



Federal Polytechnic Ilaro

Journal of Pure & Applied Sciences {FEPI- JOPAS}

Volume 3 Issue 2: December 2021, Edition



Published by:

The School of Pure and Applied Science

The Federal Polytechnic Ilaro, Ogun State, Nigeria.

<https://fepi-jopas.federalpolyilaro.edu.ng>

E-mail: fepi.jopas@federalpolyilaro.edu.ng

ISSN: 2714-2531

EDITORIAL TEAM

A. Editorial Board

NAME	STATUS	AFFILIATION
R.T. Oyede (PhD)	Chairman	The Federal Polytechnic Ilaro, Nigeria
Prof. O.O. Ajani	Member	Covenant University Ota, Nigeria
Prof. H.O.D. Longe	Member	University of Lagos, Akoka, Nigeria
Prof. I.A. Ayodele	Member	University of Ibadan, Nigeria
C.E Ogunlade (PhD)	Member	Federal Polytechnic Ede, Nigeria
O. E. Oduntan(PhD)	Member	The Federal Polytechnic Ilaro, Nigeria

B. Consulting Editors

NAME	AFFILIATION
Prof. H.O.D. Longe	University of Lagos, Akoka, Nigeria
R. A. Oloyo(PhD)	The Federal Polytechnic Ilaro, Nigeria
L.A. Azeez (Phd)	Osun State University, Oshogbo, Nigeria
A.O. Oyedeji (PhD)	The Federal Polytechnic Ilaro, Nigeria
O. O.Lanloye (PhD)	Bowen University Iwo, Nigeria, Kampala International University, Uganda.
N.O.A. Ilelaboye	The Federal Polytechnic Ilaro, Nigeria
E.O. Fatunmbi (PhD)	The Federal Polytechnic Ilaro, Nigeria
O.J. Adebawale (PhD)	The Federal Polytechnic Ilaro, Nigeria
Engr. I.A. Adeyanju (PhD)	The Federal University, Oye Ekiti, Nigeria
Engr. O.P. Aiyelabowo (PhD)	The Federal Polytechnic Ilaro, Nigeria

C. Editor-in-Chief

NAME	AFFILIATION
Prof. O.O. Ajani	Covenant University Ota, Nigeria

D. Managing Editor

NAME	AFFILIATION
O. E. Oduntan (PhD)	The Federal Polytechnic Ilaro, Nigeria

E. Associate Editors

NAME	AFFILIATION
O.J. Adebawale(PhD)	The Federal Polytechnic Ilaro, Nigeria
O.J. Adegboye	The Federal Polytechnic Ilaro, Nigeria
O. Ogunyemi	The Federal Polytechnic Ilaro, Nigeria
T.O. Ogunseitan	The Federal Polytechnic Ilaro, Nigeria
E. Gabriel	The Federal Polytechnic Ilaro, Nigeria
A. O. Dawodu	The Federal Polytechnic Ilaro, Nigeria

Desk Officer:

Ayodele Emmanuel

The Department of Computer Science, The Federal Polytechnic, Ilaro. Ogun State.

Site Editors:

Dr. O. E. Oduntan

Omolewa Stephen

FOREWORD

Compliment of the season to all our contributors, well-wishers and world of Academia in general. I respectfully appreciate and welcome you all to the volume 3 issue 2 of Federal Polytechnic – Journal of Pure and Applied Sciences (FEPI-JOPAS) which is a peer reviewed multi-disciplinary accredited Journal of International repute. It is imperative to re-affirm that FEPI-JOPAS publishes full length research work, short communications, critical reviews and other review articles. In this issue, readers will find a series of manuscripts of top-rated significance in pure and applied sciences, engineering and built environment. This issue is the last of its kind for 2021 calendar year which features findings from basic and applied researches of high societal impacts from the seasoned authors. These articles have been reviewed and packaged for wider readership through the collective efforts of our managing editor, publishing editors, our valuable reviewers and editorial board members.

