

Full Length Research Paper

Building craftsmanship skill development and Nigeria's vision 20:2020: Imperatives and daunting challenges

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Nigeria's commitment to improving the living standard of its citizens has led to the introduction of a long-term economic programme tagged Vision 20:2020. The vision consists of a set of objectives and programmes designed to launch the nation into the league of the 20 most developed economies of the world by the year 2020. A large quantum of professionals and skilled workers, especially in the building sector has been identified by several studies as critical for this aim to be realized. The current statistics which shows abysmally low number of craftsmen in the sector, however, calls for a review of existing mechanism put in place to provide the required skills. It is against this background this paper seeks to examine the current skill development efforts vis-a-vis the desired situations with a view to determining their capability to deliver the expected result. Data were sourced through literature search, institutional records and structured questionnaire administered on 500 randomly selected master craftsmen in Ibadan. Results show decline in the number of building apprentices and low enrolment of students in building related skills at the technical colleges and vocational centres of Nigerian tertiary institutions. The paper holds that for the nation to achieve its vision, drastic measures needed to be put in place. It concludes by highlighting some of these strategies.

Key words: Apprentice, building, craftsmen, technical education, technical and vocational skills.

INTRODUCTION

Since the beginning of self-rule in Nigeria, various governments have developed several strategies to improve upon the living and working condition of their citizens. They range from short- to long-term programmes which were oftentimes patterned after the Western model. These have not, however, yielded any visible result. The nation's history was rather characterised by economic stagnation, declining welfare and social

instability for most of the past 30 years.

Moved by the Goldman Sachs's ranking of the country amongst the countries that have the potential for attaining global competitiveness based on their economic and demographic settings and the foundation for reforms already laid, the civilian administration introduced, in recent times, a long term economic programme tagged Vision 20:2020 . The vision captures among other things,

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the road map and blueprint for achieving national economic growth and becoming one of the twenty largest economies in the world by 2020. The roadmap projects a Gross Domestic Product (GDP) of 900bn USD and a per capital income of 4000 USD per annum. It hopes to achieve this by providing efficient and adequate social services and infrastructure, thereby creating an enabling environment for private sector-led growth. The following critical priority areas were identified for immediate attention: (1) decentralisation of governance (2) sustainability (3) economic reforms (4) land use/property reforms (5) public service reforms (6) national security (7) human capital development and critical infrastructure (Gasper, 2011).

It should be noted that the actualisation of five of the above issues will require the expertise of building professionals, technologists, technicians and craftsmen. The expected economic development will necessitate more factories, office buildings and civil structures. For a household, the growth of incomes will lead to a desire for a larger house with more expensive building materials, furnishings, etc. (Kim, 1998). A report by the Federal Mortgage Bank of Nigeria even indicates that over 720,000 housing units per annum will be required if the country is to achieve its dream of becoming one of the top 20 economies of the world (Iroegbu, (2007). Thus, a greater number and balance of professionals, skilled and semi-skilled workers will be needed (Daniel, 2009). According to Onipede (2012), an ideal ratio between the four categories of skilled workers is:

Professional	Technologist	Technician	Craftsman/Artisan
1	2	4	16

It therefore follows from the above that an abundant pool of technicians and craftsmen from the labour market are needed to drive the vision. Available records, however, show a mismatch between the needed and the available number of qualified indigenous artisans and craftsmen in the construction industry (Nigerian Building and Road Research Institute, NBRRI-2012; Akindoyeni, 2005; Njoku, 2007; Enuke and Mgbor, 2008). Onipede (2012) puts the current ratio at one craftsman/artisan to one technician instead of one to four. Over one million of these workers are even from Benin Republic, Togo, Ghana, Cote d'Ivoire, China and Korea, costing the country about 6bn USD yearly with 50% of the money leaving the shores of the country (Gasper, 2011; Njoku, 2007).

Judging from the above situation and the nearness of the target date, a strong recruiting mechanism of this category of workers must be in place, if the nation is to achieve its vision. The purpose of this study, therefore, is to examine the current efforts of the government at producing the required skilled manpower needed in the construction industry in order to determine whether the country is still on the path to achieving the vision, and if

otherwise, prescribe strategies that will enhance the capacity building of this category of human capital.

