

**SUSTAINABLE DEVELOPMENT AND ARCHITECTURAL PRACTICE IN
NIGERIA: CURRENT AND EMERGING ISSUES**

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ABSTRACT

Current and emerging issues in Architecture have continued to raise concerns on how to achieve sustainable development in architectural practice. This paper examines some of these issues and their implication for sustainable development. The paper observes that architectural practices can be classified as bearable, equitable, sustainable and viable depending on the level of compliance to the three pillars of the economic, social and environmental aspects sustainable development. Among some of the current issues identified as having a direct bearing on sustainable architectural practice are the current professional fees regime; professional negligence by architects and training of architecture students. The paper also discusses the emerging issues that are relevant in ensuring a sustainable practice as the involvement of architects in post occupancy evaluation, embracing the use of information and communication technologies such as Building Information Modeling (BIM) and electronic procurement. The paper concludes by identifying practical steps that need to be taken by the relevant stakeholders to arouse awareness on these issues that constitute serious threats to the survival of the profession and sustainability of architectural practice in Nigeria.

Keywords: architectural practice, sustainable development, professional fees; Information and Communication Technologies

1. INTRODUCTION

The term sustainable development has become a mantra majorly in the academic world and of course, in the larger society. This is a good development and highly commendable and a reflection of a society that is proactive in thinking and careful of what the future holds. However, like every mantra that has taken on a popular trend, there is an inherent potential to lose their intrinsic value or the very essence of its existence if adequate attention is not urgently taken for all sector of the society to imbibe its tenets. In the context of this paper, sustainable development is viewed not only as a concept of futuristic tendency, but of its conceptual relevance to the practice of architecture both as a profession and as an enterprise. This paper looks at sustainable development from a broad perspective with a view to generating a robust debate on the concept as it relates to the profession of architecture and human society.

Based on the forgoing, the paper presents two key definitions of sustainable development that are considered relevant to the current discourse. The first definition sees “sustainable development as maintaining a delicate balance between the human need to improve lifestyles and feeling of well-being on one hand, and preserving natural resources and ecosystems, on which we and future generations depend. The key components of this specific definition as presented in Figure 1 indicates that sustainable development simply means balancing the needs for development with environmental carrying capacity (Tarikhi, 2010)

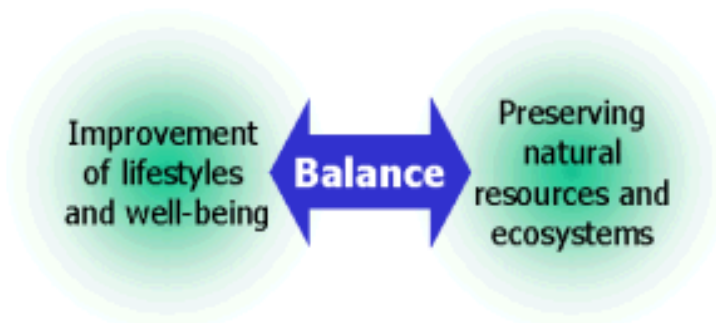


Figure 1: Sustainable Development concept and components
Source: Tarikhi (2010)

The second definition is that presented by the *World Commission on Environment and Development* in 1987 report. That report titled *Our Common Future*, also known as the *Brundtland Report* or *Tokyo declaration* defined sustainable development as development that

meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987).

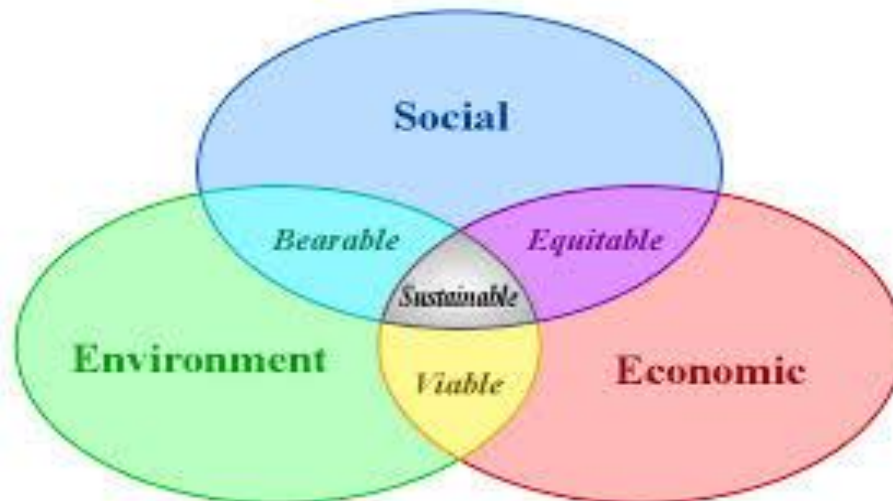


Figure 2: Components of Sustainability

http://www.uvm.edu/~jashman/CDAE195_ESCI375/What_is_Sustainable_Development.html.

