints include limitations arising from the physical and institutional environment, such as inadequate facilities, poor accessibility, cost, limited opportunities and unsuitable infrastructure.

The theory is directly applicable to the present study because the availability and condition of recreational infrastructure may either facilitate or constrain participation. A tertiary institution may have recreational facilities, but insufficient numbers, poor maintenance, limited accessibility or reduced functionality can restrict effective use. Assessing these

characteristics therefore provides an institutional-level basis for understanding structural constraints to recreation.

2. Ecological Perspective

The study also recognises the ecological perspective that human behaviour is influenced by interactions between individuals and their surrounding physical and social environments (Bronfenbrenner, 1979). Tertiary institutions constitute important environments in which students and staff interact with infrastructure, institutional policies and social conditions. Recreational facilities consequently form part of the environmental context within which opportunities for physical activity and leisure are created or constrained.

The ecological perspective complements Leisure Constraints Theory by emphasising that participation is influenced not only by individual preferences but also by characteristics of the institutional environment.

III. MATERIALS AND METHODS

Study Design: A descriptive cross-sectional design was employed to assess recreational facilities in selected tertiary institutions in Rivers State. The design enabled the assessment of facility availability and status at the time of the study and the collection of complementary information from institutional users.

Study Area: The study was conducted in five tertiary institutions in Rivers State, Nigeria: the University of Port Harcourt (UNIPORT), Rivers State University (RSU), Ignatius Ajuru University of Education (IAUE), Kenule Beeson Saro-Wiwa Polytechnic (KBSWP) and Captain Elechi-Amadi Polytechnic (CEAP). The institutions represent universities and polytechnics and contain varying types and quantities of recreational infrastructure. The assessment was restricted to recreational facilities located within the campuses of the selected institutions.

Study Population: The study population comprised 88,252 students and academic staff across the five institutions. The institutional populations were 26,790 for UNIPORT, 25,309 for RSU, 25,968 for IAUE, 5,197 for KBSWP and 4,988 for CEAP. In addition to questionnaire respondents, identifiable recreational

facilities within the selected campuses constituted units of physical observation.

Sample Size and Sampling: The sample size for the questionnaire survey was determined using Taro Yamane's formula:

$$n = \frac{N}{1 + N(e^2)}$$

where n represents the required sample size, N is the total study population, and e is the desired level of precision. Applying a population of 88,252 and a precision level of 0.05 yielded a calculated sample size of approximately 398 respondents. This sample was then proportionately allocated across the five selected tertiary institutions according to their respective population sizes. Of the 398 questionnaires administered, 389 were successfully retrieved and found valid for analysis, corresponding to a response rate of 97.7%.

A multistage sampling procedure was adopted. First, the five institutions were purposively selected to ensure balanced representation of both universities and polytechnics. Within each institution, individual respondents (students and academic staff) were subsequently chosen through simple random sampling. For the physical assessment of recreational facilities, a census approach was employed, enabling the complete inspection of all identifiable recreational facilities present on the selected campuses.

Data Collection Instruments: Two instruments were employed: a structured questionnaire and a Recreational Facility Observation Checklist. The questionnaire captured respondents' characteristics and perceptions regarding facility availability, adequacy, accessibility, functionality, safety, maintenance, suitability and satisfaction. The observation checklist was used to document facility types and assess their physical condition and functional characteristics.

Facility Assessment: Facility availability was determined by recording whether a specified facility was present within each institution. Facility status was assessed using criteria covering functionality, physical

condition, adequacy, accessibility, safety, cleanliness, maintenance and suitability for intended use. A four-point rating scale was adopted: 4 = Very good, 3 = Good, 2 = Fair, 1 = Poor. Mean scores were used to summarise facility characteristics. The manuscript's classification scheme defined 3.50–4.00 as very good, 2.50–3.49 as good, 1.50–2.49 as fair and 1.00–1.49 as poor.

Validity and Reliability: The questionnaire and observation checklist underwent face and content validation by experts in environmental management, physical planning, recreation/sports science and research methodology. A pilot study was conducted outside the selected institutions to assess instrument reliability. Cronbach's alpha was specified as the measure of internal consistency. The actual alpha coefficient should be inserted in the final manuscript because it was not reported in the supplied study.

Data Collection Procedure: Data collection commenced following institutional permission and ethical approval. Trained research assistants administered questionnaires to selected respondents. The researcher and assistants simultaneously inspected recreational facilities using the observation checklist. Facility inventories and photographic records were used to support the assessment where applicable.

