ASSESSMENT OF SOME INDICES OF PROFESSIONALISM

IN THE NIGERIAN CONSTRUCTION INDUSTRY

BY

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BEING A THESIS PRESENTED TO THE POSTGRADUATE SCHOOL, AHMADU BELLO UNIVERSITY, ZARIA, FOR THE PARTIAL FULFILLMENT OF AWARD OF M. SC. CONSTRUCTION MANAGEMENT IN THE DEPARTMENT OF BUILDING, FACULTY OF ENVIRONMENTAL DESIGN.

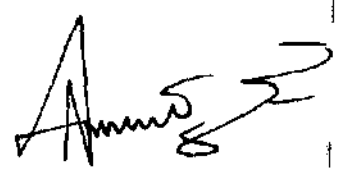
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DECLARATION

I hereby declare that this work is solely my handwork and that it is a record of my research undertaking. It has not been presented whatsoever, in any previous application for a higher degree.

All quotations are indicated and the source of information specifically acknowledged by means of references.

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KEFTIN, Namala Amuga

CERTIFICATION

This thesis entitled ASSESSMENT OF SOME INDICES OF PROFESSIONALISM IN THE NIGERIAN CONSTRUCTION INDUSTRY BY KEFTIN, Namala Amuga meets the regulations governing the award of the degree of M. Sc. CONSTRUCTION MANAGEMENT of Ahmadu Bello University Zaria, and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This work is dedicated to my aged Mother,

MRS. BINTA AMUGA;

and Father,

MR. KEFTIN MONTAI AMUGA.

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My profound gratitude and appreciation goes to Mr. Kehinde, J.O. who objectively supervised this thesis, despite his late involvement. I further acknowledge the contributions of Late Dr. A.A. Husseini and Mr. M.S. Saleh for their contributions and assistance at the beginning of this work.

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ABSTRACT

The Nigerian Building Construction Industry is characterised with several problems, all detrimental to its developmental growth. Stories have continued to appear on the pages of the Nigerian national dailies reporting projects' abandonment, collapse of structures and inflated costs of constructions. Professionalism have been identified as the grassroots solution which forms the foundation to understanding and implementing the theories, models already established. This philosophy is what informed this research, details of which are revealed In the main chapters. Professionalism entails educational as well as professional training; knowledge and enforcement of professional code of ethical conduct; professional registration; right and liability; communication; and effective management method. The practice of professionalism is essential in all sectors of endeavour; the public sector, private sector and the academics. The research ASSESSMENT OF SOME INDICES OF PROFESSIONALISM IN THE NIGERIAN CONSTRUCTION INDUSTRY, was enhanced with the help of questionnaires targeted to the professionals in the fields of architecture, building, engineering and quantity surveying in the northern part of the country. A total of 100 questionnaires were distributed and 90 were received representing 90% of the distributed. However, 67 representing 74% of the collected were considered for analysis, while the remaining were rejected for specific reasons. The responses analysed showed that the knowledge of professionalism and its ingredients were not fully comprehended. For instance code of conduct and professional registration among others were neglects by the professionals. Finally, the research was concluded with some recommendations which are expected to enhance the practice of professionalism in the construction industry.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Construction Industry

The structure of the construction industry all over the world is similar. Construction is the largest in size and more complex organ of activities. Barrie (1978) noted that the construction industry is more like "a service industry because it does not accumulate significant amount of capital when compared to industries such as steel, transportation, petroleum and mining".

It is also important to note that construction is highly fragmented and divisive, yet in response to pressing national needs such as occurrence of national tragedy, only a few of them do mobilize resources quickly.

Adrian, (1981) and Barrie, (1978) further noted that the construction industry is custom-oriented; hence there is a feeling that if something is unique, it is better. Obviously, the construction industry is unique in itself. However, the orientation means that the industry has been slow to respond to the benefits of mass production.

Construction activity is almost completely "incentive-oriented". If the programme of activity is slow, then there is all possibility that the investment in incentive is not attractive. Construction activities are paramount to the survival of any country because they account for the largest workforce in most countries. The journal of American Society of Civil Engineers (ASCE) noted that the construction activities

account for over 60% of the Gross National Product (GNP) of the United States of America. Also a study by Dlakwa, (1985) showed that construction activities occupy large portion of the Nigerian capital investment (60%) of which 70% of the constructions are sponsored by government.

The construction industry is made up of trained professionals who undertake specific duties to the need of the situation. Notably, the professional architect, builder, engineer, quantity surveyor amongst others form the core of professionals responsible for making the industry operational.

The construction industry is also characterised with a lot of uncertainties; HOLLAND, (1985). Litigation and dialogue are therefore necessary for any substantial progress to be made within the industry. Constructions generally are based on the norm and culture of the people and the environment.

Construction projects are importantly based on documented "dreams". Essentially, before the commencement of any major construction work, it must be supported with working drawings showing precision of measurements and specification. This makes the design unique from construction, hence the distinction between the design team and the construction team.

1.2 Need For The study

The success of the construction industry is vested on the personnel involved. In Nigeria, the government has given legal recognition to the professions within the industry. However, it has become clear that things are not forging well as revealed by

the Nigerian dailies and some reports of investigations. The reports of collapsed buildings and bridges have continued to appear in the dailies with considerable loss of life and property in most cases.

The research is therefore centred on establishing the grassroots problem (among others) in the Nigerian construction industry. Lack of professionalism had been identified as grassroots, problem. Hence, there is need to focus attention to it with a view to strengthening other solutions to other problem within the construction industry.

The Nigerian government has given full recognition among others, to the professions of Architecture (Decree No. 10, 19969); Building (Decree No. 45, 1989); Engineering (Decree No. 55, 1970); and Quantity Surveying (Decree No. 31, 1986). It can be observed that the Building and Quantity Surveying Professions are new entries by virtue of their Charter, who are striving hard to take over their rightful duties from the fairly older ones i.e, the Architecture and Engineering professions. These professions were chartered to maintain standards with what obtains all over the world (Kontagora, 1972), especially where technological development is being transferred to Nigeria. With this development, the foundation of professionalism has been put in place by the government, however, there must be understanding through teamwork amongst the professionals concerned. The question arose thus; Is the Nigerian Construction professional aware of the term professionalism, and has it identified lack of professionalism as any problem within its schedule?.

1.3 Aim

The aim of this research is to assess some indices in the practice of professionalism in the Nigerian Construction Industry.

1.4. Objectives of the study

The objectives set forth to achieve the aim of this research include the following:

(I) To investigate the activities and functions of each of the professions as obtained world wide.

(ii) To examine some of the Nigerian situation as regards the growth of each of the profession, and to determine conflicting area(s), if any;

(iii) To conduct a field survey in order to find out problems encountered in the field having relevance to professionalism;

(iv) To advice and recommend as necessary the requirement of professionalism to the practising professionals.

1.5 Scope and Limitation

The area covered in the field survey include institutions of higher learning, Federal and State Ministries and establishments, private companies and consulting firms. The survey were carried out in Bauchi, Plateau and Kaduna States, and the Federal Capital Territory, Abuja.

Time constraint and limited resources made it impossible for the researcher to

cover more states. Furthermore, the professionals discussed were limited to the architect, builder, engineer and the quantity surveyor. Also due to lack of data available especially in established litigation, the study was only concerned with knowledge finding it difficult to measure performance.

1.6 Methodology

The methodology of carrying out the research was adopted based on the following two major sources of data:

(I) Primary Date: Obtained through administering of questionnaires and Personal contacts with the professionals;

(ii) Secondary Date: Obtained through the study of international and national journals, text books, magazines, federal government gazettes and some other publications. These sources formed the basis for the review of literature.

Finally, the analysis was proceeded with the conclusion section, mainly of recommendations aimed to improve the present state of situation.

CHAPTER TWO

LITERATURE REVIEW

2.1 Preamble

There exists enough literature on professionalism in the context of the Construction industry. The American Society of Civil Engineers (ASCE) has taken the lead on the subject matter through the journal of professional issues in engineering education and practice. All publications are basically understood to cover the following:

a) Professionalism and Ethics;

b) Registration;

c) Professional Right and Liability;

d) Communication;

e) Management.

2.2 Professionalism And Ethics

In a society that constantly questions its own moral system and law, the definition of professionalism becomes vague. The boundaries of ethics rest in the expectations of employees, employers, fellow workers and the public.

Importantly, the word "profession" needs to be explicitly defined in the realm of professionalism. The official register of the American Society of Civil Engineers defines and amplifies it thus:

> *A profession is the pursuit of a learned art in the spirit of public service ... (and) is a calling in which special knowledge and skill are used in a distinctly intellectual plane in the service of mankind and in which the successful expression of creative ability and application of professional knowledge are the primary rewards. There is implied the application of the highest standards of excellence in the educational fields, prerequisite to calling in the performance of services and in the ethical conduct of its members. Also implied is the conscious recognition of the profession's obligation to society to advance its standards and to prescribe the conduct of its members.*

Ethics on the other hand can be severally defined. Firstly, there are ethics which are a set of values; or more traditionally a group of moral principles, defined as a theory or system of moral values or those that are right and good. Secondly, there exists other ethics, which are a code and/or principles of behaviour or conduct governing an individual or a group. Failing to distinguish between these meanings and limiting the definition to only moral, can cause grief and confusion when one has already adopted stipulated codes of ethics or rules of professional conduct. This is particularly true when the contents of the codes or rules seem to negate one's personal values of what is right and good. Ethical, in this context refers to "ideals and aspirations as well as rules of conduct" (Kultgen, 1988). It may also be defined as a "moral philosophy" (Ethical, (1988).

Because an ethical code represents the idealised morals of the society, it is higher than the values that the norm and culture of the society actually follows. A professional has a duty to behave in accordance with the standards already set forth, because of being regarded as a "model" before the society. Professionalism should encompass both

public and private life of the professional, to set an example to the society.

Professionals are supposed to work for the welfare of the entire populace. These responsibilities include being fair, honest and sincerely performing duties effectively, hence a high standard of moral values. The professional should be incorruptible, responsible,, determined, impartial and above all innovative in every aspect of professional being. These qualities should be upheld regardless of adverse political or interest pressures. However, for these to succeed, it have to be nurtured from childhood, through parental, religious and professional upbringing.

Practically, as the professionals work affects the society, it is necessary for all works executed to be acceptable to the community. It is also the duty of the professionals to educate and enlighten the public of the benefit to be derived from such projects.

Every professional should strive to understand, appreciate and provide the need of the society; respect culture, religion and customs (norms) and above all be farsighted and acute in the discharge of duties.

Apart from training, professionals are also required to maintain the ideals of professionalism and ethics amongst themselves. All these, are intended to instill and imbibe sanity in the operation of the profession. Einstein (1952), said that:

It is not enough to teach a man a specialty. Through it he may become a useful machine, but not a harmoniously developed personality. It is essential that the student acquire an understanding of, and a lively feeling of values. He must acquire a vivid sense of the beautiful and of the moral good. Otherwise he with his specialised

knowledge more closely resembles a trained dog than a harmoniously developed person. He must learn to understand the motives of human beings, their illusions and their sufferings in order to acquire a proper relationship to individual fellow men and to the community.

From the above, education only in an area of specialisation is not enough for the training of a professional. Therefore, unless professionals are imbued with a sense of professionalism and ethics, they cannot be considered fully developed in training.

2.2.1 Professionalism And Ethics of Education

As stated in the preceding section (2.2.0) that unless professionals are imbued with a sense of professionalism and ethics they are not fully developed in training, the professional education system is woefully inadequate in instilling and maintaining the ideals of professionalism and ethics. These deficiencies became evident when the professionals in the construction industry are compared with others, such as law and medicine. While it is necessary for the latter to offer courses in professionalism and ethics, it is not however mandatory in the former [Wong; (1983)]. For the average professional, there is little need to enroll in continuing courses in professionalism and ethics, or to keep informed of such issues. It will be deriding if no advancement is made by professionals in the construction industry, to measure up in the area of professionalism and ethics. Wahab (1991), suggested for the following, as enough continuing courses that can make the professional update with the changing pace for technological development:

a) Involvement in professional societies, clearing house for new ideas;

b) Attending of conventions, conferences, seminars and lectures;

c) Video-taped lectures and software for personal computer (pc). These can provide a self paced, cost effective and convenient learning experience;

d) Involvement in trade fairs, exhibitions, Chambers of Commerce and Industries, and honorary community service organisations.

It is therefore wholly important to be well trained and educated in professionalism and ethics. Its infusion as a course unit in the curriculum of training cannot be over-emphasised.

There are conflicting opinions on the value of expanding the exposure of professionals in the building industry to professionalism and ethics during the course of training. The common points as opposed to promoting professionalism and ethics education and their counter points culled from the journal of professional issues in engineering Vol. 109, No. 1, January 1983 are given below:

i) *Engineering curricular needs more technical courses and less "soft" courses.*
Counter-point:- There is a sentiment running through the profession that there are too many soft courses; ie., non-technical. Presumably because courses in professionalism and ethics are non-technical, they would be considered to be soft courses. The argument is that in this period of rapid technological changes, more time and courses are required to teach technical skills. "To further reduce an already minimal and inadequate exposure to professionalism and ethics, however, would eliminate a valuable aspect of education" (sic).

Contrary to this argument, the role of professionalism and ethics needs to be expanded in most curricula. A well designed courses in professionalism and ethics is

the key to student's entire engineering curriculum. Such a source can serve as the bridge revealing the relevance of those "soft" humanities and social science courses to the technical courses. It may also serve as a forum where the student, as potential professional, can assess the future role in society, discover the responsibilities with the role, and develop a sense of pride in it.

ii) *Professors do not have the real-life experience necessary to teach professionalism and ethics*
Counter-point:- *The point of this argument is that professors, as full time educators, usually do not have the professional practising experience that can enable them teach professionalism and ethics. While professors are certainly not immune to problems in ethics, they do not face the same ethical problems that a practising professional faces outside the academics; Bonel (1977). Whether this is a valid point or not is debatable and this has occurred: Salvadori (1977).*

This is an invalid point when it is used to justify limiting the teaching of professionalism and ethics in schools. Even if it can be successfully argued that professors are limited in their ability to present and analyse the wide-range of ethical problems that graduates may soon face, this limitation can be solved by inviting practising professionals to contribute to the courses.

iii) *Ethics cannot be effectively taught as a formal class.*
Counter-point:- *It has been argued that ethics cannot be taught in a conventional and formal lecture atmosphere. That, by so doing, professionals are in danger of segregating the teaching of ethics into a neat course. This may lead young professionals to treat ethics as something that can be "compartmentalised" from himself for the rest of his life (lee, et al 1975).*

This point deals less with the issue of whether professionalism and ethics should be included in the curriculum, and more with how it should be included. Professionalism and ethics should, however, be recognised as an important course in the

engineering curriculum. Therefore, it is not "conventional" engineering subject, innovative and alternative means of teaching it is necessary. ~Alternatives include role-playing hypothetical situations and involving practitioners.

iv) *Students view professionalism and ethics courses as pointless.*
Counter- point:- Professionalism and ethics courses are often ineffective in attaining their goals because students do not view them as they should. This is understandable for three distinct reasons:

(a) *Such courses are often associated with other soft and non-technical courses. Consequently, these courses tend to be stereotyped as less taxing. Thus they are taken less seriously;*

(b) *Students come from diverse backgrounds and some may hold a cynical view towards the society. How is it possible to maintain a professional ideal, when all around the students sees violations of that ideal accepted in daily activity:*

© *Many students have not had experience with the day-to-day world engineering. Engineering is still a vague and nebulous concept. To visualize how an abstraction such as the ideals of professionalism and ethics relate to this vague image, is difficult.*

While each of these conditions exists and can inhibit the understanding of professionalism and ethics, these reasons in themselves do not minimize the worth of such courses. What seems pointless, naive or vague to the students, will become important, true and clear to the same person when practising. For a subject like professionalism and ethics, the details are not important, but rather the ability to recognise the problem and to have a developed set of principles from which a decision can be made.

Although Engineering have been often mentioned in the points discussed above, it is common sense that it applies to other disciplines like Building, Quantity Surveying

and Architecture. This is because the Americans have defined the constructional professional an engineer; the cost engineer (Q.S.), the building engineer or the construction engineer, the Civil engineer and the Architect.

