LABOUR IN THE CONSTRUCTION INDUSTRY IN NIGERIA:

An Assessment From Federal Office of Statistics Data
(1976-1980 and 1981-1985).

THESIS

Submitted to the Postgraduate School of Ahmadu Bello University,
In partial fulfillment of the requirements

For the Degree of:

MASTER OF SCIENCE
(CONSTRUCTION MANAGEMENT)

In the Department of Building, Faculty of Environmental Design, Ahmadu Bello University, Zaria, Nigeria.

BY

UBENYI, MATTHIAS OCHENEHI.

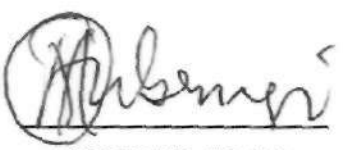
B.Sc (Hons.) Building, MNIOB.

FEBRUARY, *1999*

DECLARATION

I declare that this thesis is an original work prepared by me. It is a record of my own research work and has not been presented in any application for any other higher degree.

All quotations are indicated and the sources of information are specifically acknolwedged by means of references.



(UBENYI, M.O.)

FEBRUARY 1999

KASHIM IBRAHIM LIBRARY

CERTIFICATION

This thesis entitled, "LABOUR IN THE CONSTRUCTION INDUSTRY IN NIGERIA: An Assessment From Federal Office of Statistics Data (1976-1980 and 1981 – 1985)" by UBENYI, MATTHIAS OCHENEHI meets the regulations governing the award of the degree of Master of Science in Construction Management (M.Sc Construction Management) of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

Z. J. SIKORA (READER) — 15.03.1999
Chairman, Supervisory Committee. — Date

DR. I. MBAMALI — 23/05/2000
Member, Supervisory Committee — Date

DR. O. G. OKOLI — 23/05/2000
HEAD, Building Department — Date

DEAN, Post Graduate School — 25/03/01
Date

ACKNOWLEDGEMENT

This work has been made possible through the effort, assistance and encouragement of a good number of people in many forms, and I am happy to acknowledge my indebtedness to them all.

First and foremost, I thank God almighty for sustaining me and seeing me through to the end of this research.

To my supervisors, Z.J. Sikora and Dr. I. Mbamali, I lack sufficient words to express and convey my sincere and deep appreciation for their valuable ideas, suggestions, patience and love. May God bless them abundantly.

I am indeed grateful to the Head and the entire staff of the Department of Building, Ahmadu Bello University, Zaria. I am particularly grateful to Dr. O.G. Okoli and Messrs K. Bala, M.M. Garba, J.O. Kehinde, I.K. Zubairu, O. Aiyetan and others , for their continued encouragement in the course of this work. I sincerely express my appreciation to them all.

More specifically, I wish to reaffirm my indebtedness to the Federal Office of Statistics, Lagos, for permission to make use of its data set from the surveys of Building and Construction which formed the base for this research.

I am most grateful to the Federal Government of Nigeria, for the scholarship granted me in the First two years of this study.

To my Senior brother, Pius Ubenyi (ASP), I am grateful for his encouragement and persistent concern for my future life.

I cannot but be very grateful to my friends, Solomon Katsa and David Abulaya for their love and forms of assistance rendered.

I wish to appreciate the effort of Mal. Isa Ado who typed the manuscript of this work.

There are those who were instrumental to the completion of this work but have not been mentioned. I owe them thanks as well and I do hope they will pardon my inability to mention their names.

DEDICATION

This thesis is dedicated

to

my beloved mother,
Madam Owobi Ubenyi.

KASHIM IBRAHIM L.

ABSTRACT

This research is concerned with construction labour and the general picture of the industry based principally on the data of Federal Office of Statistics (F O S) Surveys on Building and Construction, covering the decade period (1976-1985). The need arises from the fact that government makes available substantial funds from time to time for the operations of FOS to generate data for the industries. However, with the data set on Building and Construction available, search has revealed little or no research (major) carried out with the use of these FOS data set.

The lack of use of these data therefore, for research and other works may be tied to some hidden obstacle/hindrance. The investigation involves a Seven-step approach as given by fig. 1.1, in order to handle the FOS data in such a manner that desired results expected of the research would be achieved. The decade period of the research is broken down into two 5-year periods (Lustra). It was on the basis of this perspective that the data were tabulated and juxtaposed for the graphical representations as well as for further analysis.

It became pertinent from the study that the format of data presentation adopted by FOS to generate data for the Construction Industry lent little or no ease of handling for the purpose of this research and academic teaching and learning. To pave way for ease of usage therefore, sixteen table formats for the presentation of data on Building and Construction were designed.

The results of this research which covers the decade (1976-1985) are leaving no doubts that construction labour showed a dwindling growth picture; expatriates dominated the managerial positions in the industry; the proportion of skilled labour to that of unskilled remains an un-resolved issue. Also, construction labour can best be categorized into five major categories as against the previous four categories (see fig.3.2); a renewed perspective of the picture of Construction Industry in Nigeria has evolved etc.

A total of ten tables were designed and generated from the FOS data on the general picture of Construction Industry. Based on these new tables, twelve statistical graphs were produced to clearly project and amplify relevant messages on the general picture of Construction Industry in Nigeria. On the aspect of construction labour, eight new tables were designed and generated from the data for which nine statistical graphs were produced to illustrate labour situation in the industry.

The picture of irregular (nominal) growth of the Construction Industry revealed over the decade covered by research is an indication of how government (major client) actions (for or against) affect the operations of the industry.

Construction Industry require to function at optimum level at all times, the need to plan for full but even work activities of the Construction Industry on long term basis is emphasized.

TABLE OF CONTENTS

		Page
Title Page		i
Declaration		ii
Certification		iii
Acknowledgement		iv
Dedication		vi
Abstract		vii
Table of Contents		ix
List of Tables		xii
List of Figures		xiii
List of Appendices		xv
CHAPTER ONE:		1
1.0	**Introduction**	1
1.1	Background	1
1.2	Aim and Objectives	4
1.3	Significance of the Study	4
1.4	Approach, Methodology and Sequence of Presentation	6
1.5	Scope and Limitations	9
CHAPTER TWO:		10
2.0	**Literature Review: The picture of Construction Industry in The Mirrors of Nigerian authors**	10
2.1	The Construction Industry in Nigeria	10
2.2	Roots and Development of the Industry	12
2.3	The Structure of Construction Industry in Nigeria	14
2.3.1	Trade Composition of Construction Industry	18
2.3.1.1	General Building Construction	18
2.3.1.2	Civil Engineering Construction	18
2.3.1.3	Building Trades	19
2.3.1.4	Other Construction Specialties	19
2.4	Construction Industry in Nigeria Vs National Economics	20

In the Decade 1976 – 1985

2.4.1 Specific Characteristic Features of Construction Industry 23

2.4.2 Inter-relationship of the Industry and National Economy 24

2.5 Dynamics of the Construction Industry 25

2.5.1 Government Policies and the Construction Industry 27

2.6 Construction Industry as Tool of National Development 28

CHAPTER THREE: 32

3.0 Labour in the Construction Industry in Nigeria 32

3.1 Nature and Characteristics of Construction Labour 32

3.1.1 Changes in the Level of Labour 33

3.1.2 Specific Features of Construction Labour 34

3.2 Employer of Construction Labour 36

3.2.1 Categories of Construction Labour 38

3.3 Labour Management Aspects 43

3.3.1 Basic Construction Labour Management Principles 44

CHAPTER FOUR: 46

4.0 **Picture of Construction Industry in Nigeria within 1976-1985** 46

4.1 Gross Output of Firms in the Construction Industry 47

4.2 Geographical spread (Arrangement) of Construction Companies 51

4.3 The grading of Construction projects in Monetary value by Type of activity 54

4.4 The degree of involvement of Construction firms in Building and other Construction activity 58

4.5 The Clients of the Construction Industry 63

4.6 Demand of Construction Materials in the Industry 68

4.7 The Inter-relationship of Contractors and Subcontractors 71

4.8 The Finished Products of Construction Industry 74

CHAPTER FIVE: 78

5.0 Representation of Federal Office of Statistics data 78

5.1 Organisation of FOS surveys on Building and Construction 78

5.2 Limitations and Situation Surrounding the FOS Data 79

CHAPTER SIX: 85

6.0 Development of Labour in the Construction Industry in Nigeria: Comparison of the two Lustra 85

6.1 Labour Outlook in the Construction Industry 87

6.2 Labour Requirements by Forms of Construction Organisation 92

6.3 Labour Nationality in Construction Industry 95

6.4 Categorization of Labour in the Industry 98

6.5 Labour Category Requirements by Forms of Construction Organisation 101

6.6 Labour and Construction Activity Type 104

6.7 Cost of Labour in the Construction Industry 107

6.8 Cost of Labour and Forms of Construction Organisation 110

CHAPTER SEVEN: 114

7.0 Summary, Conclusion and Recommendations 114

7.1 Summary 114

7.2 Conclusion 118

7.3 Recommendations 119

7.4 Suggested Areas for Further Study and Research 121

REFERENCES: 122

APPENDICES:

A: The FOS Data Collection and Elaboration 126

B: Techniques of Constructing Graphical Representation of Statistical data 129

C: Suggested Format for data representation from surveys on Building and Construction 133

D: Structure of Manpower in Construction 147

LIST OF TABLES

2.1	Trade composition of the Nigerian Construction Industry	19
2.2	Composition of Gross Capital Formation at current purchaser's values	21
2.3	Recurrent Expenditure of the Federal Government	22
2.4	Investments in Construction by the various clients	22
2.5	Nigeria: Role of Construction in Capital Formation	30
3.1	Labour Employed in the Construction Industry	37
4.1	Nationalistic picture of Construction Industry in Nigeria (1976-1985) in the study plan perspective.	48
4.2	The Geographic Spread of Construction Companies across Nigeria	52
4.3	Value of Construction Activities of the Construction Industry	55
4.4a	Share of Building Activity by Form of ownership	59
4.4b	Share of other Construction Activity by Form of Ownership	61
4.5a	Sponsors of Building Projects in the Construction Industry	64
4.5b	Sponsors of Other Construction projects in the Construction Industry	66
4.6	Construction Materials Requirement by the various Construction Organisations	69
4.7	The Interdependence of Contractors and Subcontractors in the Construction Industry	72
4.8	The products of the Construction Industry.	75
5.1	The Lustra perspective of the study plan	80
5.2	No. of Business units that responded to FOS survey on Building and Construction	81
5.3	No. of Construction Contracting companies by states addressed with FOS Questionnaire	84
6.1	Total Number of Labour in the Construction Industry within the Lustra periods	88
6.2	Labour Taken up by the various Forms of Construction Organization in the Industry	93
6.3	Nationality Outlook of Labour in the Construction Industry	96
6.4	Labour Categories in the Construction Industry	99
6.5	Category of Labour in the Industry by form of Ownership	102
6.6	Labour Requirement per type of Construction Activity in the Construction Industry	105
6.7	Wages/Salaries of Labour in the Construction Industry	108
6.8	Wages/Salary paid to Labour by form of Ownership in the Construction Industry	111

LIST OF FIGURES

Fig.1.1:	Methodology of this Research: Sequence of Research Procedure Vis-a-Vis FOS data	7
Fig.2.1:	Early stages of Evolution of Construction Industry in Nigeria	13
Fig.2.2:	Structural Composition of the Construction Industry in Nigeria	17
Fig.2.3:	Structure of Construction Projects Delivery in the Industry	26
Fig.3.1:	The Construction Manpower Hierarchy	39
Fig.3.2:	The Categories of Construction Labour Force in the Construction Industry In Nigeria in the 1990s	41
Fig.3.3:	Categories of Construction Labour as contained in FOS data	42
Fig.4.1	A&B The Variation and Level of Receipts of Construction Industry by Forms of Construction Organisation	49/50
Fig4.2:	Spread of Construction Companies across Nigerian States (19 States)	53
Fig.4.3:	A&B Projects of the Construction Industry in Monetary terms	56/57
Fig.4.4A:	Scope of Building Projects by form of Construction Organisation	60
Fig.4.4B:	Value of other Construction Activity by form of Construction Organisation	62
Fig4.5A:	Participatory level of the Sponsors of Building projects	65
Fig.4.5B:	Participatory level of the Sponsors of other Construction projects	67
Fig.4.6:	Construction Materials demand in the Construction Industry	70
Fig.4.7:	The interdependence of Contractors and sub-contractors by forms of Construction organisation	73
Fig.4.8:	The products of the Construction Industry	76
Fig.5.1:	Variation in the number of Business units in between the lustra period in The Construction Industry in Nigeria.	82
Fig.6.1A:	The variation in the number of employed Labour in the Construction Industry	89
Fig.6.1B:	The overall size of Labour within the Lustra periods compared	90
Fig.6.2:	The Strength/quantity of Labour taken up by forms of Construction Organisation in the Industry	94
Fig.6.3:	Nationality Outlook of Labour in the Construction Industry	97
Fig.6.4:	Labour Categories in the Construction Industry	103
Fig.6.5:	Labour Categories in Construction Industry by forms of Construction Organisation	103
Fig.6.6:	Labour requirements per type of Construction activity in the industry	106

Fig.6.7: Wage of labour in the Construction Industry 109
Fig.6.8: Average labour wage paid per form of Construction organisation 112

LIST OF APPENDICES

A:	The FOS Data collection and elaboration	126
B:	Techniques of constructing graphical Representation of Statistical data	129
C:	Suggested Format for Data Presentation from Surveys on Building and Construction	133
D:	Structure of Manpower in Construction	147

PART A: REPRESENTATION OF RESEARCH PROBLEM

CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

There has been consistent cry over the dearth of sufficient data in the Construction Industry in Nigeria. This situation spurred the Federal Office of Statistics, (FOS), Lagos, into action and it has made available some useful data on Construction since 1976. These data were the product of the annual Building/Construction Surveys. However, less attention has been paid to the attractive publication and dissemination aspects of these data, particularly in the forms of charts and graphical representations or otherwise with a view to getting their contents better exposed as well as evolve some meaningful and useful/ beneficial deductions out of them.

The activities of Construction in Nigeria could be considered as being undertaken either by the "Nigerian Construction Industry", composed purely of the indigenous enterprises or by the "Construction Industry in Nigeria", which covers both the operations of the indigenous enterprises and other multi-national enterprises which are operating in the territory of the Federal Republic of Nigeria.

In this study, all discussions are centred on the Construction Industry in Nigeria, since this has been the scope coverage of the FOS data set in use.

The available FOS data set on the Construction Industry in Nigeria, judging by the strength of its coverage, are mainly two folds.

(i) Categorization of the industry into operational level (i.e. building projects, civil engineering construction and other constructions etc) and

(ii) Classification of the activities of the industry into distinct groups.

As earlier adduced, by way of operational activity levels as contained or exposed by FOS data, the works of some Nigerian authors (Odepidan, 1974; Diejomoah, 1974; Ogunpola,1974; Olayide,1976; Abeeb,1987) on the Structure of Construction Industry in Nigeria, confirm agreement and thus become some points of reference.

On the classification of the activities of the industry into distinct groups, such areas covered include: Employment, Wages and Salaries, Gross Output, Receipts, Forms of Ownership of Construction firms, Operators of the Industry etc (FOS data set).

Interest abounds in all the specific areas mentioned above as covered by FOS data set. However, Labour, a major component of the picture of Construction Industry is thus chosen as the main concern of this study. The Construction labour force is totally unique; generally held as the executory factor of the three building physical resources; and from economic point of view, it is labour that gives the highest chance for profit when properly used. Hence, the need and the importance of the study into this aspect of the Construction Industry.

This research plan considers a decade period, 1976 –1985, which is further broken down into two subsequent lustra: 1976 – 1980 and 1981 – 1985 being the first and second lustrum respectively. The plan is adopted for the convenience of study owing to the non-availability of data in between 1976 and 1980 as no survey was conducted by FOS during this period.

In this research, attempts shall be made to tabulate, juxtapose and expose the FOS data on the Construction Industry in general and its labour in particular in a clear form or manner capable of presenting pieces of useful information for the general public and all

KASHIM IBRAHIM LIB

the building professionals using mainly graphical techniques of presentation. This method of presentation would bring to light format of academic materials for teaching purposes as well as further create better understanding of the picture of Construction Industry in Nigeria.

Construction in Nigeria by majority opinion is labour intensive. Many reasons account for this situation and some of these include: predominance of the existence of a large number of small scale Construction firms in the Construction Industry that rely solely on human physical labour for the execution of their project works; the large number of employees taken up by the Construction Industry as contained in the FOS data set is a pointer to this fact. A project is said to be labour intensive when more human labour and less plant/machinery is used for the execution of its works.

The importance of Construction Industry in the economy of any nation such as Nigeria stems from its contributions in the areas of capital formation gross domestic product (GDP), employment etc. According to Ojo (1974 p.201) the Construction Industry in Nigeria accounted for well over 54% of the total fixed capital formation for the period 1960 – 1970. He further stressed that amongst all the industries, the Construction Industry since that time, has been the largest employer of paid labour in Nigeria.

The graphic techniques selected for the representation of the tabulated and juxtaposed data include: Line graphs (simple, group and compound); Bar graphs (simple, group and compound); Divided circles (simple and proportional); Divided rectangles (simple and compound).

From the various discussions mentioned earlier, it is glaring that there is enough background to warrant a study that will examine the FOS data for the ease of further usage and the exposition of a better picture of the Construction Industry in Nigeria through it.

1.2 AIM AND OBJECTIVES

The main aim of this research is to expose against the background of Construction Industry in Nigeria, the picture of Construction labour within the decade, 1976-1985, as contained in the FOS data set in use. Sequel to such the main aim, the objectives are as follows:

(i) To present the general picture of the Construction Industry in Nigeria as contained in the FOS Building and Construction surveys.

(ii) To tabulate and juxtapose the FOS data on Construction labour against the background of Construction Industry in Nigeria in a clear (sound) form that can aid further detail research analysis.

(iii) To represent, using selected graphic techniques, the picture stemming from FOS data chosen on the Construction Industry in Nigeria in general and labour in the Construction Industry in particular that can provoke further research interest in this respect.

(iv) To present, explain and comment upon the picture of Construction labour in Nigeria as contained in the Building and Construction surveys data of the FOS.

1.3 SIGNIFICANCE OF THE STUDY

The Federal Office of Statistics for the purpose of creating awareness on the activities of Construction Industry in Nigeria, made available sets of data on Building and Construction , by way of survey since 1976, the data set for which this study is based. However, adequate attention has not been paid to these attractive publications of FOS, particularly in the areas of academic study, to get their content better exposed as well as evolve some meaningful and useful deductions out of them. The FOS data set as it has been published, presents less usable information or message for the purposes of academic teaching and research. As little or no academic work has been carried out on the available

FOS data set, confirms the difficult nature and style of data presentation that can warrant ease of handling for academic study.

This study therefore, attempts to handle and make the FOS data understandable and presentable for academic teacher, the professional builder, and the building students.

From the various issues of FOS data set stated elsewhere (Olayide, 1976 p. 93) as well as those that have been discussed here, it is apparent that there is enough background to warrant a study that will examine and project the picture of labour in the Construction Industry in Nigeria. Current investigations have revealed little scientific search in this area, hence, the study will somewhat pioneer a search for the true position. The study will be significant in that the Construction Industry, the Construction professionals will be better informed of the situation of labour in the Construction Industry in Nigeria, the FOS data reduced to the level quite understandable and presentable for the teacher's usage.

1.4 APPROACH, METHODOLOGY AND SEQUENCE OF PRESENTATION

In order to achieve the main aim and of course the objectives of this study as stated above, a four way approach has been adopted here to facilitate and ensure reasonable research work, viz.

(i) Review of literature on the general picture of Construction Industry and on Construction labour force.
(ii) Tabulating and juxtaposing the FOS data set, particularly on Construction labour.
(iii) Represent the FOS data using graphic techniques of representation (see appendix B).
(iv) Analyse generally (ii) and (iii) above.

The first approach was accomplished through the study of literature, especially Nigerian Construction journals, magazines, proceedings of seminars and other publications.

Then the FOS data set delimiting a period of a decade has been grouped into two 5-year periods (lustra) for the purpose of the study and the presentation of the tabulated and juxtaposed data in use.

The third approach uses graphic techniques of illustration for the presentation of the data. A manual of selected graphical methods of presentation used will be made here, however, appendix B presents details of their Construction, purpose and uses.

The last approach was basically explanations based on the outcome of the other approaches mentioned.

Usually the need to adopt charts and graphs in presenting statistical data or

SEQUENCE OF ACTION / INSTRUCTION	STEPS NO / PROBLEMS	1	2	3	4	5	6	7
SEQUENCE OF ACTION	General Attention	Collect *the* Data				Produce graphical *representation*		
SEQUENCE OF ACTION	objective of Research oriented *step*		Get Aquaintance with the Data	*Tabulate* Data (define & implement)	Juxtapose Data (define & implement)		Analyse the products of 3, 4 & 5	Comment upon the result of analysis made at 6
INSTRUCTION	Methods And Techniques in use	yearly stattistical survey throughout the country	Logical *consideration*; Arithemetical comprisons in case of a need	Data Tabulation process as indicated in the text of chapter two	Data Juxtaposition (Ditto)	Name the methods and techniques, Master it; use for analysis	(a) Individual logic analysis (b) Brain-storming (c) Consultation with economists	Ever try to put data on labour *against* data on contruction industry
INSTRUCTION	Problems And Phenomena For Paticular Attention	The List of FOS questionaires (a) Addresses (b) *Repondents* (c) Geography of (a) & (b)	(a) Features of const. Industry development. (b) *Trends in* the field of Const. Labour (c) Const. Labour geography	*Compile the* FOS data on Constr. Industry and constr. Labour to reflect the main trends and geographical distribution	Compile the FOS data *on* constr. Industry and constr. Ditto	Pin-point (a) Charcateristic shape of *graphs* (b) The ups and downs of the trends	Looking for *reasons of* problems and phenomena revealed in step 5	Try to answer the Following questions (a) Is the fixed capital growing in Nigeria as the product of const *industry* (b) Is the const. labour growing in (i) Number (ii) Qualifications

Fig. 1.1 METHODOLOGY OF THIS RESEARCH: Sequence of research procedure Vis-A-Vis FOS DATA

quantities arises from the fact that they are more effective in creating interest and appeal, serve as a medium for conveying important visual communication (message), saves time as the essential meaning of large masses of statistical data can be visualized at a glance, provide comprehensive picture of a problem, bring out hidden facts and relationship and can stimulate, as well as aid analytical thinking and investigation (Schmid and Schmid, 1979 p.1; Truran. 1977 p.5).

As mentioned above in the third approach, the manual of selected graphic methods of representation (see appendix B) include the following techniques:

Line and Curve Graphs In addition to possessing characteristics of simplicity or ease of construction, ease of interpretation, pleasing appearance and visual impression, this type of graphs are most commonly used and usually emphasize relationships between quantities or variables (rise or fall of values) i.e between the dependent and the independent variables. It is a line graph when the points are joined by straight lines and a curve one when the points are joined by a smooth curve. There exist also compound and comparative line graphs. While compound line graph is used to show the component parts of a total, the comparative (group) line graph is particularly useful for the purpose of comparison.

Bar Graphs These graphs possess the qualities of simplicity of Construction, visual appeal, and ease of interpretation of the information they convey. They are used in the representation of definite quantities and thus draw attention both to the individual amounts and their relative variations. In their wide varieties of use, they come in four main types and these are simple, compound, comparative and divergence bar graphs.

Pie Charts They present striking visual impression and appeal as well as portray component relation since the various sectors of a circle represent component parts of an aggregate or total. Also two or more pie-charts of the same size may be used for the purpose of comparison, provided that the emphasis lies on the comparison of the

KASHIM IBR

components rather than on the comparison of totals. A proportional divided circle (pie-charts) is used when comparison of totals become utmost concern.

Other Graphs (charts) Other graphs and charts of considerable importance require some mention here. Nevertheless, refer appendix B for their detail manuals. These graphs include circular graphs, divided rectangles, proportional divided circles and semi-circle etc.

It is important to note here that the line and curve graphs and bar graphs, each consists of four different types, namely simple, group or comparative, compound and divergence graphs.

1.5 SCOPE AND LIMITATIONS

The main concern in this research is the analysis of the FOS data set on Building and Construction activities covering a period of a decade (i.e 1976 – 1985) with a focus on Labour force.

This research plan considers a decade period as mentioned. The decade period (1876-1985) is further broken down into two subsequent lustra: 1976 – 1980 and 1981 – 1985 being the first and second lustrum respectively. In these lustra periods the delimiting years (1976 & 1980; 1981 & 1985) either direction of each lustrum are selected for consideration owing principally to limitations of non-availability of data in between the years, 1976-1980, as no survey was conducted by FOS during this period.

CHAPTER TWO

2.0 LITERATURE REVIEW: THE PICTURE OF CONSTRUCTION INDUSTRY IN THE MIRRORS OF NIGERIA AUTHORS

2.1 THE CONSTRUCTION INDUSTRY IN NIGERIA

As pointed out in the introductory part of chapter one, the activities of construction in Nigeria are covered by two distinct industries; the "Nigerian Construction Industry". A purely indigenous enterprise and the "construction Industry in Nigeria", which covers both the operations of the indigenous enterprises and other multi-national enterprises which are operating in the territory of the Federal Republic of Nigeria. According to Odepidan (1974 p.24) the Nigerian Construction Industry during the early period existed and its operations were purely based on local construction method. He asserts that the industry received seasoned criticisms, which hitherto paved way for the changes that had led to its present state. In this study therefore, all discussions are centred on the Construction Industry in Nigeria, since this has been the scope coverage of the FOS data set in use.

According to Diejomoah (1974 p.271) the Construction Industry covers such industries that engage themselves in residential construction, industrial and public building construction, civil engineering works and the building materials manufacturing industry. The above definition of the Construction Industry centres only on the firms that competitively engage in construction through construction contracting process and those that manufacture building materials. This area and a much wider scope was covered by the FOS data in use. Adeyemo (1974 p.235) and Ogunpola (1968 p.339) gave a much more descriptive definition of the Construction Industry. Their definitions centred mainly on the participators/operators of the industry.

In their views, the industry is made up of the client (i e the government, the private, the public and individual); the contractor (i e sole proprietorship, partnership,

ZARIA NIGERIA
Ahmadu Bello University

Limited Liability Company); materials manufacturer and distributor (i e building materials trader); financial institution (i e banks, mortgage houses) and the labour force (managerial, skilled, semi-skilled and unskilled). Additionally, they both asserted that the industry include among others, all those other organizations that specialize in particular sections of the building trades like plumbing, plastering and rendering, services installations etc. And civil engineering works including roads, bridges, railways, water works, ports and harbours, dams, aerodromes and similar structures.

The Federal Office of Statistics gives a wider/explicit list of construction activities and considers those organisations that engage in these activities as part of the Construction Industry. According to FOS (1976 p.1), the International Standard Industrial Classification of Economic Activities defines the Construction Industry to include activities of:

(1a) General building and civil engineering contractors;

(1b) Special trade contractors;

(ii) Establishment or other organisations classified to industries other than construction and carrying construction for others;

(iii) Independent units of enterprises or other organisations which are not part of the Construction Industry proper; e.g. the Bank, Refinery, Agricultural ministry etc. have independent construction units.

(iv) Establishment or other organisations not classified to the Construction Industry with no independent construction unit; for instance, consultancy service section of tertiary institution can undertake Construction work.

(v) Individuals. For example, an individual can undertake Construction for self.

This definition of Construction Industry given by FOS gives the picture of the industry on a wider spectrum that covers the detail activities of the industry as obtainable both in developed and developing countries, the world over. It was in line with the above

472313

that the data set of FOS covering the period 1976–1985 was made available reflecting the picture of Construction Industry in Nigeria.

2.2 ROOTS AND DEVELOPMENT OF THE INDUSTRY

During the early period, there existed very few groups of people (the numerical size being very small as well) in every community set up considered highly talented and proficient in the art of building. These groups limit their operations within the community and are from time to time invited for the Construction of other people's buildings for a fee or some other forms of payment. The group undertook construction work without building plans and based every operation (building process) on traditional methods (Odepidan, 1974 p.24). Also, the selection of suitable local materials of construction depend on their availability and the types vary from locality to locality. For instance, in the Northern parts of the country, mud is a popular material for walling and roof-covering while in the middle-belt and Eastern parts, the most popular traditional materials for roof-covering and walling are thatch (grass) and mud respectively. It was along this line that the Construction Industry took its roots.

The above stage of operations later developed (metamorphosed) into a one-man firm of about ten people headed by a craftsman/or a general builder. The scope of operation here inadvertently has widened as this firm extends its services even across communities. Indeed, the process of development of Construction Industry in Nigeria has been a gradual one, and the contemporary state is reached as a result of the greater demand on the industry products by the rate of development in the forms of greater volume of work, expansion in employment of both skilled and unskilled manpower, requirement for enhanced construction technologies and techniques, quality of workmanship and reduced wastage of building materials, large financial out-lay, project management and complex organisation requiring longer chains of command etc.

According to Odepidan (1974 p.25) the state of development reached by the Construction Industry in Nigeria is traceable to actions and functions of the government

<table>
<tr><th rowspan="2">EVOLUTION STAGE</th><td rowspan="2">CLIENT</td><td rowspan="2">BUILDING PROFESSIONALS RESPONSIBLE TO THE OWNER (CLIENT) FOR PERFORMANCE/EXECUTION OF THE BUILT SPACE ORDERED BY HIM</td><td colspan="2">CONSTRUCTION LABOUR STRUCTURE</td></tr>
<tr><td>FUNCTION OF SUPERVISION/ FOREMAN</td><td>OPERATIVES</td></tr>
<tr><td>I</td><td>SELF BUILDER</td><td>SELF-BUILDER who is in command, checks and verifies</td><td>Builder himself who watches and directs capital</td><td>PROSPECTIVE OWNER (USERS)</td></tr>
<tr><td rowspan="3">II</td><td rowspan="3">OWNER</td><td rowspan="3">MASTER CRAFTMAN who is in fact the main controller of construction work (activity); he is on the owner's payroll</td><td>MASTER CRAFTMAN</td><td>-</td></tr>
<tr><td colspan="2">FOREMEN</td></tr>
<tr><td>-</td><td>UNSKILLED</td></tr>
<tr><td rowspan="3">III</td><td rowspan="3">OWNER INVESTOR</td><td rowspan="3">Usually CONTRACTOR on behalf of himself and sub-contractors: either nominated or selected,
Rarely MANAGER of direct labour on the owner's payroll.</td><td>As determined by contract administrative scheme</td><td></td></tr>
<tr><td colspan="2">FOREMEN</td></tr>
<tr><td>-</td><td>Skilled & unskilled</td></tr>
</table>

Fig. 2.1 Early Stages of Evolution of Construction Industry in Nigeria
(Source: Author's Synthesis from study

departments, public authorities, local authorities, financial institutions, organisation of building professions and trade union, all ascribe to the present structure of the Construction Industry.

As shown in Fig.2.1, stage I represents the age of one-man (self) builder. Since the need for shelter is indispensable, every individual (man) undertakes to construct his own type of house structure. And he is completely in command himself and directs the works of his supporting Construction team who are the members of his family or close relations.