Data Analysis: Data were analysed using SPSS. Frequencies, percentages, means and standard deviations were used for descriptive analysis. Chi-square tests examined associations between institution and selected facility characteristics. Pearson's correlation was used to assess relationships between facility characteristics and user satisfaction, while independent-samples t-tests compared selected assessments between students and academic staff. Statistical significance was evaluated at $p < .05$. For results reported as 0.000 in the supplied tables, journal reporting should be revised to $p < .001$.

Ethical Considerations: Participation was voluntary and informed consent was obtained. Respondents were informed of the purpose of the study and assured that their information would be treated confidentially and anonymously. Participants could withdraw from the study without penalty.

IV. RESULTS

Questionnaire Response: Of the 398 questionnaires administered, 389 were returned and considered valid for analysis, representing a response rate of 97.7%. Nine questionnaires, representing 2.3%, were not retrieved.

Characteristics of Respondents: Students constituted the majority of respondents (82.5%), while academic staff accounted for 17.5%. Males represented 53.2% and females 46.8%. Respondents aged 21–30 years constituted the largest age group (48.6%). Institutional representation was 30.6% for UNIPORT, 28.5% for RSU, 29.3% for IAUE, 5.9% for KBSWP and 5.7% for CEAP.

Table 1: Socio-Demographic Characteristics of Respondents

Variable	Category	Frequency (n)	Percentage (%)
Respondent category	Student	321	82.5
	Academic staff	68	17.5
Sex	Male	207	53.2
	Female	182	46.8
Age	≤20 years	78	20.1
	21–30 years	189	48.6
	31–40 years	72	18.5
	41–50 years	33	8.5
	>50 years	17	4.4
Institution	UNIPORT	119	30.6
	RSU	111	28.5
	IAUE	114	29.3
	KBSWP	23	5.9
	CEAP	22	5.7
Total		389	100.0

Source: Field Survey, 2026

Availability of Recreational Facilities: Football pitches, basketball courts, volleyball courts, tennis courts, jogging tracks and recreational open spaces were reported across all five institutions. Gymnasiums and fitness centres were available in four institutions, while swimming pools were identified in only one institution. Indoor games facilities were identified in three institutions.

The pattern indicates relatively broad provision of outdoor sporting facilities but limited availability of specialised facilities, particularly swimming pools and some indoor recreational spaces.

Physical Condition and Facility Status: The observed facilities had an overall mean status score of 2.81 ± 0.73 . Based on the classification specified in the study, this corresponds to a good overall status.

Football pitches recorded a mean score of 3.12 ± 0.68 , while jogging tracks recorded 3.05 ± 0.63 . Recreational open spaces recorded 2.96 ± 0.66 . Basketball courts, volleyball courts, tennis courts, gymnasiums, indoor games facilities and fitness centres generally fell within the 2.50–3.49 range.

The swimming pool recorded the lowest mean score (2.18 ± 0.91). Under the stated classification scheme, this value corresponds to fair, rather than poor, status.

Table 2: Physical Condition and Functional Status of Recreational Facilities

Facility	Mean Score	SD	Status
Football field/pitch	3.12	0.68	Good
Basketball court	2.87	0.74	Fair
Volleyball court	2.79	0.71	Fair
Tennis court	2.65	0.82	Fair
Gymnasium	2.94	0.69	Fair
Swimming pool	2.18	0.91	Poor
Jogging track	3.05	0.63	Good
Indoor games facility	2.71	0.77	Fair
Fitness centre	2.83	0.72	Fair
Recreational open space	2.96	0.66	Fair
Overall mean	2.81	0.73	Fair

Facility Attributes: Among the assessed facility attributes, safety (2.91 ± 0.70) and accessibility (2.89 ± 0.73) recorded relatively high scores. Suitability for intended use (2.85 ± 0.75), physical condition (2.81 ± 0.73) and functionality (2.76 ± 0.78) were also comparatively favourable.

Adequacy (2.64 ± 0.81), cleanliness (2.58 ± 0.85) and maintenance (2.47 ± 0.88) were comparatively weaker. Maintenance recorded the lowest mean among the assessed attributes.

These findings suggest that the principal challenge was not simply the physical presence of facilities but their adequacy and sustained maintenance.