Vocational and technical skill development in Nigeria

Building craftsmanship in Nigeria dates back to the pre-historic days when men who were more adept in building construction than other members in the community were hired to construct houses. In those days and even up till this time, children of master craftsmen learn their parents' trade so that the knowledge and skills of the craft are handed down from father to son (Osasona, 2005). Established building craft tradition with specialisations however began in the mid-eighteenth century when repatriated slaves from Brazil and Sierra Leone returned to the country. These people took the building traditions and the construction skills they have acquired overseas and applied them in building houses for themselves and their clients. They transferred these skills to the natives through apprenticeship system. The entry into the training, as it is today, was based on kinship, friendship and philanthropy (Osasona, 2005). The system later received a boost with the advent of colonial rule. During this period, foreign artisans and craftsmen were brought into the country to help the colonial government erect residential and administrative buildings and construct railway system to facilitate external trade (Akinsemoyin and Vaughn-Richards, 1977; Osasona and Hyland, 2006). People from the local communities were initially engaged as labourers on the building projects and gradually by working alongside the foreign artisans, acquired enough trade skills to work as semi-skilled, and later as skilled workers who later passed on the skills to their peers or younger ones through apprenticeship system. This apprenticeship training which may be time-based or competency-based or both, remains the predominant provider of skills as well as employment to the workforce in the country today, accounting for 80-90% (Nwanoruo, 2004). It therefore follows that an improvement in this sector of skill development has a great potential to turn around the human capital base of the nation's economy resulting in the economic growth and national development.

Formal training of skilled workers started with the establishment of training schools in some departments of Civil Service. Each school was managed by its respective department where training was geared towards departmental needs in Public Works, Post and Telegraphs Department, and Nigerian Railways. In 1948, the Yaba Technical Institute was established to provide more economically, the training given by some civil service departments. The Ashby Commission in 1959 thereafter recommended the expansion and upgrading of the Technical Institutes. This led to the establishment of Yaba College of Technology, Kaduna Polytechnic, Auchi Polytechnic, The Polytechnic, Ibadan among others.

Table 1. Age distribution of respondents.

Age	No of Respondents	Percentage
20-30	50	10
31-40	40	8
41-50	85	17
51-60	230	46
61 and above	95	19
Total	500	100

Source: Authors' Analysis (2013).

Realising the shortage of skilled manpower at the artisan, craftsman and the technician levels as one of the factors responsible for the difficulties in implementing the second National Development Plan (1970-1975), one Technical College and one Polytechnic were established in each state of the federation. In April 2009, Vocational Enterprise Institutions (VEIs) and Innovation Enterprise Institutions (IEIs) were launched. These are largely private sector-led institutions that run 3-year modular programmes, where each year of study could be terminal as each level ensures a specific employable skill. Furthermore, the National Board for Technical Education (NBTE) - the body that handles all aspects of technical and vocational education falling outside university education— introduced entrepreneurship education in all the polytechnics and monotecnics in Nigeria in order to redirect the youths to technical and entrepreneurial skills for self-employment. Each student is made to undergo training in a particular skill in addition to his chosen course of study. This is expected to produce enough high quality technical skills needed in the country if the students enrol in the skills that are essential for economic and social development in the country.

Outside the school system, the government has equally introduced a number of programmes designed to empower the teeming youths with technical and vocational skills on a short-term basis. The National Directorate of Employment, for instance, was established to train youths in vocations such as carpentry, iron bending, furniture, etc. Others include Industrial Training Fund (ITF), National Youth Service Corps (NYSC) and National Poverty Alleviation Programme (NAPEP) which are all aimed at the acquisition of marketable and applied skills (Gumbari, 2009). All these programmes have, however witnessed consistent failure in meeting the desired objectives, making insignificant impact on manpower development and employment generation. The programmes were highly politicised and characterised by corrupt practices.

Little progress has also been made in the formal technical educational sector. As at 2012, there were only 159 recognised Technical Colleges in the country made up of 19 Federal, 137 State and 3 Private with a total enrolment of 92,216 as against 610,000 in secondary

schools. As observed by Gumbari (2009), most of these technical colleges were established twenty years ago despite the rapidly increasing population growth, and the workshops and laboratories of most of them are ill-equipped. The same story goes for middle level manpower development. There are 140 polytechnics/monotecnics to date, producing about 32,292 diplomats. Sixty-five per cent of these diplomats graduate in the Humanities and the Social Sciences (Gasper, 2011). The needed high quality technical skill is therefore far from being met.

