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SUSTAINABILITY AWARENESS AND CONCEPTUAL UNDERSTANDING AMONG PROJECT MANAGERS IN THE FEDERAL CAPITAL TERRITORY, ABUJA, NIGERIA

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Abstract
Sustainable development involves project managers taking into account environmental concerns, social issues and economic growth along with the traditional triptych of project constraints. This paper discusses the findings of a study into the reported knowledge and awareness of sustainability issues by project managers in the Federal Capital Territory (FCT), Abuja, Nigeria, focusing on the descriptive results from the source paper. Descriptive data from a total of 220 project managers presented as frequencies, percentages and means show high awareness overall of the reported concepts with 54.5% very aware/aware, 26.4% moderately aware and 19.1% only slightly aware/not aware. The highest understanding and strongest mean scores were recorded for environmental impact assessment (4.15) and energy efficiency (4.08), followed by the lowest scores for climate change (3.10) and life-cycle assessment (3.25). The highest perceived influence was in planning and designing (4.25), while for the sources of sustainability knowledge it was practitioner training/workshops (4.05). The general pattern indicates some level of awareness of sustainability issues overall, without a correspondingly high level of understanding of life-cycle and climate change concepts. It recommends practice-based professional development and inclusion of sustainability issues within the project general management processes. Findings are descriptive only, with no control over the variables.
Keywords: Construction, Professional Development, Project Managers, Sustainability Awareness, Sustainable Project Management.

I. Introduction

Modern project management increasingly involves producing projects that deliver scope, schedule and budget and generate enduring environmental, social, and economic value. While traditional project controls are critical, they are insufficient when a project's decisions can impact resource use, pollute the local environment, impact community health, mitigate climate change, and alter the design of built assets for decades to come. Sustainable project management extends the notion of project success to include these impacts over the project life cycle and across more stakeholders (Labuschagne & Brent, 2005; Silvius et al., 2012).

The SDGs of the United Nations link development activities with inclusive prosperity, resilient infrastructure, sustainable cities and resource optimization (United Nations, 2015). While these responsibilities shape the end result, it takes the expertise of the design team to turn the SDGs into design criteria, purchasing guidelines, construction phase protocols, performance metrics and post occupancy performance management.

These issues are relevant to the Federal Capital Territory (FCT Abuja), where housing, roads, public facilities and other urban development projects shape land use, mobility, energy demand and access to services. Project managers coordinate clients,

designers, contractors, regulators, suppliers and end users. Their awareness can affect whether sustainability is raised early, assigned responsibility, budgeted for and tracked during implementation.

Awareness, however, is not synonymous with competence. For example, a manager may agree that energy efficiency matters but lack the knowledge to compare alternatives using whole-life costs. Recognising climate change as a concern does not automatically provide the skills to assess flood, heat or other climate-related risks. This paper distinguishes general awareness from understanding selected concepts and from the professional-learning routes through which understanding may develop.

It inquires: (i) what is the reported sustainability consciousness among project managers in FCT Abuja? (ii) In which concepts does the reported knowledge differ? and (iii) Which sources of knowledge and project phases are the most visible in the respondents' self-assessment?

II. Literature Review

Sustainable Development and the Triple-bottom-line Perspective

In a broad sense sustainable development can be defined as not compromising the ability of future generations to meet their needs. Sustainable development in projects needs to address the parameters of environmental integrity, social well-being and economic viability of the project (Elkington, 1997) people, planet and prosperity. This is a useful approach because a project may be profitable but place an environmental burden, or create an environmental benefit but be deaf to access, safety or the needs of the community.

The triple-bottom-line approach does not suggest that each project should strive to realise all outcomes to their fullest potential. It calls for clarity about such trade-offs, ensuring that harm is minimised when possible, and benefits are captured beyond project transfer. Project managers must clearly articulate these value judgments in project objectives, procurement criteria, stakeholder engagement and metrics.

Sustainable Project Management and Life-cycle Thinking

Defining Sustainable Project Management Sustainability goes beyond the specification of an individual construction activity or end product. According to Labuschagne and Brent (2005), sustainability should be embedded within project life-cycle management. Silvius et al. (2012) describe sustainability as an attribute affecting project principles, processes, competencies and measures of success. Thus decision-making requires reflection upon the entire project; initiation, planning, design, procurement, implementation, handover, operation and adaptation.

