

Has the Nigerian oil and gas local content development policy had any impact on the indigenisation of employment and job creation? A stakeholder analysis

Oluwatosin O Lagoke (2014)

Note if anything has been removed from thesis:

Copyright © and Moral Rights for this thesis are retained by the author and/or other copyright owners. A copy can be downloaded for personal non-commercial research or study, without prior permission or charge. This thesis cannot be reproduced or quoted extensively from without first obtaining permission in writing from the copyright holder(s). The content must not be changed in any way or sold commercially in any format or medium without the formal permission of the copyright holders.

When referring to this work, the full bibliographic details must be given as follows:

Lagoke, Oluwatosin O (2014)

Has the Nigerian oil and gas local content development policy had any impact on the indigenisation of employment and job creation? A stakeholder analysis

PhD, Oxford Brookes University

Has the Nigerian oil and gas Local Content Development policy had any impact on the indigenisation of employment and job creation? A Stakeholder Analysis

Lagoke Oluwatosin

This thesis is submitted in partial fulfilment of the requirements of the award of Doctor of Philosophy

Oxford Brookes University
Faculty of Business

July, 2014

TABLE OF CONTENT

Title Page	
Table of Contents	ii
List of Tables	viii
List of Figures	x
Glossary of Abbreviations	xii
Acknowledgments	xiv
Abstract	xv

CHAPTER ONE INTRODUCTION

1.1	Chapter Overview	1
1.2	Problem Statement, Context and Academic Background	1
1.3	Academic Justification for the Thesis and Research Gap	3
1.4	Main Research Question and Associated Objectives	4
1.4.1	Main Research Question	4
1.4.2	Research Objectives	4
1.5	Theoretical Boundaries	5
1.6	Structure of the Thesis	5

CHAPTER TWO CONTEXT: NIGERIA COUNTRY PROFILE AND ANALYSIS OF OIL AND GAS INDUSTRY

2.1	Chapter Overview	7
2.2	Country Overview	7
2.3	Socio-Cultural Characteristics of Nigeria	8
2.3.1	Population in Nigeria	8
2.3.2	Topography of Nigeria	10
2.4	Economic Features of Nigeria	12
2.4.1	GDP Growth Rate	12
2.4.2	Inflation Rate Consumer Prices	14
2.4.3	Industrial Production Growth Rate	14
2.5	Nigerian Political Economy	15
2.5.1	The Nigerian Geo Political Zones	15
2.5.2	Overview of the Northern Zones	16
2.5.3	Overview of the Southern Zones	16
2.5.4	The Resource Curse	19
2.6	History of the Nigerian Oil and Gas Industry	22
2.7	Oil and Gas Production in Nigeria	25
2.8	Analysis of the Nigerian Oil and Gas Industry	25

2.8.1	Political	26
2.8.2	Economic	31
2.8.3	Social	39
2.8.4	Technological	42
2.8.5	Environmental	43
2.8.6	Legal	46
2.9	Concluding Remarks	46

CHAPTER THREE LOCAL CONTENT DEVELOPMENT (LCD) IN NIGERIA

3.1	Chapter Overview	48
3.2	Overview of LCD	48
3.3	Definition of Local Content	49
3.4	Why Local Content	55
3.5	The Need for Local Content Policy in Nigeria	56
3.6	History of Local Content Policy in Nigeria	57
3.6.1	The Local Content Bill	60
3.6.2	The Nigerian Local Content Policy Thrust and Policy Objectives	63
3.6.2.1	First Consideration in Exploration and Contractual Rights	63
3.6.2.2	Utilisation of Indigenous Human and Material Resources	64
3.6.2.3	First Consideration for Employment and Training	65
3.6.2.4	Research and Development	65
3.6.2.5	Technology Transfer	66
3.7	Local Content Strategy for Nigeria	68
3.8	Concluding Remarks	69

CHAPTER FOUR A REVIEW OF LOCAL CONTENT DEVELOPMENT IN OTHER COUNTRIES

4.1	Chapter Overview	70
4.2	The Experience of LCD in other Countries	70
4.2.1	Local Content in Brazil	71
4.2.1.1	Overview of Brazil's Energy/Oil and Gas Sector	71
4.2.1.2	LCD in Brazil	72
4.2.1.3	LCD Strategy in Brazil	73
4.2.1.4	Impact of Policy	73
4.2.2	Local Content in United Kingdom (UK)	74
4.2.2.1	Overview of the Energy/Oil and Gas Sector in the UK	74
4.2.2.2	LCD in UK	75
4.2.2.3	LCD Strategy	76
4.2.2.4	Impact of Policy	77
4.2.3	Local Content in Norway	77

4.2.3.1	Overview of Norway’s Energy/Oil and Gas sector	77
4.2.3.2	LCD in Norway	78
4.2.3.3	LCD Strategy	79
4.2.3.4	Impact of policy	80
4.2.4	Local Content in Trinidad and Tobago	82
4.2.4.1	Overview of T&Ts Energy/Oil and Gas Sector	82
4.2.4.2	LCD in Trinidad and Tobago	83
4.2.4.3	LCD Strategy	84
4.2.4.4	Impact of Policy	85
4.2.5	Local Content in Angola	85
4.2.5.1	Overview of the Angolan Oil and Gas sector	85
4.2.5.2	LCD in Angola	86
4.2.5.3	LCD Strategy	87
4.2.5.4	Impact of Policy	88
4.2.6	Local Content in Indonesia	89
4.2.6.1	Overview of the Indonesian Oil and Gas Sector	89
4.2.6.2	LCD in Indonesia	90
4.2.6.3	Local Content Strategy	90
4.2.6.4	Impact of Policy	92
4.3	Lessons Learnt and Critical Success Factors	94
4.4	Concluding Remarks	95

CHAPTER FIVE REVIEW OF THEORETICAL FRAMEWORKS AND EMPIRICAL WORK ON LCD APPRAISAL

5.1	Chapter Overview	96
5.2	Stakeholders Addressed In the Nigerian Oil and Gas Local Content Act	96
5.3	A Review of Conceptual Frameworks on Local Content Development	100
5.3.1	Critical Evaluation of the Frameworks	107
5.4	Review of Empirical Studies on Local Content Appraisal	110
5.4.1	First Consideration in Exploration and Contractual Rights	110
5.4.1.1	Promoting Higher Participation of Indigenous Firms within the Oil and Gas Industry	110
5.4.1.2	Enhancing Entrepreneurial Activities within the Oil Producing Region	111
5.4.1.3	Promoting Higher Participation and Development of Indigenous SMEs	112
5.4.2	Utilisation of Indigenous Human and Material Resources	115
5.4.2.1	Growth and Productivity of Manufacturing Industry	115
5.4.2.2	Manufacturing Industry Capacity Utilisation Rate (MCUR)	117
5.4.2.3	Availability of Credit Facilities for the Development of Indigenous Companies	119
5.4.2.4	Capability of Nigerian Banks in providing Credit Facilities	121
5.4.3	First Consideration for Employment and Training	124
5.4.3.1	Employment Generation and Utilisation of Local Human Resources	124

5.4.3.2	Cause and Effect of Skill Gap among Potential Employees	124
5.5	Research Focus of the Study and Evaluative Framework	127
5.6	Concluding Remarks	129

CHAPTER SIX REVIEW OF THEORIES UNDERPINNING LOCAL CONTENT DEVELOPMENT

6.1	Chapter Overview	130
6.2	Introduction	130
6.3	Growth Theory	130
6.4	Theory of Content Protection	131
6.5	Necessity and Opportunity Theory of Indigenous Entrepreneurship	132
6.6	Stakeholder Theory	134
6.6.1	Application of Stakeholder Theory to Public Policy	140
6.7	Overarching Stakeholder Approach and Evaluative Framework	142
6.8	Concluding Remarks	147

CHAPTER SEVEN RESEARCH METHODOLOGY

7.1	Chapter Overview	148
7.2	Understanding the Nature and Purpose of the Study	148
7.3	The Epistemological and Philosophical Position	150
7.4	The Methodological Framework	153
7.4.1	Research Approach	153
7.4.1.1	Deductive Approach	153
7.4.1.2	Inductive Approach	154
7.5	Research Strategy	155
7.6	Research Data	155
7.6.1	Interviews	157
7.6.1.1	Unstructured Interviews	157
7.6.1.2	Structured Interviews	157
7.6.1.3	Semi structured Interviews	157
7.6.1.4	Type of interview adopted and justification	158
7.6.1.5	Justification for carrying out Telephone Interviews	161
7.6.2	Documentary Data	164
7.6.3	Statistical Data	165
7.7	Sampling Technique	166
7.8	Sampling Strategy	168
7.8.1	Selection of Sample Size	169
7.9	Application of the Stakeholder Framework	170
7.9.1	Identification of Stakeholders	171

7.9.2	Differentiation and Categorisation of Stakeholders	172
7.9.3	Interrelationship of Stakeholders	174
7.9.3.1	Social Network Analysis (SNA)	174
7.9.3.2	Actor Linkage Matrix (ALM)	177
7.10	Methodological Framework for Analysis of Sub Objectives	177
7.11	Pilot Study	181
7.12	Data Reliability and Validity	182
7.12.1	Reliability	183
7.12.2	Validity	184
7.13	Handling of Data	185
7.13.1	Recording and Transcribing Data	186
7.13.2	Coding and Allocation of Themes	186
7.14	Research Ethics	188
7.15	Concluding Remarks	188

CHAPTER EIGHT STAKEHOLDER ANALYSIS

8.1	Chapter Overview	189
8.2	Stakeholder Identification and Categorisation	189
8.3	Social Network Analysis	195
8.3.1	Analysis of the Sociograms	202
8.3.2	Determination of Centrality	207
8.3.2.1	Determination of Betweness	208
8.4	Actor-Linkage Matrix (ALM)	209
8.5	Concluding Remarks	211

CHAPTER NINE INTERVIEW DATA FINDINGS

9.1	Chapter Overview	213
9.2	Profile of Participants	213
9.3	Analysis of Sub Objectives/Evaluation Criteria	218
9.3.1	Extent of Value Addition within the Nigerian Oil and Gas Industry	220
9.3.2	Learning Curriculum and Industry Demands	226
9.3.3	Suitability and Employability of Graduates	232
9.3.4	Funding LCD	236
9.3.5	Local Content Policy, Indigenous Players and Potential in-country Entrepreneurs	242
9.3.6	Domiciliation versus Indigenisation	247
9.4	Concluding Remarks	249

CHAPTER TEN FURTHER ANALYSIS AND DISCUSSION

10.1	Chapter Overview	255
10.2	Findings from SNA and ALM Analyses	255
10.3	Value Addition	258
10.4	Learning Curriculum and Industry Demands	263
10.5	Suitability and Employability of Graduates	266
10.6	Funding LCD	267
10.7	Local Content Policy, Indigenous Players and Potential In-Country Entrepreneurs	270
10.8	Domiciliation versus Indigenisation	271
10.9	A Robustness Test: Regression Analysis	275
10.9.1	Data	276
10.9.2	The Model	277
10.9.3	Data Description	278
10.9.4	A priori Expectations and Theoretical Significance of the Model	279
10.9.5	Data Processing	279
10.10	Summary of Research Findings, Contribution and Developed Framework	285

CHAPTER ELEVEN CONCLUSIONS

11.1	Chapter Overview	293
11.2	Summary of Main Findings	293
11.3	Implications	300
11.3.1	Government	300
11.3.2	International Oil Companies (IOCs)	302
11.3.3	Indigenous Service Companies	303
11.3.4	HE Institutions	303
11.4	Recommendations	304
11.4.1	Government	304
11.4.2	Other Stakeholders	307
11.5	Contribution to Knowledge	308
11.6	Limitations and Avenues for Further Research	309
	References	312
	Appendices	341

LIST OF TABLES	PAGE
Table 2.1: Nigeria Poverty Profile Report	18
Table 2.2: A Chronology of the Development of the Nigerian Oil and Gas industry	24
Table 2.3: PMS Price Movements in Nigeria from 1978-2012	29
Table 2.4: Oil and Gas Data 1961-2011	32
Table 2.5: Nigerian Petroleum Products Imports	34
Table 2.6: Domestic Refining Average Capacity Utilization (%): (2001 – 2010)	35
Table 2.7: Estimated value of Nigeria’s Stolen and Shut-in Oil Production 2000–2008	38
Table 3.1: Key Definitional Features of Local Content	53
Table 4.1: Value Addition in the Norwegian Oil Industry	81
Table 4.2: Oil and Gas Industry and Policies to foster Local Content: An International comparison	93
Table 5.1: Classification of Oil and Gas Operators	97
Table 5.2: Roles and Responsibilities of Local Content Policy Stakeholders	98
Table 5.3: An Eclectic Framework for enhancing Effective Local Content in Nigeria	106
Table 5.4: Summary Table of Theoretical Frameworks on LCD	109
Table 5.5: Analysis Table: First Consideration in Exploration and Contractual Rights	114
Table 5.6: Analysis Table: Utilisation of Indigenous Human and Material Resources	123
Table 5.7: Analysis Table: First Consideration for Employment and Training	126
Table 6.1: Who is a stakeholder? A Definitional Taxonomy	135
Table 6.2: Framework of Evaluative Criteria/Sub Objectives and Associated Sources	142
Table 6.3: Evaluative Criteria, Rationale for Inclusion, Data and Operational Requirements	143
Table 7.1: Basic and Applied Research	149
Table 7.2: Features of the two main Paradigms	152
Table 7.3: Comparison of Interviews and Self-Administered Questionnaires	160
Table 7.4: Probability and Non-Probability Sampling Techniques	167
Table 7.5: Analysis of Research Sub Objectives	178
Table 7.6: Codes, Categories and Themes	187
Table 8.1: Identification of and Differentiation between Stakeholders	190
Table 8.2: Stakeholder Group Abbreviations for Social Network Analysis	196
Table 8.3: Valued Data presented in a matrix format (bi-directional)	196
Table 8.4: Binary Data presented from Table 8.3 after being Dichotomised (Dichotomisation 1)	197
Table 8.5: Binary Data presented from Table 8.3 after being Dichotomised (Dichotomisation 2)	203
Table 8.6: ALM showing the extent of Relational Ties among stakeholder groups	210
Table 9.1: Distribution of Selected Stakeholders’ Interviewed	214
Table 9.2: Stakeholder Groups for Analysis of each Research Sub Objective	219
Table 10.1: Enrolment in the Universities and Polytechnics	263
Table 10.2: Some selected Countries’ Annual Budgetary Allocation on Education	265
Table 10.3: CSR and Local Content Activities of selected Multinational oil companies	268
Table 10.4: Police Records of Some Cases of Kidnapping/Hostage-taking/Sea Piracy in Niger Delta	274

Table 10.5: Model 1: Regression Analysis to determine the Variables influencing Indigenous Employment and Job Creation in the Nigerian Oil and Gas Industry. 1980-1999	280
Table 10.6: Model 2: Regression Analysis to determine the Variables influencing Indigenous Employment and Job Creation in the Nigerian Oil and Gas Industry. 2000-2012	280
Table 10.7: Summary of the entire Research Findings	286

LIST OF FIGURES	PAGE
Figure 2.1: The Nigerian Map	8
Figure 2.2: Nigeria's Population Increase from 2000-2012 (millions of people)	9
Figure 2.3: The Nigerian Population Density Map	10
Figure 2.4: Nigeria's Topographic Map	11
Figure 2.5: GDP Real Growth Rate	12
Figure 2.6: Inflation Rate Consumer Prices (%)	13
Figure 2.7: Inflation Rate vs Oil Price	13
Figure 2.8: Industrial Production Growth Rate (%)	14
Figure 2.9: Nigerian Map showing Geo Political Zones	15
Figure 2.10: Average Production and Export of Crude Oil in Nigeria 1961-2010	33
Figure 2.11: Crude Oil (Real) Prices in Nigeria (1976-2012)	36
Figure 2.12: Average Crude Oil (Real) Prices in Nigeria (1976-2012)	36
Figure 2.13: Average Oil Reserves in Nigeria	37
Figure 2.14: Average Gas Production in Nigeria 1961-2010	38
Figure 2.15: Oil Spill Data 1983-2009	44
Figure 2.16: Percentage of Gas Flared in Nigeria	45
Figure 4.1: A Global Drive for Local Content	71
Figure 4.2: Targets versus Achieved Participation of Domestic Industry in Investments, 2003–10	74
Figure 4.3: Achieved Angolanisation Rate versus Target, 1990	89
Figure 4.4: Number of Indonesians Engaged in Capability Development Programs, 2008–11	92
Figure 5.1: Framework to appraise the Efficacy of the Nigerian Local Content Policy	100
Figure 5.2: Framework for a viable Local Content Policy Approach	102
Figure 5.3: Enhancing Local Content and Participation	103
Figure 5.4: Framework for Appraising Local Content Policy	104
Figure 5.5: Local Content Development	105
Figure 6.1: Framework for Stakeholder Analysis of LCD policy	146
Figure 7.1: Schematic Representation of key Methodological steps necessary for Stakeholder Analysis	171
Figure 7.2: The Power-Interest Framework	173
Figure 7.3: Steps for Social Network Analysis (SNA)	176
Figure 8.1: Application of The Power-Interest Framework; Categorisation of Stakeholders in relation to Local Content Policy in Nigeria.	194
Figure 8.2a: Sociogram representation of Matrix Data in Table 8.4 (Random form)	199
Figure 8.2b: Sociogram representation of Matrix Data in Table 8.4 (Circle form)	200
Figure 8.2c: Sociogram representation of Matrix Data in Table 8.4 (Spring embedding)	201
Figure 8.3a: Sociogram representation of Matrix Data in Table 8.5 (Random form)	204
Figure 8.3b: Sociogram representation of Matrix Data in Table 8.5 (Circle form)	205
Figure 8.3c: Sociogram representation of Matrix Data in Table 8.5 (Spring Embedding form)	206
Figure 10.1: Nigeria Unemployment Rate	259

Figure 10.2: Number of Nigerian Employees versus Foreigners in selected Oil Companies	260
Figure 10.3: GDP contribution of Oil and Gas Industry at Constant Basic Prices (%)	261
Figure 10.4: Status of Marine Vessels Utilisation	262
Figure 10.5: Increasing number of Universities in Nigeria	264
Figure 10.6: Skill gaps/shortages in the Nigerian Oil and Gas industry	266
Figure 10.7: Number of Indigenous Oil and Gas Operators in Nigeria	270
Figure 10.8: Estimated Generation Capacity versus Installed Generation Capacity of Electricity in Nigeria	272
Figure 10.9: Capacity Utilisation Rate and Idle Capacity in Nigerian Refineries	284
Figure 10.10: Evaluative Framework for Stakeholder Analysis Application to LCD	291

GLOSSARY OF ABBREVIATIONS

ACCI	Australian Chamber of Commerce and Industry
AG	Action Group
AGO	Automotive Gas Oil
ALM	Actor Linkage Matrix
BIA	Bayelsa Indigenous Association
BP	British Petroleum
CA	Community Assistance
CB	Community Banks
CBN	Central Bank of Nigeria
CD	Community Development
CFPD	Cubic Feet Per Day
CGD	Centre for Global Development
CNN	Cable News Network
CRES	Centre for Renewable Energy Sources
CSR	Corporate Social Responsibility
CUR	Capacity Utilisation Rate
DPR	Department of Petroleum Resources
DVS	Delta Volunteer Service
EPC	Engineering, Procurement and Commissioning
ETP	Economic Transformation Programme
E&P	Exploration and Production
E&T Plan	Employment and Training Plan
FDI	Foreign Direct Investment
FEED	Front End Engineering Design
FPSO	Floating, Production, Storage and Offloading
GEM	Global Entrepreneurship Monitor
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GNP	Gross National Product
GSM	Global System Mobile
GSO	Goods and Services Office
GWS	Goods, Works and Services
HE	Higher Education
HHK	Household Kerosene
ICOPF	Isoko Community Oil Producing Forum
ICRG	International Country Risk Guide
IDSL	Integrated Data Services Limited
IEF	Ijaw Elders Forum
IGR	Industrial Growth Rate
IMF	International Monetary Fund
IOC	International Oil Corporation
JOA	Joint Operation Agreement
JQS	Joint Qualification System
JV	Joint Venture
KRPC	Kaduna Refining and Petrochemical Company
LCD	Local Content Development
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
LSP	Legal Services Plan
MCUR	Manufacturing Industry Capacity Utilisation Rate
MEND	Movement for the Emancipation of the Niger Delta
MNOC	Multinational Operating Companies
MOSOP	Movement for the Survival of Ogoni People
NAPIMS	National Petroleum Investment Management Services
NBCI	Nigerian Bank for Commerce and Industry
NCCF	Nigerian Content Consultative Forum
NCDF	Nigerian Content Development Fund
NCDMB	Nigerian Content Development and Monitoring Board

NCNC	National Council for Nigeria and Cameroons
NDDC	Niger Delta Development Commission
NEITI	Nigerian Extractive Industries Transparent Initiative
NERFUND	National Economic Reconstruction Fund
NEXIM	Nigerian Export and Import Bank
NLC	Nigerian Labour Congress
NNPC	Nigerian National Petroleum Corporation
NNOC	Nigerian National Oil Corporation
NOGIC	Nigerian Oil and Gas Industry Content
NPC	National Population Commission
NPC	Northern Peoples' Congress
NPRC	National Petroleum Research Centre
NUC	National Universities Commission
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturers
OGIC	Oil and Gas sector reform Implementation Committee
OMPADEC	Oil Minerals Producing Areas Development Commission
OML	Oil Mining Leases
OPEC	Organisation of Petroleum Exporting Countries
OSO	Offshore Supplies Office
PBN	People's Bank of Nigeria
PENGASSAN	Petroleum and Natural Gas Senior Staff Association
PESTEL	Political, Economic, Social, Technological, Environmental, Legal
PETAN	Petroleum Technology Association of Nigeria
PHRC	Port Harcourt Refineries
PIB	Petroleum Industry Bill
PIS	Participant Information Sheet
PLCC	Permanent Local Content Committee
PMS	Premium Motor Spirit
PPRA	Petroleum Products Pricing Regulatory Agency
PRB	Population Reference Bureau
PSC	Production Sharing Contract
PTDF	Petroleum Trust Development Fund
SIWES	Student Industrial Work Experience Scheme
PTI	Petroleum Training Institute
R & D	Research and Development
RSC	Risk Service Contracts
SIGE	Small-Scale Industries and Graduate Employment
SMEs	Small and Medium Enterprises
SNA	Social Network Analysis
SNEPCo	Shell Nigeria Exploration and Production Company
SWOT	Strength, Weakness, Opportunity, Threat
UKCS	United Kingdom Continental Shelf
UKOOA	United Kingdom Offshore Operators Association
UN	United Nations
VIF	Variance Inflation Factor
WRPC	Warri Refinery and Petrochemical Company Limited

ACKNOWLEDGEMENTS

First and foremost, I would like to thank God for the strength He gave me throughout this PhD journey. I also wish to express my gratitude to the Faculty of Business of Oxford Brookes University for giving me the opportunity to apply and secure a full PhD scholarship bursary. Very special thanks to my amiable and intellectual Director of Studies, Professor Glauco De Vita. He has generously deployed his intellectual wisdom to this research and has worked tirelessly with me throughout this research, giving me useful advice, precious input and prompt feedback. I also wish to thank my second supervisor, Dr Sola Adesola for her constructive criticism at strategic points throughout the research process. I also wish to gratefully acknowledge the management of the Nigerian Content Development and Monitoring Board, the Nigerian National Petroleum Corporation and the Department of Petroleum Resources whose staff provided me with access to data for this study. Special thanks also to Dr Michael Warner, CEO Local Content Solutions and Chairman of the Global Local Content Summit, London (September 26-29, 2011; September 24-27, 2012) for putting me in contact with many experts and participants.

My endless thanks go to my adorable wife Aderonke, for all her encouragement and understanding throughout this journey. I am indeed grateful for her kind words of advice; not forgetting my little son Toluwanimi for also bringing joy during the challenging times of this research. I am highly indebted to my parents, Professor Segun and Dr Bolatito Lagoke, for all their encouragement and unconditional love; I could not have asked for any better than you two. My sincere appreciation also goes to my siblings for all their support and encouragement from inception. I am particularly grateful to my brother, Busola Lagoke, for his effort in helping me search for a PhD scholarship opportunity.

ABSTRACT

In the early 2000s, the Federal Government of Nigeria introduced the oil and gas local content development (LCD) policy so as to develop in-country capacity and indigenous capabilities and participation. Yet, the literature on Nigeria's LCD appraisal remains scant. Indeed, to the author's knowledge, to date, no study has investigated the extent to which the policy has fostered indigenised employment and job creation.

This PhD study aims to fill this gap by undertaking an initial attempt to appraise the extent to which the Nigerian LCD policy has had an impact on indigenous employment and job creation in the oil and gas industry. To this end, we adopt a stakeholder theory evaluative framework articulated around six criteria: i) value added; (ii) dynamism of HE curriculum vs industry demands; (iii) suitability and employability of graduates; (iv) 'payment' for LCD; (v) emergence of in-country entrepreneurs; (vi) domiciliation vs indigenisation.

Following the identification and categorisation of the main stakeholders in the oil and gas industry (Government; International Oil and gas Companies; Indigenous operators; Multinational oil and gas service providers; Indigenous oil and gas service providers; EPC contractors and fabricators; and HE institutions), application of a full Social Network Analysis (SNA) and Actor Linkage Matrix (ALM) reveals that:

- Most of the relationships present within the stakeholder network are uni- rather than bi-directional, with the latter being limited to the relationship between the government and International oil and gas companies (IOCs);
- The IOCs emerge as the stakeholder group exhibiting global centrality within the network, indicating that this group pivotally determines the activities of the Nigerian oil and gas industry;
- There exists a significant disjoint between HE institutions and other stakeholder groups within the network;
- The 'interconnectedness' of the stakeholder network identified, as measured by the mean density index (59.5%), displays at best a moderate level of connectivity.