2.2.2 Ethics of Competence

As the construction industry is noted by Barrie (1985), as complex, professional competence has become a yardstick in appointments. It is therefore important for professionals to now sacrifice little of today's productivity in order to acquire tomorrow's knowledge and become competent. Academicians should invest more efforts in researches, and the imparting of knowledge to the deserving persons. This is because as the rate of technological changes are now rapid, the ethical aspect of updating knowledge are generating demands.

2.3.0 Professional Registration

Buchanan (1985), said one of the most needed things to practice is professional registration. According to him, professional registration is achieved in compliance with three requirements:-

1. Education
2. Experience
3. Examination

The American board of registration of professionals made professional registration for those wishing to practice a compulsory act and not a voluntary one. Hence it has made registration a mandatory exercise for intending practising

professionals.

2.3.1 Need for Registration

Professional registration demonstrates the attainment of a level of competence and qualification based on graduation from one's academic curriculum and years of responsible work experience. It is also the public's assurance that the person who places "professional title" after his name can be entrusted with the practice of the profession, mainly to safeguard life, health, property and promote public welfare.

In Nigeria today, handsome efforts are being made by the professional bodies to emphasise the importance of registration. For example, the Federal Ministry of Works & Housing has already endorsed and effected a new regulation for practice from April, 1992. The new guideline stipulated mandatory minimum professional qualification for key management staff in companies contracting for jobs valued at over ten (10) million Naira. This effort is to infuse professionalism in the construction industry.

If the Nigeria construction professions are to acquire public acceptance and recognition, then their members must be registered with their respective professional bodies. This can simply be explained as: prove competent and be accepted and be recognised by the public. Registration is one yardstick the public uses to measure competence [Buchanan (1985)]

2.3.2 Value for Registration

The registered professional gains a sense of satisfaction having met the requirement of the country. Professional examination, one of the requirements for

registration serve the following purposes:

(a) It weeds out those who do not have level of competence required;

(b) It shows a common level of knowledge attained by those who have passed the examination;

© It demonstrates to the public that the professional concerned, has achieved that level of competence;

(d) It provides to the professional the improved image, that he has reached a level of professionalism in a chosen carrier/field.

A professional who becomes registered demonstrates to peers and supervisors a sense of pride, capability and accomplishment in the profession. Professional registration is also like an insurance policy. One never knows when an opportunity would come through to improve one's position, but to take that step would only require obtaining a licence. For example, a professional in government service who has not bothered to become registered will be unable to get brighter chances of leaving the government service. If a government employed professional plans to move to consulting field and has not been registered, the chances of obtaining a responsible position will be limited. Professional registration laws have been solely passed to protect the public and really not the benefit of the professional [Buchanan (1985)]. Even if through the ideas presented, outlines the benefit of a registered professional, it shall be noted that the primary reasons for the law is to protect public health and safety, which are some of the issues that concerns humanity.

2.4.0 Professional Right And Liability

In normal real life situation every human being has a right; and equally liable to committing errors, mistakes, etc. In the same understanding, a professional has a right and at the same time liable as a result of inconsistencies due to the work performed.

2.4.1 Liability

In Nigeria today, there is no appreciable and tangible liability cases documented for reference. This has made it virtually impossible to collect literature on same within the limited period of the research. However, there exists enough literature in the developed countries, which form the main frame of this section.

Like in other professions such as Law and Medicine, the construction professionals are liable to every work performed to the community. The Black Law Dictionary defines the state of being liable as;

(i) Bound or obliged-in-law and equity; responsible; chargeable; answerable; Compellable to make satisfactory compensation or restitution;

(ii) Exposed or subject to a given contingency risk or casualty, which is more probable; and

(iii) The condition of being bound because a wrong has occurred.

Liability is also related to a future possible or probable even which may not actually occur, or an occurrence within the range of possibility [Holland (1985)]. The professional is called to serve the community and thus liable each time he puts "his pencil" on paper. If a person, for business reasons, takes it upon himself to change the

public surroundings, then he is seeking the benefit. In doing so, he must then share the burden of responsibility. Professional liability is not a new legal area created in the 21st century, but dates back to antiquity, during the construction of the Roman aqueducts. From 312 BC through 52 AD, the engineer was responsible for design and construction, as well as for the development of the source of water. Monetary claims, and in some instances, capital punishment were inflicted for errors, omissions and poor judgement [Robin, Syrnick 1975)].

An individual is liable for negligence when the act in question was immensely dangerous to the life and property of others, regardless of whether there was a privity of contract between the individual and the injured. In construction, there are three key areas for burden of proof:-

a) Design by the architect or engineer;

b) Work by a contractor; and

c) Quantity of materials.

Liability is contingent upon negligence or lack of skill and not upon mere errors of judgement. By law, a contractor is liable for negligence during the course of construction. However, if the contractor has followed the plans and specifications furnished by the owner, through his representative, and later the plans were found to be faulty or defective, or specifications insufficient, then the contractor cannot be held responsible. Here again, the burden of proof rests on the injured party but the engineer will be held liable by law if his work is determined to be negligent.

Since 1985, liability and malpractice suits in the USA, against architects and

engineers have increased at an annual rate of 20%, courtesy of a study prepared by the office for Professional Liability Research (PLR) of Victor O. Shinnerer and Co; a Washington based insurance firm. The study further revealed that the value of claims had tripled since 1960, and that 29.6% of insured architectural or engineering firms were sued in 1976. Jensen, et al (1983), revealed that since 1950, courts have held that design professionals can be held liable to the general public and not just to owners of building for problems that cause injuries. The law assume that the professional concerned:

(a) Possesses the required degree of learning, skill and experience as others in the same profession, and which is regarded by the community as necessary to qualify one to practice;

(b) Will use reasonable and ordinary care and diligence in the exercise of skill, and in the application of knowledge to accomplish the objectives for which one is employed;

© Will exert skill and diligence and care; and

(d) Will use best judgement on employers behalf.

An unfortunate thing is why have liability claims continued to increase against the profession? The journal of professional issues in engineering; Holland 1985, helped to explain logically as follows:

The first reason is the use of new materials, sometimes not fully tested, which has increased the injured parties' willingness to sue the design professional;

The second reason is due to the increase in technical complexity of buildings. Here, the problem is determining who is at fault when a failure occurs. The complexity

of construction increases the difficulty of determining who the responsible party is;

The third is the change in attitude towards litigation. Today, many people turn to their lawyers as soon as something unexpected happens;

The fourth reason is the concept that government should provide controls or protection for everything that may have an undesirable result. This is evidenced by the increase in government relations and public interest.

The fifth reason is that professionals are trained as problem solvers and not litigators. Involvement in litigation is threatening; and sometimes excessive accusations of legal advocates can be offending and seem unprofessional. The engineering approach to problem solving is open and methodical, but can also lead vulnerability.

The sixth reason is that the traditional methods of obtaining protection against liability or malpractice are becoming ineffective.

Because the professional is liable each time he puts his pencil on paper, then it is necessary to have some type of insurance cover. In 1957, the Continental Casualty Company (CCC) agreed to furnish liability insurance for the National Society of Professional Engineers (NSPE), and the American Institute of Architects (AIA).

Basically, there are two methods for insuring professional liability exposure today. The first and most widely used in America is the Single Professional Liability Policy to cover potential liabilities on all services performed. The second method is the Purchase of Project Liability Insurance, where separate policies are purchased for each job. However, the backbone of either policy is the insurance agreement, an example of which is as follows:

To pay on behalf of the insured all sums which the insured shall become legally obligated to pay as "damages" by reason of liability arising out of any negligent act, error, mistake or omission in the rendering of or failure to render professional services of the type described in the declarations, whether committed or alleged to have been committed by the insured or any person employed by the insured or by others for whom the insured is legally responsible.

2.4.2 Right

As the professional is liable, he also has a right of living in the society. These rights, like for other people are constitutional, legal and ethical.

Constitutional Rights: These are rights to life, liberty and right to pursuit of happiness.

Legal Rights: These are rights to freedom from discrimination on the basis of sex, race, colour, religion, age, national origin and handicap (when the latter may be shown for to be un-important to job performance). It is right to salary and conditions of employment consistent with those for like employed professionals. It is right to legal view of disputes.

Ethical Rights: these are rights to act according to ethical conscience and to decline assignments where a variance of moral opinion exists. It is also right to express professional judgement and to make public pronouncement consistent with corporate constraints on proprietary information. It is right to corporate loyalty and freedom from being made a scapegoat for natural catastrophe, management ineptitude of other forces beyond control. It is right to seek self-improvement, further education and involvement in professional associations. Right to participate in the activities of a political party

outside working hours without the prejudice or reprisals. It is also the right to apply for superior position with other corporation without being blacklisted. Right to due process and freedom from arbitrary penalty or dismissal. Right to appeal for ethical reviews by a professional association, ombudsman or independent arbitrator. Summarily, it is a right to personal privacy.

2.5 Communication In the Construction Industry

The encyclopaedia edition of the Webster reference dictionary defines communication as:

> *"The act or fact of communicating; transmission; the imparting or interchange of thoughts, opinions, or information by speech, writing or sign; that which is communicated or imparted; a document or message imparting view or information;...."*

Communication has become an essential ingredient for any successful group of professionals. It is vital for professionals to communicate appropriately to the public (as their work affects the Society/Community).

Success in construction comes with applying effort clearly at a price for a stated time. Such service assumes knowledge of construction methods, costs and time of production. Performance of this service requires knowing contractual types, methods, resource requirement and information networks.

Communication is the dissemination of past and present information to the present and future needs through documentation, oral or media organisations. If professionals are to play an important and effective role, they should be able to

communicate effectively amongst themselves. This requirers planning and hard work. Professional journals should be published regularly for consumption on the one hand, while seminars and other useful gatherings be also held often times, on the other. Dissemination of information can be enhanced by the study of past problems (mistakes). Professional mistakes results in human and financial losses. The unfortunate thing is the re-occurrence of the same type of error. It is therefore good, that lessons be learnt from every accident. To achieve this, however, (according to ASCE), every professional should make it a point of responsibility to publish at least one paper on every project undertaken. This should contain information such as:

i) Investigation;

ii) Design Concept and Decision;

iii) Construction activities and problems; and

iv) Lessons learnt.

On the other hand, in the case of failure, information to be provided should include:

i) History of Project;

ii) Nature of failure and characteristics:

iii) Investigation Conducted;

iv) Repair works (if any);

v) Performance; and

vi) Recommendations for future projects.

Fifer (1990), related this: United Airlines flight 811 met disaster at 20,000 ft

(6,100m) when a cargo door blew off the 747, resulting in instantaneous death of nine people. He attributed this tragedy to lack of communication. "Only much later a small news story released indicating that a transcription omission failed to alert United Airlines, Maintenance Personnel to a recent directive to reinforce the cargo door; Therefore, communication can be highly profitable or dangerously costly. More than ever a man has to learn to communicate within a teamwork. Improving communication skill is thus a first step towards professionalism. An individual must keep the doors of communication open, constantly to team-mates.

The concept of teamwork is that every party must be busy. No individual should claim total control, otherwise that will be against the spirit of teamwork. Smith (1992), said that; "after sharpening communication skill, the next step is to apply them in a teamwork." He further noted that to possess the ability to work on a team is definitely a step to professionalism. To have a better team, individuals have to be good team-mates.

Good communication is the product of vivid communication exhibited by the parties concerned. Covey (1989), explains interdependence and how it must be used to work in a team environment. He further reiterated that interdependence is the highest level achieved after dependence and independence. Interdependence is being able to cooperate and work together on a project, hence self management.

Therefore assessing ones, problems through self scrutiny will improve that individuals, self management skills resulting in a chain reaction to improved communication and teamwork skills. The elements of communication, teamwork and

self-management on the one hand equate to a problem on the other.

2.6.0 Method of Management In The Construction Industry

The secret behind the success of any project (to be completed on time within budget and of remarkable and satisfactory quality), is obviously an efficient management system. It is therefore important to examine the two methods of managing a project, with a view to understanding the mode of organisations and operations. The two broad methods of Management are:

i) The Traditional Management Approach; and

ii) The Professional Construction Management Approach.

2.6.1 The Traditional Management Approach

Under the traditional approach, the owner employs a designer (architect or engineer, or both) who first prepares plans and specifications, then exercise some degree of inspection, monitoring or control during construction. In other words, programme of activities are always sequential. No activity can start, if the preceding one is not completed. Construction itself is the responsibility of a single general contractor under contract to the owner. Much of the work may actually be performed by individual trade contractors under subcontract to the general contractor. Although the subcontractor normally bid upon a portion of the owner's plan and specifications their legal contractual relationships are directly with the general contractor: the latter in turn, is responsible to the owner for all the work, including that which is subcontracted.

The advantages and disadvantages of the traditional approach are summed up

below as given by Barrie (1978), and Adrian (1981):-

Advantages

The advantages from the owners position include the following:

(a) This system is accepted and historically supported with well-established legal and contractual precedents;

(b) The lump sum type permits overall cost to be determined before construction contract is let;

© Minimal involvement of the owner is required in the construction process;

(d) The owner may benefit from price competition in a competitive situation.

Disadvantages

The demerits from the owner's view point are as follows:

(a) Design usually does not benefit construction expertise;

(b) Overall design-construct time is usually the longest;

© The owner is usually in an adversary position with the general contractor;

(d) The designer is often in an adversary position with the general contractor, and the owner may be required to be the referee;

(e) Changes to the work or unforeseen difficulties will often end in disputes and litigation that can drive up costs in spite of the fixed-price concept.

2.6.2 Professional Construction Management Approach

The Professional Construction Management (PCM) is a new approach, different from the traditional approach [Adrian (1981); Barrie (1978)]. The PCM unites a three party team consisting of the owner, designer and the Construction Manager (who is the

new entry), in a non-adversary relationship and it provides the owner with the opportunity to participate fully in the construction process. The non-adversary relationship is illustrated in Fig. 2.1. To fully understand the concept of the PCM vividly, the definition of the new member (ie the Construction Manager) is necessary.

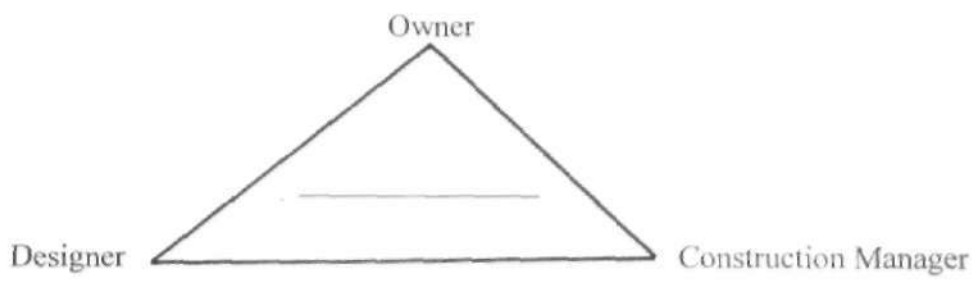


Fig. 2.1 Illustration of Non-adversary relationships between the owner, designer and the Construction manager.

Construction Management/Manager: The early "construction methods and equipment" special report defined Construction Manager (CM) as follows:

> *The CM is the qualified general contracting organisation which performs construction management under a professional services contract with the owner. As the construction professional on the construction team, the CM works with the owner and the architect/engineer from the beginning of the design through completion of construction, providing leadership to the construction team on all matters concerning construction, keeping the construction team informed, and making recommendations on construction technology and construction economics. The Construction Manager proposes construction alternatives to be studied by the construction team during planning phase, and accurately predicts the effects of these alternatives on the project cost and schedule. Once the project budget and schedule have been established, the CM monitors subsequent development of the project to ensure that those targets are not exceeded with the knowledge and concurrence of the owner. The CM managers procurement of material and supplies, coordinates work of all trade contractors,*

> *assures conformance to design requirements, provides current cost and progress information as the work proceeds, and performs other construction related services as required by the owner*

From the definition given above, it is evident that the CM is really, a specialist' [Adrain (1981)]

Construction Management is competitive in overall design-construct time with a negotiated type of contract. It usually features a number of separate lump-sum or unit-price construction contracts which under certain circumstances, may prove more competitive than either the general contract or the cost-plus-a-fee approach.