Awareness, Understanding and Professional Competence

Awareness is an essential starting point, then: for action, professionals need to see that sustainability is part of their job. Understanding is more a matter of expertise; it is to be able to explain a concept, to put it in context and to see what its consequences are likely to be for other options. Competence is to put that understanding into practice confidently in real project constraints.

Self-rating survey scores should be viewed critically. High scores may be 'perceived importance' or 'self-confidence' as well as exposure, and low scores on specialist topics may highlight a development need, but should not be taken as an indication that people don't have the practical skill. Evaluate the training by combining self-rating with exercises, work products and changed procedures.

Environmental Assessment, Energy Efficiency and Climate adaptation

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Professional Learning and Organisational Support

Training and workshops provide opportunities for translating general principles into project tasks. Academic education may lay foundations, peer networks and self-study can carry on and expand learning. These approaches are complementary: a workshop might introduce the technique, peers may speak of challenges in implementation, organizational procedures might approve its routine use.

Practice is more likely to be changed by learning when expectations, accountabilities, technical guidance and the project toolset reflect it. For example: sustainability checklists at approval gates; whole-life-cost models; climate risks entered into the project register; resource-efficient procurement criteria; handover plans with defined operational targets.

Literature Review and Study Gaps

Propositions the concepts support describe awareness as necessary, yet inadequate. Several concepts, life-cycle thinking, technical assessment and organizational support are required to transform awareness into consistent behavior. This paper provides a descriptive profile of awareness, most relevant concepts, sources of knowledge and perceived importance at each project phase of Abuja project managers. Due to unavailability of respondent-level information in the provided extract, the paper describes patterns, not explanations.

III. Methodology

The source study states a descriptive design was used, with project managers involved in construction, infrastructure and urban-development projects in FCT Abuja. The population is given as 500, and sample, 220. Reported stratified random sampling was used for both the public- and private-sector settings and the various types of project. Questionnaires and semi-structured interviews were the methods of data collection.

Quantitative responses were summarised by frequencies, percentages and mean scores. Interview responses were to be subjected to thematic analysis. The extract available does not contain information on respondent-level data, full text of questionnaires, anchors for response scales, response rate, reliability statistics or coded interview themes. This publication presents values originally reported; no attempt is made to derive new inferential statistics, confidence intervals or qualitative categories.

Mean scores are treated as scores on the original study's rating scale; the supplied extract does not fully specify its anchors. "Higher" and "lower" therefore refer to relative positions among reported indicators, not externally validated competency thresholds. Findings should not be interpreted as proof of causation or necessarily as representative of every project manager in Abuja.

IV. Results

General Sustainability Awareness

The following table 1 indicates levels of reported awareness. Over half said they were aware or very aware, about a quarter said they were moderately aware, and 1 in 5 said they were slightly or not aware of what was going on (see figure 1).

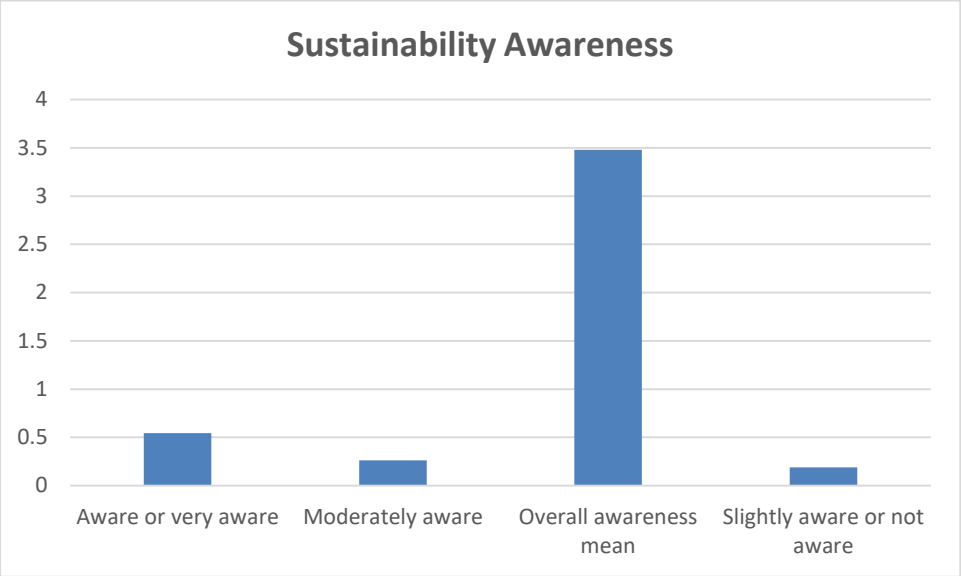
Table 1: General Sustainability Awareness