In this particular issue, you will find that Ilelaboye and Jesusina evaluated the quality of biscuits and chin-chin made from okara enriched plantain-sorghum flour blends. Ojo and Ebisin utilized convolutional neural network for gender classification through facial analysis. Omotayo and Fafioye investigated antimalarial potential of ethyl acetate fraction of *Phyllanthus niruri* while Olubodun and Adetona examined landscaping as a strategy for combating air pollution in Lagos megacity. Buoye and Ojuawo provided imperative dataset on Covid-19 crisis management in Nigeria and Brazil. Obun-Andy and Banjo investigated effective communication as a tool for good governance in Nigeria. Yusuff and co-workers conducted a field survey on fish hatcheries in Yewa South and Yewa North Local Government of Ogun State. Akinlade and co-workers meticulously expatiated on the effect of aqueous blend of three herbs on haemato-biochemical indices of broiler chicken at starter phase. Ajeigbe, Sangosina, Ogunseitan, Lawal, & Yusuff analysed the Effects of Neem Leaves (*Azadirachta Indica*) and Cassava Peels on the Performance of West African Dwarf Goat. Abdussalam & Adewole in their paper carefully explained the Formulation of Natural Products Repellents for the Control of Cockroaches (*Periplaneta americana*). Elesin & Obafunmiso gave as Assessment of Public Toilets Facilities Provision and Management in Tertiary Institutions in Nigeria- An Overview of The Federal Polytechnic, Ilaro, Ogun State.

I would like to deeply appreciate and extend my profound gratitude to my co-editors, editorial board members, reviewers, members of FEPI-JOPAS, especially the Managing Editor, as well as all the contributing authors for making the production and publishing of this volume 3 issue 2 a reality. I will like to appreciate the authors in this issue for allowing their works to be subjected to our thorough and rigorous peer-review processes and for taking all the constructive criticism in good fate. The authors are solely responsible for the information, date and authenticity of data provided in their articles submitted for publication in the Federal Polytechnic Ilaro – Journal of Pure and Applied Sciences (FEPI-JOPAS). I am looking forward to receiving your manuscripts for the subsequent publications.

You can visit our website (<https://fepi-jopas.federalpolyilaro.edu.ng>) for more information, or contact us via e-mail us at fepi.jopas@federalpolyilaro.edu.ng.

Thank you and best regards.

Prof. Olayinka O. AJANI

FEPI-JOPAS VOLUME 3 ISSUE 2 TABLE OF CONTENTS

Serial No	Paper Title and Author(s)	Page
01.	<p align="center">Physicochemical Evaluation and Pasting Properties of Flours, Biscuit And Chinchin Prepared From Okara Fortified Plantain – Sorghum Blends.</p> <p align="center">Ilelaboye N.O. and *Jesusina T.I. Department of Science Laboratory Technology, Federal Polytechnic, Ilaro, Ogun State Nigeria. titilayo.jesusina@federalpolyilaro.edu.ng</p>	1-13
02.	<p align="center">Framework Model of Facial Analysis for Gender Classification Using Convolutional Neural Network</p> <p align="center">Ojo, A. I., & Ebisin, A. F.</p> <p align="center"><i>Department, of Computer Science Ogun State Institute of Technology, Igbesa, Ogun State.</i></p> <p align="center">✉ ronkujoyme@yahoo.co.uk , ebironke16@gmail.com</p>	14-26
03.	<p align="center">A Survey of Fish Hatcheries in Yewa South and Yewa North Local Government Areas of Ogun State, Nigeria</p> <p align="center">¹Yusuff, K. O. ¹Ibidapo-Obe, E. O. and ¹Sangosina, M. I. ¹Department of Agricultural Technology, School of Pure and Applied Sciences, The Federal Polytechnic, P.M.B. 50 Ilaro, Ogun state, Nigeria. Corresponding author : khadijah.yusuff@federalpolyilaro.edu.ng,</p>	27-33
04.	<p align="center">Effect of Aqueous Blend of Three Herbs on Haematobiochemical Indices of Broiler Chicken at Starter Phase</p> <p align="center">Akinlade, O. O.,^{1*} Okusanya, P. O. and Okparavero, O. O.</p> <p align="center">¹Department of Agricultural Technology, School of Pure and Applied Sciences, The Federal Polytechnic, P.M.B. 50 Ilaro, Ogun state, Nigeria. ✉ olamilekan.akinlade@federalpolyilaro.edu.ng</p>	34-39
05.	<p align="center">Effective Communication as a Tool for Good Governance in Nigeria</p> <p align="center">Obun-Andy, M. & Banjo, A. O.</p> <p align="center"><i>Department of Mass Communication, Federal Polytechnic, Ilaro, Ogun State.</i> ✉ maria.obunandy@federalpolyilaro.edu.ng</p>	40-44
06.	<p align="center">In Vivo Antiplasmodial Effect of the Ethyl Acetate</p>	45-48