Stage II is the era of the Master Craftsman solely responsible to the owner and who with the assistance of few men (usually un-skilled labour) undertakes the construction of building. He rarely makes use of building plans (drawings).

Stage III is a properly defined set up of Construction organisation which cut across the sole proprietorship, partnership and the limited liability company that enter into and execute contracts on behalf of itself using sub-contractors, professionals, skilled and un-skilled labour as determined by the administrative work scheme. When the government stands as the owner (investor), it could decide to either engage Construction firms or use its own in-house labour force in the system of direct labour approach.

Today, the changes that have over a period of time taken place within the Construction Industry have paved way for the employment of a very large and different categories of labour, thereby placing the Construction Industry in Nigeria as the largest employer of manpower.

2.3 THE STRUCTURE OF CONSTRUCTION INDUSTRY IN NIGERIA

As a complete entity, the Construction Industry occupies an outstanding position in the Structure of the Nigeria economy. Its component parts play a vital and important role in the nation's match towards industrialisation. In Nigeria, virtually all economic and social activities of the nation depend largely on the facilities created by the operations of

Construction Industry. The industrial, commercial, educational etc activities of the nation operate from within the facilities created by the operations of the Construction Industry.

The Structure of the Construction Industry in Nigeria can be imagined on the basis of the various component parts making up the industry.

The first component part is the activities. On this aspect, the industry is made up of three distinct construction activities. These include building construction, civil engineering construction and other construction. The bulk infrastructural facilities, fixed assets (capital) and facilities for commerce, industry, education, health, transportation etc, are created through these three groups of activities. According to Husseini (1991 P.119), Owo (1990 P.1) and Sikora (1990), the Construction Industry is held as an indispensable infrastructural base for the developed and developing countries, generator of fixed capital, employer of very large skilled labour force (from 5 to 15 and even 20% in some developed countries from time to time) and also well noted as an essential contributor to the process of national development.

The second vital component part of the Construction Industry is the client who infact is the operator of the industry. The clients of the Construction Industry in Nigeria cut across the government and the private sector, individuals inclusive. These two provide 96% and 4% respectively of the funds spent in 1992 for the execution of the various construction activities. When a particular construction project is adequately financed, it affects the economy in a number of ways. Apart from other advantages, it provides employment and creates additional facility for the wealth of the nation. Ogunpola (1968 P.339) and Adeyemo (1974 P.239) gave the participators/operators (i.e clients) of the Construction Industry to include the government and the private sector. In Nigeria, government is the major client.

The contractor forms the third major component part of the Structure of Construction Industry. The business of construction is usually undertaken through construction contracting companies, which take up the responsibility for the building process. These construction work contracting companies cut across the Sole

Proprietorship, Partnership and Limited Liability organization forms. The selection of a particular firm by owner/client for a given construction job depends in principle on the size and nature of construction required. The government through its organs participates in construction by funding 96% of the construction work. It does this by way of tendering/awarding/contracting processes or sometimes by direct labour (using its in-house personnel) or the use of government construction agency if in existence.

The manufacturer and dealer/distributor of construction materials form yet another component part of the Construction Industry. This aspect of the industry is very vital as no construction can take place without the availability of the building materials.

The financial institutions participate in construction through the process of making funds available for financing the various aspects of construction. Loans can be sought from banks by clients of the industry to finance projects of whatever kind.

Labour forms a very important aspect (bearing) of the structure of Construction Industry. All aspects of the component parts mentioned require the use of labour to function effectively. In short, labour is the life-wire for all the various activities within the Construction Industry. The transformation of the processes of Construction into finished products is made possible through the use of construction labour, materials and equipment, i.e physical building resources. The construction professional bodies which are also a part of the industry exist purely to regulate, maintain, co-ordinate and control construction standards practices which will be comparable nationally and internationally. This ensures to the full registration and competence of any intending professional before licensing him/her to commence practice in the field of construction.

The major source of funding Construction projects in Nigeria is through the provision made annually for capital expenditure in the nation's budget. The organ of government responsible for this is the national planning commission within the presidency.

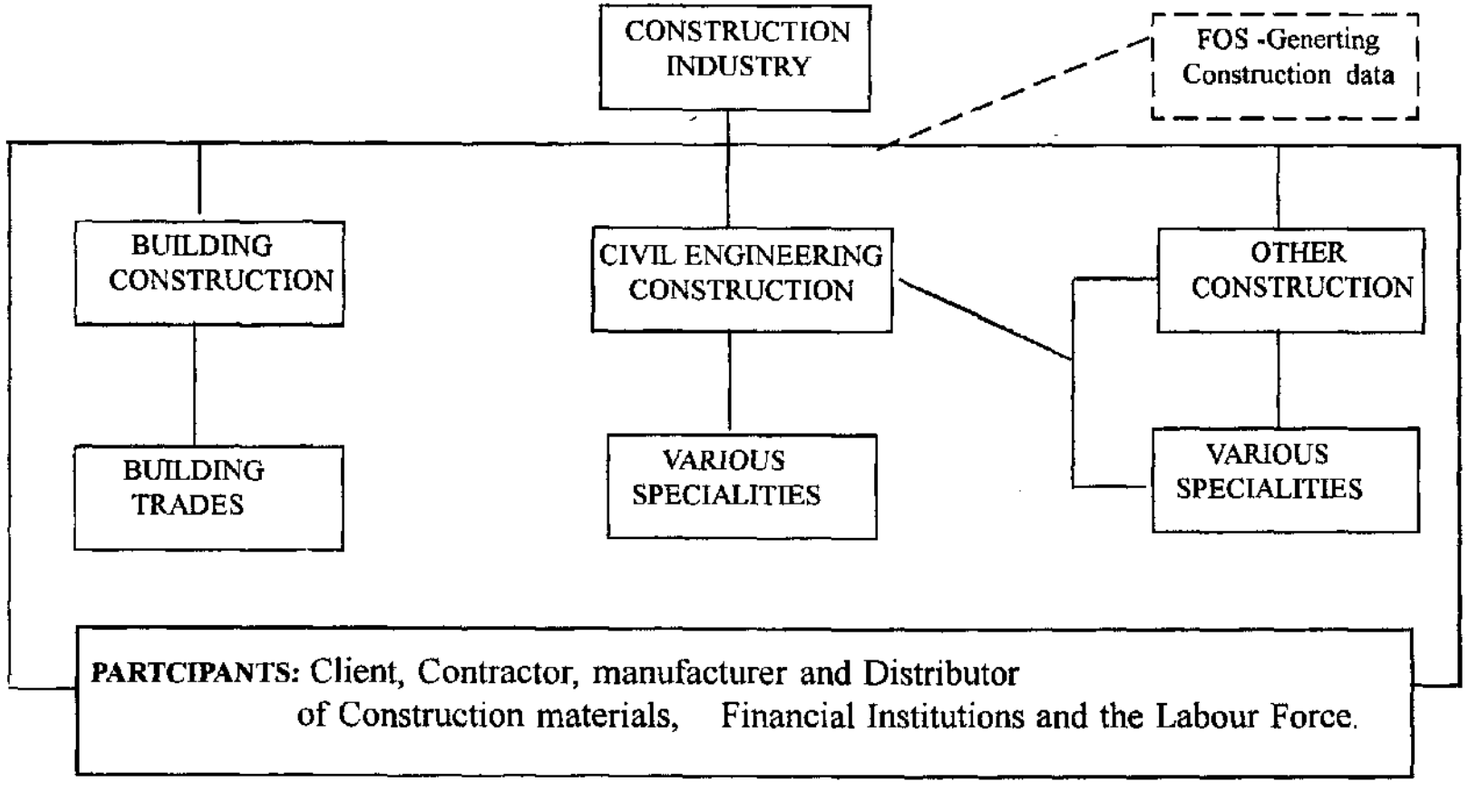


Fig. 2.2 Strctural Composition of Construction Industry in Nigeria.
(Source:-Author's Synthesis from study. See Adeyemo, 1974 and Ogunpola, 1968)

2.3.1 Trade Composition of Construction Industry

According to Odepidan (1974 P.23), construction is a short-hand term covering a wide range of activities in building and civil engineering and including both new works, repairs and maintenance. There are a wide range of Construction trades in the Construction Industry in Nigeria and these trades are grouped under major work sections of the industry and which often overlap (see fig.2.2). On Butler (1988 P.3) and in conjunction with Abeeb (1987), trades composition of the Construction Industry in Nigeria are formed on the basis of its construction activities under the following work sections.

2.3.1.1 General Building Construction

These are firms which engage in the Construction, alteration, repair and demolition of all types of residential, commercial, industrial and other buildings. The architect is most often the head of the design team in this area. Various legal forms of construction organization such as the Sole Proprietorship, Partnership and the Limited Liability Company Settle for different categories of construction works ranging from simple to complex building construction projects.

2.3.1.2 *Civil Engineering Construction*

This category of construction covers generally, works that are planned and designed by engineers rather than architects. Typical projects include: highways, bridges, grading, municipal utilities (waterworks, sewers etc), paving, dams, airports, harbours, stadia, railways etc. The dredging companies are also included here. The construction, alteration, repairs and demolition of these projects are the domain of civil engineering companies. Various legal forms of Construction organization engage themselves in these areas of work. However, in Nigeria, the common form of construction organization contending for work mainly in this area are the Limited Liability companies as this area of work of Construction usually require large capital in terms of finance and equipment.

2.3.1.3 Building Trades

This area is handled mainly by sub-contractors and it is highly competitive and a specialized field. The sub-contractor usually is on contract with the main contractor. Building sub-contracting covers mainly such areas as plumbing, roofing, painting, air-conditioning, electrical wiring, structural steel works, lifts, glass or glazing etc.

2.3.1.4 Other Construction Specialties

These include: Marine Contractors, oil-wells and drilling, pipelines, hydro-electric plants, communication systems, industrial and as claimed chemical processing plants contractors etc (table 2.1).

TABLE 2.1 Trade Composition of the Nigerian Construction Industry

CONSTRUCTION INDUSTRY IN NIGERIA			
A	B	C	D
GENERAL BUILDING CONSTRUCTION	CIVIL ENGINEERING CONSTRUCTION	BUILDING TRADES	OTHER CONSTRUCTION SPECIALTIES

Source: Author's Synthesis from study.

The above classification of work activities (table 2.1) embodying, the firms that execute these activities make up this component of the industry. In a similar manner, FOS (1980) break the work activities of the Construction Industry into building projects and other Construction projects where the former covers general activities relating to building process and the later covers the general activities relating to civil engineering processes and other construction specialties.

There is a matching agreement here in the trades composition of the Construction Industry between the authors reviewed and FOS data (1980).

2.4 CONSTRUCTION INDUSTRY IN NIGERIA VS NATIONAL ECONOMICS IN THE DECADE, 1976 - 1985

The importance of Construction Industry in Nigeria can be viewed from the perspective of its contributions to the national economy. According to Wahab (1988 p.4) the contributions of the Construction Industry to national economy is very glaring as the industry in its own right attracts very high investments from both the public and private sector (government being the largest client/customer); provides employment within and outside the country, contributor of a large part of both the gross domestic product (GDP) and gross capital formation of the country. This FOS data also projected that in 1980, the total output value of Construction Industry in Nigeria amounted to N 7,342.34 million and this represented 64.2% capital formation in the same year (table 2.2). In the areas of gross national product and employment, the industry accounted for 5.7% GNP and 20.8% of all the total wage employment figure in 1975 respectively (Olayide, 1976 p.93). These do not underscore the significance and importance of the Construction Industry as the major facilitator of the process of national development. Also, FOS (1981) projected that the number of category of workers (un-skilled, semi-skilled and skilled) employed by Construction Industry was put at 105,563 out of its total employment figure of 120,932 representing 87.29% of the total number.

The contributions of Construction Industry to national economy in the areas of allocation of public finance to all economic services and the degree of investments by clients of the industry in construction is further amplified by tables 2.3 and 2.4 respectively.

The importance of construction is further projected by the government expenditure in it between 1982 and 1986, placing construction highest among all economic services as evidenced by table 2.3.

TABLE 1.2: Composition of Gross Capital Formation at Current Purchaser's Values.

(₦ ' Million)

TIME PERIOD / TYPE OF ASSETS		1ST LUSTRUM		2ND LUSTRUM	
		1976	1980	1981	1985
Residential Buildings	A	777.66	7,342.34	5,506.00	2,703.00
Non-Residential Buildings		1,699.81			
Other Construction except Land improvement.		2,622.42			
Land Improvement		80.05	117.40	669.00	261.00
Machinery and Equipment		1,491.93	2,166.90	3,287.00	1,374.00
Transport Equipment		1,426.03	1,196.20	2,744.00	965.00
Breeding Stock		9.41	18.39	11.00	16.00
Gross Fixed Capital Formation	B1	8,107.31	10,841.23	12,217.00	5,319.00
Increase In Stocks	B2	469.47	589.86	-621.00	-447.00
Gross Capital Formation	B3	8,576.78	11,431.09	11,596.00	4,872.00
All Construction as percent of Gross Capital Formation	B4	59.5%	53.3%	47.5%	55.5%
Housing as percent of Gross Capital Formation	C	28.9%	-	-	-

(Source: Adapted from FOS Table 184. National Accounts 1984. Page 201)

Table 2.3 Recurrent Expenditure of the Federal Government (N 'million)

ECONOMIC SERVICES	1982	1983	1984	1985	1986	%
AGRICULTURE	31.5	42.7	41.7	41.1	38.1	9.8
CONSTRUCTION	228.0	211.2	202.5	184.9	282.7	55.9
TRANSPORTATION & COMMUNICATION	55.2	52.2	46.1	57.7	94.8	15.4
OTHER ECONOMIC SERVICES	100.5	106.7	36.6	31.7	98.1	18.9

Source: CBN, FGN Official Gazette and approved estimates for 1983 and 1984. Extracted by author from FOS table 187,1984 P.203

Table 2.4 INVESTMENTS IN CONSTRUCTION BY THE VARIOUS CLIENTS.

(N ' MILLION)

CLIENTS	1976	1980	1981	1985	%
FEDERAL GOVERNMENT	574,224	422,449	921,612	336,701	46.2
STATE & LOCAL GOVT	240,235	363,567	476,137	255,125	27.4
OTHER PUBLIC INSTITUTIONS CORPORATIONS, UNIVERSITIES ETC	149,125	194,617	165,492	122,985	12.9
PRIVATE BODIES	159,711	173,907	243,581	82,755	13.5
TOTAL	1,123,295	1,154,540	1,806,822	797,566	100.0

Source:- FOS data 1976, 1980, 1981, 1985, Table X.

Table 2.4 reveals that the government (all arms) as the major client of Construction Industry in Nigeria accounted for 86.5% of the total investment in construction in the decade period (1976-1985) while the private bodies accounted for only 13.5% during the same period.

2.4.1 Specific Characteristic Features of Construction Industry

In Nigeria, the majority of Construction works are undertaken through the process of construction contracting, hence the characterization of the Industry that tilted heavily towards contractor's organisations. Odepidan (1974 p.29) posits that the construction firms within the industry are widely distributed in size and showing similar characteristics across the states of the Federation.

The grouping of firms in the Construction Industry is based mainly on its character or type of work, location, number of employees, annual turnover, capital resources base etc. According to Olateju (1995 P.4) the criteria used to place companies in construction are: number of employees (i e less than 25 as small, 25-500 as medium and above 500 as large): contract size (i e category A & B as small, C as medium and D as large); scope of operations (i e local, state and national); level of expertise and size of asset etc. Also construction firms are distinguished on the basis of their level of international connections. Butler (1982 P.1) declared that while the small firms (very large in number) in the industry engage in repairs, maintenance works and small new building projects, the large organisations contend in the highly competitive industry for many and varied types of projects.

In Nigeria, the most common procedure of awarding big construction contracts is through negotiation. The government (the major client) usually enters into contracts with the big and reputable firms for, its big projects without necessarily calling invitation to tender. This practice in most cases ends up with inflated contract sums or the same contract re-warded a number of times.

FOS data (1980 P.1) confirmed that in the Construction Industry in Nigeria, there exist a large number of marginal concerns (firms) possibly as a result of the relative ease of entry into the contracting business. And it was for the purpose of excluding the petty contractors that FOS adopted the minimum of N200,000 contract value level mark in its 1980 survey.

As an investment goods industry, the demand for the new products of the Construction Industry is wanted not just for their own sake alone, but also on account of the goods or services which these new products can create or help to create. Usually, the ultimate uses of construction products are:

(i) as a means of further production e.g factory building.

(ii) as an addition to or improvement upon the infrastructure of the economy e .g roads.

(iii) as social investments e.g schools, hospitals etc

(iv) as an investment goods for direct occupation e.g housing (residential).

In other sense too, the products of the Construction Industry are capital goods, since their values are high in relation to the income of the purchaser. It is the result of the huge capital involved in construction that the government (Federal, State and Local) is the major client of the industry, accounting always for over half the demand on the industry. For instance, the FOS data (1980 P.16) reveals that the government (all arms) accounted for about 74% of building projects and about 91.5% of civil engineering and other Construction projects.

2.4.2 Inter-Relationship of the Industry and National Economy

The main characteristics of the Construction Industry in areas of size, investment goods industry and dependence on government as a major client provide the key to the inter-relationship between the industry and the national economy. Outside private investment, government invests in construction mainly to meet the social needs of the citizenry. However, the industry is still subject to fluctuations in demand, since most of its products will be required only if certain other factors are favourable. Judging from above therefore, the degree (rate) of investments is controlled by a number of factors over which the industry has no direct control. In Nigeria, the government had, from time to time, used the Construction Industry to regulate the economy. This, the government did either by reducing

or increasing its investments in the industry. To ensure optimum operation of the Construction Industry in Nigeria, government (as the major client) should maintain a good level of investment in construction at all times.

2.5 DYNAMICS OF THE CONSTRUCTION INDUSTRY

The State of the Construction Industry in Nigeria has never been static but rather dynamic. Changes in its Structural form, mode of operation, expansion, new technical innovations etc. have been part of the industry in recent past. According to Tunde (1994 P.1) the state of the national economy calls for a policy formulation that would ensure clients' confidence in the quality of the design and construction work undertaken in order to ease maintenance services, avoid greater expenditure in the future, and keep and restore buildings to their design values.

The Construction Industry in Nigeria has witnessed a good number of criticisms through the years and the stages that have developed through the changes witnessed in the industry have placed Construction Industry in Nigeria on a much better footing. Nevertheless, this trend is still expected to continue in the industry for sometime. According to Obiegbu (1994, P.2) the Construction Industry in the past has witnessed growth in the area of increasing demand for complex projects requiring a high quality management approach to be adopted. Olateju (1995 P.9) noted that prior to 1981, the Construction Industry experienced tremendous growth.

The oil boom, the re-construction of the civil war, and the 10 to 20% mobilization advances made it possible for anyone to enter into Construction, even without any construction experience. Until the late sixties, contracts were awarded only when the money for their execution was available. Contractors were paid as at when due, there was less manipulations in the award of contracts and the quality of workmanship was high. Since 1981, however, contractors' operations have become more difficult as clients, particularly government, have cultivated the habit of willfully re-negotiating the terms of the already initiated contracts by not honouring progress certificates as at when due; and the contractor

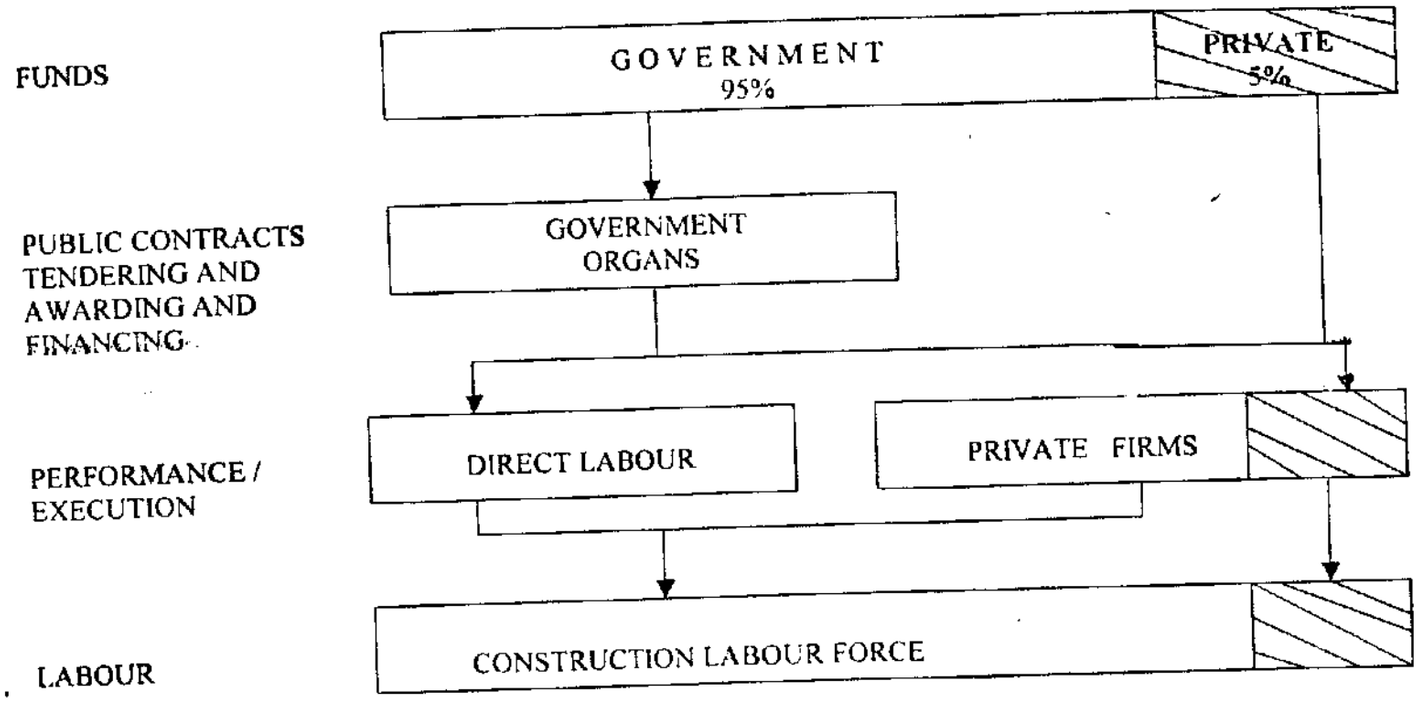


Fig. 2.3 Structure of Construction project Delivery in the industry

Source : Author's perception

appears helpless. The projects then over-run in costs and time, and eventually the completed project ends up with poor quality. This un-welcome development over the years has adversely affected the operations and reputation of the contractor and the general image of the industry.

The clients' requirement for quality, introduction of new techniques of construction and effective management and control of construction resources on site, all ascribe to the use of competent builder for the execution of construction projects. This culture and trend is gaining ground in Nigeria today. While there exist both private and public construction firms for execution of construction works, the government also through its various agencies undertake construction activities through the process of direct labour.

2.5.1 Government Policies and the Construction Industry

The nature and the characteristics of the Construction Industry make the industry highly susceptible to a number of manipulations by the operators of the industry. In Nigeria, successive governments have generally exacerbated the construction demand fluctuations by using the Construction Industry as a regulator for the economy. This, they do either by direct intervention as the major client for the industry or indirectly through the manipulation of interest rates to control private sector building demand (Tunde, 1994 P.2). In addition, there has been the increasing regulation of building standards and land-use through building regulation and planning legislation. Ohiare (1995 P.4) posits that the Construction Industry suffers a fluctuating demand due to the national state of the economy, social and economic policies of the government.

The above figure (fig.2.3) provides an insight into the construction business routine in the Construction Industry in Nigeria before, during and after the period covered by the study.

For a given Construction project, fund has to be made available by the sponsor (i e public or private). The public comprises of the various government organs (e g ministries, parastatals, institutions etc) while private comprises of both the individuals and corporate

bodies (e g banks, companies, individuals etc). Construction is usually undertaken through the process of construction contracting using either private firms or government agencies. However, construction can yet be undertaken through direct labour.

The Federal Government recently placed emphasis on the need to establish functional Direct Labour units in major government ministries and parastatals and this has so far received much popularity throughout the states of the Federation. Within any level of organisational set up in this industry, labour is involved and this presents striking features on which the success of the organisation mostly lies. Labour in the Construction Industry is usually categorized as managerial, supervisory, skilled semi-skilled and un-skilled labour.

2.6 CONSTRUCTION INDUSTRY AS TOOL OF NATIONAL DEVELOPMENT

The development of any nation is assessed in terms of the availability of infrastructural facilities for direct usage and for the efficient operation of the various activities. Most of these infrastructural facilities of national development are in fact the products of the Construction Industry. According to Oladapo (1974 P.189), the importance of Construction Industry to national development hinge on the provision of basic infrastructures like housing and urban development, schools, road network for the movement of goods and people, water supply and network of good telecommunications.

Many views exist on the crucial importance of Construction Industry as an agent of national development in Nigeria. For instance, Olayide (1976 P.92) views these contributions in terms of GDP, share of total fixed capital formation, employment and the rate of investments. According to Oladapo (1974 P.189) studies have shown that in 1950s, about 50% of all capital expenditure was invested in civil engineering works, and this was by far the largest share of any sector of the economy. Out of this amount invested, building Construction accounted for 80% while the remaining 20% went to other projects like roads, bridges, ports and railways.

The Construction Industry in Nigeria has evidently necessitated improvement in transport facilities and has as well led directly to the establishment of local industries for the manufacture of cement, roofing materials, metal elements like frames for windows and doors, tiles and terrazzo flooring.

However, Sikora (1990) believes that the structure of national development encompasses all institutions acting together to form infrastructures which are the permanent installations forming the basis for technologies necessary for national development in the areas of social and economic development of the country.

Today in Nigeria, every one is a witness and stands to see all the facilities of national development being created by the Construction Industry through the Petroleum Trust Fund, of the General Sani Abacha government. The fund is being used for massive rehabilitation of roads, schools, hospitals, dams and all such other infrastructural facilities of national development.

KASHIM IBRAHIM LIBR

TABLE 2.5: NIGERIA: ROLE OF CONSTRUCTION IN CAPITAL FORMATION

(N'000)

	ITEMS OF NATIONAL ASSETS / YEAR	TOTAL CAPITAL FORMATION (1)	BUILDINGS (2)	OTHER CONSTRUCTIONS EXCEPT LAND IMPROVEMENT (3)	ALL CONSTRUCTION AS PERCENT OF TOTAL (in lustrum) (4)
1ST LUSTRUM	1976	1,133,295	531,115	602,180	49.54
	1980	1,154,540	435,365	719,175	50.46
	TOTAL	2,287,835	966,480	1,321,355	100.00
2ND LUSTRUM	1981	1,806,822	682,226	1,124,596	69.38
	1985	797,566	304,340	493,226	30.62
	TOTAL	2,604,388	986,566	1,617,822	100.00

Table 2.5 shows steady increase in the total capital formation in between the lustra periods of the study. This means resurgence of construction activities during the period. The relative decline in 1985 may be due to bottlenecks in construction inputs supply.

In consideration of the foregoing, it is clear that the contributions of the Construction Industry to the processes of national development have consistently been enormous. However, prospects for a continuous contribution of this industry to national growth and development of Nigeria are closely tied to the nation's economic stage of maturity and to the organisational changes capable of adjusting its operations within the framework of the former. It is in this aspect of adjusting to changing economic circumstances in the growth process that constitutes one of the greatest challenges before the Nigerian Construction Industry.

CHAPTER THREE

3.0 LABOUR IN THE CONSTRUCTION INDUSTRY IN NIGERIA

3.1 NATURE AND CHARACTERISTICS OF CONSTRUCTION LABOUR

All forms of construction activity, be it labour intensive or not require human involvement in one way or another. According to Olayide(1976 P.92) the economic importance of the Construction Industry in Nigeria can also be assessed in terms of its contribution to employment opportunities. Construction is production oriented and as such it requires a combination of the factors of production to operate and generate construction products. Labour plays an important or major role as it is believed to be the prime or initiator of all productive activities.

Many attempts have been made at defining the term labour. However for the purpose of this study, it is important to consider the definition put forward by Olaniyan (1971 P.27). According to him labour can be described as the basic factor of production which consists of all human efforts, mental and physical, skilled and unskilled used in combination with capital and land to produce commodities and services. Similarly, labour refers to all human efforts which may be manual (physical) or mental, skilled or unskilled, scientific or artistic used in the productive process, usually for a reward (Anyanwuocha, 1993 P.25; Udu and Agu, 1989 P.31). Construction labour therefore, comprises of all categories of labour in the industry that has acquired various levels of knowledge with respect to construction, including the un-skilled.

An aspect of the characteristics of Construction labour in the industry stands un-resolved with respect to the views of Nigerian authors. Many Nigerian authors are in agreement that the Construction Industry in Nigeria is a stereotype of western countries' and it employs usually a high portion of skilled workers to that of unskilled one (Odepidan, 1974 P.35; Ogunpola, 1968 P.356 etc). Kelly (1956 P.38) revealed that in United Kingdom the ratio of skilled labour to that of unskilled in the Construction Industry is slightly more than

twice in that order when compared.. However, Olayide (1976 P.92) who refers to Nigeria reported an entirely different situation where he projected the proportion of skilled labour to that of unskilled in reversed order and in favour of the unskilled labour. In Contradiction is Odepidan (1974 P.33) who opined that the number of skilled labour employed is more than that of unskilled, in the same work reported the result of a survey which placed the proportion of unskilled labour higher to that of the skilled ones in the industry (table 3.1)

The FOS data in use has filled to clear the disparity in the opinions of the authors reviewed in this direction. The FOS specific data in this area only gave a combined image of both the skilled and unskilled labour into single category which it described as construction workers.

Indeed, there is an un-resolved contradiction here, the clarification of which requires further survey/research.

3.1.1 Changes in the Level of Labour

Due to the peculiar nature of construction work (i e site factors, non-permanent work setting for every one-off project etc), its labour in Nigeria exhibits some specific characteristics, most especially in areas of size and structure and the ways through which it has changed over time.. Prior to the decade covered by this study, the level of employment (size of labour) has been on a steady increase over time (Olayide, 1976 P.93). Odepidan (1974 P.35) projected a numerical growth picture in the size of labour between 1968 and 1969. One major factor (i e one that over shadows others) that positively affects the level of employment in this industry hinges on availability of large scale construction activity for continued/smooth operations (Olayide, 1976 P.93).

However, within the decade covered by this research, the trend in labour growth in the Construction Industry in Nigeria is negative (i e down-turn trend). Thus, this projects a reduction in the growth picture of labour. The main factor responsible for this situation may

be none other than inadequate construction activity (less volume of construction works) in the industry. This can happen in a member of ways such as government shifting emphasis from construction to other sectors, policies of government affecting both the private and individuals' investment in construction etc during this period.

In general, it can be argued that the positive or negative growth in the size of labour in the Construction Industry in Nigeria largely follows the direction of government (as major client) actions towards the industry.

3.1.2 Specific Features of Construction Labour

Labour in the Construction Industry in Nigeria appear under five major categories as shown by fig 3.2. The synthesis from study reveals that labour in these categories is unique in its entity and possesses specific characteristic features different from those in other industries. This situation of labour may be due to the nature of Construction Industry.