Furthermore, evidence obtained by means of a mixed method inquiry approach that uses semi-structured interviews, documentary material and statistical data in relation to the criteria

of the framework developed to evaluate the impact of the LCD policy on indigenous employment and job creation, points to the following findings:

- Value added: Value has been added in various areas viz indigenous employment, contract and sub contract awards, domiciliation of OEM activities and international partnerships. However, considerable external support is still required thus making a case for extending the waiver window;
- Dynamism of HE curriculum vs industry demands: Limited collaboration between academia and industry, hence HE curriculum is not in tandem with industry requirements (not fit for purpose);
- Suitability and employability of graduates: Employees are lacking in core technical skills, but still generally suitable following additional training upon employment. Ascension to supervisory and managerial positions was mainly attributed to on-the-job experience acquired over time;
- ‘Payment’ for LCD: This is a joint responsibility with all the stakeholders’ contribution to be seen as necessary yet singularly insufficient to pay for LCD. The government should realise that industry players are businesses which are profit driven and as such, be conscious of their responsibility to champion the cause of LCD as regulators;
- Emergence of in-country’ entrepreneurs: LCD has led to the proliferation of indigenous oil and gas firms. Competitiveness and implementation of ISO standards is expected to resolve the issue of quality service and on-time delivery;
- Domiciliation vs indigenisation: Both domiciliation and indigenisation of oil and gas services bear their usefulness in various respects. However, for domiciliation to work, basic amenities (power, water and access to good transportation) and security of lives and property should be put in place.

Overall, these findings - which are obtained from the very first application of stakeholder analysis to LCD policy - make a significant contribution to scholars’ knowledge. Important implications and valuable recommendations for many stakeholders flow from the insights gained.

CHAPTER ONE

INTRODUCTION

1.1 CHAPTER OVERVIEW

This thesis is based on doctoral research conducted between September 2011 and July 2014. This first chapter begins by introducing the problem statement, the context and a brief overview of the academic background of the study. It then highlights a clear research gap while specifying the main question to be addressed in the thesis alongside its associated research objectives. Following a clarification of the theoretical boundaries of the study, the chapter ends with a brief outline of the structure of the thesis.

1.2 PROBLEM STATEMENT, CONTEXT AND ACADEMIC BACKGROUND

Over \$10 billion is spent annually servicing the Nigeria oil and gas industry yet only a small proportion of profit is spent in Nigeria, with the majority being repatriated abroad. The major reason for this is the low local content of the Nigerian oil and gas industry. The Nigerian oil and gas sector plays a dominant role in the nation's economy with a very high percentage of the nation's foreign exchange earnings coming from the sale of crude oil. Yet Nigerians have historically had a very small share of the oil and gas business, and local participation is very low. Indeed, despite being the largest oil producer in Africa, and one of the largest in the world, IMF statistics (IMF, 2013) show that poverty keeps rising in Nigeria, with almost 100 million people living on less than a \$1 (£0.63) a day, despite economic growth. The National Bureau of Statistics (NBS, 2011) reported that 60.9 percent of Nigerians in 2010 were living in 'absolute poverty', meaning that over two thirds of the Nigerian population can afford only the bare essentials of shelter, food and clothing.

To address this problem, in order to transform the industry into an economic engine for indigenous employment, job creation and national growth, in the early 2000s the Federal Government of Nigeria introduced the Local Content Development (LCD) policy (see, *inter alia*, Chukwu, 2009; Gilbert, 2007; MacPepple, 2002; Nwapa, 2007).

The role of the oil and gas industry in Nigeria cannot be overemphasised given that this industry 'fuels' economic and developmental activities, hence it is referred to as the 'lifeblood' of the economy. Literature abounds on the role that the Nigerian oil and gas

industry plays in the Nigerian economy (Frynas, 2005; Idemudia and Ite, 2006; Eweje, 2007), even in the face of the huge capital flight which characterises the industry.

The LCD policy aimed at transforming the industry through the development of in-country capacity and indigenous capabilities and participation (NOGIC Act, 2010). Despite the importance of evaluating the efficacy of the policy, to date, no detailed stakeholder analysis has been undertaken to aid the development of an appraisal framework that takes into account the multiplicity of actors that have a stake in the Nigerian oil and gas industry. With the signing of the local content bill on April 22, 2010, the bill became an Act and upon its ratification, the main thrust of the Act, which is indigenous employment and job creation, now forms the basis for this study.

Nigeria, as an oil producing country since the 1950s, has only recently fully arisen to the consciousness of 'taking charge' of the activities in the oil and gas industry. Even in 1969 when the Petroleum Act was first signed with clear clauses to develop local content, the country's oil and gas industry was still dominated mainly by foreign capacity. However, Nigeria has recently joined the 'bandwagon' of countries with such commercial deposits of crude oil which aim to carve a niche for themselves, with established policies to regulate the exploration of these natural resources. There is greater awareness of the need to take charge of the activities of the industry right from prospecting to final exportation and/or consumption, rather than leaving these activities solely in the hands of foreign investors who are supposedly more technically competent.

Overall, the academic literature on Nigerian LCD appraisal is scant. At the theoretical level, a number of frameworks have been put forward (Heum *et al.*, 2003; Ihua, 2010; Olabowale, 2009; Omenikolo and Amadi, 2010; Paul, 2008). However, as will be shown in the review of this literature, such evaluative frameworks have considered LCD only from the viewpoint of the Government and International Operating Companies (IOCs), thus neglecting the perspective of many other key players that have a stake in the oil and gas industry such as indigenous operators, oil and gas service companies as well as HE institutions (universities and polytechnics).

The empirical literature, probably owing to the fact that ratification of the Nigerian oil and gas LCD policy only occurred in 2010 (NOGIC Act, 2010), is also somewhat limited and not always purposefully targeted at investigating the specific effect of the LCD policy (see, for example, Aneke, 2002; Bakare, 2011; Ihua *et al.*, 2011; Ogboru, 2007; Omofonmwan and

Odia, 2009). Nevertheless, whilst this applied literature does not provide a conclusive answer as to the impact (if any) of the LCD policy on the indigenisation of Nigerian employment and job creation, it still constitutes a useful body of work to identify valuable constructs and variables for further empirical scrutiny in order to ascertain the extent to which such a policy had an effect on indigenous employment and job creation in Nigeria.

1.3 ACADEMIC JUSTIFICATION FOR THE THESIS AND RESEARCH GAP

As mentioned above, the literature on LCD, especially in terms of policy appraisal, is not vast. The few studies attempting an evaluation of the Nigerian oil and gas LCD policy (e.g., Bakare, 2011; Ihua et al., 2011), have done so by paying insufficient attention to the core thrust of the policy, which hinges on fostering ‘indigenised employment and job creation’. Furthermore, none of the previous studies appraising the efficacy of the Nigerian LCD policy has taken into account the multiplicity of stakeholders that affect, and are affected by, the policy and/or play a considerable role in the activities of the oil and gas industry. Indeed, most of the previous studies have, at most, taken into consideration the perspective of two or maximum three stakeholders (usually the government and the IOCs).

This gap is striking when considering the potential contribution of such knowledge for a polycentric understanding of the Nigerian oil and gas industry, and for the identification of ways in which the effectiveness of the LCD policy could be increased.

Drawing from stakeholder theory, this thesis aims to fill this important research gap and thus contribute to the development of a more comprehensive framework for the appraisal of the efficacy of the Nigerian LCD policy, in terms of indigenised employment and job creation. This stakeholder approach finds further theoretical justification in the call made by Bryson (2004, p. 24):

Governmental and non-profit reforms across the world are also prompting the need for more attention to stakeholder analyses [...] An emphasis on markets, participation, flexibility and deregulation all imply the need for more focused attention on a wider array of stakeholders.

To the researcher’s knowledge the study presented in this thesis is the first to undertake a full stakeholder analysis of the Nigerian oil and gas LCD policy and in so doing apply a

polycentric framework for policy appraisal with a focus on ‘indigenous employment and job creation’ to gain a better understanding of the extent of stakeholders’ interactions and how such interactions align to conditions conducive to LCD.

1.4 MAIN RESEARCH QUESTION AND ASSOCIATED OBJECTIVES

1.4.1 Main Research Question

Has the Nigerian oil and gas LCD policy had any impact on the indigenisation of employment and job creation?

1.4.2 Research Objectives

To answer the main research question, the thesis seeks to address five objectives:

- i. Conduct a thorough analysis of the profile of Nigeria, including an analysis of the macro environment of the Nigerian oil and gas industry (chapter 2);
- ii. Undertake a full stakeholder analysis of the Nigerian oil and gas LCD policy in order to: (i) identify key ‘stakeholders’ (thus providing a valuable first step towards the development of a polycentric framework for the appraisal of the Nigerian LCD policy); and (ii) assess the relational structure that exists among stakeholders and the strengths of such ties (see chapter 8);
- iii. Following a thorough review of literatures on LCD (chapters 3 and 4), the LCD policy framework (chapter 3), and both theoretical and empirical studies on LCD appraisal (chapter 5), develop a (theory-based) analytical framework to guide the analysis for appraising the extent to which the Nigerian LCD policy had an impact on ‘indigenous employment and job creation’ (see chapter 5, and summarising Table 6.3)
- iv. Investigate by means of semi-structured interviews, documentary evidence and statistical data the extent to which the Nigerian LCD policy had an impact on ‘indigenous employment and job creation’ (chapters 9 and 10) according to the following evaluative criteria: (i) value added; (ii) dynamism of HE curriculum vs industry demands; (iii) suitability and employability of graduates; (iv) ‘payment’ for

LCD; (v) emergence of in-country' entrepreneurs; (vi) domiciliation vs indigenisation.

- v. Draw policy implications and recommendations, and highlight, alongside the limitations of the study, profitable avenues for future research (chapter 11).

1.5 THEORETICAL BOUNDARIES

Although a number of theories that could be said to underpin aspects related to the notion of LCD will be discussed at strategic points throughout the thesis (a brief review of such theories is provided in chapter 5), it is important to clarify that the main theory underlying the conceptual model adopted to develop the analytical framework in this study, is stakeholder theory. It follows that the full development of an analysis taking into account the theoretical implications let alone predictions of theories other than stakeholder analysis (for example, endogenous growth theory) is clearly beyond the scope of this study. In this research, stakeholder theory not only forms the basis for application by means of the first stakeholder analysis of the Nigerian LCD policy conducted to date, it also provides the overall analytical architecture for collecting data from a multiplicity of parties which have a 'stake' in both the oil and gas industry and the LCD policy.

1.6 STRUCTURE OF THE THESIS

The rest of this PhD thesis is structured as follows. **Chapter 2** offers a comprehensive profile of Nigeria in terms of its socio-cultural, demographic and economic characteristics. The history and political economy of Nigeria will also be discussed alongside the extent to which the 'resource curse' can be said to have plagued the Nigerian state. In addition, this chapter provides a thorough analysis of the macro environment of the oil and gas industry.

Chapter 3 will examine the concept of LCD and provide a full historical overview of the Nigerian LCD policy. In **chapter 4**, the LCD experience of other countries will be examined in order to draw lessons and/or critical success factors that may be useful for the appraisal to be carried out in the Nigerian context.

Chapter 5 will offer a critical review of both the theoretical and empirical literature on LCD culminating in a clarification of the research focus of the present study. **Chapter 6** will highlight several theories that bear relevance to the concept of LCD, though emphasis will be

placed upon stakeholder theory as the broad conceptual framework guiding the application of the appraisal. This will be followed by the development of an associated (theory-based) analytical framework (section 6.7) for the study.

Following a critical review of the methodology employed in this study (**chapter 7**), **chapter 8** will present a full stakeholder analysis of the Nigerian oil and gas LCD policy. **Chapter 9** will present the findings from interview data while **chapter 10** will offer a discussion of such findings informed by additional analyses from statistical data, additional documentary evidence and regression analysis for robustness and triangulation purposes.

Finally, **chapter 11** will end the thesis by providing a summary of findings and implications, a statement of the contribution of the study, and of the limitations and profitable avenues for further research.

CHAPTER TWO

CONTEXT: NIGERIA COUNTRY PROFILE AND ANALYSIS OF OIL AND GAS INDUSTRY

2.1 CHAPTER OVERVIEW

This chapter focuses on Nigeria's country profile and the Nigerian oil and gas industry in order to provide a clear overview of the context, structure and activities within the industry. The first section provides a holistic view of Nigeria, highlighting major characteristics of the country. The next section examines the socio-cultural and socio-economic characteristics of Nigeria. The chapter also considers the political economy of Nigeria and then proceeds with a brief historical account of the oil and gas industry, followed by an analysis of the external macro environment so as to offer a more critical outlook and more in-depth analysis of the current state and future prospects of the industry.

2.2 COUNTRY OVERVIEW

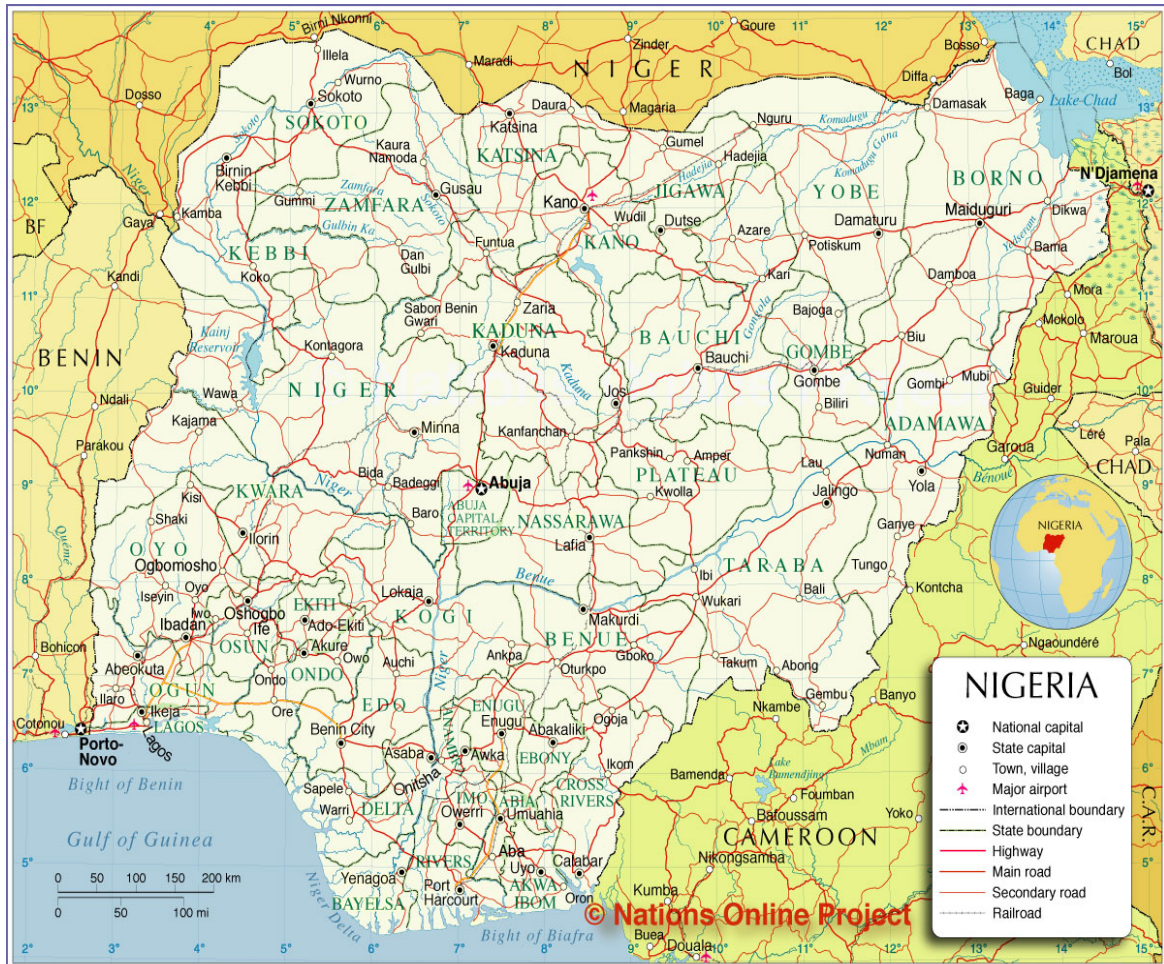
The Federal Republic of Nigeria is the official name of the country. The name was coined from the word "Niger area" because the country cuts across the Niger basin. The capital of Nigeria used to be Lagos but since December 12 1991, the Nigerian State Capital was moved to Abuja. In spite of this, Lagos is still the commercial nerve centre of the country even though it has longed ceased to be the official nation's capital (Ezedinma and Chukuezi, 1999; Olowu *et al.*, 2009; Adesoji, 2010).

The Nigerian land area consists of 923,768 square kilometres including about 13,000 sq km of water (Ezirim *et al.*, 2010). As a result of the abundance of this vast land area, agricultural activities are predominant in almost every state with different crops being cultivated in different seasons all year round. In addition to this, Nigeria is endowed with various natural resources.

As shown in Figure 2.1, Nigeria is bordered to the East by Cameroon (1690 km), to the North East by Chad (87km), to the North by Niger (723 km) and to the West by Benin (773km). It is located within the western part of Africa, on the Gulf of Guinea (Grove, 1958). Its coastline along the Gulf of Guinea totals 853 kilometres, claiming a territorial sea of 12

nautical miles, an exclusive economic zone of 200 nautical miles and a continental shelf to a depth of 200 metres (Library of Congress, 2008).

Figure 2.1: The Nigerian Map



Source: Nationonline 2012 (www.nationonline.org)

2.3 SOCIO-CULTURAL CHARACTERISTICS OF NIGERIA

2.3.1 Population in Nigeria

The total population in Nigeria stands at 162.5 million people (NPC 2012). This population has grown from 45.2 million in 1960, indicating a 251 per cent increase during the last 50 years (NPC 2012). According to the Population Reference Bureau (PRB), the current world population (2012) is 7 billion. This indicates that Nigeria has about 2.32 per cent of the current world's total population. Figure 2.2 plots Nigeria's population increase from 2000-2012 (Tradingeconomics, 2012).

Figure 2.2 Nigeria's population increase from 2000-2012 (millions of people)

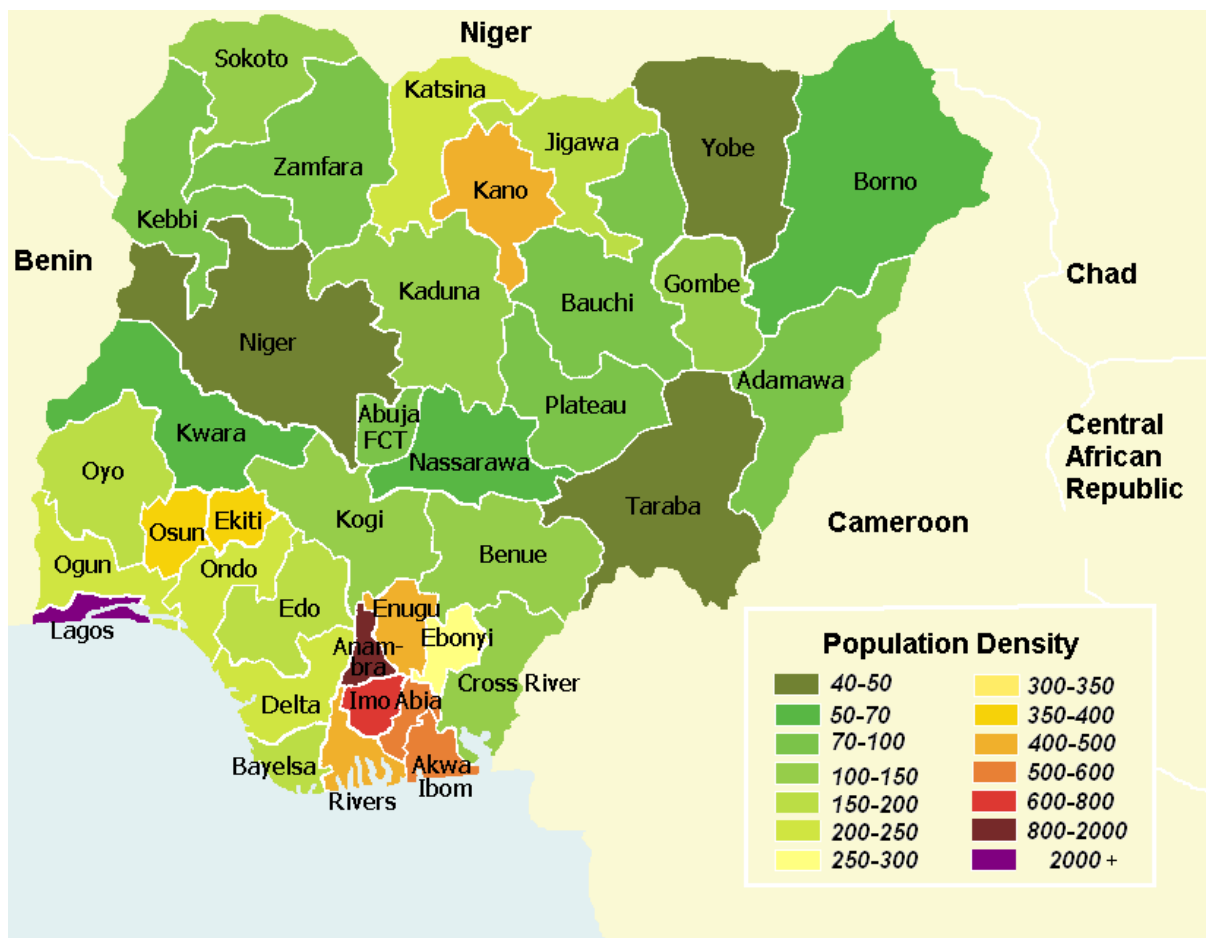


Source: Tradingeconomics 2012 (www.tradingeconomics.com)

Figure 2.2 shows a consistent increase in the population from 2000-2012. On average, over this period there was an appreciable increase of about 3.5 million in the population biannually. The Nigerian Demographic Profile (Tradingeconomics, 2012) reports that from the current population of 162.5 million, 40.9 per cent fall within the ages of 0-14 years, 55.9 per cent fall within the ages of 15-64 years while 3.1 per cent are over 65 years. These figures assert a high birth rate in spite of the estimated high poverty levels. The population which falls within 15-64 years is the highest, showing that Nigeria has a large working population that can fully support economic growth.

The low percentage of the population that falls within >65 years' clearly shows that life expectancy in Nigeria is quite low. Life expectancy in Nigeria is currently put at 49.7 and 48.6 years for females and males, respectively (UN, 2012). According to a United Nations forecast (UN, 2012) Nigeria's population is expected to reach 730 million by 2100. Figure 2.3 shows the Nigerian population density distribution across various states of the federation.

Figure 2.3: The Nigerian population density map



Source: worldofmaps.net (2012)

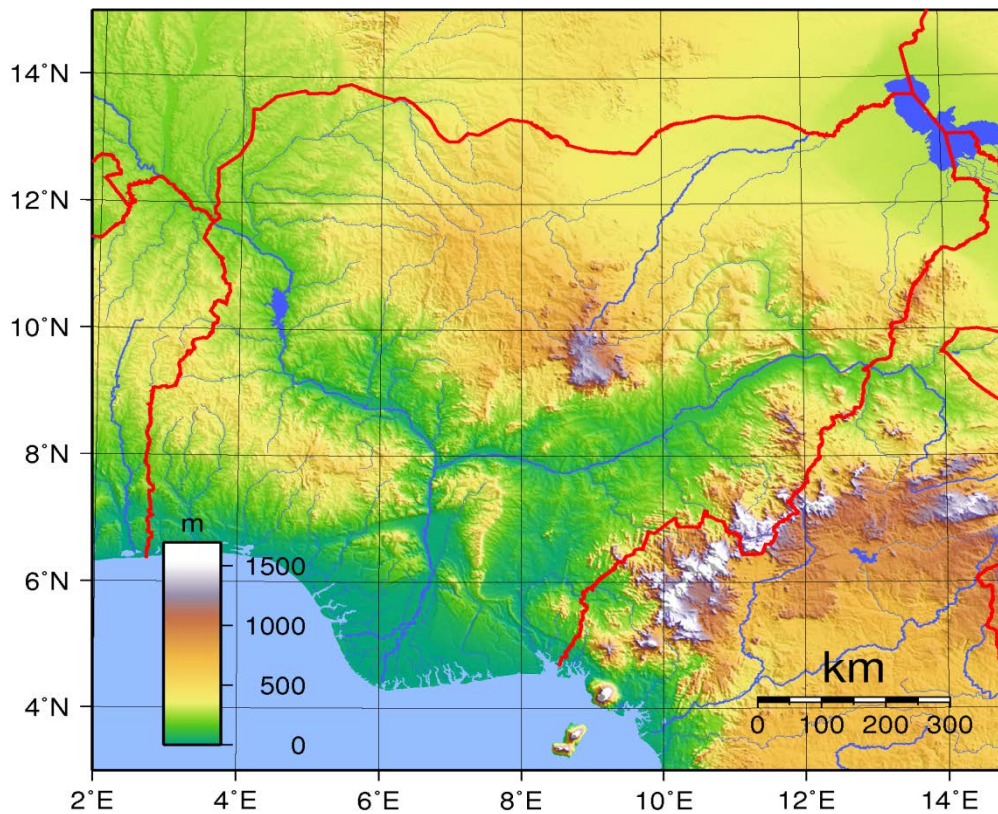
2.3.2 Topography of Nigeria

The topography of Nigeria as depicted in Figure 2.4 consists of plains in the North and South interrupted by plateaus and hills in the central area of the country. (Eshett *et al.*, 1989). The Sokoto Plains lie in the north-western corner of the country, while the Borno Plains in the North-eastern corner extend as far as the Lake Chad basin. The Lake Chad basin and the coastal areas, including the Niger River Delta and the Western parts of the Sokoto region in the far Northwest, are underlined by soft, geologically young sedimentary rocks.

