

# AN APPRAISAL OF TRAINING REQUIREMENT OF CRAFTSMEN IN THE NIGERIAN BUILDING INDUSTRY

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## **Abstract**

*Construction craftsmen are trained and skilled operatives who work manually with great proficiency in various stages of the construction work. Successful development and delivery of projects, largely depends on the participation of competent craftsmen. However, one of the problems affecting the construction industry in Nigeria is the quality and quantity of craftsmen; which is attributed to, among other things, high level of neglect accorded to their training. This study evaluates the training requirement of craftsmen in Nigeria. Field survey was undertaken using structured questionnaire as the instrument of the study. A total of sixty questionnaires were self-administered out of which 40 were returned and used for the research. Result showed that lack of support and encouragement from the construction industry with the mean 4.80 was ranked 1<sup>st</sup> as a major hindrance to training. Similarly, "vestibule Schools" and "sink- or- swim" with mean of 4.20 and 1.55 were ranked highest and lowest, respectively, out of the 23 types of training identified, by the research, which can be applicable to the training of artisan and craftsmen. The study concludes that the training of Artisans and craftsmen in the Nigerian building industry is informal and learning activities take place outside official institutions. The study recommends increase in support from both Government and the construction industry in financing technical and vocational institutions. Similarly, Government should, from time to time identify major areas where the industry is lacking and come up with policy and programmes to remedy the problem. Regulatory body should also be put in place to monitor and recognize the activities of these construction craftsmen.*

**Keywords:** Appraisal, Building Industry, Craftsmen, Nigeria, Training

## **INTRODUCTION**

The importance of the construction industry in any country cannot be over emphasized. This is because it is the heart of the economy of any nation constituting around one – tenth of the Gross Domestic Product, GDP, According to Ayangade, Wahab & Alake (2009), Nigerian construction industry is responsible for 16.00% of the GDP and employs approximately 25% of Nigeria's workforce. Besides that, it is the largest in Africa. This explains the reason why Russell *et al* (2007), noted that the industry occupies a sensitive position, as it plays a prominent role in the economy of any nation.

The development projects provided by the industry, ranges from the homes we live in, to the highway we drive on, rail, the power plants that provide energy for our daily activities life, other infrastructures like harbours and sea defences and host of other very important developmental projects that meet human needs and realize the aspiration of nations. Obiegbu (2003) observed that the level of building construction achievement and activity in any country is a measure of the country's success: a high level of building activity indicates a healthy vigorous national economy; and highly developed building forms indicate

a high level of civilized and cultural achievement in a country.

However, the industry is faced with many problems. According to National Bureau of Statistics (2015) the Nigerian construction industry produces approximately 70% of the nation's fixed capital formations. It is projected that investment in housing alone, accounts for 2% - 8% of GNP, between 10% and 30% of gross capital formation, between 20% and 50% of accumulated wealth and between 10% and 40% of household expenditure (Dogbegah, 2013), yet its performance within the economy has been and continues to be very poor. Adeagbo (2014) noted that Nigerian construction industry's contribution to GDP had dropped due to poor performance and low productivity. Most construction projects in Nigeria fail due to poor contractors' performance which is characterized by poor workmanship; rework; low productivity; late completion; cost overruns; high accident rate; poor work practice and; conflicts. Wahab (1991) identified qualitative and quantitative deficiencies in workmanship as some of the factors militating against the attainment of success in the Nigerian construction industry. This is due to the fact that firms are concentrating on financial gains and forgetting the people that make the job and money. The problem of the industry, according to Dantong (2007), is how to reconcile the need for a supply of manpower capable of high productivity in carrying out simplified sequential operations. A major part of building construction work is performed by artisan and craftsmen. According to Dantong (2007) Construction craftsmen are construction operatives who contribute skilfully with their hands in the practical realization of a

project in the construction industry. The Industrial Training Fund of Nigeria (ITF) (2005) enumerated the following as Craftsmen: Bricklayers (Masons); Steel fixers; Electricians; Carpenters; Painters; Plumbers; Artisans; etc. Construction craftsmen play a crucial role in the practical realization of any construction project. They are mostly engaged in the technical aspect of construction and at the management level, serve as frontline manager (supervisor); giving the role of interpreting the company policies into practical realization of the organizational goal of employer.

