



SKILLED ARTISANAL AVAILABILITY IN THE GHANAIAN CONSTRUCTION INDUSTRY

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Abstract: The issue of skilled artisanal scarcity is not a current one. It dates as far back as the two world wars. This paper premised on the observation of the unavailability of skillful artisans in the Ghanaian Construction Industry (GCI). The objective of the study was to identify the factors aggravating the skilled artisanal scarcity in Ghana. Using relative important indices as the main statistical analysis tool, the following factors have been identified as the most important factors causing the scarcity situation : Irregular and low remuneration, low motivation, the lack of interest by the youth to take up trades like masonry and carpentry as professions, varying working conditions and technological advancements. The study recommends that an Association of Ghanaian Construction Artisans (AGCA) as a regulatory body to promote the welfare of its members in other to address the issues raised by this study.

Keywords: Skilled artisanal scarcity, skilled artisans, Ghanaian construction industry, Aggravating factors.

1. Introduction

It is a known fact that the quality of a company depends on the skills of its work force to achieving the company's goals. This statement has far-reaching

implications in construction because a firm seeking to achieve the best value for money for its clients would have to employ well skilled personnel to work with. In the absence of this, the firm risks

underperformance through poor workmanship. To this end, Sumanta and Koehn (2006), note that it is the utilization of poor construction management techniques, unskilled artisans and the lack of technical knowledge for the supervision of large-scale projects, that the quality of work by construction firms in developing regions tend to be inferior compared to that of developed countries. While South Africa's economy currently produces approximately 5,000 artisans per year, the demands of the industry require that at least 12,500 artisans need training each year over the next four years to meet demand, (JIPSA 2007). The situation is similar to the Ghanaian construction industry (GCI). The observation is that it has become difficult for Ghanaian contractors to find skilled artisans to employ and it is even more difficult to retain those employed thus over 60% of the total labour force in the construction industry is made up of unskilled labourers (GIPC 2006). The reality is that there are artisans who lack the required skill that the construction industry requires, (Akplu and Amankrah 2008). Additionally, in Ghana, the shortage of skilled artisans is affecting the quality level of contractors' workmanship hence, key targets' relating to the cost of project and time of completion was compromised.

2. Literature Review

2.1 The History of Skill Scarcity in the Construction Industry

The two World Wars had a massive impact on the construction industry. Normal building practices were suspended during the course of the conflicts and destruction had taken place on a vast scale. Wartime conscription reduced the workforce available to the industry and casualty levels affected the number of men returning to their pre-war building occupations (CIOB 2009). After World War I, the skilled labour-force was reduced significantly and there was a similar occurrence after the end of World War II in 1945. Following the First World War, the biggest demand was for artisans, particularly carpenters, and such scarcities dramatically hindered the industry's growth (CIOB 2009).

2.2 The Scarcity of Skill Artisan in the Construction Industry

The skilled labour scarcity problems for contractors are even more acute than that facing other employers (Carliner 1998). For many contractors, the biggest challenge has been finding skilled workers. While the current shortage of construction labour might largely be the result of unusually strong demand for new homes, there are some longer term concerns about the construction labor supply that need to be

addressed and primary among these is the skill level available. The present situation is a reminder of the importance of skilled labor to industry success (Carliner 1998). The GNCU (2008) also notes that the provision of decent and affordable housing for Ghanaians has been a serious challenge to the Government. However, the infrastructural and housing needs put pressure on the output of the local construction industry, which apparently has no sufficient capacity and capabilities, in terms of skill levels of artisans and equipment, to fulfill the needs (Erkelens and van Egmond 2007). He identified so many issues among which are irregular and low remuneration, lack of interest by the youth to take up trades, varying working conditions, poor supervisor/artisan relationship and technological advancement. Others include low motivation, poor public perception that construction artisanship is the preserve of those who could not keep up with the rigorous of academic work, youth opting for the traditional apprenticeship system, poor government support and poor management and high tuition cost in training centres as factors compounding the scarcity.