Allal and Edmond (1977 P.55) declared that to bring any construction project to a successful completion (end) within the available resources at the most expected time require a detailed knowledge of the characteristic features of the labour which will be ready, willing and able to work on the project. This is very essential as it affects the costs of construction. On the ground of economic analysis of British Construction Industry, Hillebrandt (1974 P. 123) reported that site labour (in the 1970s in United Kingdom) accounts for about one third of the cost of construction. In a similar Vane, Ogunpola (1968 P. 358) and Akeredolu-Ale (1974 P.145) projected that labour costs on the average, form a very substantial part (sometimes 40% or more) of the total cost of construction. In consideration of the above, attempts will be made here to briefly highlight on the features possessed by the construction labour, bearing in mind that the features are many and that this attempt is not considered ultimate.

One feature common to and shared by labour in the Construction Industry in Nigeria is that it tends to be highly and quantitatively skilled. The result of this thus command high

wage rates. This idea is shared by many authors (see Akeredolu-Ale, 1974). According to Ogunpola (1968 P.356), the construction labour shows a larger proportion of skilled workers than any other major occupation group and commands relatively high wages. The above feature is shared by all Construction labour categories except one, the unskilled operatives.

Another glaring feature of labour in this industry in Nigeria and in other developing countries, is that the labour is mostly seasonal. To achieve the objectives of any construction project, there should be a continuity in the supply of labour. In Nigeria, by tradition, workers prefer staying on the farm during the peaks of agricultural activity rather than accept to undertake construction. To this end, management of construction organisations as a matter of policy should work out schemes of reasonable wage levels required to entice and keep workers unto construction project works. This feature as discussed here is only peculiar to the last category of workers (unskilled operatives) and somehow to the next higher category (craftsmen cadre).

Un-even level of Construction works throughout the year is another factor responsible for the variance in the volume of labour. Ayo (1974 P.80) declared that construction works including road building progress un-evenly during the year and that construction works are heavily embarked upon during the first, second and fourth quarters of the years but the rate recesses in the third quarter when rains are usually on.

Also the unskilled labourers employed in construction tend to be the same labourers available for unskilled farming whose peak of activities coincides with the peak months of building season (Usoro, 1974 P.66).

Labour instability (or industry turnover) is a feature peculiar to construction labour. Labour mobility between work sites of the same organisation or between different organisations is a common phenomenon as tradesmen are always on the move from one subcontractor employer to another in pursuit of higher wages (Akeredolu-Ale, 1974 P.143; Ogunpola, 1968 P.356).

Also, the frequency of transition into self-employment status is a major characteristic feature of construction labour in this industry. According to Udegbe (1982 P.83). when the volume of work in the industry increases, tradesmen prefer staying on their own where they can be hired by individuals for the construction of their personal houses and consequently make more money. The above feature of labour as stressed by Udegbe may not truly be the prevailing current attitude as it is believed that certain modifications of this have taken place over time for such reasons but one: the use of modern techniques in construction, government polices regarding safety in construction and on construction products etc. Certain other considerations such as the ease with which the tradesmen acquire their tools, existence of small maintenance works that do not require the engagement of contracting firm, lend further explanations as to the prevalence of the transfer from employee status to self-employed or employer status of the labour in the Nigerian Construction Industry.

3.2 EMPLOYER OF CONSTRUCTION LABOUR

In Nigeria, a construction firm can be owned by a construction professional individual or non-professional individual, private body and the government. Where the high level Construction professional owns the firm, he sees to the overall performance of the organisation from the planning stage through to completion of the project. Where he is not the owner of the business concern, he is usually superceded at the top by the managerial cadre in the form of board of directors who issue and review policy decisions.

Apart from the client's supervisory staff, the employers of labour in the industry are in two categories: those whose contracts are the principal or main contractor and those who work mainly as sub-contractors.

Odepidan (1974 P.36) presented the total labour figure employed in the industry in Nigeria in 1969. Out of the total labour figure of 40,419, the main contractor employed 36,784 (representing 91%) while the sub-contractor employed 3,635 (i e 9%).

TABLE 31: Labour Employed in the Construction Industry
(as at 31 December, 1969).

Employer of Labour	Total No Employed	%	Managerial & professional	%	Technician & craftsmen	%	Unskilled	%	Total
Main Contractor	36,784	91	2,281	6	3,715	10	30,788	84	100
Sub Contractor	3,635	9	282	8	2,020	56	1,333	36	100
Total	40,419	100	2,563		5,735		32,121		

Source: Computed based on Odepidan, 1974: Labour Analysis (PP. 35-36).

Note: The percentage of the three (3) categories of labour are based on the sub-totals of the labour employed by the main contractor and sub-contractor.

The above table analysis reveals that the sub-contractor employs more of managerial/professionals (i e managers, supervisors etc), more of technicians and craftsmen (i e monthly-rated workers) and less daily-rated workers (i e unskilled labourers) compared to the main contractor. Similarly, in comparison to the sub-contractor's employment figure, the main contractor employs more of the daily- rated workers (unskilled labourers) and less of the other two categories. Further analysis shows that, of 2,563 workers employed as managers and supervisors in the Construction Industry in Nigeria, 1,454 (57%) are expatriates while 1,109 (43%) are Nigerians. In the main contractor's employment, of the

2,281 employed as managers and supervisors, 1,311 (57%) are of expatriate origin while 970 (43%) are citizens of Nigeria. Similarly in the sub-contractor's employment, of the 282 managers and supervisors, 143 (51%) are from other lands and 139 (49%) are Nigerians (Odepidan, 1974 P.36).

The analysis has shown that labour in the Construction Industry in Nigeria in the area of managerial and supervisory staff is dominated by the expatriates then. The reason for this domination may be due to the fact that most specialist sub-contracting firms are the domain of expatriates (e g lift installation, air-conditioning services are handled by firms mostly managed by expatriates; the situation that existed in the sixties and seventies).

3.2.1 Categories of Construction Labour

In Nigeria, the level of formal education attained and the experience gained through professional practice dictate the category in which each professional belong. Odepidan (1974 P.35) categorized the construction manpower into four groups. He based his categorization on the level of construction education attained, job specialty, skill and experience. These categories are:

(a) Professional and managerial
(b) Sub-professional or technician
(c) Craftsmen
(d) Semi-skilled and unskilled operatives.

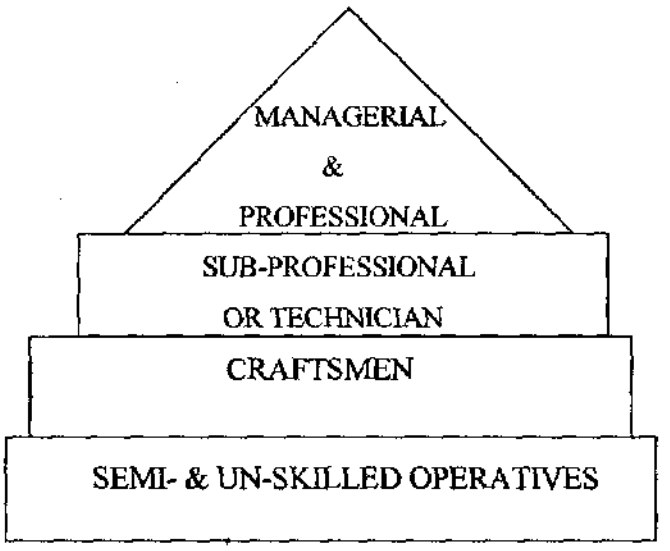


Fig. 3.1 The Construction Manpower Hierarchy

(**Source:-** Author's Perception on Odepidan, 1974 P.33)

In the figure above, the base of the pyramid is formed largely by unskilled labourers (Operatives) who depend on physical strength other than skill in performing their duties e.g carrying of materials in and around the site and manual excavation. The next tier upwards is formed by trained artisans such as carpenters, bricklayers, masons etc. led by foremen, overseers and technical draughtsmen who culminate into the next higher level in the pyramid. These categories of labour are mostly trained in either technical colleges or rather become trained on-the-job during site works. At the top of the pyramid are the highly trained professionals who include among others: Consultants, town planners, land surveyors, architects, quantity surveyors, civil engineers and professional builders.

A detailed distribution of the Construction labour based on the level and field of specialisation, tagged "Structure of manpower in Construction" is given in the appendix.

The present construction labour outlook in the industry is believed to have evolved out of the pattern that had existed as discussed above. This has become necessary to keep pace with the changes and the demands of modern technology. Fig. 3.2 therefore, presents the perception of the categories of the construction labour outlook in the nineties. It is

believed that this outlook still persists and portrays the present labour pattern in the Construction industry in Nigeria.

Fig. 3.2 has clearly categorised the construction labour into five-block outlook giving their levels of position, education, dependency, consultation and defining precisely the roles and duties of each category as well as their levels of involvement in project Construction works.

Inevitably, the pattern of construction labour presented by fig. 3.2 relates well with FOS data presentation. Blocks 4 and 5 representing sub-professionals and technicians plus operatives are called collectively as "Construction Workers" in FOS data. And categories 1,2 and 3 as in fig.3.2 are collectively called "other workers" in FOS data.

Using the FOS data, fig. 3.2 can be demonstrated in number terms thus, as given by fig. 3.3.

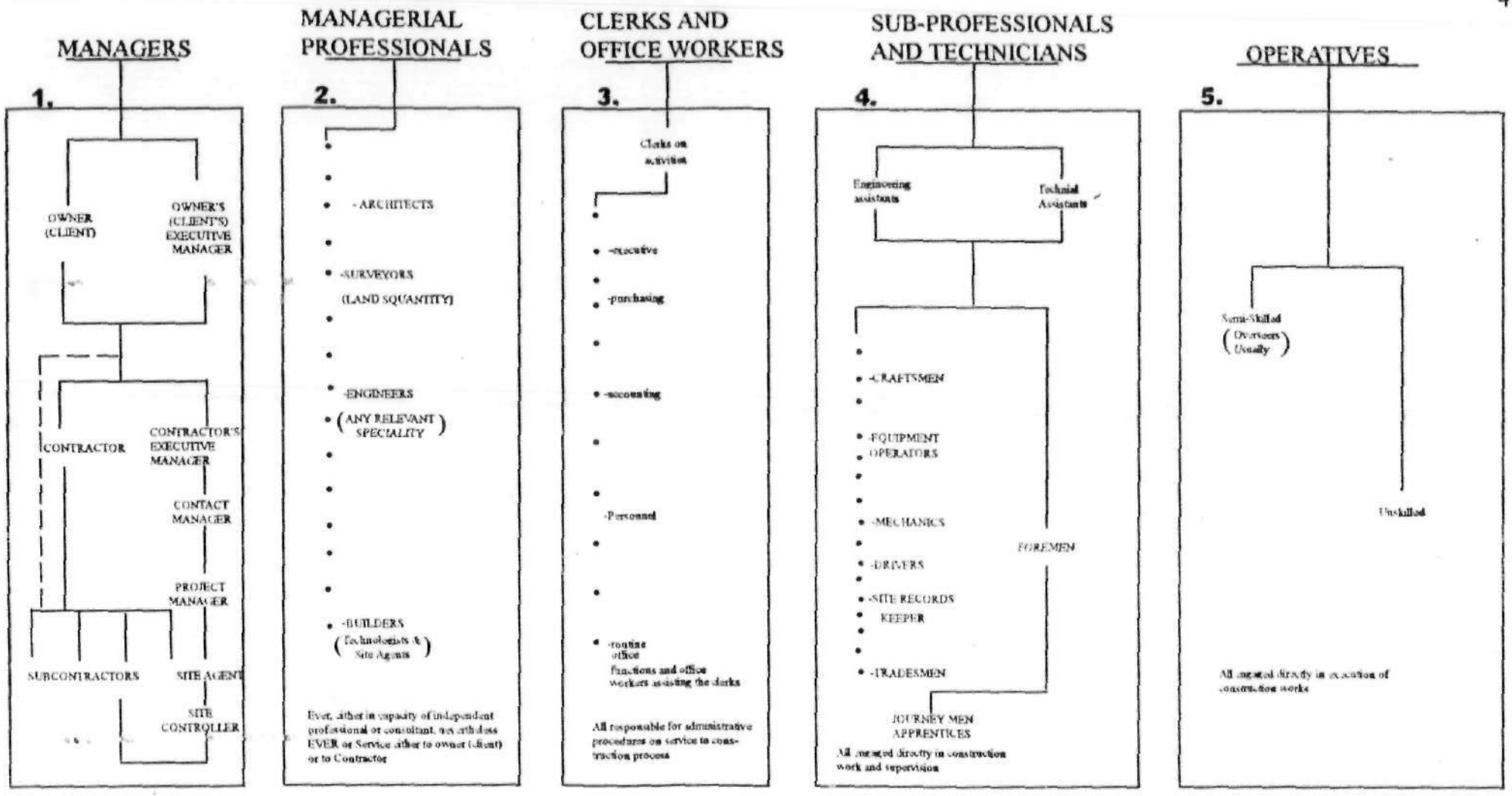


Fig 3.2 THE CATEGORIES OF CONSTRUCTION LABOUR FORCE IN THE CONSTRUCTION INDUSTRY IN NIGERIA IN THE 1990S.
SOURCE:- Author's Modification on Odepidan (1974) in line with the advice of Z.J. Sikora.

Legend:-
—— Line of dependency
_ _ Line of Consultation
..... Line of listing only

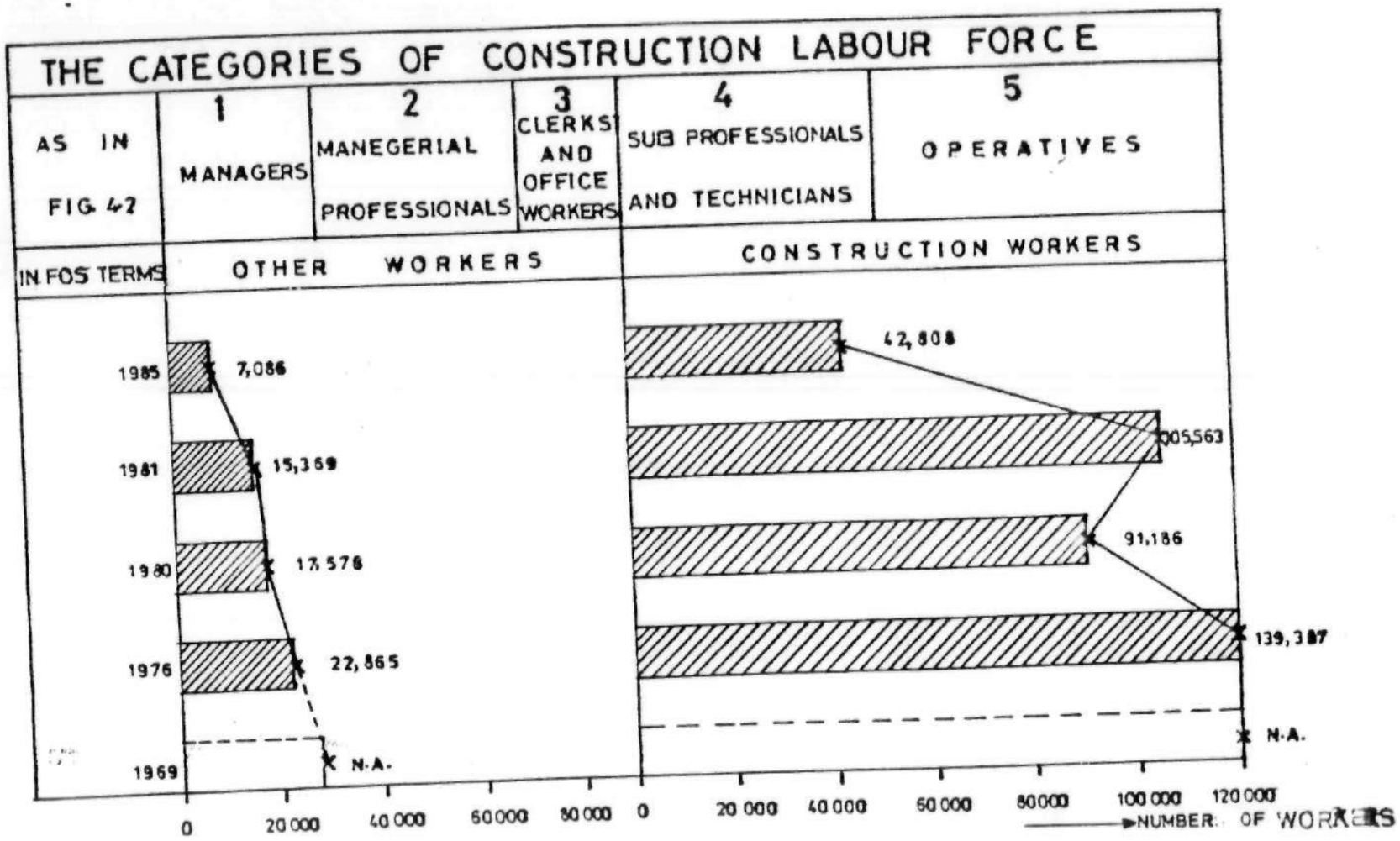


FIG. 3-3 CATEGORIES OF CONSTRUCTION LABOUR AS CONTAINED IN FOS DATA

Fig.3.3 presents some striking features. A careful observations of the bars on "other workers" (i e managers, managerial professional, clerks and office workers) reveal a gradual decrease in the number of these categories of workers in the Construction Industry in Nigeria between 1969 and 1985. The reason for this trend may be attributable to either a decrease in the number of construction firms due to government policies and other factors or less volume of construction activity in the industry due to economic down-turn or both.

On the other hand, the bars on "construction workers" (i e sub-professionals and technicians plus operatives) present a double feature of decrease, rise and again decrease. This situation can simply be explained that in the event of less volume of new works in the industry, these category of workers group together (or individually) to take up work on repairs, cleaning and maintenance of constructed facilities.

3.3 LABOUR MANAGEMENT ASPECTS

In view of the topic of this research, a good understanding of the nature and general picture of construction labour brings about desired management principles required to achieve an optimal level of labour in the Construction Industry most needed and appropriate for any construction project in order that desired objectives are most economically realised. It is generally held that the cost of labour on the average accounts for about 40% (or more in some cases) of the total cost of construction (see Udegbe, 1982; Akeredolu-Ale, 1974; Ogunpola, 1974; Hillebrandt, 1974).

Management of construction projects must therefore, live up to challenges in this regard and work out ways of achieving optimal labour productivity at construction work site at no extra cost on the existing resources but even with a view of reducing the total cost of construction. Most construction works in Nigeria require labour intensive methods that would normally demand some particular technologies and planning techniques to the use of large labour force. However, it is the basic management principles necessary to shed some light on the construction labour that will be briefly examined here. It is of importance that

all factors relating to construction labour be considered at the planning stage since every different project will require a different type of management set up that is most suitable.

3.3.1 Basic Construction Labour Management Principles

According to Allal and Edmond (1977 P.102) the management principle which will serve as a pre-requisite for any labour intensive project need be a full and detailed knowledge of the characteristics of the construction labour, in and around the area of project location, who will be ready, willing and able to work on the project. In their opinion, other requirements that would aid the construction planning process include:

(i) Number of workers currently un-employed or under-employed.
(ii) Variations in the level of labour supply (surplus labour) during the year in relation to the peaks and troughs of agricultural activity.
(iii) Available workers' skills and physical fitness.

Work planning, a responsibility for management thus becomes relatively easy when some ideas of the above requirements have been gained.

Determination of the appropriate wage level. Having determined the level of labour supply that may exist during the period of the project, the management should have enough guide in deciding the wage level that will be required to entice workers unto the project. Another requirement in this area include, the determination of the minimum distance that workers will be prepared to travel to work at the wage rate that will be paid on the project as to whether or not to establish collecting points for workers. 3km is the farthest distance that rural workers will walk to work as suggested by the Kenyan Ministry of Works (Allal and Edmond, 1977).

Other principles. Other planning requirements that the management should consider include the following:-

(i) Determination of the various construction operations.
(ii) Determination of the quantity of work involved.

(iii) Calculation of the total man-days required.

(iv) Determination of the amount of labour needed at anytime with regards to timing of various operations.

Unless things are planned, otherwise, demand for labour will fluctuate greatly whose consequences include:-

(i) Fluctuating labour demand causes adverse social consequences as well as disastrous effects on workers and their families.

(ii) Workers tend to be less productive and hostile to the project as a result of the feeling of insecurity which arises in the work-force due to constant hiring and firing.

(iii) Fluctuating level of employment causes fluctuating level in the facilities for the need of the labour force, the result of which produces inefficiency and high overheads.

(iv) Stable labour demand makes things easier from an administrative point of view.

The reception of these principles in Nigeria and the attitude of Nigeria Labour vis-a-vis them in particular, need a thorough verification through a research.

PART B:- FOS DATA ON BUILDING AND CONSTRUCTION TABULATION, JUXTAPOSITION AND GRAPHIC REPRESENTATION:

CHAPTER FOUR

4.0 PICTURE OF CONSTRUCTION INDUSTRY IN NIGERIA WITHIN 1976 - 1985

The Federal Office of Statistics (FOS) data set under consideration here which covers roughly a period of a decade (1976 - 1985), and which is a data on the various aspect of Building and Construction is a reflection of the general picture of Construction Industry in Nigeria.

This chapter intends to present some of these aspects of the data by way of tabulation, juxtaposition and using graphic techniques of illustration in line with the forms and data coverage with a view to show more clearly, the picture of Construction industry in Nigeria. It is worthwhile to mention here that presentation of data of this nature has two main categories of reasons:

(i) to arouse greater interest in the subject matter presented

(ii) to clarify it, simplify it or explain its most important aspects.

Usually, long tables of figures are unattractive to the eye or quite tedious to read. An attempt to read such tables may be disappointingly un-rewarding. By the time the end of the table is reached, the average reader is over-whelmed with information and quite unable to easily answer important questions, such as, what were the largest and smallest quantities in the list; where or when did they occur; and is there a tendency of similar values or for any exceptional values to be present?. The presentation of data of this nature by graphic illustrations not only provides useful information and makes the whole subject appear more interesting but also makes the answers to many of these questions easier to obtain.

In the author's opinion, the aspects of the FOS data that really has the ability of projecting useful information include: Annual turnover of the Construction Industry; Number of Construction enterprises in the industry; Ownership formation of construction enterprise; Types of activity in the Construction Industry, The labour force.

4.1 GROSS OUTPUT OF FIRMS IN THE CONSTRUCTION INDUSTRY

The FOS presents the total receipt of the Building and Construction Industry by forms of ownership of construction organisation. Table 4.1 evidences this.

TABLE. 4.1: NATIONALISTIC PICTURE OF CONSTRUCTION INDUSTRY IN NIGERIA (1976-1985) IN THE STUDY PLAN PERSPECTIVE

(=N='000)

FORM OF OWNERSHIP	CHARACTERISTIC OF SECTOR		1ST LUSTRUM				2ND LUSTRUM				REMARKS	AREA OF OPERATION
	NAME ROUGHLY	METHOD OF OPERATION	TOTAL RECEIPTS (GROSS OUTPUT)				TOTAL RECEIPTS (GROSS OUTPUT)					
			1976	%	1980	%	1981	%	1985	%		
1	2	3	4	5	6	7	8	9	10	11	12	13
SOLE PROPRIETORSHIP	TRADITIONAL	Use of traditional methods of work and locally manufactured materials.	87,685	7.6	56,965	4.8	18,211	0.9	8,635	1.1	Mainly Owner Builders and small companies: work on repairs,alterations, mainterance and oftem small residential houses	MOSTLY RURAL AREAS.
& PARTNERSHIP			29,368	2.5	4,480	0.4	6,608	0.4	1,099	0.1		
LIMITED LIABLITY COMPANIES: INDIGENOUS	NATIONAL CONVENTIONAL	Use a mix of traditional techniqnes and materials with modern techniques and industrially produced materuals	1,045,615	89. 9	1,112,186	94.4	1,811,320	98.7	800,044	98.8	Reputable contractors with competent const professionals on pay rolls. Engage mainly on new works.	LOCALITIES AND CITIES
MULTI-NATIONAL	INTERNATIONAL MODERN	Use of western and varied construction techniques.									In most cases invited to undertake projects of great magnitude. Apply complex organisational strategy	URBAN CENTRES/ STATE CAPITALS
GOVERNMENT AGENCTES		VARIOUS (Miscellaneous)	9,641	0.8	-	-	-	-	-	-	Undertake Director labour works using own labour usually on public projects	URBAN CENTRES/ STATE CAPITALS (on special projects)
TOTAL			1,162,668	100	1,173,631	100	1,836,139	100	809,778	100		

SOURCE:- F.O.S Data on Building & Construction Surveys 1976 - 1985. Author's Perspection in Consultation with Z.J. SIKORA

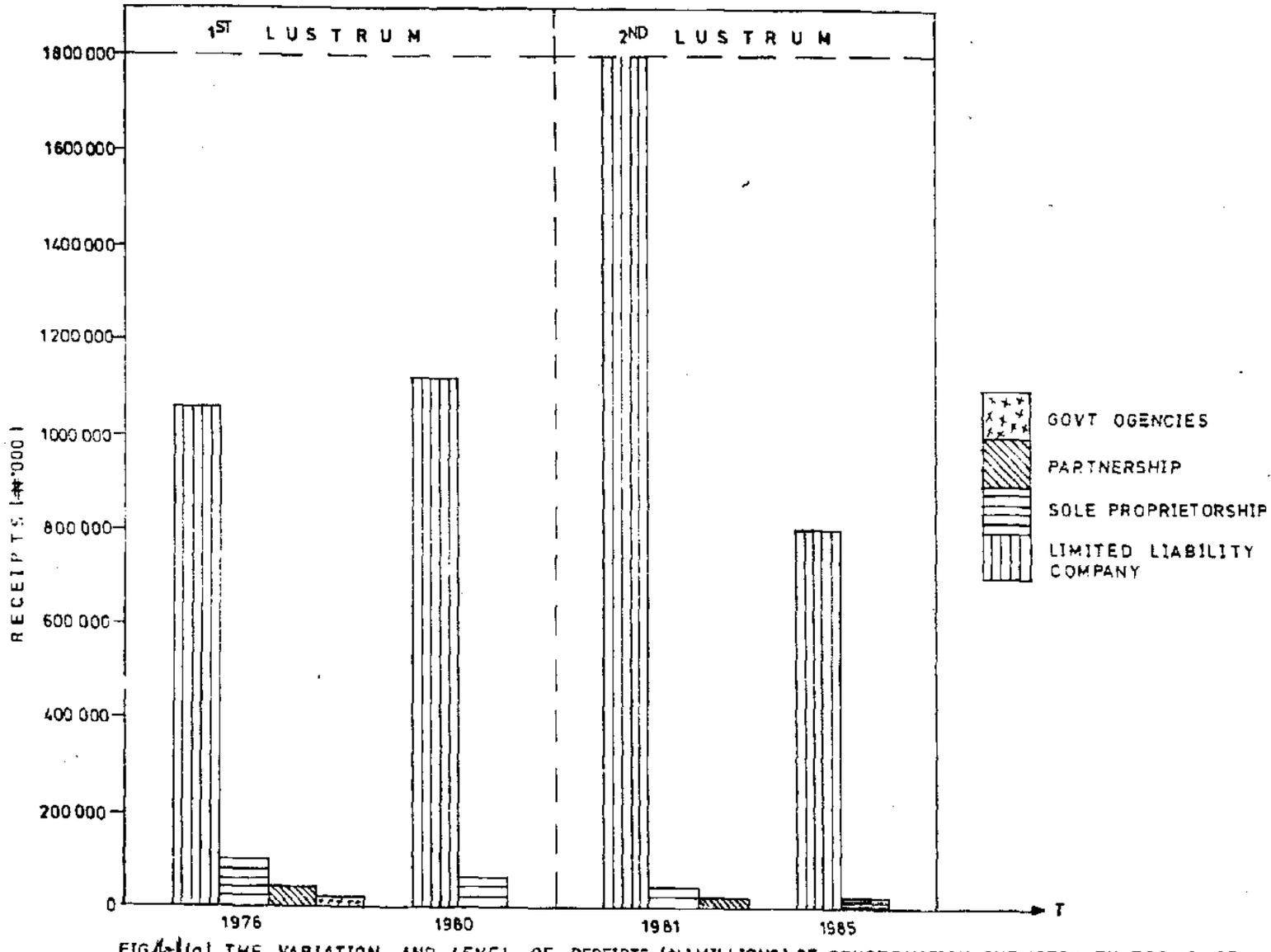


FIG 4-1(a) THE VARIATION AND LEVEL OF RECEIPTS (₦'MILLIONS) OF CONSTRUCTION INDUSTRY BY FORMS OF CONSTRUCTION ORGANISATION

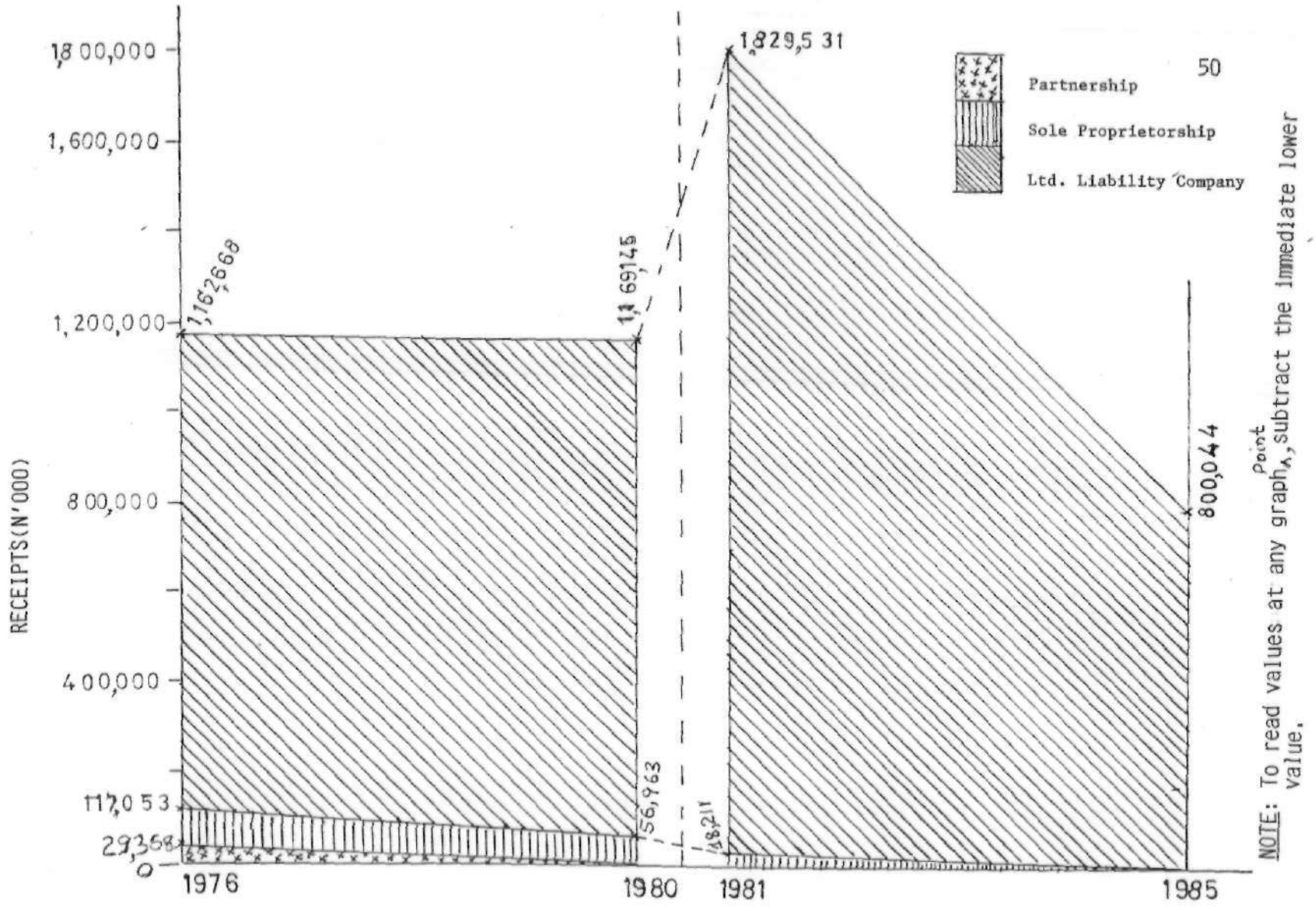


Fig. 4.1b Variation and level of receipts (N'000) of construction Industry byforms of construction organization.