These two definitions point to the direction of the current discourse on sustainable development as it relates to the architecture profession. The first definition places emphasis on the well-being of the Architectural practitioner, in terms of improvement in lifestyles. The second definition graphically shows that there can only be sustainability when there is near equilibrium of the key factors of social, economic and environmental aspects of architectural practice. In fact, Figure 2 suggests that there can only be sustainability in architectural practice when the three key factors have a convenient and reasonable meeting point.

Thematically, three generic scenarios resulting from the lack of one or inadequate representation of one or two key aspects of sustainable development can be identified (see Figure 2). These three scenarios singularly or sometimes act in conjunction to depict the current features of architectural practices in Nigeria. The first scenario represents what we call a “bearable practice” that is a practice that takes into account social and environmental aspects of sustainable development. The second one is an “equitable practice” that considers only social and economic factors, while the third scenario describes a “viable practice” incorporating environmental and economic issues of sustainable development. The implication of this is that for a practice to be described as sustainable or considered to be in alignment with

the precepts of sustainable development, it must have given adequate consideration to the three pillars of sustainability; namely social, economic and environmental aspects.

Further, it is imperative that our thinking of sustainable development should be from the lens of the world as a system comprising space and time. By aligning with this line of thinking, we see our world as a system over space; and thus compelling us to think globally and act locally with the understanding that for instance, air pollution in North America can affect air quality in Asia, and that pesticides sprayed in Argentina could harm fish stocks off the coast of Australia. What this means is that any mistrust or disaffection caused by an architect in Maiduguri can have a commensurate effect on the perception of architects in Ibadan or Port Harcourt.

In addition, it would help us to begin to realize that the decisions our grandparents made about how to farm the land continue to affect agricultural practice today; and the economic policies we endorse today will have an impact on urban poverty when our children are adults.

As it relates to architectural practice, this simply means that our poor handling of briefs and project management tools culminating in poor project delivery today has the capacity to affect the acceptance and engagement of architects in the near future.

2. CURRENT ISSUES IN ARCHITECTURAL PRACTICE IN NIGERIA

The practice of architecture in Nigeria today is not encouraging and mostly non-sustainable. This can largely be attributed to issues of poor remunerations which have destroyed the fabrics of the profession and adversely affected the training of architects, and contributed to inadequate analysis, brief development and reduction in the quality of service delivery by architects. The consequence of this is poor project delivery, time and cost overrun and abandoned projects which dotted across the landscape of Nigeria. Although policy makers and politicians are the major culprits in the rising incidence of abandoned projects; it is our view that we cannot completely exonerate architects from the myriad of abandoned projects all across the nation. What we are saying in essence is that for every project abandoned, there is overwhelming tendency that an Architect is culpable through omission or commission and negligence in carrying out his/her professional duties by not properly advising policy makers or project initiators on the right steps to take at the commencement of such project. In the next

paragraphs, we present some of the current issues that are militating against the goal of sustainable development in architectural practice in Nigeria.

2.1 ARCHITECTS' FEES

By law architects' fee is a relatively small percentage of the total project cost. It is always calculated on a percentage through the Sliding Scale or Lump Sum basis or Time-Charges otherwise called Man-Month Rates. The fee quotient is always very minimal in comparison with the volume of work required the Architect obligated to carry out. In spite of this, most clients in the public and private sector always demand for further negotiations. The situation gets so bad that the right level of quality staff in terms of professional training and experience could not be deployed on projects due to the accruable fees. Consequently, at the long run, the client and society become the ultimate losers, while the Architects and indeed the profession are brought into disrepute. This is against the spirit of sustainable development as it affects the future of the practice much more than it affects the present.