	<p align="center">Fraction of Crude Extract of Phyllanthus Niruri.</p> <p align="center">Omotayo, S. O., & Fafioye, A. O.</p> <p align="center"><i>Department of Science Laboratory Technology Federal Polytechnic Ilaro, Ogun State.</i></p> <p align="center">✉olakunle.omotayo@federalpolyilaro.edu.ng</p>	
07.	<p align="center">Covid-19 Crisis Management in Nigeria and Brazil</p> <p align="center">Buoye P. A* . and Ojuawo O. O.</p> <p align="center">Department of Computer Science , The Federal Polytechnic, Ilaro.</p> <p align="center">*adewuyi.buoye@federalpolyilaro.edu.ng</p>	49-65
08.	<p align="center">Assessment of Public Toilets Facilities Provision and Management in Tertiary Institutions in Nigeria- An Overview of The Federal Polytechnic, Ilaro, Ogun State.</p> <p align="center">Elesin, O.G¹ and Obafunmiso, C.K²</p> <p align="center">¹Department of Urban and Regional Planning, The Federal Polytechnic, Ilaro. olanrewaju.elesin@federalpolyilaro.edu.ng; princealesh4real@gmail.com.</p> <p align="center">²Department of Library and Information Science, The Federal Polytechnic, Ilaro.</p> <p align="center">christianah.obafunmiso@federalpolyilaro.edu.ng; 08038559401;</p>	66-72
09.	<p align="center">Effects Of Neem Leaves (<i>Azadirachta Indica</i>) and Cassava Peels On The Performance Of West Afr Ican Dware Goat</p> <p align="center">Ajeigbe, O.M.. Sangosina,M.I. Ogunseitan, T. O. Lawal,R A. and Yusuff.K.O</p> <p align="center">Department of Computer Science, Gateway (ICT) Polytechnic Saapade-Remo, Ogun State.</p> <p align="center">✉moruf.sangosina@federalpolyilaro.edu.ng</p>	73-79
10.	<p align="center">Formulation of Natural Products Repellents for the Control of Cockroaches (<i>Periplaneta americana</i>)</p>	80-83

Abdussalam, F., & Adewole, A.

Department of Science Laboratory Technology

Federal Polytechnic Ilaro, Ogun State.

✉ olugbenga.adetona@federalpolyilaro.edu.ng

<https://fepi-jopas.federalpolyilaro.edu.ng>

Article

Assessment of Public Toilets Facilities Provision and Management in Tertiary Institutions in Nigeria- An Overview of The Federal Polytechnic, Ilaro, Ogun State.

Elesin, O.G¹ and Obafunmiso, C.K²

¹Department of Urban and Regional Planning, The Federal Polytechnic, Ilaro.
olanrewaju.elesin@federalpolyilaro.edu.ng; princealesh4real@gmail.com.

