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Occupational Health and Safety Compliance Among Workers in Shared Offices in Abuja, Nigeria.

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Abstract- ***The study assessed Occupational Safety and Health (OSH) compliance in the Federal Secretariat Phase 1 and 3, Abuja, Nigeria. A descriptive survey was adopted, with structured questionnaires administered to 279 respondents (167 from phase 1, 112 from Phase 3), yielding a 92.4% response rate. Data were analysed using IBM SPSS Version 25 through descriptive and inferential statistics (means, t-test, and chi-square). Findings revealed low-to-moderate awareness and implementation (mean-2.86), widespread hazards, dominated by blocked exits and faulty wiring, and extremely low regulatory compliance (mean=2.01). All parameters were significantly worse in the older Phase 1 than in Phase 3($p<0.001$), leading to acceptance of the null hypothesis of no significant compliance and strong support for significant inter-building differences. Despite the dire situation, respondents from both phases showed overwhelming consensus (mean importance = 4.53) in prioritising a dedicated OSH unit, mandatory annual training, and regular safety audits. Results underscore the urgent need for simultaneous behavioural and enforcement interventions to transform the federal secretariat from a high-risk environment into a safe workplace.***

Keywords: Occupational Health and Safety, Sheared office, Compliance, Workers and Abuja

I. INTRODUCTION

Occupational Safety and Health (OSH) compliance is a critical aspect of workplace management that ensures the protection of employees from hazards, promotes well-being, and enhances productivity. The International Labour Organisation (ILO) reports alarming global statistics, with approximately 2.78 million lives lost annually due to occupational and work-related illnesses, alongside 374 million non-fatal work-related injuries occurring each year.

Nigeria's approach to occupational safety and health has evolved significantly over recent decades, though considerable challenges remain. Despite established OSH regulations such as the Factories Act (2004), the Employees' Compensation Act (2010), and the Labour Act (2004), compliance levels remain a significant concern due to weak enforcement, inadequate resources, and poor awareness. Available evidence suggests that OSH compliance levels in Nigeria remain suboptimal across various sectors, including public sector organizations.

The Nigerian public sector encompasses a wide range of government-owned or controlled organizations, including the civil service, armed forces, judiciary, and various parastatals and agencies. Most public servants and government-owned institutions are situated within the same premises, resulting in a lot of shared public buildings.

Most of these public buildings host several federal government offices and serve as centres for government operations and public service delivery. These facilities accommodate multiple organizations, diverse work activities, and complex jurisdictional arrangements, creating a unique environment for occupational safety and health management.

Shared public buildings in Nigeria present complex occupational safety and health challenges that require systematic investigation. Evidence suggests that occupational safety and health compliance in Nigerian public sector facilities remains inadequate and poorly coordinated. Many shared public buildings lack adequate OSH measures, exposing occupants to risks such as fire hazards, poor ventilation, structural defects, and electrical faults.

Weak enforcement, poor awareness, and inadequate safety investments contribute to non-compliance. While prior studies have evaluated safety at construction sites across South East Nigeria and Kano Metropolis, they predominantly concern building development phases. There remains a major gap concerning in-use shared public buildings where occupants may face long-term risk exposure.

Despite Nigeria's progressive occupational safety and health legislation and the critical importance of shared public buildings, a significant knowledge gap exists regarding the actual levels of OSH compliance within these facilities.

Study Objectives

The aim is to evaluate the level of occupational safety and health compliance in shared public buildings in Abuja, Nigeria, and develop evidence-based recommendations for improvement. Specifically, the study seeks to evaluate the awareness and implementation of OSH practices among building managers and occupants, identify common safety hazards and risks in the building, assess the level of compliance with OSH regulations in shared public buildings in Abuja, Nigeria, and recommend strategies for improving OSH compliance in public buildings.

II. LITERATURE REVIEW

The conceptual framework for this assessment is guided by several key concepts, including OSH standards and regulations, OSH management systems, organisational compliance assessment tools, building and infrastructure safety, and data collection methods. Nigeria's OSH legal framework includes the Factories Act CAP F1 LFN 2004, the Labour Act CAP L1 LFN 2004, the Employees' Compensation Act 2020, and the National Policy on Occupational Safety and Health (2020), which aligns with ILO Conventions 155 and 187.

OSH programmes focus on reducing hazardous conditions and unsafe behaviours, with employers bearing primary responsibility for accident prevention (Hopkin, 2010). Hazards are categorised as safety, biological, physical, ergonomic, chemical, and psychological, with harm determined by hazard severity, exposure frequency, and the presence of multiple risk factors (Asumeng et al., 2015; Manno et al., 2010).

Safety culture, which emerged after the 1986 Chernobyl disaster, describes shared attitudes and organisational characteristics that prioritise safety, with key components including organisational commitment, management involvement, employee empowerment, reward systems, and reporting mechanisms (Cole et al., 2013; Pidgeon, 1998).

However, researchers caution that safety culture lacks a clear definition, limiting its practical usefulness, and that evidence linking strong safety culture to improved organisational outcomes remains limited (Jääskeläinen et al., 2022; Hammond et al., 2023).

Reason (1997) proposed three interconnected safety systems—the person system, the organisational system, and the engineering system—which are deeply interrelated, and changes in one inevitably influence the others. Guldenmund (2010b) presents safety performance as the continuous interaction between culture, structure, and processes within an organisation.

Saleem and Malik (2022) describe safety management as practical actions and clear responsibilities ensuring safe workplaces, while Pilbeam (2024) identifies four safety management functions: policy creation, organisational structures, hazard control, and performance monitoring. Dejoy et al. (2004) found that organisations achieve optimal safety outcomes by maintaining strong safety systems while simultaneously fostering positive safety climates, and Olive et al.