METHODOLOGY

The study adopted descriptive design to determine the level of acquisition of building related skills in both formal and informal sectors. Data on the level of acquisition of building-related skills through apprenticeship were collected through a structured questionnaire consisting of two parts. The first part sought for socio-demographic characteristics of the respondents such as age, trade, training qualification, etc. The second aspect deals with questions relating to trend in apprenticeship expansion and institutional support. The questionnaires were administered on 500 master craftsmen in the building construction sector who were selected through accidental sampling technique. Visits were paid to construction sites in the ten randomly selected outlying areas in Ibadan between Mondays and Saturdays for four weeks. Each respondent, assisted by the investigators completed the questionnaire on the spot within 20 min after which it was collected. Data on the acquisition of building-related skills through formal education were obtained from the admission records in three randomly selected Technical Colleges and the Vocational Centres of three randomly selected Polytechnics in the South western part of Nigeria. The data obtained in both cases were analysed using simple descriptive statistics including frequencies and percentages. The identities of the selected institutions were coded in the analysis for ethical reasons.

RESULTS AND DISCUSSION

Table 1 shows that majority of the respondents were within the age bracket of 51 – 60 representing 46%. Ten per cent of the respondents were under 30 years while just 8% were within 31 and 40 years of age. Surprisingly, 75% of the country's population fall within the latter age brackets (UNICEF, 2013). This indicates that younger people are keeping away from building apprenticeship.

Table 2 further gives a clear picture of appalling decline in apprenticeship training in the country. Most of this training (about 80%) occurred in the 70s and 80s with an average of 8 and 10 apprentices per master craftsman respectively. Yet, Nigeria has been reported to have the world's largest population of out-of-school children, accounting for 47% of world's population of this category of children (UNICEF, 2013). Majority (44%) of the respondents as shown in Table 3 attributed this disturbing decline to the get-rich-quick mentality of the Nigerian youths. Poor business environment has forced the younger people to abandon their trades for supposedly

Table 2. Decadal trends in apprenticeship growth.

Period	Average No of apprentices/master craftsman	Percentage
1970- 1979	8	34.8
1980- 1989	10	43.5
1990- 1999	4	17.4
2000- 2010	1	4.3
Total	23	100

Source: Authors' Analysis (2013).

Table 3. Reasons for declining trend in apprenticeship training.

Reasons	No of respondents	Percentages
Quest for formal education	60	12
Get-rich-quick mentality	220	44
Lack of respect for artisans and technicians	130	26
Government education programmes	90	18
Total	500	100

Source: Authors' Analysis (2013).

Table 4. Trade distribution of respondents.

Trade	No of Respondents	Percentage
Block laying and Concreting	200	40
Carpentry	95	19
Tiling	40	8
Plumbing	85	17
Electrical installation	80	16
Total	500	100

Source: Authors' Analysis (2013).

Table 5. Evidence of institutional support system for apprenticeship training.

Institutional Support Services	YES	NO
Entrepreneurial guidance	3 (0.6%)	497 (99.4%)
Grant/Loan	2 (0.4%)	498 (99.6%)
Retraining/Workshop	3 (0.6%)	497 (99.4%)
Business counselling	5 (1.0%)	495 (99.0%)

Source: Authors' Analysis (2013).

thriving businesses like commercial motor cycle riding, handset repairs, and petty trading. Twenty-six per cent of the respondents also trace the decline to lack of respect accorded to the artisans and craftsmen by the society.

Further probing by the investigators during the field survey revealed that entrants into the apprenticeship system were people who could not afford to go to school

or have dropped out after some years of schooling. Upon completing training, participants in the system often continued for a few years as wage employees (journeyman) and ultimately established their own businesses. As shown in Table 4, most of the craftsmen were brick layers, representing 40%. This is not unexpected; about 60% of construction work involves block laying and concreting.

Despite the vital role it plays in the labour industry by empowering the teeming youth with technical skills, there is almost a complete neglect of the sector by the public as well as private formal support systems. As can be seen in Table 5, over 99% of the respondents have never received credit, business counselling, technological support, or entrepreneurial guidance from any institution. The entire process, from training to wage employment and ultimately self-employment is scarcely touched by any form of institutional support. There are no tangible financial or business development services that cater for

Table 6. Academic/training qualifications of the respondents.

Qualification	No of respondents	Percentage
None	497	99.4
Trade test	3	0.6
Full Technical Certificate	-	-
National Diploma	-	-
Higher National Diploma	-	-
Total	500	100

Source: Authors' Analysis (2013).

the particular realities and problems of the sector.

There is equally no appreciable effort by the government to regulate the training as it is being done in the developed countries. Majority (99.4%) of the master craftsmen shown in Table 6 do not have training certificate. This could be responsible for the low quality of work produced by this category of artisans as observed by NBTE (2013).