Undulating plains, which become waterlogged during the rainy season, are found in these areas. The characteristic landforms of the plateaus are high plains with broad, shallow valleys dotted with numerous hills or isolated mountains; the underlying rocks are crystalline,

although sandstones appear in river areas. The Jos Plateau rises in the middle of the country, consisting of extensive lava surfaces and numerous extinct volcanoes.

Figure 2.4: Nigeria's Topographic Map



Source: www.mapsof.net (2012)

Other eroded surfaces, such as the Udi-Nsukka escarpment rise abruptly above the plains at elevations of at least 1,000 feet (300 metres). The most mountainous area is along the southeastern border with Cameroon, where the Cameroon Highlands rise to the highest points in the country, Chappal Waddi (7,936 feet [2,419 metres]) in the Gotel Mountains and Mount Dimlang (6,699 feet [2,042 metres]) in the Shebshi Mountains (Nwadialo, 1989).

Along the entire coastline of Nigeria lies a belt of mangrove swamp forest from 16 to 96 km (10–60 mi) in width, which is intersected by branches of the Niger and innumerable other smaller rivers and creeks. Beyond the swamp forest is a zone, from 80 to 160 km (50–100 mi) wide, of undulating tropical rain forest. The country then rises to a plateau at a general elevation of about 600 m (2,000 ft) but reaches a maximum of 2,042 m (6,700 ft) on the Eastern border in the Shebshi Mountains, and the vegetation changes from woodland to

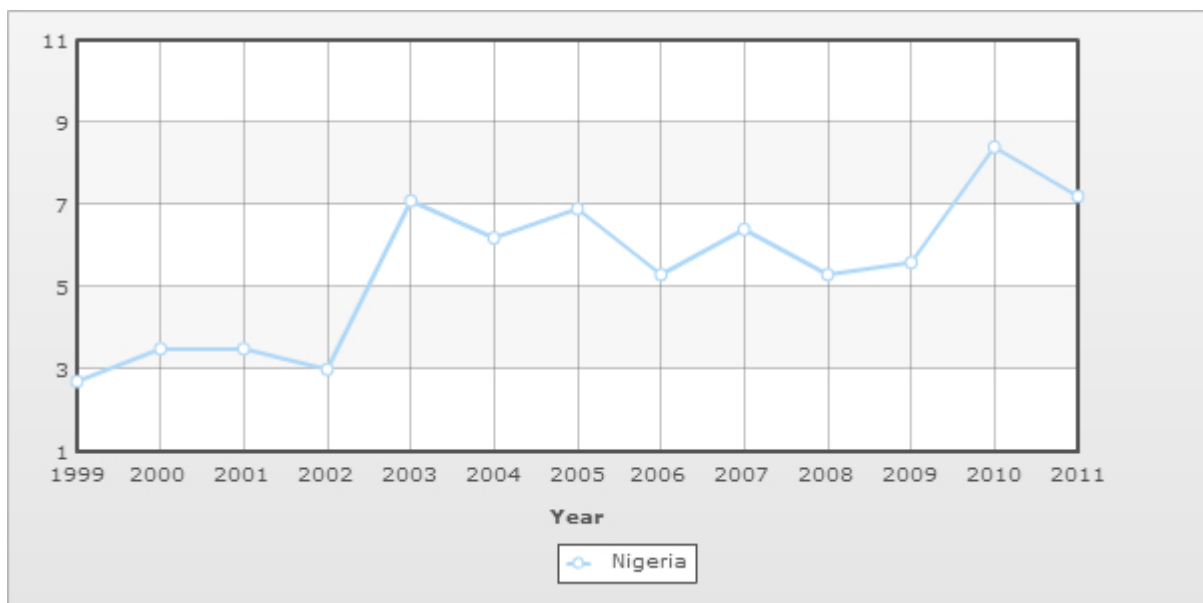
savanna, with thick forest in the mountains. In the extreme North, the country approaches the Southern part of the Sahara.

The Niger, the third-largest river of Africa, enters Nigeria from the Northwest and runs in a southeasterly direction, meeting its principal tributary, the Benue, at Lokoja, about 550 km (340 mi) from the sea. It then flows South to the Delta, through which it empties into the Gulf of Guinea via numerous channels. Other main tributaries of the Niger are the Sokoto and Kaduna rivers. The second great drainage system of Nigeria flows North and East from the central plateau and empties into Lake Chad. Kainji Lake, in the Northwest, was created by construction of a dam on the Niger above Jebba.

2.4 ECONOMIC FEATURES OF NIGERIA

This section considers various economic characteristics of Nigeria.

Figure 2.5: GDP real growth rate



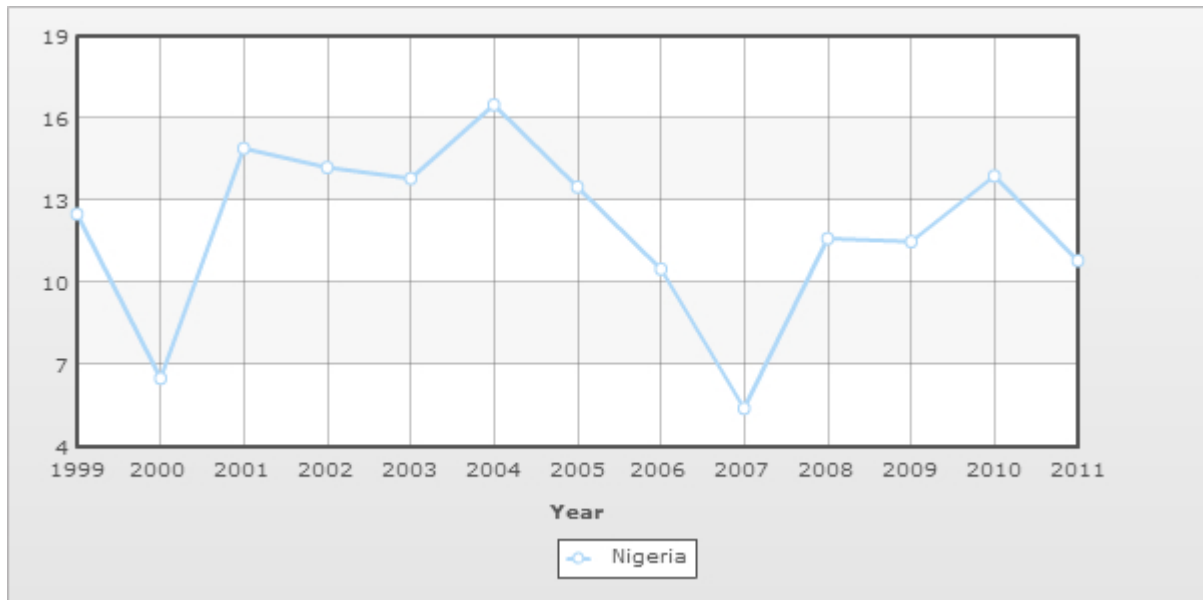
Source: *www.indexmundi (2012)*

2.4.1 GDP Growth Rate

Figure 2.5 shows real GDP growth (on an annual basis) adjusted for inflation and expressed as a percentage from 1999 to 2011. The data, therefore provides an aggregated measure of changes in the value of goods and services that were produced in the country over that period. In 2003, there was a sharp increase in the GDP growth as compared with the previous year. It can be recalled that 2003 marked the telecommunication boom in Nigeria, when the Global

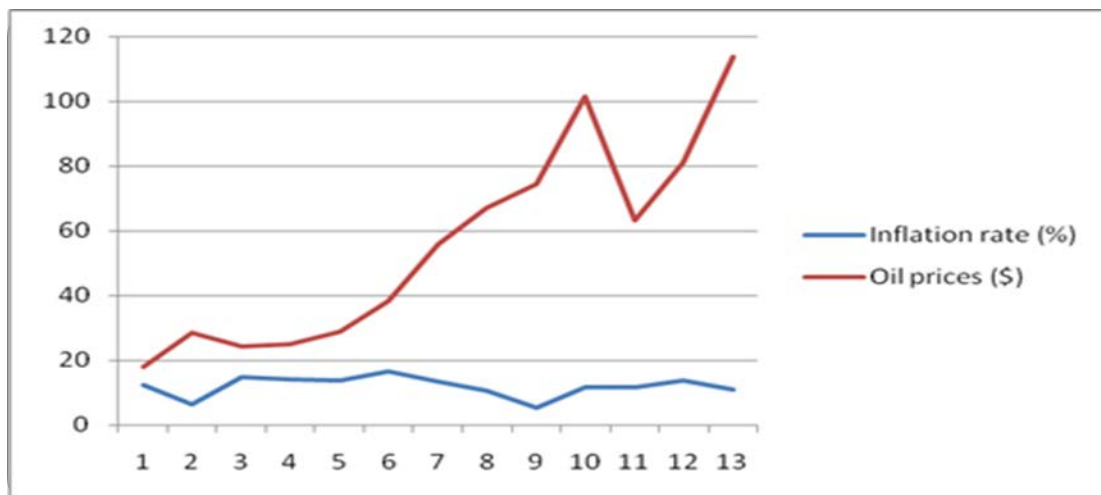
System Mobile (GSM) operations commenced. According to Jagun *et al.* (2008), telecommunication in Nigeria has contributed widely to the development of micro-enterprise in the Nigerian economy. Between 2003 and 2010, the GDP growth rate stood at an average of 6.4. In 2010, an all-time record of 8.4 was reached.

Figure 2.6: Inflation Rate Consumer Prices (%)



Source: *www.indexmundi (2012)*

Figure 2.7: Inflation Rate vs Oil Price

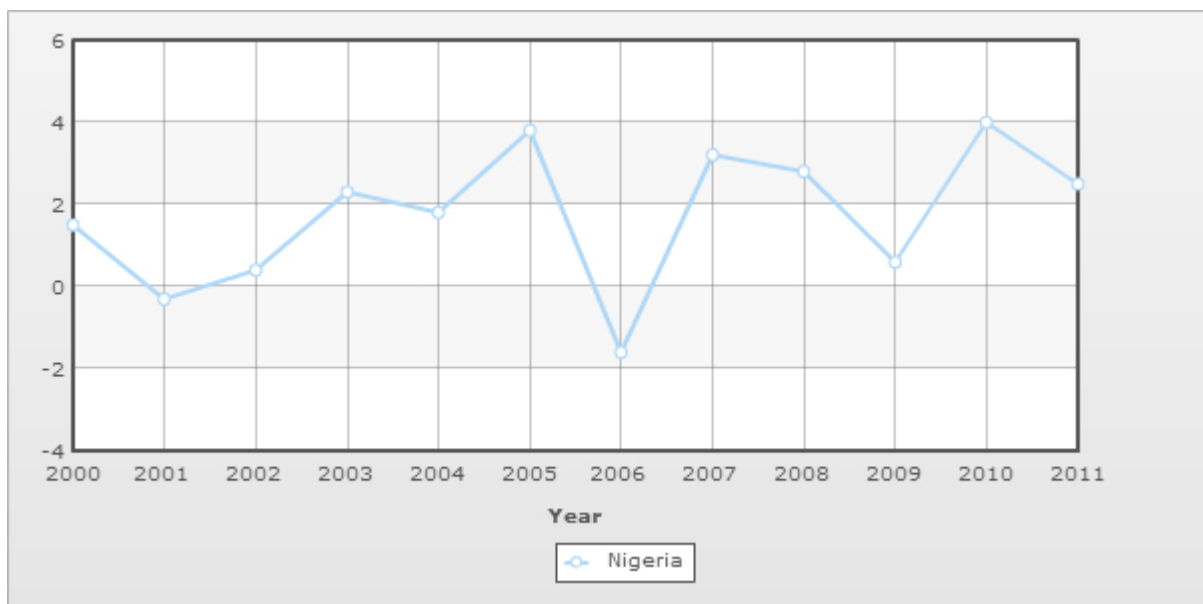


Source: *Researcher's own diagram from available data*

2.4.2 Inflation Rate Consumer Prices

Figure 2.6 plots the inflation rate showing the annual percentage change in consumer prices. Between 1999 and 2000, a sharp decline is noticed from 12.5 to 6.5 percent. 1999 marked the return to a civilian government in Nigeria since 1983, and between 2000 and 2001, there was a corresponding increase in inflation that peaked in 2004. Between 2004 and 2007, there was a sharp reduction in inflation and oil prices were on the increase. Invariably, there was an inverse relationship between oil prices and inflation as shown in Figure 2.7. The inflation rate reached double digits from 2008, and between 2008 and 2011, it averaged 11.95 percent.

Figure 2.8: Industrial Production Growth Rate (%)



Source: *www.indexmundi (2012)*

2.4.3 Industrial Production Growth Rate

Figure 2.8 highlights the percentage of industrial growth rate (IGR). This includes manufacturing, mining and construction. The figures suggest that between 2000 and 2006, there was inconsistent growth rate in industrial production. According to Iyoha and Oriakhi (2002), the growth rate in the industrial sector of Nigeria is affected by oil price volatility and weather variability which affects agricultural production. Between 2007 and 2011, the industrial growth rate averaged 2.6%. The increase in growth rate post-2006 can also be attributed to the oil and gas local content policy which seeks to domicile production activities

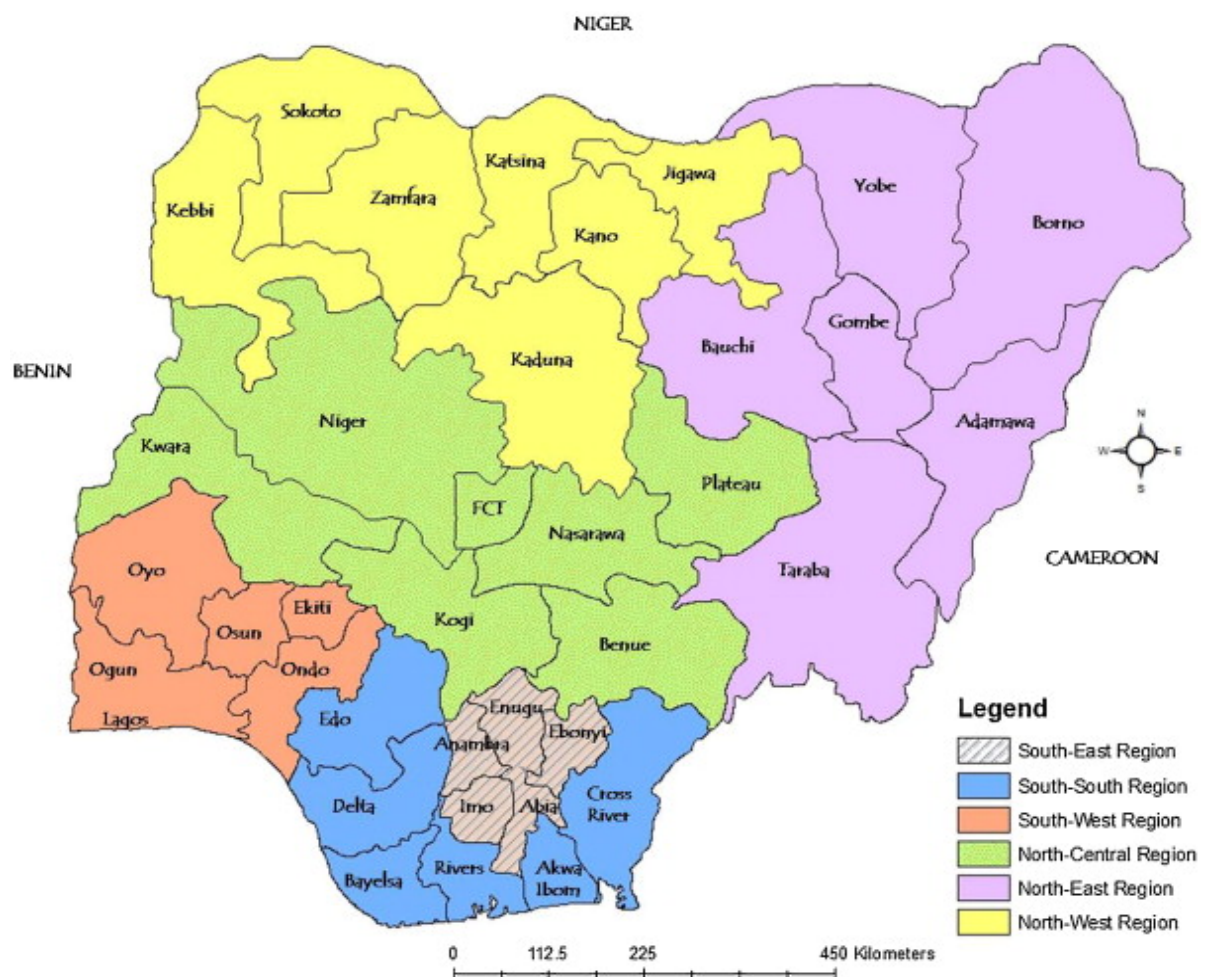
within the economy. Particularly in 2010, the growth rate increased significantly and this was the year the NOGIC Act was ratified.

2.5 NIGERIAN POLITICAL ECONOMY

2.5.1 The Nigerian Geo Political Zones

Nigeria is divided into six geo political zones namely North Western, North Eastern, North Central, South Western, South Eastern and South Southern (popularly referred to as “south south”) geo political zones. These zones consist of 36 states and the Federal Capital Territory, Abuja. The Federal Republic of Nigeria operates a democratic government style usually referred to in Nigeria as the, “*government for the people by the people*” in which the President down to ward councillors are democratically elected by the electorate.

Figure 2.9: Nigerian Map showing Geo Political Zones



Source: Ekong et al. (2012, p. 171)

2.5.2 Overview of the Northern Zones (North Western, North Eastern, North Central)

The natural resources predominant in this region include limestone, coal, clay and petroleum. Agriculture is predominantly the northern occupation. Nwanosike (2011) recounts the days of the 'groundnut pyramid' in Kano in the 1950s to 1960s, when groundnut was at peak production in the northern geo political zone. At that time, greater emphasis was placed on agricultural production and exportation. According to Abdullahi (1984), prior to independence, Nigeria was not only able to grow its food needs, but the country produced enough food and cash crops to export and generate revenue and employment.

As noted earlier, Nigeria has vast land for agriculture and good land tenure systems for both arable and mechanised farming (Barrows and Roth, 1990). Before independence, the Nigerian economy was predominantly agriculturally driven. Of particular interest was Operation Feed the Nation (OFN) which was steered by the then Head of State General Olusegun Obasanjo, to raise the profile of farmers and agriculture in Nigeria. Other programmes include National Accelerated Food Production Programme (NAFPP), River Basin Development Authority (RBDA), Green Revolution (GR), The Pilot Agricultural Development Project (PADP), Agricultural Development Projects (ADPS), Unified Agricultural Extension System (UAES), amongst others (Oladele *et al.*, 2004).

2.5.3 Overview of the Southern Zones (South Western, South Eastern and South South)

The natural resources predominant in this region include clay, glass sand and crude oil. Of all these resources, crude oil is the most predominant especially in the Niger Delta, and this is the main resource which provides revenue for the Nigerian state. As such, residents of the Niger Delta have been known for several agitations regarding an oil revenue sharing formula, and this has led to several unrests in the past (Ikelegbe, 2005).

The history of the agitation of the Niger Delta people can be traced back to 1996 when Isaac Adaka Boro led a rebellion for Delta Volunteer Service (DVS). Although this rebellion was put down, it awakened the Niger Delta community to a greater consciousness of what they deemed their own resource and heritage; and the people of this region have continued to fight this cause till present day (Ejibunu, 2007). According to Ejibunu (2007), among the factors that have caused the crisis in the Niger Delta region to linger are deficiencies in the structure of the Nigerian Federation. He argued that the Nigerian state for a long time has been viewed as a federation dominated by three large ethnic groups: Yoruba, Igbo and Hausa-fulani.

Because of this, the people of the Niger Delta agitated against what they termed as marginalization which they described as “*political repression, unjust treatment of the region, environmental devastation and the insensitivity of the rulers to the plight of the people*” (Courson, 2009, p.25).

Depriving the inhabitants of Niger Delta a means of their livelihood is also another reason underlying the crisis. Despite the huge amount of money that accrues from oil and gas activities in the region, Idemudia and Ite (2006) argue that the local people still live in abject poverty and are still deprived of basic amenities like electricity and water in a region where government reaps daily revenue of at least \$100 million. In addition to this deprivation, the region has been damaged environmentally as a result of oil spillage, pollution and explosion thus contaminating drinking water and causing farm land degradation.

Jike (2004) also recounts that some of the inhabitants of the region have been diagnosed of carcinogenic diseases which can be traced to environmental and ecological pollution. International Oil Companies (IOCs) seem to place high importance on health and safety in their work environment but the on-going health challenges resulting from environmental pollution in the Niger Delta region are systematically ignored (ibid).

Unemployment has also been characterised as one of the factors underlying the crisis. Opukri and Ibaba (2008) explain the issue of unemployment by citing, as a cause, the low educational level among local people, particularly when considering the gap between locals’ educational level and the level required by the jobs they aspire to. Idemudia (2009) attributes the low educational levels to decades of political and economic marginalization. It is probably as a result of these considerations that Shell Development Petroleum Company decided that rather than carry on with the Community Assistance (CA) programme, it would be better to launch a programme of Community Development (CD), in which educational development of local people was part of the major objectives (Ikelegbe, 2001).

The predominance of oil and natural gas in the south-south region accounts for over 90% of export revenue (CBN, 2012). As a result of this, political cohesion exists between the south-south and other geo-political zones because the inhabitants of this zone aspire to take control over the entire oil and gas industry because of its location, and to compensate for the environmental pollution and degradation this has caused to the region (Sklar *et al.*, 2006). Obi (2008) reiterates that this sector is most central to the survival of the Nigerian economy.

However, the region is one of the poorest and underdeveloped regions of Nigeria. This is particularly striking when considering the region's contribution to the wealth of the Nigerian economy (Ikelegbe, 2001).

In conclusion, the oil boom in the 1970s transferred much wealth to the Nigerian economy. Pinto (1987) recounts that this was evidenced by increased public expenditure and access to the international capital market. During this period, the exchange rate became relatively high. Nigeria was faced with two choices at that time, to consume the increase at that time or to spread the consumption over time (Pinto, 1987). Unfortunately Nigeria diverted its entire attention to oil and neglected agriculture.

Manyong *et al.* (2005) highlight that since the crash of the oil boom in the 1970s, poverty in Nigeria has been increasing. Agricultural production has fallen in northern Nigeria and the Kano pyramids are nowhere to be found as a result of insect infestations which could have been avoided if attention had not been diverted to oil (Lucas, 1994).

The contribution of the oil sector to government revenues, foreign exchange earnings and export revenues account for 87, 91 and 96 percent respectively (NBS, 2011). Against this backdrop, the poverty profile is on the increase, with over 60% living on less than \$1 a day as shown in Table 2.1.

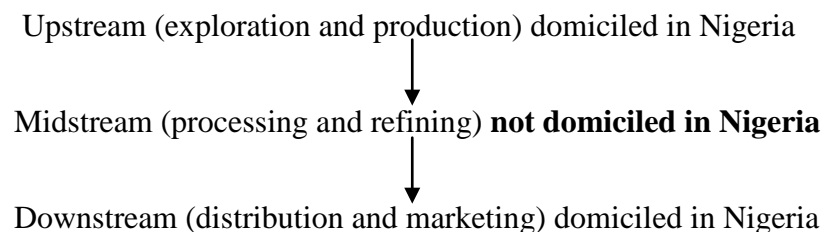
Table 2.1: Nigeria Poverty Profile Report

	2004	2010	2011
Estimated population (Million)	126.3	163	168
Relative poverty (%)	54.4	69	71.5
Absolute poverty (%)	54.7	60.9	61.9
Dollar per day (%)	62.8	61.2	62.8

Source: NBS (2010); 2011 figures are estimates.

According to Luqman and Lawal (2011), the revenue derived from the oil industry has not translated into an improvement in living standards, wealth generation, poverty reduction and infrastructural development. Instead, it has culminated into the conception of economic

policies which have suffered inconsistent implementation. As impressive as figures on exchange earnings and export revenues seem, Luqman and Lawal (2011) point out that since the 1990s, midstream activities (processing and refining) have been at a low scale, causing an increase in importation of finished products, which in turn led to the deregulation of the downstream sector. This is primarily responsible for the increase in pump price and price variation of PMS and other petroleum products across the country. The situation in the midstream sector can be argued as absurd in the sense that while the upstream and downstream activities take place in Nigeria, most of the midstream activities take place outside the country. According to Okafor (2007a), while the upstream sector is living up to standard (though predominantly managed by non-indigenous manpower) the four refineries are in a critical state of dis-repair. This causes a gap in the vertical integration activities of the oil and gas industry thus:



The illustration clearly indicates that the price of the end product will be affected by the forces of demand and supply irrespective of government regulation on pricing.

2.5.4 The Resource Curse

Research has shown that the availability of natural resources is not a guarantee for growth and development for any country (Crouch and Ritchie, 1999; Grossman, 1981). Various authors have argued that countries that possess a sizable amount of diversified natural resource endowment stand a better chance of embarking upon a period of rapid economic growth than those who do not possess any resource (Auty and Mikesell, 1998). This assertion contrasts with Sachs and Warner (1999) who explain the term ‘resource curse’.

The resource curse can be explained as a phenomenon whereby countries which have abundant resources have less economic growth compared with other countries which have fewer resources (Robinson *et al.*, 2006). Shaxson (2007) explains it as an outburst of economic growth as a result of a resource, which is then followed by a growth pattern in the long-run which is lower than it would have been without the resource. Mehlum *et al.* (2006) illustrate it with reference to countries such as Nigeria, Zambia, Sierra Leone, Angola, etc

which are resource rich countries compared to Korea, Taiwan, Hong Kong and Singapore and yet the latter countries have higher growth than the former ones.

Undoubtedly, there is potentially a great benefit for an economy endowed with natural resources because such wealth is capable of impacting upon the growth and development of such an economy (Sachs and Warner, 1999; Nurkse and Ragnar, 1953; Rostow and Walt, 1960). Papyrakis and Gerlagh (2004) highlight that resource rich countries which face low or even negative growth in their economies pose a puzzle; this is because such resources hold a potential for developing the economy and improving infrastructures like telecommunication, health facilities and road networks.