(2006) emphasises that safety culture requires strong safety programmes including hazard reduction, equipment design, maintenance, and proper training. Safety training effectiveness is typically measured through observable outcomes including behavioural changes and injury rate reductions, with longitudinal studies examining pre- and post-training changes (Hoonakker et al., 2005).

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III. MATERIALS AND METHODS

Study Area

The study was conducted in the Federal Secretariat Phase 1 and Phase 3 buildings, situated in the central business district in Abuja, the Federal Capital Territory.

Research Design

This study adopted a mixed-methods research design, combining quantitative and qualitative approaches to provide a comprehensive understanding of the OSH compliance landscape by gathering numerical data on compliance levels and examining the underlying reasons and perceptions.

This approach is suitable because the complex nature of OSH compliance requires both objective measurement of safety conditions and subjective understanding of implementation barriers (Creswell & Plano, 2017). The quantitative component involved the use of questionnaires to collect numerical data on compliance levels, which were statistically analysed to identify trends and patterns (Guldenmund, 2000).

The qualitative component involved organised interviews, focus group discussions, and document analysis to obtain in-depth information on factors influencing compliance, perceptions of OSH, challenges faced, and recommendations for improvement. This provided rich and nuanced insights that quantitative data alone might not capture (Strauss & Corbin, 1998).

Population

The study population consists of 1,400 people across two building phases (Phase 1: 1,000; Phase 3: 400), including facility managers, employees, building users, cleaners, and security personnel. However, the exact total is uncertain because government organisations would not disclose staff numbers due to secrecy policies and bureaucracy.

Sample Size

The 2 Phases were considered, Phase 1, which is the main building, has 16 floors, and Phase 3 has 14 floors. To achieve this, the total number of blocks in Phase 1 and 3 is 30 floors altogether which has 1400 people in both phases. To calculate the proportion of each block. The study adopted Taro Yamane's formula to determine the sample size. The formula for Taro Yamane is stated below:

$$n = \frac{N}{1+N(e)^2} \quad 3.1$$

Eqn 1: Taro Yamane's formula

Where:

n = sample size

N = Population

e = marginal errorn$= \frac{1400}{1+1400(0.05)^2}$

$$n = \frac{1400}{1 + 3.5}$$

$$n = 311$$

The sample size for the study is 311.

Data Collection and Instrument

The data was gathered using a structured questionnaire on selected floors that examined the level of compliance with occupational safety and health in the building. The structured questionnaire was sent for suitable screening in order to ensure validity and appropriate approval.

The instrument consists of sections on demographic information, awareness and training, implementation of OSH practices and general safety perceptions, compliance with OSH regulations and management practices, and identification of common safety hazards and risks.

Data Analysis

The data collected from the 279 completed questionnaires were analyzed using SPSS version 25. No programming language knowledge was required to begin using SPSS because it is an analytical tool intended for non-technical users, especially those in the social sciences (Rahman & Muktadir, 2021). This makes the program easy to use and suitable for nearly all types of quantitative research (Arkkelin, 2014).

This makes the program easy to use and suitable for nearly all types of quantitative research. This software was selected for its robustness in handling Likert-scale data, computing descriptive and inferential statistics, and generating cross-tabulations essential for comparing Federal Secretariat Phase 1

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and Phase 3. A combination of descriptive and inferential statistical methods was employed to address each research objective systematically. The choice of methods was guided by the nature of the variables, the need to report frequencies and central tendencies, and the requirement to test differences between the two building phases.

IV. RESULTS AND DISCUSSION

Results and Interpretation

Table 4.1: Demographic data of the respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	173	62.0
	Female	106	38.0
Building	Phase 1	167	59.9
	Phase 3	112	40.1
Role	Employee	217	77.8
	Facility Manager / Administrator	22	7.9
	Agency Safety Officer	18	6.5
	Regular Occupant	22	7.9
Tenure	<1 year	14	5.0
	1–5 years	125	44.8
	6–10 years	84	30.1
	>10 years	56	20.1
Floor	Ground	28	10.0
	1–3	112	40.1
	4–7	98	35.1
	8+	41	14.7

Note: Distribution reflects population ratio (Phase 1: ~71%, Phase 3: ~29% of the total 1,400).

The study involved 279 respondents drawn from the federal Secretariat, comprising 167(59.9%) from phase 1 and 112(40.1%) from phase 3. Among them, 173 (62.0%) were male and 106(38.0%) were female, reflecting the typical gender distribution in federal civil service role. The majority, 217(77.8%), were regular employees, while 22(7.9%) were facility managers, 18(6.5%) were agency safety officers, and 22(7.9%) were regular occupants. In terms of tenure, 125(44.8%) had worked between 1 and 5 years, 84 (30.1%) between 6 and 10 years, 56 (20.1%) over 10 years, and 14(5.0%) less than one year.

Regarding floor location, 112 (40.1%) were on floors 1-3, 98 (35.1%0 on floors 4-7, 41 (14.7%) on floors 8 and above, and 28 (10.0%) on the ground floor. This distribution indicates that the respondents were primarily long-term, frontline staff with daily exposure to the workplace environment, particularly in Phase 1, which has a larger population and higher floors.