Table 4.1 shows the operational level, methods of construction techniques adopted, and the reputation of the various forms of existing Construction Organisations participating in construction activities in Nigeria. Further information based on the table is thus amplified by fig.4.1.

Fig.4.1(a), the comparative bar graphs show at a glance the level of participation in construction activity (hence the receipts) by the forms of construction organisation. The Limited Liability Company tops the list showing clearly the dominating power over others across the years within the lustra periods. The Government Agencies as form of construction Organisation stopped featuring in the scene since 1976. This may be due to the re-structuring of the organisation for purely supervisory purposes and the execution of own minor direct labour works.

On the whole, fig.4.1 reveals a number of features of the Construction Industry that can be compared in between the lustra periods.

Fig.4.1 (b), the compound line graphs give a much more elaborate picture of the dominating power of the Limited Liability Company form of Construction Organisation.

4.2 GEOGRAPHICAL DISTRIBUTION OF CONSTRUCTION COMPANIES

The FOS presents the ways and manner through which the various forms of construction organisation are spread across the Federation.

Table 4.2 thus presents this outlook

TABLE 4.2: The Geographic Spread of Construction Companies addressed by FOS across Nigeria on collection of C & B Survey Data. (1976 – 1985).

STATES	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
ANAMBRA	146	11.9	22	4.3	41	10.7	42	13.3
BAUCHI	17	1.4	35	6.9	23	6.0	13	4.1
BENDEL	185	15.0	20	3.9	24	6.3	14	4.4
BENUE	-	-	49	9.6	16	4.2	6	1.9
BORNO	76	6.2	15	3.0	6	1.6	8	2.5
CROSS RIVERS	78	6.3	9	1.8	8	2.0	4	1.3
GONGOLA	13	1.1	49	9.6	17	4.4	8	2.5
IMO	55	4.5	40	7.9	35	9.1	30	9.5
KADUNA	132	10.7	33	6.5	13	3.4	27	8.6
KANO	27	2.2	18	3.6	14	3.7	22	7.0
KWARA	19	1.5	21	4.1	19	5.0	10	3.2
LAGOS	183	14.9	70	13.8	80	20.9	50	15.9
NIGER	34	2.8	22	4.3	18	4.7	9	2.9
OGUN	4	0.3	1	0.2	6	1.6	-	-
ONDO	11	0.9	8	1.6	7	1.8	8	2.5
OYO	25	2.0	49	9.6	21	5.5	21	6.7
PLATEAU	54	4.4	14	2.8	6	1.6	9	2.9
RIVERS	49	4.0	30	5.9	27	7.0	30	9.5
SOKOTO	129	9.9	3	0.6	2	0.5	4	1.3
	1,231	100	508	100	383	100	315	100

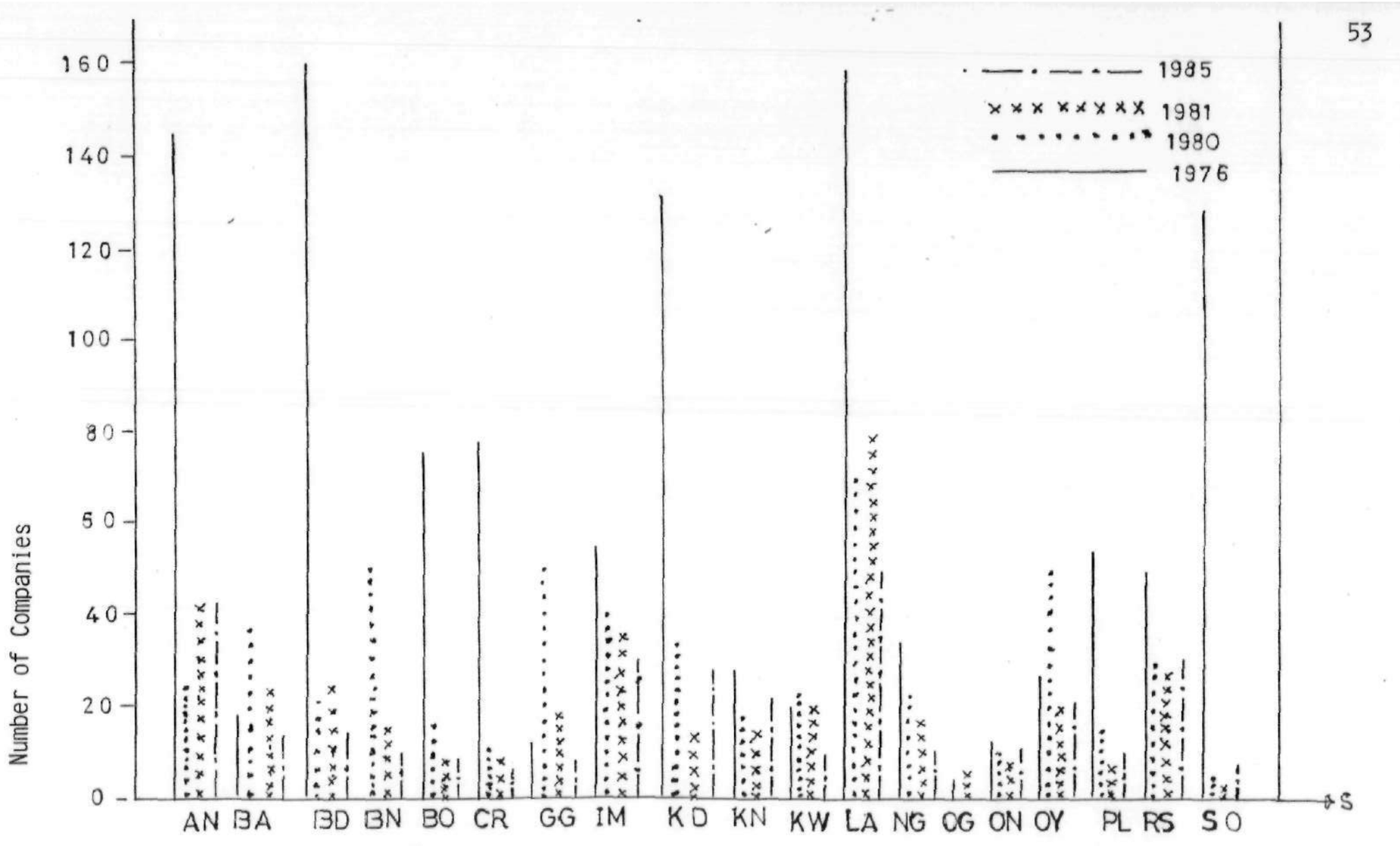


Fig. 4.2 Spread of construction companies across Nigerian States (19 States)

Table 4.2 tries to show a situation that portrays the existence of the number of construction companies across the states (19 states) of Nigeria and how this geographical spread of the companies affect both the development and the under-development of the sates. It can be argued that the existence of quite a number of construction companies in a given state portrays large volume of construction works in that state, meaning positive development of the infrastructural facility base of that state. On the other hand, states with few numbers of firms develop less in terms of infrastructural facilities.

Fig.4.2, the compound bar graphs show at a glance, the trend and variation of the existence of construction companies across the states (19 states) of Nigeria in relation to the years of the study. The graphs in relation to the years show a rise and fall behaviour and this situation explains or portrays varying degrees of construction works available to the states. On the other hand, some states capitals and its localities in Nigeria benefit more than the others in the area of construction projects thereby creating serious disparity in infrastructrural facilities available to them. For instance, in Lagos state, construction activity on the average is steadily at a peak (Fig.4.2) compared to other states of the country, during the periods under consideration. On the other hand, the graphs show that construction activity in Ogun state is at its lowest ebb during the period of the decade considered. By considering the graphs (glancing at them). it is quite easy to identify those states that undertook substantial (large volume) construction works and those that did not.

In this sense, the graphs present very vital information for the government, the private bodies and the individuals as to which area and direction to channel further development efforts.

4.3 THE GRADING OF CONSTRUCTION PROJECTS IN MONETARY VALUE BY TYPE OF ACTIVITY

The FOS gives an exposition of the levels of the amounts of funds committed to/or generated by the types of activities in the Construction Industry. This is exemplified by table 4.3.

TABLE 4.3: Value of Construction Activities of the Construction Industry (1976 – 1980)

(N'000)

ACTIVITY	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
BUILDING PROJECTS	531,115	45.3	435,365	37.1	682,226	37.2	304,340	37.6
CIVLI. ENGR. PROJECTS	602,180	51.4	646,212	55.1	1,074,060	58.5	446,095	55.1
OTHER CONSTRUCTION PROJECTS			44,760	3.8	50,536	2.7	47,131	5.8
SPECIAL TRADE PROJECTS			28,203	2.4	-	-	-	-
OTHER SOURCES	39,014	3.3	19,091	1.6	29,317	1.6	12,212	1.5
TOTAL	1,172,309	100	1,173,631	100	1,836,139	100	809,778	100

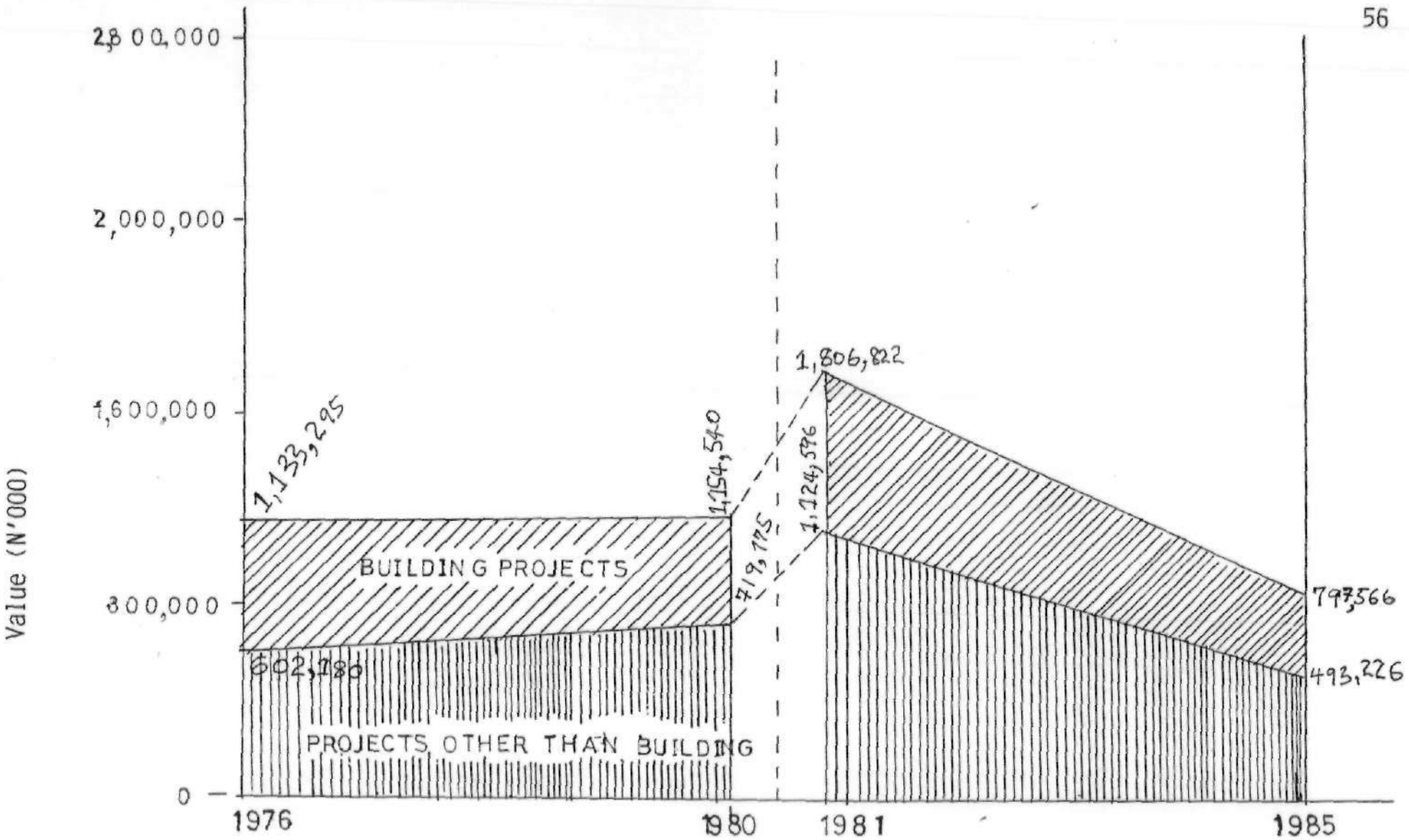


Fig. 4.3 (a) Projects of the Construction Industry.

NOTE: To read values at any graph point, subtract the immediate lower value.

KASHIM IBRAHIM LIBRARY

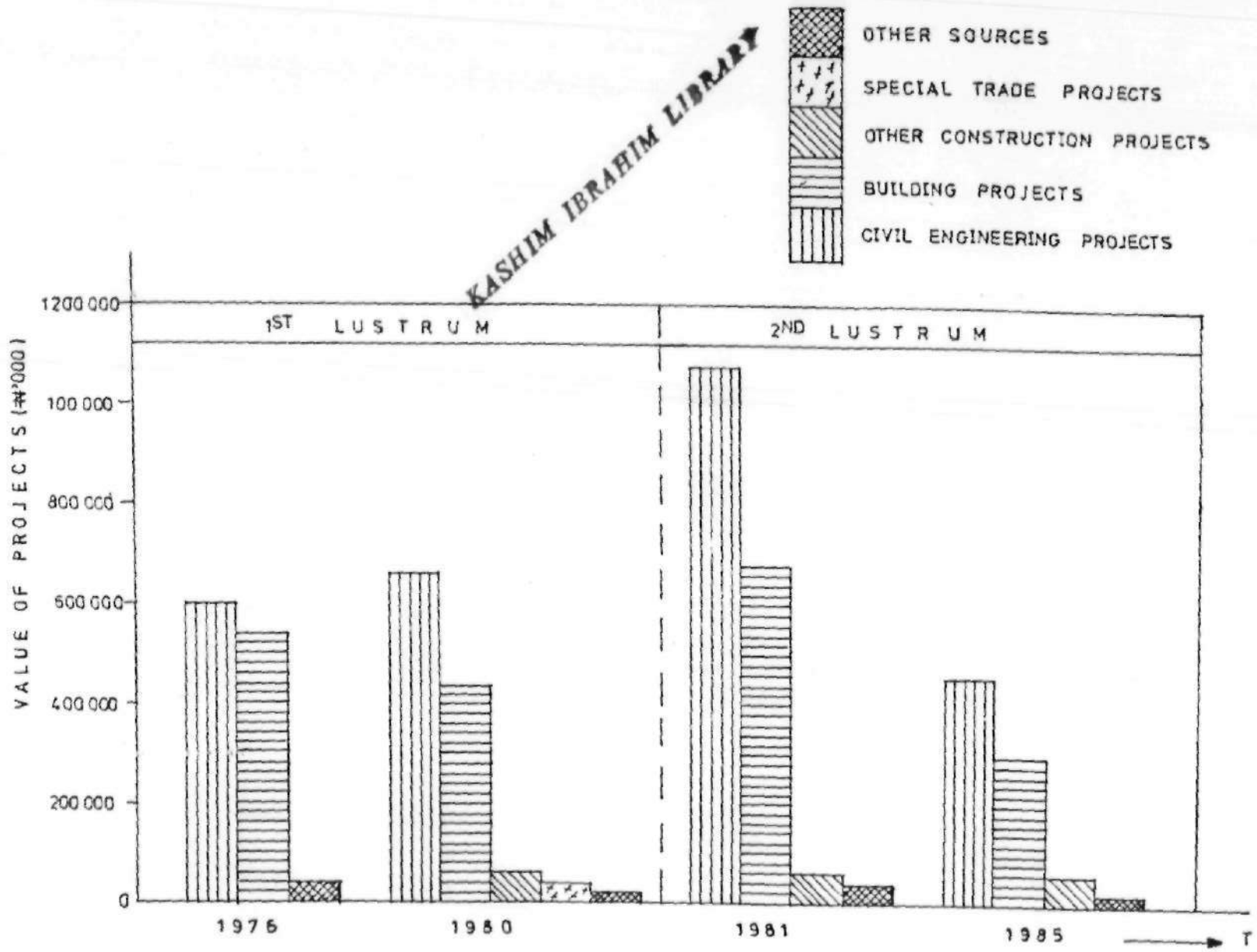


FIG. 4.3 (b) PROJECTS OF THE CONSTRUCTION INDUSTRY IN MONETARY TERMS

Table 4.3 presents the value of construction activities of the Construction Industry in the form of projects of the industry within the lustra periods of the study (i.e. 1976-1985).

In fig.4.3 (a), projects such as civil engineering, other construction and special trades are combined together to form the first part of the compound line graph, while building projects form the second part of the graph. The values for other sources are such that cannot be represented on the graph for obvious reasons. The graph showed that, in the Construction Industry, within the periods considered, projects value (of all types) were on steady increase up to the end of 1981, the beginning of the second lustrum, and there after started to decrease steadily until the end of 1985. This behaviour and situation can best be explained as a result of government's emphasis and priority placed on capital projects up to 1981 and then the gradual shift of priority away from capital projects of the industry.

Fig.4.3 (b) clearly shows that the value of civil engineering projects top the list and which is closely followed by building projects. There were no values recorded for special trade projects during the second lustrum of the study.

The feature therefore portrayed here is that civil engineering projects as well as building usually require large financial outlay, because of their nature. This information is essential for budget planning purposes.

4.4 THE DEGREE OF INVOLVEMENT OF CONSTRUCTION FIRMS IN BUILDING AND OTHER CONSTRUCTION ACTIVITY

In FOS presentation, the level and degree of participation in building activity by the various forms of construction organisation is given. Table 4.4 (a) presents this.

TABLE 4.4a Share of Building Activity by form of Ownership (1976 – 1985)

(N'000)

FORMS OF OWNERSHIP	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
SOLE PROPRIETORSHIP	76,632	14.5	46,685	10.7	15,101	2.2	8,383	2.8
PARTNERSHIP	25,090	4.7	3,037	0.7	5,794	0.9	1,040	0.3
LIMITED LIABILITY COMPANY	421,756	79.4	385,643	88.6	661,331	96.9	294,917	96.9
GOVERNMENT OWNED ENTERPRISES	7,637	1.4	-	-	-	-	-	-
TOTAL	531,115	100	435,365	100	682,226	100	304,340	100

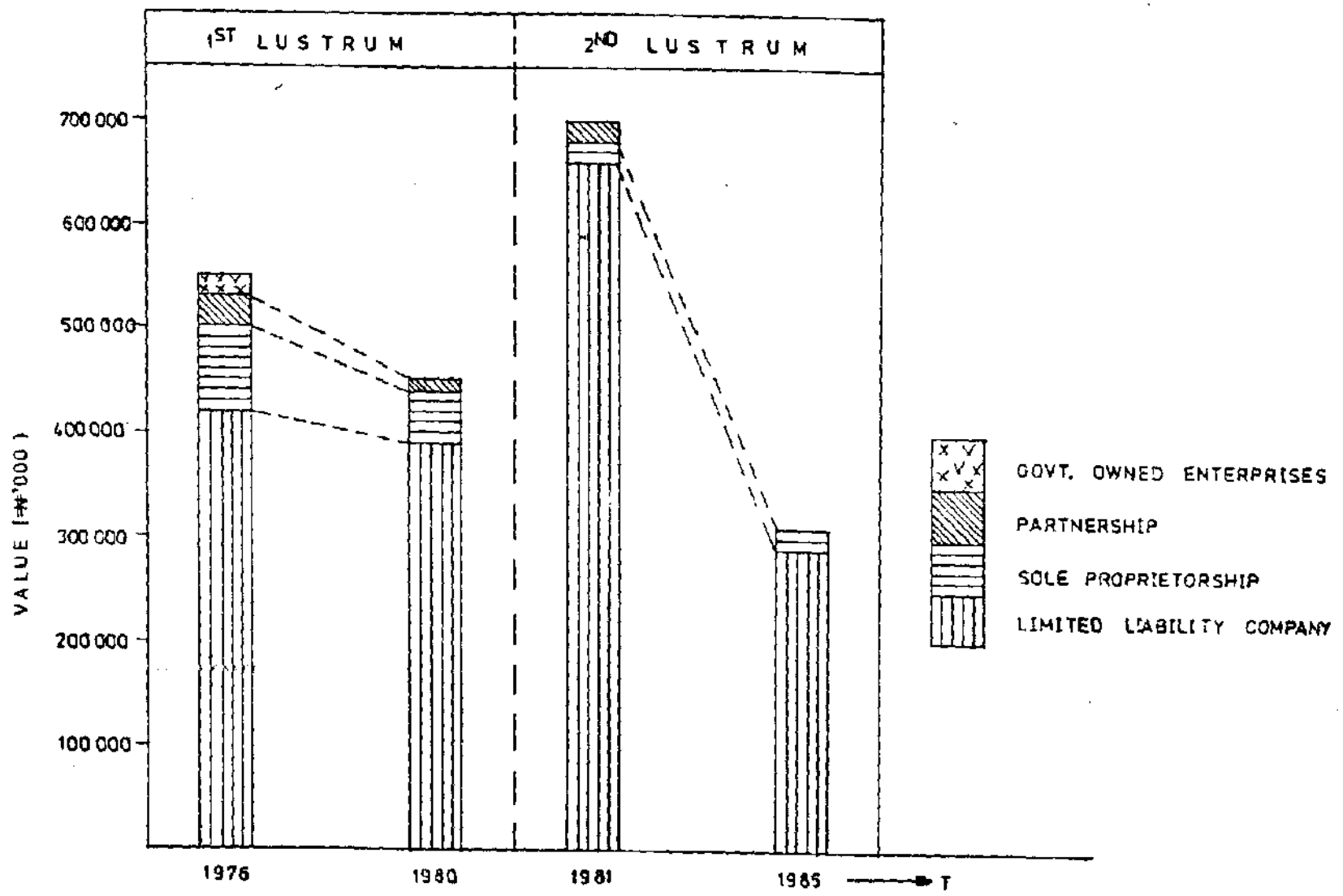


FIG. 4 (a) SCOPE OF BUILDING PROJECTS BY FORM OF CONSTRUCTION ORGANISATION

TABLE 4.4b: Share of other Construction Activity By Form of Ownership:

(N'000)

FORMS OF OWNERSHIP	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
SOLE PROPRIETORSHIP	8,858	1.47	7,295	1.01	2,363	0.21	208	0.04
PARTNERSHIP	2,872	0.48	1,282	0.18	616	0.05	54	0.01
LIMITED LIABILITY COMPANY	588,350	97.70	710,598	98.81	1,121,617	99.74	492,956	99.95
GOVERNMENT OWNED ENTERPRISES	2,100	0.35	-	-	-	-	-	-
TOTAL	602,180	100	719,175	100	1,124,596	100	493,218	100

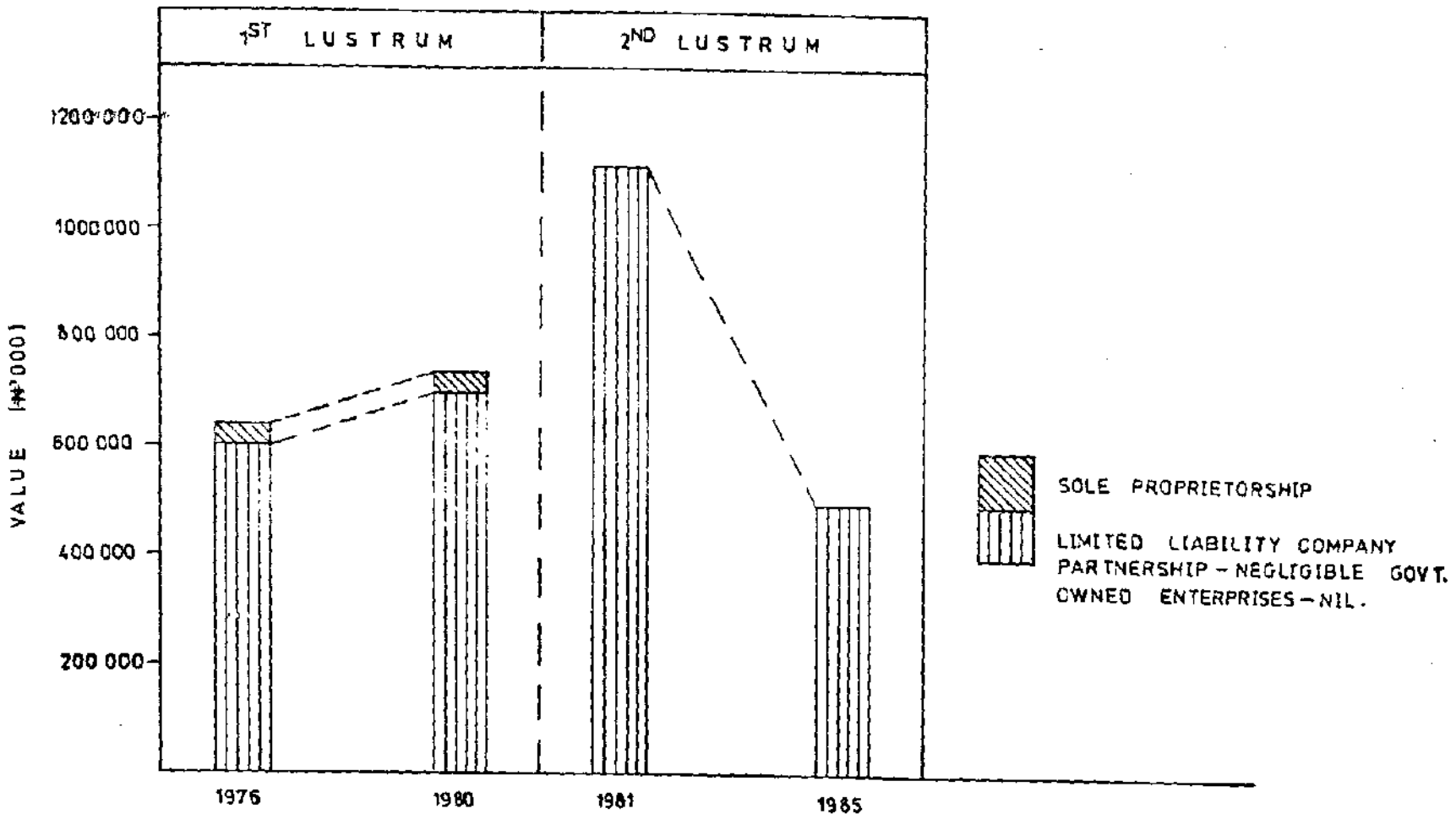


FIG. 4.4 (b) VALUE OF OTHER CONSTRUCTION ACTIVITY BY FORM OF CONSTRUCTION ORGANISATION

Tables 4.4 (a) and 4.4 (b) present the values of building and other construction projects by form of construction organisation in the Construction Industry within the two lustra periods of the study. The government owned construction enterprises stopped featuring on the scene as form of construction organisation since 1976.

By figs.4.4 (a) and (b), the form of construction organisation that featured prominently in the Construction Industry is the Limited Liability Company. On building activity, the sole proprietorship and partnership form of organization featured to some extent while they were virtually non-existent on other construction activity.

By this, it means that the future of the Limited Liability Company is very bright in the Construction Industry while the partnership form has a very bleak future. The Sole Proprietorship can continue to operate in the industry for small building construction projects.

4.5 THE CLIENTS OF THE CONSTRUCTION INDUSTRY

The FOS presents information about the various sponsors of project activities in the Construction industry. Tables 4.5 (a) and (b) contain the information showing the investment capabilities of the various sponsors.