2.3 The Demand for, and Non-Availability of Skilled Artisans

In Ghana, a review of the construction man power resources

and training facilities spanning between 1960 and 1987 by the ILO clearly indicated that there was a drastic decline in the numbers of artisans from 70,571 in 1960 to 41,276 in 1970 and to 37,258 in 1984. The ILO however indicated that available data on construction labor was difficult to come by and scanty as well. Additionally, between 2006 and 2008 the enrollment into the country's various vocational training centres also dropped by almost 4,000 (Akplu and Amankrah 2008). The Construction Sector Council (CSC 2003) also notes that, while many of the human resource challenges and issues facing the construction industry are the same worldwide, the degree of impact varies by sector, trade, and region.

3. Research Methodology

3.1 Preliminary Survey

An informal preliminary survey involving 10 contractors in Kumasi in the Ashanti Region of Ghana handling projects in the Kumasi metropolis at the time of the study was conducted. It was to provide credence to the general belief that, the number of skilled artisans in Ghana's construction industry is on the decline. The process involved one-on-one unstructured interview sessions. The contractors were requested to suggest some factors contributing to the scarcity of skilled artisans in

the Ghanaian Construction Industry. The contractors belonged to the D1K1 and D2K2 categories of contractors. In Ghana, building and road contractors are categorized based on their annual turnover, plant and equipment holding and human resource assets. Upon registration with the registrar general, a construction company also has to be registered with the Ministry of Works and Housing if there is the desire to undertake state funded projects or projects that involve the government.

3.3 Sampling Techniques and Sample Sizing

The population, from which the sample of the building construction firms that took part in study comprised of D1K2, D2K2 and D3K3 registered building construction firms who were also registered with the Kumasi Metropolitan Assembly (KMA) and who were executing projects in the Kumasi metropolis as at the time of this study. The snowball sampling technique was employed in attaining the targeted sample size. Permission was also sort to administer questionnaires to the artisans who were working on the construction sites visited. An accidental, non-purposive approach was used here. Further, construction professionals made up of architects, quantity surveyors and civil engineers were involved. The sampling method

adopted here was a purposive one as the professionals involved had to be builders too. In total, the sample comprised of 150 elements.

3.4 Data Analysis Tools Employed

The statistical methods used in analyzing the data from the respondents were Relative Important Indices (RII). In addition, measures of central tendency, the arithmetic mean and the mode and relative percentages were employed to determine the average values of the demographic variables of the respondents.

The Relative Important Indices formular (RII) is given as

$$(RII) = \frac{(5n_1 + 4n_2 + 3n_3 + 2n_4 + n_5)}{(5(n_1 + n_2 + n_3 + n_4 + n_5))}$$

4. Findings and Discussions

4.1 Responsive Rates

One hundred and fifty (150) respondents took part in this study and the responses of 43 contractors, 27 “Construction Professional Building Contractors” and 50 construction artisans were however obtained. This represented responsive rates of 86%, 54% and 100% for contractors.

4.2 Demographic Variables

A mean age of 27 years with a standard deviation of 4 was observed among the artisans who

took part in the survey with the minimum and maximum ages being 20 and 39 respectively. In addition, the modal artisanal trade

of specialization was carpentry. This made up 42% with a frequency of 21 of the total responding artisans (see Table 4.1)

Table 4.1: Trade Specialization of Artisans

Trade	Frequency	Percentage
Mason	13	26.0
Carpenter	21	42.0
Tile Worker	4	8.0
Steel Worker	2	4.0
Painter	6	12.0
Electrician	1	2.0
Plumber	3	6.0
Total	50	100.0

An average 6.2 years of experience with a standard deviation of 2.5 and minimum and maximum values of 3 and 12 respectively were found among the artisans. The modal year-range for the years of experience was between 6 to 10 having a frequency of 29 and representing 58% of the total number of respondents (see Table 4.2).

Moreover, the educational attainment level of a majority (68.0%) of the responding artisans was only up to the Junior High School (JHS). A further inquiry also suggested that the majority of them could not continue after the JHS level because of financial difficulties.