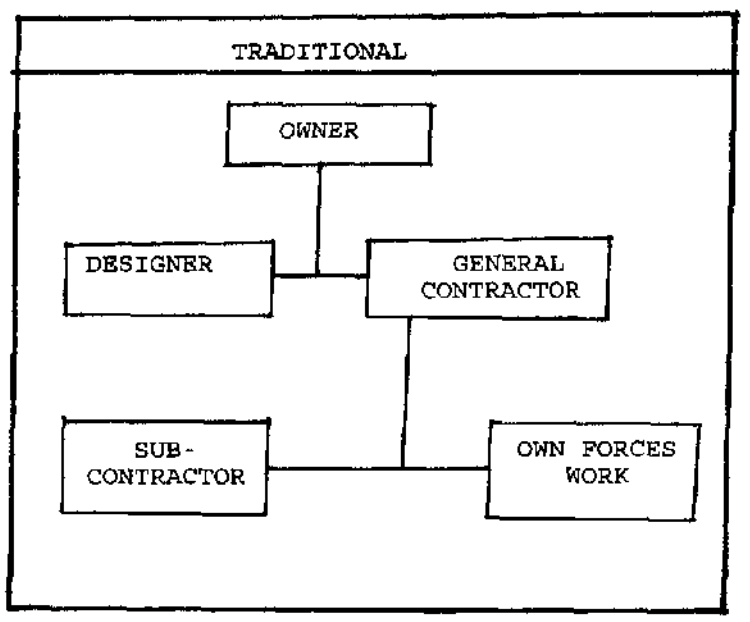
Why Construction Management Evolved: The evolution of construction management; according to Cushman, et al (1983), Adrian (1981), and Barrie (1978), are based on the following:

1. Failure of the traditional method to attain owner's time, cost and quality objectives;
2. Compatibility of construction management process with increased project complexity;
3. Limited and bonding requirements of construction management firm;
4. Simulation of the use of construction management process by public agencies.

Advantages: The merits of a professional construction management method from owner's point are as follows:

a) Special construction skills may be utilized at all stages of the project with no

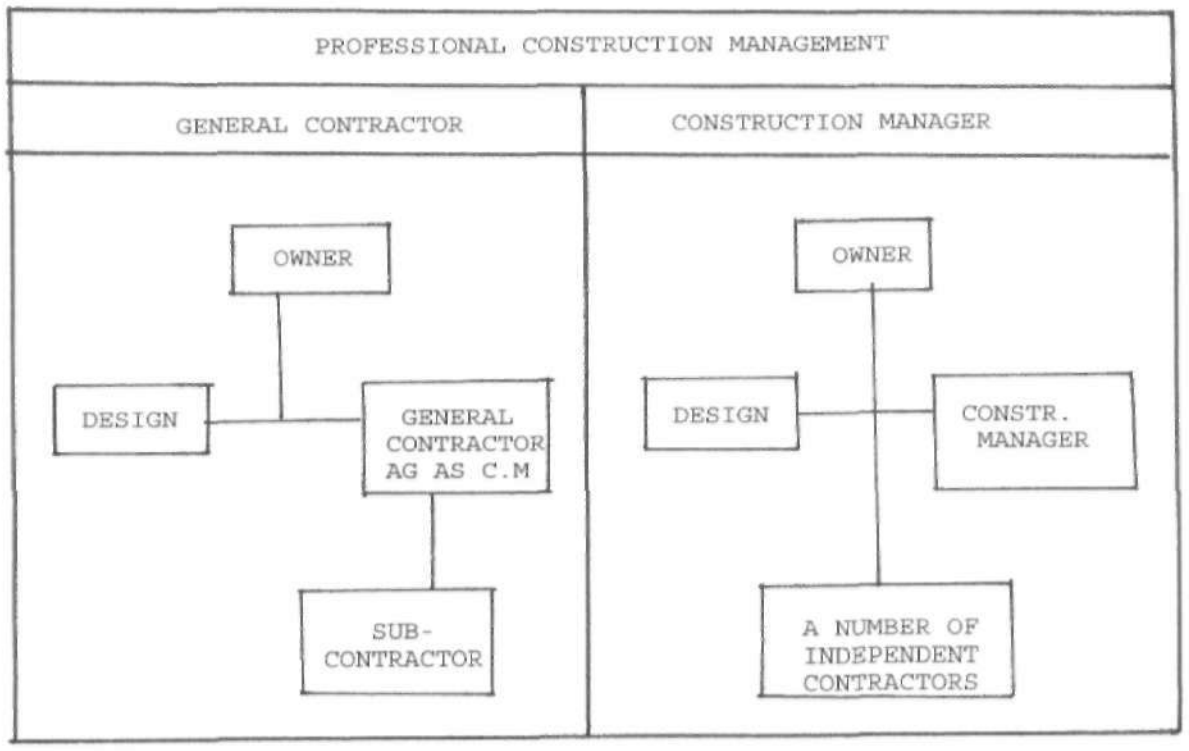
FIG. 2.2a: ALTERNATIVE CONTRACTUAL APPROACHES



- Separate Designer
- Single General Contractor
- Numerous Sub-Contractors
- Fixed Price, Unit Price, Guaranteed Maximum or Cost-Plus-A-Fee Contract
- Negotiated Professional Fee for Design Services

SOURCE: BARRIE D. S., PCM PP. 25

FIG. 2.2b: ALTERNATIVE CONTRACTUAL APPROACHES



- Three-Party team of Owner Designer and General Contractor acting as Construction Manager	- Three-Party Team, Designer, Owner and Construction Manager
- Fixed Price or Negotiated Independent Sub-Contractors	- Fixed Price or Negotiated Individual
- Construction Manager usually acting as Agent for Owner	- Construction Contracts directly with Owner
- Negotiated Professional Fee for CM Services with cost reimbursement for sub-contractors	- Construction Manager may act as Owner's delegate
- Negotiated Professional Fee for Design Services	- Negotiated Professional Fee for Design Services

SOURCE: BARRIE D. S., PCM PP. 25

conflicts of interest between the owner and the designer;

b) Independent evaluation of cost, schedules, and overall construction performance, including similar evaluation for changes or modifications, helps assure decisions in the interest of the owner;

c) Full-time co-ordination between design and construction consultants is available;

d) Minimum design-construction time can be achieved through the use of phased construction;

e) The PCM approach allows price competition from local contractors akin to the traditional lump-sum or unit- price methods;

f) Significant opportunities are provided for value engineering (V.E) in the design, bidding and award phases.

Disadvantages: The disadvantages from the owner's viewpoint are as follows:

a) If the professional construction manager recommends phased construction, the owner begins the project before the total price is established. Early completion may not provide sufficient trade-off for this risk;

b) If the owner has only a fixed amount to spend and would not build the project, if its cost would exceed this amount, the traditional method would be preferable in such a go-no-go situation;

c) The owner has certain responsibilities and obligations that must be fulfilled in a timely manner;

d) Success of the programme depends greatly upon the planning, scheduling, estimating and management skills of the professional construction managers;

e) The professional CM does not usually guarantee either the everall price or the quality of the work; this situation contrasts with that of the general contractor in the transitional lump-sum approach.

To epitomise, PCM differs from conventional and traditional separate contractor and designer approach in that, there are, by definition three separate and distinct members of the team (owner, designer and manager), and in that the professional construction manager does not perform significant design or construction work with own forces" [Barrie (1978)].

Furthermore, an alternate contractual approaches (fig. 2.2) shows a vivid and juxtaposed differences between the traditional method and the PCM.

The practice of the PCM is widely practised in the developed countries. In this era of technical complexities of project activities, Nigeria also needs to practice the PCM approach in order to advance most of its over-runs recorded in time, and cost of projects in the construction industry.

It is very important and necessary that the professionals involved in the construction industry should come in close agreement with each other on the best and most progressive method of management, disregarding professional selfish interest.

CHAPTER THREE

THE CONSTRUCTION PROFESSIONALS IN NIGERIA

3.1 Preamble

The professions operating within the Nigerian construction industry, and being considered in this study are: Architecture, Building Engineering and Quantity Surveying. It is important therefore to discuss the developments of these professions in the realm of professionalism having excessively treated professionalism based on Western literature.

In order to form a coherent whole, the review of the following documents was made necessary:

a) Enabling Decrees:

b) The role of National Universities Commission:

c) Professional Scale of Fees:

d) Code of Ethics.

These and more are treated in the proceeding sections with a view to determining the way forward.

3.2.0 Enabling Decrees

All the professionals under review are being supported by Decrees.

However, before the Official Charter, all the professionals had a history of existence in

the construction industry. The profession with their brief history are highlighted in the proceeding sections.

3.2.1. Architectural Profession

The Architectural profession is no doubt the oldest in the construction set up both in Nigeria and abroad. The architectural profession is primarily concerned with the preparation of the Clients brief, and production of both Preliminary and working drawings suiting the client's taste.

The Nigerian Institute of Architects (NIA): The NIgerian Institute of Architects (NIA) was formed by the Nigerian architects who studied abroad, and then practising within the country (Nigeria).

The NIA had existed since 1960 with the sole aim of bringing together, practising architects and advancing the course for architectural profession in Nigeria. The NIA formally applied for legal recognition from government, and was chartered by 1969. This led to the formation of a registering body of all recognised practising architects.

Functions of the NIA: The functions of the Nigerian Institute of Architects include:

a) Keeping register of persons qualified to practice architecture in Nigeria, having fulfilled the laid down requirements:

b) To protect the interest of its members in the course of professional practice.

c) To perform any other function conferred to it by the Council (ARCON).

The Architects Registration Council of Nigeria (ARCON)

The architects Registration Council of NIgeria (ARCON) was established

by Decree No. 10 of 1969 and amended by Decree No. 43 of 1992. Section 2(i) enumerated the general duties of ARCON as follows:

a) Determining what standards of knowledge and skills are to be attained by persons seeking to become members of the architectural profession, and raising standards from time to time as circumstances may permit:

b) Securing in accordance with the provision of the Decree, the establishment and maintenance of a register of persons entitled to practice the profession and the publications from time to time lists of those persons;

c) Performing the other functions conferred on the council by the Decree.

3.2.2. The Building Profession

Like the architecture, engineering and quantity surveying professions, building profession is also unique. This was supported by Torrance, V.B., in which he said, "it is concerned with a function that is distinctly different from other construction functions". The functions of a professional builder include:

> *The application of scientific and technological principles on the one hand and that of project production and execution of new building projects and infrastructures, including the maintenance of existing facilities, having regard to the available resources for completion within a predetermined time scale in such a way to obtain a fair and equitable return on the investment made by those concerned with all the activities surrounding the project or work,*

whilst satisfying the agreed and contractual requirements of the people on the other hand.

The goal of the profession is being pursued by the Nigerian Institute of Building (NIOB) along with the Council of Registered Builders of Nigeria (CORBON).

The Nigerian Institute of Building (NIOB)

The NIOB was established in 1966 with a name known as the "Institute of Building, Nigeria Centre". At that time it was an affiliate of the Institute of Building (IOB), LOndon. In 1970, an autonomy was applied for and granted, hence the name Nigerian Institute of Building. The institute set for itself three main objectives as follows:

i) To establish a high standard of professional conduct and practice of building technology and construction management.

ii) To acquaint the public at large with the roles of the professional builder in the construction industry and in the economic development of the country.

(iii) To establish, monitor and keep under continuous review, the technical knowledge required for those aspiring to practice the profession of building technology, construction management, maintenance management, building materials development and estimating in collaboration with institutions of higher learning both within and outside Nigeria.

The NIOB since then, carried out its objectives in close relationship with the IOB, and some Nigerian Universities and Colleges of technology offering building courses, especially in the area of professional examination.

The NIOB struggle for a charter in the form a decree was made manifest and real with the promulgation of Decree No. 45 of 15th December, 1989 to the cited as the Builders (Registration, etc.) Decree. The Decree was made especially establishing the Council of Registered Builders of Nigeria (CORBON).

Functions of the NIOB:

The functions of the NIOB are guided by its Constitution which confers duties, rights and privileges on members, Some functions of the NIOB as entrenched in the membership regulations include:

a) To promote the general advancement of the science and practice of building;

b) To increase knowledge relating to building and promote dissemination;

c) To promote the establishment and maintenance of standards of competence and conduct of those engaged or intending to engage in building practice, education and research.

The Council of Registered Builders of NIgeria (CORBON):

The circumstances that gave birth to CORBON, are similar to those of ARCON, COREN, QSRBN, etc. It was the struggle of NIOB, who were seeking for legal backing from government.

The struggle started as far as back 1973 when the guest for the builders (Registration, etc.) Decree was submitted and accepted by government with the support of the Federal Ministry of Works and Housing. Another draft was resubmitted by 1979, because there had been no response with regard to the first request. It was not until 1985 when the NIOB was formed of the request for some certain amendments made

earlier, but never made known to the Institute. The necessary amendments were immediately effected and resubmitted. It was by 15th December, 1989, when the Decree in respect of Builders (CORBON), was signed into law and published in the Federal Government's gazette.

Functions of CORBON :

The functions of CORBON as listed in Section 1|(2) of the Decree are:

a) Determine who are professional builders

b) Determine what standards of knowledge and skills are to be attained by persons seeking to become registered builders and review those standards from time to time, as circumstances may permit.

c) Establish and maintain a register of persons entitled to practice as builders and publish from time to time, lists of those persons so registered,

d) Regulate and control the practice of building technology profession in all its aspects and ramifications.

e) Perform such other functions conferred on the council by the decree including the establishment of national standards, codes and procedures for the building industry.

3.2.3. The Engineering Profession

The engineering profession encompasses disciplines such as the Civil Engineering, Structural Engineering, Mechanical Engineering, Electrical Engineering etc.

The Civil Engineer is primarily concerned with civil works such as the construction of highways, transportations, bridges, etc. The structural Engineer performs works of the civil engineer at higher orders, specialising in structural analysis and design of engineering structures. The electrical Engineer uses architectural drawing to produce electrical design. The mechanical Engineer also is a specialist in machine drawing and installation. In all cases, these categories of engineers supervise whatever they have designed in any production process.

The Nigerian Society of Engineers (NSE): The Nigerian Society of Engineers was founded in 1958 mainly to bring together group of qualified engineers of different fields, to make a common interest. The idea was as a result of government's attitude in segregating the Nigerian engineer for any government job, on the other hand favouring whites who were then craftsmen from their own country, and most of whom were trained by the same Nigerian Engineer being discriminated. With the common front, the NSE was able to make a case for a charter and was finally given in 1970.

Functions of the NSE: The functions of the NSE among others are:

a) To enlighten the Nigerian Engineer on his rights within the society:

b) To design engineering structures as suiting the Nigerian condition.

c) To maintain a high standard of workmanship among the engineering disciplines.

<u>The Council of Registered Engineers in Nigeria (COREN):</u>

The COREN was established by Decree No. 55 of 1970, but later amended to the Council of Regulation of Engineering in Nigeria (COREN), by Decree No. 27 of 1992. Section 1(i) of the principal act has given the following as general duties of COREN.

a) Determining who are engineers for the purpose of the decree.

b) Determining what amendments of knowledge and skills, are to be attained by persons seeking to become registered as engineers and raising those standards from time to time.

c) Securing in accordance with the provisions of the decree, the establishment and maintenance of a registered persons entitled to practice as registered engineers, and the publication from time to time, list of those persons.

d) Performing other functions conferred on the council by the decree.

e) Regulating and controlling the practice of the engineering profession in all its aspects and ramifications.

The amendment Decree No. 27 of 1992 however differ with the principal act (Decree

NO. 55 of 1970) in such a way that the latter kept a single register for only the engineer cadre, while the former takes care of other cadres such as the technologist, technicians, craftsmen and artisans, in addition to the engineer cadre.

3.2.4 The Quantity Surveying Profession

The Quantity Surveying Profession is concerned with financial probity in the conceptualization: planning and execution of project development. The profession is concerned with advice on costs and value for money spent in the construction industry, preparation of tender documents for construction projects, cost benefits analysis, project management and any other cost related duties.