Resource booms have in the past, in several countries, been a catalyst to boost the country's economy (Sachs and Warner, 1999). In Bolivia, revenue from natural resources rose from 11% to 23% of GDP in 9 years within that resource sector (Sachs and Warner, 1999). Similarly, Ecuador recorded a 19% increase in GDP from the export of natural resources (ibid). Nigeria also recorded a huge contribution to GDP in the early 1970s from the oil and gas sector which occurred as a result of the oil boom. Having considered these situations, Robinson *et al.* (2006) argue that the sustainability of these economies through harnessing and/or utilising natural resources as a means of growth and sustainability is primarily dependent on the management and institutions in place.

Nigeria ranks thirteenth in the world among oil producers and over 90% of government revenues and export receipts accrue from Nigeria's rich oil resources (CBN, 2012). Furthermore, Nigeria accounts for over 10% of US oil imports (Watts, 2004). Currently, the country accounts for a daily production of about 2.5 million barrels and a reserve of 36.2 billion barrels (BP, 2012). Against this backdrop, this natural resource has been more of a curse than a blessing to the country; causing poverty, conflict and underdevelopment since the commencement of commercial production in the 1950s (Xavier and Subramaniam, 2003; Atkinson and Hamilton, 2003; Olarinmoye, 2008; Watts, 2004; Ross, 2011). Common underlying reasons have been attributed to this anomaly.

It is generally believed that developing countries, especially if they are resource endowed, will grow out of poverty because they will attract investments which will create jobs. Unfortunately, the Nigerian case typically defies this assertion with increasing levels of poverty and high rates of unemployment (Ayinde, 2008; Awogbenle and Iwuamadi, 2010). Rather, the reverse is the case. Robinson *et al.* (2006) too posit that resource availability to

developing countries is more of a curse than a blessing. The resource curse is also referred to as the 'paradox of plenty' whereby a developing country has adequate resources for development but, ironically, these resources become the primary source of underdevelopment, poverty and a declining economy (Basedau, 2005; Karl, 1997).

As stated by Atkinson and Hamilton (2003), Nigeria is a country with such a large amount of crude oil but the country currently lacks the capacity to manage resources of that magnitude, which is the result of poor governance and inequitable distribution of wealth in the economy. According to the International Country Risk Guide (ICRG) composite risk rating between 1984 and 2002, Nigeria is classified as a country with poor governance with an ICRG score of below 75 (Collier and Goderis, 2008).

As stated by Yakassai (2001), the importance of good governance cannot be overemphasised in directing, controlling and regulating the activities that affect the interest of a populace. By this, execution of undue power and pressure may only result in more violence and protests (Ikelegbe, 2005). Poor governance in Nigeria has been attributed to lack of accountability and transparency which makes government officials misuse and even abuse their positions to extort undue commissions (Fagbadebo, 2007). Overall, Ogundiya (2010) concludes that the root cause of underdevelopment in Nigeria stems from poor governance which is influenced by inequitable, improper and unfair allocation of resources. However, Lawal and Tobi (2006) advocate that the Nigerian governance system is only lacking in public bureaucracy and if this is fully adhered to, resources would be distributed more equitably and efficiently.

According to Robinson *et al.* (2006) politicians take undue advantage by exploiting the natural resources (which are meant to service the citizens) for their own personal enrichment. Undoubtedly, this results in inequitable distribution of the resource, and rather than this resource being a blessing, it then becomes a curse typical of the situation in the Niger Delta region of Nigeria (Ross, 2008).

Shaxson (2007) asserts that mineral dependency results in more corruption explaining that it is more of a 'governance curse' than a 'resource curse' which stems from corrupt practices of politicians. It can be argued that economic growth depends to an extent on politicians in developing countries. Nigeria is a typical example of this, governed under the democratic rule where the ruling party influences most of the policies, but the instruments laid down to monitor compliance and implementation are rather weak. Poor economic growth has been

argued as the consequence of the misuse of resource rents (Ron, 2005). Robinson *et al.* (2006) stated that politicians utilise resources for their own gains (like influencing the outcome of elections) to the detriment of the economy. This clearly indicates that the resources are used to gain more political power. Olarinmoye (2008) highlights the resource curse in Nigeria as the inability of the legislature to administer ‘checks’ on the decisions of the executive constituted mainly of politicians and less of technocrats in the allocation and distribution of resource rents. This has failed in the past because of corruption.

In conclusion, Lawal and Tobi (2006) raise some hope on the political economy of Nigeria. They propose the establishment of sound objectives within a framework of good leadership based upon improving the level of education and knowledge of policy makers and the ability to ‘get things done’ effectively and efficiently as ways by which undue bureaucracy and corruption can be kept in check. This is expected to promote a fairer pattern of resource allocation and distribution. Sachs and Warner (1999) highlight a negative correlation between natural resources and development. However, they are careful not to state that the former is responsible for the lack of the latter or vice versa especially because there exist resource rich countries which have appreciable growth and development. Much appears to depend on governance, quality of institutions and the political environment of the countries in question.

2.6 HISTORY OF THE NIGERIAN OIL AND GAS INDUSTRY

The exploration of oil in Nigeria can be traced back to 1908, when oil was discovered in Araromi, Ondo State, Nigeria (CRES, 2008). Oil was discovered by a German company named Butmen Corporation, but oil production was short lived at that time owing to the outbreak of the First World War. In 1937, an Anglo-Dutch company named Shell D’Archy began to explore oil upon a sole concessional right that covered the entire Nigerian territory. Shell D’Archy operated under the then Mineral Oil Ordinance No. 17 of 1914 (later amended in 1925 and 1950). This law only allowed companies that were registered in Britain to prospect for oil in Nigeria. In addition, principal officers of these companies were meant to be British (CRES, 2008). Between 1939 and 1945, exploratory activities were affected again as a result of the Second World War. Following this, oil prospecting and geological surveys resumed in the 1950s.

Commercial oil and gas activities in Nigeria commenced in 1956 upon the discovery of oil in Oloibiri, Delta State by the then Shell D'Archy. As stated earlier, Shell's concession for exploration of petroleum resources covered the entire country, as such Shell operated a monopoly in exploration and prospecting activities. However, this was interrupted in 1971 when Nigeria registered its membership with the Organisation of Petroleum Exporting Countries (OPEC) whose member countries have firm control over their petroleum resources through their national oil companies.

Following Nigeria's membership, the National Oil Company of Nigeria, Nigerian National Petroleum Corporation (NNPC), was established in 1977. Whereas some OPEC member countries took direct control of their oil industry, Nigeria engaged in a Joint Operation Agreement (JOA) which outlined the stakes of the commercial organisations in the oil sector. This same period also witnessed the arrival of other Multinational Oil Corporations (MNOCs). These included Mobil, Gulf, Agip, Safrap (elf), Tenneco and Amoseas (Texaco/Chevron). These companies were awarded onshore and offshore licences. The award of these licences was to enable a boost in the daily production of oil. Overall, Shell still produces just a little less than 50% of daily oil production in Nigeria, making this company the largest oil producing company in Nigeria till date. Table 2.2 shows the historical development in the oil and gas industry at a glance.

Table 2.2: A chronology of the development of the Nigerian Oil and Gas industry

1908	Nigerian Bitumen Co. & British Colonial Petroleum commenced operations around Okitipupa.
1938	Shell D'Arcy granted Exploration license to prospect for oil throughout Nigeria.
1955	Mobil Oil Corporation started operations in Nigeria.
1956	First successful well drilled at Oloibiri by Shell D'Arcy
1956	Changed name to Shell-BP Petroleum Development Company of Nigeria Limited.
1958	First shipment of oil from Nigeria.
1961	Shell's Bonny Terminal was commissioned. Texaco Overseas started operations in Nigeria.
1962	Elf started operations in Nigeria. (As Safrap) Nigeria Agip Oil Company started operations in Nigeria
1963	Elf discovered Obagi field and Ubata gas field Gulf's first production
1965	Agip found its first oil at Ebocha Phillips Oil Company started operations in Bendel State
1966	Elf started production in Rivers State with 12,000 b/d
1967	Phillips drilled its first well (Dry) at Osari-I Phillips first oil discovery at Gilli-Gilli-I
1968	Mobil Producing Nigeria Limited) was formed. Gulf's Terminal at Escravos was commissioned
1970	Mobil started production from 4 wells at Idoho Field Agip started production Department of Petroleum Resources Inspectorate started.
1971	Shell's Forcados Terminal Commissioned Mobil's terminal at Qua Iboe commissioned
1973	First Participation Agreement; Federal Government acquires 35% shares in the Oil Companies Ashland started PSC with then NNOC (NNPC) Pan Ocean Corporation drilled its first discovery well at Ogharefe-I
1974	Second Participation Agreement, Federal Government increases equity to 55%. Elf formally changed its name from "Safrap" Ashland's first oil discovery at Ossu-I
1975	First Oil lifting from Brass Terminal by Agip DPR upgraded to Ministry of Petroleum Resources
1976	MPE renamed Ministry of Petroleum Resources (MPR) Pan Ocean commenced production via Shell-BP's pipeline at a rate of 10,800 b/d
1977	Government established Nigerian National Petroleum Corporation (NNPC) by Decree 33, (NNOC & MPR extinguished).
1979	Third Participation Agreement (throughout NNPC) increases equity to 60% Fourth Participation Agreement; BP's shareholding nationalised, leaving NNPC with 80% equity and Shell 20% in the joint Venture. Changed name to Shell Petroleum Development Company of Nigeria (SPDC) Agreement consolidating NNPC/Shell joint Venture.
1984	Signing of Memorandum of Understanding (MOU)
1989	Fifth Participation Agreement; (NNPC=60%, Shell = 30%, Elf=5%, Agip=5%).
1991	Signing of Memorandum of Understanding & joint Venture Operating Agreement (JOA)
1993	Production Sharing Contracts signed –SNEPCO Sixth Participation Agreement; (NNPC=55%, Shell=30%, Elf= 10%, Agip=5%). The coming on-stream of Elf's Odudu blend, offshore OML 100.
1995	SNEPCO starts drilling first Exploration well. NLNG's Final Investment Decision taken
1999	NLNG's First shipment of Gas out of Bonny Terminal.
2000	NPDC/NAOC Service Contract signed
2001	Production of Okono offshore field.
2002	New PSCs agreement signed. Liberalisation of the downstream oil sector. NNPC commences retail outlet scheme

Source: <http://www.nnpcgroup.com>

Following the independence of Nigeria in 1960, oil production was on the increase and the first boost came in 1964 upon the offshore discovery of oil in the then Bendel State by Gulf oil company. At that time, crude oil was being exported for processing because Nigeria lacked refineries. With the continuous increase of crude oil production in the mid-1960s, the

government thought it necessary to conserve foreign exchange and create more jobs hence, a refinery was established in Port Harcourt (South-south Nigeria) in 1965 (Turner, 1977). Initially, the production capacity of this refinery was 35,000 barrels per day (bpd) but as the demand for oil increased in Nigeria, this facility was upgraded to a capacity of 60,000bpd. As demand kept increasing, another refinery was established in the 1970s in Warri, Delta State, South-south Nigeria. Currently, Nigeria has four refineries, two in Port Harcourt and one each in Warri and Kaduna. These refineries are projected to produce 505,000bpd in total but unfortunately, there are only two of them in operation (Kaduna and Warri) and these are only producing at 25% capacity (BMI, 2013a).

2.7 OIL AND GAS PRODUCTION IN NIGERIA

Oil production is mainly divided into upstream and downstream. The upstream consists of the processes involved from prospecting for oil down to exploration while downstream activities involve processing activities down to distribution of the finished product. However, in some cases, oil processing has been classified as midstream because this involves a high level of technical know-how while the distribution and marketing refers more to the commercial aspect of the oil industry activities.

Nigeria's maximum crude oil production capacity on a daily basis is 2.5 million bpd (BP, 2012). This production potential puts Nigeria on a top ranking as Africa's largest producer of oil (MOMMER, 2002). Moreover, Nigeria is said to produce high quality crude oil, with low Sulphur content (Laredo *et al.*, 2004) which is a highly sought property.

2.8 ANALYSIS OF THE NIGERIAN OIL AND GAS INDUSTRY

The Nigerian oil and gas industry has been characterised by many triumphs and also setbacks. The industry has excelled in terms of presence of international oil companies (IOCs) working in the upstream sector, primarily generating the revenue that services Nigeria. Furthermore, the industry, in recent times, has partially recovered from the problems stemming from the rebels in the Niger-Delta at which time production had declined to about 1.6 million bpd (in 2009) vis-à-vis levels of about 2.4 million bpd currently (Watts, 2004). This emergence is mainly attributable to the government's amnesty program.

The Nigerian State, through the IOCs like Shell, Total and ENI, has also witnessed some asset transfer transactions from which indigenous companies have benefitted. This reveals a

maturing oil and gas sector where bigger players are re-aligning their asset portfolios to the benefit of newer, smaller players. An example of a new indigenous player is SEPLAT, which benefitted from a transfer of assets from three different Oil Mining Leases (OML) from Shell, Total and Agip (Nwapa, 2012).

In terms of gas production, gas flaring has been reduced compared to what was obtained in the past and the Nigerian gas produced for sale has increased to a historic high level of 4.3 billion cubic feet per day (cfpd) in 2011. Of this amount, 1.1 billion cubic feet per day (cfpd) is sold domestically (BMI, 2012c). This reveals the extent to which gas utilisation is being adopted in place of other fossil fuels in Nigeria.

The midstream and downstream sectors have faced significant challenges which are the reason the government has focused its reforms on deregulating these sectors. As noted earlier, there are four refineries in Nigeria. They have a capacity of 505,000 bpd, 5,120 km of product and crude pipelines, 21 storage depots and one import terminal at Atlas Cove (BMI, 2012c), each of these refineries are producing below capacity owing to vandalism and poor maintenance over the years because of the lack of a commercially viable framework for cost recovery. As a result of this, the government is currently bearing the huge cost of a non-commercial midstream and downstream oil sector through the introduction of subsidies to make these products available to consumers. It has been argued that the oil and gas sector can only remain viable if some of these issues are addressed because the feasibility of sustaining these subsidies in the future appears to be bleak.

The following section analyses the external macro environment faced by the Nigerian oil and gas industry using a PESTEL framework.

2.8.1 Political

Before the discovery of oil in Nigeria, agriculture was the main source of revenue and every geo-political zone in Nigeria was known for the cultivation of particular crops. However, the advent of the oil boom diverted the attention of various individuals and corporate bodies/organisations. Therefore, rather than cultivate, harvest and export agricultural products, oil appeared to provide a quicker means for generating greater revenues and as such, agriculture was mostly abandoned for oil. As a result of this, corruption became entrenched within society and this has proved difficult to combat as some of those involved

are even prepared to pay with the ‘last drop of their blood’ to enjoy access to the very profitable oil resources (Ades *et al.*, 1999).

Transparency International (2013) ranks Nigeria 139th out of 176 countries in terms of corruption. According to Transparency International (2013), a recent survey indicate that 94% of the total respondents opine extreme corruption in the political sector, while 69% of the total respondents sampled suggest that there are high levels of corruption in the public sector alike (which deals with oil contract awards). The implication of this is that investments will be greatly reduced.

For example, certain standards and procedures exist in the award of oil blocks, but it appears that these standard procedures are not followed. Oil block awards have become a highly political issue whereby individuals own their personal blocks and as such, the criteria for the award remain obscure and hence questionable. Gboyega *et al.* (2011) argue that apart from the fact that there appears to be no clear cut standard procedure, rent seeking activities appear to be common by the current awardees. Prior to the introduction of a competitive bidding system in 2000, oil block awards were done by the President or Minister for Petroleum on a discretionary basis. Gboyega *et al.* (2011) maintains that the fees for these awards were usually negotiated and charged less than their re-sale value.

In 2009, the Nigerian government embarked on an amnesty programme for the Niger Delta militants (Nwozor, 2010). This was to negotiate with the inhabitants of the Niger Delta communities to end kidnappings and abductions, which had become a means of livelihood for militants. The programme had three phases: disarmament; rehabilitation; and infrastructural development. Disarmament entailed militants surrendering their arsenal of weaponry and abandon violence. The rehabilitation phase involved re-integrating and re-orientating the militants into the society, as well as paying stipends to sustain them whilst they search for employment. The third phase involved massive infrastructural development of the south-south geo political zone, ranging from reconstruction of damaged homes resulting from oil and gas activities, as well as community infrastructural development. The amnesty programme may be awarded a ‘pass mark’ having achieved the first two phases to an extent.

This is evident by the reduction of hostage taking and kidnapping/abduction of oil workers though Nwozor (2010, p. 29) argues that this cannot be fully sustained and/or improved upon “*until the conditions that generated the militancy, and later criminality in the Niger Delta are addressed*”. In addition, it is suggested that those who exchange arms and ammunition

for bunkered oil by these militants should be prosecuted, and this calls for a more global approach as most of the buyers of these illegal products are said to be ‘foreigners’. Following the launch of the Amnesty programme and the evidence of reduced hostage taking and abduction, there appears to be a huge potential for a significant growth in oil and gas production because oil workers are likely to engage in more upstream activities because there is reduced security risk.

So many arguments have been put forward on fuel subsidy removal especially the argument on whether the federal government should remove subsidy on petroleum products or not. For example, N1.3 trillion (\$ 8,048,539) was spent on fuel subsidy in 2011 representing 171%, a combined allocation to education, health and agriculture in the 2012 budget. This constitutes about 27% of the aggregate expenditure which was proposed for the 2012 fiscal year (Okigbo III and Enekebe, 2011). The argument on fuel subsidy removal by the government has largely been based on welfare improvement such that, there will be more capital diverted to improving the general living standards of the citizens. This has been the issue since 1978 when the pump price of PMS was first increased by the government as a means of removing some percentage of the subsidy. However, it appears that there has not been any considerable improvement in welfare, as the poverty index has been at a constant increase since 1980. That said, Lamido (2010) argued that about 25% of the federal government recurrent expenditure is spent on salaries and allowances of the national assembly, whilst 80% of Nigerians between ages 18-35 (64 million) remain unemployed (Awogbenle and Iwuamadi, 2010). As a result of this, Nigerians clamoured against the removal of fuel subsidy since it appears that this is the only avenue through which they can partake in the ‘national cake’.

Table 2.3 shows fuel price movements from 1978 to 2012 (dollar figures are at present value). There has been a movement in PMS prices within these periods more than 20 times (though these fluctuations are not necessarily increases). There are cases where there had been an increase, and within the same year/period, a decrease in price (time interval 8-10; 12-14; 14-16) as a result of strike actions and protests, embarked upon by the Nigerian Labour Congress (NLC), following a price increase by the government. This was usually followed by series of negotiations between the NLC and government before a new price was agreed upon (TUC, 2012). The time interval 20-21 was not marked by any form of negotiation but by gesture of the then President Late Umaru Musa Y’aradua, who reduced the pump price per litre from N70 to N65. However, on January 1, 2012 an increase of 108% was announced

(time interval 21-22) which was followed by series of protests and negotiations which eventually resulted in an agreed price of N97.

Table 2.3: PMS Price movements in Nigeria from 1978-2012

Time interval	Dates	N	\$ (present value)
1	Sep. 30, 1978	0.0845	0.00052
2	Oct. 01, 1978	0.153	0.00095
3	Apr. 20, 1982	0.200	0.00124
4	Mar. 31, 1986	0.395	0.00245
5	Apr. 10, 1988	0.42	0.00260
6	Jan. 01, 1989	0.60	0.00372
7	Dec. 19, 1989	0.60	0.00372
8	Mar. 06, 1991	0.70	0.00434
9	Nov. 08, 1993	5.00	0.03097
10	Nov. 22, 1993	3.25	0.02013
11	Oct. 02, 1994	15.00	0.09292
12	Oct. 04, 1994	11.00	0.06814
13	Dec. 20, 1998	25.00	0.15486
14	Jan. 06, 1999	20.00	0.12389
15	Jun. 01, 2000	30.00	0.18584
16	Jun. 08, 2000	25.00	0.15486
17	Jun. 13, 2000	22.00	0.13628
18	Jan. 01, 2002	26.00	0.16106
19	Jun. 23, 2003	40.00	0.24778
20	Jun. 2007	70.00	0.43362
21	2009	65.00	0.40265
22	January, 1 2012	141.00	0.87343
23	January 16, 2012	97.00	0.60087

Data extracted from Ogunbodede et al, 2010, p. 2 and Punch Newspaper January 8, 2012

Fuel subsidy removal became the subject of greater debate when Nigeria began to import petroleum products for consumers. This issue takes us back to the low capacity of the Nigerian refineries discussed earlier. Apart from the fact that the production capacity of the refineries is low, the Nigerian government should have commissioned visible refinery projects long before now (BMI, 2012c). Although there are plans to build more refineries, these intentions have been aired for so many years with various agreements being signed and projects commissioned, but they are yet to come to fruition.

Considering the argument from the government critically, a huge amount of money is spent on providing subsidy for petroleum products, so as to enhance affordability. However, to

create a win-win situation on the part of the government and consumers, it appears that these subsidies could even be removed completely if more refineries capable of meeting consumer needs are established so as to completely eradicate the importation of finished products. However, it appears that the determination to implement the cut in gasoline subsidies and clamp down on subsidies fraud in the face of widespread protests has improved the downstream outlook suggesting that the government is determined on reforming the sector (which includes the enactment of the Petroleum Industry Bill), despite political resistance.

To ensure better governance of the Nigerian oil industry, the PIB is being proposed. The report of the Oil and Gas sector reform Implementation Committee (OGIC) in 2000 formed the basis of the first PIB which has undergone several revisions, and is yet to be passed (PIB, 2012). One of the main concerns of the OGIC is to separate commercial institutions within the industry from regulatory institutions. The salient issues raised include unbundling and commercialisation of the national oil company NNPC; deregulation of the downstream sector; creation of new regulatory bodies and introduction of a new fiscal regime that sought to increase overall government take (PIB, 2012).

Analysts suggest that various lobbyists are responsible for the bill still yet to be passed into law, as every stakeholder is trying to protect their interest (PIB, 2012; THISDAYLIVE, 2013). There has been criticism after the revisions of the bill came into light. In addition, every geo-political zone is lobbying within the House of Representatives to ensure their constituencies derive maximum benefit. Against this backdrop, investors have slowed the pace at which they carry out business in the country as they remain unsure of what benefits they stand to gain from the passage of the bill. These investors' hesitations stems from fears of the potential loss they may encounter as a result of the new legislation.

There has been a shift in focus in terms of global investment in recent times. Africa has been considered an emerging economy especially because of its abundant untapped natural resources and relatively cheap labour as compared to Europe. According to Katengeza (2009) another major reason why Africa appears to be an emerging economy follows from a decline in political conflicts and a rise in relatively peaceful elections, leading to smooth transitions in government, which have boosted investors' confidence. Nigeria's location is central and accessible which contributes to the large influx of FDI and an increasing number of bilateral trade agreements. Apart from oil, which remains its main source of revenues, agriculture, which was once the country's mainstay, still contributes to Nigeria's GDP.

Finally, in spite of the country's abundant oil resources, Nigeria has incurred a large debt. Although it has been argued that Nigeria should not be considered for debt relief, considering the country's high poverty index (a case whereby over 100 million out of a total of about 160 million are living on less than one dollar a day) Nigeria appears to qualify. In 2004, the Centre for Global Development (CGD) set out to provide analytical support for Nigeria to be given debt relief. This was followed by a series of persuasions on the country's creditors to agree an appropriate package. Finally, in 2005, the Paris Club agreed on debt relief for Nigeria which reduced the country's debt stock by \$30 billion (CGD, 2013).

2.8.2 Economic

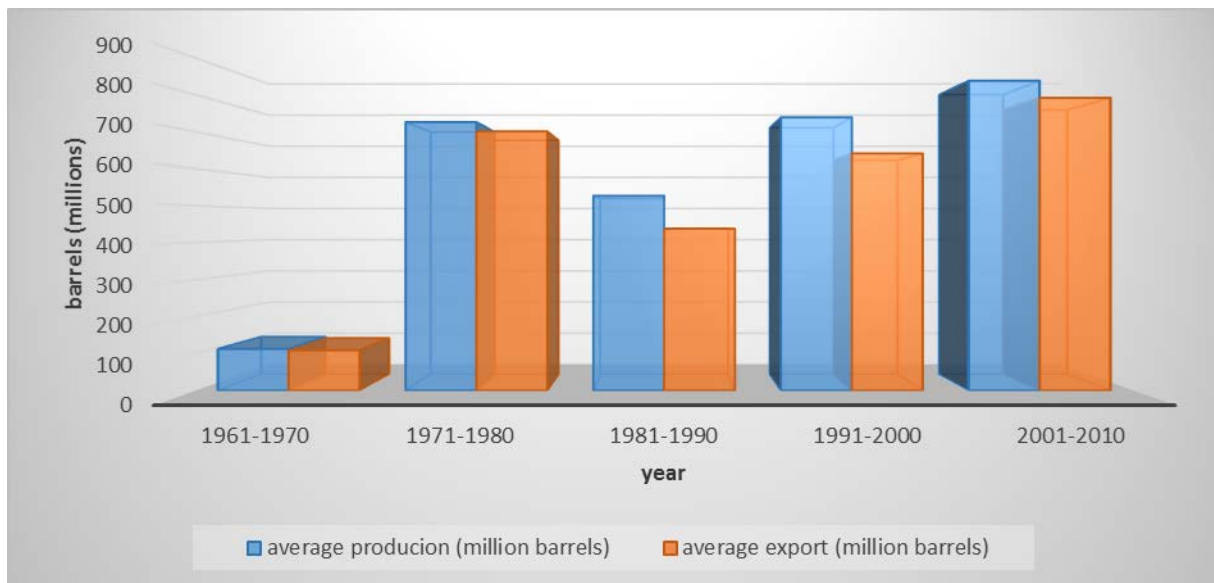
In order to analyse the economic factors affecting the industry, it is useful to begin by providing data as depicted in Table 2.4 which summarises the key oil and gas industry statistics (in terms of production imports, exports, reserves, etc.) from 1961 to 2011.