The impact of the craftsmen in the industry is very conspicuous in its end products, especially where competent craftsmen are involved (Abiola, 2004). However, many authors (Obiegbo 2003, Anigbogu 2002 and Njoku 2007) have indicated the existence of shortages of quality craftsmen in the Nigerian construction industry. According to Ede (2011) the Nigerian building industry is populated by unskilled artisans who have no technical idea the works they are often called to. He further noted that there is no enforced training or certification for the artisan. Unless an adequate supply of appropriately trained workers can be ensured, the industry will consistently fail to satisfy the demands of the market for an adaptive, innovative and capable service. Many researchers' have associated incessant incidents of building collapse in Nigeria to the high presence of unskilled construction craftsmen (Dimuna 2010, Ede 2011, Ayedun *et al* 2012, Joseph, *et al* 2013 and Babalola, 2015 ).Thus embarking on the training of artisan and craftsmen will go a long way in curtailing these problems in project delivery in Nigeria. This explains the reason why many researchers have

studied various aspects of problem of craftsmen in the construction industry. For instance Olomolaiye (1987) studied the problems influencing Craftsmen Productivity in Nigeria, Obiegbu (2003) investigated the training and retraining of Craftsmen for Nigerian Construction, while Muya *et al* (2006) studied the funding for construction Craft skills training in Sub-Saharan Africa. Dantong, (2007) investigated the training of construction craftsmen in the Nigerian construction industry. Odusami *et al* (2007) have undertaken a study on the training needs of construction Site Managers. Recently, AbdulAzeez *et al* (2013) carried out an assessment of factors for training of construction craftsmen in North – Western Nigeria. However, the study was mainly concerned with the training areas and few training methods; it was confined to one geopolitical zone, North-West. Birnin-Kebbi, (2015) under took a study on establishing the training needs of Craftsmen in the construction industry in Nigeria. According to Fadil and Ruslan (2006) for training to be effective and efficient it must start with a “need” which can be identified as a “gap” between training deficiencies and skills. Thus most of the aforementioned studies did not undertake an in-depth study of the training “need” of craftsmen, most especially methods of training, problems militating against effective and efficient training and study of better ways of training craftsmen. In view of the fact that up to now the Nigerian construction relies on craftsmen from neighbouring countries like Ghana, Togo, etc, there is the need to appraise the training of craftsmen in Nigeria.

Yin (2009) in AbdulAzeez *et al* (2013) defines training as identifying, assuring

and helping to develop the key competencies that enable individuals to perform current or future jobs. On the other hand Dessler (2007) defines training, as an activity that is concerned with making the employees more articulate and efficient in the performance of their current tasks or in preparation for a new type of job to meet the dynamic needs of the organization. However in the construction industry, training refers to technique that is used to improve the capabilities of personnel so as to increase their productivity and turnover, as well as reduce truancy, injuries and rework. This paper presents the findings of a study on evaluation of training of craftsmen in the construction industry in Nigeria. This was achieved through the following objectives:

- i. To identify the various method of training acquired by Artisans in the Nigeria construction industry.
- ii. To ascertain the factors militating against training of the Nigerian construction craftsmen/ artisans.
- iii. To determine the frequency of training these craftsmen.
- iv. To identify organizations regulating craftsmen in the industry.