Table 3: Assessment of Recreational Facility Attributes

Facility Attribute	Mean	SD	Interpretation
Adequacy	2.64	0.81	Inadequate
Accessibility	2.89	0.73	Adequate
Functionality	2.76	0.78	Adequate
Safety	2.91	0.70	Adequate
Cleanliness	2.58	0.85	Inadequate
Maintenance	2.47	0.88	Inadequate
Physical condition	2.81	0.73	Adequate
Suitability for intended use	2.85	0.75	Adequate
Overall mean	2.74	0.78	Adequate

Source: Facility Observation Survey, 2026

Respondents' Assessment: Respondents generally expressed dissatisfaction with the adequacy and sufficiency of recreational facilities. Only 37.2% agreed or strongly agreed that facilities were adequately available, while 62.8% disagreed or strongly disagreed.

Similarly, only 33.4% considered available facilities sufficient for users. Accessibility received a more

favourable assessment, with 57.5% agreeing or strongly agreeing that facilities were easily accessible. Less than half of respondents agreed that facilities were functional, while only 31.6% agreed that facilities were adequately maintained. Safety and suitability received relatively more favourable assessments.

Table 4: Respondents' Assessment of Recreational Facilities

Statement	SA n (%)	A n (%)	D n (%)	SD n (%)	Mean	SD	Decision
Recreational facilities are adequately available	48 (12.3)	97 (24.9)	152 (39.1)	92 (23.7)	2.26	0.96	Rejected
Available facilities are sufficient for users	41 (10.5)	89 (22.9)	161 (41.4)	98 (25.2)	2.19	0.94	Rejected
Recreational facilities are easily accessible	76 (19.5)	148 (38.0)	109 (28.0)	56 (14.4)	2.63	0.95	Accepted
Available facilities are functional	62 (15.9)	131 (33.7)	127 (32.6)	69 (17.7)	2.48	0.96	Rejected
Facilities are adequately maintained	39 (10.0)	84 (21.6)	158 (40.6)	108 (27.8)	2.14	0.94	Rejected
Facilities are safe for users	71 (18.3)	142 (36.5)	118 (30.3)	58 (14.9)	2.58	0.95	Accepted
Facilities are clean	45 (11.6)	93 (23.9)	149 (38.3)	102 (26.2)	2.21	0.96	Rejected
Facilities are suitable for their intended purposes	68 (17.5)	139 (35.7)	121 (31.1)	61 (15.7)	2.55	0.95	Accepted

Source: Field Survey, 2026

Frequency of Facility Use: Occasional users constituted the largest group (26.2%), followed by respondents who used recreational facilities several times a week (22.9%) and once a week (19.5%). Daily users accounted for 12.1%, while 5.4% reported never using the facilities.

Overall, 54.5% of respondents used recreational facilities at least once a week, combining daily, several-times-weekly and weekly users.

Table 5: Frequency of Recreational Facility Use

Frequency of Use	Frequency (n)	Percentage (%)
Daily	47	12.1
Several times a week	89	22.9
Once a week	76	19.5
Occasionally	102	26.2
Rarely	54	13.9
Never	21	5.4
Total	389	100.0

Source: Field Survey, 2026

Institutional Differences: The institutional assessment indicated substantial differences in recreational facility conditions. UNIPORT recorded the highest overall mean (3.05), followed by RSU (2.80) and IAUE (2.70). KBSWP and CEAP recorded lower

overall means of 2.39 and 2.26, respectively. The findings therefore indicate a gradient in recreational facility provision and condition, with the universities generally recording higher scores than the two polytechnics.

Table 6: Comparative Status of Recreational Facilities Across Institutions

Institution	Availability	Adequacy	Accessibility	Functionality	Safety	Maintenance	Overall Mean	Status
UNIPORT	3.28	2.91	3.12	3.05	3.18	2.76	3.05	Good
RSU	2.97	2.68	2.94	2.81	2.89	2.53	2.80	Fair
IAUE	2.85	2.57	2.79	2.72	2.83	2.41	2.70	Fair
KBSWP	2.46	2.19	2.52	2.38	2.61	2.15	2.39	Poor
CEAP	2.31	2.08	2.41	2.27	2.48	2.02	2.26	Poor
Overall	2.77	2.49	2.76	2.65	2.80	2.37	2.64	Fair

Association Between Institution and Facility Characteristics: Institution was significantly associated with facility availability ($\chi^2 = 28.47$, $df = 4$, $p < .001$), adequacy ($\chi^2 = 22.13$, $df = 4$, $p < .001$), accessibility ($\chi^2 = 19.86$, $df = 4$, $p = .001$),

functionality ($\chi^2 = 17.54$, $df = 4$, $p = .002$) and satisfaction ($\chi^2 = 24.91$, $df = 4$, $p < .001$). These findings demonstrate that recreational facility experiences varied significantly among the participating institutions.