The Nigerian Institute of Quantity Surveyors (NIQS)

Quantity Surveying profession started in January, 1969 in Nigeria with a body known as the Nigerian Association of Quantity Surveyors. The name was unanimously changed to Nigerian Institute of Quantity Surveyors (NIQS) at a general meeting on 25th April, 1969. The aim of the NIQS was to develop an effective means for publicity of its activities in order to catch up with institutes set before her. It then formulated the following objectives.

a) Establishing an effective secretariat;

b) The drawing up of a scale of fees rather than relying on the Royal Institute of Chartered Surveyors (London Scale of Fees)

c) Election of honorary members.

d) Metrication and dimensional co-ordinations

e) Educational development

f) Commonwealth Association of Surveying and Landed Economy (CASLE) conferences.

g) Scree committee.

h) Formulation of a Nigerian Standard method of measurement. However, so much emphasis was laid on obtaining a charter which was subsequently granted in 1986,

Function of the NIQS: The functions of the NIQS amongst others include:

a) To create greater public awareness of the services of a Quantity Surveyor.

b) To ensure adequate valuations for contracts.

c) Preparation of financial statements and settlement of claims.

The Quantity Surveyors Registration Board in Nigeria (QRBN)

The establishment of the Quantity Surveyors Registration Board in Nigeria was sequel to pressures from the NIQS demanding official recognition from government. This was made manifest in 1986 with the promulgation of Decree No. 32. The Board is charged with the general duty of (section 1):-

a) Determining who are quantity surveyors for the purpose of the decree.

b) Determining what standards of knowledge and skills are to be attained by persons seeking to become registered as quantity surveyors and raising those standards from time to time as circumstances may permit.

c) Securing in accordance with the provision of the decree the *establishment and maintenance of a register of persons entitled to* practice as quantity surveyors and the publication from time to time of list of those persons.

d) Regulating and controlling the practice of the quantity surveying profession in all aspects and ramifications.

e) Performing such other functions that may be conferred on the Board by the decree.

Observation: All these professions (architecture, building engineering and quantity surveying) have some uniqueness of functions within the construction industry as supported by their respective training. It is however worthy to note that while laws regulating the building, engineering and quantity surveying professions are only mindful to things that concerns them, the Architects, (Registration, etc.) (Amendment) Decree NO. 43 of 1990 seems to complicate issues in some areas. Specifically, section 2 of the amendment decree which states that .....

> *"A person shall not prepare, or take full responsibility for the erection or commissioning of architectural building plans or practice or carry on business (other than having relevance to ship construction or to landscape or golf-links) under any name, style, or title containing the word architect unless he is a Nigerian citizen registered under this Decree.":*

raises a lot of ambiguity. Moreso, section 13 of the amendment decree re-defined architecture (contrary to what obtains in section 17 (1) of the principal act) as:

> *"The art and science in theory and practice of design, construction, commissioning, maintenance and management and co-ordination of allied professional inputs thereto, of buildings, or parts thereof and the layout and master plan of such building or groups of buildings forming a comprehensive institution, establishment or neighbourhood as well as any other organised space, enclosed or opened required for human and other activities."*

The question that may develop as the result of the above amendments is that: Is the architect educationally trained as a specialist in design as well as in construction management? The answer is of course not : These two unnecessary amendments only shows the way back to antiquity rather than advancement in development.

3.3.0 The Role of National Universities Commission (NUC)

Although all Nigerian Universities, are at liberty to operate their courses according to their choice, they must however ensure that such courses meet the approved minimum academic standards in all disciplines set by the National Universities Commission (NUC). This is in pursuance of section 10 of decree No. 16 of 1985 as incorporated in the NUC amendment decree NO.49 of 1988 which states:

> *"to lay down minimum standards for all universities in the Federation and to accredit their degrees and other academic awards after obtaining prior approval through the Minister from the President, Commander-in-Chief of the Armed Forces; provided that the accreditation of degrees and other academic awards shall be in accordance with such guidelines as may be laid down and approved by the Commission from time to time."*

The essence of the NUC's control of degree programme is to maintain a common standard of graduates resulting from all Nigerian Universities that eventually removes the adverse variations of qualification.

In an effort to make each of the professions unique, the NUC had made clear distinctions concerning general philosophy of education, aims and objectives, and expectations of roles of the various professionals. The proceeding sections are extracts from the 1989 publication of the NUC, "for minimum academic standards for the Environmental Science in Nigerian Universities".

3.3.1 Architectural Education

General Philosophy of Its Education: The general philosophy of architectural education is given thus:

a) The range of exposure and the scope of the programmes in a school of architecture should produce competent skilled and versatile individual capable of facing a broad spectrum of challenges of environmental design in Nigeria.

b) Every school aim at exploiting the rich cultural and traditional architectural resources in general and within its immediate environment in particular.

c) Architectural schools, should be engaged in understanding the environmental design problems of its immediate community and should make effort towards evolving solutions to those problems.

d) There should be a flexibility in the development of courses to allow for the changing needs of architectural education arising from changing social, economic, psychological and technological environment.

Aims And Objectives: The aim and objectives of an architectural education are as follows:

a) High quality education for producing professional designers capable of understanding and solving complex environmental design problems..

b) Development of student's ability in the area of environmental design as well as related area of knowledge to take care of the country's environmental problems.

c) The infusion to the student, an understanding of the context of design in physical, cultural, social, economic and technical terms.

Expectations and Roles After undergoing a rigorous architectural educational programme designed by the NUC, the expectations and rules of architecture graduates are as follows:

a) Ability to analyse design problems, synthesize the various elements and provide appropriate solution.

b) The ability to understand the need of clients and users of the built environment and to cater for it.

c) The ability to produce appropriate and imaginative solutions that are technologically sound, economically feasible, environmentally acceptable and aesthetically relevant.

d) The ability to grasp the practical implication, legal implication and impact on users and the public at large

e) The ability to communicate his proposals in the appropriate medium to the client, the public and members of the building profession.

3.3.2 Building Education

General Philosophy Of Its Education: The philosophy underlying building education is to develop and advance the science and practice of building technology and construction management. It is necessary to emphasise that whereas building technology involves building assembly/construction techniques, construction management involved planning and control of building process in the area of site management, contract management, financial management, building production and maintenance.

Aim and Objectives: The aim and objectives of the building education are given thus:

a) Training competent graduates in building construction process and its management.

b) Provide general knowledge and specialized skills to enable the professional builder plan, coordinate and control the technological, economic, human and material resources involved in the building process.

c) To interact with other professionals in the construction industry.

d) Groomed in the art, science, techniques and culture of building maintenance.

Expectations And Roles: The expectation and roles of a builder having gone through the designed courses by the NUC include:

a) To carry project management consultancy including financial planning as a direct service to the client.

b) To handle building maintenance management of contracts and direct labour projects.

c) To handle building maintenance management including conversions, improvements, alterations, etc of existing building.

d) To perform preparation of estimates and budgets for building works.

e) To carry out consultancy in structural design of building structures.

3.3.3 Engineering Education

General Philosophy of Its Education: The general philosophy of engineering and technology is to produce graduates with high academic standard with adequate practical background and of immediate value to the industry and the nation in general.

Aims And Objectives: The general aim and objectives of engineering and technology training should be in consonance with the realisation of national needs and aspirations vis-a-vis industrial development and technological emancipation. The minimum standards set are to meet these needs and to produce graduates in engineering and technology with sufficient academic background coupled with sufficient practical experience and who are able to rise to the challenges of a developing economy.

Expectation And Roles: The expectations and roles of graduates in engineering according to NUC are:

a) To design engineering projects and supervise their construction.

b) To design and make components, machines equipments and systems.

c) To install and maintain complex engineering systems so that they can perform optimally in our environment.

d) To design and develop new products and production techniques in industries.

e) To adapt and adopt exogenous technology in order to solve local engineering problems.

Similarly, graduates in technology are expected:-

a) To be conversant with all materials, components, machines, equipment, production techniques and systems in an area of specialisation.

b) To man and maintain the specific production equipment in an area of specialisation.

c) To plan, manage and be responsible for quality control of the products and processes in the plants or factory.

d) To adapt and adopt exogenous technology in order to solve local technical problems.

3.3.4 Quantity Surveying Education

General Philosophy of Its Education: The general philosophy of the quantity surveying education is concerned with financial probity in the conceptualisation, planning and execution of development projects.

Aim And Objectives: The aim and objectives of the quantity surveying education include:

a) Equipping the students with both theoretical base and practical skills to think analytically within a multidisciplinary field of study.

b) Provision of necessary tools to collect data, analyse and present cost information on construction works to the rest of the professionals.

Expectations And Roles: On graduation, what are expected of the quantity surveyor includes:

a) Provision of preliminary cost advice

b) Cost planning and control of development projects.

c) Contract administration and documentation

d) To practice project management.

3.4.0 Scale of Fees For The Nigerian Professional

The professional in Nigeria may not be able to give his best unless adequately motivated. It is an agreed school of thought that, the best contribution comes from a well remunerated individual or groups.

The Federal Republic of Nigeria has approved a revised scale of consultancy fees payable by the public sector to consultants whose services are needed in the fields of architecture, building, engineering, quantity surveying, etc. The first and indigenous scale of professional fees was drafted and effected in 1975. However, due to demands for better remunerations and because of the entry of other new professions, such as building, a new scale of professional fees became necessary hence the 1992 revised scale.

Major Difference: The first thing to observe is the scope. The 1975 document is a" consultancy services agreement" which incorporates conditions of engagement, details of services expected from the consultancy and the approved scale of fees. The 1975 document vindicate the shallowness of its contents, particularly relating to the duties of the various consultants and the applicable remunerations for same. This, according to Dikko (1993) often lead to acrimonious disputes between clients and their consultants and sometimes between fellow consultants".

In contrast, the 1992 document is labelled as "professional" scale of fees for consultants in the construction industry" which is basically an index of services offered by each profession as recognised by the government and basis for remunerating such services. No attempt was made to incorporate conditions of engagement into the document which imply that the document cannot be signed as a legal instrument between the client and his consultants, Dikko (1993)..

Another important difference is paradoxically embodied in their covering notes. The 1992 document is clearly labelled as "consultancy fees payable by the public

sector". The 1975 document is also drawn up for the public sector, but it included one important qualification that spotted the difference viz: "For the meantime, this document shall also apply to the private sector".

This lack of similar qualification in the new scale of fees may lead to private sector organizations refusing to remunerate consultants based on the grounds that they do not belong to the public sector. Dikko (1993) asserted that this could be a real threat, particularly if one considers that the aggregate fees payable to all consultants in the new scale are significantly higher.

It would be also noted that the building profession has been newly enlisted in the new document. This according to Kontagora (1992) is in the recognition and the contributions of the profession in the building construction process in the country (Nigeria).

The document listed areas of services (both) primary and secondary) and its remunerations. The remunerations of the consultants was determined on the revised sliding scales of fees, depending on the nature and estimated cost of the work and the degree of difficulty. Furthermore, the sliding scale of fees, had been adopted because of the attraction of its ease of operation and its general world-wide application.

3.4.1 Remunerations of Nigerian Professionals

As contained in the 1992 Scale of Fees

In the 1992 revised scale of professional fees, the Nigerian Professional is remunerated according to basic, extra and additional services, as the case may be. The remunerations for the professional architect, builder, engineer and the quantity surveyor

are given in Appendix B. According to the document (scale of fees), the respective professionals are now "adequately compensated". However, the NIQS Secretariat (1993), noted that the approved scale of fees is low as compared with to its services rendered.

Disparity in the Remunerations: There are glaring disparity on the fees payable as a percentage of cost of project for the professional architect, builder, engineer and the quantity surveyor (table 3.1). For instance, the compensation of the professional architect and the civil engineer ranges between a rate of 1.0 to 4.75% of the cost of project; while that of the professional quantity surveyor, is between a rate of 0.80 to 2.75% of the cost of project; and the professional builder between a rate of 0.3 to 1.0% of the cost of project.

Table 3.1 FEES PAYABLE AS A PERCENTAGE OF COST OF PROJECTS

COST OF PROJECT (₦)	FEES (%) FOR				
	ARCHITECT	BUILDER	ENGINEER		QUANTITY SURVEYOR
			CIVIL	OTHERS	
UP TO 5M	4.75	1.00	4.75	1.95	2.75
5M - 15M	4.25	0.90	4.25	1.75	2.50
15M - 30M	4.00	0.80	4.00	1.55	2.30
30M - 75M	3.50	0.70	3.50	1.35	2.00
75M - 150M	3.00	0.60	3.00	1.15	1.75
150M - 300M	2.50	0.50	2.50	1.00	1.40
300M - 500M	2.00	0.40	2.00	0.85	1.00
ABOVE 500M	1.00	0.30	1.00	0.65	0.80

SOURCE: Culled from the 1992 Edition of Professional Scale of Fees for the Nigerian Professional Payable by the Public Sector.

It is not therefore obvious whether the remunerations were worked upon according to professional importance of the profession. In table 3.2. however, the builder's man-month rate is slightly greater than that of other professions.

Finally, table 3.3 shows that the builder does not have a draughtsman as a supporting staff, while the quantity surveyor has. That of course, raises the question that who amongst them do really needs a draughtsman.

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Table 3.2 MAN-MONTH RATES FOR PROFESSIONAL STAFF

CATEGORY	MINIMUM YEARS OF POST-GRADUATE EXPERIENCE (YEARS)	MAN - MONTH RATE (₦) FOR			
		ARCHITECT	BUILDER	ENGINEER	QUANTITY SURVEYOR
Chief Resident	15	24,000 - 28,000	28,000 - 31,000	24,000 - 28,000	24,000 - 28,000
Principal Resident	12	21,000 - 24,000	24,000 - 28,000	21,000 - 24,000	21,000 - 24,000
Senior Resident	8	14,000 - 21,000	17,000 - 21,000	14,000 - 21,000	14,000 - 21,000
Resident	4	9,000 - 14,000	14,000 - 17,000	9,000 - 14,000	9,000 - 14,000
Assistant Resident	Under 4	8,000 - 10,000	10,000 - 14,000	8,000 - 10,000	8,000 - 10,000

SOURCE: Culled from the 1992 Edition of Professional Scale of Fees for the Nigerian Professionals Payable by the Public Sector.

Table 3.3 **MAN - MONTH RATES FOR SUPPORTING TECHNICAL STAFF**

CATEGORY	ARCHITECT	BUILDER	ENGINEER	QUANTITY SURVEYOR
Senior Technical Officer	14,000 - 17,000	16,000 - 21,000	14,000 - 17,000	14,000 - 17,000
Technical Officer	7,000 - 10,000	10,000 - 14,000	7,000 - 10,000	7,000 - 10,000
Assistant Technical Officer	5,000 - 7,000	7,000 - 10,000	5,000 - 7,000	5,000 - 7,000
Draughtsman	3,000 - 5,000	-	3,000 - 5,000	3,000 - 5,000

SOURCE: Culled from the 1992 Edition of Professional Scale of Fees for the Nigerian Professionals Payable by the Public Sector

3.5.0 Code of Ethics for the Professional in the Nigerian Construction Industry

As earlier defined, professionalism is the highest standard of values set forth, but not necessarily followed by the society; it transcends the mere statement of ethics by applying it to life. Morality goes beyond mere self-interest by requiring that the rights and interest to the public are taken into account while performing ;duties to the deserving.

A professional is expected to uphold the laws as well as the norms and values of the society from where the code of ethics is derived. The professional ethics can be conceptually defined as the interaction of the values, norms, science and laws existing within a given discipline.

Generally, professionalism requires discipline. The violation of an ethical code can damage one's career, cause public disgrace and ultimately bring dishonour and harm to others. It is therefore a necessity that ethical code must become a habit, without which the discipline concerned would be rendered disfunctional and untrustworthy. Ethical conduct is not a philosophy but a practice (Porter, 1993 and Kultugen, 1983).

A registered professional may be engaged in research, production, supervision of construction, management of engineering concerned or as a designer; or may be a consultant for advice, inspection, certification or adjustication, or be engaged in any combination of all. In discharging these responsibilities, the professional shall uphold and enhance the honour and dignity of the profession and at all times act in strict judicial manner as a faithful agent or trustee of his client or as official arbiter between a contractor and a client. Actions by the professional shall be with full regard to the code

of practice of the professional society association or Institution to which practice is made and in accordance with the established rules in the code of conduct. A registered professional when trusted with the finances of his client or employer must let his honesty of purpose be above ;suspicion. While acting as a professional adviser, the advice must be absolutely "disinterested". When charged with a judicial function between owner and contractor, he must act with entire impartiality and above all must at all times be conscious of the subordinates, and he must be fully aware that the profession goes with its great responsibility to the general public.

It is therefore in light of the above that the Nigerian professional needed to posses a code of ethical conduct all times.

