Architectural Education for Today's Challenges

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Abstract
The changing environment in which architecture is practiced today appears very hostile in many countries including Nigeria. There are challenges both within the profession and outside the profession. Several of these challenges have serious implications for the training of architects in the country. This paper highlights some of these challenges and their implications for architectural education in Nigeria. It proffers solutions aimed at making architectural education more responsive to the evolving practice climate in Nigeria.
Keywords: Architectural Education, Changing needs, Nigeria, Responsive education

1. INTRODUCTION

The human society is in a constant state of change. Tremendous changes are consequently, taking place on both the local and global scales which significant implications on the perception of architecture and the way architectural business is conducted. In Nigeria today, these changes have resulted in a very challenging and sometimes hostile practice environment for the architect. In part these challenges have pushed some architects away from the profession thereby draining the profession of needed talent and skills. It has been argued that young graduates from Nigerian schools of Architecture are poorly prepared to fit into the world of practice as there appears to be a disconnect between training and practice in Nigeria. Incidentally, such sentiments are not restricted to Nigeria and have indeed been the focus of debates and discussions in countries like Britain, America, Australia, etc (Tzonis, 2014).

The architect is essentially a product of his training. It is the training he receives that provides him the basic knowledge and skills necessary for the world of professional practice. Of course, it is expected that such knowledge is built upon in response to the dynamism of the practice environment. However, if the initial training is defective, the product (graduate architect) at the end of the day will be a misfit in the workplace, struggling through professional life and having difficulties to respond to its dynamics. It is in the light of the above that this paper examines the challenges posed by the current architectural practice environment in Nigeria and what such challenges portend for the academic training of architects in the country. It proffers some recommendations aimed at ensuring that the products of architectural training in the country are well equipped to not only transit smoothly from school to work but to also successfully navigate through the changing world of professional practice both in Nigeria and other parts of the world.

This paper aligns with Haruna (2008) in defining the word "practice" to mean "to work in a profession." The practice of architecture therefore covers any sector that is involved in the shaping or re-shaping of the built environment including private practitioners, public servants and academics. It is therefore not restricted to the private consulting firms. Haruna, (2008) concludes that "whatever sector an architect finds him/herself, so long as his schedule entails architectural judgment in content and /or context, such an architect for the purpose of this paper, is in the practice of architecture".

2. CONTEMPORARY ISSUES AND THEIR IMPLICATIONS FOR ARCHITECTURAL PRACTICE IN NIGERIA

The focus of architecture essentially is the society. Consequently, whatever happens to the society impacts on the practice of architecture. For instance, a prosperous economy will stimulate increased demand for housing and other building types requiring the services of the architect. Similarly, policies that stifle the economy in turn result in a lull in architectural practice. This section of the paper identifies some key contemporary issues in Nigeria and the challenges they pose to the practice of architecture in the country.

(i) **Rapid Population Growth and Urbanisation:** Nigeria has one of the fastest growing populations in the world today, with a growth rate estimated at about 3.2% per annum, (NPC, 2006). The last nationwide census in 2006 put the Nigerian population at about 160 million people. The important characteristics of this population apart from its huge magnitude are the rate at which it is urbanising on one hand and the proportion of the population that is considered poor, on the other hand. Presently, about 70% of the Nigerian people are classified as being poor, (NPC, 2006). The magnitude of the population gives a fair indication of the huge demand for housing and other infrastructure needed in the country. For example, it was estimated that the housing backlog in the country as at 2008 was about 15 million housing units (Okpoechi, 2014). It is important to know that the bulk of the infrastructure will increasingly be needed in the urban areas, especially as urbanisation continues unabated. The high rate of poverty suggests that majority of the people lack

the financial endowment to acquire their homes.