### **Research Method**

Field survey was undertaken using structured questionnaires and oral interview as the instruments of the research. The questionnaire was designed to assess the training of craftsmen. Purposive sampling method was used in administering the questionnaires, using certain criterion such as respondent’s knowledge in his area of specialization/trade, proficiency in written and oral expression in English

language etc. A total of 60 questionnaires were administered to craftsmen on construction site within Abuja. Federal Capital Territory, FCT, Abuja was chosen because of the high volume of construction activities carried out around the area. The questionnaire contains questions on the respondent's personal data and the company's data, training of craftsmen/artisans and the type of certification obtained by craftsmen, the regulation of the work of Craftsmen and Artisans including the existence of regulating bodies for craftsmen in the construction industry, trade/crafts union and their roles. The questionnaire contains open ended and close ended questions. Most of the close-ended questions comprised of suggested answers measured on a four point Likert scale. Besides that, in order to confirm some of the information obtained from the questionnaire, structured interviews were undertaken. However those interviewed were carefully chosen from section of the respondents, based on experience.

The data obtained for this study was subjected to various statistical analysis

using the computer based software "Statistical Package of Social Sciences" (SPSS). Results of analysis are presented in the form of tables for ease of interpretation and comparison. Relative Importance Indices, RII, were used to rank areas of emphasis on the training of craftsmen. The RII was calculated using the following formula:

$$\text{Relative Importance Index, RII} = \frac{\sum fx}{\sum f} \times \frac{1}{k} \quad (1)$$

Where:

$\sum fx$  = is the total weight given to each attributes by the respondents

$\sum f$  = is the total number or respondents in the sample

K = is the highest weight on the likert scale

## Results and Discussion

### Results

The results of field survey carried out in order to obtain information regarding the evaluation of the training of Artisans in Nigeria are presented in the following Tables. Details of the number of questionnaire administered are presented in Table 1.

Table 1: Questionnaire administration

Questionnaire	Frequency (N)	Percentage (%)
Not returned	20	33.3
Returned	40	66.7
Total	60	100

From Table 1, it can be observed that 60 Questionnaires were administered. Out of which 40(67%) of them were returned and used for the study, while 20(33%) of the questionnaire were not returned. Thus the number of Questionnaires correctly filled and returned can be considered

suitable and sufficient representation of the population of this study as such valid for consideration and use for the study especially when the observation made by Jagboro (2002) in AbdulHafiz *et al* (2013) that if the response rate is above 40%, it can be accepted.

**Type of employment**

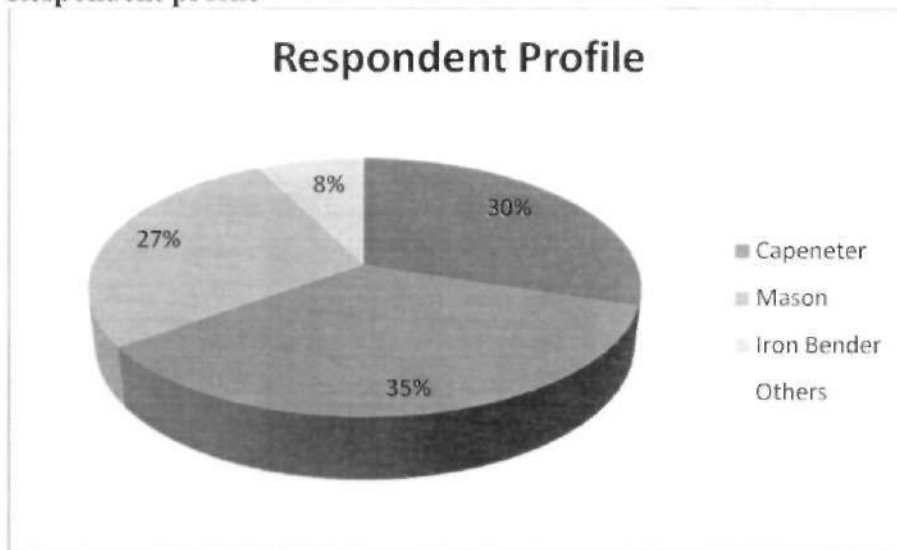
**Table 2: Type of Employment**

Type of Employment	Frequency (N)	Percentage (%)
Casual	33	82.5
Permanent	7	17.5
Total	40	100

Table 2 shows that 82.5% of Artisans are casual workers. This means that only few of these Artisans are employed on a permanent base. This will undoubtedly

affect the attention given to them by employers as well as their training and development.