Indicator	Reported result	Interpretation
Aware or very aware	54.5%	A modest majority reported positive awareness
Moderately aware	26.4%	Approximately one-quarter reported intermediate awareness
Slightly aware or not	19.1%	A notable group may require foundational

aware		support
Overall awareness mean	3.48	Reported as moderate-to-high awareness

Source: Author's Analysis, 2026

Figure 1: Reported Sustainability Awareness



Source: Author's Analysis, 2026

The profile is generally favourable but incomplete. Although 54.5% reported awareness, the 45.5% in moderate or low-awareness categories shows that familiarity is not uniform. Figure 1 visualises this distribution and supports differentiated development: foundational orientation for those with low awareness and applied learning for those already familiar with the subject.

Understanding of Selected Sustainability Concepts

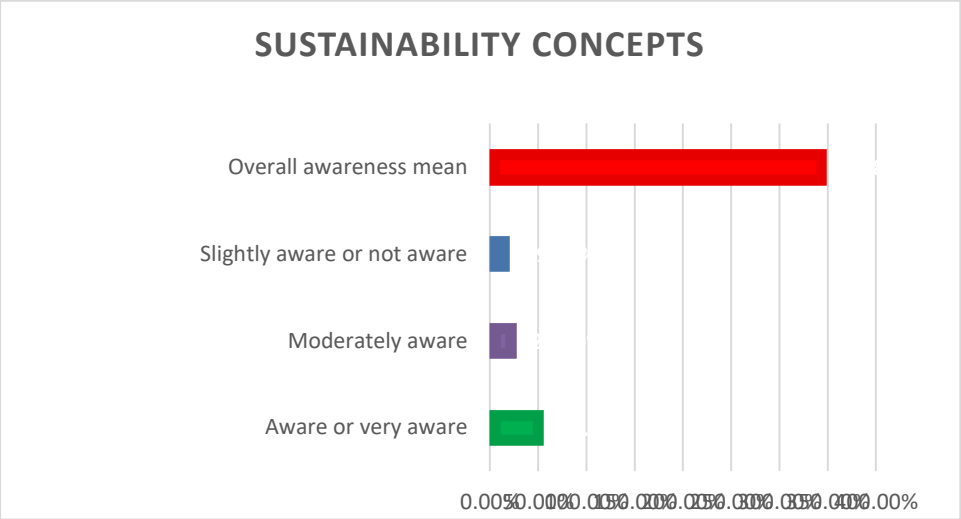
Table 2 compares mean scores for four concepts. Environmental impact assessment and energy efficiency recorded the highest scores; life-cycle assessment and climate-change adaptation scored lower.

Table 2: Selected Sustainability Concepts

Sustainability Concept	Mean Score	Relative Position
Environmental impact assessment	4.15	Highest reported understanding
Energy efficiency	4.08	High reported understanding
Life-cycle assessment	3.25	Lower reported understanding
Climate-change adaptation	3.10	Lowest among concepts shown

Source: Author's Analysis, 2026

Figure 2: Sustainability Concepts



Source: Author's Analysis, 2026

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Sources of Sustainability Knowledge

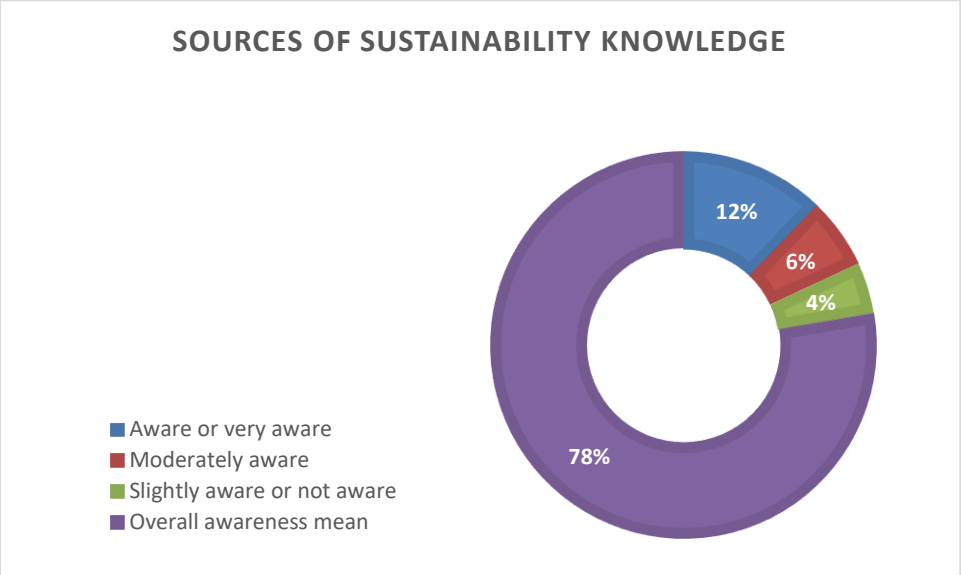
The most common means of acquiring knowledge were professional and training courses and workshops, with academic education being the next most common. Peer discussion groups and self-readings had relatively low mean scores (see Table 3).