²Department of Library and Information Science, The Federal Polytechnic, Ilaro.
christianah.obafunmiso@federalpolyilaro.edu.ng; 08038559401;

Abstract

Open defecation is a common occurrence in developing countries, particularly in Nigeria. However the importance of public conveniences at Nigerian higher institutions cannot be overstated since they help to improve the hygiene of the campus environment. The harmony of campus environment would not be completed without provision of standard public toilets facilities A detailed examination of the environment of tertiary institutions reveals that the absence of suitable public toilet facilities in crucial areas is a hindrance to the institution's adoption of a full-fledged academic environment. The aim of this study is to assess the provision and management of public toilet facilities in tertiary institutions using the Federal Polytechnic Ilaro, Ogun State as a case study. Both primary and secondary sources of data collection were used for the study whereby convenience and purposive sampling techniques were also used for the selection of respondents (students) and available public toilet facilities in the study area with 350 structured questionnaires administered to the selected respondents in the study area. Findings revealed improper usage and lack of effective management of the available public toilet facilities in the study area despite adequacy in its provision by the school management considering the number of users while the study concludes that proper monitoring culture should be adopted on the use of the facilities through a time to time checking and appropriate sanctions to any defaulter who misuse the facilities.

Keywords: Public Toilets, Facilities, Provision and Management.

INTRODUCTION

Nigerian tertiary institutions are significant resource in national development since they are the source of the nation's progress. Tertiary institutions are equipped with both resources in terms of human and technological know-how, which are used to produce individuals who are knowledgeable enough to fulfill the country's public and industrial consumption demands, as well as international requirements (JAMB, 2010). However, tertiary institutions in Nigeria have been severely neglected and left to fend for their own basic requirements for environmental sanitation in terms of public toilet facility supply, planning, and administration. Despite the fact that higher institutions in Nigeria house the vast significant number of the country's educated citizens.

Toilet is a vital connection between order and chaos, as well as between aesthetically pleasing and terrible environments, because the desire to urinate and defecate is insatiable. (Pathak, 1995). This has spurred several researches on the provision and management of public toilets.

Pathak's (1995) research indicated that adequate provision and management of public toilets help improve public hygienic conditions and sanitation difficulties in heavily populated areas. As a result, Pathak(1995) proposed that public conveniences are necessary because excremental filth poses a public health threat since our environment may become a "vast mass privy."

Similarly, study conducted by Ayee and Crook (2003), shows that a lack of effective coordination and upkeep of public restrooms has significant environmental and health concerns. Despite political intrigues and municipal failures, Ayee and Crook (2003) argued appropriate management of public toilet will promote and protect public health. In the United Kingdom, Hanson (2004) emphasizes the importance of inclusive, accessible, and well-managed public toilets. Still in the UK, Greed (2005) lamented the scarcity of public toilets as a consequence of closure, bad management that has led in disease transmission, and a distinct professional subculture that has choked meet all wants and objectives in public conveniences provision.

allAfrica.com (2011) observed that, open defecation was identified as the "riskiest sanitation practice" in a survey conducted by the WHO/UNICEF Joint Monitoring Programme for Water Supply (JMP) entrusted with monitoring progress toward MDG goal 7c on drinking water and sanitation. According to a research conducted by the Water and Sanitation Program (WSP 2012), 34 million Nigerians perform open defecation. Open defecation as a result of a lack of or inadequate sanitary facilities has significant social costs, including loss of dignity and privacy, as well as the possibility of physical attack and sexual abuse, which are difficult to quantify in monetary terms. The study further revealed that Nigeria loses US\$3.5 million (#455 billion) every year owing to sanitary problems. To reach the Millennium Development Goals (MDGs) 7 on water, sanitation, and sustainable hygiene by 2015, Nigeria would need to construct over 8,000,000 public restrooms (Asabia, 2009). Many Nigerians drink, cook, and wash using polluted water that has not been treated, this, however, increase their exposure to illnesses like as cholera and dysentery (Osinubi, 2003).