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Table 4.2: Evaluating Awareness and Implementation of OSH Practices
Scale: 1 = Strongly Disagree → 5 = Strongly Agree

Item	Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD	RMS
1	Aware of OSH policy	12.5	28.3	32.6	18.6	8.0	2.81	1.13	2.97
2	Received adequate training	10.0	25.1	30.1	22.6	12.2	3.02	1.18	3.19
3	Emergency procedures communicated	11.8	27.2	31.5	20.1	9.4	2.88	1.15	3.04
4	I personally follow OSH rules	8.6	20.1	28.3	30.1	12.9	3.19	1.16	3.36
5	Colleagues implement safe practices	14.3	32.6	33.7	14.7	4.7	2.63	1.07	2.78
6	Management promotes a safety culture	18.6	35.1	30.1	12.2	4.0	2.48	1.05	2.62
7	Know who to report the hazard to	10.4	24.7	31.2	23.3	10.4	2.99	1.17	3.16
	Overall Mean						2.86	0.94	3.02

RMS (Root Mean Square) = $\sqrt{(\Sigma x^2/n)}$, measures average magnitude
Interpretation: Mean = 2.86 → Low to Moderate Awareness & Implementation.

Lowest: 6 (Management promotion = 2.48), Highest: 4 (Personal compliance = 3.19)

Table 4.2 presents the level of awareness and implementation of occupational safety and health practices among respondents. For item 1, which asked whether respondents are aware of the Osh policy in their workplace, 35(12.5%) strongly agreed and 79(28.3%) agreed, showing that 114 (40.8%) acknowledged knowledge of the policy. However, 91(32%) remained neutral, while 59 (21.1%) disagreed and 20 (7.2%) strongly disagreed.

This suggest that while a notable proportion of staff know the policy exist, a significant majority either do not know it or are unaware. It is concluded that awareness of the OSH policy is limited. Item 2 assessed whether respondents have received adequate OSH training. Here, 28(10.0%) strongly agreed and 70 (25.1%) agreed, indicating that 98 (35.1%) had received training. In contrast, 84 (30.1%) were neutral, 70 (25.1%) disagreed, and 27 (9.7%) strongly disagreed.

This reveals that less than four in ten staff have been trained, with the majority either untrained or uncertain. It is concluded that OSH training is inadequate and inconsistently delivered. For item 3 on whether emergency procedures are clearly communicated, 33(11.8%) strongly agreed and 75 (26.9%) agreed, totalling 108(38.7%) who confirmed clear communication. Meanwhile, 88(31.5%) were neutral, 76 (27.2%) disagreed, and 7(2.5%) strongly disagreed. Although a plurality recognized communication efforts, over half were either unsure or denied clarity. It is concluded that emergency procedures are not effectively communicated to most staff.

Item 4 asked if respondents personally follow OSH rules. A higher level of arrangement was recorded with 24 (8.6%) strongly agreeing and 84 (20.1%) agreeing, meaning 108(38.7%) claimed personal compliance. However, 79 (28.3 were neutral, 56(20.1%) disagreed, and 36 (12.9%) strongly disagreed.

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Item	Phase 1 (n=167)	Phase 3 (n=112)	χ^2	p-value
1	2.41	3.42	62.4	< .001
2	2.66	3.55	18.7	< .001
3	2.49	3.45	34.2	< .001
4	2.88	3.64	1.2	0.27
5	2.28	3.17	19.8	< .001
6	2.10	3.05	98.7	< .001
7	2.62	3.52	14.3	< .001
Total Mean	2.49	3.40	35.6	< .001*

This indicates that while some staff take personal responsibility, a large group does not consistently follow rules. It is concluded that personal implementation of OSH practices is moderate but inconsistent. Item 5 examined whether colleagues implement safe practices.

Only 40 (13.3%) strongly agreed and 91(32.6%) agreed, totaling 131(46.9%) who observed safe behavior in others. Yet, 94 (33.7%) were neutral, 41(14.7%) disagreed, and 13(4.7%) strongly disagreed. This shows that nearly half see safe behavior, but over half do not, suggesting a weak safety culture among peers. It is concluded that colleagues do not reliably implement safe practices.

For item 6 on whether management promotes a safety culture, just 52 (18.6%) strongly agreed and 98 (35.1%) agreed, meaning 150 (53.7%) perceived no strong leadership in safety. A significant 84(30.1%0 were neutral, while 34 (12.2%) disagreed and 11(3.9%) strongly disagreed. This low level of agreement highlights a critical leadership gap. It is concluded that management does not actively promote a safety culture.

Item 7 asked if respondents knew who to report hazards to. Here, 29 (10.4%) strongly agreed and 69(24%) agreed, totaling 98 (35.1%) who knew the reporting channel; however, 87(31.2%) were neutral, 65(23.3%) disagreed, and 29(10.4%) strongly disagreed. This indicates that reporting mechanisms are not well-known. It is concluded that hazard reporting channels are unclear to most staff.

The overall mean score for awareness and implementation was 2.86 (SD=0.94), indicating low to moderate engagement with OSH practices. When disaggregated by building phase, Phase 1 recorded a mean of 2.49, while Phase 3 had 3.40 ($p < 0.001$). This significant difference shows that staff in phase 1 have markedly lower awareness and poorer implementation and practice are critically weak in phase 1 and moderately better in phase 3.

Table 4.3: Cross-tabulation: Awareness & Implementation by Building Phase
Independent t-test: $t(277) = -8.76$, $p < .001$

Phase 1 has significantly lower awareness and implementation than Phase 3
The overall mean score for Objective 1 was 2.86 (SD = 0.94). Independent t-test by phase showed Phase 1 mean = 2.49 and Phase 3 mean = 3.40 ($t = -8.76$, $p < .001$). Chi-square tests on individual items confirmed significant differences for all except i4. This indicates that every aspect of awareness and implementation except personal compliance is significantly worse in Phase 1. It is concluded that OSH awareness and practice are critically deficient in Phase 1 and only moderately adequate in Phase 3.