Table 2.4: Oil and Gas Data 1961-2011

Year	OIL						GAS			
	Production/barrel		Exports/barrel		Reserves/barrel		Produced (m ³)	Utilised (m ³)	Flared (m ³)	% flared
	Total Production (millions)	Daily average (millions)	Total Exports (millions)	Daily average (millions)	Total reserves (millions)	Daily average (millions)	(millions)	(millions)	(millions)	
1961	16.8	0.046	16.5	0.045	300	0.822	310	N/A	N/A	-
1962	24.6	0.067	24.6	0.067	400	1.096	486	N/A	N/A	-
1963	27.9	0.076	27.7	0.075	500	1.370	626	N/A	N/A	-
1964	43.9	0.120	43.4	0.118	1,000	2.740	1,029	N/A	N/A	-
1965	99.3	0.272	96.9	0.265	3,000	8.219	2,849	116	2,733	95.92
1966	152.4	0.417	139.5	0.382	3,500	9.589	2,908	216	2,692	92.57
1967	116.5	0.319	109.2	0.299	3,500	9.589	2,634	102	2,532	96.12
1968	51.9	0.141	51.1	0.142	4,000	10.959	1,462	151	1,311	89.67
1969	197.2	0.540	197.2	0.540	5,000	13.699	4,126	64	4,062	98.44
1970	395.8	1.084	383.4	1.050	9,300	25.479	8,068	111	7,957	98.62
Sub-total	1,126.3	3.082	1,089.5	2.983	31,500	83.562	24,498	760	21,287	%av. 95.22
1971	558.8	1.531	542.5	1.486	11,680	32.000	12,966	206	12,790	98.64
1972	665.2	1.817	650.6	1.777	15,000	41.096	17,122	274	16,848	98.40
1973	750.4	2.056	725.0	1.986	20,000	54.795	21,822	395	21,487	98.46
1974	823.3	2.255	795.7	2.180	20,900	57.260	27,170	394	26,776	98.55
1975	651.5	1.784	627.6	1.719	20,200	55.342	18,656	323	18,333	98.27
1976	758.0	2.071	736.8	2.013	19,445	53.274	21,274	657	20,617	96.91
1977	766.0	2.098	744.4	2.039	18,700	51.233	21,815	863	20,952	96.04
1978	692.2	1.896	667.3	1.828	18,200	49.863	20,486	1,046	19,440	94.89
1979	841.2	2.304	818.7	2.243	17,400	47.671	27,450	1,378	26,073	94.98
1980	752.2	2.055	700.1	1.912	16,700	45.753	24,551	2,337	22,214	90.48
Sub-total	7,258.8	19.867	7,008.7	19.183	178,405	488.287	213,312	7,873	205,530	%av. 96.56
1981	525.5	1.439	447.8	1.226	16,500	45.205	17,113	3,643	13,470	78.71
1982	470.6	1.289	366.4	1.003	16,750	45.890	15,382	3,442	11,940	77.62
1983	450.9	1.235	341.3	0.935	16,550	45.342	15,192	3,244	11,948	78.64
1984	507.9	1.387	400.4	1.094	16,650	45.616	16,251	3,438	12,813	78.84
1985	547.0	1.498	453.7	1.243	16,600	45.479	18,569	4,647	13,922	74.97
1986	535.2	1.466	445.6	1.221	16,066	44.016	18,738	4,821	13,917	74.27
1987	482.8	1.322	388.8	1.065	15,980	43.781	17,170	4,976	12,194	71.02
1988	490.4	1.340	406.4	1.110	16,000	43.836	20,250	5,510	14,740	72.79
1989	626.4	1.716	556.9	1.525	16,000	43.836	25,129	6,303	18,784	74.75
1990	630.2	1.726	565.7	1.550	17,100	46.849	28,430	6,020	22,410	78.83
Sub-total	5,266.9	14.418	4,373	11.972	164,196	449.850	192,224	46,044	146,138	%av.76.04
1991	690.9	1.893	587.6	1.610	16,720	45.808	31,460	6,800	24,660	78.39
1992	716.2	1.957	580.1	1.585	17,455	47.822	32,084	7,508	24,575	76.60
1993	695.3	1.905	568.3	1.557	20,311	55.646	33,680	7,910	25,770	76.51
1994	664.6	1.820	580.3	1.590	22,586	61.879	33,680	6,770	26,910	79.90
1995	672.5	1.842	607.7	1.665	22,184	60.778	35,100	8,114	26,986	76.88
1996	681.8	1.863	620.1	1.694	24,886	68.181	35,450	8,860	26,590	75.01
1997	855.7	2.344	767.9	2.103	26,277	71.992	37,150	10,383	24,234	65.23
1998	806.4	2.209	706.2	1.934	27,491	75.318	37,039	13,407	23,632	71.90
1999	774.7	2.122	678.1	1.857	27,867	76.348	43,636	21,274	22,362	51.25
2000	828.1	2.262	714.3	1.951	28,196	77.249	42,732	18,477	24,255	56.76
Sub total	7,386.2	20.217	6,410.6	17.546	233,973	641.021	362,011	109,503	249,974	%av.70.84
2001	859.6	2.355	780.0	2.137	32,245	88.342	52,453	25,702	26,759	51.02
2002	725.8	1.988	663.3	1.817	32,245	88.342	48,192	23,357	24,836	51.54
2003	844.1	2.312	791.0	2.167	33,000	90.411	51,766	27,823	23,943	46.25
2004	911.0	2.489	871.2	2.380	35,900	98.356	58,963	33,859	25,103	42.58
2005	918.9	2.517	843.5	2.311	36,200	99.178	59,284	36,310	22,973	38.75
2006	869.1	2.381	817.9	2.241	36,200	99.178	61,799	39,042	22,756	36.82
2007	803.0	2.200	791.8	2.169	36,200	99.178	68,402	46,891	21,511	31.45
2008	768.7	2.106	724.4	1.984	36,200	99.178	64,775	47,236	17,539	27.08
2009	780.3	2.137	769.1	2.107	36,200	99.178	52,025	37,602	14,423	27.72
2010	896.0	2.454	864.7	2.369	37,200	101.918	67,757	51,288	16,468	24.30
Sub total	8,376.5	22.939	7,916.9	21.682	351,590	963.259	585,416	369,110	216,311	%av.37.75
2011	866.2	2.373	822.0	2.252	37,200	101.918				
GRAND TOTAL	30,276.9	82.896	27,621.7	75.618	996,864	2,727.89				

Researcher's compilation (2013) Data sources: NNPC Statistical Bulletin (2005, p. 47; 2011, p.31) BMI (2013a, p.28).

Figure 2.10: Average Production and Export of Crude Oil in Nigeria 1961-2010



Source: Developed from data in Table 2.4

Figure 2.10 shows the average oil production from 1961 to 2010. The chart reflects a 10-year interval in production which gives a clear picture for understanding and to aid the analysis. A critical observation highlights a marked increase in production (about 700%) when the production between 1961-70 is compared to that of 1971-80. The reason for this may well be that commercial oil production had just commenced between 1961 and 1970. In addition, Shell was the only operator that was licensed at that time to prospect for oil in Nigeria. In the period 1971-1980, this monopoly had been broken with the licensing of other operators discussed earlier, and the discovery of more oil wells (CRES, 2008). Over the period between 1971 and 2010, the data revealed a steady increase in oil production, although there was a decline in the decade between 1981 and 1990.

Consequently, about 90% of the total oil produced was exported between 1961 and 1970 (see data sources for the author's compilation of Table 2.4). This can be attributed to the lack of refineries in Nigeria at that time (CRES, 2008). It can be argued that the demand for oil within Nigeria was still very low. For example, more vehicles ply Nigerian roads now as compared with the number of vehicles on the road in the period 1961 to 1970. A repeat of this situation is pictured in the graph between 1971 and 1980. Although oil production had greatly increased as compared to the initial periods (1961-1980) exports were still over 80% because, in as much as the refineries had become functional, their capacities was low as compared to production levels by multiple operators, who had become active players in the industry. Between 1991 and 2000, compared to the previous two periods, exports had

reduced. This can be attributed to the establishment of a new refinery and the expansion of the capacity of the existing ones.

The decline observed in production and export in the period 1981-1990 has been attributed largely to the activities of oil bunkerers who obtain both crude oil and finished product illegally and divert these to the ‘black market’ for onward sales in exchange for cash and/or ammunitions (Ikelegbe, 2005). In addition, the activities of militants and pressure groups impacted on production and consequently exports.

Oil production picked up in 1991 again and this increase can be explained by the discovery of new wells (especially offshore and deepwater), advancement in technology and a clamp down on bunkering activities (Joab-Peterside, 2007). The production and export over the 2001-2010 period increased considerably.

Nigeria still imports oil as a result of the low capacity of the refineries, with Premium Motor Spirit (PMS) having the highest demand as shown in Table 2.5.

Table 2.5: Nigerian Petroleum Products Imports

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Product										
PMS	3.857	4.036	5.404	5.696	5.482	5.407	5.792	4.596	5.988	5.031
HHK	0.433	-	0.637	0.418	0.671	1.081	1.335	0.909	1.170	1.608
AGO	0.117	0.404	1.146	0.211	N/A	N/A	N/A	N/A	N/A	N/A
LPG		94,351	-	170,279	N/A	N/A	N/A	N/A	N/A	N/A

Source: NNPC (2010, p. 63)

As can be observed from Table 2.5, the recorded data for PMS and HHK appear to be more available, probably because these are the two main products in highest demand. Between 2001 and 2007, importation of petroleum products was on the increase and there was a slight decline in 2008. This was the year when the government embarked on a refurbishment of the refineries. The decline in importation can be attributed to the maintenance works carried out across the refineries in 2008 (Arinze, 2011). However, between 2008 and 2010, the figures had increased again (as per the data reported by the NNPC, 2010). It appears that various factors might have been responsible for this increase which include improper maintenance

carried out on the refineries, old and unserviceable equipment still in use, and increased demand for these products.

An examination of the average Capacity Utilisation Rates (%) clearly shows a corresponding decrease in 2007 as observed with the case of petroleum importation (see Table 2.6).

Table 2.6: Domestic Refining Average Capacity Utilization (%): (2001 – 2010)

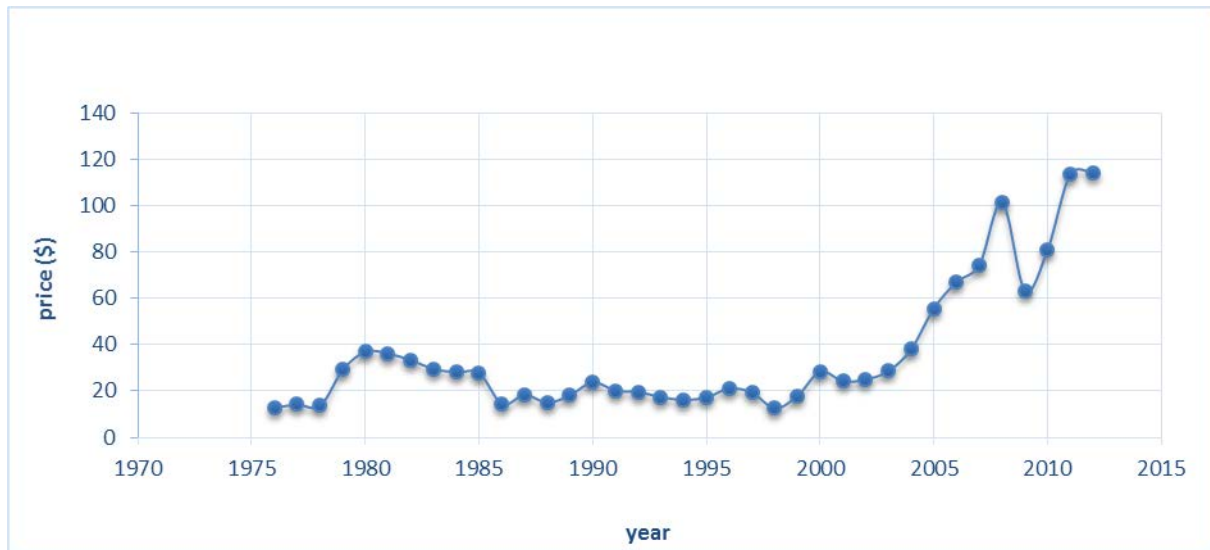
Years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Refineries										
KRPC	31.39	34.95	15.96	26.00	33.08	8.34	0.00	19.56	20.02	20.46
PHRC	60.73	52.17	41.88	31.04	42.18	50.26	24.87	17.84	9.08	9.17
WRPC	48.29	55.53	14.27	9.10	54.85	3.85	0.00	38.52	43.01	43.38

Source: NNPC (2010, p.53)

From Table 2.6, it appears that the Port Harcourt refineries (PHRC) have the largest capacity although there was a marked decline from 2009-2010 compared to 2001-2002. According to an Aljazeera (2012) report, Nigeria relies on imports of petroleum products to the tune of 85% of domestic (national) consumption as a result of inadequate refining capacity. There are four main refineries in Nigeria- Port Harcourt Refining Company I and II (PHRC); Warri Refinery and Petrochemical Company Limited (WRPC) and Kaduna Refining and Petrochemical Company (KRPC), and according to BusinessDay (2013) these are running at an average of 24 per cent capacity utilisation¹. The implication of this is that Nigeria is highly dependent on importation of refined petroleum products and as such, spending a considerable amount on subsidising these products to make them affordable to consumers.

¹ In 2009 and part of 2010 particularly, low refinery runs forced the country to import about 85 percent of its fuel needs. In 2011, the operational capacity at refineries averaged 24 percent, slightly higher than the 22 percent in the previous year, according to U.S Energy Information Administration. The inability of the refineries to reach full production capacity has been linked to poor maintenance, sabotage on crude pipelines feeding refineries, oil theft and corruption [Businessday, April 18, 2013].

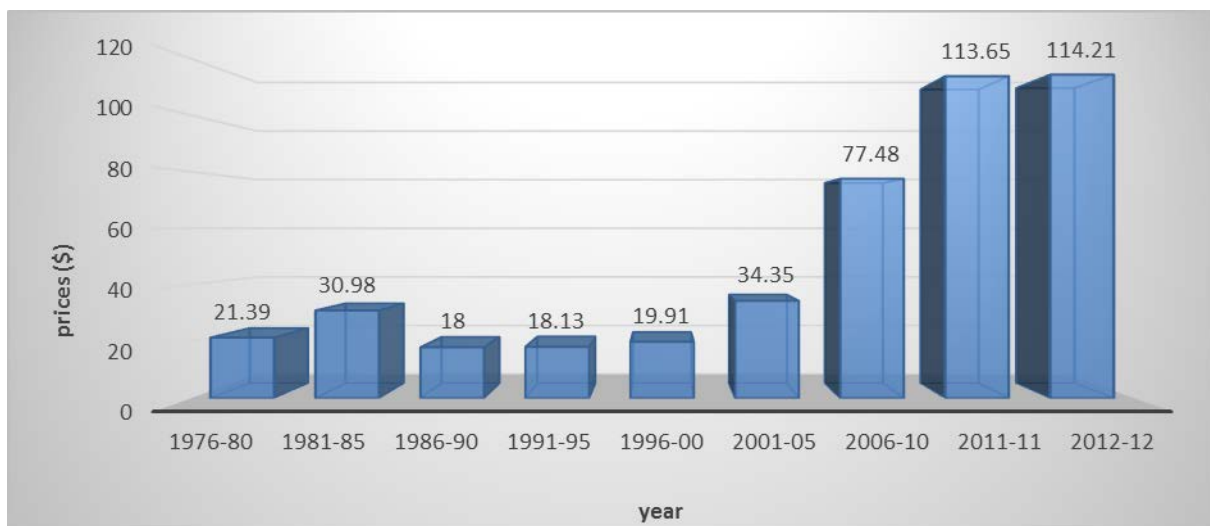
Figure 2.11: Crude Oil (Real) Prices in Nigeria (1976-2012)



Source: Data obtained from BP (2012, p. 12)

Crude oil prices in Nigeria have increased considerably since 1975 as shown in Figure 2.11. The figure clearly shows that between 1975 and 2002, prices of crude oil remained at a common average until a significant increase was seen in 2005. Between 2005 and 2012, oil prices have remained unstable reaching a peak in 2012.

Figure 2.12: Average Crude Oil (Real) Prices in Nigeria (1976-2012)

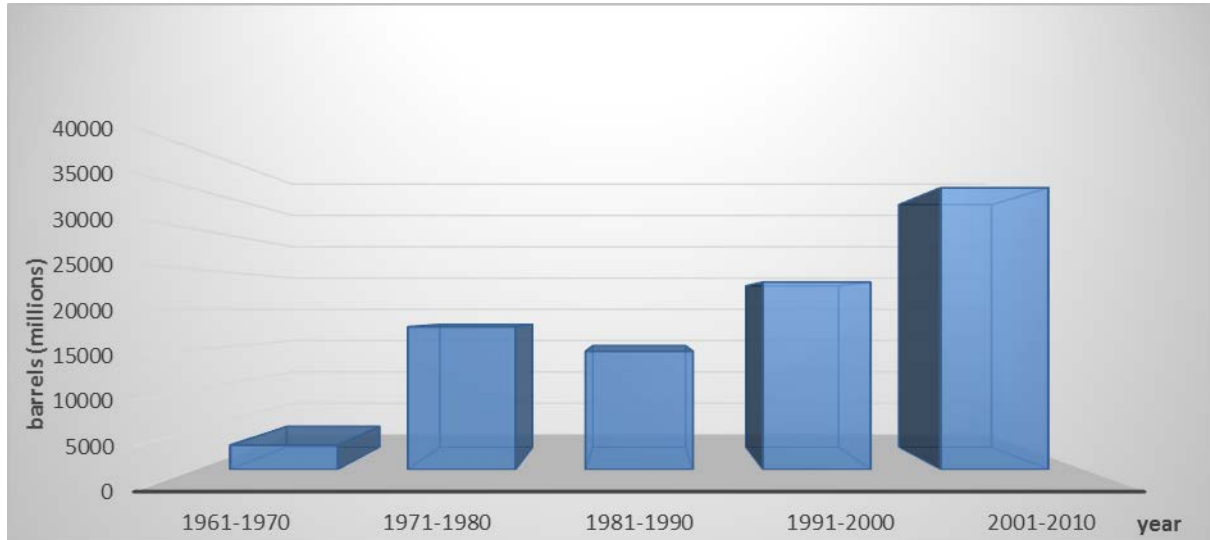


Source: Data obtained from BP (2012, p. 12)

Figure 2.12 plots average crude oil prices, showing a sharp increase in 2006 with a constant rise in average prices until 2012. Given that oil and gas remain the main source of revenue in

Nigeria, comparing the rise in oil prices with the contribution of this sector to GDP still shows that the contribution of the sector to economic growth is quite low.

Figure 2.13: Average Oil Reserves in Nigeria

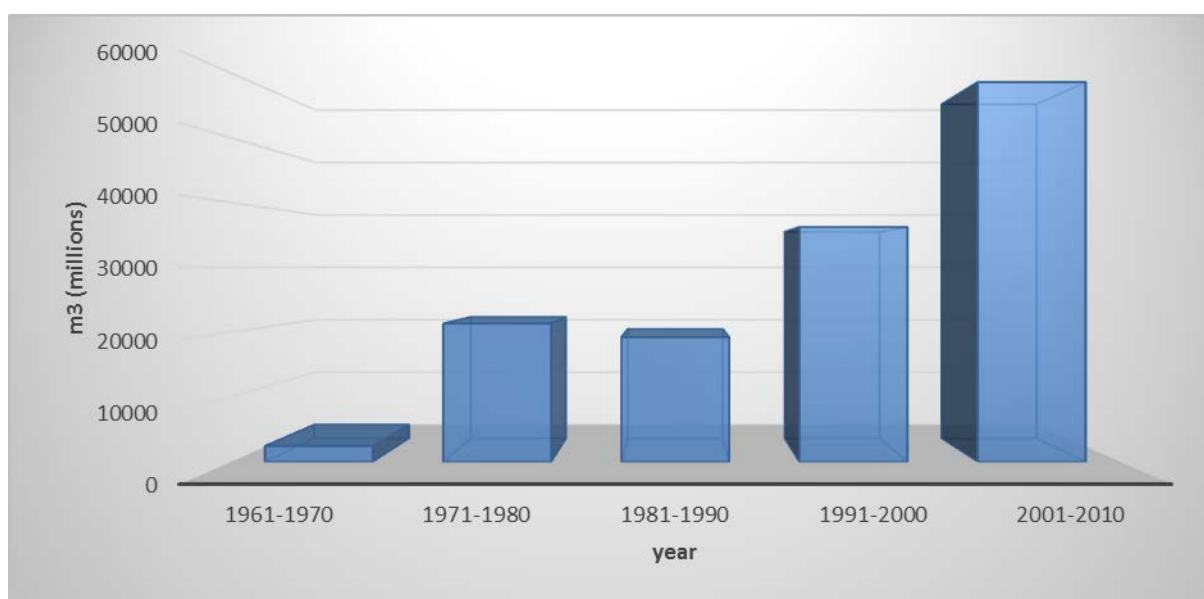


Source: Developed from data in Table 2.4

Since the discovery of oil, Nigeria began to build a reserve base. Figure 2.13 shows that oil reserves were at their lowest between 1961 and 1970. A sharp increase was witnessed between 1971 and 1980 and this increase in oil reserves peaked between 2000 and 2010. These rises are attributable to new discoveries in deepwaters by Shell Nigeria Exploration Company (SNEPCo). In addition, oil is being discovered outside the Niger Delta and this constantly increases the reserve base.

Table 2.4 shows that Nigeria's oil reserves have significantly increased since the 1970s consequently increasing revenues. The quality of this resource has been rated high because of its low sulphur content (Laredo *et al.*, 2004) making it a product in high demand in the global market. However, the data shown for the period 1981-1990 indicates a decline in reserves.

Figure 2.14: Average Gas Production in Nigeria 1961-2010



Source: Developed from data in Table 2.4

As shown in Figure 2.14, Nigeria is not completely oil dominated. It has an abundance of gas deposits which used to be flared in greater abundance in time past (Oguejiofor, 2006). There is greater awareness in the conservation of gas in Nigeria now, especially because of its role in power generation (Akinbami *et al.*, 2001). Gas production and utilisation in Nigeria have steadily increased between 1971 and 2010

Table 2.7: Estimated value of Nigeria’s stolen and shut-in oil production 2000–2008

Year	Average price of Bonny Light per barrel (in USD)	Volume of oil stolen per day (in barrels)	Value of oil stolen per annum (in USD)	Volume of oil shut-in per day (in barrels)	Value of oil shut-in per annum (in USD)	Total value of oil stolen or shut-in per annum (in USD)
2000	28.49	140,000	1.5 billion	250,000	2.6 billion	4.1 billion
2001	24.50	724,171	6.5 billion	200,000	1.8 billion	8.3 billion
2002	25.15	699,763	6.5 billion	370,000	3.4 billion	9.9 billion
2003	28.76	300,000	3.2 billion	350,000	3.7 billion	6.9 billion
2004	38.27	300,000	4.2 billion	230,000	3.2 billion	6.4 billion
2005	55.67	250,000	5.1 billion	180,000	3.7 billion	8.8 billion
2006	66.84	100,000	2.4 billion	600,000	14.6 billion	17.0 billion
2007	75.14	100,000	2.7 billion	600,000	16.5 billion	19.2 billion
2008	115.81	150,000	6.3 billion	650,000	27.5 billion	33.8 billion

Source: Asuni (2009, p. 6)

Recently, the Petroleum and Natural Gas Senior Staff Association (PENGASSAN) disclosed that Nigeria loses \$6 billion to crude oil theft annually (THISDAY, 2013). According to Asuni (2009), with the current estimate of illegally bunkered oil ranging from 30,000 to 300,000 bpd, Nigeria's loss between 2003 and 2008 was approximated at \$100 billion. Table 2.7 shows the estimated value of Nigeria's stolen and shut-in oil production.

2.8.3 Social

According to the IMF (IMF 2013), the oil sector accounts for over 95 percent of Nigeria's export earnings and about 40% of revenues. The economic analysis indicates the amount of money Nigeria generates on average on a daily basis. Oil is mainly located in the Niger-Delta, and this has given rise to several unrests and crises in that region.

Oil theft commonly known as illegal oil bunkering is rampant within these areas. According to Ikelegbe (2005), illegal oil bunkering became more sophisticated in the early 2000s with high profiled theft in which the bunkerers had their 'customers' with their vessels and tankers in the high sea where they transact their businesses. Tracing this illegal activity to its inception, Garuba and Dauda (2010) argue that originally its level of sophistication was quite low. It began as a trans-border activity between Nigeria and the Franc states, but this soon expanded beyond the Franc states. This expansion can amongst other factors be characterised by the considerable lower cost of this commodity when sold illegally compared to prevailing official prices, hence attracting more customers. Oduniyi (2003) stated that oil sold for about \$7 per barrel in the 'black-market' when the oil price was fixed at \$26 in the international market, more than three times lower than the market price.

In 2002, Shell alone lost 100,000 barrels. In 2003 however, it was estimated that 10-15% of national daily production is stolen per day (Ikelegbe, 2005). The most recent estimates reveal that Nigeria loses 150,000 to 180,000 bpd to illegal bunkering (CNN, 2013).

Table 2.7 reveals the amount that according to Asuni (2009) Nigeria has lost in the past, due to illegal bunkering. The figures indicate a steady rise in the value, suggesting that Nigeria is losing a huge amount to oil bunkering. Although the figures reveal that the volume of stolen oil declined between 2003 and 2007, this still resulted in greater monetary loss due to the rapid increase in oil price in the corresponding years (see Table 2.7).