Furthermore, diarrheal diseases have been identified as the country's second leading cause of newborn death (Asabia, 2009). A desk research conducted by the Water and Sanitation Program (WSP) in Nigeria revealed that faecal pollution of the environment is responsible for approximately 5,400 cases of cholera yearly in the country. Osinubi (2003) research on urban poverty in Agege, Lagos, 73 percent of inhabitants use pit toilets and almost three-fourths (72%) source water from a well or purchase it from water vendor, which, is sometimes contaminated by open defecation and

urination, this has major health repercussions. According to the Water and Sanitation Program Africa (WSP Africa (2004), poorly handled human excreta poses severe hazard to the environment and public health. Human waste is the basis of both widespread illnesses and loss of civic and personal dignity and worth. The Lagos State Government's decision to build additional public conveniences to combat cholera became required because improper excreta disposal, insufficient sanitary facilities, poor drainage, and improper waste disposal contribute 20% of children below five years mortality (Asabia, 2009). The understanding of the critical importance of public conveniences prompted the State Government to approve and commission 100 solar-powered toilets for communities around Lagos (WASH, 2009). According to the record, the absence of toilet facilities and open defecation in several regions of Lagos influenced the State Government's decision to provide public toilet facilities throughout the state.

Furthermore, the current lack of standard and adequate public toilets in a state like Lagos and many other states in the country may have forced more than 34 million Nigerians to involve in open defecation, "depositing almost 1.7 million tonnes of feces into the environment annually" (WSP,2012).

This unusual practice of open defecation had also informed the management of the Federal Polytechnic, Ilaro to take sole responsibility of providing public toilet facilities in different strategic locations within the campus to eradicate and stop open defecation, urination and unhygienic behavior among the students and other visitors within the institution premises. This research therefore, is an attempt to identify the number of available public toilet facilities provided in the study area, examine its adequacy and locational distribution within the campus, examine the management effectiveness of the facilities by the authority in-charge, examine the users attitudes and suggesting ways of improvement for the usage and effective management for sustainable public toilet facilities in the study area.

LITERATURE REVIEW

Toilets are significant components of the Goal 7(target 3) of the Millennium Development Goals(MDGs) and Goal 6 of the Sustainable Development Goals(SDGs)

whose aim is to halve the proportion of the universal population without sustainable access to clean and safe drinking water and sanitation(UN,2000; Dodds, 2015). The significance of the provision of adequate, safe and accessible public toilets have been recognized by Makama(2015) who noted that toilets are not just sanitary facilities but that they are also a symbol of the level of development. However, the task of achieving this target has assumed a Herculean nature. In spite of being a right, more than 30% of the global population experience lack of access to clean, hygienic and functioning toilets (UN, 2010; UNICEF, 2014). This poses a great number of health risks to the users of public toilets; UNICEF (2014) has also observed the danger of lack of clean, safe and accessible public toilets. For example, FMWR & UNICEF (2016) traced 90% of infant mortality in Nigeria to water, sanitation and hygienic problems.

The World Bank (2012) cited in FMWR & UNICEF (2016) observed that the risk of diarrhoeal-related deaths reduces by about 36% with an improvement in toilet facilities. The situation becomes worse in urban areas where alternative means of convenience is usually by open defecation and urination (WHO, 2011; UNICEF, 2014). Open defecation and urination is usually with a plethora of health issues such as air pollution through bad odour. This menace was clearly captured by Awoyinfa(2012) who observed that inadequate provision and poor maintenance of toilet facilities is a serious problem in Nigeria Urban areas, arguing that this has led to the adoption of open defecation practices by those who are pressed. Also, Oyinloye and Oluwadare(2015) maintained that most, if not all, urban centres in Nigeria experiences lack of improved public convenience facilities, emphasizing that this is responsible for open defecation. This is in consonance with World Bank (2012) observation that more than 46 million Nigerians defecate in the open space (cited in FMWR & UNICEF, 2016). It is against this background that the study tries to assess the provision and management of public toilets facilities in the Federal Polytechnic, Ilaro, Ogun State.