**Respondent profile**



**Figure 1: Distribution of respondent by trade**

Figure 1 shows the distribution of respondents by craft. The pie chart shows the percentages of responses. Result reveals that 35% of the respondents were

mason, while 30% were carpenters, 27% were Iron-benders. Others 8%, of respondents are plumbers, electricians, tillers, etc.

**Table 3: Working Experience of Artisans**

Working experience	Frequency (N)	Percentage (%)
1-5	13	32.5
6-10	10	25.0
11-15	11	27.5
16-20	4	10.0
21-above	2	5.0
<b>Total</b>	<b>40</b>	<b>100</b>

Table 3 shows that over 60% have working experience of 6 years and above.

It can be said that majority have good working experience in the practice of

their craft as such they have the required working experience to answer the questions.

**Training and Certification of Artisans in Nigerian Construction Industry**

Table 4: Type of Education

Type of Education	Frequency (N)	Percentage (%)
Formal	9	22.5
Informal	6	15.0
Both formal and informal	25	62.5
<b>Total</b>	<b>40</b>	<b>100</b>

From Table 4, it can be observed that 22.5% of craftsmen went through the formal education system, 15% of the respondents have no formal Education and 62.5% have passed through both the

formal and informal education system. Thus a good number of craftsman/artisan have formal education as such, they have a good background that will make further training and development easy.

**Educational Qualification of Craftsmen**

Table 5: Educational Background of Respondents

Level of education	Frequency (N)	Percentage (%)
Primary Six	15	37.5
Junior Secondary School	11	27.5
Senior Secondary School	12	30.0
Ordinary national Diploma	2	5.0
Higher National Diploma	0	0
Others	0	0
<b>Total</b>	<b>40</b>	<b>100</b>

Table 5 shows that 38% of craftsmen surveyed have primary school education, 12 representing 30% of craftsmen have completed their secondary school

education. Only 5% completed the ordinary national diploma. This shows that a good number of craftsmen have formal education.

**Type of training institutions**

Table 6: Training Institution attended by Artisans

Level of education	Frequency (N)	Percentage (%)
Apprenticeship	27	67.5
Technical colleges	10	25.0
None	3	7.5
<b>Total</b>	<b>40</b>	<b>100</b>

Table 6 shows how the craftsmen obtain their training, 67.5% pass through the apprenticeship programs, while 25% have pass through the government Technical collages. The remaining 7.5% learnt their skill informally. In view of the fact it was

established in the literature that the quality of craftsmen in the construction industry in Nigeria, is low, the quality of good educational background or formal training is certainly not only requirement for the training of craftsmen shows

**Training by employers**

Table 7: Employers Training

	Frequency (N)	Percentage (%)
Yes	8	20.0
No	28	70.0
No Response	4	10.0
<b>Total</b>	<b>40</b>	<b>100</b>

From Table 7, it can be seen that 70% have not been on training under their employers while 20% have never been on training before. This shows that employers have to do more in the training of craftsmen. This is likely caused by the casual/temporary employment of

craftsmen. In view of the dynamic nature of construction work, craftsmen may not be able cope with the challenges, especially where they faced with innovative, complex and demanding project.