Although the government has made several attempts to crack down on illegal bunkering, Asuni (2009) argues that this illegal activity has eaten deep into the fabrics of the Nigerian

State such that the law makers have also been found culpable of this offence. Asuni states that there are three types of illegal bunkering. The first, which is the least significant though not to be overlooked, is the pilferation of the finished product which is set for distribution to local markets. Often, this is carried out by local people. In the past, Nigeria has witnessed both oil tanker and pipeline explosions which have been caused by local people who take advantage of minor leakages in the tankers and/or pipelines, or in extreme situations deliberately damaging these units to siphon petroleum products illegally.

The second type of illegal bunkering involves crude oil theft and this is mainly carried out by hacking into the pipeline, tapping the wellhead, and removing the structure at the top known as the “Christmas tree” and then attaching a hose to siphon the oil. This approach appears to be more organised and sophisticated because there are large amounts of international syndicates involved in this operation. These syndicates not only exchange crude oil for money, but arms and ammunition as well (Omonobi, 2004; Asuni, 2009).

The third type of bunkering is more advanced than the first two. In this case, crude oil is lifted beyond the licensed amount and this act is carried out using forged orders/invoices with the connivance of several oil company staff and staff of the Nigerian National Petroleum Corporation (NNPC) (not leaving out top government officials who award these ‘contracts’). While these staff and government officials are meant to provide checks on these illegal activities, some of them tend to aid it, so as to make their own profit.

Considering the way and manner these illegal activities are being carried out, this suggests that the activity of oil bunkers may still be far from being tackled, especially when law enforcement agencies are thought to be by local communities part of such organised crime activities. According to Ikelegbe (2005), arrests have been made in the past but with minimal prosecutions because most times investigations only reveal the culprits who physically execute such illegal activities, not those who commission them.

Nevertheless, efforts are being made to strengthen the protection of oil facilities as well as the products, especially while in transit. The entire Niger Delta region has been heavily militarised for over 10 years, with soldiers on land and naval staff in and around the waters. In addition, helicopter surveillance has been intensified as well as equipping naval staff with sophisticated arms and ammunition to the extent that checkpoints are now mounted on water ways (see Ogwuda, 2004). The result of this intensification is seen in Table 2.7 which shows a decline in the volume of oil stolen between 2001 and 2007.

Alongside the issue of bunkering, militant activities have been prevalent in the oil and gas industry especially in the Niger Delta region where oil is in most abundant supply. Pressure groups have risen over the years to agitate for resource control. The youths of these communities have rebelled against the government and the MNOCs, claiming they have been marginalised and excluded from the oil and gas activities and, more importantly, from the proceeds of the industry, which are not being re-distributed equitably.

This has resulted in shutting down oil facilities, abduction and kidnapping of MNOC staff, stoppage of production and seizure of boats and helicopters amongst others (Ikelegbe, 2005). The youths have become heavily armed and operating an 'organised' set-up within the oil producing Niger Delta (Asuni, 2009). In 2007, these militant groups were estimated to be in the region of forty eight (48) recognisable groups consisting about 25,000 members with approximately 10,000 weapons (Asuni, 2009). To date, these activities are still common in spite of the amnesty offered by the Nigerian government in 2009.

According to Newsom (2011) although the amnesty programme opened a door for dialogue and stabilisation, it failed to meet its overarching aim of reducing violence and did not address the root cause of conflict issues. This is because the process of demobilisation and proper disarmament of the groups have not been followed through and as such, the oil industry cannot be said to be completely free of these militant and rebellious activities.

Undoubtedly, oil workers are among the highest paid in Nigeria (Taiwo, 2010) but due to the state of affairs just described, the risk associated with their jobs cannot be overemphasised. Alongside physical evidence of poverty and underdevelopment, Omotola (2006) refers to this as 'environmental insecurity', a situation whereby non-military threats emanate from social contradictions embedded in the environment.

Over the past decade, more attention is being paid by the government and MNOCs on how to enhance the quality of life of the habitants of the community. Corporate Social Responsibility (CSR) activities have been stepped up whereby oil spills are cleaned up much more rapidly than before, gas pollution and flaring activities are said to have greatly reduced, and the establishment of social services and infrastructures have been improved (Ite, 2004).

Government activities have also improved among the Niger Delta people via the establishment of agencies like Oil Minerals Producing Areas Development Commission

(OMPADEC) and the Niger Delta Development Commission (NDDC) both of which help in liaising with both government and MNOCs on behalf of the host communities.

2.8.4 Technological

The technology aspect of the oil and gas industry mainly centres on the upstream and manufacturing activities (Okafor, 2007a). This upstream mainly concerns exploration and production, and the Nigerian oil and gas industry has been more involved in upstream activities in recent times as a result of the LCD (although indigenous participation in upstream and other technology activities could be strengthened further if industrial policies that supports technology are developed).

Compared with what was obtained in the past, the Nigerian state is gradually participating actively in the manufacture and supply of the needed equipment in the oil and gas industry (Belderbos *et al.*, 2000). Companies like Dorman Long and SCC Nigeria currently engage in the manufacture of equipment like pipelines and drill bits for the oil industry and these products have passed through the scrutiny of processes like ISO. Although not all the equipment being used in the oil and gas sector is currently manufactured in Nigeria, appreciable progress on this front is being recorded daily.

Among other outstanding successes in this area is the assembly and part construction of one of the world's largest Floating, Production, Storage and Offloading (FPSO) vessels where key components of the vessel were fabricated in Nigeria (Chevron, 2011). Exploration and production activities in Nigeria have advanced to deepwater and companies are trying keep up with these developments by providing the necessary staff training. However, Aduke (2008) argues that it is necessary to provide awareness of updated technology at the earliest stage of development, within HE institutions, so that potential workers are able to better 'embrace' new technological advancements.

On the issue of Nigerian refineries, the most recent refinery was constructed in the 1970s. The fact that the capacity utilisation of these refineries is currently low, suggests that there has been limited upgrade of these facilities, as such the technology with which these refineries operate is obsolete (BMI, 2013a). Nigeria ranks among the top global producers of oil and it is expected that since the country's revenue is mainly sourced from oil, the country should be up to date with refining technology, but it appears that there had been several

bureaucratic bottlenecks which militated against new refinery construction by investors in the past and the upgrade of the existing ones.

Improved technology has, to some extent, helped fight oil bunkering and vandalism; a development which is likely to result in a drastic reduction in spillage and theft activities. Currently, technologies to monitor pipes and well-heads remotely are also being developed.

2.8.5 Environmental

The environmental analysis of the oil and gas industry will centre on the Niger Delta area. This area has for many years suffered from environmental pollution and degradation, as a result of oil spillage and gas flaring activities, which have had a huge impact on the livelihoods and health of the inhabitants of the Niger Delta region. The Niger Delta consists of both wetlands and drylands covering about 70,000sqkm. The ecological zone is quite distinct consisting of coastal ridge barriers, mangrove and fresh water swamp forests and lowland forests (Egbegbulem, 2013). These characteristics support forestry and fishing with a potential of high commercial value capable of bringing development to the Niger Delta.

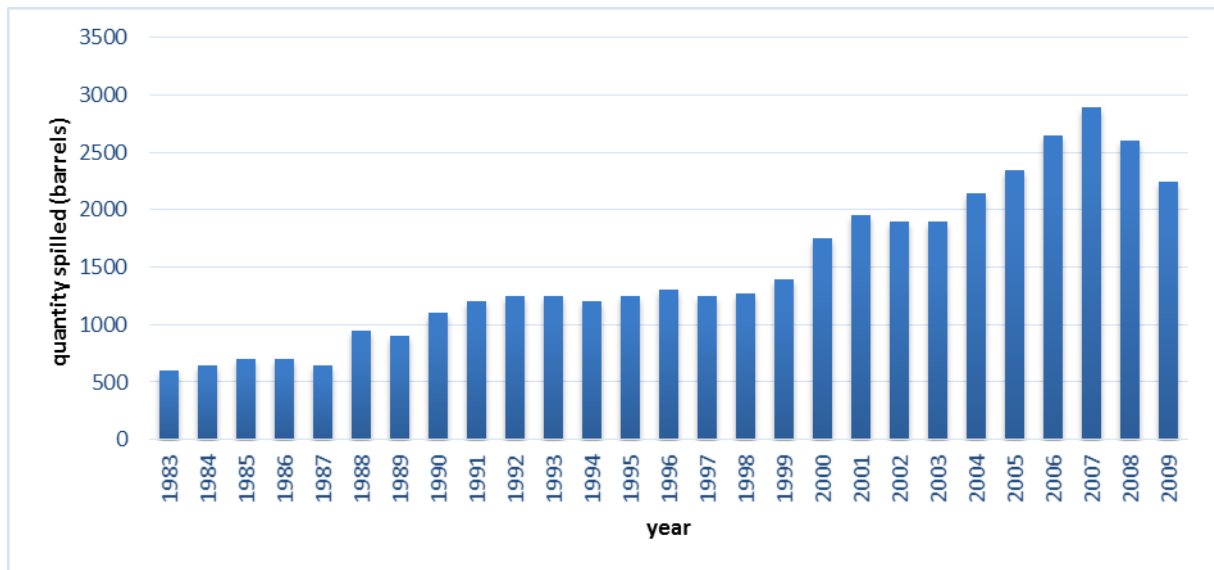
The discovery and mining of crude oil and natural gas deposits in Nigeria over the past four decades has immensely contributed to increase the wealth of the nation, but not without its devastating environmental impacts. The activities of the oil companies have left both land and water in the Niger Delta especially, highly degraded and toxic, thus damaging the potential of this environment agriculturally. Environmental pollution in the Niger Delta mainly arises from oil prospecting and exploration, leakages of crude oil, gas flaring and the escape of other chemicals used in production processes (Ugochukwu and Ertel, 2008).

The extent of environmental decay and ecological damage caused by the activities of the oil companies in the Niger delta cannot be quantified (Ibeanu, 2000). This is because the process is practically on-going and as such may not be easily measurable. Not only have crops been unable to be cultivated, this has also destroyed aquatic life in their rivers (ibid). The area which supplies the wealth of the Nigerian state remains infrastructurally underdeveloped in land and inhabitants lack basic amenities like roads, electricity, schools, hospitals, potable water etc., as they are languishing in poverty.

Spillage activities cannot be attributed to the activities of the IOCs alone, as oil bunkering activities have been a major source of spillage in the oil producing areas (Ikelegbe, 2005). Nwilo and Badejo (2005) outline various causes of oil spillage as vandalism of oil pipelines

by local inhabitants, ageing of the pipelines, oil blow outs from flow stations, clearing of oil tankers on the high sea, and disposal of used oil into the drains by the road side mechanics. Having highlighted these, they argue that by far the most common and serious of this oil spillage is that which occurs through vandalism of pipelines which is quite serious also due to the inability to trace spillage locations early enough (Redman *et al.*, 2008).

Figure 2.15: Oil Spill Data 1983-2009



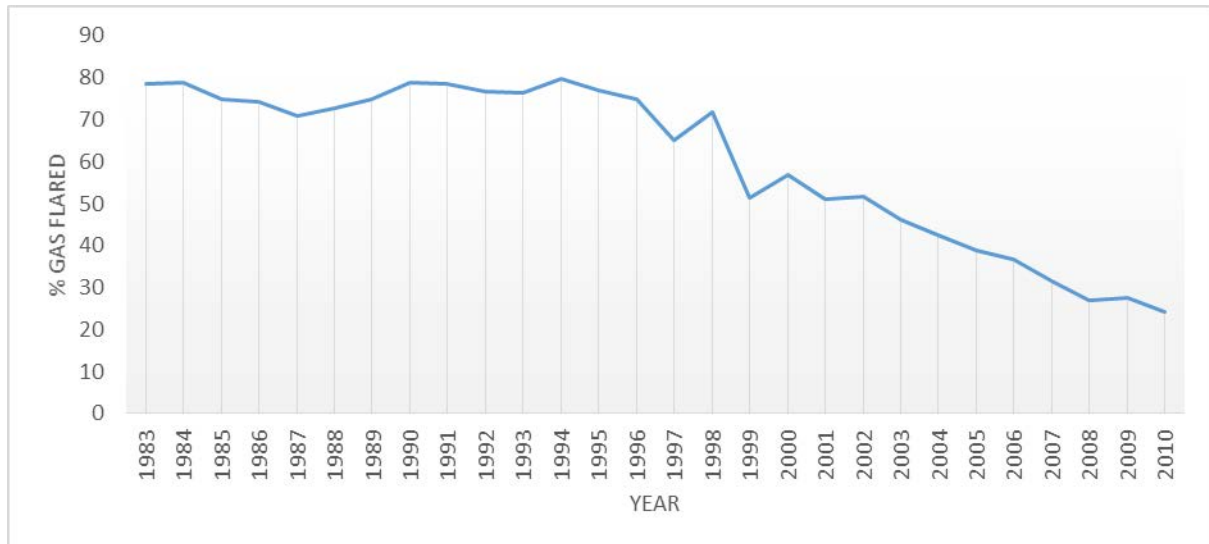
Source: Chinweze et al. (2012, p. 3)

Figure 2.15 indicates oil spill from 1983-2009 and this reveals a constant increase in the spillage, damaging the ecosystem which has a corresponding debilitating effect on the livelihood of the inhabitants of the Niger Delta. According to Chinweze *et al.* (2012) spillage activities in the Niger Delta region between 1976 and 2010 totalled 13,030, resulting in the discharge of 3,257,362.44 barrels of oil into the terrestrial, coastal and marine environment. The Niger Delta is a rainforest region and as such accounts for a large percentage of food production. Beyond the destruction of the livelihood of the inhabitants and damage to the ecosystem, this spillage (especially considering its magnitude) also threatens food security.

Gas flaring activities also contribute to environmental pollution in the Niger Delta region (see Figure 2.16). Basically, gas flaring is the burning of crude oil's associated gas and this consists of large amounts of carbon which, on its own, has a detrimental effect on the global climate. In the past two decades, gas flaring activities have not only had an adverse effect on the health of the Niger Delta inhabitants, their inability to engage in farming and fishing activities has led to increased impoverishment, thus reducing them to a humiliating status of

depending on hand-outs from oil companies who are responsible for this negative effect on their livelihood (Imobighe, 2004).

Figure 2.16: Percentage of Gas Flared in Nigeria



Source: Developed from data in Table 2.4

Figure 2.16 reveals further that the percentage of gas flared has reduced over the years. This can be attributed to an increase in awareness of the impact of greenhouse gases (GHG) emission on climate change and the impact of gas flaring on the environment (Malmborg and Strachan, 2005). In addition, gas is now being used to generate electricity and Nigerians are also more aware of the domestic uses of gas. In spite of this, Uyigüe and Agho (2007) argue that there are still about 123 flaring sites currently in Nigeria, thus making the country one of the greatest emitter of GHG.

A critical consideration of this issue leads the author to believe that inadequate attention has been paid to the environmental damage caused to the Niger Delta region especially when this region has been termed the ‘breadwinner’ of Nigeria through oil and gas activities and for supplying over 80% of the revenue (Egbegbulem, 2013). Quite clearly, this is inconsistent with the long term sustainable development of the industry. Apart from this, virtually all the IOCs are major operators of various oil fields in this region but it appears that development activities need to be stepped up within the communities to minimise environmental degradation. The deterioration of the environment is evident through depletion of resources such as water and soil, the destruction of ecosystems, and the extinction of wildlife.

However, the oil and gas industry has not been completely insensitive to the plight of the Niger Delta people. The author's own review of many oil companies reports has revealed that oil companies have tried to clear up spillages on time as well as reduce gas flaring activities. In addition, they have extended CSR activities to host communities by providing basic amenities. As visible these activities appear to be, inhabitants of the community expressed that the only way by which this gesture can have a far reaching and lasting effect on their community is if the oil companies are able to provide infrastructural projects. Besides from contributing to further employment for the local communities, this can also aid the development of a more stable future for the inhabitants (Eweje, 2007).

2.8.6 Legal

The Petroleum Industry Bill (PIB) is one of the Nigerian oil industry policies currently receiving scrutiny at different levels and by various stakeholder groups. In the history of the Nigerian oil and gas industry, no comprehensive policy framework as robust as the PIB has been developed because the PIB sets out to give an overall transformation to the entire oil industry covering every aspect; ranging from the Niger Delta crisis to a more equitable and fair distribution of the revenue that accrues from oil. The bill is also expected to address stakeholder issues that will enable a more attractive environment for investors (IOCs) and NNPC thereby creating employment. It is also expected that the PIB, when passed, would remove confidentiality and entrench accountability in the oil industry (Iledare, 2010).

The PIB combines 16 different Nigerian laws into a coherent document. This is expected to provide a better regulatory framework for the upstream and downstream sector of the oil industry and eventually revamp the Nigerian oil and gas industry. Nevertheless, the crucial question relates to the extent to which the contents of this bill will be enforced.

Between 2011 and 2013, Nigeria's reserve has not witnessed any significant increase and this has been stalled by the pending passage of the PIB. Investors and IOCs have held-on, on new investments because of certain grey areas that need to be addressed in the PIB.

2.9 CONCLUDING REMARKS

This chapter gave an overview of Nigeria's socio-cultural and economic characteristics. It started by giving an account of population growth and related trends. It further highlighted the Nigerian population density across various geographical areas of Nigeria.

The Nigerian topography was also considered extensively alongside the different geo political zones of the country and their socio-economic characteristics. The economic characteristics that were considered included the GDP (real) growth rate, the inflation rate and the industrial production rate.

The Nigerian political economy was also examined, with an overview of the geo political zones. For the northern zones, agriculture was identified as the predominant economic activity. With respect to the southern zones, oil production and exploration was considered in detail highlighting the politics and the present challenges facing the region.

Following a critical review of the Nigerian 'resource curse', which is said to have plagued Nigeria, the chapter concluded with a focused analysis of the Nigerian oil and gas industry. From this analysis it can be concluded that whilst the abundance of oil and gas resources make Nigeria extremely well-endowed, the industry is plagued by problems in the technological and environmental domains, which are not being properly addressed politically.

CHAPTER THREE

LOCAL CONTENT DEVELOPMENT (LCD) IN NIGERIA

3.1 CHAPTER OVERVIEW

This chapter examines the concept of LCD and considers key aspects from various points of view emerging from relevant literature. It further considers various definitional features and pulls them together to provide a full taxonomy. The chapter also highlights LCD particularly in the Nigerian context, giving a comprehensive historical overview of its emergence and the eventual passage of the Nigerian Oil and Gas LCD Act (NOGIC Act, 2010). The chapter concludes by clarifying the objectives of the policy as stated in the Act.

3.2 OVERVIEW OF LCD

Deciding on the choice of the technology most appropriate for developing countries has been a source of controversy for economists (Pack and Todaro, 1969). This is because, over the years, technological transfer from one country to another has been seen as a case whereby foreign technological content is taken into various countries and strictly operated by those who are the custodians of these inventions or innovations. By so doing, certain sectors are governed by non-indigenous industry ‘players’, thus leaving the survival of these sectors to a high percentage of externally dominated manpower. The question that arises from this situation is whether the development and sustainability of key sectors in an economy are fully dependent on non-indigenous firms.

This is particularly important when considering the implications in terms of economic growth and development, especially when such foreign investments are in developing countries. The question arises: What does the entire citizenship stand to benefit or acquire in terms of knowledge transfer for future development? Moreover, what socio economic benefits, in terms of poverty reduction and living standards, does this kind of arrangement bring? And what are the gains for the indigenous population if a sizeable amount of funds and profits are repatriated to other countries as a result of externally dominated capacity? Pack and Todaro (1969) also ask some of these questions, contending that the realisation of industrial growth and labour absorption pose some difficulties as long as developing countries do not have full control over the magnitude and direction of technological development. These underlying facts and questions underpin and motivate the conception of the term “LCD”.

As the world becomes more dynamic and technologically advanced, it is apparent that many countries strive to ‘carve a niche’ for themselves for the purpose of independence, self-sustainability, competitive and comparative advantage. As argued by Jamison and Jansen (2001), investment in science and technology is, by itself, an insufficient determinant of economic growth and development, as evidenced by the experience of many developed countries around the globe. Moreover, it seems to the author that sustainability can only be assured, ultimately, by developing indigenous industries, local firms and in-country capacity as the engine for sustained economic growth.

3.3 DEFINITION OF LOCAL CONTENT

The term LCD has been defined by many authors in different ways. Sometimes, it specifically relates to local sourcing and procurement of goods and services, but it could also be viewed in terms of labour and materials, which are also important elements of the LCD agenda. Coffey and Polese (1984) argue that the definition should be viewed firstly in terms of “Local Development” before narrowing it down to its ‘content’. In view of this, they explain this concept as an event or action which is initiated and/or sustained by the population of a regional or sub regional unit, leading to a process of economic growth whilst being accompanied by a structural shift which is both long term and irreversible; resulting in increased productivity of a region’s economy, and a rise in per-capita income. This structural shift is what is explained as *“a set of deliberate orientation and actions to build domestic capacity relevant for service and product delivery comparable within that industry”* (Obuaya, 2005, in Ihua, 2010, p. 5).

Along similar lines, Ballantyne (2002) draws from various definitions to explain the term ‘Local Content’ as production of a commodity or rendering of a service in a specified geographical locality which could be as little as a village or province, or on a larger perspective, a country or continent. However, this definition has been criticised in that, sometimes, the products from a particular locality may not necessarily reflect the efforts or inputs of the residents of that particular geographical area. More specifically, Ballantyne (2002, p.5) refers to a case whereby *“content produced in India may not be Indian at all, but simply cheaper to package in India than elsewhere”*. Local Content has been further referred to as *“Content that is intended for a specific local audience, as defined by its geographical location”* (Ballantyne, 2002, p.5). Holmes (2009) draws from the definition of Ballantyne (2002) and expresses local content as *“the expression of the locally owned and adapted*

knowledge of a community – where the community is defined by its location, culture, language, or area of interest” (Holmes 2009 p.2). In addition to the consideration of the term “local content” from the local development point of view of various authors, Bartlett and Goshal (1998) suggest that multinational firms especially, should operate a decentralised and nationally self-sufficient structure which would enhance the operation of local capacity in the various geographical locations where they operate. They contend that local content is “*the identification and exploitation of local opportunities, and the development and retention of knowledge within national units*” (Bartlett and Goshal, 1998, p. 3).

From another perspective, local content has been considered beyond the in-house development angle, and viewed from a customer-client perspective. Within this logic, LCD is an opportunity to build a sustainable service culture and capabilities locally, through key local personnel and management (Obuaya 2005 in Bakare 2011). In other words, this can be seen as a way of developing good bilateral relations but with the use of in-house manpower and local skills.

Accenture (2008) argues that irrespective of how different countries put forward the issue of local content, the main thrust is value addition capacity. Accordingly, Accenture (2008 p.5) defines local content as “*the value added to a national economy through the localised production of select services and key materials, equipment and goods related to target sectors of the economy*” (upon which such a nation is dependent). In a similar vein, PETRAD. (2009) argues that enhancing indigenous content is fundamentally based on value addition, laying emphasis on training and development of indigenous capacity as the key to achieving local content by “*maximising national value creation*” (PETRAD, 2009, p.3).

More emphasis is being placed on local content as the main source to an economy’s value addition, especially because it cuts across various other sectors of an economy. Neff (2005) explains Local Content as value added activities taking place in a resource producing country. Recently, the Australian Chamber of Commerce and Industry (ACCI) issued a report on Local Content Advocacy as a catalyst to economic growth emphasising that local content is “*the total value added to a national economy through the localised production of select services and key materials, equipment and goods related to target sectors of the economy*” (upon which such nation is dependent) (ACCI, 2011, p. 2). Wells and Hawkins (2010) note that the term “*local content*” is mostly used in the oil and gas industry, but that this is also peculiar to other industries in terms of value addition.

Another point of view from which Local Content is being viewed is the procurement /supply chain angle. Another way of promoting local content is mandating multinationals and International Oil Companies (IOCs) to procure their equipment from indigenous suppliers who would effectively compete favourably with foreign companies in quality, cost and timeliness. The Ghanaian government in its policy document mandates multinationals to utilise indigenous suppliers who have up to 10% higher costs than the competition if the supplier has met the quality and timeliness criteria (Ministry of Energy, Ghana, 2010).

Following this, Local Content can also be defined as a “*Contractual Commitment of purchasing local goods and services in a competitive basis*” (ANP, 2010 p.3). This definition highlights the fact that competition is encouraged among suppliers. This conception, in turn, is expected to generate high standards and increased local content. In addition, this promotes global interest participation in enhancing opportunities for indigenous businesses to also participate in the supply chain of multinationals and IOCs projects (Esteves and Barclay, 2011).

Warner (2011) also defines Local Content from a procurement perspective. He explains that the definition of content is mainly based on competitiveness and protectionism where he refers to competitiveness as “*the ability of a domestic supplier or contractor to supply goods or services in an international market*” (Warner, 2011, p.11) while protectionism is “*the intended or unintended economic policy of restraining trade between countries through methods such as tariffs (taxes) on imported goods, or restrictive import quotas and regulations designed to discourage imports*” (Warner, 2011, p.11). Having explained these two terms, he defines local content as “*the composite value contributed to the National economy from the purchase of bought-in goods and services*” (Warner, 2011, p.8). In an attempt to combine the value addition and local procurement aspects, Belderbos *et al.* (2000) defined local content as “*the value added of manufacturing subsidiaries (in-house production of components) and the value of components and materials sourced from local (Japanese and third country owned, as well as locally owned) suppliers*” (Belderbos *et al.*, 2000, p.14).