MATERIALS AND METHODS

Sources and methods of data collection

The data for this study were collected from primary and secondary sources. The secondary sources include data obtained from books, journals, conference proceedings and reports on the global state of sanitation as well as the state of sanitation in Nigeria. The primary data, on the other hand, were collected directly from the field through a well-structured questionnaire, interview guide as well as direct/personal observation.

Sampling technique

Convenience sampling technique was adopted to sample 350 respondents (students) for the study. The choice of convenience sampling was based on the fact that people who pressed exhibit similar characteristics and this is necessary since there is no available register of the population of the users of the available public toilet facilities in the study area. On the other hand, purposive sampling technique was adopted for the selection of the available public toilet facilities by sampling all the available 15 public toilet facilities in the study area as well.

Methods of Data Analysis

The data collected for the study were presented using frequency tables, percentile and discussion analysis for better understanding of the readers.

List of available public toilet facilities, categories and location in the study area.

Table 1, shows the number, categories and locations of the available public toilet facilities in the study as identified by the researchers during the course of carrying out the study. It was discovered that there are 15 numbers of public toilet facilities in the study area which was also grouped into two (2) categories namely (i) detached public toilets and (ii) semi-detached public toilets respectively and all these facilities were equally located at different strategic areas in the study area.

Table 1: List of public toilet facilities, categories, location, number of block and room

S/N	Facility	Categories	Location	Number of Block	Number of Room
1	Public toilet	Detached	Beside CCL	2(1Male); (1Female)	14
2	Public toilet	Detached	Beside SLT laboratory	2(1Male); (1Female)	10
3	Public toilet	Detached	Poly Primary	2(1Male); (1Female)	10
4	Public toilet	Detached	Poly Mosque	2(1Male); (1Female)	10
5	Public toilet	Detached	Beside BE block	2(1Male); (1Female)	10
6	Public toilet	Detached	Beside BB block	2(1Male); (1Female)	10
7	Public toilet	Detached	Beside AG block	2(1Male); (1Female)	10
8	Public toilet	Detached	Opposite AF block	2(1Male); (1Female)	10
9	Public toilet	Detached	Mini Market	2(1Male); (1Female)	12
10	Public toilet	Semi-detached	Inside AUD 1	2(1Male); (1Female)	4
11	Public toilet	Semi-detached	Inside AUD 2	2(1Male); (1Female)	6
12	Public toilet	Semi-detached	Inside AUD 3	2(1Male); (1Female)	6
13	Public toilet	Semi-detached	Inside AH block	-	4
14	Public toilet	Semi-detached	Inside AJ block	-	4
15	Public toilet	Semi-detached	Inside AF block	-	2

Source: Authors' Field Survey, 2021

RESULT AND DISCUSSION

Gender distribution of respondents

Table 2, shows gender distribution of selected respondents based on the questionnaire administration. It was discovered that female students has highest number 185 (53%) while their male counterpart has 165(47%) in terms of users proportion in related to the facilities in the study area.

Table 2: Gender Distribution of Respondents

S/N	Gender	Frequency	Percentage (%)
1	Male	165	47
2	Female	185	53
	Total	350	100

Source: Authors' Field Survey, 2021

Users’ perception on the adequacy of available public toilet in the study area

Table 3, shows users’ perception on adequacy of provided facilities. Out of 350 respondents selected for interview, 280 respondents representing about (80%) were of the opinion that the available public toilet facilities readily present in the study area are adequately provided while only 70 respondents (20%) said the facilities provided were not adequate based on their own opinion.