Examination of the current fee regime will reveal that although office practice has become more expensive today when drawings are produced digitally compared to the days of manual production of drawings, unfortunately, the remuneration for the Nigerian Architect is very low. Table 1 shows the schedule of fees in the different countries across the globe. It is evident from Table 1 that the Ghanaian and South African Architects earn 8.0% and 12.5% of the cost of projects as fees, respectively; while upper band of the Sliding Scale of Fees for Nigerian Architects are is 4.75% of the cost of projects as professional fees. In addition, the NIA 1996 scale of fees starts at 4.5% for estimated cost of project of N5million, while the South African scale of fees starts from 12.5% for the equivalent project cost of N6million. The worrisome aspect of this is that public sector clients in Nigeria have continued to insist on getting a discount on the professional fees of the architect.

Comparing the Architect's fees with that of his counterpart in the Real Estate sub-sector, whereas the Architect earns approximate 4.75% of construction cost over a period between two and five years, an Estate Manager earns 5% of the sales price which includes the cost of the

land and building for possibly a month's transaction. It is therefore, expedient for both ARCON and NIA to take concrete steps in addressing this situation by evolving a sustainable fee regime for architects in Nigeria. The government should not regulate professional fees in a deregulated economy because an enhanced fee will help in improving the fortunes of architects, both in practice and in training resulting in a better service delivery to the client and the society.

Table 1: Schedule of Fees for Professional in the Building Industry in the Different Countries

Consultancy Services Fees as a Percentage of Construction Cost	Architect	Structural Engineer	M & E Engineer	QS/Cost Consultant	Other	Total Fee
GHANA						
Architect fees dependent on cost of project	8.00%	*4.5%	*4%	*4%		8.00%
EUROPE						
Belgium	8.00%	0.05%	1.00%	0.75%	0.25%	10.05%
Denmark	5.00%	3.00%	4.00%			12.00%
Finland	4.00%	2.50%	1.60%	0.40%		8.50%
France	4.65%	2.50%		0.65%	0.50%	8.30%
Germany	6.50%	3.90%	2.70%	1.50%	2.00%	16.60%
Great Britain	5.50%	2.75%	3.25%	3.25%		14.75%
Greece	3.00%	1.50%	1.50%	1.00%		7.00%
Ireland	5.00%	1.80%	1.65%	2.60%		11.05%
Netherlands	5.50%	1.20%	1.50%	0.50%	1.50%	10.20%
Portugal	6.00%	1.50%	2.00%	1.50%	3.50%	14.50%
Spain	8.00%			1.25%	1.70%	10.95%
Sweden	5.50%	2.40%	3.90%	0.20%		12.00%
Nigeria	4.50%	3.00%	3.90%	2.75%		14.15%
NORTH AMERICA						
Canada	3.25%	1.25%	1.75%	0.25%	0.25%	6.75%
Mexico	5.00%	2.00%	2.50%	1.00%	1.50%	12.00%
USA	6.20%					
ASIA						
Australia	3.75%	1.00%	1.50%	1.00%	0.85%	8.10%
Japan	4.00%	1.35%	2.20%	1.35%		8.90%
New Zealand	4.50%	2.10%	2.20%	2.00%		10.80%
*Great Britain has deregulated fees completely						
*US has no scale of fees but the architect at least earns 60% of the A/E fees						

Source: Delano (n. d).

2.2. NEGLIGENCE IN ARCHITECTS' DUTIES

Another current issue plaguing architectural practice in Nigeria is negligence in professional duties. The concept of reasonable skill and care entails that a professional person owes to his or her client a duty to exercise reasonable care and skill in the performance of the task required of him or her. Therefore, the Architect as a professional person is duty bound to exercise reasonable care, technical skill, ability and diligence in the discharge of his/her obligations to the client at all times. It however observed that there is a growing apathy on the level of care, technical skill and diligence of architects' duties in many projects in Nigeria in the recent times. There was a time that an architect with Master's degree in Architecture can only be assigned to detailing of doors, wardrobe, staircases and such other elemental fixtures for over a year having been employed in any of our flagship Architectural firms. Those firms had the culture of always emphasizing the role of mentorship and importance of pupillage in training in the development of a total Architect. The belief then was that architecture has a deep tradition that has evolved over hundreds of years; and that effective transfer of knowledge demands adequate exposure to live projects and constant interaction and knowledge transfer between mentors and mentees.