Another facet of local content is capacity building, which refers to enhancing indigenous competencies and skills through training and other development programmes. Emphasising this feature, local content is defined as “*the development of local skills, technology transfer, use of local manpower and local manufacturing*”. (Arizona-Ogwu, 2007, p.1). Furthermore, the policy has been explained as an instrument to transform the informal sector and defined

as “an initiative to help develop local capacity building in sectors where international participation is predominant” (Bakare, 2011, p.83). Ultimately, the idea behind capacity building is the enhancement of in-country manpower through utilisation of indigenous skills.. Similarly, Ihua *et al.* (2009) explain local content as a policy established for industry transformation through the development and utilisation of in-country capacity and indigenous capability in various areas including manpower development, facilities and infrastructure, to enhance a higher representation of indigenous participants. Ovidia (2012, p. 2) describes Nigerian local content as “a set of policies designed to encourage the utilisation of Nigerian human and material resources and services in the Nigerian oil and gas industry.” This definition highlights the domiciliation of service activities within the host country in order to enhance in-house capacity building.

From an economic point of view however, local content has been explained as a government policy to help host countries regulate Foreign Direct Investment (Qiu and Tao, 2001). Following from this, Lahiri and Ono (1998) explain that this regulation policy, which requires multinational firms to use a certain amount of domestic inputs and manpower, has also been applied in many developed nations in addition to developing countries. They cite an example where France refused to accept Nissan Bluebird cars because of low European Content in the manufacture of this automobile. The policy of local content has been adopted in various countries like Brazil, Norway, Trinidad and Tobago and Kazakhstan, and in different sectors including car manufacturing, mining and oil and gas amongst others.

In Nigeria this policy has been adopted in the oil and gas sector with an official definition from the Nigerian Local Content Bill as the “*quantum of composite value added or created in the Nigerian economy through the utilisation of Nigerian human and material resources for the provision of goods and services to the petroleum industry within acceptable quality, health, safety and environmental standards in order to stimulate the development of indigenous capabilities*”. (NOGIC Act, 2010, p. 26)

Local Content, according to Tam Brisibe (former Nigerian House of Representatives member and Chairman of Local Content Committee) means different things to different people (Brisbe, 2011). This view is corroborated by the review presented earlier, though the common denominator of the various definitions is value addition. From all these definitions from various authors, the local content policy can be summed up as a policy instrument geared towards growth and development, through the utilisation of domestic capacity and local

personnel, to produce both intermediate and final products which would facilitate enhancement of domestic capacity, thus leading to value addition in an economy by indigenous participation (mainly driven by indigenous employment and job creation).

Table 3.1 provides an overview of the definitional features of local content based on the work by various authors.

Table 3.1 Key definitional features of Local Content

Source	Definition	Definitional feature
Coffey and Polese (1984, p.7) lhua (2010, p. 5).	An event or action which is initiated and/or sustained by the population of a regional or sub regional unit, until leading to a process of economic growth whilst being accompanied by a structural shift which is both long term and irreversible; resulting in increased productivity of a region's economy, and a rise in per-capita income of its population. A set of deliberate orientation and actions to build domestic capacity relevant for service and product delivery comparable within that industry.	Local Development
Ballantyne (2002, p. 4)	Production of a commodity or rendering of a service in a specified geographical locality which could be as little as a village or province, or on a large perspective which is a country or continent.	
Ballantyne (2002, p.5)	Content that is intended for a specific local audience, as defined by its geographical location.	
Bartlett and Goshal (1998, p. 3)	The identification and exploitation of local opportunities, and the development and retention of knowledge within national units.	
Bakare (2011, p. 85).	Local Content Development is an opportunity to build a sustainable culture of service culture and capabilities locally, which would exceed customers' expectations and comparable to international standards, through key local Personnel and Management.	Customer-client relationship development
Accenture (2008, p. 5) Oil for Development (2009, p. 3). ACCI (2011, p 2)	The value added to a national economy through the localised production of select services and key materials, equipments and goods related to target sectors of the economy (upon which such a nation is dependent). Maximising national value creation. The total value added to a national economy through the localised	

<p>Wells and Hawkins (2010, p. 65)</p> <p>NOGIC Act (2010, p. 26)</p> <p>Neff, (2005, p.2)</p>	<p>production of select services and key materials, equipment and goods related to target sectors of the economy (upon which such nation is dependent)".</p> <p>The local (national) added value in transactions occurring throughout a contractor's supply chain.</p> <p>Quantum of composite value added or created in the Nigerian economy through the utilisation of Nigerian human and material resources for the provision of goods and services to the petroleum industry within acceptable quality, health, safety and environmental standards in order to stimulate the development of indigenous capabilities.</p> <p>Local Content refers to value added activities taking place in a resource producing country</p>	<p>Value addition</p>
<p>ANP (2010, p.3).</p> <p>Warner (2011, p.8).</p> <p>Belderbos <i>et al.</i> (2000, p.14)</p>	<p>Contractual Commitment of purchasing local goods and services in a competitive basis.</p> <p>The composite value contributed to the National economy from the purchase of bought-in goods and services.</p> <p>The value added of manufacturing subsidiaries (in-house production of components) and the value of components and materials sourced from local (Japanese and third country owned, as well as locally owned) suppliers.</p>	<p>Local Procurement</p>
<p>Arizona-Ogwu (2007, p.1)</p> <p>Bakare (2011, p.83).</p> <p>Ihua <i>et al.</i> (2009, p. 164)</p> <p>Ovadia, (2012 p.2)</p>	<p>The development of local skills, technology transfer, use of local manpower and local manufacturing.</p> <p>An initiative to help develop local capacity building in sectors where international participation is predominant.</p> <p>A policy established for industry transformation through the development and utilisation of in-country capacity and indigenous capability in various areas including manpower development, facilities and infrastructure, to enhance a higher representation of indigenous participants.</p> <p>Local content, (Nigerian content) is a set of policies designed to encourage the utilisation of Nigerian human and material resources and services in the Nigerian oil and gas industry.</p>	<p>Capacity building</p>
<p>Qiu and Tao (2001, p.1).</p>	<p>A government policy or instrument in developing countries which is put in place to regulate Foreign Direct Investment.</p>	<p>FDI Regulation</p>

Source: Researcher's own table, (2012)

3.4 WHY LOCAL CONTENT?

While Teece (1979) argues that successful growth and development of nations is highly dependent on the level of technology transfer, it is important to monitor the patterns through which this transfer occurs. For example, Krugman (1979) opines that technology transfer to developing countries plays an important role in determining the pattern of world trade. Saggi (2002) argues that technological transfer to local firms by multinationals is common place and highly beneficial, citing an example of the engineering industry. On the other hand, Rugmann and Collinson (2002) warn that as much as countries would want to transfer technology and utilise in-country manpower, consideration of the quality of the final product must remain paramount. They further cite an instance where Nike, the renowned sports company that produces in Vietnam using indigenous capacity, restricts technology to experts in the company, so as to achieve uncompromising quality of final products.

Weighing those two sets of assertions, various reasons have been adduced for LCD. Ono and Lahiri (1998) examine the impact of the local content from an employment perspective. They argue that Foreign Direct Investment (FDI) is a catalyst to indigenous employment, especially when there are laid down rules by the host countries on how the multinationals should operate. Radosevic *et al.* (2003) report that the relationship between FDI and employment is far from being achieved, being highly dependent on a major role to be played by the government in enacting instruments that would facilitate its achievement. Barrell and Pain (2011) explain that foreign owned companies account for a rising proportion of employment in developing countries, but then there is still no clear evidence that the living standards of the residents of these host economies have been raised above any level that would have been achieved in the absence of such investments. It follows that policy instruments like 'local content policy', which would state clearer terms to enhance a "win-win" situation between multinationals and host economies could be beneficial. In addition, Qiu and Tao (2001) posit that indigenous employment can be regulated with policies of LCD because this tends to check excesses, and regulate foreign investors' employment policies in the host countries.

Yabuchi (2002) examines the effect of local content policies from a productivity perspective. He argues that in addition to the fact that Local Content Requirement (LCR) may decrease urban unemployment, this policy is likely to increase the output of intermediate goods and then the welfare of developing economies. Moreover, since the policy mandates that a certain

percentage of domestic intermediate inputs be used in the production of final products, there would be some sort of guarantee for protection for producers of intermediate goods (Chao and Yu, 1993). When content protection laws exist and are fully implemented, they are expected to enhance foreign capital flows. This is one of the major high points in the Nigerian local content bill which states that *“all operators and project promoters shall consider Nigerian Content when evaluating any bid where the bids are within 1% of each other at commercial stage and the bid containing the highest level of Nigerian Content shall be selected provided the Nigerian content in the selected bid is at least 5% higher than its closest competitor”*. (Section 14, NOGIC Act, 2010, p. 7)

The main reason for this is to ensure that there is a flow of foreign capital which would, in turn, enhance the availability of loan funds to develop the upstream and midstream sectors.

3.5 THE NEED FOR LOCAL CONTENT POLICY IN NIGERIA

The development of Nigerian Local Content has been in existence for a while, though the emphasis on the need for it to have legal backing did not emerge until the early 2000s. However, certain government documents had plans relating to the development of Nigerian content in the oil and gas industry since the 1960s, for example the Petroleum Act of 1969.

In 1996, Chief Don Etete, a former Minister of Petroleum Resources in Nigeria issued a statement in Warri Globestar yard (Niger Delta region of Nigeria) which set the course for the development of Local Content . He stated that *“foreign suppliers would have to bid and supply through a local subsidy or agent”* (Nigeria Oil and Gas, 2011, p.1). This consideration stems from the fact that Nigerian citizens were not benefiting much in terms of contract awards and employment from investments by foreign firms. All services ranging from manufacturing and fabrication, repairs and servicing, maintenance and engineering designs, were carried out outside Nigeria thus depriving Nigerians from reaping benefits and acquiring practicable knowledge from the development of the sector (Nwaokoro, 2011). Moreover, the Niger Delta region which had the concentration of the natural resource (crude oil) was being environmentally degraded as a result of oil exploration, for example through spillage and flooding, thus causing inhabitants of these communities constant displacement from their residence and, consequently, having no form of compensation for their displacement and community land degradation. This has led to resistance against the Nigerian state and multinational oil companies thus causing the region to be generally unstable, with pockets of insurrection and armed rebellion (Ikelegbe, 2005).

3.6 HISTORY OF LOCAL CONTENT POLICY IN NIGERIA

The history of local content in Nigeria is traceable to Section 1 of the Petroleum Act of 1969 (as amended), which states that “*the entire ownership and control of all petroleum in, under or upon any lands to which this section applies shall be vested in the state*” (Petroleum Act, 1990, p. 2).

Section (1) applies to all land (including land covered by water) which

- is in Nigeria; or
- is under the territorial waters of Nigeria; or
- forms part of the continental shelves; or
- forms part of the Exclusive Economic Zone of Nigeria.

This expresses sole ownership and control over the industry regardless of the fact that experts from foreign countries may be required at various points to provide services or operate directly in the industry. This Act also mandates owners of mining leases to ensure that at least 75% of the employees ranging from managerial, professional to supervisory cadre are Nigerians within 10 years from the time which the lease was granted. Furthermore, the Act states that each of these cadres should consist of at least 60% Nigerians.

This Act was later amended and referred to as the Petroleum (Drilling and Production) (Amendment) regulations which sought to develop the concept of local content within the oil and gas sector. By this, holders of oil mining and oil prospecting licences were to submit a programme to the minister within 12 months of the approval of their licences, a detailed programme which entails the recruitment and training of Nigerians. This was then followed by the Joint Operating Agreement (JOA) and Production Sharing Contracts effective from 1971 (Ameh, 2006), which saw the Nigerian government acquiring 33.3% participation interest in AGIP’s operation, which was based upon a concession agreement with the government, upon commercial discovery of oil (Chukwu, 2009). This followed on until 1979, at which time the government had acquired participation interest of 60%, through the Nigerian National Oil Corporation (NNOC) which was established in 1972.

The Petroleum Training Institute (PTI) Act 1972 propagated the establishment of the Petroleum Training Institute (PTI) in 1973, which is located in Effurun, Niger Delta region of

Nigeria. Although the Institute was established as a pre requisite for the membership of the Organisation of Petroleum Exploring Countries (OPEC), it was also set up to train Nigerians to meet the requirement for the labour force for the Nigerian oil and gas industry. The objective was and still is *“to deliver quality education and provide efficient technological manpower to build a competent and committed workforce that will sustain and service the continental oil and gas industry”* (PTI Nigeria, 2011, p.1).

Its mission statement explains how the objective of this institution is to be achieved: *“to provide competent technological manpower through quality training, research and consultancy for the petroleum and allied industry”* (PTI Nigeria, 2011, p.1). In line with this objective and mission statement, PTI offers programmes ranging from Certificate to Higher National Diploma (HND) from various departments which have been identified as directly relevant to the oil and gas industry. These include engineering, environmental technology, business studies, geosciences and gas processing. The Institute has turned out several graduates who form part of the labour force in the Nigerian oil and gas industry.

In 1973, the Gulf Oil Company Fund was repealed by the promulgation of Act No. 25 (PTDF Act) which established the Petroleum Technology Development Fund (PTDF) specifically to build capacity, capability and competence as well as indigenous technological development through training of Nigerians in various subject areas.

The development of the Marginal Field Programme as contained in the Petroleum (Amendment) Decree No. 23 of 1996 was also geared towards the development of local content. A Marginal Field is any field that has reserves booked and reported annually to the Department of Petroleum Resources (DPR) and has remained unattended to for a period of ten years (Ayodele and Frimpong, 2003). Paragraph 16A of the amended Act reads as follows:

16A. (1) The holder of an oil mining lease may, with the consent of and on such terms and conditions as may be approved by the President, farm-out any marginal field which lies within the leased area.

(2) The President may cause the farm-out of a marginal field if the marginal field has been left unattended for a period of not less than 10 years from the date of the first discovery of the marginal field.

(3) The President shall not give his consent to a farm out or cause the farm – out of a marginal field unless he is satisfied

(a) that it is in the public interest so to do, and in addition, in the case of a non producing field, that the marginal field has been left unattended for an unreasonable time, not being less than 10 years; and

(b) that the parties to the farm-out are in all respect acceptable to the Federal Government.

(4) For the purpose of this paragraph–

“Farm-out” means an agreement between the holder of an oil mining lease and a third party which permits the third party to explore, prospect, win, work and carry away any petroleum encountered in a specified area during the validity of the leases;

“Marginal field means such field as the President may, from time to time, identify as a marginal field.”

Source: (Petroleum (Amendment) Decree No. 23 1996, p. 1)

This law was promulgated by the Nigerian Government to help recover marginal fields from various owners who were mostly International Oil Companies (IOCs) and allocate them to indigenous firms. Furthermore, it aimed at increasing the government’s take on undeveloped acreages. The conditions set out for this allocation were such that current holders of oil prospecting licences (OPLs) and Oil Mining Licences (OMLs) were excluded from applying, owning, operating or acquiring participatory interests in any marginal field (Emole, 1996). However, indigenous companies that desired allocations of these oil fields were eligible if they relinquished their OPLs and OMLs. In view of these, IOCs were made to farm-out these oil fields only to citizens of Nigeria who owned registered and incorporated companies, with sound knowledge of the industry as well as financial and technical capacity and capability. Invariably, this decree prevents IOCs already operating in Nigeria from farming-in because

they would have to relinquish their licences for probably smaller quantities of oil wells. This is set to enable Nigerians to become more involved in the upstream and midstream sectors of the oil and gas industry, thereby driving increasing local content. However, to create a “win-win” situation, the guideline provides that the farmee (the person who the marginal field is farmed-out to) may take on a foreign technical partner. Yet, this partner should only have a maximum of 40% equity. Also in a bid to drive local content, the farmee is mandated to develop the oil field up to point of production within 5 years (Emole, 1996).

Having operated this programme as an offshoot of the Petroleum Amendment Act in 1996, a National Committee on LCD was established in the Federal House of Assembly in 2003 (during the regime of President Obasanjo) this was headed by Hon. Tam Brisibe. The Committee was charged with the responsibility of developing a local content bill which was eventually submitted to the National Assembly in 2005 (Nwaokoro, 2011). Meanwhile, a separate division to see to the daily running of the affairs of LCD was established by NNPC, this was referred to as Nigerian Content Division (NCD) pending reviews of the local content bill which was submitted in 2005 during the administration of Olusegun Obasanjo. The NCD issued 14 short term directives of the Nigerian Content, these directives were increased to 23 in 2006 and the main thrust of these directives was directed to the IOCs to completely domicile exploration and production activities covering areas ranging from welding and fabrication, to all aspects of exploration.

3.6.1 The Local Content Bill

The Local Content Bill was initially passed by the Senate in 2006 but was not ratified by the House of Representatives. As a result of this, it was not enacted into law by the then administration within which the bill was sponsored. A year after the new administration (2008), the bill was revived again and this successfully passed through the senate a second time. The 2008 version was generally seen as an improvement from that of 2005 because it sought to establish general principles to ensure international competitiveness (Nwaokoro, 2011).

The bill then gained more support also because Goodluck Jonathan (the current President of Nigeria, at the time of writing) was the acting President following the incapacitation of Musa Yaradua who was the President at that time (Nwaokoro, 2011). The Bill eventually passed through the House of Representatives in March 2010, and was successfully signed into law

on April 22, 2010 and renamed as “Nigerian Oil and Gas Industry Content Development Bill 2010” with the acronym NOGIC Act 2010.

This Act established the Nigerian Content Development and Monitoring Board (NCDMB) as an independent corporate entity to set procedures to guide, monitor, coordinate and implement the provisions of the Act as provided in Sections 4, 69 and 70 of the policy document which provides thus:

4. The Nigeria Content Monitoring Board (“the “Board”) established in accordance with this Act shall make procedure guides and monitor, coordinate and implement the provisions of this Act.

69. (1) There is hereby established a body to be known as the Nigerian Content Monitoring Board (in this Act referred to as “the Board”) which shall have the functions and powers conferred on it by this Act.

(2) The Board shall be a body corporate with perpetual succession and a common seal and shall have powers to sue and be sued.

70. The functions of the Board shall be to -

(a) implement the provisions of this Act;

(b) implement the Regulations made by the Minister in relation to any aspect of this Act;

(c) supervise, coordinate, administer, monitor and manage the development of Nigerian content in the Nigerian oil and gas industry;

(d) supervise, coordinate, administer and monitor the implementation and development of Nigerian content as specified in schedule A to this Act in the operations of operators, contractors and all other entities in the Nigerian oil and gas industry;

(e) appraise, evaluate and approve the Nigerian content plans and reports submitted to the Board in compliance with the provisions of this Act;

- (f) award Certificate of Authorization and conduct reviews of the Nigerian content plans and reports submitted to the Board in compliance with the provisions of this Act;*
- (g) administer and operate the e-market place and Joint Qualifications Systems set up in accordance with the provisions of this Act;*
- (h) assist local contractors and Nigerian companies to develop their capabilities and capacities to further the attainment of the goal of developing Nigerian content in the Nigerian oil and gas industry;*
- (i) make procedure guides for the implementation of this Act and ensure compliance with all the provisions of this Act;*
- (j) monitor and coordinate the Nigerian content performance of all operators in accordance with the provisions of this Act;*
- (k) make auditing procedures and conduct regular audits for purposes of monitoring and implementing compliances with the provisions of this Act;*
- (l) provide guidelines, definitions and measurement of Nigerian content and Nigerian content indicator to be utilized throughout the industry;*
- (m) conduct studies, researches and investigations that may further the attainment of the goal of developing Nigerian content in the Nigerian oil and gas industry;*
- (n) organize conferences, workshops, seminars, symposia, trainings, road shows and other public education for a to further the attainment of the goal of developing Nigerian content in the Nigerian oil and gas industry;*
- (o) delegate any of its functions to any agents or operatives appointed by the Council;
and*
- (p) do legally anything necessary to be done to facilitate the carrying out of its functions.*

Source: NOGIC Act, 2010,p.5

In spite of the successful passage of the Bill, the level and terms of the Board's independence have been questioned. This is because the Act clearly establishes that the Board's task is to implement the regulations made by the Minister of Petroleum Resources, which questions the Board's independence. It further provides that the Minister may issue to the Board directives in relation to Nigerian Content Development with respect to application, administration and implementation of the Act (Nwakoro, 2011).

3.6.2 The Nigerian Local Content Policy Thrust and Policy Objectives

Worldwide, there is a yearning for the development of in-country expertise and competence (Ono and Lahiri, 1998). Countries are beginning to awake to the fact that specialising in areas where they have competitive advantage can only be achieved through the deployment of a country's competencies (Hofer and Schendel, 1978; in Reed and Defillippi 1990). For example, India specialises in Information Technology, Bahamas in the Caribbean is known for tourism whilst Kenya is known for wildlife and game reserve. Wright *et al.* (1994) argue that the sustainability of a country's competitive advantage and income generation is highly dependent on the development of its human resources (skilled labour). Similarly, Lado and Wilson (1994) argue that the development of competitive advantage through utilisation of indigenous human resources is an effective cost reduction mechanism. Hence, LCD is the key to sustainability of any economy.

In line with the local content Act, its main thrust is value addition to the Nigerian economy as stated in the definition of local content contained in the NOGIC Act. Having realised that the 'engine' of the Nigerian economy resides in the oil and gas sector, the Nigerian government aims to utilise in-country human and material resources to add value to the country's economy. However, in achieving value addition, specific objectives are contained in the NOGIC Act. These objectives which are examined in more detail in the following sub-sections are:

- First Consideration in Exploration and Contractual Rights
- Retention of legal and financial services of the operators to Nigerian firms
- First Consideration for Employment and Training
- Research and Development
- Technology Transfer

3.6.2.1 First Consideration in Exploration and Contractual Rights

One of the objectives of this policy is to ensure that Nigerians are first considered in the award of exploration and contractual rights. This objective is contained in Section 3(1) (NOGIC Act, 2010, p. 4). However, in awarding this, quality, cost and time delivery are major features to be considered within the competition and such reasons rest on the assertion of Warner (2011) who states that LCD hinges on development of local capability. This is

because operators are highly concerned with these three factors before contracts can be awarded. This is the reason why Shell Nigeria Exploration and Production Company (SNEPCo) worked closely with S.C.C Limited to enhance their production and capability before awarding a \$50 million contract to the indigenous company (Nwapa, 2012). In addition, SNEPCo is training personnel of the Nigerian Institute of Welding in Mechanical and Corrosion laboratory testing.

Section 3(2) of the NOGIC Act (2010) clearly sets out the conditions guiding contract awards. Accordingly, indigenous companies must demonstrate ownership of equipment and availability of Nigerian personnel and capacity to execute both land and swamp area projects. This statement indicates that although the utilisation of indigenous capacity is of paramount importance to the government, the standard set would not be lowered in any way in a bid to accommodate local participation.

3.6.2.2 Utilisation of indigenous human and material resources

The utilisation of indigenous human and material resources is one of the main objectives of the NOGIC Act. Regarding utilisation of indigenous human resources, the Act mandates the retention of legal and financial services of the operators to Nigerian firms. In the administration of legal services, the operators shall submit their Legal Services Plan (LSP) every six months to the Board as contained in Section 51 (2). The LSP is a comprehensive report which covers areas ranging from budget, legal services and future plans. In the case of financial services however, Section 52 of the Act explains that all financial services with regards to the operator's business are to be carried out by financial firms in Nigeria, with the exception of those that the Board deems impracticable (NOGIC Act, 2010, p. 11). This also includes insurance services. By this, the funds available would be accessible in terms of loans which can aid the development of indigenous/domestic firms. Another advantage is that, when more money is available for loan transfers, interest rate on loans will be affordable by these firms.

In the same vein, Section 12 mandates operators to submit a detailed plan which will set out how first consideration will be given to Nigerian goods and services.

3.6.2.3 First Consideration for Employment and Training

Various targets have been set for the level of achievement of local content which have been highlighted in the earlier subsections, this is in line with Section 28 (1) which states that: “*subject to section 10(1)(b) of this Act, Nigerians shall be given the first consideration for employment and training in any project executed by any operator or project promoter in the Nigerian oil and gas industry*” (NOGIC Act, 2010, p. 6). This is to ensure that these targets are achieved within the time period set. The policy document extends this also to training having identified that capable manpower needs be in existence before it can be employed.

In the past, there have been agitations by the residents of the Niger Delta region for employment in the oil industry (Ebeku, 2008). Furthermore, Osaghae (1995) explains that the Niger Delta people’s most critical demand is to participate actively in the Nigerian oil and gas industry in terms of employment. Following this, operators like Shell, Total and Chevron have embarked on training personnel in technical areas of both upstream and downstream sectors ranging from exploration to pipe welding.

Section 29 also provides that operators should have a detailed Employment and Training Plan (E&T Plan) which should be submitted to the Board. This document would help the Board to assess whether the operators are achieving the targets set in the report. Also, as contained in the E&T Plan, operators shall state clearly succession plans for positions that are not held by Nigerians by providing the necessary training and avenue for Nigerians to understudy the expatriate for a minimum of four years, so as to make the position “*Nigerianised*” (available exclusively to Nigerians).

3.6.2.4 Research and Development

The Act also provides that adequate Research and Development (R & D) should be carried out by the operators. This does not necessarily mandate the operators to engage in this directly but they are required to submit an R&D Plan detailing how this is to be carried out, which can involve engaging Research Institutes, Universities, etc.

The R&D Plan is also to contain other development initiatives as well as expected expenditure for R & D. Currently, the National Petroleum Research Centre (NPRC) engages in R&D in the Nigerian Oil and Gas Industry, with a particular focus on promoting capacity building and Nigerian content (Nwokeji, 2007), but then, this institution cannot cover research activities in this sector in its entirety. The indirect inclusion of operators (in funding,

for example) in this activity is intended to boost the research base which would also be useful to operators alike. The Act provides that, on a quarterly basis, the Board shall appraise the operator's R&D plan to assess the operator's level of performance by comparing the achievement with the plans. These are contained in sections 36 -39 of the bill which states:

36. *The minister shall make regulations with requirements and targets for the growth of research and development in the Nigerian oil and gas industry*

37. *For every project for which a plan is submitted, an operator shall carry out a programme and make expenditure, to the satisfaction of the Board, for the promotion of education, attachments, training, research and development in Nigeria in relation to its work programme and activities.*

38. (1) *The operator shall submit to the Board and update, every six months, the operator's Research and Development Plan (R and D plan)*

(2) *The R and D Plan shall*

(a) *outline a revolving three to five year plan for oil and gas related research and development initiatives to be undertaken by Nigeria, together with a breakdown of the expected expenditures that will be made in implementing the R and D Plan; and*

(b) *provide for public calls for proposals for research and development initiatives associated with the operator's activities.*

39. *The operator shall report to the Board, on quarterly basis, with respect to its R and D activities and the Board shall compare these activities to the operator's R and D Plan*

Source: NOGIC Act, 2010, p. 13

3.6.2.5 Technology Transfer

The constant improvement of technology is a valued necessity for advancement in such an industry as oil and gas. This is because, it is capable of improving efficiency, hence acting as a cost saving instrument. Efficiency is a key issue which requires constant development especially with operators because it is a required necessity for IOCs in the upstream sector (Tobi, 2008). Worrell *et al.* (2000) assert that although there have been efficiency improvements in the energy sector because of advanced technology in the past decades, there are still more opportunities for further improvement.