3.5.1 Rules of Ethical Conduct

It is important to note that all the professions under review have rules for ethical conduct for their members. Because of the synonymity of the various codes for the various professions (architecture, building, engineering and quantity surveying), the researcher found it easy to harmonize the documents and sectionalize as follows:

Section 1:

Professional Responsibility to the Profession:

The following are chains of responsibilities of the Nigerian registered professional to the profession in the construction industry:

(a) A registered professional shall not knowingly take part in a competition involving the submission of proposals and design for job unless an assessor who shall be a "professional" of knowledged standing has been appointed to whom all proposals and designs are to be submitted for adjudication.

(b) A registered professional should satisfy himself to the best of his ability that the enterprises with which he becomes identified are to legitimate character. If after becoming associated with an enterprise in good faith, he finds it to be of questionable character, he should sever his connection with it immediately.

© A registered professional shall not engage in the practice of making preliminary studies and estimates of costs for proposed projects or render other professional service or advice without adequate compensation.

(d) A registered professional shall not advertise his services in any language or manner which may be derogatory to the dignity of the profession.

(e) A registered professional shall not, either himself or through any person or firm, offer to make payment by way of commission or otherwise, for the introduction of employments.

(f) It shall be the duty of the registered professional to bring to the attention of the code of conduct and to adhere strictly to its provisions.

Section 2:

Relationship of the Professional Among Other Professionals:

In the Nigerian construction industry, the following rules and conducts serve the relationship of the registered professional among other professionals:

(a) A registered professional shall not act so as to injure or attempt to injure, whether directly or indirectly, the professional reputation, prospects or business of another registered professional, provided that the rule shall not be taken as prohibiting him from expressing technical opinion on behalf of his client before a tribunal or in a commissioned report, or from lodging a complaint of the conduct of another registered professional to the competent body;

(b) A registered professional shall not directly or indirectly, attempt to supplant another registered colleague, nor shall he intervene or attempt to intervene in or in connection with the work of any kind which to his knowledge has already been entrusted to another;

© He shall not review or take over any work or another acting as a consulting professional for the same client, until he has obtained the consent of that registered professional or has been notified by the client in writing that the connection of that professional to the work has been terminated, and in either case, his reports and advice shall be confined to the particular matters upon which he has been consulted;

(d) He shall not accept engagement while the just claim for compensation or damages, of both another professional previously employed on the same project

and whose employment has been terminated, remains unsatisfied or until such claim had been referred to arbitration, or issue has been joined at law /unless the professional previously employed has neglected to press his claim legally after a reasonable time;

(e) It is improper for a registered professional to attempt to secure engagement by reducing usual charges for professional service after being informed of the charges named by a competitor;

(f) It shall be considered unprofessional and inconsistent with honourable and dignified conduct and contrary to the public interest for any registered professional to use the advantages of a salaried position to compete unfairly with others,

(g) It is the duty of the registered professional to ensure that credit for the work and ideas, are attributed only to the real "authors".

Section 3:

Relationship Between a Professional and Client

The following rules and conduct helps to keep a good and workable relation between a registered professional and his client or employer;

(a) He shall not be a director or salaried employer of any company, firm or person carrying on any commercial, contracting or manufacturing business which is, or may be involved in the class of work to which his appointment relates, nor have any substantial financial interest in, nor be an agent for any such company, firm or person without disclosing the fact to his client in writing;

(b) A registered professional shall not place orders in his own behalf in respect of a project on which he is engaged but shall only do so explicitly on behalf of his client;

© A registered professional shall not be the medium of payments made on behalf of his client :unless specially requested in writing by his client, but shall only issue certificates for payments;

(d) Unless authorised by the owner, a registered professional shall not receive directly or indirectly any royalty, gratuity, or commission on any patented or protected article or process used in connection with work :upon which he is retained by the owner, nor shall he accept without the owner's consent any trade commissions, discounts, allowances, indirect profits or other secondary considerations in connection with any professional service which he undertakes for the owner;

(e) A registered professional shall discharge his duties to his employer with complete fidelity and shall accept remuneration only from his client unless he has his client's authority in writing to do otherwise;

(f) He shall make available his professional knowledge and experience at all times and in accordance with the code, as a consultant or adviser, or salaried employer, or teacher in the profession, as well as faithful agent and trustee of his client/employer, or other people connected with the work.

Section 4:

Responsibility of the Professional as an Employer:

The responsibilities of a registered professional as an employer are enumerated below:

(a) As an employer, he must ensure that no person in his employment other than a registered professional holds a post, discharges nor purports or discharge any function that is properly that of a registered professional;

(b) A registered professional employing the services of any person working or training to become registered, shall ensure that such a person is given every opportunity to satisfy the conditions to enable him earn satisfactory certificate of experience and shall not improperly withhold the issue of such a certificate when required to do so.

Section 5:

Obligation of the Professional to the Public:

The responsibilities of a registered professional to the general public are:

(a) A registered professional in discharging his duties to his employer and to the profession shall have full regard to the public interest;

(b) A registered professional shall maintain dignified interest in the welfare of the community and shall endeavour to assist the public to arrive at correct general understanding of the technical phases of issues of public interest. He shall

discourage and challenge untrue, unfair and exaggerated statements on technical subjects, especially when such statements lead to unworthy or uneconomic public enterprises;

(c) A registered professional shall accept personally his responsibility as a citizen, assume his share of gratuitous public work for the general goods; support public officials in the enforcement of technical regulations; and take an active interest in the formation and improvement of such regulations;

(d) Public appreciation of the profession will be increased by the advancement of the technical sciences. A registered professional shall therefore promote such advancement in his own efforts and by his encouragement of sound technical training and research;

(e) In addition to the safeguards of property required, a registered professional shall recognise his broader obligation to provide amply for the safety, health and comfort of the public in whatever field his services may be required;

(f) A registered professional, when working in a country other than his own shall order his conduct according to the rules, so far as they are applicable; but where there are recognised standards of professional conduct, he shall adhere to them;

(g) A registered professional shall be convicted by a competent tribunal of a criminal offence which in the opinion of the disciplinary body renders him unfit to be a member of his professional society, been guilty of improper conduct.

Section 6:

Responsibility of the Professional on Contracts:

The responsibilities of the registered professional regarding contracts are:

(a) A registered professional shall see that every provision which he considers necessary to protect the interest of owner, contractor, or public is incorporated in the contract;

(b) A registered professional ensure that fairness and honour shall govern the use of every bid over which he is to adjudicate. The contract shall be awarded on the basis of the original bids except when substantial change is made in the work, or when further bidding on alternative items is requested. Any reduction of a bid disproportionate to such change constitutes unfair competition;

© A registered professional shall ensure that a bid received from a contractor, whether in open competition or privately, should not be used to secure lower prices from competition; nor shall competitive bids be rejected for the purpose of using the information derived from them as a means of securing lower bids from others. After the acceptance of a bid, any alteration which would have materially changed the bidding or award shall be avoided;

(d) A registered professional shall not call for unnecessary or full estimates from prospective bidders or tentative projects and if he calls upon a contractor for preliminary estimates or appraisals, the registered professional shall see that contractor is paid for the service.

Indeed the thorough study and practice of the above code of ethical conduct by

the Nigerian professional will, to a greater extent create awareness on the practice of the profession.

The underlying philosophy of the questionnaire was the simplicity of format, devoid of ambiguity, taking cognisance of the varied educational background of the prospective respondents and coverage of relevant issues.

The format primarily involved much answers that just need to be ticked and less others, in order to facilitate the ease of response by the professionals.

The questionnaire was pre-tested and responses of those who participated led to an improvement in its standard in terms of clarity and meaningful responces.

The questionnaire was introduced explaining the objectives of the research, and with assurance to the respondents that all information supplied will be treated confidentially. Indeed, that enabled the respondents supply information with expeditious regard.

The questionnaire was categorized into the following sections:

I. Information about the respondent (enquiry Nos. 1, 2 & 3).

II. Information about the subject matter (enquiry Nos. 4 - 15).

III. Any other additional comments in relation to the subject matter (enquiry No. 16).

4.4 Population Target of Respondents

The questionnaire was prepared and targeted to persons of repute with reasonable working experience in the fields of Architecture, Building, Engineering and Quantity Surveying, serving in the public and private sectors, as well as in the academics.

The resource with first degree or its equivalent (HND) was assumed to be the minimum qualified respondent. This was aimed to vindicate that the respondent has received a reasonable educational qualification. Furthermore, the questionnaire was intended for professionals who had a reasonable encounter with the problems of the construction industry. Thus, a target of those with three years working experience was considered for a well intentioned and reliable response.

4.5 Distribution and Response

A total number of 100 questionnaires were distributed to the set target at Abuja, Bauchi, Kaduna and Plateau among the different sectors and the academics. A summary of the distribution is hereby represented in table 4.1 below.

Table 4.1 **DISTRIBUTION OF QUESTIONNAIRES**

SECTOR COVERAGE	PUBLIC	PRIVATE	ACADEMIC	TOTAL
Abuja	10	5	-	15
Bauchi	17	3	10	30
Kaduna	10	5	10	25
Plateau	13	9	8	30
TOTAL	**50**	**22**	**28**	**100**

Most questionnaires were self-administered because of the general view of high degree of apathy when same is by post. It also made the receipt of the responses faster than anticipated, and created better contact and familiarity with the respondents in case of future call-back or research contact. As a result of the method of the self-administering adopted, a total of 90 responses, representing 90% of the total distributed questionnaires were received. Also see summary of responses in table 4.2 in the proceeding page:

Table 4.2 RESPONSES TO QUESTIONNAIRE

SECTOR COVERAGE	PUBLIC	PRIVATE	ACADEMIC	TOTAL
Abuja	7	5	-	12
Bauchi	17	3	8	28
Kaduna	10	5	10	25
Plateau	12	7	6	25
TOTAL	**46**	**20**	**24**	**90**

Of the 90 responses, 23 were rejected based on the following:

i) Questionnaires completed by those not targeted;

ii) Questionnaires completed by those with lower qualifications other than HND/degree and above;

iii) Questionnaires completed by those without reasonable years of working experience (less than three (3) years).

Out of the 23, seven, ten, four and two were rejected from architecture, building, engineering and quantity surveying. The rejections were all recorded from the public Sector. Hence the final figure for analysis was consolidated at 67; with 23 (35%) from the Public Sector, 20 (30%) from the private sector and 24 (35%) from the academic circle. These, of course provided a close ranking among the sectors for a well-intentioned, reliable and an objective result-oriented analysis. These close ranking of the responses from the different sectors is enough to convince the reader

that the research had a reasonable coverage of the sectors represented. Chendo (1990) asserted that "every professional whether in practice (public or private) or in academics, operating in his specialised field of training, is engaged in professional practice". This means that every professional need to practice professionalism.

4.6 Presentation And Analysis Of Responses

The total number of questionnaires carefully and systematically selected for the analysis in this section was 67, representing 74% of the responses received. For ease of comparison and deductions, the data presentation was expressed in percentages expect where otherwise stated.

4.6.1 General Information On Respondents

Generally, the 74% responses received were accorded from the limited disciplines of architecture (20%), building (37%), engineering (22%) and quantity surveying (21%).

The respondents' years of working experience was an important factor because any meaningful encounter of problems in the construction industry is dependent on the years of working experience. The responses considered for analysis include respondents whose working experience ranged between three (3) and twelve (12) years; which is a dependable period for any meaningful and reliable information.

The respondents' qualification was one of basic information needed for preamble of this research. As indicated earlier, the targeted qualification was the minimum of

HND/degree. Table 4.3 below Summarizes the respondents" level of educational qualification.

Table 4.3 **LEVEL OF QUALIFICATION OF RESPONDENT**

NO. OF RESPONDENT	PERCENTAGE (%)	QUALIFICATION
39	60	BSC/HND
25	36	MSC
3	4	PHD

The validity of the research depended on the calibre of respondents received. Table 4.3 vindicate, the confidence reposed on the respondents.

4.6.2 The Professions

The assessment of the professions' achievements leadership style and public understanding of the activity of the profession was imperative. Because the respondents were all drawn from the industry, certain fears was exercised on the responses as regards these enquiry. It was expected that the result could be biased. The subsequent sub-headings reveals the outcome of the respondents.

Assessment on Level of Achievement:

The respondents' opinion on the level of achievement of the professions in the Nigerian construction industry, was rated generally satisfactorily. Over 90% was rated good and above. This implies that the respondents in their own self-assessment indicated that the professionals have performed well. The summary of the responses

is represented in table 4.4 below.

Table 4.4 ASSESSMENT OF ACHIEVEMENT

GRADE OF ASSESSMENT	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Excellent	6	8
Very Good	34	54
Good	21	30
Fair	4	6
Below Expectation	2	2

The low percentage of 8% indicating a low rating may vindicate the fact that the respondents were Only acting to cover the trends in the Nigerian construction industry. On the other hand, the 8% excellent rating could also represent an objective judgement.

Assessment of Leadership.

For any profession to perform effectively, its leadership must be sound, honest and accepted to the public over the years. The judgement of the respondents in this regard is summarized in table 4.5.

Table 4.5 ASSESSMENT OF LEADERSHIP OF THE PROFESSIONS

GRADE OF ASSESSMENT	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Excellent	3	5
Very Good	21	33
Good	27	38
Fair	11	18
Below Expectation	5	6

The judgement shown in table 4.5 indicated a diverse and inconclusive result on the various grade because non of the grading was scored up to 50%. However, the sum of the rating, good and above is encouraging (76%). Although the remaining 24% forms the unpopular opinion it may have a negative impact over the years if serious care is not instituted. This is because, it is objective enough for the professionals to be disconcerted with the leadership of their own profession to a rate of 24%. It therefore indicates that the leadership already has a 'virus' in its style, hence needs to be x-rayed and removed before it is too late.

Assessment of Public Understanding:

Since professionals are responsive to the public, their activities need to be comprehended by the general public. It is also important so that the client should have a sense of direction whenever the services of a certain professional is required. The responses as regards this enquiry is summarized in table 4.6.

Table 4.6 ASSESSMENT OF PUBLIC UNDERSTANDING

PUBLIC UNDERSTANDING	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Very Well Understood	2	3
Well Understood	21	35
Fairly Understood	39	56
Not Understood	5	6

From the foregoing table, it can be clearly seen that the general activity of the professions that make up the building construction in Nigeria are not relatively exposed to the public (62%). However, at the time of conducting the research, only the activities of the newer professions like the building and quantity surveying tend not to be well-comprehended, while the activities of the older ones (architecture and engineering) seemed to be fairly understood. Also social factors and government policies may have direct bearing on this result. On the average, the low knowledge of the activities of the professions in the Nigerian construction industry shows a setback in professionalism.

4.6.3 Relationship Of The Professions

As Communication in a team is one of the index of professionalism, the relationship of the professions that make up the construction industry becomes an important organ to examine. Since the professions works under the same environment, a good working relationships must be inculcated in order to achieve the

obligations set forth. The result of the respondents on the inter-relationships of the professions is shown in table 4.7

Table 4.7 **INTER-RELATIONSHIP OF THE PROFESSIONS**

RELATIONSHIP	NO OF RESPONDENT	PERCENTAGE (%)
Cordial	50	80
Fairly Cordial	2	2
Nor Cordial	15	18

The result shown in table 4.7 indicate that the relationship of the professions in the Nigerian construction industry is generally cordial to a reasonable extent (80%). That means the cordial relationship creates a positive environment for the practice of professionalism in the Nigerian construction Industry.

4.6.4 Growth Of The Profession

The Professions have to record a satisfactory level of growth over the years in order to be acceptable by the society, in the course of discharging their duties. The level of registration of members, level of Professional and informal Training, Project Management and the remuneration are indices necessary to be considered.

Level Of Registration: Professional registration is one of the most important index of Professionalism. As stated clearly in the literature, registration in a compulsory act, and not a voluntary act for any practising Professional. This Statement was supported by Chendo (1990), in which he asserted that "every

professional whether in practice (public or private) or in academics, operating in his specialised field of training, is engaged in professional practice". The outcome of the survey to determine the level of registration of respondents is tabulated in table 4.8.