Table 7 paints a dismal picture of the student enrolment in the building construction trades in the selected technical colleges. There was a progressive decline in the percentage of students that enrolled for building related vocational skills in these institutions. For instance, in 2003, the percentage of students that enrolled for building construction trades was put at 71%. In 2004, the percentage reduced to 65%. In 2005, it fell to 63% and it became 54% in 2006. It reduced to 50% in 2010 and by 2012 the percentage came down to 42%. The colleges rather recorded an upward trend in the enrolment for non-building skills. This shift in interest may be due to the scary news of incessant building collapse which are reported on the pages of national dailies virtually on a daily basis (Ayedun et al., 2012; Olagunju, et al., 2013; Oloyede et al., 2010; Oni, 2010; Nigerian Institute of Architects, 2010). The students thus enrolled for the trades they think are less hazardous. The table also reveals a fluctuating trend in student enrolment for bricklaying and concreting. One possible explanation for this behaviour is the economic fluctuations in the country which produce a widely fluctuating workload for the participants in the construction industry, leading, in turn, to repeated layoffs and hiring of personnel (Parsons, 1979). The students who are ambitious of getting a lucrative job at the end of their studies, may base their choice of trade on these cyclical events.

Similar trend was also observed in the entrepreneurship skill acquisition programme recently introduced in the polytechnics. There was a very low enrolment in building construction skills. As indicated in Table 8, out of 2,727 students on roll in 'A' Polytechnic, just 449 (about 16.5%) enrolled for building-related skills. It was even lower in 'B' Polytechnic where iron bending/welding and electrical installation are the only building-related skills being run. It was just 8.1% that even enrolled for the two trades.

There wasn't much difference in 'C' Polytechnic either: out of 2860 students in the centre, only 620 registered for building related (electrical installation and bricklaying) representing 21.6% and out of this just 3.7% enrolled for brick/block moulding and concreting. Overall, just 15.48% registered for four building trades out of 21 trades on the list. None of the students in the three polytechnics registered for carpentry, tiling, plumbing and pipe fitting, and painting and decoration. The entrepreneurship programme that was intended to address the declining trend in apprenticeship training cannot, therefore, be relied upon to reverse the trend in building construction industry.

The reason why polytechnic students do not choose building related skills, like their counterparts in technical colleges, may not be unconnected with the high level of risks the sector is noted for (Adane et al., 2013; Wong, 1994; Hunter, 2011). Stone dust and asbestos fragments have been reported to be responsible for certain types of cancer and infections, while construction activities like dogging, rigging, excavations, tunnelling, scaffolding and working in greater heights and confined spaces expose workers to serious injury and death. Cement is also known to cause dermatitis (Weeks, 2011; Toluhi, 2008; International Labour Organisation (ILO), 2014; World Health Organisation (WHO), 2006).

Another possible explanation for the apathy towards building craftsmanship is the nature of building construction, which is tied to the economic fortunes of the country. Construction activities blossom during economic boom. These drop drastically during economic recession (Parsons, 1979; Ogunseye, 2012; Kennyl, 2007; Agbola and Adegoke, 2006). People therefore prefer to go for trades that thrive at all times.

CONCLUSION AND RECOMMENDATIONS

The paper examined the current efforts of the government at boosting the building-craftsmanship skill acquisition as a means of achieving the country's aim of becoming one of the 20 most developed economies by the year 2020. From the analysis, it is clear that the skill development strategies put in place are incapable of generating the number of building artisans needed to drive the vision. The student enrolment in the building construction skills in the technical colleges and in the entrepreneurship skill acquisition programme recently introduced in the polytechnics is very low. The apprenticeship system does not fare any better. The result showed an appalling decline in apprenticeship training in the country. The government does not help matter as there is almost a complete neglect of the sector by the public as well as private formal support systems. There is equally no appreciable effort by the government to regulate training in the sector as it is being done in developed countries.

If Nigeria is to achieve her goal of becoming one of the first 20 leading economies by the year 2020 priority must

Table 7. Enrolment trend in building construction trades at the selected technical colleges.