Table 4.2: Years of Experience of Responding Artisans

Year Range	Frequency	Percentage
1 – 5	20	40.0
6 – 10	29	58.0
11 – 15	1	2.0
16 – 20	0	0.0
21 – And Above	0	0.0
Total	50	100.0

4.3 The Factors Contributing to the Scarcity of Skilled Artisans

in the Ghanaian Construction Industry

4.3.1 Irregular and Low Remuneration

This factor, having an average important index of 0.941, was number one. Irregular remuneration has a very high consequence on the scarcity of skilled artisans in the construction industry. The trend in the construction industry in Ghana is that most artisans are on temporary basis and on daily wages. These daily wages however, vary across the country with rates in Kumasi, for example, being lower than rates in Accra by 10 to 15 percent (KPMG, 2008). Nonetheless, generally, wages of artisans in the construction industry in Ghana are negotiable as a mason receives twenty-five Ghana Cedis a day for laying 100 pieces of blocks on one site may be paid more or less, depending on his or her negotiating skills, on another site. These trends led to high usage of temporary and informally employed labour by construction firms in the Ghanaian construction industry. Mitullah and Wachira (2003), who additionally claimed that the use of informal and temporary employed labour by contractors in developing countries is only a measure to cut down on labour cost to maximize profits, supports this.

4.3.2 Low Motivation

Every organization is concerned with how to achieve sustained

high levels of performance through its workforce. This means giving close attention to how individuals can best be motivated through means such as incentives, rewards, leadership, and the organization context within which they carry out the work (Armstrong, 2006). Motivation is thus essential to labour, as it gives site workers satisfaction such as achievement, sense of responsibility and pleasure of the work itself (Enshassi et al, 2007). The issue of low motivation as a factor contributing to the scarcity of skilled artisans in the GCI is ranked second with an average importance index of 0.884.

4.3.3 Lack of Interest by the Youth to Take Up Vocational Training

The lack of interest by the youth to take up trades like masonry and carpentry as vocational trades ranked third with an average 0.766 importance index score. This could be accredited to the fact that such trades are seen as the preserve of those who could not climb up higher on the academic ladder. The World Bank in one of its publications in 2006 entitled "Skill Development in India, The Vocational Education Training System" supports this. In it, the world monetary governing body said, "It is also possible that youth see little labor benefits from undertaking

Vocational Education Training (VET) courses and opt for other more attractive options”. Other factors such as the lack of job security, aggravated by the fact that employment is usually on casual and temporary basis, which sometimes results in the non-payment of social security contributions by contractors on behalf of the artisans, can also be linked to the lack of interest by the youth. Additionally, the possibility of incapacitation due to accidents, which can render one unfit for construction work, may also be an associative factor.

4.3.4 Varying Working Conditions

Factory production processes are similar throughout the world. An instance would be the Coca-Cola bottling company. The only distinguishing fact is the people employed. However, the construction industry the world over is not the same (Sumanta and Koehn 2006). The peculiar features of the GCI and the very fact that each construction project has its own underlining contractual guidelines, make working conditions vary. Sumanta and Koehn (2006), support this with the statement “another factor which contributes to the varying nature of working conditions is the fact that construction projects by nature are variable”. They note that this variability has made it

possible for contractors to utilize a lot of unskilled labour on their projects in developing countries hence; workers do not acclimatize to any particular situation. The varying working conditions factor ranked fourth with an average important index score of 0.758.

4.3.5 Technological Advancement

The use of modern construction techniques in the GCI is less advanced. As rightly, put by Erkelens and van Egmond (2007), “the construction industry in Ghana is suffering a number of problems at all levels with regards to materials, machinery, personnel organization and information and technology”. The technological advancement rate on the influx of modern tools, equipment and materials is so fast that most artisans who were once good at their trades forced to lay down their tools and look elsewhere as they lack the skill to handle modern technology. The few who are still in the system however, are expensive to hire. An influencing factor can be that most of the artisans acquired their skills of trade through the traditional apprenticeship system. This system as noted by the ILO (2001) leaves the artisan with the same skills as his master. These indigenous systems also frequently static; the introduction of new product designs and

production technologies are excluded (DFID 2007). Technological advancement had an average important index score of 0.742 and is accordingly, ranked fifth out of the nine factors.