Unfortunately, Architects are no longer holding on to these values; and as a result professional negligence is on the increase in the profession. In fact, many students of Architecture and younger Architects are currently not seeing the relevance of mentorship in their professional journey. Many of them cannot categorically state their understanding of basic Architectural principles and specific practitioners who could effectively mentor them and sharpen their professional skills. In our view, all these have contributed to the current level of professional negligence among Architect; and thus giving the profession a bad name and reputation to the extent that our society no longer believes in the judgment of the Architect as a professional and the first among equals in the building industry.

2.3 ISSUES ASSOCIATED WITH STUDENTS' TRAINING

There is no doubt that our educational system producing architect is currently confronted with a number of challenges. It is known that education is the bedrock of national development and by extension the existence and growth of any profession. Although the concept of sustainability is about two and half decades old, many of the curricula used in the institutions of higher learning where Architect is being taught as a course do not emphasize on issues of sustainability. In their paper titled 'Towards a more Sustainable Architectural Curriculum of Higher Institutions in Nigeria, Ali *et al* (2010) found out that level of awareness of sustainability among educators was low. Based on the findings, that study, recommended the introduction of sustainability in our curriculum, organization of more training program related to sustainability and revision of existing curricula to inculcate sustainability awareness in the minds of future Architects. Franklin (2014) was also of the view that one of the ways for entrenching the culture of sustainability is to fully integrate it in the educational curricula.

In advanced countries like the US, UK, Canada and Australia, the curricula of architecture school are built around sustainability issues. For example, the *Design Intelligence's* 2014 survey report reveals that a majority of the Deans of Schools of Architecture in the US identified have sustainability and climate change as one of the architecture's biggest concerns. Consequently, Schools of Architecture in the US and Canada are re-directing their focus in teaching, learning, research and civil engagement on issues related to sustainability of human settlements. Although NIA/ARCON have begun process of creating more awareness and inculcating the culture and understanding of the principles of sustainability among its members through the Continuous Professional Practice Development (CPPD) program, Architects Colloquium in Abuja, LAF (Lagos Architects Forum of NIALSC); there is a need to review the existing curricula in our Schools of Architecture to reflect contemporary issues of concern such as environmental sustainability, climate change and declining productivity of the building construction sub-sector.

For instance, the Makoko intervention by Architect Kunle Adeyemi is a classical example of an architecture that responds to the need of the people. That project has improved the life of the Makoko community living on stilts, while the architect has received global recognition as he has been honoured by Cable Network News in the ‘*CNN Ones to Watch*’.

In addition, there is this recurrent issue of deserted studio in many Schools of Architecture across the country. The studio has been described as a place to share skills, develop relationships and the tolerance of peer’s shortcomings. Therefore, the importance of design studio to the architecture training cannot be overemphasized. This helps to explain why ‘the Zaria school emphasized the studio and a student had to do his studio work and pass or be weeded out of the course (Adeyemi, 2010). Despite this, architecture students seem to have consistently paid little or no attention to design studio work as an embodiment of their training modules. The problem of deserted studios has been an issue of concern to architectural educators and practitioners in the last three decades or so. According to Adeyemi (2010), “*this culture of deserted studios started surfacing in the 80’s. ...In all honesty, the studio has lost its relevance as the key integrative unit of the School of Architecture, not only in an educational, but also in a communal sense*’.

Among other things, this problem has been attributed to the changing fortunes of the university system, as affected by dwindling economies which make the student to have to fend for himself, creating less time for his studio work (Adeyemi, 2010) . It is our view that the advent of social media platforms such as facebook, twitter, Instagram and others has become a huge distraction for students and has contributed to increasing the magnitude of the problems of deserted studios in recent times. Many students are unable to strike a balance between the social platforms and their studio sessions, while a growing percentage are merely passing their examinations without residual knowledge and sustain passion for the profession. This distraction though more emphasized, now has begun in the early 80s, unlike in the 60s when students are more mature and prefer investing more time on the studio doing their works to spending time on social fora.