Table 4.4: Identification of Common Safety Hazards

Hazard	Description	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD	RMS	% High Risk
1	Exposed electrical wires/faulty sockets	3.6	7.2	16.8	38.7	33.7	4.02	0.97	4.11	72.4%

2	Blocked emergency exits/corridors	2.2	5.0	14.7	36.2	41.9	4.18	0.92	4.26	78.1%
3	Inadequate lighting in stairwells/corridors	3.9	8.6	18.6	37.6	31.2	3.88	1.01	3.98	68.8%
4	Slippery/uneven floors or stairs	5.7	12.9	25.1	35.1	21.1	3.53	1.13	3.67	56.2%
5	Poor ventilation/air quality	6.8	14.3	26.2	32.6	20.1	3.45	1.16	3.60	52.7%
6	Unsafe stacking of files/materials	7.2	15.8	28.3	30.1	18.6	3.37	1.18	3.52	48.7%
7	Non-functional/missing fire extinguishers	8.6	16.8	24.7	31.2	18.6	3.34	1.22	3.50	49.8%
8	Overcrowding in offices/common areas	9.4	17.2	25.1	29.7	18.6	3.31	1.24	3.47	48.3%
9	Unsafe use of office equipment	10.8	18.6	27.2	28.3	15.1	3.18	1.24	3.35	43.4%
10	Lack of proper waste disposal	11.5	19.4	26.9	27.2	15.1	3.15	1.26	3.32	42.3%
11	Noise pollution	12.2	20.1	28.3	25.1	14.3	3.09	1.26	3.26	39.4%
12	Insufficient first aid provision	13.3	21.1	27.6	24.0	14.0	3.04	1.28	3.22	38.0%
13	Pest infestation	14.7	22.6	28.3	22.2	12.2	2.95	1.27	3.13	34.4%
14	Structural defects (cracks, leaks)	15.8	23.7	27.2	21.1	12.2	2.88	1.29	3.07	33.3%
	Overall Mean						3.46	0.94	3.58	51.5%

Key: >70% of respondents report hazards “Often” or “Very Frequently” for items 1–3

RMS = $\sqrt{(\Sigma x^2/n)}$ → measures average hazard intensity. Overall Mean = 3.46 → Hazards occur “Sometimes to Often” Top 3: Blocked exits, faulty wiring, poor lighting

There were 10 (3.6%) never, 20 (7.2%) rarely, 47 (16.8%) sometimes, 108 (38.7%) frequently, and 94 (33.7%) very frequently for item 1 ("Exposed electrical wires/faulty sockets"). As a result, 202 (72.4%) reported experiencing it regularly or very frequently, 30 (10.8%) reported never or rarely, and 47 (16.8%) reported occasionally. It is determined that exposed wiring is a common and hazardous risk.

6 (2.2%) never, 14 (5.0%) infrequently, 41 (14.7%) sometimes, 101 (36.2%) regularly, and 117 (41.9%) very frequently were noted for item 2 ("Blocked emergency exits/corridors"). Only 20 (7.2%) never/rarely and 41 (14.7%) occasionally reported it, compared to 218 (78.1%) who reported it often/very regularly. The most serious life-threatening risk is determined to be obstructed emergency exits.

The results for item 3, "Inadequate lighting in stairwells/corridors," were as follows: 11 (3.9%) never, 24 (8.6%) rarely, 52 (18.6%) sometimes, 105 (37.6%) frequently, and 87 (31.2%) very frequently. Thus, 35 (12.5%) said never/rarely, 52 (18.6%) indicated sometimes, and 192 (68.8%) reported

often/very frequently. It is determined that poor illumination is a common and pervasive risk.

There were 16 (5.7%) never, 36 (12.9%) infrequently, 70 (25.1%) sometimes, 98 (35.1%) regularly, and 59 (21.1%) very frequently for item 4, "Slippery/uneven floors or stairs." 157 people (56.2%) said they did it often or very frequently, 52 people (18.6%) said they did it never or rarely, and 70 people (25.1%) said they did it occasionally. It is determined that floor dangers are common enough to be cause for worry.

19 (6.8%) reported never, 40 (14.3%) rarely, 73 (26.2%) sometimes, 91 (32.6%) frequently, and 56 (20.1%) frequently for item 5 ("poor ventilation/air quality"). Thus, 59 (21.1%) reported never/rarely, 73 (26.2%) reported sometimes, and 147 (52.7%) reported often/very frequently.

The conclusion is that ventilation problems are widespread. There were 20 (7.2%) instances of "unsafe stacking of files/materials," 44 (15.8%) rarely, 79 (28.3%) sometimes, 84 (30.1%) often and 52 (18.6%) very frequently for item 6. 136 people (48.7%) said they did it often or very frequently, 64 people (22.9%) said they did it never or never, and 79 people (28.3%) said they did it occasionally. It is concluded that there is a regular danger associated with incorrect storage.

In item 7, "Non-functional/missing fire extinguishers," there were 24 (8.6%) never, 47 (16.8%) rarely, 69 (24.7%) sometimes, 87 (31.2%) frequently, and 52 (18.6%) very frequently. As a result, 139 (49.8%) reported experiencing it regularly or very frequently, 71 (25.4%) reported never or never, and 69 (24.7%) reported occasionally.

The conclusion is that firefighting equipment is frequently unavailable. In item 8, "Overcrowding in offices/common areas," the responses were as follows: 26 (9.3%) never, 48 (17.2%) rarely, 70 (25.1%) occasionally, 83 (29.7%) frequently, and 52 (18.6%) very frequently. 135 people (48.4%) said they did it often or very frequently, 70 people (25.1%) said they did it occasionally, and 74 people (26.5%) said they did it never or never. Overcrowding is shown to be a common problem.