Traditionally and sadly so, architects have shied away from involvement in developing housing for poor households, preferring to work for more affluent households. The none involvement of architects in shaping or re-shaping of the built environment for the majority of the Nigerian populace, in part, explains the dichotomy in aesthetics and technical quality evident in the Nigerian built environment as one traverses from the poor neighbourhoods to the more affluent neighbourhoods. Reluctance on the part of architects may not be unconnected with the less attractive remuneration and prestige often associated with working for the poor. Such positions are reinforced by historical insinuations that architecture is a prestigious profession patronised by the rich. However, the trend appears to be changing in some parts of the world like Cuba, as dwindling job prospects have compelled architects to creatively devise rewarding ways of working for/with poor households (Opoko, 2005).

Although the huge Nigerian population and its associated demand for infrastructure should suggest a boom for architects, however, the high level of poverty suggests increasing shift in clientele base away from the affluent. It also implies that architects become more creative and innovative fashioning new ways of interventions in shaping and reshaping the built environment.

(ii) Information Technology (IT): A major influence on the architect and practice of architecture is the on-going revolution in the information technology sector which appears in the words of Sa'ad (2001) to be moving architecture increasingly from "the drawing board to cyberspace". Although studies of Nigerian firms by Oluwatayo (2009) found a low availability and uptake of IT compared to firms in developed countries, there are strong indications that spirited efforts are being made to bridge the gap. Today, IT facilities especially computers are common feature in many offices. What is not quite clear, however, is the extent to which these facilities are deployed in the daily operations of the architectural practices. Benefits of IT to architectural practice are enormous and include speed of decision making and delivery, easier networking, greater interaction and appreciation of designs, savings in resources (time, labour and money).

(iii) Globalisation and Competition: Improved interaction, communication and cooperation between nations of the world have served to gradually demolish the partition walls that in times past separated people in one location from another. It is increasingly realised that the world indeed is a "global village". A major implication of this in our context is that architectural practices can now have a more global outreach in terms of sourcing jobs, expertise, facilities and information while maintaining a local foothold. Often times we see international jobs being advertised as competitions open to all that meet stipulated guidelines, including students. It also opens up doors of opportunities for international collaboration which enables collaborating partners to operate from their offices in different localities while inputs can then be coordinated with the help of IT facilities. For Nigerian architects, this signifies the need to widen the scope of knowledge beyond the local and keep abreast of developments on the foreign scene. IT also plays a critical role in this regard.

Unfortunately, globalisation also opens up local markets to foreign participation. This means therefore that architects from other countries have opportunity of getting jobs from Nigerian clients and executing same from any part of the world. It is thus obvious that in such a situation, Nigerian architects are compelled to compete for local jobs with others qualified to handle such jobs. In the face of such competitions, it becomes imperative for Nigerian architects to up their game by ensuring they possess a level of knowledge and skills that give them the needed comparative advantage.

The obvious implication of globalisation and its associated competition is for architects to repackage themselves and go for those extras that at the end of the day will make them stand out from the crowd. Often times, time is spent on doing the so called "big things" that the equally important "small things" are glossed over. A couple of Nigerian architects have been rightly faulted on this for inability on their part to demonstrate mastery of knowledge and skills in technical and management (especially financial) matters. Often times, drawings are incomplete and relevant details missing.

(iv) Emerging Project Procurement Methods: The traditional methods of project procurement whereby the architect was literally in charge appears to be giving way to other procurement methods like design and build, turnkey, design and manage, BOT, and various forms of developer procurement methods. The concern for the architect is that his hitherto secured position in the Building industry is seriously threatened as more prominence is given to the project manager or developer, as the case may be. This situation has pushed some architects to seek additional qualifications and expertise.

(v) Socio-economic and Environmental Issues: Nigerian architects are practicing in an economic environment that can be mildly described as "tough". The level of unemployment or more importantly under employment is on the increase. Majority of Nigerians are reportedly poor. Government's direct investment in housing projects appears to be dwindling in real terms. Harsh economic and other policies of government appear to constrict the revenue base of potential clients. The few clients available appear more knowledgeable and persistent in demanding for value for their money. Many clients prefer to negotiate than pay for architectural services in accordance with the prescribed scale of fees.

The perception of the architect and the services he renders are often poor and in many instances inaccurate. A client in several cases will feel more comfortable paying the contractor than the architect whose effort is equated to the number of sheets in which his work is presented!