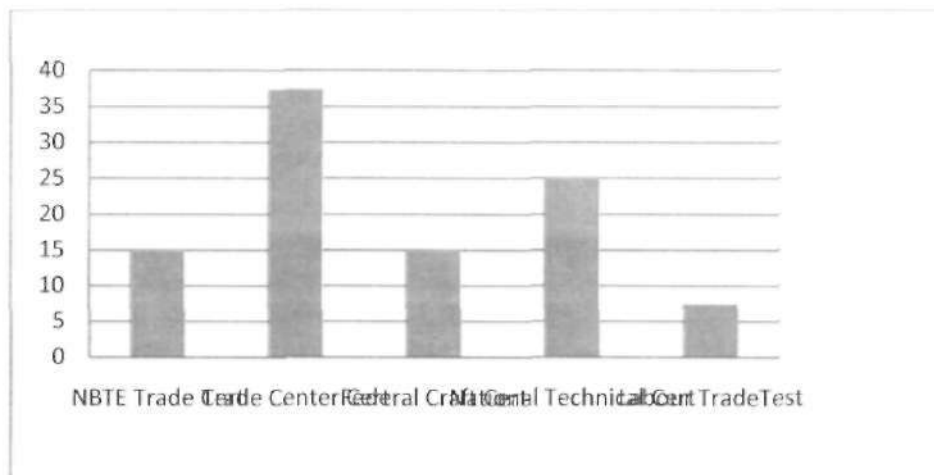


Figure 2: Various types of certificates awarded to craftsmen

From Figure 2 Analysis shows that 15% have National Board of technical Education Trade certificate. 38% have trade centre certificate. 15% have Federal craft certificate National Technical Certificate 7.5% has labour trade test. A good number of crafts men have formal education but only a few have certification. This will affect the quality of craftsmen as well as their training requirements.

Table 8 shows the combined rank agreement on most efficient training type/method. Vestibule Schools rank 1st, Trade group training rank 2nd, Time-release training rank 3rd, while the least efficient type/method of training was sink-or-swim training which ranked 23rd.

**Combine Rank Agreement on most Efficient Training Type/Method for Craftsmen**

Table 8: Perceptions on the most Suitable Method of Training for Craftsmen\

S/N	Training methods	Frequency					$\Sigma f$	$\Sigma fx$	$\Sigma fx / \Sigma f$	Rank
		1	2	3	4	5				
1	Trade group training programmes	1	4	2	16	17	40	165	4.13	2 <sup>nd</sup>
2	Craft apprenticeship courses	-	8	2	15	15	40	157	3.93	4 <sup>th</sup>
3	on-the-job training	2	7	5	13	13	40	150	3.75	6 <sup>th</sup>
4	Sink-or-swim method	24	10	6	-	-	40	62	1.55	23 <sup>rd</sup>
5	Sponsor system	2	2	16	8	12	40	146	3.65	10 <sup>th</sup>
6	self - teaching approaches	6	6	15	13	-	40	115	2.87	15 <sup>th</sup>
7	Time release training	1	2	4	20	13	40	162	4.05	3 <sup>rd</sup>
8	Vestibule	-	5	2	15	18	40	166	4.15	1 <sup>st</sup>
9	Special courses	3	3	4	12	16	40	148	3.70	8 <sup>th</sup>
10	Action research	11	-	14	15	-	40	113	2.82	16 <sup>th</sup>
11	In-house training	3	5	7	10	15	40	149	3.72	7 <sup>th</sup>
12	Lecture method	6	2	12	12	8	40	142	3.55	11 <sup>th</sup>
13	Apprenticeship and coaching	2	2	8	15	13	40	155	3.87	5 <sup>th</sup>
14	Transactional analysis	13	6	6	-	15	40	88	2.20	21 <sup>th</sup>
15	Remedial training	17	4	8	11	-	40	93	2.32	20 <sup>th</sup>
16	Role playing	13	8	6	10	3	40	102	2.55	18 <sup>th</sup>
17	Development training	8	6	12	7	7	40	119	2.93	14 <sup>th</sup>
18	Job rotation	3	5	10	11	11	40	142	3.55	11 <sup>th</sup>
19	Written materials	2	3	12	17	5	40	137	3.42	13 <sup>th</sup>
20	Sensitivity training	4	4	12	12	-	40	100	2.50	19 <sup>th</sup>
21	Business games	1	23	4	4	-	40	75	1.87	22 <sup>nd</sup>
22	Conference method	10	8	9	19	3	40	108	2.70	17 <sup>th</sup>
23	Polytechnic programme for crafts for artisans/craftsmen	3	3	4	12	6	40	148	3.70	8 <sup>th</sup>

1 = Very Low, 2 = Low, 3 = indifferent, 4 = High, 5 = Very High

### Factors Militating Against Training of Craftsmen

Table 9 shows the factors militating against the training of craftsmen in the Nigerian construction industry. Lukewarm attitude of professional bodies with a mean of 4.80 was ranked first, lack of support and encouragement from the construction industry, having a mean of 4.57, came second on the other hand Poverty/ lack of fund are the least factor. It can be inferred from the result in Table 9 that for any training programme to effective and efficient it must receive full support from the professional bodies.