Table 4.8 LEVEL OF PROFESSIONAL REGISTRATION OF RESPONDENTS

CATEGORY OF REGISTRATION	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Corporate	22	33
Graduate	23	34
Not at all	22	33

From table 4.8 only 33% of the respondents are registrable having attained the corporate membership of their professional body. The same 33% have not even started any process of professional registration. Although 34% shows a graduate membership, which is only one of the steps to corporate registration, it is a discouraging result because all the respondents considered have between three (3) to twelve (12) years of working experience. Hence, if a professional could not make a headway for corporate membership after three (3) years of post-graduate experience, is a negative development. As a result of this trend, only 33% are registered while 67% of the respondents are not registered.

Continuous Professional Development (CPD): The Continuous Study or Training of professionals from time to time is important so as to keep pace with the changing technological ideas. This can be enhanced through conferences, seminars,

workshops, Video tapes and public lectures among others. The level of participation of the respondent through Conferences, Seminars, Workshops etc. is represented in table 4.9

Table 4.9 **LEVEL OF PARTICIPATION IN CONFERENCES, SEMINARS, WORKSHOPS. ETC**

LEVEL OF PARTICIPATION	NO OF RESPONDENTS	PERCENTAGE (%)
Very Often	5	7
Often	20	28
Seldom	35	55
Not at all	7	10

The result of table 4.9 show a low level of participation in workshops, seminars, conferences etc on continuous professional Development (65%). It is also encouraging to record 35% of the respondents regularly sponsored for Continuous Professional Development (CPD).

Several factors could be responsible for this record. The employers may be holding sponsoring professionals to attend such training. On the other hand, the professionals may be not interested in applying for, and attending the training. In some exceptional cases, participants will be nominated to attend workshops, seminars, etc.; but they would not attend and rather spend the money and make whopping false returns. On the overall, the aftermath is a negative trend on

professionalism. Professionals need to be trained and retrained in order to skip the "forgetting syndrome".

Project Management:

Project Management style and construction technique is very vital in the determination of result-oriented process of construction. In Nigeria, project management method competes favourably with the traditional method (widely considered to be out-dated). For a satisfactory growth of the construction industry, modern method of management must be applied. Table 4.10 shows the respondents' favour for project management application.

Table 4.10 PROJECT MANAGEMENT APPLICATION

APPLICATION OF PROJECT MANAGEMENT	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Strongly Agree	43	60
Partially Agree	18	29
Disagree	6	11

From table 4.10, it could be seen that slightly above average (60%) favour the application of project management as the method of securing and executing projects in the Nigerian construction industry. On the other hand 40% are not sure of project management or prefer the conventional traditional form of management. It could not be out of place to imply that those still concerned with the traditional method are not keeping touch with the rapid technological changes in the construction industry over the globe.

Remuneration:

For any practising professional is expected to be well remunerated so as to be responsive to the demands of the profession owed the society. Lack of adequate remuneration leads professionals in committing atrocities (in terms of corruption) to the ethics of the profession. Table 4.11 shows the outcome of the respondents' opinion - with the remuneration contained in the 1992 revised scale of professional fees.

Table 4.11 LEVEL OF SATISFACTION WITH REMUNERATION

CONTENTED WITH REMUNERATION	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Yes	38	57
No	29	43

The above table show a small margin of percentage of contention, indicating that some may be satisfied while others may not be satisfied with the current remuneration as contained in the 1992 revised professional fees.

4.6.5 Educational Training

No doubt, the basis for any professional qualification is the formal educational training which are obtained in the institutions of higher learning. In the past decades, there existed different curricular for different Universities, but presently the National Universities Commission (NUC) has already taken over the standardisation and harmonisation of academic curricular in all schools. Hence

before any programme of course is comfortably run by any institution, it must be accredited and tailored by the NUC.

Establishment of NUC:

The NUC was conceived by the Federal Government to work alongside the professional body so as to determine which courses or programmes earns credit for accreditation. Others see the establishment of NUC as a welcome idea while some still sees it as unnecessary. However, the respondents' views are summarized in table 4.12.

Table 4.12 VIEWS OF THE PROFESSIONALS ON N.U.C.

N.U.C.; A WELCOME IDEA?	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Yes	56	85
No	11	15

The majority of the respondents (85%) welcome the idea and objectives therein for establishing NUC. The remaining 15% were acting on ignorance, because they argued that the professionals are expected to standardize courses or programmes. They were however, unaware that the course requirements and contents were drawn by the various professionals from the various bodies.

Equipping of Schools:

In any learning/academic environment, there should be adequate provisions of materials or equipments needed for proper training. The result of the state of our institutions is shown in table 4.13.

Table 4.13 EQUIPPING OF SCHOOLS

STATE OF EQUIPMENT	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Well Equipped	1	2
Partially Equipped	57	86
Not Equipped	9	12

The above table shows that the Nigerian higher institutions, especially the engineering and environmental schools are partially equipped. This result exposes the fact that most graduates lack the technical training due to lack of equipments and other vital instruments. This revelation portrays a retrogression instead of growth in the academic activities of the higher institutions.

4.6.6 Discipline Within The Professions

Code of ethical conduct is another index of professionalism (Barrie, 1987). There is need for the professionals to possess their relevant codes of conduct, to serve as a guide in professional practice. It is only the knowledge and enforcement of code of ethical conduct that can instill discipline and control to the practice of professionalism - by the regulating bodies of the professions. Every professional is expected to discharge his duties in consonance with the code of conduct for ethical guide. The research revealed the degree of knowledge and familiarity of code of ethical conduct is shown in table 4.14.

Table 4.14 FAMILIARITY WITH CODE OF CONDUCT (C.O.C.)

FAMILIAR WITH YOUR C.O.C.?	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Yes	32	48
[illegible]	[illegible]	[illegible]

The above table revealed a very important problem in the quest for professionalism. 52% of the respondents indicated that they are not familiar and of course do not possess code of ethical conduct. This gives a gleam that professionals do not bother about their COC. On the other hand the professional bodies may be responsible for the problem because they have not been able to produce the COC en-masse and subsequently circulate them where due.

4.6.7 Job Performed by the Professions

Every profession has a unique function owed to the general public. It is therefore necessary that other members of the team should be aware of the work performed by each of the profession. The roles and functions of the professional is therefore important in the realm of professionalism. The summary of the roles and functions of the professions as suggested by the respondents are enumerated in the preceding sections.

Roles and Functions of the Architect:

The roles and functions of the architect as suggested by the respondents were

synchronised as follows:

i Conceptualisation of building designs;

ii Concerns flexibility, simplicity and aesthetics of buildings to satisfy the client;

iii Production of working drawings;

iv Coordinates and leads the design and construction team;

v Pays visits to site to issue instructions. Also arranges and chairs site meetings;

vi Project Managers.

Roles and Functions of the Builder:

The roles and functions of the builder as given by the respondents are:

i Translation of architects instructions into reality;

ii Performs structural designs and supervises the erection of same;

iii Often referred to as Site Manager and have excelled in construction techniques, cost control, construction and qualiuty management;

iv Corrects designs where necessary, a master of direct labour and maintenance activities;

v He leads the construction team.

Roles and Functions of the Engineer:

The respondents gave the following as the roles and functions of the engineer.

i Conceptualisation and realisation of ideas based on technical factors;

ii Engineering drawing: electrical, mechanical, hydro chemical, etc, and supervision of the installation of same;

iii Responsible for the determination and production of materials such as asbestos, cement, rods, etc.

Roles and Functions of the Quantity Surveyor:

The roles and functions of the quantity surveyor according to the respondents are:

i Specialists in accurate measurements;

ii Specialists in cost appraisals and cost advice;

iii Performs construction management and contract administration;

iv Often the construction manager;

If the above roles and functions be harmonized and each profession allowed to strictly perform its job function without interference, then the industry will surely move forward. On the other hand, the "misty" and "murkey" situation can best be cleared by revisiting the expectations of each of the professions as listed by NUC in Chapter Three (see section 3.3.0).

Duplication of Duties:

Duplication of duty is a negative consequence on professionalism. If duties be duplicated, the concept of "division of labour" is defeated, hence other professionals may be overworked thereby lowering or reducing the expected output. Table 4.15 shows the respondents' judgement.

Table 4.15 DUPLICATION OF DUTIES OR FUNCTION

PROFESSIONALS DUPLICATE FUNCTIONS?	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Yes	18	30
No	49	70

The table shows 70% of the respondents affirming that all the professions are a necessity in the construction industry. The decentralisation of functions to the various specialty professions is necessary nowadays, in order to cope with the rapid technological transformation. On the other hand, the 30% that indicated that some professions duplicate the functions of others were acting out of ignorance of the training of such professions. For instance, some respondents Indicated that the builder is duplicating the function of the structural engineer. This amounts to a Misnomer to make such an observation because the structural engineer is ideally a specialist at a post-graduate level whose background could be building or civil engineering.

Because the professionals in the construction Industry need to communicate in a special language, they have to understand each other's duty to some extent. In some cases, during the formal educational training some courses are found to be integrated; and that should not be seen to form the basis for duplication of duties. It is only for a knowledge.

4.6.8 Additional Suggestions/Contributions

There were additional contributions as provided in enquiry 18. Some have been discussed already, while some fresh ones such as the role of the client and the contractor were noted and explained in the following sub-sections:

The Client:

In Nigeria, government organs are predominantly the client to the construction industry. It had been considered that government have in its payroll, professionals who undertake works on her behalf. On the other hand, the government may engage the services of consultants, in the absence of such professionals in her employment. Furthermore, individual clients usually contact a professional while engaging in any construction project. It follows therefore, that the client is been taken care of, under the subject matter.

The Contractor:

In general terms, contractors in Nigeria have been found to be bourgeois who are mostly non-professionals in the instruction industry. That situation however, had been taken care of under the condition of registration of contractors by the corporate affairs. Contractors must employ professional architect, builder, quantity surveyor before being granted registration as a contractor for building projects. This also covers the contractor since the professionals in his payroll have been discussed.

To epitomise, from the word professionalism, it is obvious that the client and the contractor are well excluded because, more often, they are non-professionals. However, they are covered, since it is the professionals that carry out business for them directly

or indirectly.

4.7 Major Findings

The analysis of the responses presented in the preceding section (4.6), revealed quite a number of points considered to be affecting the practice of professionalism in Nigeria. These include:-

1. The activities of the professions are not understood by the general public (see table 4.6).
2. The level of registered professionals was not encouraging (table 4.8). The Nigerian professional has not taken professional registration a serious issue. That of course could erode the confidence the public has on the construction industry.
3. There was a low level of Continuous Professional Development (CPD) training (see table 4.9).
4. Schools of Engineering and Environmental Sciences were reported to be equipped only partially (see table 4.13).
5. It was also discovered that professionals in practice are not familiar with their code of ethical conduct (see table 4.14).
6. Although the respondents welcomed the objective of setting up NUC, (table 4.12), section 4.6.7 is a clear contravention. The respondents showed some duplication of functions as the case may be among the professionals.
7. The study revealed that the government document itself [(The Architecture) (Amendment) Decree No. 43, of 1990] had caused uneasiness within the

construction industry.

8. The respondents held that the practice of modern management technique (project management be applied in the Nigerian construction industry (see table 4.10).

9. Finally, the relationships of the various professionals in the construction industry were reported to be cordial (see table 4.7). This is a step forward in the right direction.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The research "assessment of some indices of professionalism in the Nigerian construction industry" has helped to determine to some extent the degree of knowledge about professionalism in the Nigerian construction industry. Although this study did not go into determining the level of practice, the, knowledge is imperative in any practice. Professionalism can only be severally defined in different context, hence no definite definition. However, an operational definition was adopted for this study. It can only be defined in relation to a profession. The profession is the pursuit of a learned art in spirit of public services. It is also the application of the highest standards of excellence in the educational fields and ethical conduct of its members. It is also the conscious recognition of the profession's obligation to society to advance its standards and to prescribe the conduct of its members.

Importantly professionalism entails team work by the professions involved in the construction industry. Amongst the team, there must be vivid communication tool in order to eradicate any gap.

The responses received from the respondents at the time of the research revealed the following:

1. The activities of the professions are not fully understood to a great extent by the general public.
2. The level of professional registration is not encouraging.
3. Low level of continuous Professional Development (CPD)
4. Institutions are partially equipped.
5. The knowledge of code of ethical conduct of the professions is not satisfactory.
6. The respondent, also reported indicated that some duplication of duties exists within the construction industry.
7. The Architecture (Amendment) Decree No.43 of 1990 was unnecessary.
8. The Practice of Professional construction Management be encouraged to other forms.
9. That the construction industry is enjoying peaceful and cordial relationship, thereby providing a sound atmosphere for any meaningful development.

Most of the aforesaid revelations summarily showed that there is low level of Knowledge of professionalism in the Nigerian construction industry.

5.2 Recommendation

Based on the major findings as contained in section 4.7 of this research, the following recommendations were drawn:

1. To bridge the gap between the professional bodies, and to eradicate contradictions within the industry and to the general public, the professional

bodies within the construction industry should create a forum in which a communique will be Jointly issued with a view to enlightening the general public on the activities and roles of each of the professions. For effective communication, the professional bodies should establish an information centre to store data. As advised by the ASCE, every professional is expected to publish a paper on a controversial site and a copy well documented to help detect problems on such familiar situations, where there are failures.

2. Every professional must strive to be registered with their respective professional bodies, since anybody undertaking professional practice MUST be a registered professional. It is also important to note that it has been established in the research that everybody performing or operating in a specialised field of training; public or private sector, or academic, is surely engaged in professional practice. The professional bodies should improve on the registration drive amongst their members at the corporate level.

3. The professional bodies should ensure that all members are in possession of their professional code of ;;ethical conduct. Furthermore, the professional bodies should ensure strict compliance of same. Because the country (Nigeria) is wide and complex, the researcher advocates for the decentralisation of activities of the professional bodies into zones to particularly curb unscrupulous activities of ;quacks which is Now a syndrome.

4. To correct and prevent the continuous fear of unhealthy atmosphere being

created on the regulations of the professionals who are qualified to practice, the supervising professional bodies must institute due legal process against those who are not legally recognized.

5. Because of the low level of CPD as reported, the researcher recommends a special course to be organized for special training of the professional in practice. Also, such special training be extended to individual clients and middle contractors. This shall give basic idea on the roles of members of the construction team.

6. The professional bodies to submit to the government different memoranda for the appreciable equipping of schools. On the other hand, the idea of Students' Industrial Working Experience Scheme (SIWES) be followed with vigour and interest, as it is considered a viable option in the contemporary times.

7. The training of prospective professionals should be adequate enough in conformity with the advise of the NUC on practical lessons. This shall eliminate the indication of clashes of interests or duties as it presently exists in the construction industry.

8. The Federal Government should keep vigilance on any memorandum presented to it by any professional body and request the contributions of other relevant professional bodies. This shall discourage the birth of some Decrees which could negate the contributions of others, such as the controversial Decree No. 43 of 1990.

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APPENDIX A

AHMADU BELLO UNIVERSITY, ZARIA

FACULTY OF ENVIRONMENTAL DESIGN
DEPARTMENT OF BUILDING

FIELD QUESTIONNAIRE

The construction industry in Nigeria is essentially operated by persons belonging to different professions which Architecture, Building, Engineering and Quantity Surveying. The research is being undertaken to establish the roles of these professions within the development. In this regard therefore, your assistance is solicited to answer the following questions by ticking appropriately or otherwise.

Be assured that all information provided will be treated confidentially, and used for the purpose of the research only.

Thank you in advance for your contribution.

1. Indicate which of the following professions you belong to:-
   i) Architecture
   ii) Building
   iii) Engineering
   iv) Quantity Surveying
2. (a) State your academic qualification .....
   .....
   (b) Year of graduation:.....
3. (a) Which of the following Sectors do you presently work with?
   i) Public Sector
   ii) Private Sector
   iii) Academic Institution
   (b) Give Address:.....

4. (a) Are you registered with your professional body?

Yes

No

(b) If YES indicate from below which of the category of membership:

i) Fellow iv) Associate

ii) Corporate v) Others

iii) Graduate

5. From below, how would you rate the understanding of the activities of your profession by the general public in Nigeria?

i) Very well understood

ii) Well Understood

iii) Fairly understood

iv) Not understood

6. What is the relationship of your profession with others within the construction industry.

i) Cordial

ii) Fairly cordial

iii) Not cordial

7. What do you consider to be unique of your profession when compared with others, as regards job performance?

.....

.....

8. (a) Do you share the opinion that some professions are mere duplication of others?

YES

NO

(b) If YES, please specify the professions that duplicate the function of the other.....