Architects over the years have been taught to give consideration to materials and environmental factors in evolving their designs. However, the scope of environmental concerns worldwide has widened to include consideration about weather changes and depleting natural resources. These make it imperative that architectural judgment ensure that resources are used in a very judicious manner. "Sustainability" today is a global watchword. The issue of sustainability is very critical for the practice of architecture because buildings, the main product of architecture, have been identified as major consumers of resources as well as major polluters of the environment. Today, Environmental Impact Analysis (EIA) reports are required for especially large projects. It has been suggested that perhaps in the near future, the scope of impact of projects on communities may be expanded to review of projects by not only regulatory bodies but also other stakeholders including members of the community, several of whom may not have technical background (Sa'ad, 2001).

Another developing issue that has significant implication for the practice of architecture today in Nigeria and the world over is the daunting challenge posed by terrorism/insurgency. In the past two decades, acts of terrorism and insurgency which often result in loss of lives and properties have created fear and uneasiness all over the world. Initially, the general thinking was that such incidents cannot happen in Nigeria. Unfortunately, we have been proved wrong by unfolding daily events especially in the northern parts of the country. The need for planning and design of buildings to negate or at least ameliorate the impacts of these violent attacks has indeed arisen.

(vi) Gender Disparity: A cursory examination of all spheres and cadres of the architectural profession - be it public service, consultancy or even academia, reveals a very low representation of women. Lack of a level playing ground has been identified as a major cause for the high attrition rate of female architects from the profession. Studies like Oluwatayo (2009) have shown that many Nigerian architectural firms are unenthusiastic about employing female architects, especially those that are married and within the child bearing age. When female architects manage to get employed, they are faced with biases ranging from lower remuneration and slow career advancement to stereotypes about their professional capabilities. There have also been reported cases of sexual harassment of female architects in the work place. Consequently, many female architects report being under employed, having to work under pressure and sometimes, dressing and acting like men as they struggle to gain acceptance and career progression in the work place. As one woman aptly re-echoed the thoughts of several others, "you have to put in twice as much effort compared to your male counterparts in order to be noticed and much more to be reckoned with".

(vii) Other Issues: although the menace of quacks parading as architects has been a source of concern for several years running, it is disheartening to note the prevalence of quacks in the country. Also of concern is the unhealthy rivalry that goes on between architects and other professionals, where the professional integrity of the architect has been questioned. Even among architects, all do not appear to be well especially between architects in the public service and those in private practice. Lack of cordial working relationship often observed between these groups, instead of strengthening the profession tends to expose it to ridicule.

3. ARCHITECTURAL TRAINING IN NIGERIA

Although formal training of architects can be traced back to the 17th century in France, emergence of architecture as an academic discipline is comparatively more recent, having occurred in the 19th century, (Olotuah, 2001). Prior to the establishment of schools of Architecture in Nigeria, Nigerian architects were trained abroad. The first indigenous school of Architecture was established in 1952 at the Nigerian College of Arts, Science and Technology (NCAST), Ibadan. It was later relocated to Zaria in 1955 and metamorphosised to the Department of Architecture at the Ahmadu Bello University (ABU) Zaria at the inception of that institution in 1962, (Arayela, 2001). That same year witnessed the establishment of the second school of Architecture as one of the pioneer courses offered at the newly established University of Nigeria, Nsukka in order to meet the growing demand for

architectural education in the country. A third school of Architecture was established in 1970 at the University of Lagos, Akoka, Lagos. By the year 2003, there were nineteen schools of Architecture in the country in addition to polytechnics that offer the course. As at 2012, the number of approved/accredited schools offering architecture in the country had risen to twenty seven as shown in Table1.

Examination of the proprietor base of these schools reveals three categories of ownership as follows: federal government (11), state government (10) and private (6) ownership (Table I). According to Olotuah (2001) the main thrust of architectural education in Nigeria has been to produce architects who possess adequate training (knowledge and skills) necessary to "contribute to the attainment of a humane and responsive environment". The extent to which this objective has been realised has formed the basis of debate among stakeholders, including architect-educators.