### Solution to Problems of Training of Craftsmen in Construction Industry

Table 10 shows the possible solutions to the problems militating against training of

craftsmen in order to improve productivity in the construction industry. As it can be observed the suggestion that - Government should increase support to technical and vocational institution to increase standard and to make these institution attractive for craftsmen with a mean 3.97 was ranked first this is followed by the recommendation that the relevant trade bodies in collaboration with Government should ensure high standard by redesigning an appropriate standard curriculum and programmes and adopt standard equipped vestibule schools, with a mean of 3.95.



Table 9: Factors Militating against Training of Craftsmen

S/N	Problem	Frequency					$\Sigma f$	$\Sigma fx$	$\Sigma fx / \Sigma f$	Rank
		1	2	3	4	5				
1	Lack of support and encouragement from the construction industry	-	-	-	17	23	40	183	4.57	2 <sup>nd</sup>
2	Lack of effective regulatory bodies	1	6	-	16	17	40	172	4.30	3 <sup>rd</sup>
3	Poverty/lack of funds	-	35	2	3	-	40	88	2.2	8 <sup>th</sup>
4	Lack of adequate encouragement and support from government for training of craftsmen	1	4	2	20	13	40	160	4.00	4 <sup>th</sup>
5	Construction company refuse to train and develop artisans/craftsmen	-	22	1	2	15	40	130	3.25	6 <sup>th</sup>
6	Lack of strong union in the construction industry	-	15	-	17	18	40	138	3.45	5 <sup>th</sup>
7	Absence of strong labour legislations/laws enforcing training and development	-	23	4	13	-	40	110	2.75	7 <sup>th</sup>
8	Lukewarm attitude of professional bodies	-	10	3	22	15	40	192	4.80	1 <sup>st</sup>

1 = Strongly disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly agree

On the other hand respondents ranked the suggestion that Government should encourage private entrepreneurs who wish to set-up similar training institutions, very low. Tables 8, 9 and 10 show the perceptions of respondents on the most suitable method of training for Craftsmen, factors militating against training of Craftsmen and ways of enhancing the training of Craftsmen respectively. When the results are closely examined, some interesting points will be noted: firstly there is the need to retrace steps of the current approach adopted in training construction craftsmen. Secondly professional bodies in the Nigerian construction industry have a special role to play in the training, monitoring and regulating the work of craftsmen and government need to pay special attention to the training of construction craftsmen.

Table 11 shows the response of the craftsmen on existence of a professional body or government agency in charge of regulating the work of craftsmen in Nigeria. Majority (92.5%) of the respondents noted that there is no such body while only 7.5% were of the view

that it exists. Besides that 62.5% observed that they do not belong to a craft/trade union, as against 37.5% that claimed that they belong to an association of craftsmen. Also, majority (60%) of the respondents are not affiliated to any professional body. Additionally, an investigation was carried out on whether craft union allows non-members to work in their locality. Result of the study shows that majority (73%) of respondents opined that there is no any restriction.

It was also found that craftsmen from foreign countries were allowed to work freely without any restrictions they include craftsmen from Ghana, Cameroun and Togo. Absence of regulatory body makes the work of craftsmen an all comer affairs which lead to many problems such poor quality workmanship, avoidable rework, waste of resources, time and cost overrun, etc. This, will, ultimately affect the training of craftsmen as potential craftsmen will not see the need to acquire knowledge and skill before they are permitted to practice.