TABLE 4.5A: Sponsors of Building projects in the Construction Industry

(N'000)

OWNER/SPONSOR	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
FEDERAL GOVERNMENT	153,662	29.49	119,704	27.50	359,906	52.76	72,851	24.00
STATE & LOCAL GOVERNMENT	158,136	30.34	115,507	26.50	77,189	11.31	110,821	36.00
OTHER PUBLIC INSTITUTIONS, CORPORATION, UNIVERSITIES ETC.	86,276	16.56	87,134	20.00	62,356	9.14	82,651	27.00
PRIVATE BODIES	123,041	23.61	113,020	26.00	182,775	26.79	38,017	13.00
TOTAL	521,115	100	435,365	100	682,226	100	304,340	100

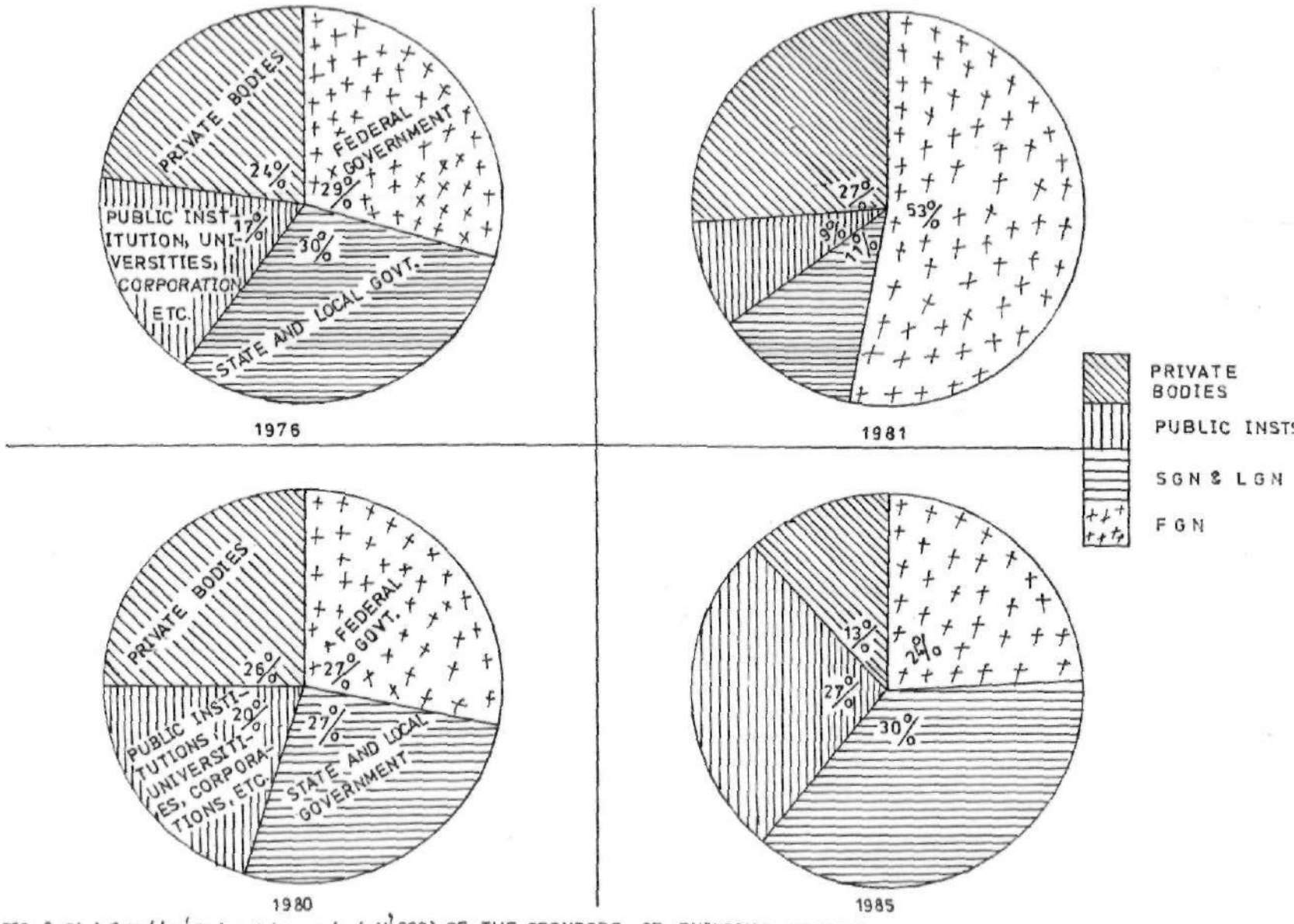


FIG. 4 - Stat participatory Level (₦'000) OF THE SPONSORS OF BUILDING PROJECTS

TABLE 4.5B: Sponsors of Other Construction Projects in the Construction Industry

(N'000)

OWNER/SPONSOR	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
FEDERAL GOVERNMENT	420,562	69.84	302,745	42.10	561,706	49.95	362,850	53.50
STATE & LOCAL GOVERNMENT	82,099	13.63	248,060	34.50	398,948	35.47	144,304	29.30
OTHER PUBLIC INSTITUTIONS, CORPORATION, UNIVERSITIES ETC.	62,849	10.43	107,483	14.90	103,136	9.17	40,334	8.20
PRIVATE BODIES	36,670	6.10	60,887	8.50	60,806	5.41	44,738	9.00
TOTAL	602,180	100	719,175	100	1,124,596	100	493,226	100

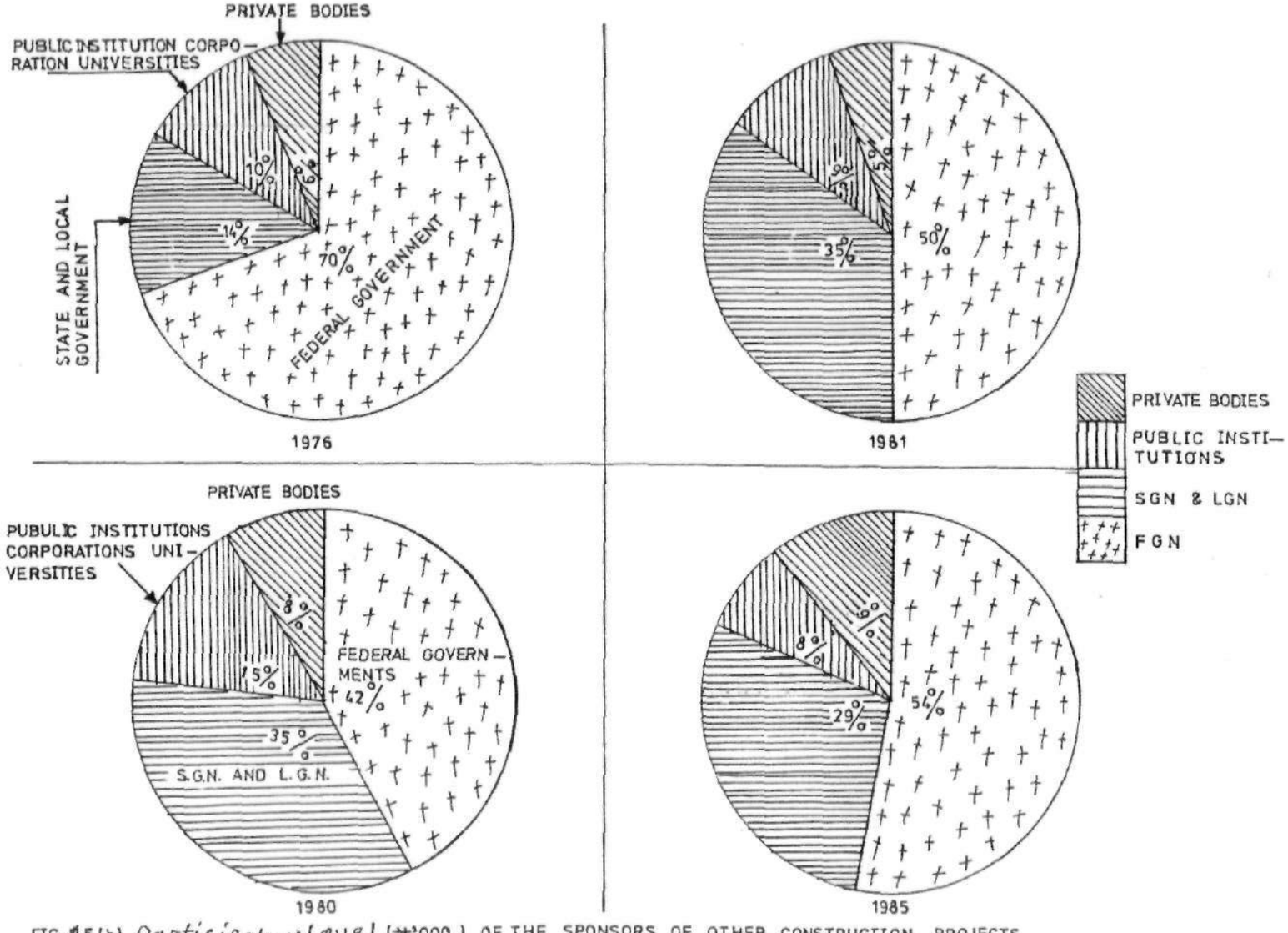


FIG. 4.5(b) participatory level (₦'000) OF THE SPONSORS OF OTHER CONSTRUCTION PROJECTS

Tables 4.5(a) and 4.5(b) present the extent of the fund committed into building and construction by the various sponsors in the industry during the periods considered.

In fig 4.5(a) the divided circles show clearly that the various arms of government (Federal, State, Local and others) on the larger parts form and account for the majority of building projects. For instance, the private bodies account for only 23.6% of the total investment in building projects in 1976. This feature conforms with the earlier statement that in Nigeria, government is the major client of the Construction Industry. In fig.4.5 (b) the participatory ability of the private bodies in other construction is drastically reduced as against that of building projects. Inadvertently, the Federal Government becomes the prominent sponsor of other construction projects compared to other arms of the government as against the case of building projects. Considering the information and the features projected by the above figures, the government of Nigeria remains the sole promoter of the activities of the Construction Industry. This it can do effectively by making adequate provision for capital projects during its annual budgets. It is apparent that any move by the government to shift priority off capital projects would adversely affect the effective functioning of the Construction Industry and hence the economy. This thus, remains a tipping information for our policy makers.

4.6 DEMAND OF CONSTRUCTION MATERIALS IN THE INDUSTRY

As a way of showing the volume of construction work undertaken by the various forms of construction organisation in the industry, FOS gives the quantity requirement of construction materials in monetary terms, which were used up by different construction organisations. This is contained in table 4.6.

TABLE 4.6: CONSTRUCTION MATERIALS REQUIREMENT BY THE VARIOUS CONSTRUCTION ORGANISATIONS

(N'000)

FORM OF LEGAL ORGANISATION	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
SOLE PROPRIETORSHIP	42,469	6.68	18,705	4.42	4,420	0.64	3,177	1.29
PARTNERSHIP	12,314	1.94	1,546	0.36	8,026	1.17	114	0.04
LIMITED LIABILITY COMPANY	580,653	91.38	403,381	95.22	673,406	98.19	242,065	98.67
TOTAL	635,436	100	423,632	100	685,852	100	245,336	100

KASHIM IBRAHIM LIBRARY

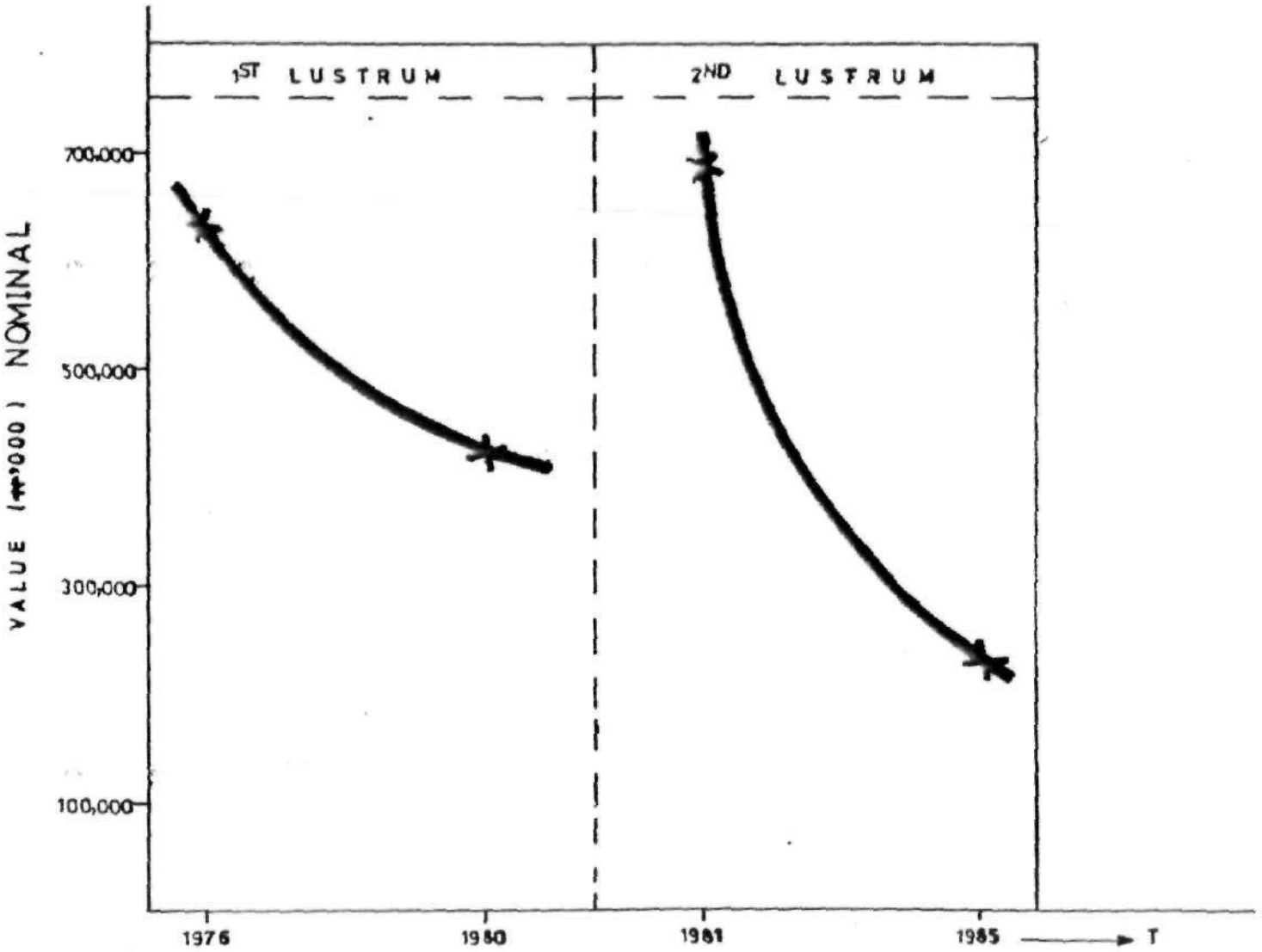


FIG. 4.6 CONSTRUCTION MATERIALS DEMAND IN THE CONSTRUCTION INDUSTRY

Table 4.6 presents the construction material requirement in the Construction Industry in monetary terms for the lustra periods considered (i.e. 1976 - 1985).

In fig 4.6, the totals of the materials required for each of the years is used in constructing the simple line graph. The simple line graph noticeably reveals that within each of the two lustra periods, a steady fall in demand for construction materials was recorded. This therefore, means a decrease in the level of construction activities in the industry. On the other hand, if the decade period (1976 - 1985) is viewed at a stretch, the situation of the construction materials demand exhibits fluctuational characteristics (i.e. fall, rise, fall and so on).

The fall or fluctuation situation of the demand for construction materials in many ways affect the operations of the industries engaged in the production of these materials which would eventually affect the economy.

4.7 THE INTER-RELATIONSHIP OF CONTRACTORS AND SUB-CONTRACTORS

The FOS presents inter-dependence outlook of the contractors and sub-contractors in the Construction Industry. This is given by table 4.7.

TABLE 4.7: THE INTERDEPENDENCE OF CONTRACTORS & SUB-CONTRACTORS IN THE CONSTRUCTION INDUSTRY.

(N'000)

LEGAL FORM OF ORGANISATION	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
SOLE PROPRIETORSHIP			4,981	3.70	1,469	0.84	449	0.63
PARTNERSHIP			620	0.46	3,835	2.20	24	0.03
LIMITED LIABILITY COMPANY			129,159	95.84	169,224	26.96	71,437	99.34
TOTAL			134,760	100	174,527	100	71,910	100

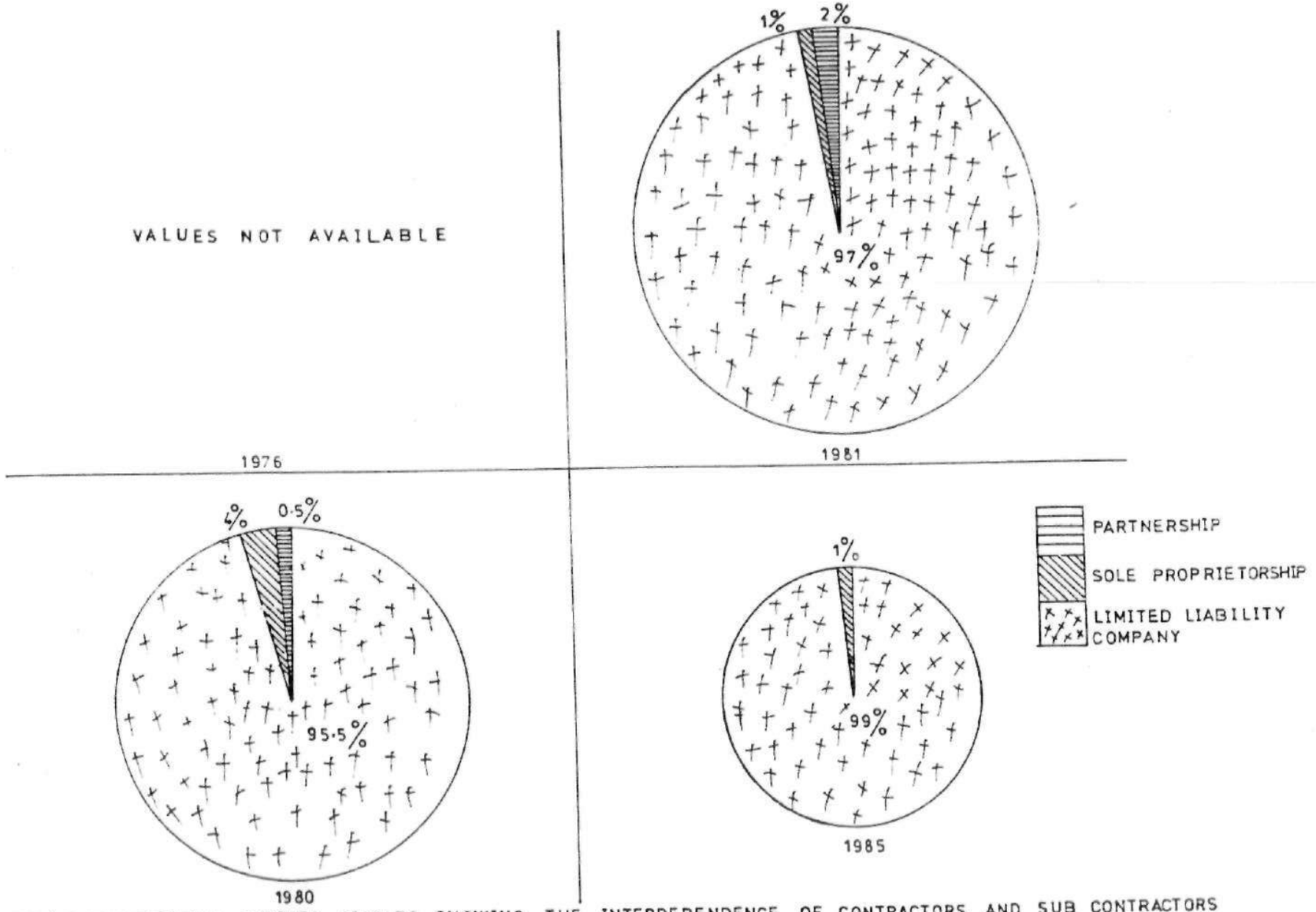


FIG. 4·7 PROPORTIONAL DIVIDED CIRCLES SHOWING THE INTERDEPENDENCE OF CONTRACTORS AND SUB CONTRACTORS FORMS OF CONSTRUCTION ORGANISATION (1976 — 1985)

Table 4.7 presents the picture of how the contractors and sub-contractors inter-depend on each other for the works of the Construction Industry. The value for the 1976 were not available, hence its table column left blank.

Fig. 4.7 reveals to a large extent across the decade, that there was an increase in demand for the services of sub-contractors between 1980 and 1981 and thereafter, the demand fell gradually until 1985. The figure also exposes that in the Construction Industry, limited liability form of construction organisation becomes the major employer of the services of subcontractors as can be seen from the comparison of the component parts of the proportional divided circles, through the years considered. In Nigeria, large construction projects remain the domain of limited liability company and it is this situation that gives rise to the requirement of the services of sub-contractors by this form of organisation, since large projects require various specialized works which are usually the domain of sub-contractors.

4.8 THE FINISHED PRODUCTS OF CONSTRUCTION INDUSTRY

The FOS presents the account of the various finished products of the Construction Industry. Table 4.8 presents this account.

TABLE 4.8: THE PRODUCT OF THE CONSTRUCTION INDUSTRY

(N'000)

TYPE	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
RESIDENTIAL BUILDINGS			13,574	48.6	12,883	32.5	14,973	18.8
NON-RESIDENTIAL BUILDINGS			7,660	27.4	14,980	37.7	47,656	59.7
CONSTRUCTION OTHER THAN BUILDINGS			6,693	24.0	11.810	29.8	17,126	21.5
TOTAL			27,927	100	39,673	100	79,755	100

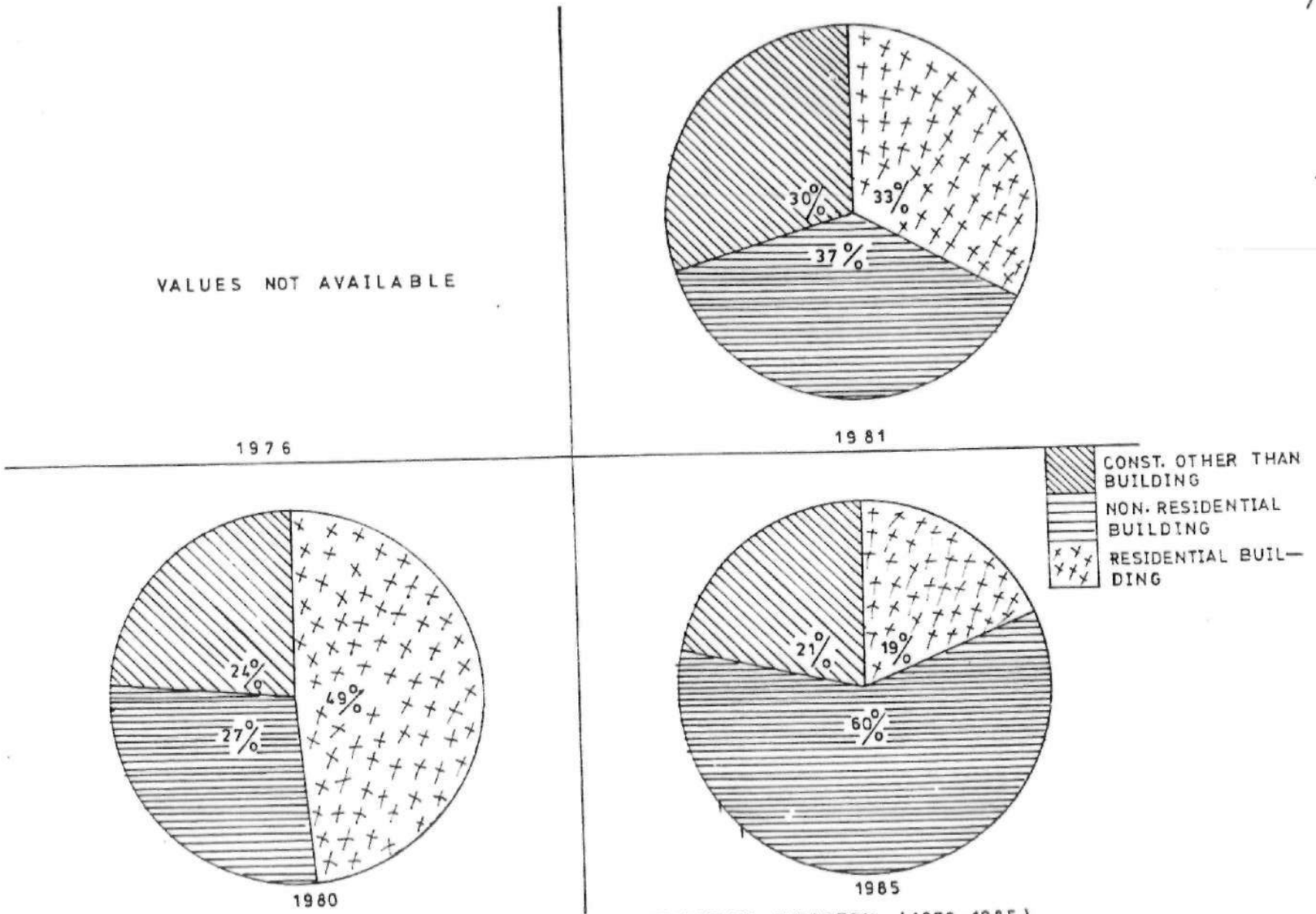


FIG. 4.8 DIVIDED CIRCLES: THE PRODUCTS OF THE CONSTRUCTION INDUSTRY (1976–1985)

Table 4.8 gives the magnitude of the various construction products available to the Construction industry. These are residential buildings, Non-Residential Buildings and Construction other than Buildings.

In fig.4.8, it can be observed that residential buildings occupied the priority position compared to others. However, the non-residential buildings took over the priority position in the years of the second lustrum of the study (i.e. 1981 - 1985). Construction other than building maintained its least position during the decade period considered (1976 - 1985).

The priority shift phenomenon observed above may be due to actions of the government through budget planning policies. As long as government remains the major client of the Construction Industry, its actions will continue to affect the operations of the industry.

CHAPTER FIVE

5.0 REPRESENTATION OF FEDERAL OFFICE OF STATISTICS DATA

5.1 ORGANISATION

The Federal Office of Statistics (FOS) is a governmental establishment whose main function is the collection of data on the resources and activities reflecting the picture of the country. The collected data are objects of subsequent analysis and estimation to illustrate the picture if not to grade it (1987 Census of Industry – Building and Construction, page 1, on 1957 Statistics Act and the Statistics Act (Amendments) Decree 1979). FOS has its branches at the state levels which coordinate and extend the programmes of the headquarter and provide feedback information for further elaboration at the headquarter.

As far as FOS data on Construction Industry is concerned, the 1973 Census of Industry on Building and Construction failed to yield successful results. The second attempt according to FOS (19976 data set, p.1.) was slightly more successful. For the purpose of data collection, the list of registered contractors was obtained by FOS from the Federal and State' Tenders Board and compiled according to the contracts handling capacity of each company whose categories run from A through G (1976 Data set, P.1). In the 1976 survey, those contractors whose contract value handling capacity were below N20,000 were excluded. Soon FOS discovered that a good number of Construction companies in its list were in fact not bonafide construction companies. Also, the 1976 survey covered only the activities of companies engaged in general building and civil engineering as well as special trades contractors, despite the fact that the International Standard Industrial Classification of all economic activities, observed by FOS in general, placed Construction Industry on a wider platform of activities.

This scope of coverage and limitation by FOS may be due to the fact that ours was yet a developing industry. Not withstanding, data collected in the system of

approach by FOS has a representative national character. This is true since the activities of data collection by FOS cover all the states of the Federation.

No sooner the sigh of relief from many quarters on the birth of data on construction activities (1976 Data) commenced than FOS developed cold feet in this respect.

The third attempt to collect data on the Construction Industry by FOS after that of 1976, came only in the year 1980. No explanation was given by FOS as to why this wide gap had existed in between 1976 and 1980.

In the 1980 survey, a further strategy to cut down the number of participating construction companies was adopted as it was only contractors (firms) with the Federal and State Tenders Board to handle contracts valuing or worth N200,000 and above were included in the survey.

Between 1981 and 1985, there exist for each year, set of data on the Construction Industry in Nigeria, pointing to the fact that a consistency in this direction has finally been established. However, after 1985, no data on this industry has been collected and made available, as ascertained from FOS headquarter.

5.2 LIMITATIONS AND SITUATION SURROUNDING THE FOS DATA

The data on Construction Industry in Nigeria for which this study awakes interest, covers roughly a period of the decade, 1976–1985. However, as the data in between 1976 and 1980 (i.e for 1977, 1978, 1979) were not available, the need to arrange this study in two forms and adopt the lustra approach was found most appropriate as the research option. To this end, FOS data on Construction Industry in Nigeria, covering the period 1976–1985, have been tabulated and juxtaposed into two subsequent lustra:
1976–1980 being the first lustrum of the study while the second lustrum covers the period 1981 – 1985.

TABLE 5.1 The Lustra perspective of the Study plan.

LUSTRA SEGMENT	1	2	3	4	5
LUSTRUM I	1976	1977	1978	1979	1980
LUSTRUM II	1981	1982	1983	1984	1985

For the limitations of the FOS data resources, we are using figures which delimit the lustra only. With this arrangement, it is hoped that the absence of the data on 1977, 1978 and 1979 within the first lustrum will pose no serious problem to the study.

The Construction activities covered in the FOS data (1976, 1980, 1981, 1982, 1983, 1984, 1985 data set) include building Construction, civil engineering Construction, Specialty Construction and other Construction.

Outside the limitations of the data in use, the method and the study approach adopted is sufficient to provide every requirement expected of the study.

In the field of economics in Construction, the available FOS data has a number of usability such as: the trend of wages over a given period, the comparison of the construction contracting Industry with other industries etc. If the data of this nature are represented using charts and graphs they possess the ability to become more effective in creating professional awareness, interest and appeal, serve as a medium for conveying important visual communication (message), saves time as the essential meaning of large masses of statistical data can be visualised at a glance, provide comprehensive picture of a problem, bring out hidden facts and relationships, can stimulate as well as aid analytical thinking and investigation. In consonance with the objectives of this thesis, the need and

the importance of the above through relevant representation of the FOS data cannot be ignored.

It is for the purpose of the convenience of study that the lustra plan approach was considered appropriate.

It would have been interesting as well to implore the use of other statistical approach such as measures of location and central tendency to further shed light on the study. This, however, is likely impossible due to lack of knowledge of the FOS procedures adopted in producing the data; and the manner in which the data were collected and tabulated. The only rule of arithmetic which is applicable is the data aggregation and summative disagregation.

Considering the table below, the study shows the ease of visualizing at a glance how the number of companies covered by FOS survey vary over the years.

TABLE 5.2 No of Business Units that responded to FOS survey on Building and Construction.

LUSTRA	1^{ST} LUSTRUM			2^{ND} LUSTRUM		
DELIMITING YEAR	1976	1980	TOTAL	1981	1985	TOTAL
NO. OF UNITS	1231	508	1739	383	315	698

Source: FOS data set 1976,1980,1981,1985.

If the above tabulation is illustrated using graphical representation, it shall show quite interesting feature embodying meaningful and understandable messages.