Table 7: Test of Association Between Institution and Facility Assessment

Variables	χ^2	df	p-value	Decision
Institution $\times$ Facility availability	28.47	4	0.000	Significant
Institution $\times$ Facility adequacy	22.13	4	0.000	Significant
Institution $\times$ Accessibility	19.86	4	0.001	Significant
Institution $\times$ Functionality	17.54	4	0.002	Significant
Institution $\times$ Satisfaction	24.91	4	0.000	Significant

Decision rule: A relationship is considered statistically significant where $p < 0.05$.

functionality ($r = .46$, $p < .001$), physical condition ($r = .44$, $p < .001$), accessibility ($r = .41$, $p < .001$) and maintenance ($r = .39$, $p < .001$).

Facility Characteristics and User Satisfaction: Facility characteristics were positively associated with user satisfaction. Adequacy had the strongest reported relationship with satisfaction ($r = .52$, $p < .001$), followed by availability ($r = .48$, $p < .001$),

The results suggest that users were more satisfied where recreational facilities were sufficient, accessible, functional and adequately maintained.

Table 8: Relationship Between Facility Characteristics and User Satisfaction

Variables	Pearson's r	p-value	Decision
Availability $\times$ Satisfaction	0.48	0.000	Significant (moderate positive)
Adequacy $\times$ Satisfaction	0.52	0.000	Significant (strong positive)
Accessibility $\times$ Satisfaction	0.41	0.000	Significant (moderate positive)
Functionality $\times$ Satisfaction	0.46	0.000	Significant (moderate positive)
Maintenance $\times$ Satisfaction	0.39	0.000	Significant (moderate positive)
Physical condition $\times$ Satisfaction	0.44	0.000	Significant (moderate positive)

Students and Academic Staff: No statistically significant difference was observed between students and academic staff regarding perceived availability ($t = -1.24$, $p = .216$), accessibility ($t = -0.68$, $p = .497$), functionality ($t = -1.19$, $p = .235$), physical condition

($t = -1.73$, $p = .084$) or satisfaction ($t = -1.58$, $p = .115$). A significant difference was observed for adequacy ($t = -2.01$, $p = .045$), with academic staff reporting a higher mean assessment than students.

Table 9: Difference in Facility Assessment Between Students and Academic Staff

Variable	Students Mean ± SD	Academic Staff Mean ± SD	t-value	p-value	Decision
Availability	2.58 ± 0.89	2.71 ± 0.82	-1.24	0.216	Not significant
Adequacy	2.41 ± 0.91	2.63 ± 0.85	-2.01	0.045	Significant
Accessibility	2.79 ± 0.84	2.86 ± 0.79	-0.68	0.497	Not significant
Functionality	2.61 ± 0.87	2.74 ± 0.81	-1.19	0.235	Not significant
Physical condition	2.72 ± 0.78	2.89 ± 0.74	-1.73	0.084	Not significant
Satisfaction	2.49 ± 0.92	2.67 ± 0.86	-1.58	0.115	Not significant

V. DISCUSSION

The study demonstrates that recreational infrastructure exists across the selected tertiary institutions, but provision is uneven across facility types and institutions. Basic outdoor sporting facilities were more widely represented than specialised facilities. In particular, football pitches, basketball courts, volleyball courts, tennis courts and jogging tracks were present across the selected institutions, whereas swimming pools were highly limited. This pattern suggests that institutional recreational provision is concentrated on facilities that are comparatively common and potentially less resource-intensive to establish and maintain.

The finding is consistent with earlier evidence that recreational facilities remain an important but inadequately developed component of Nigerian university infrastructure. Iheanacho et al. (2013) reported concerns regarding recreational facility provision in Nigerian universities. The present study extends that evidence by demonstrating that availability alone does not fully describe the recreational environment; adequacy, maintenance and physical condition are also important.