Table 3: Sources of Sustainability Knowledge

Knowledge source	Mean score	Relative position
Professional training and workshops	4.05	Highest reported source
Academic education	3.88	Second highest
Peer networks	3.43	Lower than formal learning routes
Personal reading	3.28	Lowest among sources shown

Source: Author's Analysis, 2026

Figure 3: Sources of Sustainability Knowledge



Source: Author's Analysis, 2026

Traditional formal professional development, both in training and workshops, received the highest score. This suggests that survey respondents see formal professional learning as valuable. Academic instruction is also suggested to have a role to play. Although, sharing and reading received the weakest scores; these might still be useful. A mix of formal training, sharing with others, guided reading, and practice might generate a more sustainable system.

Perceived Importance across Project Stages

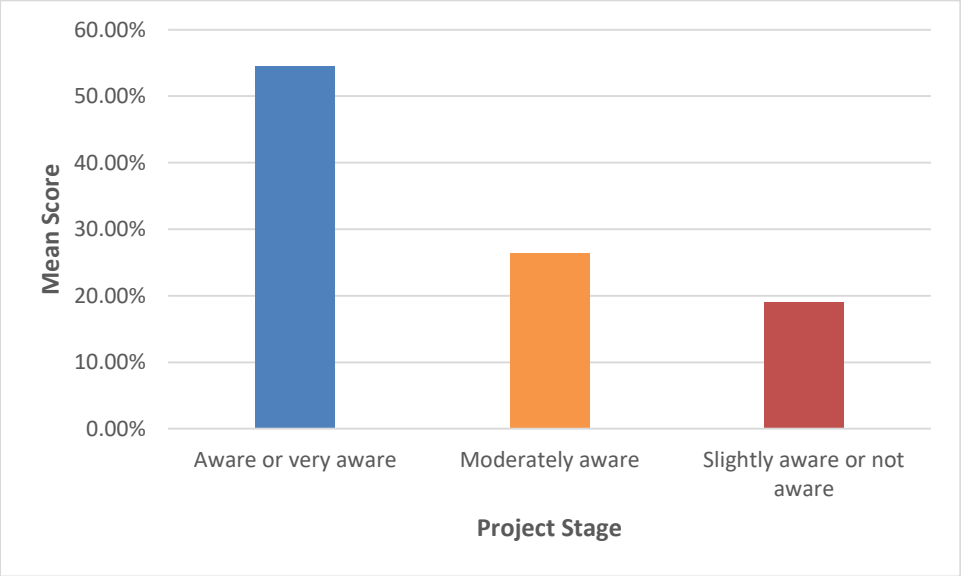
Sustainability was found to be of highest importance during planning and designing stages, then during construction and execution. It was rated lower on completing a project and in operations. See Table 4 and Figure 4 for comparison.

Table 4: Perceived Importance across Project Stages

Project stage	Mean score	Interpretation
Planning and design	4.25	Highest perceived importance
Construction and execution	4.10	High perceived importance
Post-completion and operations	3.45	Lower perceived importance

Source: Author's Analysis, 2026

Figure 4: Perceived Importance across Project Stages



Source: Author's Analysis, 2026

Figure 4 has 0.80-point difference between planning/design and post-completion/operations indicating prioritization of project definition and delivery over ongoing performance. Aspects such as energy, water, maintenance, user experience and resilience all happen after handover. They should be extended to include commissioning and handover documents, facilities-management plans and post-occupancy evaluation.

V. Discussion

Combined, the findings demonstrate moderate-to-high awareness and variation in conceptual knowledge. This aligns with the sustainable project-management claim that awareness of sustainability is merely the first hurdle in embedding it within decisions and controls. The relatively high EIA and energy-efficiency scores imply more exposure to concepts related to 'normal' approval and design work, with the lower LCA and climate-adaptation scores indicating less general awareness of 'specialist and future-focused capabilities.