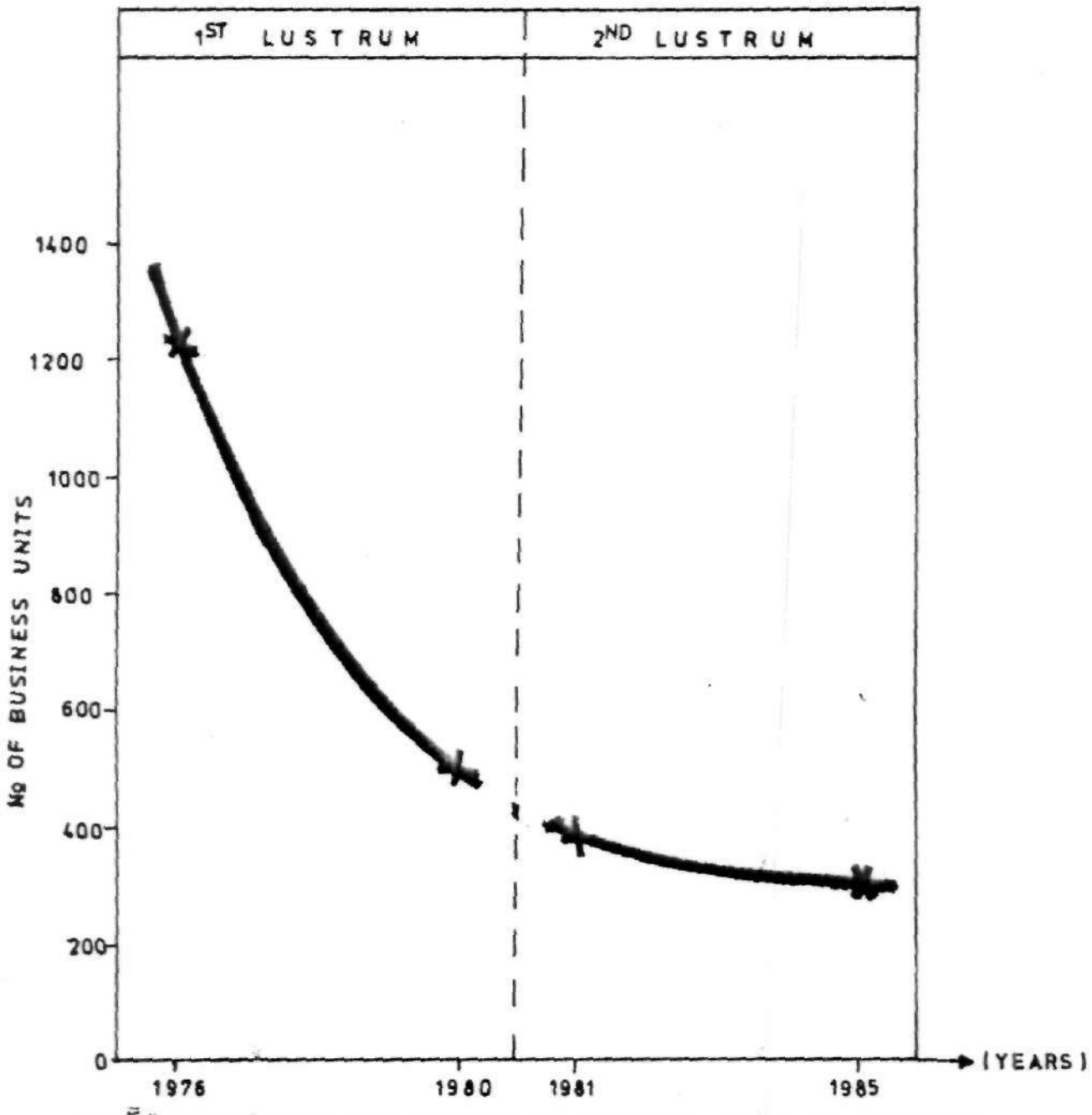


FIG. 5·1 VARIATION IN THE NUMBER OF BUSINESS UNITS IN BETWEEN THE LUSTRA PERIODS IN THE CONSTRUCTION INDUSTRY IN NIGERIA (GRAPHICAL EXTRA POLATION)

The graph exhibits a downward slope in term of lustra periods. This portrays a decrease in the number of Business Units addressed by FOS for data, meaning diminishing and less volume of Construction activities in the Construction Industry being objects of the subsequent surveys.

A further and detailed exposition of the lustra study plan showing the direction of construction activities on the basis of the delimiting years within each lustrum is given by table 2.3. At a glance, table 2.3 shows the features portraying the study plan perspective.

TABLE 5.3: NUMBER OF CONSTRUCTION CONTRACTING COMPANIES BY STATES ADDRESSED WITH FOS QUESTIONNAIRE

YEAR / STATE	1976	1980	1ST LUSTRUM (+)	1ST LUSTRUM (-)	1981	1985	2ND LUSTRUM (+)	2ND LUSTRUM (-)
1. ANAMBRA	344	50	13	294	78	132	54	
2. BAUCHI	57	70			43	57	14	
3. BENDEL	480	36	100	444	39	28		11
4. BENUE	-	100			29	23		06
5. BORNO	129	20		109	23	15		08
6. CROSS RIVER	82	20	70	162	14	18	04	
7. GONGOLA	30	100			32	16		16
8. IMO	97	83		14	94	59		35
9. KADUNA	248	50		198	52	46		06
10. KANO	46	21		25	54	65	11	
11. KWARA	75	69		06	39	32		07
12. LAGOS	683	220		463	167	128		41
13. NIGER	71	30		41	33	22		11
14. OGUN	08	02		06	06	-		06
15. ONDO	13	10	03	03	32	18		14
16. OYO	47	50			27	44	17	
17. PLATEAU	77	30		47	30	13		17
18. RIVERS	140	60		80	75	62		13
19. SOKOTO	190	04		186	05	08	03	
TOTAL	2,917	1,025	186	2,078	872	786	103	191

KASHIM IBRAHIM LIBRARY

CHAPTER SIX

6.0 DEVELOPMENT OF LABOUR IN THE CONSTRUCTION INDUSTRY IN NIGERIA. COMPARISON OF THE TWO LUSTRA PRESENTED

From the on-set it has been pointed out that labour in the Construction Industry is uniquely different from labour in other industries both in areas of characteristics and volume change. Labour in the Construction Industry in Nigeria remains the physical building resources and a force to intelligently study and reckon with until such a time the country thus attains full industrialization status.

The development of labour in the Construction Industry in Nigeria undoubtedly has occurred. However, the development does not seem to be quite rapid due to a number of factors such as attitude of practicing professionals in the industry, government policies, a free ground for all and sundry to stake business and a host of others. The development of labour in the construction Industry is only crystally seen along the following spheres:

(a) Statute recognition by decree of all professional bodies in Construction Industry such as CORBON, NIOB, NIQS, NIA, NSE etc.

(b) License requirements for individuals or groups intending to operate in the industry.

(c) New techniques in building and the development of new materials of construction.

(d) Training modes

(e) Wage level and employment conditions

(f) Present status of some construction firms operating in the Construction Industry.

Seen from above, there is no doubt that such measures in pace in the Construction Industry would inadvertently enhance the development of labour in the Construction Industry in Nigeria. However, the major bottlenecks lie with implementation of the guiding principles of the measures put in place. Today in Nigeria, an unlicensed construction professional can be employed and used on a project, contractors having no knowledge of construction win contracts and operate in the industry, labour is hired mainly on the basis of its cheapness without regard to qualifications and expertise.

Agreed that labour has attained some level of development in the Construction Industry in Nigeria, efforts will be made here to handle the FOS data on labour to show its development pattern within the periods covered by the study. Comparison on the pattern of development of labour will be drawn on the basis of the lustra periods.

Development of labour can also be viewed from the areas of training programmes mounted by educational institution and the construction companies, which are the two major suppliers of core personnel for the Construction Industry. In Nigeria, in the recent past, there has been an expansion in the number of technical colleges and polytechnics, universities offering technical courses etc. The institutions equip the graduates with basic and specialised knowledge and skills in the disciplines while the companies provide follow-up training and development. Most Construction firms (large ones) organise periodic special training programmes for senior managers to forestall stagnation and improve the various specialty skills in the areas of Estimating, Scheduling (CPM), computer training, procurement, cost control, forecasting and costing, project management, planning management, logistic management, financial management, project monitoring and evaluation, project evaluation and development appraisal etc. Induction courses and orientation for new recruits are usually in place for the lower categories of manpower.

The categories of the construction labour in Construction Industry in Nigeria have earlier been shown. Within these categories, experience and outstanding performance on jobs are the probable criteria mostly used to advance the status of the personnel. For instance, a fresh graduate employed as an assistant engineer can rise to the rank of chief engineer or director in the government ministry of works through experience and outstanding performance. Rise in status across the categories are possible. A technician within a construction firm can rise to the position of site engineer or project manager through one or all of the following ways: experience, outstanding job performance, demonstration of exceptional abilities, on-the-job training programmes etc. Even the unskilled operatives acquire skills on the job over time. The principle of development of construction labour hinge principally on the above premise.

6.1 LABOUR OUTLOOK IN THE CONSTRUCTION INDUSTRY

The FOS presents the outlook of labour in the areas of their total figure across the years covered by the surveys. Table 6.1 shows this.

TABLE 6.1: TOTAL NUMBER OF LABOUR IN THE CONSTRUCTION INDUSTRY WITHIN THE LUSTRA PERIODS.

IST LUSTRUM				2ND LUSTRUM			
1976	%	1980	%	1981	%	1985	%
162,252	60	108,764	40	120,932	71	49,894	28
291,016				170,826			

1ST LUSTRUM = 61% (Overall) 2ND LUSTRUM = 39% (Overall).

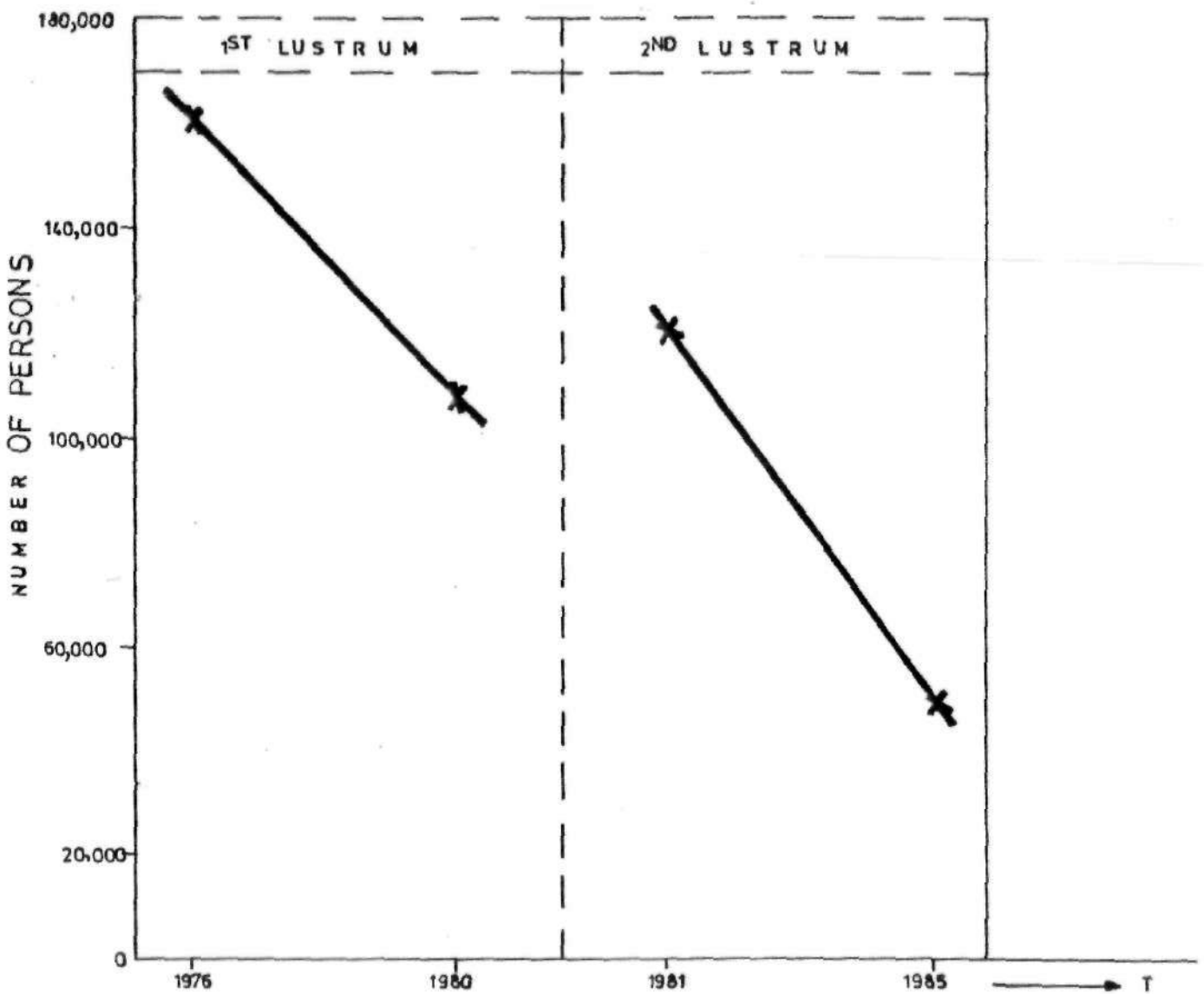


FIG. 6·1(a) SIMPLE LINE GRAPH SHOWING THE VARIATION IN THE NUMBER OF EMPLOYED LABOUR IN THE CONSTRUCTION INDUSTRY.

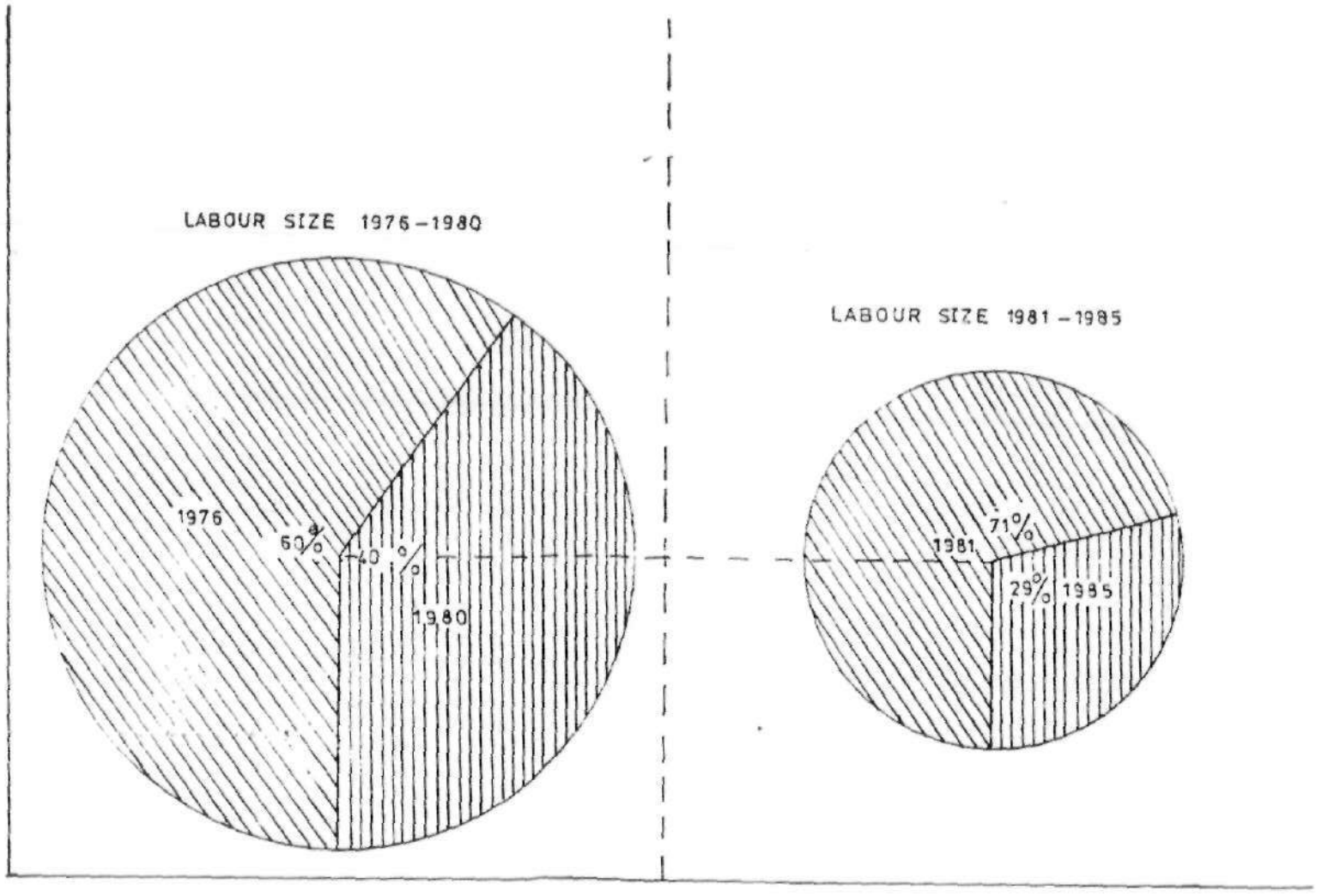


FIG. 6-1(b) PROPORTIONAL CIRCLES. THE OVERALL SIZE OF LABOUR WITHIN THE LUSTRA PERIODS COMPARED.

Overall size of labour in the Construction Industry within the lustra periods is presented by table 6.1. The aggregate number of employment made in each of the lustra periods is also clearly tabulated.

The situation of labour in the industry shows that before and during the beginning of the first lustrum, labour has been on the increase. This situation may be due mainly to large volume of works in the industry as a result of the civil war re-construction which coincides with the period and spread to parts of the first lustrum.

However, within the first lustrum (1976 - 1980) the overall trend of labour in the Construction Industry shows a steady decrease in the number of employees engaged in construction activity (fig 6.1a). This continual decrease in labour may be due to one or all of the following reasons:

(i) Economic down-turn of the country

(ii) Government's shift of priority from construction in a bid to regulate the economy. The government usually used the industry to regulate the economy.

(iii) Less volume of construction activity in the industry

(iv) Reduction in the number of construction enterprises as a result of government policies etc.

The second lustrum exhibits similar pattern of labour to that of the first lustrum (fig.6.1b). This continual decrease in the size of labour in the industry is due mainly to actions of the government (major client of the industry) in its bid to regulate the national economy.

One striking feature exhibited by fig.6.1 (a) is the similarity of labour situation in each of the lustra periods. In each of the lustra, the pattern of labour shows a sharp decrease in the size of labour, starting from the beginning of the lustrum to the end. This is to say that the pattern of labour in the two lustrum compare favourably with one another.

However, fig.6.1 (b) gives the overall proportion of the size of labour in each of the lustra periods in the construction industry. It is clear from the figure that the size of labour in the first lustrum out-weighs that of the second lustrum by quite a reasonable margin, reasons which may not be different from those outlined earlier. The difference in the size of labour at the beginning and at the end of each lustrum stands out clearly.

6.2 LABOUR REQUIREMENTS BY FORMS OF CONSTRUCTION ORGANISATION

The FOS gives an idea of the quantity of labour taken up by the various forms of construction organisation operating in the industry. This is exemplified by table 6.2.

TABLE 6.2: LABOUR TAKEN UP BY THE VARIOUS FORMS OF CONSTRUCTION ORGANISATION IN THE INDUSTRY

FORM OF OWNERSHIP	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
SOLE PROPRIETORSHIP	26,598	16.5	8,084	7.5	2,790	2.3	930	1.9
PARTNERSHIP	11,336	7.0	1,129	1.0	1,098	0.9	230	0.5
LIMITED LIABILITY COMPANY	123,162	76.5	99,551	91.5	117,044	96.8	48,734	97.6
TOTAL	161,162	100.0	108,764	100.0	120,932	100.0	49,894	100.0

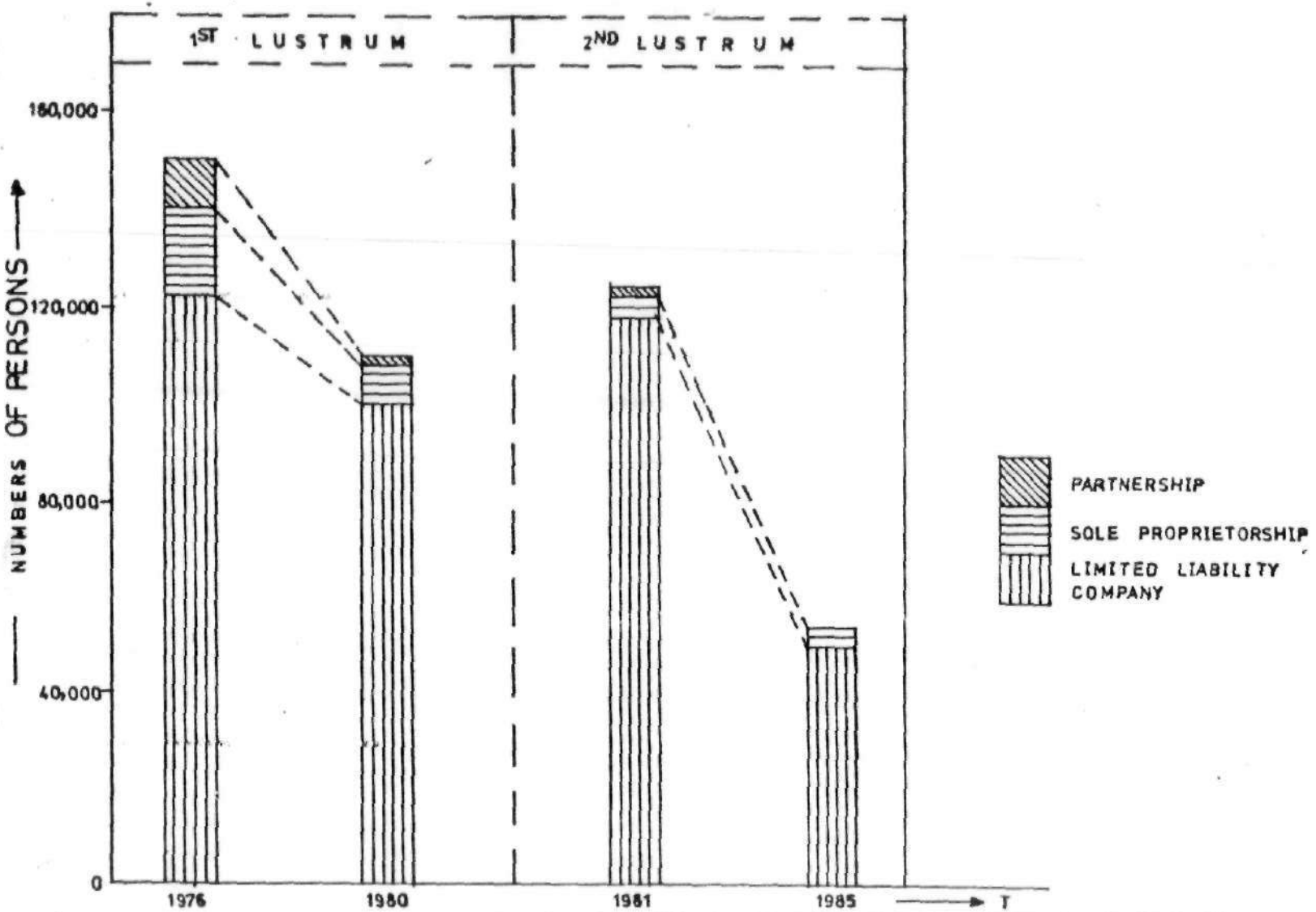


FIG. 6·2 COMPOUND BAR GRAPH SHOWING THE STRENGTH AND QUANTITY OF LABOUR TAKEN UP BY FORMS OF CONSTRUCTION ORGANISATION IN THE INDUSTRY

The labour strength in numerical value of the various construction organisations in the Construction Industry has been shown in table 6.2. This numerical strength of labour of the construction enterprises provides vital information regarding the viability of the organisation, their resources base, the most economical type to engage on a particular project and so on.

The picture portrayed by fig. 6.2 reveals that the Limited Liability Company takes up the largest volume of labour in the Construction Industry in relation to the lustra periods (1976 - 1985). This best explains the usefulness of this type of construction organisation. This is followed by the sole-proprietorship form of organisation but with a very large wide margin in the number of employees between them. Lastly, the partnership form takes on a very limited number of employees.

The fact that the last two forms of construction organisation still contend for construction activities in the industry further explains the need for their continual existence in the industry. Usually, small new projects and repairs/maintenance activities are the domain of the sole proprietorship and partnership forms of Construction enterprise.

6.3 LABOUR NATIONALITY IN CONSTRUCTION INDUSTRY

The FOS classifies labour according to their nationality and table 6.3 presents this outlook.

TABLE 6.3: NATIONALITY OUTLOOK OF LABOUR IN THE CONSTRUCTION INDUSTRY.

A: NIGERIANS B: NON-NIGERIANS FORM OF CONSTRUCTION ORGANISATION	1ST LUSTRUM				2ND LUSTRUM			
	1976		1980		1981		1985	
	A	B	A	B	A	B	A	B
SOLE PROPRIETORSHIP	26,031	567	7,880	204	2,733	57	930	-
PARTNERSHIP	11,215	121	1,085	44	1,088	10	226	4
LIMITED LIABILITY COMPANY	120,200	2,028	92,877	6,674	112,093	4,951	47,169	1,565
TOTAL	157,446	3,716	101,842	6,922	115,914	5,018	48,325	1,569

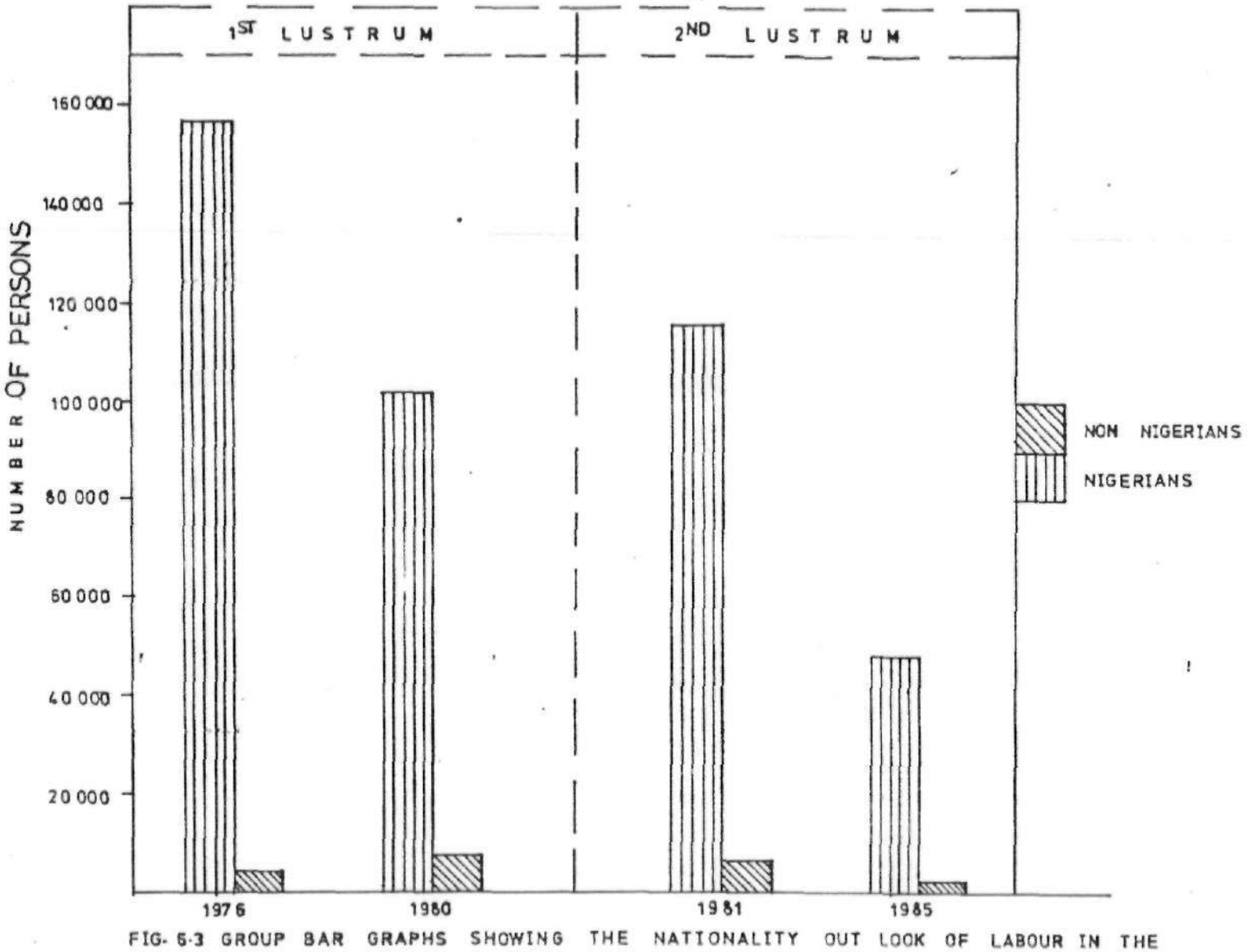


FIG. 6-3 GROUP BAR GRAPHS SHOWING THE NATIONALITY OUT LOOK OF LABOUR IN THE CONSTRUCTION INDUSTRY.

Table 6.3 tries to show the strength of construction labour according to their nationality status and according to the form of construction organisation.

The information disclosed by the table and fig.6.3. gives the situation where Nigerians form the bulk of labour in the Construction Industry during the lustra periods covered by this study. This picture is in consonance with views of some authors cited earlier in the text. The bulk of labour in the construction industry comprises of skilled and unskilled construction workers who are mainly Nigerians. It is believed that some supervisory or management staff of the industry are Nigerians. However, at the top management level, it is the expatriates that did feature significantly.

The various forms of construction organisation in the industry show some striking similarity with regard to nationality of labour taken up by each. Within the period covered by the study, all the forms of construction enterprise in the industry employed more Nigerians and less non-Nigerians to give the general labour outlook within the industry.

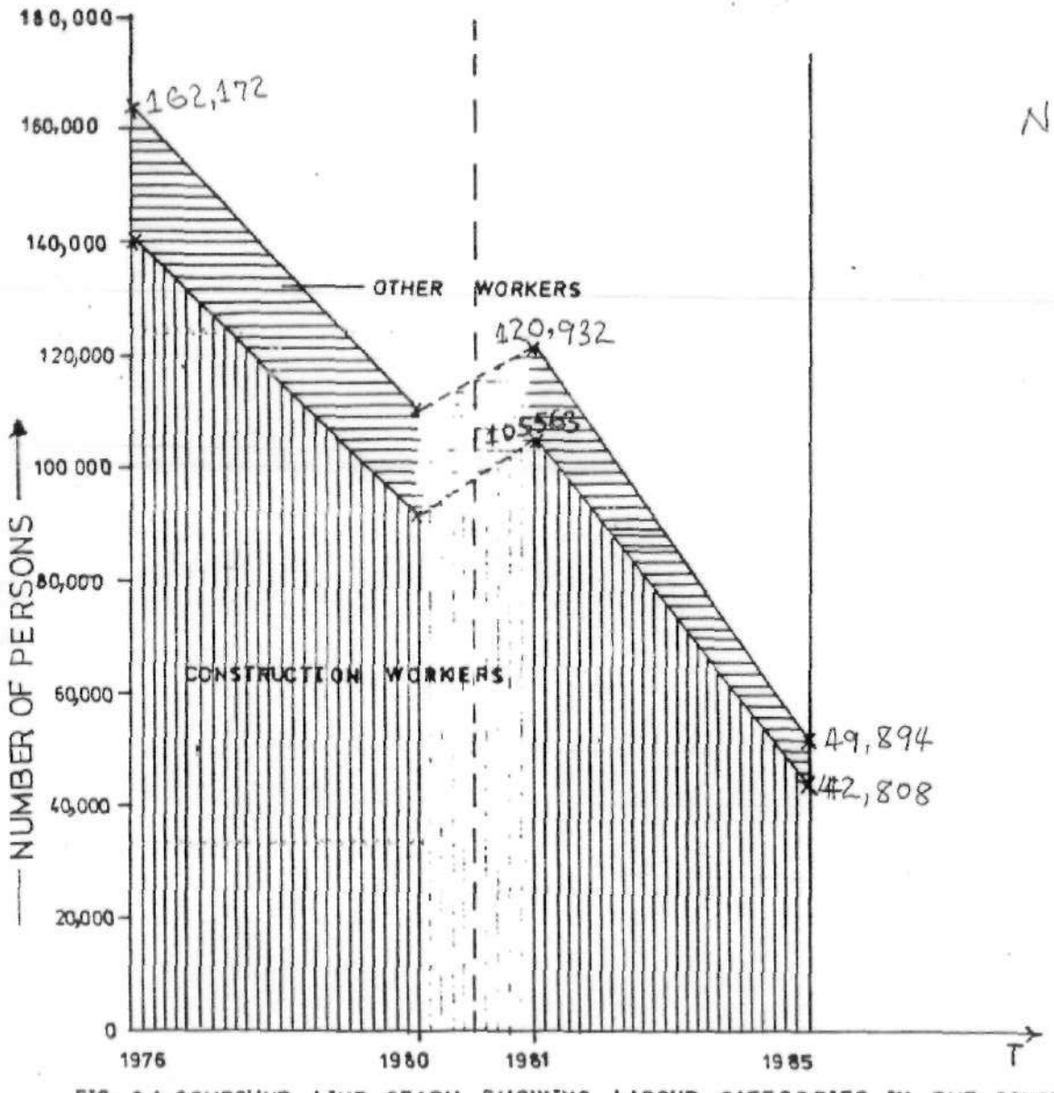
6.4 CATEGORISATION OF LABOUR IN THE INDUSTRY

To an extent FOS presents the category of labour in the construction Industry which it classifies as construction workers and other workers. This is presented by table 6.4.