Table 3: Users’ perception on the adequacy of available public toilet facilities provision in the study area.

S/N	Users’ Perception on Adequacy	Frequency	Percentage (%)
1	Adequate	280	80
2	Not Adequate	70	20
	Total	350	100

Source: Authors’ Field Survey, 2021

Users’ perception on condition of available public toilet in the study area.

Table 4, shows users’ perception on condition of the available public toilet facilities provided. From collected data, 20% agreed that the condition of the available public toilet facilities are very good, 28.60% users agreed the condition are good, while 38.60% and 8.60% users respectively were of the opinion that the condition are fair and poor with only 4.20% users who have the perception that the available facilities are bad.

Table 4: Condition of available public toilet facilities in the study area.

S/N	Users’ Perception on Condition	Frequency	Percentage (%)
1	Very Good	70	20.00
2	Good	100	28.60
3	Fair	135	38.60
4	Poor	30	8.60
5	Bad	15	4.20
	Total	350	100

Source: Authors’ Field Survey, 2021

Challenges faced by users in using available public toilet in the study area.

Table 5, shows various challenges faced by the users in using available facilities. Results indicates that 20% respondents attributes dirty environment as challenges faced in using the facilities, 25.70% users said bad odour is the challenges they faced, 30.00% users were of the opinion that nuisance from flies is the major challenge faced by them in using the available facilities while 24.30% respondents submitted that poor maintenance of the facilities is the challenge faced by them in using the facilities.

Table 5: Challenges faced by users in using available public toilet facilities in the study area.

S/N	Users’ Perception on Challenges	Frequency	Percentage (%)
1	Dirty Environment	70	20.00
2	Bad Odour	90	25.70
3	Nuisance from Flies	105	30.00
4	Poor Maintenance	85	24.30
	Total	350	100

Source: Authors’ Field Survey, 2021

Users’ perception on reasons for using public toilet facilities in the study area

Table 6, shows users’ perception for using available public toilet facilities. It was discovered that 37.10% respondents uses the facilities based on proximity to classrooms, 10.00% respondents ascertained free accessibility to the facilities, 4.30% users uses it because they don’t have any alternative, 17.10% users attributed cleanliness as reason, while 25.70% and 5.70% respondents uses the facilities for both privacy and pleasure respectively

Table 6: Reasons for using available public toilet facilities in the study area.

S/N	Users' Perception on Usage Reasons	Frequency
1	Proximity to Classrooms	130
2	Free Access	35
3	No Alternative	15
4	Cleanliness	60
5	Privacy	90
6	Pleasure	20
	Total	350

Source: Authors' Field Survey, 2021

Management and Maintenance Characteristics of the Public toilet facilities in the study area.

Investigation revealed that the available public toilet facilities in study area were provided by the school management through financial support by TETFUND intervention Grant. Also the management and maintenance is being handled by the school authority by Poly Consult and Industrial Services unit/section of the institution.

Challenges faced by the unit in charge of management and maintenance of the facilities.

During the course of survey, series of issues were highlighted by the unit as challenges faced in the course of management and maintenance of the facilities which includes among others:

- i. Non-supply or shortage of water for cleaning in some cases.
- ii. Non-regular supply of sanitary facilities. Lack of proper monitoring in the usage of the facilities by the authority.
- iii. Improper uses by the users.

CONCLUSION

This study has unveiled that users' attitudes towards the usage of public toilet as an alternative has not been too good as majority of the users misuse the facilities based on their

lackadaisical attitudes. Also the authority has not been doing well in the area of provision of sanitary toiletries and other cleaning materials in order to encourage more users of the facilities. While the general management and maintenance of the facilities was also observed to be below average standard. Although the users' privacy is guaranteed in the available public toilet facilities but they expressed their dissatisfaction with these facilities as a result of unclean, bad odour, nuisance from flies and poor management and maintenance.