30 (10.8%) never, 52 (18.6%) seldom, 76 (27.2%) sometimes, 79 (28.3%) frequently, and 42 (15.1%) very regularly were noted for item 9 ("Unsafe use of office equipment"). As a result, 121 (43.4%) reported experiencing it regularly or very frequently, 82 (29.4%) reported never or seldom, and 76 (27.2%) reported occasionally. The conclusion is that there is a moderate frequency of equipment abuse.
32 (11.5%) never, 54 (19.4%) infrequently, 75 (26.9%) sometimes, 76 (27.2%) regularly, and 42 (15.1%) very frequently responded to item 10 ("Lack of proper waste disposal"). In all, 118 (42.3%) said they did it regularly or very frequently, 86 (30.8%) said they did it never or never, and 75 (26.9%) said they did it occasionally. The conclusion is that issues with trash disposal are common.

The results for item 11, "Noise pollution," were as follows: 34 (12.2%) never, 56 (20.1%) seldom, 79 (28.3%) sometimes, 70 (25.1%) frequently, and 40 (14.3%) extremely frequently. Thus, 90 (32.3%) said never/rarely, 79 (28.3%) indicated occasionally, and 110 (39.4%) reported often/very frequently. The conclusion is that noise poses a moderate risk.

37 (13.3%) never, 59 (21.1%) seldom, 77 (27.6%) sometimes, 67 (24.0%) regularly, and 39 (14.0%) very frequently responded to item 12 (“Insufficient first aid provision”). 106 people (38.0%) said they did it often or very frequently, 96 people (34.4%) said they did it never or never, and 77 people (27.6%) said they did it occasionally. First assistance is often inadequate, it is concluded.

41 (14.7%) never, 63 (22.6%) seldom, 79 (28.3%) sometimes, 62 (22.2%) frequently, and 34 (12.2%) very regularly were noted for item 13 ("Pest infestation"). Therefore, 104 (37.3%) never/rarely, 79 (28.3%) occasionally, and 96 (34.4%) often/very often encountered it. The conclusion is that insect problems happen far too frequently.

There were 44 (15.8%) never, 66 (23.7%) seldom, 76 (27.2%) sometimes, 59 (21.1%) regularly, and 34 (12.2%) extremely frequently for item 14 ("structural defects"). In all, 93 (33.3%) said they did it regularly or very frequently, 110 (39.4%) said they did it never or never, and 76 (27.2%) said they did it

occasionally. The conclusion is that structural issues are prevalent but less common.

Table 4.5: Cross-Tabulation: Hazard Frequency by Building Phase

Hazard	Phase 1 (n=167) Mean	Phase 3 (n=112) Mean	t-value	p-value
1	4.56	3.25	11.82	< .001*
2	4.68	3.46	11.45	< .001*
3	4.41	3.12	10.88	< .001*
4	4.02	2.81	9.12	< .001*
5	3.94	2.74	8.76	< .001*
6	3.85	2.68	8.41	< .001*
7	3.88	2.62	8.98	< .001*
8	3.92	2.48	9.55	< .001*
9	3.71	2.44	8.33	< .001*
10	3.66	2.43	7.89	< .001*
11	3.58	2.40	7.44	< .001*
12	3.52	2.38	7.12	< .001*
13	3.41	2.28	6.88	< .001*
14	3.33	2.25	6.55	< .001*
Overall Mean	3.96	2.70	11.98	< .001*

Phase 1: Mean = 3.96 → "Often" Phase 3: Mean = 2.70 → "Sometimes" All 14 hazards were significantly worse in Phase 1

The overall mean hazard frequency was 3.46 (SD = 0.94). Independent t-test by phase showed phase 1 mean = 3.96 and phase 3 mean =2.70 (t=11.98, p<0.001). Chi-square tests on individual items confirmed all 14 hazards were significantly more frequent in phase 1 (p<0.001), with phase 1 reporting 78-88% often/very frequently for top hazards vs 49-63% in phase 3.

For item 15, have you experienced or witnessed a safety incident? 190 (68.1%) said yes (χ^2 = 38.72, p<0.001), with 138 (82.6%) in phase 1 vs. 52 (46.4%) in phase 3. It is concluded that phase 1 is in a high-risk environment with frequent, life-threatening hazards and proven incidents, while phase 3 faces moderate but still concerning risks.

Table 4.6: Assessing Level of Compliance with Osh Regulations
Scale: 1 = Never → 5 = Always

Item	Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD	RMS
1	Fire extinguishers	32.6	38.7	18.3	8.2	2.2	2.09	1.02	2.27
2	Exit signs	30.1	36.2	20.1	10.0	3.6	2.21	1.07	2.40
3	First aid kits	35.1	37.6	17.2	8.6	1.4	2.03	0.98	2.20
4	Risk audits	40.1	35.8	15.1	7.2	1.8	1.95	0.97	2.12
5	Mandatory training	38.7	34.1	16.8	8.6	1.8	2.01	1.00	2.18
6	Incident reporting	36.2	35.1	18.6	8.2	1.8	2.04	0.99	2.21
7	Legal compliance	42.3	33.7	15.1	7.2	1.8	1.92	0.96	2.09

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8	Dedicated budget	45.5	32.6	14.3	6.1	1.4	1.85	0.92	2.01
	Overall Mean						2.01	0.87	2.19

Mean = 2.01 → Very Low Compliance
All items < 2.3 → Systemic failure

Item 1, fire extinguishers are regularly checked and functional, had 91(32.6%) never, 108(38.7%) rarely, 51(18.3%) sometimes, 23 (8.2%) often, and 6(2.2%) always. thus, 199(71.2%) said never/rarely, while only 29(10.4%) reported often/always and 51(18.3%) sometimes. It is concluded that fire extinguishers' compliance is poor. Item 2, exit signs are visible and illuminated recorded 84 (30.1%) never, 101(36.2%) rarely, 56(20.1%) sometimes, 28(10.0%) often, and 10(3.6%) always. A total of 185 (66.3%) said never/rarely, while 38(13.6%) reported often/always and 56(20.1%) sometimes. It is concluded that exit signage compliance is critically low.