3. EMERGING ISSUES IN ARCHITECTURAL PRACTICE IN NIGERIA

There is a number of emerging issues affecting the engagement of Architects' professional services in the country that deserve mention here. First deals with the increasing number of clients who need services related to renovation and conversion, rehabilitation and upgrading of existing/dilapidated facilities. The implication is that areas requiring Architects' services are have grown beyond the traditional briefs into some other hitherto fallow grounds such as renovation and refurbishing works. This suggests that part of the new areas our curriculum should focus on is Alterations and Redevelopment of existing buildings.

Second is the growing need for Architects to develop relationships with client beyond the first brief. This can be achieved by engaging in post occupancy evaluation (POE). POE is a set of methods and techniques applied during use of the built environment to evaluate building and environment performance from the perspectives of specialists and that of the users (Ornstein (2005). It measures among other things the social, economic and environmental performance of the built environment; and thus provides feedback to inform decisions on design and management practices (Ibem *et al.*, 2012). It has been observed that taking interest in the building during the course of its use opens up opportunity for other collaborations and engagements. Therefore, engaging in POE help to examine the extent to which end-users are satisfied with buildings and the surrounding environment. This is beneficial to the clients as he /she is armed with reliable information on how or where to make further investments in increasing the commercial value of his property. On the other hand, it helps the Architect to continue to enjoy the goodwill and patronage of their client; thus maintain a sustainable practice.

Third is the global trend in the adoption of Building Information Modeling (BIM) in the architecture, engineering and construction (AEC) industry. Traditionally, the Architect is regarded as the leader of the team in the building industry. However, the emergence and

adoption of BIM has the tendency to erode Architect's position among the building team. According to Eastman *et al.* (2008), BIM is a modeling technology, which has an associated set of process that produces, communicate and analyze building component that are digitally represented in the different views of the model. BIM is assuming the international benchmark for efficiency in the AEC industry as it can now be used in all phases of project development from conceptual stage through to architectural, civil/structural, mechanical / electrical, cost involvement and analysis, tendering and award, construction to completion and occupation, facility maintenance and operation, and finally the demolition of the building Ahazar (2011) and Bryde *et al.* (2012). With the current development in the area, Architects who seek to maintain a sustainable practice must upgrade their knowledge and resources base to accommodate BIM.

Another emerging area is the adoption of electronic procurement (e-procurement) in the building industry. E-procurement is the use of electronic communications and transaction processes to buy supplies and services or conduct tendering for works (Bausa *et al.*, 2013:5). It involves the use of electronic communications or systems to announce /notify/inform stakeholders about tender opportunities (soliciting for tender offers); exchange project information and data; conduct tendering; evaluate tender offers; award and manage construction contracts (see Bausa *et al.*, 2013). Evidence in the literature (Rankin *et al.*, 2006; Eadie *et al.*, 2011) indicates that it in many developed and developing countries, the use of electronic procurement in construction is fast growing. Therefore, in order for the Nigerian architects to remain competitive in their practice, there is urgent need for us to embrace e-procurement as a way to enhance the productive and efficiency in delivering architectural services to our clients.

4. CONCLUSION

In this paper, we have discussed the concept of sustainable development as it relates to architectural practice in Nigerian. The issues emerging from here are that for architectural practice in Nigeria to be sustainable, there is a need for us to revisit the ancient landmark from

the very beginning of the practice. There is no future without the past; thus a lot of things that used to be sacrosanct in the training and practice of architecture need to be revived. It is of utmost importance to reposition architectural practice culture to meet emerging challenges. The world is constantly changing and there is a need for the profession to adapt to these changes, especially when it comes to the issues of appropriate fees; increasing the Architects' knowledge base on sustainability, BIM and e-procurement as well as expansion of the areas of professional influence of Architects in the construction industry.

To this end, Architects are encouraged to ensure that they participate in such activities and programmes like the Architects' Colloquium, CPD; seminars and conferences to keep themselves abreast of the latest developments in the different areas of interest. Architectural practices can also increase the sustainability levels of their practice by engaging in partnerships and offering Associate status to colleagues and staff with proven track record. This is important in achieving long lasting business legacy, job satisfaction and socio-economic well-being. Architects in practice should also collaborate with architectural educators to improve on areas of training and cross fertilization of ideas between practice and the classroom. The need to introduce issues of sustainability into architectural curricula has become imperative because the Architect plays a vital role in the creation of built environment. More so, practicing and student architects need to be well informed on how their attitudes, behavior and actions can impede the quest for sustainable development.

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