5. Conclusions and Recommendations

The scarcity of skilled artisans is a problem plaguing the local construction industry in Ghana. The situation is further aggravated by the following factors namely: Irregular and low remuneration, Low motivation, Lack of interest by the youth to take up trades like masonry and carpentry as professions, Varying working conditions and Technological advancement. The consequence of this situation is that the quality of contractors' workmanship is declining as key targets relating to the cost of projects and times of completion are usually compromised.

The study recommends that the association of Ghanaian Contractors, in conjunction with manufacturers and suppliers of electrical fixtures and plumbing appliances, construction materials and equipment organize training workshop sections for these

artisans to keep them abreast with modern practices and technological innovations with respect to the use of modern construction materials and the use of modern construction equipment.

The study also recommends the formation of an Association of Ghanaian Construction Artisans, (AGCA) whose membership would comprise of artisans such as masons and carpenters to promote the welfare of its members by seeking standardized and regular remuneration and ensuring continual training and recruitment through the establishment of apprenticeship training schools.

Regarding low motivation, double targets could be set on projects while regular interactions can be organized to recognize hardworking artisans to motivate others to work harder. In addition, skill-competitions meant to improve the image and attraction of careers in skilled trades and technology can be encouraged. Competitions, if run properly, could bring to the fore, heightened awareness of the role of skills acquisition in production, thereby serving to benchmark against regional and global standards.

References:

Akplu, H. F. and Amankrah, J. Y. (2008) Technical and Vocational Education and Training (TVET) Sector

Mapping for Learn4Work, Dutch Schokland Programme on TVET Pp 1-23
Armstrong, M. (2006) Human Resource Management

- Practice, Kogan Page, Pp 251-269
- Atkinson, R. and Flint, J. (2001) "Accessing Hidden and Hard-to-Reach Populations: Snowball Research Strategies" *Social Research Update*; 33. University of Surrey
- Carliner, M. (1998) "Construction Labour Shortage", *Housing Economics*, Pp 6 – 7
- Chartered Institute of Building, (CIOB) (2009) Skills in the construction industry, Pp 1-24
- Construction Sector Council, (CSC) (2003) Skilled Labour Shortage Still a Problem, Pp 1-5
- Department for International Development (DFID, 2007) Technical and Vocational Skills Development A DFID Practice Paper, Pp 1-9
- Enshassi, A., Mohamed, S., Mustapha Z. A., Mayer, P. E., (2007) "Factors Affecting Labour Productivity In Building Projects In The Gaza Strip" *Journal of Civil Engineering and Management*, Vol. XIII, No. 4
- Erkelens, P. A and van Egmond-de Wilde de Ligny, E. (2007) "Achieving Sustainable Building Education the Case of Polytechnics in Ghana" *HEJ: ARC-081226-B* Pp 1-6
- Ghana Investment Promotion Centre, (2006) "Property Development". GIPC. Pp 1-2
- Ghana National Commission for UNESCO (GNCU), (2008) Construction: Growing Beyond Bounds. Pp 151, 153, 155
- International Labour Organization (ILO), (1987) Review of Construction Manpower Resources and Training Facilities in Ghana
- International Labour Organization (ILO), 2001) The Construction Industry in the Twenty-first Century: Its Image, Employment Prospects and Skill Requirements. ILO, Geneva. (TMCIT-R-2001-07-0141-4 Doc/v1) Pp. 13, 15-24, 38-42
- Joint Initiative on Priority Skills Acquisition (JIPSA, 2007) The Accelerated and Shared Growth Initiative for South Africa. Pp. 13-15.
- Kish, L. (1965) Survey Sampling, John Wiley and Sons Inc., New York
- KPMG (2008). Potential Opportunities for Investors in Kumasi, Ghana
- Mitullah W. V. and Wachira I. N. (2003) "Informal Labour In The Construction Industry In Kenya: A Case Study Of Nairobi", *International Labour Office Working Paper*, Pp 1