TABLE 6.4: LABOUR CATEGORIES IN THE CONSTRUCTION INDUSTRY.

CATEGORY	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
CONSTRUCTION WORKERS	139,307	85.9	91,186	83.8	105,563	87.3	42,808	85.8
OTHER WORKERS	22,865	14.1	17,578	16.2	15,369	12.7	7,086	14.2
TOTAL	162,252	100.0	108,764	100.0	120,932	100.0	49,894	100.0

KASHIM IBRAHIM LIBRARY



NOTE :- TO READ VALUES AT ANY GRAPH POINT, SUBTRACT THE IMMEDIATE LOWER VALUE.

CONSTRUCTION WORKERS

OTHER WORKERS

FIG. 6-4 COMPOUND LINE GRAPH SHOWING LABOUR CATEGORIES IN THE CONSTRUCTION INDUSTRY

Table 6.4 presents the labour categories in the Construction Industry within the lustra periods (1976 - 1985). There are two major categories here (i.e. Construction workers and other workers) which conform well with the views of some authors in chapter three and four of this research work.

The picture portrayed by fig.6.4, revealed that within the years considered, construction workers assumed the most prominent position in terms of size compared to others workers, the second category.

In the first lustrum, the pattern exhibited by both categories of labour is a down-turn movement with a sharp fall in the size of labour from 1976 to the end of 1980. The same identical phenomenon is displayed by both categories of labour in the second lustrum. In comparison of the two lustra periods, the overall pattern displayed, takes the form of a thunder flash symbol (i.e. fall-rise - fall).

Also, it can clearly be seen from fig.6.4 that the total volume of labour in the Construction Industry has been on the decrease through the period under study. The reasons for this situation may not be far from those ones earlier projected.

6.5 LABOUR CATEGORY REQUIREMENTS BY FORMS OF CONSTRUCTION ORGANISATION

The quantities of the categories of labour taken up by different construction organisations, are exposed by FOS. Table 6.5 presents this exposition.

KASHIM IBRAHIM LIBRARY
RECEIVED
13 JUL
ZARIA NIGERIA
Ahmadu Bello University

472313
HD
9715

TABLE 6.5: CATEGORY OF LABOUR IN THE INDUSTRY (BY FORM OF OWNERSHIP)

A: CONSTRUCTION WORKERS B: OTHER WORKERS / LEGAL FORM OF CONSTRUCTION ORGANISATION	1ST LUSTRUM				2ND LUSTRUM			
	1976		1980		1981		1985	
	A	B	A	B	A	B	A	B
SOLE PROPRIETORSHIP	20,894	5,704	5,359	2,725	1,964	826	709	221
PARTNERSHIP	11,046	290	821	308	938	160	203	27
LIMITED LIABILITY COMPANY	106,441	16,787	85,006	14,545	102,661	14,383	41,896	6,838
TOTAL	138,381	22,781	91,186	17,578	105,563	15,369	42,808	7,086

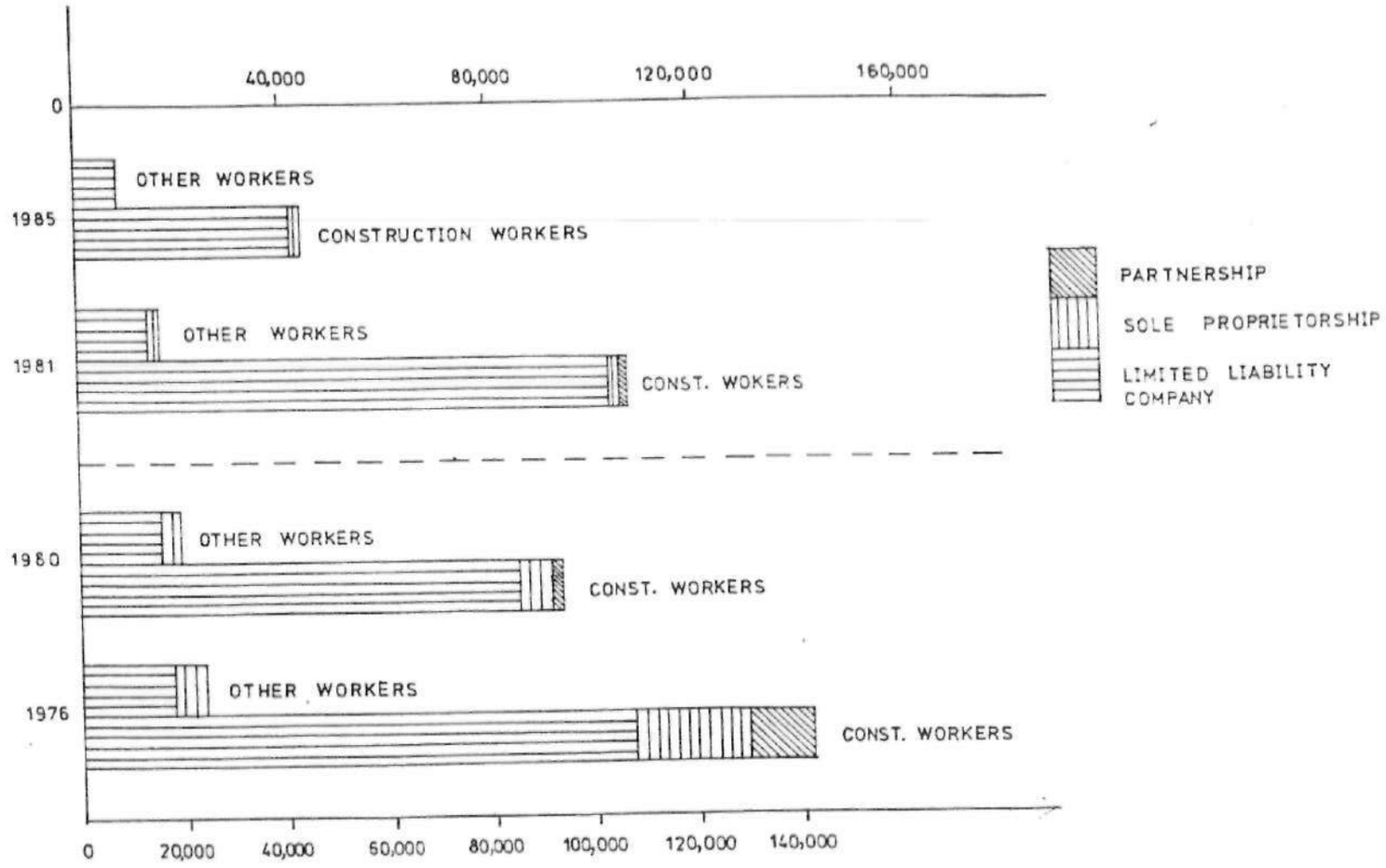


FIG. 6·5 GROUP COMPOUND BAR GRAPHS SHOWING LABOUR CATEGORY IN CONSTRUCTION INDUSTRY BY FORMS OF CONSTRUCTION ORGANISATION.

In Table 6.5, the category of labour in the Construction Industry taken up by the various forms of construction organisation is presented in two subsequent lustrums of the study. Construction workers and other workers form the major categories here.

It is therefore, clear from fig.6.5 that the limited liability form of construction organisation takes on the largest volume of construction workers as well as other workers. This gives the true picture/reflection of this form of organisation as it is usually or in most cases contends for projects of complex and large sizes in the industry. This form of organisation has many potentials of being the most viable form of organisation in the industry. Next to this in terms of the mount of the two category of workers taken up by it is the sole proprietorship form of construction organisation, however, there is a very wide gap between it and that of the former. This form of construction organisation too takes on more of construction workers than other workers. The last form of orgnisation in terms of the amount of labour category taken up by it is the partnership form of construction organisation. The fig.6.5. revealed that in terms of other workers, the quantity of labour taken up by it is so insignificant that this cannot be represented on the diagram. The figure further revealed that in this situation, the partnership form of construction organisation failed to feature prominently.

In general term, the mount of the two categories of labour taken up by its various forms of construction organisation has been on the decrease steadily within the periods covered by the study.

6.6 LABOUR AND CONSTRUCTION ACTIVITY TYPE

The FOS shows the degree of labour required per type of construction activity in the industry. Table 6.6 presents this.

TABLE 6.6: LABOUR REQUIREMENT PER TYPE OF CONSTRUCTION ACTIVITY IN THE CONSTRUCTION INDUSTRY IN NIGERIA

TYPE OF ACTIVITY	1ST LUSTRUM				2ND LUSTRUM			
	1976	%	1980	%	1981	%	1985	%
BUILDING	92,471	57	57,160	53	56,710	47	21,736	44
CIVIL ENGINEERING	-	-	48.327	44	61,741	51	25,678	51
OTHER CONSTRUCTION	65,879	41	1,653	02	2,481	02	2,480	05
SPECIAL TRADE	3,902	02	1,624	01	-	-	-	-
TOTAL	162,252	100	108,764	100	120,932	100	49,894	100

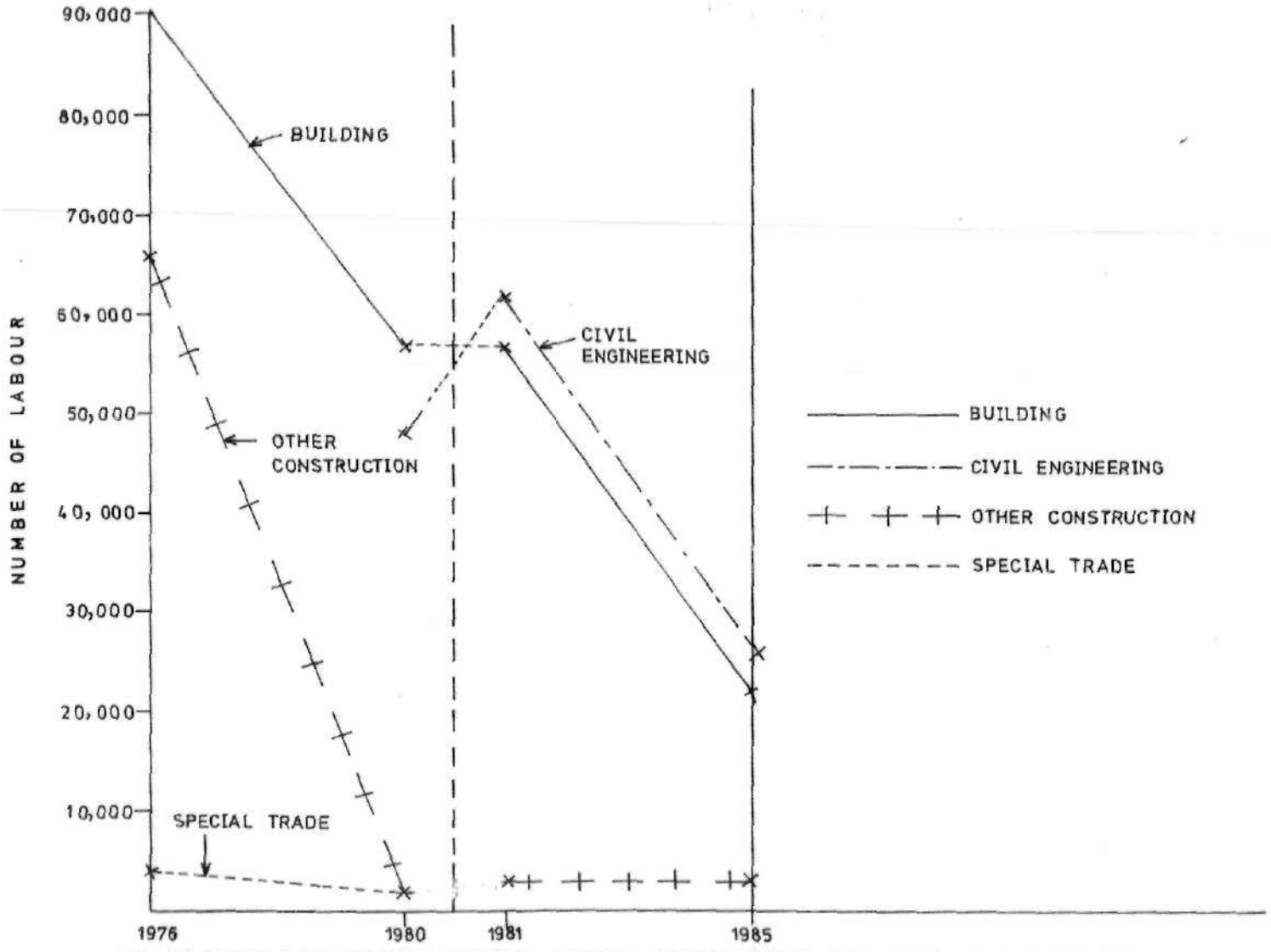


FIG. 6-6 GROUP LINE GRAPHS SHOWING LABOUR REQUIREMENTS PER TYPE OF CONSTRUCTION ACTIVITY IN THE INDUSTRY.

Table 6.6 presents the labour requirement per type of construction activity in the Construction Industry and those clearly identified are building, civil engineering, other construction and special trade activities.

On the general note, fig.6.6 revealed a pattern, which portrayed a continual decrease in the number or size of labour per construction activity through the periods under study. Between 1980 and 1985, the number of labour required in the construction industry by both building and civil engineering activity compare favourably with one another as can be seen from fig.6.6. It can be argued here that the reason responsible for this situation of labour is due mainly to equal priority ascribed to building and civil engineering by the government (the major client of the industry) during the period covered by the study. The picture portrayed by other construction is quite different from those exhibited by building and civil engineering. The labour required on other construction decrease to a minimal level at the end of the first lustrum and thus almost maintained this trend through the second lustrum until the end of it. In the case of special trade, the labour requirement has been quite minimal as this is usually the domain of tradesmen and technicians.

The general picture thus portrayed by fig.6.6 shows that building and civil engineering activities in the Construction Industry are the major construction activities that take on large number of labour. The size of labour required by each activity compare favourably with one another.

6.7 COST OF LABOUR IN THE CONSTRUCTION INDUSTRY

The FOS presents the average wage or salaries attached to labour in the Construction Industry. This is exemplified by table 6.7.

TABLE 6.7: WAGES/SALARIES OF LABOUR IN THE CONSTRUCTION INDUSTRY.

ITEM	1ST LUSTRUM		2ND LUSTRUM	
	1976	1980	1981	1985
TOTAL RECEIPTS (N'000)	1,172,309	1,173,631	1,836,139	809,778
NO OF EMPLOYEES	162,252	108,764	120,932	49,894
TOTAL WAGES/SALARIES	160,464	227,876	344,876	138,972
AVERAGE WAGE (N'000)	1,000	2,100	2,800	2,800

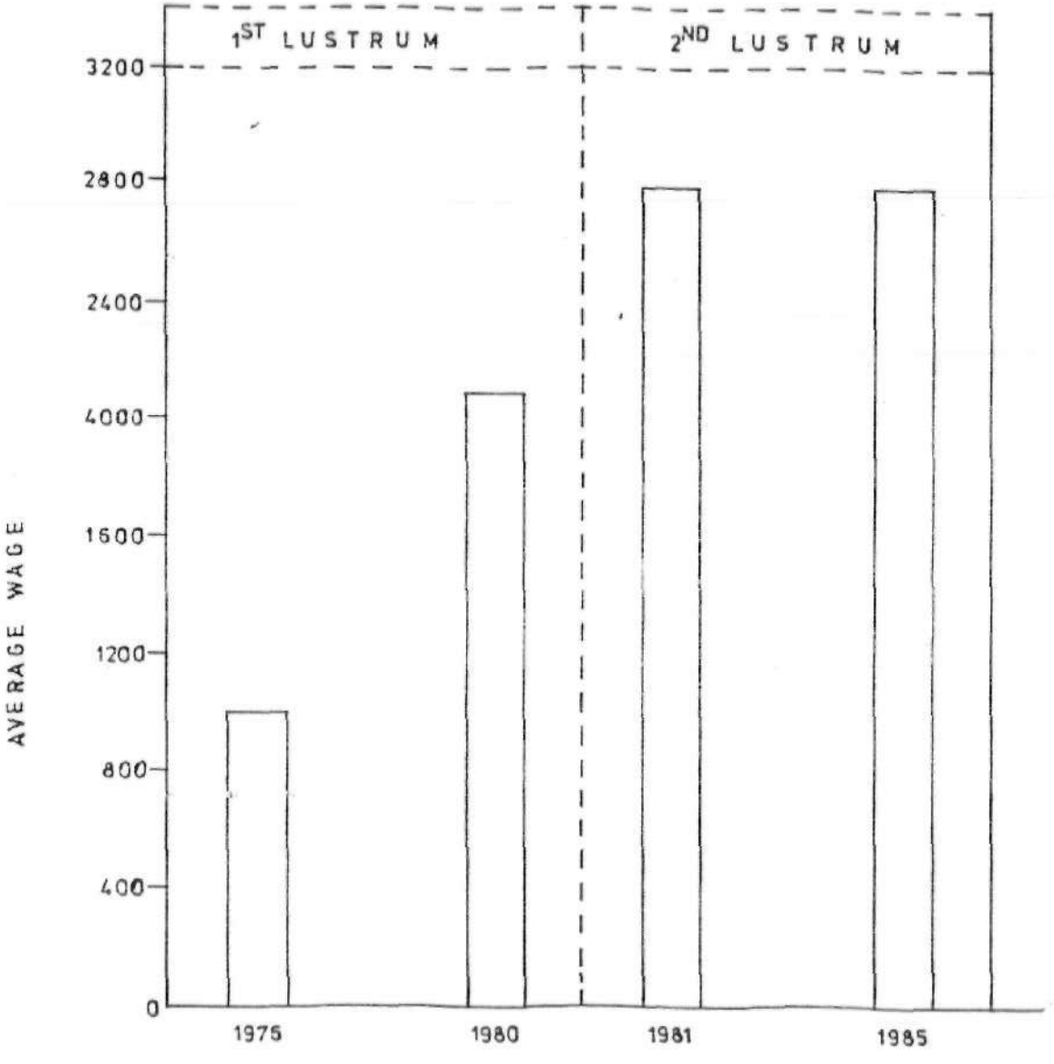


FIG. 6-7 SIMPLE BAR GRAPH SHOWING AVERAGE WAGE OF LABOUR IN THE CONSTRUCTION INDUSTRY.

In table 6.7, the total receipts, number of employees, total wages/salaries and the average wage in respect of labour are thus presented. The most striking aspect of this table is the average wage of labour which the table has tried to expose.

In line with fig.6.7, the average wage of labour in the industry has improved over the years as there has been continuous increase in the amount paid ass average labour wage through the years covered by the study. The first lustrum of the study (1976 - 1980) experienced steady increase in the labour wage as can be seen from the amount paid as average labour wage in 1976, the beginning of the first lustrum as against that paid in 1980, the end of the lustrum.

The second lustrum of the study (1981 - 1985) the amount paid as average labour wage in the Construction Industry was more or less constant. This constant wage phenomenon revealed within the second lustrum may be as a result of stable supply of labour, restriction to over estimation of contract sums, the economic down-turn of the nation etc.

The large difference witnessed between the average wage in the first and second lustrum can be due largely to inflational tendencies.

6.8 COST OF LABOUR AND FORMS OF CONSTRUCTION ORGANISATION

The FOS revealed the variation of average wage and salaries paid to labour in the Construction Industry by the various forms of construction organisation. Table 6.8 presents this outlook.

KASHIM IBRAHIM LIBRARY

TABLE 6.8: WAGE/SALARY PAID TO LABOUR BY FORM OF OWNERSHIP IN THE CONSTRUCTION INDUSTRY.

A: TOTAL WAGE/ SALARY B: NO OF EMPLOYEES C: AVERAGE WAGE / FORM OF OWNERSHIP	1ST LUSTRUM						2ND LUSTRUM					
	1976			1980			1981			1985		
	A	B	C	A	B	C	A	B	C	A	B	C
SOLE PROPRIETORSHIP	15,532	26,597	583	9,096	8,084	1,125	3,036	2,790	1,088	934	930	1,000
PARTNERSHIP	4,309	11,336	380	1,103	1,129	977	1,265	1,098	1,152	201	230	900
LIMITED LIABILITY COMPANY	138,515	123,228	1,124	217,677	99,551	2,187	340,247	117,044	2,907	137,837	48,734	2,800
TOTAL	158,356	161,161	1,000	227,876	108,764	2,100	344,548	120,932	2,800	138,972	49,894	2,800

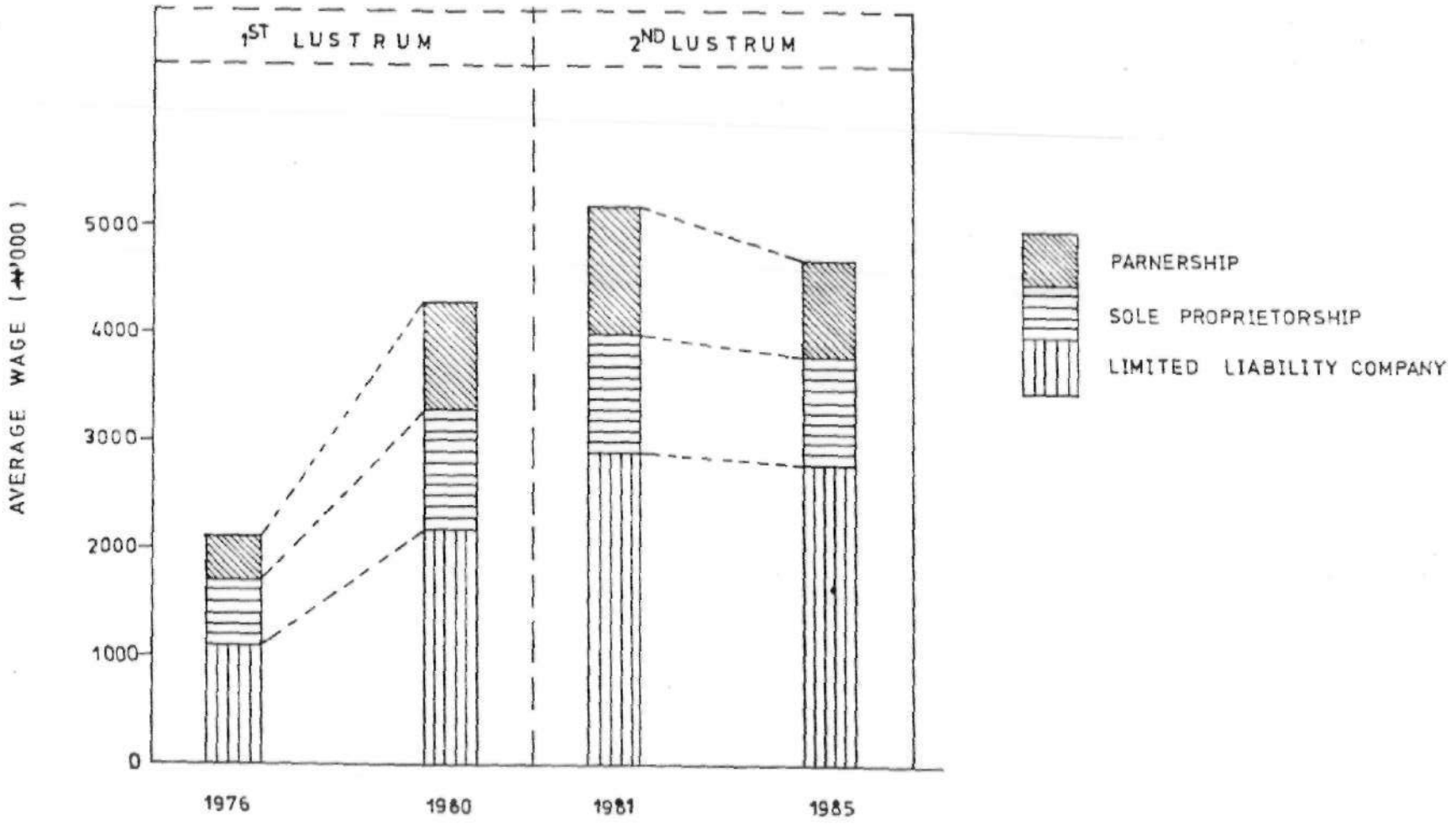


FIG 6·8 COMPOUND BAR GRAPH: AVERAGE LABOUR WAGE PAID PER FORM OF CONSTRUCTION ORGANISATION (₦'000), 1976 – 1985.

Table 6.8 presents the total wage/salaries, number of employees and hence the average labour wage paid by the different forms of construction organisations in the Construction Industry within the two lustra periods covered by the study (i.e 1976 - 1985).

Interestingly, as portrayed by fig.6.8, the average wage paid in the Construction Industry vary from one form of construction organisation to another. For instance, in 1976, the beginning of the first lustrum, the average labour wage paid was N380, N583 and N1,124 by partnership, sole proprietorship and limited liability company respectively. This trend is what that has been exemplified through the years under study.

In consideration of this situational reality, it can be argued that the amount of the average labour wage paid, more or less dictates the strength and the viability of a particular type of construction organisation. This can clearly be seen from the figure as it is the Limited Liability Company that tops the list which is followed by the sole proprietorship form of organisation.

It can also be seen from the figure that the variation in the average labour wage paid by the various forms of construction organisation has been on the steady increase trend through the years. It was pointed out in the earlier chapters of this work that to minimise labour mobility in the industry, the wage paid should reasonably be sufficient to attract labour unto the jobs of the industry. This then may be reasons why the Limited Liability Company maintains quite a large number of employees as compared to other organisations in the Construction Industry as it pays high wages.

CHAPTER SEVEN

7.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 SUMMARY

The Construction Industry in Nigeria covers the activities of purely indigenous contractors, firms owned jointly by Nigerians and expatriates, foreign firms invited into the country for works, and the government construction agency. However, a substantial number of indigenous construction firms, mostly those that engage in small new works as well as repairs and maintenance services failed to feature due to FOS survey delimitation.

A comprehensive seven-step method of approach (fig.1.1) to the study covering the sequence of action and instruction on the available set of FOS data was designed and appropriately used as the methodology of research. This thus takes into cognisance the nature and the feature of the FOS data set.

It became imperative and considered necessary to set chapter five for the description and general introduction of the FOS data set for such reasons as: the data set available for study is a secondary data source; FOS adopted a number of procedures in producing the data; a convenient way of introducing and ushering the reader to the main parts of the thesis and enabling him behold and appreciate the problems of FOS data etc.

Changes over the years have been a phenomenal feature of the Construction Industry in Nigeria and these changes are expected to continue to be part of the industry until such a time the Construction Industry becomes fully developed to shed unnecessary interference from all the participators, most especially the government as the major client of the industry. For instance, over the decade period covered by the study, the data analysis shows a steady growth in the fixed capital of the nation beginning from a start of the first lustrum to the start of the second lustrum and thereafter starts a dis-course steadily until the end of the lustrum.

Other areas of changes that have evidently been part of the Construction Industry hinge on expansion and scope of operation, enhanced construction technologies and techniques, quality of workmanship and reduced wastage of building materials, requirement for large financial out-lay, project management and complex organisation requiring longer chains of command etc.

The structure of Construction Industry is considered on the basis of its component parts which include various aspect of construction activities, the operators (clients) of the industry, the contractor and his organisations, the manufacturer and distributor of construction materials, financial institutions and the construction labour. Building and civil engineering activity encompass varied forms of construction trades.

The Construction Industry in Nigeria remains ever, the major facilitator of the process of national development and plays vital roles in the economics of the nation. The industry between 1982 and 1986 alone attracted 55.9% of the Federal Government re-current expenditure among five other economic services considered during the same period.

In Nigeria, the government (all arms) is the major client and operator of the Construction Industry. Within the decade covered by the study, of the total investments in the Construction Industry, government alone accounted for 86.5% while 13.5% come from private bodies.

The majority of construction works is undertaken through the process of construction contracting. This made the contractor's organisation very popular. The criteria used to categorise construction companies in this industry include number of employees, contract size, scope of operations, level of expertise and size of assets etc. Also, construction firms are distinguished on the basis of their level of international connections. In Nigeria, big construction contracts are from time to time given out on the basis of negotiation (fee from competition) with a given identified construction firm. A large number of marginal concerns (firms) or petty contractors essentially form a substantial part of the Nigerian Construction Industry.

Like in many countries of the world, the Construction Industry in Nigeria has evidently necessitated improvement in all the facets of National development. For instance, roads for the movement of goods and people; buildings for accommodation, social services and industrial operations; stadia for sports; dams and irrigation for water supply and agriculture etc.

The Construction Industry in Nigeria employs a very high proportion of construction labour, meaning that the industry is highly labour intensive. Construction labour therefore, comprises of all categories of labour in this industry that have acquired various levels of knowledge with respect to construction, including the un-skilled labour.

The proportion of skilled labour to that of un-skilled in the Construction Industry in Nigeria remains un-resolved and illusion. However, in Britain and other western countries, the proportion of skilled labour is higher compared to that of un-skilled in the Construction Industry.

A dwindling picture of construction labour growth (size of labour) within the period covered by the study evidently manifested. This situation therefore, affected the reputation held for the construction industry as a very large employer of paid labour. On the whole, the size of labour in the Construction Industry is largely influenced by government actions towards the industry.

Labour in the Construction Industry in Nigeria appear under five major categories which are unique and different from those in other industries. The construction labour possesses diverse features peculiar to it alone. Seven specific features is here identifiable to construction labour (section 3.1.2).

Construction labour is engaged by the client (i.e supervisory staff), the main and sub-contractors of the industry. The sub-contractor in most cases employs more of managerial/professionals, more of technicians and craftsmen than the main contractor. While the main contractor usually employs more of the daily-rated workers (i.e unskilled

labourers). More of the expatriates occupy managerial positions compared to Nigerians in both the main and sub-contractors employment.

Labour in the Construction Industry in Nigeria in the area of managerial and supervisory positions is therefore dominated by expatriates. This is the position of the FOS surveys. However, it can still be argued that it is at the top management level that expatriates do feature prominently.

Management planning techniques appropriate for the use of large labour force is suggested since most construction works in Nigeria require labour intensive methods.