Table 10: Perceptions on Ways of Enhancing the Training of Craftsmen

S/N	Problem	Frequency					$\Sigma f$	$\Sigma fx$	$\frac{\Sigma fx}{\Sigma f}$	Rank
		1	2	3	4	5				
1	Government should increase support to technical and vocational institution to increase standard and to make these institution attractive for craftsmen	-	-	12	17	11	40	159	3.97	1 <sup>st</sup>
2	The relevant trade bodies in collaboration with Government should ensure high standard by redesigning an appropriate standard curriculum and programmes and adopt standard equipped vestibule schools	-	4	8	14	14	40	158	3.95	2 <sup>nd</sup>
3	Training and re-training of construction craftsmen in companies should be made compulsory and enforced by government	-	10	7	12	11	40	144	3.60	3 <sup>rd</sup>
4	Nigerian construction companies should be made to ensure not only the existence of a training policy but its full implementation	-	13	15	12	-	40	119	2.97	7 <sup>th</sup>
5	Government should encourage private entrepreneurs who wish to set-up similar training institutions, but insist its conditions	-	16	16	8	-	40	112	2.80	9 <sup>th</sup>
6	Proper support and recognition of craftsmen and artisans by professional bodies especially NIOB	3	7	8	10	12	40	141	3.52	5 <sup>th</sup>
7	Strong labour union that will protect the interest of craftsmen and artisans	4	10	15	5	6	40	119	2.97	7 <sup>th</sup>
8	Put in place strong labour laws that will compel the employers/construction firm to train and develop artisans/craftsmen	10	17	3	11	9	40	142	3.55	4 <sup>th</sup>
9	Nursing of labour and provision should be made closely maintaining the activities of construction firms in training and development	10	17	9	11	3	40	130	3.25	6 <sup>th</sup>

1 = Strongly disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly agree

### Regulation of Craftsmen in the Construction Industry

Table 11: Regulation of the Craftsmen

Issues relating to regulation of the Craftsmen's activities	Yes (%)	No (%)	Total (%)
Existence of regulatory body for Craftsmen	7.5	92.50	100
Membership of Craft Union	37.50	62.50	100
Affiliation to professional Bodies	40	60	100
Craft Union restriction	2,70	97.30	100

### Conclusion and Recommendation

#### Conclusion

The study assessed the training requirements of craftsmen in the building industry in Nigeria. It was discovered that the most efficient and effective method of training is vestibule school while the most severe hindrance to training of the Construction Craftsmen was found to be

lukewarm attitude of professional bodies. Problems associated with training of craftsmen include neglect of technical institutions, insufficient vocation schools, and ineffective construction policies. Also, study found out that the Artisans industry in Nigeria is informal. The study concludes that the unstable nature of craftsmen employment, lack of

monitoring, regulation and control of craftsmen activities, lack of government support, most especially training policies and programmes that will take into consideration the dynamic nature of building works, neglect of technical and vocational institutions are responsible for low quality training of craftsmen in the Nigerian building industry.

### **Recommendations**

Based on the results and findings obtained from this study, the following recommendations were made.

1. Government should enhance its role on skills development at all levels in the construction industry in Nigeria by providing the environment for efficient and effective skills in training through funding of vocational educations.
2. Nigerian government should, from time to time identify major areas where the industry is deficient in skills and come up with policy and programmes to remedy the problem.
3. A unified basis of standardizing training and certifying the competencies of all Artisans should be introduced.
4. A construction industry training board should be established or created for training Artisans.
5. The relevant trade bodies in collaboration with Government should ensure high standards by re-designing an appropriate standard curriculum and programmes and adopt standard equipped vestibule school.
6. The Nigeria Institute of Building (NIOB) should do more in training Artisans through regular training programmes, and can also admit them into a specially

created membership while providing a curriculum for their training scheme.

7. Artisans should be encouraged by both the Nigerian government and NIOB to be more organized and united through the formation of a strong trade union.
8. Training and re-training of construction craftsmen in companies should be made compulsory and enforced by government.
9. Nigerian construction companies should be made to ensure not only the existence of a training policy but its full implementation.
10. Government should encourage private entrepreneurs who wish to set-up similar training institutions, but insist its conditions.

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