Prior to 1969 when the Architects Registration Council of Nigeria, (ARCON) was established via Architects' Registration Council Decree No10 of 1969, training curricula used in schools of architecture were moderated by the Education Board of the Nigerian Institute of Architects (NIA). Today, schools of Architecture are subjected to the rigours of double accreditation by both the National Universities Commission (NUC) and ARCON every two and five years respectively in order to be counted worthy of training students. In virtually all the schools, architectural design is given far more prominence (sometimes up to 40% of the total required credit units) since it is considered the core competence required of architects and all the other courses as seen as providing support.

Most of the schools currently operate the two-tier structure of training whereby the first four years constitute the undergraduate level of training which culminates in the award of a Bachelor of Science (BSc) degree to students who successfully complete the programme. The last two years constitute the post-graduate level of training leading to the award of Master of Science (MSc) degree to successful students. Over the years, these schools continue to produce graduate architects who practise in Nigeria and other parts of the world.

Challenges: In the past, curricula for training of architects adopted in Nigerian schools of Architecture did not include IT related subjects. As reported by Arayela (2001) up till the year 2000, no school of Architecture in Nigeria had a computer training laboratory. The trend is however fast changing. The challenge in many schools is inadequacy of their available IT facilities. Another dilemma currently faced by schools is at what stage and to what level use of IT softwares should replace (if at all) manual drafting. Reports indicate that the practice differs from one school to another. There is a need to harmonise this practice.

In addition, some schools do not have adequate studio and classroom spaces which discourages students from working together in the studios. Departmental data rooms/libraries where students can make quick references are either non-existent or boast of only obsolete materials. Equally important is the lack of human resources in many schools. Many schools are unable to attract and retain academic staff partly due to low prospects for career advancement. The importance of a doctoral qualification and publications place architects in a disadvantaged position since architects appear to have a rather shaky footing for the required strict rigours of scientific research. Constrained by limited funds and competing needs, many university authorities are unable to adequately meet the needs of their Architecture schools.

Table 1: National Universities Commission Approved/Accredited Programmes of Nigerian Universities as at 4th January, 2012

S/N	Name of University	Year Established	Ownership
1	Ahmadu Bello University, Zaria	1952	Federal
2	University of Nigeria, Enugu Campus	1963	Federal
3	University of Lagos	1970	Federal
4	Obafemi Awolowo University	1977	Federal
5	University of Jos	1979	Federal
6	Rivers State University of Science and Technology	1980	State
7	Ambrose Alli University, Ekpoma	1981	State
8	Abia State University Uturu	1982	State
9	Enugu State University of Science and Technology, Enugu	1985	State
10	Federal University of Technology, Minna	1985	Federal
11	Federal University of Technology, Akure	1989	Federal
12	Federal University of Technology, Yola	1990	Federal
13	Abubakar Tafawa Balewa University, Bauchi	1992	Federal
14	Imo State University, Owerri	1992	State
15	Ladoke Akintola University of Technology, Ogbomoso	1993	State
16	University of Uyo, Uyo	1995	Federal
17	Kano State University, Kano	2002	State
18	Covenant University, Ota	2002	Private
19	Olabisi Onabanjo University, Ago-Iwoye	2003	State
20	Anambra State University, Uli		State
21	Bells University of Technology, Ota		Private
22	Cross River State University of Technology, Calabar		State
23	Joseph Ayo Babalola University, Ikeji-Arakeji		Private
24	Nnamdi Azikiwe University, Awka		Federal
25	Evan Enwerem University, Owerri		Private
26	Caritas University, Enugu		Private
27	Caleb University, Lagos		Private

Source: National Universities Commission (2012)

4. EDUCATION FOR EFFECTIVE ARCHITECTURAL PRACTICE IN NIGERIA

A critical review of the challenging environment in which the Nigerian architect is practising reveals four major areas that need intervention. These are:

1. The need for architects to acquire the desired additional skills needed for today's professional practice environment. It is obvious that design of buildings alone may not be adequate for sustaining architects. On one hand, the jobs are not there and on another the passion is not exactly there! In order to survive, the scope of professional responsibilities of the architect has increased although the basic knowledge and skills architects are provided with while in training appear insufficient to support rendering of services in these additional areas.