A total of ten tables covering the picture of Construction Industry in Nigeria were designed and generated from the FOS data set covering the decade period of the study. Figures were appropriately juxtaposed into these tables from the FOS data base available for the study. On the basis of these tables, twelve statistical graphs of different types and nature were produced to illustrate appropriately and amplify the picture of the industry. The illustrative nature of these graphs are evident as they facilitate on-the spot comprehension by readers.

On the construction labour, eight tables were designed and the data on labour were appropriately juxtaposed into them from the FOS data base. These tables as they appear, projected the situation of construction labour in the industry. On the basis of these tables that are designed and juxtaposed, nine statistical graphs were produced to illustrate labour situation in the Construction Industry in Nigeria. At a glance, such features of labour in the areas of size variation within and across lustra periods, proportional size within and across lustra periods etc, are possible. On the overall size of labour in the industry, the first lustrum accounted for 61% while 39% went to the second lustrum. Other features such as nationality outlook of labour in the industry, labour employment capability of the various forms of construction organisation, labour categories, labour requirement per type of construction activity, wages/salaries of labour etc. are clearly exhibited as well as all such other auxiliary information/messages are thus amplified by the graphs.

7.2 CONCLUSION

The Construction Industry in Nigeria, remains a cardinal tool of national development. The government as the major client of the industry, on this premise has continued to use Construction Industry to regulate the economy through a number of policy decisions which more often than not leave behind a lingering bad name and impression for the industry. Government actions and undue interference in the procedure for the award of contracts for its projects and the manner through which final agreement is made, have proven economic effect on the final cost and quality of construction projects.

The overall size of labour in the Construction Industry is largely determined by the volume of construction activity in the industry. And to maintain a stable level of labour, require a change of government attitude and projected/regulated plan of operation for the industry which is sufficient to warrant smooth and continued participation in construction from the private sector at all times. The situation of construction labour within the lustra periods of the study presents a sharp decline in labour growth, starting from the beginning of each lustrum of the study to the end. This shows a similar pattern and trend of labour when the lustra periods are compared. However, on the size of labour, the first lustrum presents a large proportion of the total labour when compared to that of the second lustrum. A large proportion of labour is taken up by the Limited Liability type of construction organisation and this explains its usefulness and economic viability in the case of the Construction Industry in Nigeria. This, do not underscore the use of the two other organisations for certain projects of the industry. On a given construction projects, synthesis from study posits a five-block categories of labour (i.e managers, managerial professionals, clerks and office workers, sub-professionals and technicians, and operatives) the picture which the FOS data reduced to two and categorised as construction workers and other workers.

7.3 RECOMMENDATIONS

1. The dwindling picture of labour situation in the industry suggests tremendous decline in the volume of work activities. To keep a sustainable level of labour growth therefore and continually accept the industry as the backbone and tool of national development, it is recommended that a reasonable plan work activities be developed and maintained for the Construction Industry in Nigeria. This the government can do by bringing to a formal conference table construction professionals, private investors, financial institutions, industrialists, experienced individuals from within and outside the country to dialogue and draw up planned programme of sustainable level of activity for the operation of the industry. Also, since Construction Industry is universally held as a major industrial occupation that can be used to reduce the rate of un-employment, the government (as the major client) in a bid to reduce the rate of un-employment in Nigeria should raise the level of construction activity in the country.

2. Findings from the study reveal that top management staff in the Construction Industry in Nigeria is dominated by expatriates. The government is largely responsible for this situation since government projects of large magnitude are usually negotiated with invited foreign firms of international reputation who import construction materials and pay their staff in hard currency. This practice or policy of government does not give room for the rapid growth of competent firms of indigenous origin. It is therefore, recommended that government should henceforth change this attitude and start to use the competent indigenous firms, owned and managed by competent construction professionals. However, if it becomes very obvious that these firms be invited for works at the expense of the indigenous firms, the government should make it mandatory for these foreign firms to recruit their supervisory staff from Nigeria. This provision is already in place and government should ensure compliance.

3. For a rapid transformation of the Construction Industry in Nigeria that can keep abreast with the pace of modern technologies and techniques of construction, it is recommended that the industry like its manufacturing counter-path should start to invest substantially in research.

4. For effective job performance on site, it is recommended that all categories of labour except the operatives be certified to operate through whatever appropriate machinery considered necessary by both the government and the various professional institutions associated with construction, before being considered fit for employment by any construction organisation. The government should make this a guiding policy on employment for construction firms and from time to time, make follow-ups to ensure its compliance.

5. It has been reported in other countries that the proportion of skilled labour is higher to that of un-skilled in the Construction Industry. However, in Nigeria, there are conflicting views with regard to this aspect and feature of construction labour. It is therefore recommended that a research survey be conducted in this area to establish the true position.

6. Application of management principles on the construction projects have caused tremendous improvements in the handling and control of construction resources on site, high quality assurance of the final product, cost effectiveness guarantee etc. It is recommended that for every construction project, a construction manager be engaged to plan, control and coordinate all activities and aspects of the projects so as to optimize the use of resources to produce a well designed and soundly constructed facility which will meet the client's requirements of function, cost, time, budget, and future maintenance.

7. The FOS data presentation failed to provide rudimentary details capable of exposing an in-depth picture of the industry and that of construction labour, on which further academic learning and teaching can be based. For instance, from the FOS data presentation, smaller firms for repairs and maintenance services do not feature; it is difficult to separate skilled workers from the unskilled, it is difficult still to appropriate labour into their various categories of five etc. A suggested proposal for FOS subsequent survey is given in the appendix C.

7.4 SUGGESTED AREAS FOR FURTHER STUDY AND RESEARCH

(i) Determination of the true position of the level of skills of construction labour in the Construction Industry in Nigeria.

(ii) Design manual of work schedules for the optimal operation of Construction Industry in Nigeria.

REFERENCES

1. Adeyemo, M.A. (1974). "Financing the Construction Industry: Some problems and Prospects". In: The Construction Industry in Nigeria. PP. 235-261. proceedings of the 1974 Annual Conference of the Nigeria Economic Society. Ibadan. NES.

2. Akeredolu-Ale, E.O. (1974). "Prospects for Indigenous Enterprise in Nigerian Construction Industry". In: The Construction Industry in Nigeria. PP. 135-147. Proceedings of the Annual Conference of the Nigeria Economic Society. Ibadan. NES.

3. Allal, M. and Edmonds, G.A. (1977). Manual on the planning of Labour-intensive Road Construction. Geneva. I.L.O.

4. Anyanwuocha, R.A.I. (1993). Fundamentals of Economics. For Senior Secondary Schools. Onitsha - Nigeria. African-Pep Limited.

5. Ayo, A. (1974). " A Note on Cement Production and Consumption in Nigeria". In: The Construction Industry in Nigeria. PP. 75-88. Proceedings of the 1974 Annual Conference of the Nigeria Economic Society. Ibadan. NES.

6. Butler, J.T. (1988). Elements of Administration for Building Students. 4th Edition. Cheltenhan. Stanley Thornes Limited.

7. Diejomoah, U.P. (1974). " Government and the Construction Industry in Nigeria". In: The Construction Industry in Nigeria. PP. 2271-281. Proceedings of the 1974 Annual Conference of the Nigeria Economic Society. Ibadan. NES.

8. Federal Office of Statistics (1976-1985). ' Un-published Report of Building and Construction Surveys'. General Economic Statistics Division. Lagos-Nigeria.

9. Hillerbrandt, P.M. (1974). Economic Theory and the Construction Industry. London. Macmillian Limited.

10. Husseini, A.A. (1991). " The Importance of Manpower Training and Management to the Construction Indusry". In Olateju, B. (Eds.). Effective Contact Management in the Connstruction Indutry. Lagos-Nigeria NIOB.

11. Kelly, B. (1959). A.C.T.I.O.N: Design and Production of Houses, Series in Housing and Community Development. London. McGraw-Hill Book Co. Inc.

12. Obiegbu, M.E.(1994) " The Implications of Quality Management in Construction for Maintenance". A conference paper at the 24th NIOB Annual Conference held in Bauchi. 26th-28th, May.

13. Odepidan, O. (1974) " Structure and Organisation of the Construction Industry". In: The Construction Industry in Nigeria. PP. 23-45. Proceedings of the 1974 Annual Conference of the Nigeria Economic Society. Ibadan NES.

14. Ogunpola, G.A. (1968). " The pattern of organisation in the Building Industry. A western Nigeria Case Study". The Nigerian Journal of Economic and Social Studies. PP.339-360.

15. Ogunpola, A.(1974). " The Structure of Building Costs and its Implications for Economic Development". In: The Construction Industry in Nigeria. PP.109-129. Proceedings o the Annul Conference of the Nigeria Economic Society (NES). Ibadan. U.I.

16. Ohiare, M.A. (1995). "The Effects of Government Policy on Construction". A Conference paper at the NIOB Annual Conference held at Abuja. 25th-27th, May.

17. Ojo, O. (1974). " Technological Change in the Construction Industry: Some Preliminary Estimates". In: The Construction Industry in Nigeria. PP.201-208. Proceedings of the 1974 Annual Conferencne of the Nigeria Economic Society. Ibadan. NES.

18. Oladapo, I.O. (1974). " Technological and Manpower Development in the Construction Industry". In: The Construction Industry in Nigeria. PP.189-199. Proceedings of the 1974 Annual Conference of the Nigeria Economic Society. Ibadan. NES.

19. Olaniyan, B.(1971). Economic History of West Africa. Ibadan. Caxton Press Limited.

20. Olateju, B. (1995). " Organization and Management of Construction for Small, Medium and Large Firms". A Conference paper at the 25th NIOB Annual Conference held at Abuja. 25-27th, May.

21. OLayide, S.O. (1976). Economic Survey of Nigeria. Ibadan. Aromolaran Limited.

22. Owo, N.F. (1989): Problems and Prospects of Indigenous Contractors in the Nigerian Construction Industry. Unpublished M.Sc Thesis Ahmadu Bello University, Zaria.

23. Schmid, C.F. and Schmid, S.E. (1979). Handbook of Graphic Presentation. 2nd Edition. New York. John Wiley & Sons.

24. Sikora, Z.J. (1990). " Lecture Notes on Advanced Construction Technology". The Postgraduate Class, Department of Building, Ahmadu Bello University, Zaria, Nigeria.

KASHIM IBRAHIM LIB...

25. Truran, H.C. (1977). A Practical guide to Statistical Maps and Diagrams. London. H.E.B.

26. Tunde, L. (1994). " The Responsibilities of the Design Team in Ensuring Quality in Construction". A Conference paper at the 24th NIOB Annual Conference held at Bauchi. 26-28th, May.

27. Udegbe, C.E . (1982). " Labour Management in some Selected Indigenous and Expatriate Building Construction Firms in Nigeria". Un-published M.Sc thesis in the Department of Building, Ahmadu Bello University, Zaria, Nigeria.

28. Udu, and Agu, G.A. (1989). New System Economics. A Senior Secondary Course. Onitsha-Nigeria. African-Pep Limited.

29. Usoro, E.J. (1974). " The Dynamic Role of the Construction Industry in Nigeria Development". In: The Construction Industry in Nigeria. PP.61-74. Proceedings of the 1974 Annual Conference of the Nigeria Economic Society. Ibadan. NES.

30. Wahab, K.A. (1988). " The Training of Professional Buildings". The professional Builders" Journal (NIOB). Vol.1 No.1 PP.4-9.

APPENDIX "A"

THE FOS DATA OLLECTION AND ELABORATION

INTRODUCTION

The 1976 survey was the first realisable survey by FOS, Lagos, to collect data on the Construction Industry in Nigeria. After this attempt, there was no survey again on this industry until 1980 when the second attempt was carried out. However, no explanation was given by FOS as to why there was no surveys between 1976 and 1980. From 1980, the surveys exercise became steady till 1985, after which there was a break again to which no explanation was given.

SURVEY DIRECTORY

A directory of Building and Construction establishments was produced from the list of registered contractors supplied by the Federal and State Tenders Boards. On registration, contractors usually were categorised by the value of contract they were capable of handling. For reasons not revealed by FOS, not all contractors registered were included in the directory. In 1976, the contractors covered in the survey were those capable of handling contracts worth not less than N 20,000.00. However, for the 1980 and subsequent surveys, the cut-off point was raised to include only contractors registered to undertake construction work worth N 200,000.00 and above so as to eliminate the casual ones.

SCOPE AND COVERAGE OF THE SURVEY

Information was collected from establishments engaged in general building, civil engineering and other Construction activities as well as special trade contractors. Definitions of these terms are given in the glossary.

DATA COLLECTION METHOD

Establishments in the directory were mailed two copies of questionnaire and requested to return a copy of the completed questionnaire and retain the other for record. FOS sent reminders to those firms that delayed the return of the completed forms and further supplemented this action with field visit in order to improve the response position.

RESPONSE

The response rate of 1976 and 1980 surveys were put at 42.2% and 49.6% respectively. Further effort to improve the response rate were futile because some of the establishments could not be located in the addresses on record. While some of those located did no construction work in the year of survey, some had folded up and yet some were not qualified.

RELIABILITY OF SURVEY RESULTS

Completed questionnaires returned by respondents were thoroughly edited. During the editing stage, a number of inconsistent entries were discovered and efforts were made to remove the inconsistencies by contacting the respondents to confirm or adjust their figures. Some establishments were probably afraid that their reports would be used for taxation and so inflated cost of materials and wages/salaries in order to reduce value added and profit. Although a number of doubtful entries were checked and rectified at the editing stage, the results presented in the table should be interpreted and used with caution.

From 1980, a sizeable number of petty contractors were omitted. Some of them were suppliers of input to major contractors. There were also building projects supervised by their owners that were left out of the survey. It was assumed using the results of previous surveys, that the contribution from such construction projects would not exceed five percent of the output of the industry.

The precise number and type of establishments that actually took part in construction work were not known because many of them could not be traced. This problem made estimation for non-response difficult to make.

THE SURVEY ANALYSIS

The result of the analysis of the Building and Construction Surveys under consideration include those of employment, wages and salaries, Gross output, ownership of Building and Construction work, value added, Industrial costs, non-industrial costs, Receipts from all projects, payment for materials and other payments etc. (Source:- FOS, Lagos, 1976 & 1980 introductory report).

KASHIM IBRAHIM LIBRARY

APPENDIX B

TECHNIQUES OF CONSTRUCTING GRAPHICAL REPRESENTATION OF STATISTICAL DATA

This appendix gives the detail of the methods and techniques adopted in the construction of statistical charts and graphs.

In addition to its usefulness as a medium for explaining, interpreting and analysing numerical facts largely by means of points, lines, areas, and other geometric forms and symbols, statistical charts and graphs make possible the presentation of quantitative data in a simple, clear, and effective manner and facilitate comparison of values, trends and relationships.

SUMMARY OF QUALITIES AND VALUES OF STATISTICAL CHARTS AND GRAPHS

1. In comparison with other types of presentation, well-designed charts are more effective in creating interest and in appealing to the attention of the reader.
2. Statistical charts represent a very important form of visual communication. They provide a clear, economical, and precise medium for conveying a message. They are frequently superior to words or figures.
3. The use of graphs and charts saves time since the essential meaning of large masses of statistical data can be visualised at a glance.
4. Charts and Graphs can provide a comprehensive picture of a problem that makes possible a more complete and better-balanced understanding than could be derived from tabular or textual forms of presentation.
5. Charts and graphs can bring out hidden facts and relationships and can stimulate, as well as aid, analytical thinking and investigation.

A. STATISTICAL GRAPHS

1. LINE AND CURVE GRAPHS:

This method is one of the most popular. It is simple to construct, interpret and has a wide variety of uses ranging from temperature graphs, population trends, variations in crop or mineral production, fluctuations in trade and so on.

Although the same in construction, two methods of drawing can be distinguished: One in which the points are joined with a series of Straight lines - a line graph, the other in which they are joined by a smooth, rounded curve - a curve graph.

There are four main varieties of line and curve graphs viz.: Simple, group (or comparative), compound and divergence graphs. In constructing these graphs, it is important that the following points are borne in mind.

(i) Horizontal axis used for independent variable i.e. time in months, years etc. and the vertical axis used for the dependent variable i.e. quantities or values, sometimes as percentages.

(ii) The base of the vertical scale should be zero, the top should be slightly higher than the maximum value to be recorded on it.

(iii) Two different sets of values may be marked on the two axes, provided that the relationship between them is constant e.g. °C and °F.

(iv) Only a dot should be used for plotting

(v) Quantities or values marked on the vertical scale must not 'stand on' the horizontal lines, but written so that they would be bisected by the horizontal line if it were produced.

(vi) Do not indicate large numbers with long strings of zeros e.g. 100,000, 200,000 etc, but write either at the top or along the side the value of the units expressed in figures or words (e.g. N ' million).

2. BAR GRAPHS:

Bar graphs are popular, simple to construct, create visual appeal, their length being in all cases proportional to the numbers they represent, similar to line and curve graphs in many respects etc. Whereas the line and curve graph emphasises the rise and fall of values, the bar graph, by its representation as a definite quantities, draws attention both to the individual amounts and their relative variations. Bar graph comes in four main varieties and these are simple, group (or comparative), compound (or divided) and divergence graphs.

In constructing the bar graphs, the following points should be borne in mind:

(i) Horizontal scale represents the independent variable, more especially when the time element is of significance.

(ii) All bars must start at zero. If drawn for the purpose of comparison, they must be drawn on the same scale.

(iii) When time element is of minor significance, bars may be drawn horizontally.

(iv) The width of the bar is a matter of choice.

(v) If statistics for any one year are missing a space should be left to indicate this.

3. Other graphs include circular graph, Dispersion graph, etc. Consult text for their details of construction and interpretation.

(B) STATISTICAL CHARTS AND DIAGRAMS

1. DIVIDED CIRCLES (PIE CHARTS):

These charts are simple to construct, though they involve some considerable mathematical calculation. They are popular, used for variety of purposes, present striking visual impression etc. They come in two forms, which include simple divided circle and proportional divided circle and semi-circles. The following points should be borne in mind in constructing these graphs.

(i) The circle may be of any convenient size

(ii) The segments into which the circle is divided should be proportional to the value of individual components. The size of segments are calculated based on percentages of the total as 1% = 3.6° or component expressed as a fraction of the total, then the angle of the segment calculated as a fraction of 360°

(iii) Place the largest component to the right of 12.0' clock.

(iv) Group smaller segments together

(v) All printing on the chart should be in capitals and as far as possible horizontal.

.

2. OTHERS:

The following form part of charts and diagrams: divided rectangles (simple & compound), repeated symbols etc. Consult texts for their construction and interpretation.

APPENDIX C

SUGGESTED FORMAT FOR DATA PRESENTATION FROM SURVEYS ON BUILDING AND CONSTRUCTION:

As a means of evolving further information/features of the Construction Industry, consolidating the existing information/features and further broaden academic usabilities of the FOS Surveys data on Building and Construction, the following formats are thus suggested for FOS, private bodies and individuals planning to engage in future surveys to create data for the Construction Industry in Nigeria.

TABLE 1: Companies Contacted and Response by State 19.....

STATE	NUMBER CONTACTED	NO. OF RRETURNS RECEIVED	CATEGORY OF FIRMS			% RESPONSE
			A & B	C	D	

N.B: As FOS has branches throughout the States of the Federation, it is suggested that FOS Staff should undertake follow-up trips for on-the spot assessment to serve as supplement to or validation of responses received.

TABLE II: SUMMARY OF RESULT 19.....

NUMBER OF COMPANIES CONTACTED	
NUMBER OF RETURNS RECEIVED AND ANALYSED.	
NUMBER OF COMPANIES OUT OF EXISTENCE	
NUMBER OF COMPANIES IN EXISTENCE BUT NO RESPONSE.	
NUMBER EMPLOYED.	
WAGES AND SALARIES (N '000)	
GROSS OUTPUT (N '000)	
INDUSTERIAL COST (N '000)	
NON-INDUSTERIAL COST (N '000)	
VALUE ADDED (N'000)	

TABLE III: SUMMARY TABLE SHOWING GROSS OUTPUT, NUMBER OF EMPLOYEES, WAGES & SALARIES 19.....
INDUSTRIAL & NON - INDUSTRIAL COSTS AND VALUE ADDED (BY LOCATION OF COMPANY)

STATE	NO OF ESTAB	NO OF EMPLYS	WAGES & SAL.	RECEIPTS FROM				ADD IN TO ASSETS	GROSS OUTPUT	INDUST COST	NON-INDU. COST	VALUE ADDED
				BLDG PROJ	CIVIL ENG. PROJ	OTHER CONST PROJ	OTHER SOURCES					

Gross Output = Receipt + Asset.

TABLE IV: PAID-UP CAPITAL BY SOURCE OF PAYMENT

SOURCE OF PAYMENT	PAID – UP CAPITAL	
	(N' 000)	%
Private Nigerian Private Non-Nigerian Federal Government State Government Local Government Foreign Government Others		
TOTAL		

TABLE V: NUMBER OF PERSONS EMPLOYED BY FORM OF OWNERSHIP.

TYPE OF OWNERSHIP	MANAGERS		MANAGERIAL PROFESSIONALS		CLERKS $ OFFICE WORKERS		SUB-PROFESSIONALS AND TECHNICIANS		OPERATIVES		TOTAL
SOLE PROPRIETORSHIP	NIGERIANS	NON NIG.	NIGERIANS	NON NIG.	NIGERIANS	NON NIG.	NIGERIANS	NON NIG.	NIGERIANS	NON NIG.	
PARTNERSHIP											
LIMITED LIABILITY COMPANY											
TOTAL											

TABLE VI: NUMBER OF PERSONS EMPLOYED BY TYPE OF ACTIVITY:

TYPE OF ACTIVITY	MANAGERS		MANAGERIAL PROFESSIONALS		CLERKS $ OFFICE WORKERS		SUB-PROFESSIONALS AND TECHNICIANS		OPERATIVES		TOTAL
BUILDING	NIG.	NON – NIG.	NIGERIANS	NON NIG.	NIGERIANS	NON NIG.	NIGERIANS	NON NIG.	NIGERIANS	NON NIG.	
CIVIL ENGINEERING											
OTHER CONSTRUCTION											
SPECIAL TRADE											
TOTAL											

TABLE VII:TOTAL RECEIPTS OF CONSTRUCTION INDUSTRY BY FORM OF OWNERSHIP:

FORM OF OWNERSHIP	RECEIPTS FROM						TOTAL
	BUILDING PROJECTS	CIVIL ENGINEERING PROJECTS	OTHER CONSTRU PROJECTS	RENT FOR IMMOVABLE PROPERTY	HIRE OF MACHINERY	OTHER SOURCE	
SOLE PRO-PRIETORSHIP							
PARTNERSHIP							
LIMITED LIABILITY							
TOTAL							

TABLE VIII: TOTAL RECEIPTS, NUMBER OF EMPLOYEES, WAGES AND SALARIES BY FORM OF OWNERSHIP/AVERAGE WAGE:

FORMS OF OWNERSHIP	TOTAL RECEIPTS (N '000)	NUMBER OF EMPLOY.	TOTAL WAGES AND SALARIES (N '000)	AVERAGE WAGE				
				MANAGERS	MANAGERIAL PROFESSIONAL	CLERKS OFFICE WORKERS	SUB-PROF.& TECHNI CIAN	OPERA TIVES.
SOLE PROPRIE-TORSHIP								
PARTNER-SHIP								
LIMITED LIABILITY COMPANY.								
TOTAL								

N.B. It may be necessary too to work-out the average wages paid to these categories of workers on the basis of race

TABLE IX: VALUE OF BUILDING AND CONSTRUCTION WORK EXECUTED IN 19.....
BY LOCATION OF PROJECTS:

STATES	VALUE			TOTAL (N '000)
	BUILDING PROJECTS	CIVIL ENG. PROJECTS.	OTHER CONST. PROJECTS	
TOTAL				

A.B.U. IBRAHIM LIBRARY

TABLE X: OWNERSHIP OF BUILDING AND CONSTRUCTION WORK EXECUTED IN 19.....

SPONSORS OF BUILDING AND CONSTRUCTION	BUILDING PROJECTS (N'000)	PERCENTAGE (%)	CIVIL ENGR. PROJECTS	PERCENTAGE (%)	OTHER CONST. PROJECTS	PERCENTAGE (%)
FEDERAL GOVERNMENT						
STATE AND LOCAL GOVERNMENT						
OTHER PUBLIC INSTIT. CORPORATIONS, UNIVERSITIES						
PRIVATE BODIES						
TOTAL						

TABLE XI: PURCHASES OF MATERIALS AND OTHER PAYMENTS MADE IN 19.....(BY FORM OF OWNERSHIP).

(N'000)

FORM OF OWNERSHIP	MATERIALS	PAYMENTS				TOTAL
		MADE TO SUB-CONTRACTORS	FOR TELEPHONE	FOR HIRE OF EQUIPMENT	FOR ACCOUNTING, AUDITING ETC	
SOLE PROPRIETORSHIP						
PARTNERSHIP						
LIMITED LIABILITY COMPANY						
TOTAL						

TABLE XII: PURCHASES OF MATERIALS AND OTHER PAYMENTS MADE IN 19.....
BY TYPE OF ACTIVITY.

(N'000)

TYPE OF ACTIVITY	MATERIALS	PAYMENTS				TOTAL
		MADE TO SUB-CONTRACTORS	FOR TELEPHONE	FOR HIRE OF EQUIPMENT	FOR ACCOUNTING, AUDITING ETC	
BUILDING						
CIVIL ENGINEERING						
OTHER CONSTRUCTION						
TOTAL						

TABLE XIII: EXPENDITURE ON FIXED ASSETS (BY FORM OF OWNERSHIP)

(N'000)

FORM OF OWNERSHIP	EXPENDITURE ON					TOTAL
	RESIDENTIAL BUILDING	NON-RESIDENTIAL BUILDINGS	CONSTRUCTION OTHER THAN BUILDINGS	TRANSPORT EQUIPMENT	MACHINERY & OTHER EQUIPMENT	
SOLE PROPRIETOR-SHIP						
PARTNERSHIP						
LIMITED LIABILITY COMPANY						
TOTAL						

TABLE XIV: NUMBER OF BUILDING STARTS IN 19.....(BY FORM OF OWNERSHIP)

FORM OF OWNERSHIP	RESIDENTIAL BUILDINGS				NON-RESIDENTIAL BUILDINGS				OTHERS
	ONE DWELLING HOUSE	TWO DWELLING HOUSE	MULTI-DWELLING HOUSE	SINGLE ROOM ACCOMMODATION	INDUSTRIAL	COMMERCIAL	EDUC.	HEALTH	
SOLE PRO-PRIETORSHIP									
PARTNERSHIP									
LIMITED LIABILITY COMPANY									
TOTAL									

TABLE XV: VALUE OF CONTRACT WON IN EACH STATE OF THE FEDERATION 19.....

(N'000)

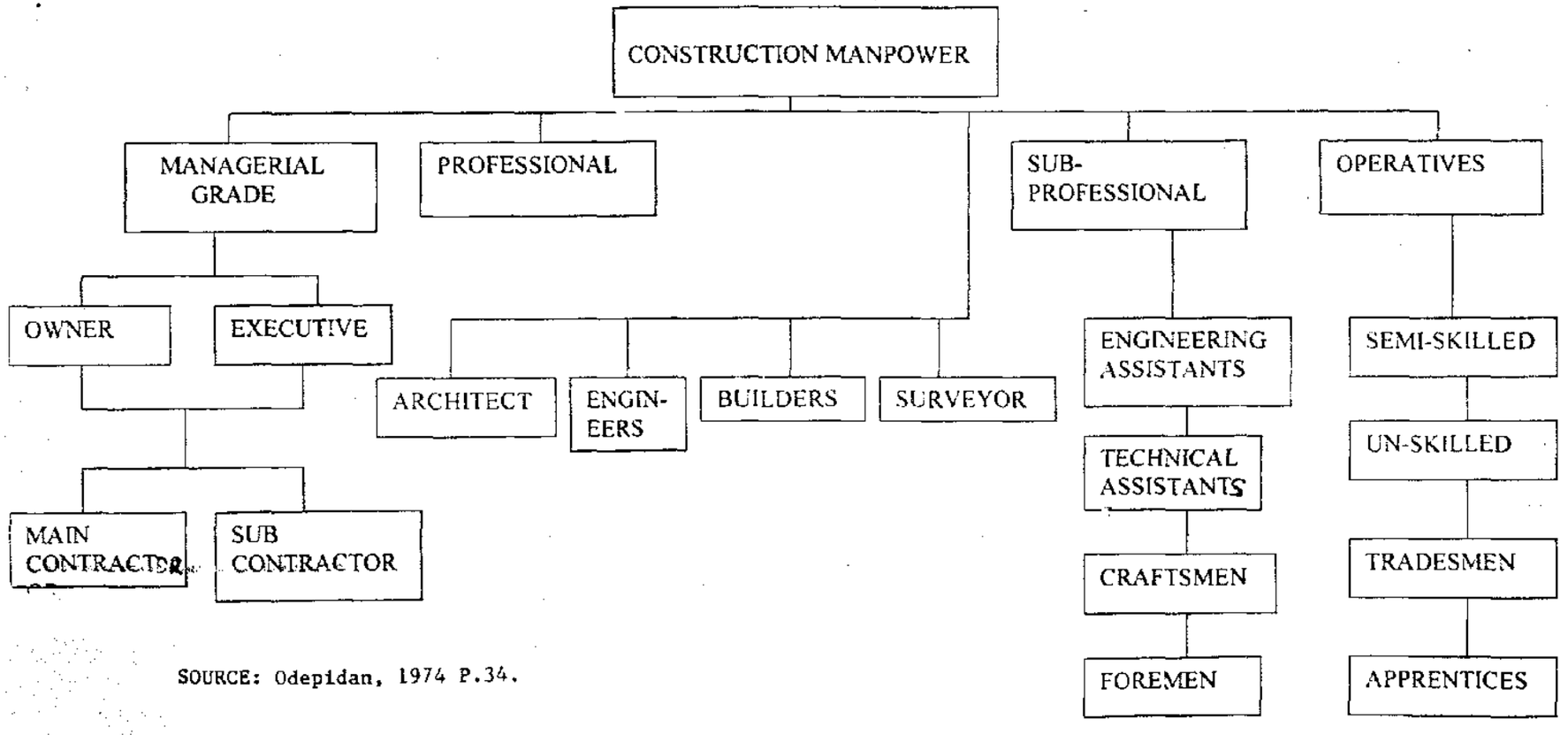
STATES	BUILDING CONTRACTS	CIVIL ENGINEERING CONTRACTS	OTHER CONSTRUCTION CONTRACTS	TOTAL
TOTAL				

TABLE XVI: VALUE OF CONTRACTS WON IN 19.....(BY FORM OF OWNERSHIP)

(N'000)

FORM OF OWNERSHIP	VALUE OF			TOTAL
	BUILDING CONTRACTS	CIVIL ENGINEERING CONTRACTS	OTHER CONSTRUCTION CONTRACTS	
LIMITED LIABILITY COMPANY				
SOLE PROPRIETORSHIP				
PARTNERSHIP				
TOTAL				

APPENDIX D: STRUCTURE OF MANPOWER IN CONSTRUCTION



SOURCE: Odepidan, 1974 P.34.