RECOMMENDATION

Based on the research findings and conclusion, the study recommends the following:

- a. Proper monitoring on the use of the facilities through a time to time checking and appropriate sanctions to any defaulter who misuse the facilities.
- b. Provision of adequate sanitary toiletries for the users by the authority to improve the satisfaction of the users with the existing facilities.
- c. Regular supply of water to the facilities as water stands as the major material for the cleaning of the existing facilities.
- d. Orientation for the users on the benefits of using the facilities properly.
- e. Encouragement of the unit in charge of maintenance and management on the improved services of adequate and regular cleaning.

REFERENCES

allAfrica.com. (2011). Lagos to Build More Public Toilets to Fight Cholera.

Asabia, A. (2009). Public, Private and People Partnership Model for Sanitation. International NGO Journal 1(8), 362-367. Retrieved from www.metamorphosis-nigeria.org.

Awoyinfa, S. (2012). Lagos Public Toilets: Paying To Get Infected. The Sunday Punch Newspaper, January 22nd, 2012.

- Ayee, J and Crook, R. (2003). "Toilet Wars": Urban Sanitation Services and the Politics of Public and Private Partnership in Ghana. IDS Working Paper 213. Institute of Development Studies.
- Dodds, F. (2015). Negotiating the Sustainable Development Goal: A transformational agenda for an insecure world. Routledge, London.
- FMWR and UNICEF (2016). Making Nigeria open-defecation-free by 2025: A National Road Map. Nigeria: Federal Ministry of Water Resources.
- Greed, C. (2005). "Taking Stock: An overview of Toilet Provision and Standards". World Toilet Conference, Belfast.
- Hanson, J. (2004). The Inclusive City: Delivery a more Accessible Urban Environment through Inclusive Design. Institute of Transport Studies, Monash University Social Research in Transport(SORT) Clearinghouse. In RICS Cobra 2004 International Construction Conference: responding to change, 07-08 September,2004.
- Joint Admission and Matriculation Board (2010). Guidelines for Admissions to First Degree Courses in Universities and other Degree Awarding Institutions in Nigeria. JAMB Publisher, 20-25, 2009/2010.
- Makama, A.A. (2015). Appraisal of sanitary facilities in public area of Garki District, Abuja. Unpublished Master's Thesis, ABU, Zaria.
- Osinubi, T.S. (2003). Urban Poverty in Nigeria: A case study of Agege Area of Lagos State, Nigeria. Unpublished paper. Retrieved from www.povertymap.net/publications.
- Oyinloye, M.A and Oluwadare, O.I. (2015). Public convenience and sanitation challenges in developing nations: A focus on Agege, Lagos, Nigeria. International Journal of Research in Social Sciences, 5(&0, 7-20.
- Pathak, B. (1995). History of Toilets. Paper presented at the International Symposium on Public Toilets held in Hong Kong, May 25-27, 1995. Sulabh International Museum of Toilets.
- UN (2000). United Nations Millennium Declaration. Accessed from <http://www.un.org/millennium/declaration>.
- UN (2010). Sanitation as a human right. Accessed from <http://www.unric.org/en/sanitation-as-a-human-right>.
- UNICEF, (2014). Lack of toilets dangerous for everyone. Accessed from <https://www.unicef.org/media>.
- WASH (2009). Nigeria, Lagos State Government Approves 100 Solar-Power Toilets for communities.
- WHO (2011). Water, Sanitation and Hygiene intervention and the prevention of diarrhea: Biological and contextual rationale. Accessed from https://www.who.int/elena/title/bbc/wsh_diarrhoea/en.
- WSP (2012). Nigeria Loses NGN 455billion Annually due to Poor Sanitation. Retrieved from <https://www.wsp.org>.
- WSP_Africa (2004). From Hazard to Convenience: Towards Better Management of Public Toilets in the City of Nairobi. Retrieved from <http://www.wsp.org>.