Item 3, first aid kits are available and stocked had 98 (35.1%) never, 105 (37.6%) rarely, 48 (17.2%) sometimes, 24(8.6%) often, and 4(1.4%) always. Thus, 203(72.8%) said never/rarely while 28(10.0%) reported often/always. It is concluded that emergency medical readiness is not negligible. Item 4 showed 112(40.1%) never, 100(35.8) rarely (15.1%) sometimes, 20(7.2%) often and 5(1.8%) always.

It was concluded that incident management systems are ineffective. Item 7, building complies with NESREA/factories Act, had 118(42.3%) never, 94 (33.7%) rarely, 42 (15.1%) sometimes, 20 (7.2%) often, and 5 (1.8%) always. It is concluded that regulatory compliance is virtually zero. Dedicated OSH budget which is item 8 showed 127(45.550 never, 91(32.6%) rarely, 40(14.3%) sometimes, 17(6.1%) often and 4(1.4%) always. It is concluded that OSH is not financially prioritized.

Table 4.7: Cross-tabulation: Compliance by Building Phase

Item	Phase 1 Mean	Phase 3 Mean	p-value
1	1.62	2.78	< .001
2	1.71	2.92	< .001
3	1.55	2.74	< .001
4	1.48	2.62	< .001
5	1.53	2.70	< .001
6	1.57	2.71	< .001
7	1.45	2.58	< .001
8	1.38	2.50	< .001
Total	1.54	2.69	< .001*

Phase 1: Near Total Non-Compliance, Phase 3: Partial Compliance

The overall compliance mean was 2.01 (SD=0.87). Independent t-test by phase showed phase 1 mean =1.54 and phase 3 mean = 2.69 ($t = -12.4$, $p < .001$). Chi-square tests on individual items confirmed all 8 items had significantly lower compliance in phase 1($p<0.001$), with phase 1 reporting 85-90% never/rarely vs 40-60% in phase 3. It is concluded that phase 1 operates in total violation of OSH law, while phase 3 shows partial but inadequate compliance.

Table 4.8: Strategies for Improving OSH Compliance

Item	Strategy	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD	RMS	V/E Imp.
1	Establish a dedicated OSH unit	2 (0.7)	5 (1.8)	14 (5.0)	123 (44.1)	135 (48.4)	4.68	0.62	4.71	92.5%
2	Mandatory annual OSH training	3 (1.1)	6 (2.2)	25 (9.0)	119 (42.7)	126 (45.2)	4.58	0.69	4.62	87.9%
3	Conduct regular safety audits	2 (0.7)	7 (2.5)	19 (6.8)	118 (42.3)	131 (47.0)	4.62	0.66	4.65	89.3%

4	Upgrade fire safety systems	4 (1.4)	8 (2.9)	27 (9.7)	116 (41.6)	124 (44.4)	4.55	0.71	4.59	86.0%
5	Improve ventilation and air quality	5 (1.8)	9 (3.2)	32 (11.5)	114 (40.9)	119 (42.7)	4.41	0.78	4.45	83.6%
6	Enforce waste and pest control	6 (2.2)	10 (3.6)	35 (12.5)	112 (40.1)	116 (41.6)	4.48	0.75	4.52	81.7%
7	Increase OSH budget allocation	7 (2.5)	11 (3.9)	38 (13.6)	110 (39.4)	113 (40.5)	4.52	0.73	4.56	79.9%
8	Install clear safety signage	8 (2.9)	12 (4.3)	40 (14.3)	108 (38.7)	111 (39.8)	4.38	0.80	4.43	78.5%
							4.53	0.65	4.57	84.9%

V/E Imp. – Very/Extremely Important (4-5)
RMS = $\sqrt{(\Sigma x^2/n)}$ → measures average perceived importance Overall Mean = 4.53 → "Very to Extremely Important"

Item 1 establish a dedicated OSH unit had 2(0.7%) not important, 5(1.8%) slightly important, and 14(5.0%) moderately important, 123 (44.1%) very important and 135 (48.4%) extremely important. Thus 258 (92.5%) rated it very/extremely important, while only 7(2.5%) said not/slightly and 14(5.0%) moderately.
It is concluded that a dedicated OSH unit is overwhelmingly seen as essential. "Mandatory annual OSH training" (item 2) had the following ratings: 3 (1.1%) not important, 6 (2.2%) slightly, 25 (9.0%) moderately, 119 (42.7%) very, and 126 (45.2%) extremely. It was regarded as very/extremely significant by 245 (87.9%), not/slightly by 9 (3.2%), and moderately by 25 (9.0%).

The conclusion is that yearly training is highly sought. There were 2 (0.7%) not important, 7 (2.5%) slightly, 19 (6.8%) considerably, 118 (42.3%) very, and 131 (47.0%) extremely important responses to item 3 ("Conduct regular safety audits"). Thus, it was assessed as very/extremely essential by 249 (89.3%), not/slightly by 9 (3.2%), and moderately by 19 (6.8%). Regular audits are determined to be a high-priority tactic.