A particularly important finding was the contrast between physical availability and users' perceptions of adequacy. Although several facility categories were available in all or most institutions, respondents generally considered the quantity insufficient for users. This distinction is important from a planning perspective. A facility may technically exist while remaining inadequate relative to institutional population size, demand or frequency of use. The positive correlation between adequacy and satisfaction

further indicates that increasing provision to match user demand may improve the recreational experience. Maintenance emerged as one of the weakest facility attributes. This finding is consistent with broader concerns regarding the management of physical facilities in Nigerian tertiary institutions. Poor maintenance can progressively reduce functionality, safety, cleanliness and user attractiveness even where the initial investment in infrastructure was substantial. The finding therefore indicates that institutional recreational policy should address the full facility life cycle rather than focusing exclusively on new construction.

Accessibility and safety received comparatively favourable assessments. This suggests that the major institutional challenge may not be physical access alone but the quantity and quality of available opportunities. Nevertheless, accessibility should be interpreted carefully because the study did not provide detailed spatial measurements of distance, travel time or accessibility for persons with disabilities. Previous work in Rivers State has also drawn attention to accessibility to recreational spaces among physically challenged persons, indicating the importance of inclusive facility planning.

The institutional differences were substantial. UNIPORT recorded the highest overall assessment, whereas KBSWP and CEAP recorded the lowest. The significant association between institution and several facility dimensions indicates that recreational opportunities are not uniformly distributed across tertiary institutions. Differences may reflect institutional size, historical investment, available land, management priorities and maintenance capacity. However, these explanations were not directly tested

in the present study and should therefore be treated as possible contextual factors rather than established causes.

The positive relationships between facility characteristics and satisfaction are particularly important. Adequacy had the strongest association with satisfaction, followed by availability and functionality. This suggests that users value not merely the existence of recreational infrastructure but the extent to which facilities meet demand and remain usable. The findings support Leisure Constraints Theory, which identifies structural characteristics of the environment as important barriers or facilitators of leisure participation.

The significant difference between students and academic staff in perceived adequacy may reflect differences in patterns of use, expectations or access. However, the absence of significant differences in most other dimensions suggests that both groups broadly experienced similar institutional recreational environments.

Overall, the study indicates that improving recreational infrastructure in tertiary institutions requires a shift from a narrow emphasis on facility provision toward an integrated approach encompassing quantity, functionality, maintenance, cleanliness, safety, accessibility and suitability.

VI. STUDY LIMITATIONS

The study has several limitations. First, its cross-sectional design provides a snapshot of recreational facility conditions and does not permit assessment of changes over time. Second, the study involved five selected tertiary institutions and therefore its findings should not automatically be generalised to all tertiary institutions in Rivers State or Nigeria.

Third, user assessments were based on self-reported perceptions, which may be influenced by individual expectations and experiences. Fourth, although the study included physical observation, detailed measures of facility capacity relative to institutional population were not reported. Such measures would strengthen assessment of adequacy.

Finally, the supplied manuscript does not report the actual Cronbach's alpha coefficient obtained during pilot testing. This value should be added before submission. In addition, some facility inventory and classification tables contain inconsistencies that require verification against the original field records.

VII. CONCLUSION

The study concludes that recreational facilities are available across the selected tertiary institutions in Rivers State, but their availability, distribution and physical condition differ considerably. While common outdoor facilities are relatively widespread, specialised facilities remain limited, with inadequacy, cleanliness and maintenance constituting key challenges.

The significant differences among institutions indicate unequal access to recreational opportunities. The positive relationships between facility adequacy, functionality, accessibility, maintenance and user satisfaction further demonstrate that the quality of recreational facilities is important in creating a satisfactory recreational environment for students and staff.

The study therefore recommends systematic planning, rehabilitation and routine maintenance of recreational facilities. Tertiary institutions should prioritise deteriorating facilities, expand facilities where demand exceeds capacity and integrate recreational infrastructure into long-term campus development planning to improve accessibility, functionality and user satisfaction.

VIII. RECOMMENDATIONS

1. Tertiary institutions should develop comprehensive recreational-facility master plans based on projected student and staff populations, with particular attention to expanding facilities where demand exceeds capacity.
2. Existing recreational facilities should be routinely inspected, maintained and rehabilitated to improve cleanliness, functionality and safety while reducing long-term deterioration and rehabilitation costs.

3. Facility planning should prioritise adequacy, accessibility and inclusiveness, incorporating facility capacity, spatial accessibility, gender and disability considerations rather than focusing solely on physical availability.
4. Institutions should strengthen recreational-facility management and monitoring, while future research should examine funding, institutional expenditure, management practices and seasonal patterns of facility use to explain differences in facility provision and condition.

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