The dominant emphasis on training puts professional learning in the spotlight for the operational response. Training needs to be built around the tasks carried out by project managers: comparing material or design options, establishing whole-life costs, analysing

climate risk, establishing targets for waste and energy, and drafting sustainability requirements for tender documentation. Participants should be tested through their projects rather than mere attendance.

These stage findings bring up a governance challenge. While planning and design scored highly, operation garnered a lower score. Early decisions can lock in future energy demand, maintenance, and climate-related risks. Expected advantages might not be realised if commissioning is poor, management is not well defined, or performance data are not recorded. The handover should be seen as a handover into verifiable performance and not an end to sustainability.

A tangible step forward would be to integrate sustainability filters at project gateways: At project start teams can identify social and environmental risks; during design they can evaluate different options; during procurement they can specify performance criteria; during construction they can measure waste, water, energy use and on-site impact; and at handover they can specify performance expectations and responsibility. If project scope allows, monitor indicators during operation.

The descriptive design puts restrictions on the data. The group means give no indication of whether awareness is able to predict implementation, whether training accounts for higher understanding, or whether the differences between the groups are significant, and the self-reported understanding did not necessarily translate into demonstrated ability. As the extract did not include item level responses and the whole instrument it was not possible to check the reliability independently.

However, the results do provide a good initial diagnostic. The results highlight areas of concern that require training and demonstrate that in ranking work types the respondents consider planning/design and construction to be most important. Interpretation of the results should assist in programme design and greater analysis and should not be used to rank any individual construction professional or organization.

VI. Conclusion

This paper looked at reported sustainability awareness and conceptual understanding of project managers in FCT Abuja. The source paper reports 54.5% of the project managers were aware or very aware, and overall mean is 3.48. Conceptual understanding was highest for environmental impact assessment and energy efficiency, and lowest for life-cycle assessment and climate adaptation. Professional training and workshop were the key sources of knowledge, and sustainability was most important during planning and design, and least during post-completion and operations.

Recommendations

Carry out training on LCA, climate change adaptation, whole-life costing and sustainability indicators.

Employ construction and infrastructure case studies from Abuja looking at design, material, procurement and operational choices.

Embed sustainability competencies in academic curricula, professional certification and organizational induction.

For construction, bring sustainability review points at start, design, procurement, construction, commissioning and handover.

Track building performance against operational targets for energy, water, maintenance, waste and user outcomes following completion of construction.

Assess training by using applied assessments and observable adjusted project procedures, not just attendance.

Future Research

Future research needs to explore if training, time on the job, sector and type of project influence the quality of understanding and implementation. A mixed-method design could involve a well-articulated questionnaire, complemented by interviews, document analysis and project-level indicators of sustainable development assessment. Following

individuals longitudinally would also reveal whether improvements in practice are preceded by changes in self-reported familiarity and ability to use EIA, LCA, energy-efficiency and climate-adaptation techniques.

References

Aghimien, D. O., Aigbavboa, C. O., & Thwala, W. D. (2020). Implementation of sustainable construction practices in Nigeria: Barriers and solutions. Journal of Engineering, Design and Technology, 18(5), 1225–1243.

Adebayo, S. O., & Ogunsemi, D. R. (2019). Assessment of sustainable construction practices in urban project management in Nigeria. Journal of Construction in Developing Countries, 24(1), 1–18.

Elkington, J. (1997). Cannibals with forks: The triple bottom line of 21st century business. Capstone.

Labuschagne, C., & Brent, A. C. (2005). Sustainable project life cycle management: The need to integrate environmental sustainability. International Journal of Project Management, 23(7), 531–537.

Okonkwo, O. E., Onuoha, C. M., & Iwuanyanwu, P. N. (2021). Sustainability awareness and practices among construction professionals in Nigeria: A study of policy influence and professional development. Journal of Building Performance, 12(2), 95–104.

Silvius, A. J. G., Schipper, R., & Van den Brink, A. (2012). Sustainability in project management: A literature review and research directions. Journal of Cleaner Production, 32, 1–19.

Silvius, A. J. G., Schipper, R., & Van den Brink, A. (2017). Sustainability in project management: A systematic review of the literature. International Journal of Project Management, 35(3), 686–695.

United Nations. (2015). Transforming our world: The 2030 agenda for sustainable development. United Nations.