The results of item 4 ("Upgrade fire safety systems") indicated that 4 (1.4%) were not important, 8 (2.9%) were slightly important, 27 (9.7%) were moderately significant, 116 (41.6%) were very important, and 124 (44.4%) were extremely important. It was evaluated as very/extremely significant by 240 (86.0%), not/slightly by 12 (4.3%), and moderately by 27 (9.7%).

It is determined that improvements to the fire system are desperately required. 5 (1.8%) people rated item s5 ("Improve ventilation and air quality") as not important, 9 (3.2%) as slightly important, 32 (11.5%) as fairly important, 114 (40.9%) as very important, and 119 (42.7%) as extremely important. Thus, it was regarded as very/extremely significant by 233 (83.6%), not/slightly by 14 (5.0%), and moderately by 32 (11.5%). The conclusion is that there is significant support for ventilation enhancement.

6 (2.2%) people rated item 6 ("Enforce waste disposal and pest control") as not important, 10 (3.6%) as slightly important, 35 (12.5%) as moderately important, 112 (40.1%) as very important, and 116 (41.6%) as extremely important. It was regarded as very/extremely significant by 228 (81.7%), not/slightly by 16 (5.7%), and moderately by 35 (12.5%).

Enforcing trash and pest management is determined to be a high-priority tactic. 7 (2.5%) people rated item 7 ("Increase OSH budget allocation") as not important, 11 (3.9%) as slightly important, 38 (13.6%) as moderately important, 110 (39.4%) as very important, and 113 (40.5%) as extremely important. Therefore, 223 (79.9%) thought it was very/extremely essential, 18 (6.5%) thought it was not/slightly significant, and 38 (13.6%) thought it was moderately important. The conclusion is that there is strong support for expanded OSH budgeting.

The results for item 8, "Install clear and visible safety signage," were as follows: 8 (2.9%) were not

important, 12 (4.3%) were slightly important, 40 (14.3%) were moderately important, 108 (38.7%) were very important, and 111 (39.8%) were extremely important.

It was assessed as very/extremely significant by 219 people (78.5%), not/slightly by 20 people (7.2%), and moderately by 40 people (14.3%). The conclusion is that, as a straightforward yet efficient solution, unambiguous signage is highly recommended.

The overall mean importance score was 4.53 (SD=0.65). Independent t-test by phase showed phase 1 mean = 4.52 and phase 3 mean = 4.54 (t = -0.41, p = .68). Chi-square test on individual items confirmed no significant differences (all p>0.05), items with 78-921% in both phases rated each strategy very/extremely important. It is concluded that staff in both phase 1 and phase 3 share identical priorities for systemic, institutional reform to improve OSH compliance.

Discussion of Findings

The study found an overall low-to-moderate level of awareness and implementation (mean = 2.86, SD = 0.94), with only 35-40% of respondents aware of the OSH policy, having received training, or knowing reporting channels. Management promotion of safety culture scored the lowest (mean = 2.48). A highly significant difference existed between phase 1 (mean = 2.49) and phase 3 (mean = 3.40; p<0.001).

These findings are consistent with several Nigerian studies that report persistently low OSH awareness in public-sector workplaces despite formal policies. Akinwale and Olusanya (2020) similarly documented high nominal awareness but poor practical implementation among public organization managers, while Eze et al. (2025) observed the same paradox inside the Federal Ministry of Labour and Productivity itself – the very regulator of OSH.

The present study extends these observations to a multi-tenant shared public building and shows that awareness is not uniformly low: Phase 3 performed significantly better, suggesting that never or better-maintained infrastructure (Phase 3 is more recent) may facilitate better policy dissemination and training – a relationship not previously explored.

From the theoretical perspective, the extremely low score on 'management promotes safety culture' directly contradicts the observational learning and reinforcement pillars of Social Cognitive Theory (Bandura, 2011). Without visible leadership modelling safe behavior or rewarding compliance, self-efficacy and outcome expectations remain weak, explaining the poor implementation.

The absence of swift, certain and severe sanctions (Deterrence Theory) further removes external pressure for compliance, creating a vicious cycle of neglect, especially pronounced in the older phase 1 building.

Therefore, the null hypothesis which stated that there is no significant deficiency in the awareness and implementation of OSH practices among building managers and occupants was rejected the overall mean awareness and implementation score was 2.86 (SD = 0.94), significantly below the midpoint of 3.0 (t = -2.48, p < .05). Phase 1 scored even lower (mean = 2.49), confirming a statistically and practically significant deficiency.

Fourteen hazards were assessed, yielding an overall mean frequency of 3.46 ('sometimes to often'). The three most prevalent were blocked emergency exits (78.1%), exposed/faulty electrical wiring (72.4%), and inadequate stairwell lighting (68.8%).

All 14 hazards were significantly more frequent in Phase 1 (overall mean = 3.96 vs. 2.70 in Phase 3; p<0.001), and 82.6% of Phase 1 respondents had personally witnessed or experienced a safety incident compared to only 46.6% in Phase 3. These results align with earlier reports of physical hazards in Nigerian public buildings. Nduka et al. (2018) identified poor ventilation and maintenance-related issues as causes of sick building syndrome in Lagos public offices, whereas Umeokafor et al. (2015) documentation ergonomic and electrical hazards inside regulatory agencies.

The present study, however, is the first to rank and compare hazards between two phases of the same complex, revealing that age and maintenance condition of the building are stronger predictors of hazards prevalence than occupant behaviour alone.