   After several years of debates, there appears to be a concensus as to the need for schools of architecture in the country to offer specialisation programmes. The question that still remains to be answered is: At what stage of the architecture programme should specialisation take place? While the NIA/ARCON strongly insists that any specialisation should take place after completion of the MSc programme, to enable graduates to be registrable befor specialising. There are dissenting voices that are growing louder by the day. Tzonis (2014) reports that in countries like the Netherlands the duration of architecture training has been cut. Extending training duration will encourage more people to leave the profession after the BSc. Level. Our experience in Covenant University has been that about half the students who complete their BSc programme return for the MSc programme. Major reason for this is the desire to pursue careers outside the traditional architecture profession. Some students enrol in schools of architecture without a proper understanding of what is involved. By the time they realise it, they are "stuck" and therefore wait for the least opportunity to escape.

   My view is for the six years two-tier system to be retained. However, while the the first tier consists of five years, the second will be of a year duration. The first five years will be devoted to the basic architecture training culminating in a degree that is professional and registrable like the Bachelor of Architecture (B.Arch.). Those who desire specialisation, will then proceed to the post-graduate level.

2. The need for architects to network and work in collaboration or partnership with others. Partnerships in

architectural firms in the past are reportedly low as many architects in practice tend to go solo. This may be attributed to a declining studio culture observed in many schools of architecture. However, the array of knowledge and skills needed for today's practice is quite enormous. So also are the risks to which architectural practices are exposed to. Partnerships will help partners to share responsibilities while allowing them to specialize in those areas with benefits to the firm. It will also allow for risks to be shared making it easier for the firms to go through tough times when they arise. This is in line with Haruna (2008) who argues that "team work is the only way for pooling experience, sharing knowledge and articulating quality production that meets client's objective. The global trend towards merger and acquisition is strategically geared towards waxing stronger for better services and competitive advantage".

3. The need to create a more gender balanced work environment. This should actually commence right from school where students are taught to respect everyone irrespective of gender. Allowing students to work together in groups encourages the male students to learn and appreciate the inherent talents of their female counterparts – an appreciation which hopefully should be carried into professional life. Moreover, widening the scope of expertise via specialisation programmes will also enable the female students to migrate to areas where they have both interest and talent.

4. Training of architects should not be limited to class room alone. This is because the pace of change especially with the IT revolution has been described as both "breathtaking" and "mind blowing". Thus architects who want to be at the cutting edge of their profession need to listen and learn as much as they can and as quickly as they can. The current continuous education programme of the Nigerian Institute of Architects is indeed laudable. However, it is suggested that the programme be run as a workshop in decentralised locations in order to benefit more people. Above all, self-development is very important.

5. CONCLUSIONS

Emerging realities strongly suggest that architects can no longer rely on the traditional architectural services. The boundaries within which the professional architect operates are shifting as a result of the influence of technology, innovation, new project procurement methods and globalisation. Growing socio-economic and environmental concerns, higher expectations of clients and the competitive nature of the practice environment demand that architects possess the enlarged knowledge and skills base needed to successfully navigate through the sometimes hostile but ever changing world of professional practice. This in part supports the call for specialisations in other areas like project management, landscape design, interior design, etc.

Schools of architecture have a critical role to play in bridging the identified knowledge and skills gap necessary for the unfolding practice environment. In recognition of this role, many schools have already embarked on curricula review with a view to equipping their students with expertise in a broader range of areas. Efforts of schools are however hampered by inadequate human resources, poor funding, lack of infrastructural facilities and the challenges of securing approvals for the needed levels of curricula change, which differs from one school to another.

The paper also stresses the need for training to transcend the classrooms to practice offices in view of the speed at which changes are taking place.

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