Types of skills	No of students on roll									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Carpentry/Woodwork/ Joinery	64 (13)	46 (12)	25 (9)	12 (21)	8 (3)	14 (4)	37 (7)	42 (6)	70 (8)	78 (5)
Block laying/Concreting	98 (19)	64 (17)	52 (20)	39 (18)	48 (16)	81 (25)	115 (21)	125 (17)	177 (20)	223 (15)
Painting and Decoration	63 (12)	56 (15)	30 (11)	24 (11)	15 (5)	13 (4)	23 (4)	38 (5)	51 (6)	88 (6)
Plumbing/Pipe fitting	10 (2)	4 (1)	6 (2)	2 (1)	19 (7)	17 (5)	20 (4)	20 (3)	69 (8)	47 (3)
Iron bending/Welding	110 (22)	72 (19)	56 (21)	39 (18)	90 (31)	75 (23)	142 (25)	134 (19)	101 (11)	183 (12)
Sub-total (Building Related Skills)	345 (71)	242 (65)	169 (63)	116 (54)	180 (62)	200 (62)	337 (60)	359 (49.6)	268 (53)	619 (42)
Non-building skills	147 (29)	132 (35)	97 (37)	98 (46)	112 (38)	123 (38)	225 (40)	364 (50.4)	422 (47)	860 (58)
Total student population	492 (100)	374 (100)	266 (100)	214 (100)	292 (100)	323 (100)	562 (100)	723 (100)	890 (100)	1479 (100)

Note: Figures in parentheses are column percentages. Source: Authors' Analysis (2013).

Table 8. Skills available at the centre for entrepreneurship development in the selected polytechnics.

S/N	Skill/Trade	Student enrolment			
		A	B	C	Total
1	Aquaculture	35 (1.3)	619 (20.7)	-	654 (7.62)
2	Beekeeping	8 (0.2)	336 (11.2)	-	344 (4.01)
3	Snailry	-	168 (5.6)	-	168 (1.96)
4	Soap production	514(18.8)	342 (11.4)	-	856 (9.98)
5	Turkey Breeding	-	147 (4.9)	-	147 (1.71)
6	Vegetable/Plantain Farming	-	451 (15.1)	-	451 (5.26)
7	Textile Technology	-	254 (8.5)	52 (1.8)	306 (3.57)
8	Simple Electrical Gadgets	-	120 (4.0)	513 (17.9)	633 (7.38)
9	Welding& Fabrication	-	124 (4.1)	-	124 (1.45)
10	Baking and Confectionaries	655 (24.1)	430 (14.4)	267 (9.3)	1352 (15.76)
11	Event Decoration	560 (20.5)	-	-	560 (6.53)
12	Landscaping	280 (10.3)	-	-	280 (3.26)
13	Brick/Block Moulding & Concreting	169 (6.2)	-	107 (3.7)	276 (3.22)
14	Barbing	464(17.1)	-	501 (17.5)	965 (11.25)
15	Aluminium Pot making	42 (1.5)	-	-	42 (0.50)
16	Beading works	-	-	303 (10.6)	303 (3.53)
17	Car Repairs & Servicing	-	-	49 (1.7)	49 (0.57)
18	Cosmetology	-	-	316 (11.1)	316 (3.68)
19	Garment Making	-	-	216 (7.6)	216 (2.52)
20	GSM Repairs & Servicing	-	-	225 (7.9)	225 (2.62)
21	Household Products	-	-	311 (10.9)	311 (3.63)
Total		2727 (100)	2991 (100)	2860 (100)	8578 (100)

Notes: Figures in parentheses are column percentages. Source: Authors' Analysis (2013).

be directed towards improving the acquisition of skills related to building construction, given the important role of this sector in the socio economic development of the country. It is important to place great emphasis on improving access to microcredit schemes, financial/business training, business development services and market information as a means of encouraging the youths to embrace building craftsmanship. Youth can be encouraged to undergo training in building skills if they are given stipend during apprenticeship period.

Efficient and effective laws that ensure safety of workers at site are also needed to curtail injuries and high toll of death being recorded during building construction. The Health and Safety rules as laid out in the Nigeria National Building Code are potent enough to minimise these risks if they are properly implemented. The National Assembly should therefore speed up the passage of the bill into law. Also, the capacity of related regulatory bodies such as Standard Organisation of Nigeria needs to be strengthened. This may require comparative freedom regarding pay and working conditions in order to ensure that the agencies can attract and retain suitably qualified staff.

It is equally necessary that government facilitate reforms that ensure macroeconomic stability through tamed inflation, lower interest rates, considerable high foreign reserve, and improved naira value and working conditions. Options should also be created for the rural youths to seek employment in rural areas through creating and improving the quality of employment in building sector. All these will increase the per capita income of citizens which will, in turn, boost construction activities and attract youth to the industry.

Conflict of Interests

The authors have not declared any conflict of interests.

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