The extreme prevalence of blocked exits and faulty wiring in Phase 1 represents a level of risk that surpasses even many construction-site studies (Umeokafor et al., 2014), confirming that shared public office buildings can be as dangerous as high-risk industries when governance fails.

Theoretically, recurrent exposure to uncontrolled hazards without consequence erodes the "certainty" and "severity" components of Deterrence Theory while simultaneously teaching occupants (through observational learning – SCT) that violations are normal and acceptable. Therefore, the null hypothesis - there are no significant safety hazards and risks frequently present in the Federal Secretariat Phases 1 and 3 was rejected.

The overall mean hazard frequency was 3.46 (SD = 0.94), significantly above the midpoint of 3.0 ($t = 8.22$, $p < .001$). Fourteen individual hazards were all significantly more frequent than "Sometimes", with blocked exits and faulty wiring exceeding 70% "Often/Very Frequently".

Compliance with eight core regularity requirements was catastrophically low (overall mean = 2.01), with dedicated budget scoring the lowest (1.85), and no single item exceeding 2.21. Phase 1 recorded near-total non-compliance (mean = 2.69; $p<0.001$). Hypothesis Ho ("there is no significant compliance") is therefore accepted, while H1 is rejected.

Hypothesis H2 (there are significant differences in OSH compliance between different shared buildings) is strongly supported ($p<0.001$). These findings corroborate a long line of Nigerian research documenting systemic regulatory failure in the public sector (Anyatang and Kooffreh, 2020; Umeokafor et al., 2014, 2015; Eze et al., 2015; Olajide, 2016).

The near-identical pattern of absent fire extinguishers, unmarked exits, and missing budgets mirrors the unregulated non-compliance described by Eze et al. (2015) inside the regulator itself. However, the sharp contrast between phase 1 and phase 3 within the same complex is a new contribution:

it demonstrates that compliance is not uniformly absent across all government buildings but is heavily influenced by building age, maintenance culture, and possibly leadership commitment at the ministry level, factors rarely isolated in previous studies.

From the combined SCT-Deterrence lens, the absence of sanctions (no inspections, no penalties, and no budget) eliminates deterrence, while the lack of training and leadership modelling cripples the social-cognitive pathway to voluntary compliance. The results is the worst possible scenario predicted by the integrated framework: neither external fear nor internal motivation exists.

Therefore, the null hypothesis that there is no significant compliance with Occupational Safety and Health regulations in the shared public buildings in Abuja, Nigeria, was accepted. The overall compliance mean was 2.01 (SD = 0.87), far below the expected minimum threshold and significantly lower than "Sometimes" ($t = -18.64$, $p < .001$). No regulatory item scored above 2.21, confirming the presence of systemic non-compliance.

Respondents overwhelmingly endorsed all eight proposed strategies (overall mean = 4.53) with "establish a dedicated OSH unit" ranked highest (92.5% very/extremely important) followed by regular audits and mandatory annual training. Crucially, no significant difference existed between Phase 1 and Phase 3 respondents ($p = 0.68$), showing unified demand for systemic reform.

This consensus mirrors recommendations repeatedly made in Nigerian literature: mandatory training audits (Makinde et al., 2023), dedicated safety structures (Apraku et al., 2020, and budgetary commitment (Akinwale and Olusanya, 2020).

The present study is the first, however, to quantify priority ranking inside a shared public building and to demonstrate that even occupants suffering the worst conditions (Phase 1) agree exactly with those in better conditions (Phase 3) on what needs to be done a powerful mandate for immediate action.

The null hypothesis there is no significant agreement among respondents on the importance of proposed strategies for improving OSH compliance was rejected. The overall mean perceived importance of

the eight strategies was 4.53 (SD = 0.65), significantly above the midpoint of 3.0 ($t = 39.12$, $p < .001$). Agreement ranged from 78.5% to 92.5% rating each strategy "Very/Extremely Important", with no significant difference between Phase 1 and Phase 3.

V. CONCLUSION

The study has demonstrated that occupational safety and health compliance in the federal secretariat phases 1 and 3, Abuja, is alarmingly low, with phase 1 constituting a clear and present danger to thousands of civil servants. The results validate long-standing worries about regulatory shortcomings in Nigeria's public buildings and reveal that the age of buildings and the state of their maintenance are key factors that mediate these deficiencies.

Although the buildings have been recently maintained and renovated, the absence of proper safety procedures undermines these efforts, highlighting the need for a coordinated, synergistic approach to close the gap between building maintenance and enforcing proper safety culture. By integrating social cognitive Theory and Deterrence Theory, the research offers a practical roadmap: enforce visible sanctions while simultaneously building self-efficacy through leadership modeling, training, and reward.

Until both mechanisms are activated, Nigerian public buildings will continue to endanger the very workers tasked with serving the nation. The overwhelming consensus among respondents on solutions presents a rare window of opportunity for decisive government action.

VI. RECOMMENDATION

Establish a permanent, well-funded OSH Unit for the entire Federal Secretariat within six months.

Despite routine maintenance and renovation, inadequate safety protocols undermine these efforts, highlighting the need for a coordinated strategy to bridge the gap between upkeep and fostering a robust safety culture.

Make annual OSH training mandatory for all staff and tie promotion to completion certificates.

Conduct bi-annual independent safety audits with public disclosure of results.

Immediately unblock all emergency exits, replace/repair fire extinguishers, and rewire exposed electrical installations in Phase 1.

Increase OSH budgetary allocation to at least 2% of each ministry's overhead from the 2026 fiscal year.

Domesticate ILO Convention 155 and strengthen penalties under a new consolidated OSH Act.

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