.....

9. Assess the relationship of your professional body and that of your registration body; e.g. NIA/ARCON, NIOB/CORBON, NSE/COREN and NIQS/QSRBN.

i) Cordial

ii) Fairly cordial

iii) Not Cordial

10. (a) Are you aware of the 1992 revised scale of Professional fees?

YES

NO

(b) If Yes, are you satisfied with the renumeration of your own profession?

YES

NO

11. Every profession is supposed to be guided by professional code of ethical conduct. Are you familiar and in possession of the code of conduct of your profession?

YES

NO

12. The following questions regards educational and professional training of the professions:-

(a) Do you welcome the role of National Universities Commission (NUC), specifically in laying the minimum academic curriculum standards for all courses in the Nigerian Universities?

YES

NO

(b) If no, give reason:.....

.....

.....

13. Which of the following represents your judgement on the equipping of Schools offering courses in Engineering and Environmental faculties?

    i) Well Equipped
    ii) Partially Equipped
    iii) Not Equipped at all

14. How often do you attend relevant seminars/workshops sponsored by your employer?

    i) Very often
    ii) Often
    iii) Seldom
    iv) Not at all

15. The moden method of delivering a project advised for the division of design and construction phase, to be manned by different specialists, contrary to the traditional form of approach. What is your opinion on this amongst the following?

    i) Strongly Agree
    ii) Partially Agree
    iii) Disagree

16. Give any other useful information, you feel has not been communicated to the researcher on the subject matter.

.....

.....

Once again, thank you for your co-operation and God Bless

Yours faithfully,

462945

(KEFTIN, N. A)

IVED

APPENDIX B

CONSULTANCY FEES PAID

BY THE

PUBLIC SECTOR
TO
PROFESSIONAL ACHITECTS,
BUILDERS,
ENGINEERS
&
QUANTITY SURVEYORS

Extracts from the 1992 Consultancy fees payable by the public sector listed on pages 1-7, 8-17, 18-22 and 46-48.

2.0 SCALE OF FEES FOR ARCHITECTS

2.1 The Scale of Fees for the Architect shall be as in Table 1.

TABLE I

SCALE OF FEES FOR ARCHITECTS

Cost of Project (₦)	Fees Payable as a % of Cost of Project (%)
0 - 5 million	4.75
5,000,000 - 15 million	4.25
15,000,000 - 30 million	4.0
30,000,000 - 75 million	3.5
75,000,000 - 150 million	3.0
150,000,000 - 300 million	2.5
300,000,000 - 500 million	2.0
Above 500 million	1.0

3.0 STAGE PAYMENT

Stage I should be 25% Estimated Total Cost (ETC)
Stage II should be 50% Estimated Total Cost (ETC)
Stage III should be 25% Total Construction Sum (TCS).

3.1 CALCULATING FEES FOR STAGE PAYMENT

Fees for Stages I and II shall be calculated on the basis of the Total Estimated Cost (ETC) and payments shall be made on this stages and I and Estimated Total Cost (ETC). Fees for stage II shall also be calculated on the basis of the Estimated Total Cost (ETC) and payments shall be made on account until the Total Construction Sum (TCS) is determined. Therefore, ONLY fees for Stage III shall be adjusted accordingly and all outstanding sums of stage III ONLY shall be paid.

4.0 REPETITIVE WORKS

4.1 The remunerations for repetitive works is in line with scale of fees for basic services and depending on how many times the same work is being repeated, the scale of fees shall be as in Table 2.

TABLE 2

SCALE OF FEES FOR REPETITIVE WORKS

Number of Repetitions	Fees Payable As a Percentage of Full Payment (%)
First Full Fees	100
1 - 10 Repetitions	30
11 - 20 Repetitions	20
21 - 50 Repetitions	15
51 - 100 Repetitions	12.5
100 - 200 Repetitions	10
251 - 500 Repetitions	7.5
Above 500 Repetitions	5

It should be noted, however, that repetitive reduction shall not apply to a single buildidng.

5.0 EXTRA SERVICES

5.1 Extra services are part of the Consultancy Architect's normal services as defined by the Nigerian Institute of Architects. However, where another Consultant Architect is invited to perform any of these services, or the Consultant Architect is employed beyond the normal service and contract period, he shall be entitled to remuneration at the rate (s) indicated for the individual services considered hereunder.

5.2 STAGE 1: SITE INVESTIGATION & PROJECT DESIGN STUDIES

5.2.1 The Consultant is entitled to some remunerations and fee of 0.1% etc. shall therefore be paid as in Table 3.

5.2.2 RESEARCH ON BRIEF & DEVELOPMENT OF SAME

5.2.2.1 Extra work on research on brief should attract some fees as in Table 3 and remuneration is 0.2% of ETC.

5.2.3 PREPARATION OF REPORT TO ACCOMPANY PRELIMINARY OR FINAL DESIGN SUBMISSION

5.2.3.1 This is regarded as extra services when required and therefore remuneration is 0.1.15% of ETC (Table 3).

5.2.4 FEASIBILITY OR VIABILITY STUDY

5.2.4.1 Feasibility studies shall attract a uniform fee of 0.2% of the Estimated Total Cost of project (Table 3).

5.2.5 PRECESSING OF OUTLINE APPROVAL

For this service, remuneration is 0.1% of the ETC (Table 3).

TABLE 3

EXTRA SERVICES (STAGE 1)

	Description	Fee
(a)	Site investigation and project Design studies including inventory of Staff spaces, measured drawings, general surveys (as distinct from land and quantity surveying)	0.10% ETC
(b)	Research on Brief and Development of same	0.20% ETC
(c)	Preparation of Report to Accompany Preliminary of Final Design submission	0.15% ETC
(d)	Feasibility or Viability Study	0.20% ETC
(e)	Processing of Outline Approval	0.10% ETC

5.3 PROCESSING FOR AND OBTAINING FINAL PLANNING APPROVAL

5.3.1 The fee payable for this service shall be 0.15 of ETC, as in Table 4. This fee does not however include all fees payable to the Planning Authority for processing of the plans for approval.

5.3.2 OBTAINING, ANALYSING AND REPORTING ON TENDERS; AND PREPARING AND ADVISING ON THE CONTRACT INCLUDING MEETINGS WITH THE TENDERS BOARD:

5.3.2.1 The fee for this service shall be 0.15% of ETC (Table 4)

TABLE 4

EXTRA SERVICES (STAGE II)

	Description of Services	Fee Payable
(a)	Processing for and obtaining Final Planning Approval	0.15% of ETC
(b)	Obtaining, Analysing and Reporting on tenders and preparing and advising on the contract including meetings with Tenders Board	

5.4 STAGE III

5.4.1 MAKING ANY SITE VISITS OR ATTENDING ANY SITE MEETING OTHER THAN THE NORMAL SINGLE MONTHLY MEETING

5.4.1.1 This service shall be remunerated in accordance with the normal man-month rates in Table 8

5.4.2 ANY VISITS OR WORKS DONE TO RECTIFY DEFECTS DURING THE DEFECTS LIABILITY PERIOD

5.4.2.1 This is normal service and therefore shall not be additionally remunerated.

5.4.3 ANY NORMAL SUPERVISION RENDERED BEYOND THE ORIGINAL CONTRACT PERIOD

5.4.3.1 The normal man-month rates as in Table 8 and 9 shall apply, only in the case where the project supervising consultant is not the Project Design Consultant.

TABLE 5

EXTRA SERVICE (STAGE III)

	Description of Service	Fee
(a)	Making any site visit or attending any site meeting other than the normal monthly meeting	Normal man-month rate in Table 8 shall be payable per visit
(b)	Any visits or works done to rectify defects during the Defects Liability Period	Normal service, and should not be additionally remunerated
©	Any normal supervision rendered beyond the original contract Period	Normal man-month rate as in Table 8 & 9 shall apply

5.6.5 RESPONSIBILITY FEE

It is expected that the Consultants for Stages I & II services should always, where practicable, be commissioned for Stage III services for the smooth running and quick execution of the Project and therefore no extra fee shall be paid.

6.0 ADDITIONAL SERVICES

6.1 Since these additional services are not always known before hand, the employer and the Consultant shall negotiate the fee payable.

6.2 SPECIAL DRAWINGS & MODELS

6.2.1 For these special services to the Client, the fee payable shall be negotiated between the client and the Consultant.

7.0 OTHER SERVICES

7.1 These include:-

REDESIGN AND ADDITIONAL DESIGN WORK
INTERIOR DESIGN WORKS
FURNITURE AND FITTINGS

7.1.1. The fee payable for the above services shall be negotiated between the Client and the Consultant.

8.0 LITIGATION AND ARBITRATION

8.1 The fee payable for these services shall be negotiated.

9.0 VARIATION AND FLUCTUATION

9.1 Stage III payment which shall in this case be based on the Total Contract Sum (TCS) has care of this service, therefore no additional fee is payable.

10.0 RESIDENT SUPERVISION

10.1 The fees on man-month basis occurred in Tables 6 - 9 shall apply.

TABLE 6

MAN-MONTH RATES FOR ARCHITECTURAL SERVICES

Category	Minimum Years of Post-Graduate Experience	Man-Month Rate (₦)
Chief Resident Architect	15	24,000-28,000
Principal Resident Architect	12	21,000 - 24,000
Senior Resident Architect	8	14,000 - 21,000
Resident Architect	4	9,000 - 14,000
Assistant Resident	Under 4	8,000 - 10,000

TABLE 7

MAN-MONTH RATES FOR SUPPORTING TECHNICAL STAFF

Category	Man-Month Rates (N)
Senior Technical Officer	14,000 - 17,000
Technical Officer	7,000 - 10,000
Assistant Technical Officer	5,000 - 7,000
Draughtsman	3,000 - 5,000

These rates apply to the Supervisory Staff of the Consultants involved in Stages I, II & III.

TABLE 8

MAN-MONTH RATES FOR ARCHITECTURAL SERVICES:
WHERE THE PROJECT SUPERVISING CONSULTANT
IS NOT THE PROJECT DESIGNER

	Category	Min. Years of Experiences	Man-Month Rates (N)
a	Chief Resident Architect	15	28,000 - 31,000
b	Principal Resident Architect	12	24,000 - 28,000
c	Senior Resident Architect	8	17,000 - 21,000
d	Resident Architect	4	14,000 - 17,000
e	Assistant Resident Architect	Under 4	10,000 - 14,000

TABLE 9

MAN-MONTH RATES FOR SUPPORTING TECHNICAL STAFF

Category	Man-Month Rates (N)
Senior Technical Officer	16,000 - 21,000
Technical Officer	10,000 - 16,000
Asst. Technical Officer	7,000 - 10,000
Draughtment	5,000 - 7,000

These rates apply to the Supervisory Staff of the Consultants who are not involved in Stages I and II but only Stage III.

11.0 PROJECT MANAGEMENT

11.0 The sliding Scale of Fees in Table 10 shall apply.

TABLE 10

FEES PAYABLE ON PROJECT MANAGEMENT

Cost of Project			% Fee
0	-	₦ 5 million	1.0
₦5 million	-	₦15 million	0.9
₦15 million	-	₦30 million	0.80
₦30 million	-	₦75 million	0.70
₦75 million	-	₦150 million	0.60
₦150 million	-	₦300 million	0.50
₦300 million	-	₦500 million	0.40
above ₦500 million			0.30

12.0 REIMBURSABLE EXPENSES

12.1 The payment of Reimbursable Claims on transport, accommodation, printing, computer rental, office equipment and other incidental expenses incurred on

the project shall be made to the Consultant inaddition to normal fees but only after the receipts backing up such claims have been accepted by the Client subject however to amaximum of 1% of the Consultant's cost of works.

SCALES OF FEES CONSULTANT BUILDERS

84.0 FEASIBILITY STUDIES

84.1 Feasibility Studies shall attract a fee of 0.2% of Estimated Total Cost of Project (ETC).

85.0 PRODUCTION/CONSTRUCTION MANAGEMENT OF BUILDING PROJECT

85.1 Services under Production/Construction Management shall be remunerated as in Table 65.

TABLE 65

FEES FOR BUILDING CONSULTANT
(PRODUCTION/CONSTRUCTION MANAGEMENT)

Cost of Project (₦)	Fess Payable As a Percentage Cost f Project
0 - 5 million	1%
5 million - 15 million	0.90%
15 million - 30 million	0.80%
30 million - 75 million	0.70%
75 million - 150 million	0.60%
150 million - 300 million	0.50%
300 million - 500 million	0.40%
Above 500 million	0.30%

Note: Consultancy Fees under this table shall be payable in three stages (25%, 50%, 25%) so as to sustain the interest of the Consultant in the project till completion.

86.0 **MANAGEMENT OF DIRECT LABOUR PROJECTS**

86.1 When a Builder is employed by the Client to manage or supervise its direct labour project the fee payable shall be negotiated.

87.0 **BUILDING SURVEYING**

87.1 This service shall attract a fee of 1% of the Cost Works.

88.1 The fee for service rendered is to be negotiated.

89.0 REACTIVATION OF ABANDONED PROJECT

89.1 If a Builder is employed by the Client to supervise the reactivation project of abandoned project which involves method statement, site organisation, project planning and scheduling, Budgeting as financial control, job control, claims preparation and representation, he shall be remunerated as in the Table 66 and 67.

TABLE 66

FEES FOR RESIDENT SUPERVISION STAFF ON REACTIVATION OF ABANDONED PROJECTS (PROFESSIONAL STAFF ONLY)

Category	Minimum Years of Post Graduate Experience	Man-Month Rate (₦)
Chief Resident Building Officer	15	28,000 - 31,000
Principal Resident Building Officer	12	24,000 - 28,000
Senior Resident Building Officer	8	17,000 - 21,000
Resident Building Officer	4	14,000 - 17,000
Assistant Resident Building Officer	Under 4	10,000 - 14000

TABLE 67

SUPPORTING TECHNICAL STAFF

Category	Man-Month Rate (N)
Senior Technical Officer	16,000 - 21,000
Technical Officer	10,000 - 14,000
Asst. Technical Officer	7,000 - 10,000

90.0 PROJECT MANAGEMENT

90.1 When the Builder is employed by Client for project management, he sshall be remunerated as in Table 68.

TABLE 68

PROJECT MANAGER

Cost of Project (₦)	Fee as a Percentage of Cost of Project (%)
0m - 5 million	1
5m - 15 million	0.90
15m - 30 million	0.80
30m - 75 million	0.70
75m - 150 million	0.60
150m - 300 million	0.50
300m - 500 million	0.40
Above 500 million	0.30

91.0 REIMBURSABLES

91.1 The payment of reimbursable claims on transport, accommodation, printing, computer rental, office equipment, and other incidental expenses on the project shall be made to the Consultant in addtion to normal fees, but only

after the receipts backing up such claims have been accepted by the client, subject however, to a maximum of 1% of the Consultant's cost of works.

13.0 SCALE OF FEES FOR CONSULTANT ENGINEERS

13.1 The scale of fees for the Civil Engineering Consultant shall be as in Table 11.1.

TABLE 11

SCALE OF FEES FOR CIVIL ENGINEERING PROJECTS

Cost of Projects (₦)	Fees As A Percentage of Cost of Project (%)
Up to 5 million	4.75
5 million - 15 million	4.25
15 million - 30 million	4.0
30 million - 75 million	3.50
75 million - 150 million	3.0
150 million - 300 million	2.50
300 million - 500 million	1.0

14.0 STAGE PAYMENT

Stage I (Preliminary Engineering Design) 25% of Estimated Total Cost (ETC).

Stage II (Final Engineering Design) 50% of Estimated Total Cost (ETC).

Stage III (Normal Construction Supervision) 25% of Total Construction Sum (TCS).

STAGE PAYMENTS

14.1 CALCULATING FEES FOR

14.1.1 Fees for stages I & II shall be calculated and paid on the basis of the Estimated Cost (ETC) of the project.

14.1.2 Fees for stage III shall be calculated on the basis of the Estimated Total Cost and payments shall be made on account until the Total Construction Sum (TCS) is determined. Thereafter, ONLY fees for Stage III shall be adjusted accordingly and all outstanding sums on Stage III only shall be paid in arrears.

15.0 REPETITIVE WORKS

15.1 Table 12 below shall apply where the Engineer is involved in repetitive works.

TABLE 12

SCALE OF FEES FOR REPETITIVE WORKS

Number of Repetitions	Fees Payable As a Percentage of Full Payments (%)
Normal Full Fees	100%
1 - 10 Repetitions	30%
10 - 20 Repetitions	20%
21 - 50 Repetitions	
51 - 100 Repetitions	15%
101 - 250 Repetitions	10%
251 - 500 Repetitions	7.5%
Above 500 Repetitions	5%

Note that repetitive reductions shall not apply to a single engineering project.

16.0 STRUCTURAL WORK IN BUILDING AND OTHER STRUCTURES WHERE A CONSULTANT ARCHITECT IS APPOINTED BY THE CLIENT

16.1 The scale of fees for Structural Engineers in Building projects where the Architect conceives the project shall be as in Table 13.

TABLE 13

STRUCTURAL WORKS IN BUILDING AND OTHER STRUCTURES WHERE CONSULTANT ARCHITECT IS APPOINTED BY THE CLIENT

Cost of Project (₦)	Proposed Fee As a Percentage of Cost of Project (₦)
0 - 5 million	3.0
5 million - 15 million	2.50
15 million - 30 million	2.25
30 million - 75 million	2.0
75 million - 150 million	1.75
150 million - 300 million	1.50
300 million - 500 million	1.25
Above 500 million	1.0

17.0 FEES FOR STRUCTURAL WORKS WHERE STRUCTURAL ENGINEER IS THE PRIME CONSULTANT

17.1 The scale of fees in Table 14 shall apply.

TABLE 14

SCALE OF FEES FOR STRUCTURAL ENGINEERING PROJECTS WHERE THE STRUCTURAL ENGINEER IS THE PRIME CONSULTANT

Cost of Project (₦)	Fees As a Percentage of Cost of Project (%)
Up to 5 million	4.75
5 million - 15 million	4.25
15 million - 30 million	4.0
30 million - 75 million	3.5
75 million - 300 million	3.0
150 million - 300 million	2.5
300 million - 500 million	2.0
Above 500 million	1.0

18.0 SCALE OF FEES FOR ENGINEERING DISCIPLINE OTHER THAN CIVIL ENGINEERING

18.1 Where the Consulting Engineers other than the Civil Engineers are prime Consultants, (these include Electrical, Mechanical, Telecommunication, Electric, or Chemical Engineers) in case of Long Span Bridges, Power Stations, Industrial Plants Designs, Oil Refineries etc, the same Scale for Civil Engineering Works as in Table 11 shall apply.

19.0 FOR MECHANICAL/ELECTRICAL ENGINEERING WORKS IN BUILDING (WHERE AN ARCHITECT APPOINTED BY THE CLIENT CONCEIVES THE SCHEME)

19.1 The fees for Mechanical or Electrical Engineering Services in building projects where the Architect is the prime consultant, shall be as in Table 15. It should be noted that the 2% of the cost of the Electrucal and Mechanical equipment install-d which was payable in the former scale of fees have been removed and included in Table 15.

TABLE 15

SCALE OF FEES FOR MECHANICAL OR ELECTRICAL WORKS IN BUILDING (WHERE AN ARCHITECT APPOINTED BY THE CLIENT CONCEIVES THE SCHEME)

Cost of Project (₦)			Fee Payable as a Percentage Cost of Project
0	-	5 million	1.95
5 million	-	15 million	1.75
15 million	-	30 million	1.55
30 million	-	75 million	1.35
75 million	-	150 million	1.15
150 million	-	300 million	1.00
300 million	-	500 million	0.85
Above 500 million			0.65

20. STAGE PAYMENT (PROPORTION OF FEES FOR VARIOUS STAGES OF IMPLEMENTATION.

20.1 The proportion of the total fee each stage of implementation shall be as follows:-

(i) Design Stage I - 25% of Estimated Total Cost (ETC)

(ii) Design Stage II - 50% of Estimated Total Cost (ETC)

(iii) Construction Stage III - 25% of Total Construction Sum (TCS).

21.0 EXTRA SERVICE

21.1.1 Fees payable for extra service in Stages I - III shall be as in Table 16 - 18.

TABLE 16

EXTRA SERVICE (STAGE I)

	DESCRIPTION	FEES
(a)	Research on brief and development of same	0.2% ETC
(b)	Preparation of Design Report (e.g. for water supply scheme, water resources development, irregation electrification and works design etc)	0.15% ETC
©	Feasibility or Viability Study	0.20% ETC
(d)	Processing of Outline Approval	0.10% ETC

TABLE 17

(STAGE II)

	Description	Fees
(a)	Obtaining, analysing , and reporting on tenders and preparing and advising on the contract including meeting with the Tenders Boards	0.15% ETC

TABLE 18

STAGE (III)

	Description	Fees
(a)	Making any site visits or attending any site meeting other than the normal single monthly meeting	Normal man-month rate as in table shall be payable per visit
(b)	Any visits or works done to rectify defects during the Defects Liability period	Considered normal service not to be additionally remunerated
(c)	Any normal supervision rendered beyond the original contract period	Normal man-month rate as in table 21 shall apply

22.0 Fees for Additional Services shall be negotiated since the scope and duration of these services are not known.

23.0 **PAYMENT FOR USE OF SPECIAL EQUIPMENT**

23.1 Payment for specialist equipment shall be made as in paragraph 32 on Reimbursable Expenses.

24.0 **PAYMENT FOR ALTERATION OR MODIFICATION TO DESIGN**

24.1 The fee payable for this additional work or modification to the design shall be negotiated between the client and the Consultant since this may ebe classified under ''Additional Services''.

25.0 **PAYMENT WHEN WORKS ARE DAMAGED OR DESTROYED**

25.1 Payment shall be made when the damage is not due to the act or default of the consultant. Such payment, when necessary, shall be negotiated between the consultant and the client.

26.0 PAYMENT FOR RESIDENT SUPERVISION

26.1 Two types of Resident Supervision are applicable here for remuneration:

(i) Where the consultant for the design of the project also supervises the construction of the project (Tables 19 & 20);

(ii) Where the consultant supervising the construction of the project is not the consultant that designed the project (Tables 21 & 22).

TABLE 19

PROFESSIONAL STAFF: PAYMENT FOR RESIDENT SUPERVISION WHERE THE SUPERVISING CONSULTANT IS ALSO THE PROJECT DESIGN CONSULTANT.

Category	Minimum Years of Experience	Man-Month Rate (₦)
Chief Resident Engineer	15	24,000 - 28,000
Principal Resident Engineer	12	21,000 - 24,000
Senior Resident Engineer	8	14,000 - 21,000
Resident Engineer	4	9,000 - 14,000
Assistant Resident Engineer	Under 4	8,000 - 10,000

TABLE 20

SUPPORTING TECHNICAL STAFF

Category	Man-Months Rates (₦)
Senior Technical Officer	14,000 - 17,000
Technical Officer	7,000 - 10,000
Asst. Technical Officer	5,000 - 7,000
Draughtsman	3,000 - 5,000

TABLE 21

PAYMENT FOR NORMAL RESIDENT SUPERVISION WHERE THE SUPERVISING CONSULTANT IS NOT THE PROJECT DESIGNER (PROFESSIONAL STAFF ONLY)

Category	Minimum Years of Experience	Man-Month Rates (₦)
Chief Resident Engineer	15	28,000 - 31,000
Principal Resident Engineer	12	24,000 - 28,000
Senior Resident Engineer	8	17,000 - 21,000
Resident Engineer	4	14,000 - 17,000
Assistant Resident Engineer	Under 4	10,000 - 14,000

TABLE 22

SUPPORT TECHNICAL STAFF

Category	Man-Month Rates (₦)
Senior Technical Officer	16,000 - 21,000
Technical Officer	10,000 - 14,000
Asst. Technical Officer	7,000 - 10,000
Draughtsman	5,000 - 7,000

27.0 PAYMENT FOLLOWING TERMINATION BY THE CONSULTING ENGINEER

27.1 In the event of the clients failure to comply with any of his obligations under the agreement or uponthe occurrence of any circumstance beyond the control of the consulting Engineer which are such as to unreasonably impede the carrying out by the Consulting Engineer of his services under the agreement, the Consulting Engineer may upon not less than 60 days' notice in writing to the client terminate his appointment under the Consultancy agreement. In this case, the fee payable to the Consultant shall be negotiated but having registion to the fees already paid to the Consultant before this termination.

28.0 GEOTECHNICAL CONSULTANCY

28.1 The sliding scale of fees for services of a Geotechnical Engineer as a consultant and which is based on the estimated cost of project shall be as in Table 23.

TABLE 23

SCALE OF FEES GEOTECHNICAL ENGINEER

Cost of Project (₦)			Fee as a Percentage of Cost of Project
0	-	5 million	0.75%
5m	-	15 million	0.70%
15m	-	30 million	0.65%
30m	-	75 million	0.60%
75m	-	150 million	0.55%
150m	-	300 million	0.50%
300m	-	500 million	0.40%
Above 500 million			0.30%

29.0 STRUCTURAL DESIGN FOUNDATION

29.1 This aspect of structural design of foundations is for a qualified structural engineer.

If the geotechnical engineer is certified by the Nigerian Society of Engineers as being competent to design foundations, then the Geotechnical Engineer shall be remunerated for the structural design works carried out but the percentage of COST OF WORKS and not cost of project shall be used.

The cost of works in this case shall mean the cost of foundation work. For this purpose, the cost of foundation is taken to be about 20% of the project. The fees payable on the sliding scale shall be as in Table 24.

TABLE 24

FEE FOR STRUCTURAL DESIGN OF FOUNDATION

Cost of Works (₦)	Fee as a Percentage of cost of works
0 - 1 million	0.75%
1m - 3 million	0.70%
3m - 6 million	0.65%
6m - 25 million	0.60%
25m - 30 million	0.55%
30m - 60 million	0.50%
60m - 100 million	0.40%
Above 100 million	0.30%

30.0 STAGE PAYMENT (METHOD OF PAYMENT) FOR STRUCTURAL DESIGN OF FOUNDATION

30.1 The payment for this service shall be based on the following three stages:

Stage I Preliminary and Planning, Supervision of field work - 25% of Estimated Total Cost (ETC).

Stage II Completion of field work - boring and transportation of samples to specified laboratory. Analysis, Report and Project Services to Report State.

Stage III Supervision of construction - 25% of Total Construction Sum (TCS).

31.0 PROJECT MANAGEMENT

31.1 Where the Engineer is employed by the client for project management, he shall be remunerated as in Table 25.

TABLE 25

PROJECT MANAGEMENT FOR ENGINEERS

Cost of Project			% Fee
0	-	₦ 5 million	1.0%
₦5m	-	₦15 million	0.90%
₦15m	-	₦30 million	0.80%
₦30m	-	₦75 million	0.70%
₦75m	-	₦150 million	0.60%
₦150m	-	₦300 million	0.50%
₦300m	-	₦500 million	0.40%
Above ₦500 million			0.30%

32.0 REIMBURSABLES

32.1 The payment of reimbursable claims on transport, accommodation, printing, computer rentals, office equipment and other incidental expenses incurred on the project, shall be made to the consultant in addition to normal fees, but only after the receipts backing up such claims have been accepted by the client, subject however to a maximum of 1% of the Consultant cost of works.

33.0 THE SCALE OF FEES FOR CONSULTANT QUANTITY SURVEYORS FOR BUILDING & ENGINEERING WORKS

33.1 The scale of fees for the Consultant Quantity Surveyor for Building and Engineering Works shall be as in Table 24.

TABLE 24

SCALE OF FEES FOR THE QUANTITY SURVEYOR IN BUILDING AND ENGINEERING WORKS

Cost of Project (₦)			Fees Payable as a Percentage of Cost of Project
0	-	5m	2.75%
5m	-	15m	2.50%
15m	-	30m	2.30%
30m	-	75m	2.0%
75m	-	150m	1.75%
150m	-	300m	1.40%
300m	-	500m	1.0%
Above 500 million			0.80%

34.0 METHOD OF PAYMENT - (STAGE PAYMENT)

34.1 Stage Payment shall be as follows:-

Stage I - 25% Estimated Total Cost (ETC)

Stage II - 50% Estimated Total Cost (ETC)

Stage III - 25% Total Construction Sum (TCS)

35.0 REPETITIVE WORKS

35.1 The scale of fees shall be as in Table 25.

TABLE 25

REPETITIVE WORKS FOR THE QUANTITY SURVEYOR

No. of Repetitive Works	Fee Payable as a Percentage of Cost of Project
1 - 10	30%
11 - 20	20%
21 - 50	15%
51 - 100	12.5%
101 - 250	10%
251 - 500	7.5%
Above 500	5%

It should be noted, however, that repetitive reduction shall not apply to a single building.

3.6 ADDITIONAL SERVICES

36.1 FEASIBILITY AND DEVELOPMENT STUDIES

36.1.1 Feasibility study shall attract 0.20% of the Estimated Total Cost of Project.

36.2 PRICING OF BILLS OF QUANTITIES

36.2.1 Pricing of bills of quantity surveyor other than the project Quantity Surveyor constitutes an extra service which should be remunerated and therefore attracts a fee of 0.1% of Estimated Total Cost (ETC).

36.3 TENDER REPORTS

The remuneration for this service shall be 0.15% of the Estimated Cost of Project.

36.4 FLUCTUATIONS; PRICE INVESTIGATIONS

The fee payable for this service shall be limited to 1% of the amount of **36.4.1** fluctuation.

36.5 TERMINATION OF CONTRACT BEFORE COMPLETION

36.5.1 This is an extra service which shall be remunerated on man-month rates as in Tables 26 and 27.

TABLE 26

SCALE FOR MAN-MONTH RATE WHERE CONTRACT IS TERMINATED BEFORE COMPLETION (PROFESSIONAL STAFF ONLY)

Category	Minimum Years of Experience	Man-Month Rates (₦)
Chief Resident Quantity Surveyor	15	21,000 - 28,000
Principal Resident Quantity Surveyor	12	21,000 - 24,000
Senior Resident Quantity Surveyor	8	14,000 - 21,000
Resident Quantity Surveyor	4	9,000 - 14,000
Asst. Resident Quantity Surveyor	Under 4	8,000 - 10,000

TABLE 27

SUPPORTING TECHNICAL STAFF

Category	Man-Month Rates (N)
Senior Technical Officer	14,000 - 17,000
Technical Officer	7,000 - 10,000
Asst. Technical Officer	5,000 - 7,000
Draughtsman	3,000 - 5,000

36.6 LIQUIDATION

36.6.1 This is an extra service which shall be remunerated on man-month basis as in Table 26 and 27 above.

36.7 FIRE DAMAGES TO BUILDINGS AND COST OF RESTORATION

36.7.1 The fee payable for this service shall be restricted to 0.75% of the cost of restoration.

36.8 REPLACEMENT COST VALUATION

36.8.1 This shall attract a fee of 0.5% of the estimated cost of replacement.

36.9 EVALUATION OF CONTRACTOR'S CLAIMS AND SETTLEMENT

36.9.1 This is an extra service, which shall be remunerated on man-month rates as in Tables 26 and 27.

36.10 SCHEDULE OF MATERIALS/PLANT

36.10.1 Where a Quantity Surveyor other than the Consultant Quantity Surveyor is invited to re-prepare the schedule of materials produced by the Consultant Quantity Surveyor, it shall constitute an extra service and shall be remunerated at the rate of 0.1% of Estimated Total cost of Project.

36.11 SITE VISITS OR MEETINGS OTHER THAN THE NORMAL MONTHLY SITE MEETING.

36.11.1 For this service the normal man-month rates shall apply as in Table 26.

36.12 SITE VISIT OR MEETINGS DURING THE DEFECT LIABILITY PERIOD

36.12.1 The normal man-month rate shall apply as in Table 26.

36.13 NORMAL SUPERVISION RENDERED BEYOND THE ORIGINAL CONTRACT PERIOD

36.13.1 A fee shall be payable where the consultant Quantity Surveyor is not responsible for the delay. The fee shall be normal man-month rate as in Table 26.

37.0 BILLS OF QUANITITIES FOR ELECTRICAL OR MECHANICAL SERVICES

37.1 Whe a Quantity Surveyor performs this service, the fee payable shall be as in Table 24.

38.0 PROJECT MANAGEMENT

38.1 Where a Quantity Surveyor is employed by the client for project management, he shall be remunerated as in Table 28.