Technology transfer simply involves movement of technical knowledge within and/or between organisations. As part of the objectives of the policy, operators are required to put in place adequate technological transfer measures and this is key to the succession plan highlighted in the NOGIC Act. Section 43-46 of the Act states thus:

43. Each operator shall carry out a programme in accordance with the country's own plans and priorities, to the satisfaction of the Board, for the promotion of technology transfer to Nigeria in relation to its oil and gas activities.

44. The operator shall submit to the Board annually a plan, satisfactory to the Board, setting out a programme of planned initiatives aimed at promoting the effective transfer of technologies from the operator and alliance partners to Nigerian individuals and companies.

45. The operators shall give full and effective support to technology transfer by encouraging and facilitating the formation of joint ventures, partnering and the development of licensing agreements between Nigerian and foreign contractors and service or supplier companies agreements for all such ventures or alliances shall meet the requirements of Nigerian content development to the satisfaction of the Board.

46. The operator or project promoter shall submit a report to the Board annually describing its technology transfer initiatives and their results and the Minister shall make regulations setting targets on the number and type of such joint venture or alliances to be achieved for each project.

Source: NOGIC Act, 2010, p. 14

In summary, these sections provide that operators should have written plans for technology transfer, which should be submitted to the Board and assessed annually to compare results and achievements against the stated plans (NOGIC Act, 2010). The Act also promotes technology transfer in Section 45 of the NOGIC Act (2010), which mandates operators to give full and effective support to indigenous companies through joint ventures partnering and licensing agreements.

3.7 LOCAL CONTENT STRATEGY FOR NIGERIA

One of the main strategies to ensure the development of Nigerian Content is the adoption of a policy for LCD. Following the adoption of this policy, there is a need to ensure that the necessary infrastructure is in place for its smooth running. Neff (2005) reiterates that the oil and gas industry clearly dominates the Nigerian economy, hence there is a need to develop a local content policy which must be part of a comprehensive industrial and economic growth strategy. In addition, this should include a plan for domestic capacity building and infrastructural development, as well as a regime of expectations and obligations on the oil and gas industry operating in the country.

Against this backdrop, the policy has set targets for local content achievement across different areas to be measured at various intervals to ascertain levels of achievement. The areas include employment, training, fabrication and construction, materials and procurement, well and drilling services, research and development, and finance and insurance. The specific targets for each of these areas are detailed in the policy document with a realistic schedule for meeting them on the short, medium and long term.

The establishment of the Nigerian Content Development and Monitoring Board (NCDMB) as a body existing independently of Nigerian National Petroleum Company (NNPC), Department of Petroleum Resources (DPR) and National Petroleum Investment Management Services (NAPIMS) to monitor and implement the policy is part of the strategy to develop local content. The policy clearly explains that the Board's responsibility is to guide, monitor and coordinate the establishment of the policy to achieve LCD objectives.

Apart from serving as a regulatory agency, the Board also serves as a public office which interfaces between the IOCs and the potential local vendors through the Joint Qualification System (JQS). The Board has also set up the Nigerian Content Consultative Forum (NCCF) which provides a platform for information sharing and collaboration in the Nigerian Oil and Gas industry with respect to upcoming projects, information on available local capabilities and other policy proposals that are relevant to Nigerian Content Development (NOGIC Act, 2010). The Joint Qualification System (JQS) also serves as a data collation and convergence system used for validating stakeholders' information in the Nigerian Oil and Gas Industry, as well as individuals with skills, certifications and relevant qualifications required in the industry.

In spite of the fact that local capacity development is paramount, the government acknowledges that there is still a need to accommodate foreign investors who can partner with indigenous investors for knowledge and technological transfer, as well as provisions for capital investment under joint partnerships. In view of this, multinationals operate with the Nigerian National Petroleum Corporation (NNPC) under various partnerships which include Joint Ventures, (JVs) Production Sharing Contracts (PSCs) and Risk Service Contracts (RSCs).

3.8 CONCLUDING REMARKS

The chapter outlined key aspects of LCD drawing from definitions by various authors across several disciplinary fields and/or industries. Emphasis was also laid on the development of local content in Nigeria, explaining the intention of LCD. Particular attention was given to the development of the NOGIC Act which was examined systematically from inception to final sign off. Following this, the objectives of the policy were considered.

CHAPTER FOUR

A REVIEW OF LOCAL CONTENT DEVELOPMENT IN OTHER COUNTRIES

4.1 CHAPTER OVERVIEW

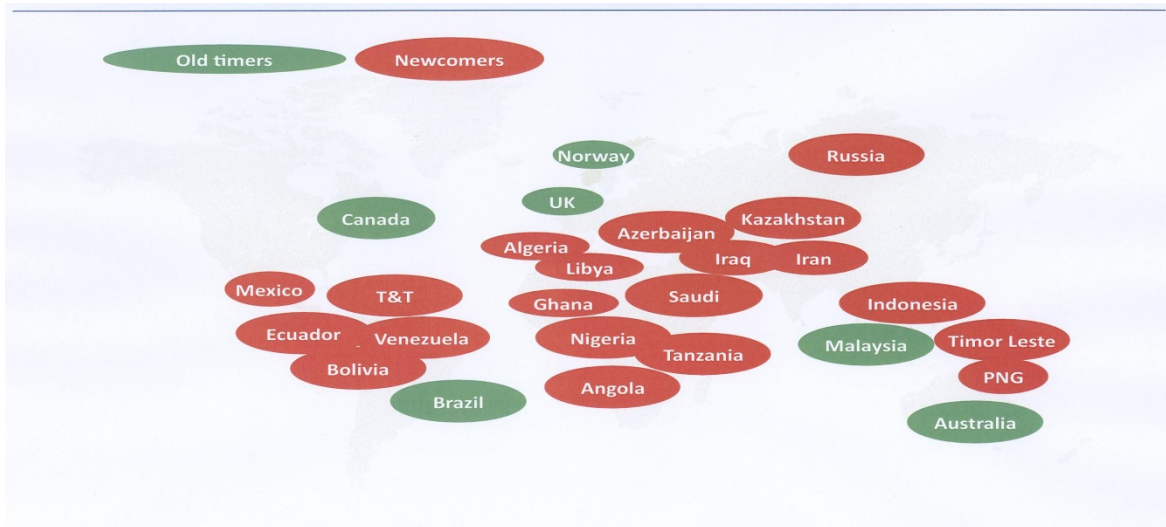
This chapter examines the LCD experience of other countries by considering various factors which would help gauge a clear outlook of these countries in terms of indigenous content development. This investigation is aimed at enabling a critical analysis and evaluation of their approaches, methods and models. It outlines critical success factors as well as lessons learnt from the analysis of the international experience of LCD (in the selected countries). The chapter concludes with an analytical table showing a summary of LCD activities in each of the countries examined.

4.2 THE EXPERIENCE OF LCD IN OTHER COUNTRIES

This section critically reviews LCD activities and experiences in other countries, stating the main objectives of the policy and brief history. It further highlights the sectors where the policy has jurisdiction and considers the operational efforts of implementation.

Six countries have been considered based on Olsen (2010) classification of newcomers and old-timers as seen in Figure 4.1. For old timers, the countries considered are Brazil, UK and Norway while the newcomers are Trinidad and Tobago, Angola, and Indonesia. The rationale for the selection of these countries is based on the researcher's intention to form a global view of the policy by means of a sample that can be considered to be representative in terms of the countries' experiences in different continents, and at different stages of socio-economic development (in addition to local content development). On this account, the newcomers are all developing countries, with Indonesia being located in Asia, Angola in Africa, and Trinidad and Tobago in the Caribbean. Brazil - one of the four so-called 'BRIC' countries (the BRIC countries label refers to a select group of four large, developing countries: Brazil, Russia, India and China) – is located in South America while the UK and Norway represent developed economies located in Europe. Moreover, the concomitant selection of the UK and Norway finds its justification from the fact that these two countries have their oil and gas deposits within a common boundary - the North Sea.

Figure 4.1: A GLOBAL DRIVE FOR LOCAL CONTENT



Source: Olsen (2010, p.5)

4.2.1 Local Content in Brazil

4.2.1.1 Overview of Brazil's Energy/oil and gas sector

Brazil has been an oil producer since the 1940s just after oil was discovered in 1939 (Nordas *et al.*, 2003; Caselli and Michaels, 2009). The birth of this industry marked the first historical landmark in oil and gas production in Brazil. In 1953, the Brazilian Petroleum Company (PETROBRAS) was established with a national monopoly in exploration, production, refining and transportation of petroleum which marked the second historical landmark in the Brazilian oil and gas industry.

The difference between the establishment of PETROBRAS and the Nigerian National Petroleum Company (NNPC) is that in the case of the latter, foreign operators were allowed to exploit and produce oil through partnership agreements such as Joint Ventures and Production Sharing Contracts (JVs and PSCs). Brazil also utilised Risk Service Contracts (RSCs) but in executing this partnership agreement, foreign enterprises were given the right to undertake exploratory research in an area and upon oil discovery, the firm could extract and sell the resource, paying 20% to the government of Brazil as royalties. This differs from the Nigerian Government's idea of RSCs because NNPC still retains the oil license even after the exploratory research rights have been granted to the foreign enterprise. In a way, this could be regarded as a way of ensuring checks and balances in order to avoid the dominance of non-Nigerian firms in the industry. However, Nwaokoro (2011) argues that exploration

and production activities between NNPC and the operators were not properly spelt out from inception, thus creating the foreign dominance within the Nigerian oil and gas sector.

Although the Brazilian Petroleum Law of 1997 (Law 9478/97) liberalised and opened the petroleum sector to foreign participation and, in effect, terminated the monopoly that PETROBRAS (which was founded in 1953) enjoyed over oil and gas production, this had sensitised a political impulse for LCD by the government. Following this, an expression for local content promotion came in 2003 upon a directive from the National Council on Energy Policy (CNPE), having held yearly rounds of tenders for exploration and production licences.

4.2.1.2 LCD in Brazil

The main objective of the Brazilian local content as outlined by the National Agency for Petroleum (ANP) is mainly the development of local suppliers & technology, employment and income (ANP, 2010). The monopoly that was set up in the Brazilian oil and gas industry was due to the lack of private capital and its unwillingness to undertake such a highly risky activity (Nordas *et al.*, 2003). In addition, there were political resistances to open the sector to foreign firms to avoid external dominance (Guilhoto *et al.*, 2007). In the following years, production summed up to about 3000 barrels a day but this was insufficient for national consumption. As a result of this, Brazil undertook oil imports, meanwhile national production accounted for less than 15% of national consumption (Guilhoto *et al.*, 2007). From this account, it can be argued that Brazil took a stepwise approach in developing local content, not minding the cost implication of importing a product which they possessed.

The case of Nigeria is, however, different in that, as much as the government also set out to achieve local content, the industry was still predominantly run by foreign investors. The Brazilian industry succeeded in developing the sector to the extent of vertically integrating into other areas of business in the oil industry such that, they became managers of the monopoly at production, processing and distributional areas. Having succeeded in the upstream, midstream and downstream sectors, they gradually developed local technology in partnership with international suppliers in which local content in Brazil was above 90% on average (Guilhoto *et al.*, 2007).

4.2.1.3 LCD Strategy in Brazil

From inception, the Brazilian upstream petroleum sector had been under national control hence, only companies owned by Brazilians could explore and mine for minerals. A striking landmark in the development of the Brazilian oil industry is that, having realised a need to monopolise exploration and production (E & P), the company resulted in importing crude oil for local refining and distribution whilst indigenous manpower was being developed to occupy the Brazilian upstream and midstream sectors (Guilhoto *et al.*, 2007). However, in the case of Nigeria, as soon as oil was discovered, other foreign operators were invited to explore the oil and gas sector.

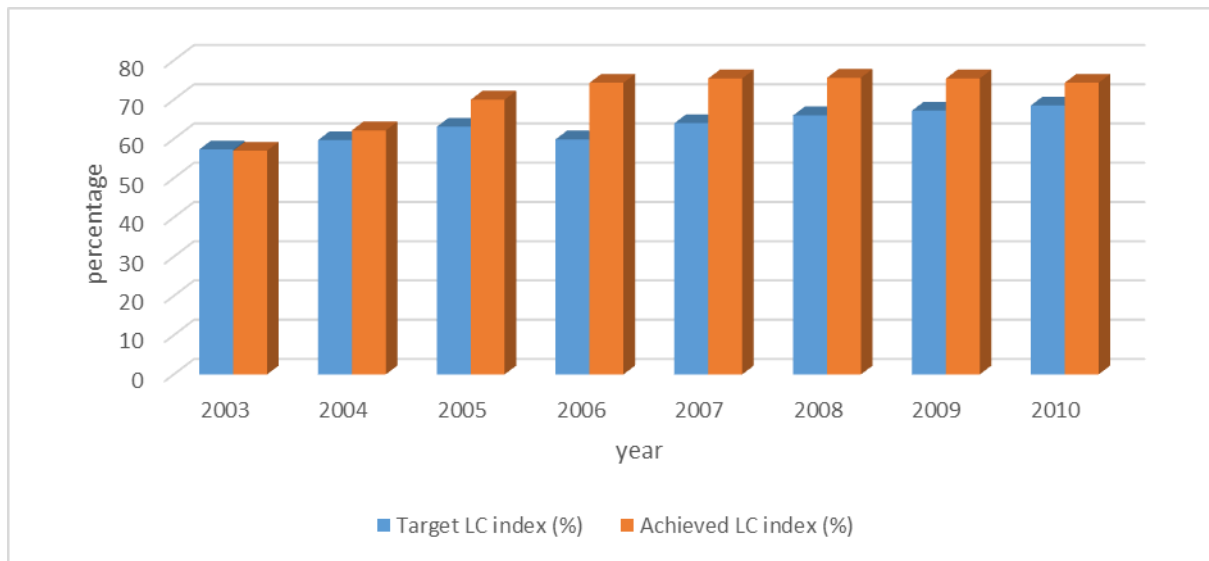
Gradually the Brazilian oil and gas industry allowed the participation of foreign firms by taking a pragmatic approach in allowing the introduction of “state-of-the-art” technology into the industry. The purpose of this was to help develop indigenous capacity and enhance local participation. However, in the 1980s, the policy became more protectionist again, shifting almost exclusively to the development of domestic technology. This resulted in over 90% achievement of local content in the Brazilian oil industry in the late 1980s (Heum *et al.*, 2003).

It can be argued that the Nigerian government also recognised a need to develop indigenous capacity quite early (Petroleum Act, 1969) but there was neither any clear-cut strategy nor a policy (as in the case of Brazil) to guide the implementation of Nigerian LCD. Although the Brazilian government opened the industry to foreign participation again when it encountered technological challenges as offshore technologies arose, this was done under clear-cut partnership arrangements which ensured that both parties derived benefits adequately, enhancing the probability of a win-win situation. This arrangement, however, led to a decline in local content from 90 to 80% in the 1990s (Heum *et al.*, 2003). Irrespective of this, the Brazilian industry has still maintained, to date, a high percentage of local content and PETROBRAS is seen as one of the most experienced and innovative oil companies in deep offshore today (Guilhoto *et al.*, 2007).

4.2.1.4 Impact of policy

Having successfully implemented the local content policy, Brazil has made significant impact with visible participation across various areas in the industry. A snapshot of Brazil’s overall participation in domestic investments in the oil and gas industry suggests remarkable success, which can be attributed to the Brazilian local content strategy (see Figure 4.2).

Figure 4.2: Targets versus Achieved Participation of Domestic Industry in Investments, 2003–10



Source: Data obtained from PROMINP (2010)

Figure 4.2 highlights targets versus achievement participation of cumulative LCD. These investments cut across areas such as employment, supply and logistics, contract awards, R&D, and exploration and production amongst others.

4.2.2 Local Content in United Kingdom (UK)

4.2.2.1 Overview of the Energy/oil and gas sector in the UK

The UK oil and gas industry consists mainly of offshore activities which are based in the North Sea. The offshore sector is the principal source of the UK’s oil and gas demand, which is a very significant source of taxes and a high employer of labour (Keynote, 2009). The UK oil industry has a daily production of 1.1 million barrels and 2.8 billion barrels in reserve (BP, 2012). Currently providing some 75 percent of United Kingdom’s total energy (Oil and Gas UK, 2010), the UK oil and gas industry originated over 40 years ago and because the industry was new to the UK at that time, the need for expertise in this sector was required. In view of this, the government gave part ownership to British Petroleum (BP), a British company with international expertise. Since then, this industry has grown to become one of the leading oil and gas industries in the EU having established about 107 oil platforms, 181 gas platforms and a network infrastructure of 14,000 kilometres. All these are servicing 383 producing fields having allocated licenses to 174 companies (Keynote, 2009).

In a recent activity survey by oil and gas UK, production was seen to be 18 per cent less than in 2010 (Oil and Gas UK, 2010). Although the UK Oil and Gas industry has been adjudged to have now grown to maturity (Oil and Gas UK, 2010) recently it has been evident that oil and gas production was falling, owing to the fact that the original investors have sold their interests to smaller companies, and also IOCs find that they obtain better returns investing in other oil rich countries where exploration and production is technically easier, and the prospect of a longer future in respect to oil and gas availability is greater (Oil and Gas UK, 2010).

Despite the above, an increasing number of companies (national and international) still indicate their interest in participating in the UK oil and gas industry. In the 2008 licensing round, 171 new licenses were offered to 100 companies and in the 26th round, 356 blocks were requested which is the largest number since the first round in 1964 (Kennedy, 2010).

4.2.2.2 LCD in UK

With the increasing number of investors in the United Kingdom Continental Shelf (UKCS) Oil and Gas industry, the government developed policies for awarding exploration and production licenses to companies to protect its economic interests in the North Sea. Although these were discretionary licences, they were effective (Neff, 2005). This policy is geared towards ensuring that domestic companies and labour would participate in the development of the industry. Following this, the United Kingdom established a discretionary system which allowed the government to selectively choose IOCs that would be granted concessions. This was done so that the government could exercise control over the details of contract awarded to each firm to ensure that the requirements for local participation were met (Neff, 2005).

Several new offshore discoveries came about in the early 70s and by this time, there was growing political concern that there was too low a percentage of British firms involved in procurement and supply in the UKCS oil and gas industry. By this time, the sensitisation of both the government and the indigenous firms on local content was high owing to the fact that this was viewed as a source of economic development in the UK via partnership creation, technology cooperation and local skills development (Whitbread, 2012).

4.2.2.3 LCD Strategy

In 1973, the government enacted three measures to cater for the inclusion of local (British) content. These measures are:

- The establishment of the Offshore Supplies Office (OSO)
- The introduction of an auditing procedure for monitoring purchases made by oil companies and
- The provision of financial assistance to the UK supplies industry

The establishment of the OSO by the UK government in 1973 poses a similarity with the Nigerian Content Development and Monitoring Board (NCDMB) established by the government in 2010 to guide, monitor, coordinate and implement the provisions of the LCD policy (Section 4, NOGIC Act, 2010). As in the case of the OSO, NCDMB was charged with promoting the creation of new ventures to supply the market as well as develop the industry's capability to win contracts. The Board (NCDMB) is to ensure that first consideration is given to indigenous firms for contract awards and that these firms are developed to become competitive in quality and timeliness. The OSO also assisted companies with research and development needs. However, the task of the NCDMB appears to be more encompassing since it co-acts with the government as regulators of the entire industry, although primarily ensuring that aspects concerning LCD are adequately complied with, by the stakeholders in the industry.

At the time of the OSOs establishment, British content in the UKCS was about 30% and this agency was charged with raising it to 70% (Neff, 2005). The OSO adopted what is called "full and fair opportunity policy" (Smith, 2011) whereby British firms could compete equally with foreign firms. The early 1980s recorded outstanding achievement for the OSO having exceeded the 70% British target owing to the full and fair opportunity policy, and having oil producers retain final control over contract awards (Adefulu, 2011). In 2003, the Nigerian government set a target of 75% Nigerian content for 2010, although this was not achieved. However, one of the reasons for failing to meet this target can be attributed to the unavailability of a regulating agency similar to the OSO, until 2010, when the NCDMB was established.

The UK government also introduced an auditing procedure which monitors procurement and supply of materials and equipment. This resulted in a memorandum of understanding between the UK and the United Kingdom Offshore Operators Association (UKOOA) forming a basis for monitoring the concept of full and fair opportunity. In a similar vein, the Nigerian government established the Nigerian Extractive Industries Transparent Initiative (NEITI), a global movement aimed at ensuring full and fair opportunity within the extractive sectors. This initiative has been given a legal backing and signed on as an Act in 2007 to promote due process and transparency, in extractive revenue paid to, and recovered by government. This body is also expected to ensure transparency and accountability in the application of extractive revenues (NEITI, 2012).

Through financial assistance given to the UK supply industries, local content supply increased to 82 percent in 1986, thus attracting over 1000 oil related companies to the Aberdeen area (Neff, 2005). Similarly, Nigeria has adopted a way of financing indigenous suppliers by creating the Nigerian Content Development Fund which is 1% of every contract awarded in the oil and gas industry. In a recent announcement, the chairman of the Board announced that the fund has accrued to over 11 billion naira (£43,615,312) and it is still increasing (Nwapa, 2012).

4.2.2.4 Impact of policy

The UK government has demonstrated a hands on approach towards LCD. Particular attention has been paid to the North Sea fields over the years. Following the discretionary licensing and audits of purchases by oil firms, the implementation of the policy has so far increased local content in the North Sea oil sector. According to WTI Advisors (2013), local content increased from 30% in 1973 to 82% in 1986 and in fact with nearly 100% local content in post-development operations. This is evidenced by the current level of competitiveness with UK oil firms and suppliers both at local and international level.

4.2.3 Local content in Norway

4.2.3.1 Overview of Norway's Energy/oil and gas sector

Offshore oil and gas exploration started in the mid-1960s following a gas discovery in Gronigen (Netherlands) which raised a suspicion about the North Sea's petroleum potential (Nies, 2008). At the time of discovery, Norway was economically stable with considerable

industrial technical capacity. Following the discovery, the government proclaimed sovereignty over the Norwegian continental shelf, followed by an Act which stipulated that only the Government could grant licences for exploration. Since then, Norway has progressed to commercialising the oil and gas industry with a stable production of 3.4 million barrels per day and 6.9 billion barrels in reserve (Heum *et al.*, 2003; BP, 2012) of which most of it is exported. Between 1978 and 2011, the GDP of Norway had an average quantity quarterly growth of 0.61% (Trading Economics, 2011) with the petroleum sector being largely responsible for this increase. The Norwegian continental shelf has developed pipelines, onshore terminals and fabrication yards within the last 40 years (Klueh *et al.*, 2007).

4.2.3.2 LCD in Norway

The Norwegian oil and gas industry is characterised mostly by offshore activities (Andersen, 1991). Oil and gas activities in Norway were initially dominated by foreign companies although, there appeared to be no particular policy document that specifically addressed LCD at that time. The Royal Decree of 1972 by the Norwegian government mandated 50% state participation in every production licence granted to the IOCs. In addition, oil majors operating on the Norwegian fields were required to enter into an agreement of capacity building with Norwegian partners which forced IOCs to choose Norwegian suppliers over foreign suppliers when they are competitive in price, quality and delivery reliability. In addition, some of these licences were required to be transferred to STATOIL (the national oil company) over a period of time (Heum *et al.*, 2003). Accordingly, Grossman (1981) argues that there should be visible country-content in both production and service delivery, in order to build capacity, and enhance skill development. In the same vein, Section 2 of the NOGIC Act mandates operators, contractors and subcontractors to consider Nigerian content as an important element in executing any project.

The objective of local content in Norway is capability development so as to enhance Norwegian presence in all facets of the business. The 1970s and 80s witnessed a preference for local firms because oil and gas activities were taxed at 85% on the margin, thus implying that the Norwegian state incurred additional costs as a result of reduction in tax revenues (Heum *et al.*, 2003). Yet, there was still a considerable demand for the IOCs because of technical competence and a need for knowledge transfer, since some of the companies given operator licences lacked the competencies required. In view of this, foreign companies

volunteered to become their technical partners with an intention of enhancing knowledge transfer (Heum *et al.*, 2003).

As joint E&P and downstream activities continued between IOCs and domestic businesses, the Norwegian government were satisfied in seeing more domestic participants feature in the activities of this industry. As the industry expanded, domestic participation and competence increased in capacity, thus paving the way for a higher percentage of the presence of indigenous capabilities which after some time, led to the establishment of STATOIL, a fully operating Norwegian based oil company.

4.2.3.3 LCD Strategy

With the creation of STATOIL, the Norwegian government deliberately set policies that essentially mandate IOCs to develop the Norwegian oil and gas industry as a condition and by product of their own operations (Neff, 2005). This shows a similarity with the case of the Nigerian government with the establishment of NNPC, aimed at developing the Nigerian oil and gas industry via the operations of the IOCs, through three primary business models: Joint ventures, (JVs) Production Sharing Contracts, (PSCs) and Risk Service Contracts (RSCs).

Following the creation of STATOIL, the Goods and Services Office (GSO) was established by the Ministry of Industry with the primary responsibility of monitoring indigenous contract awards and procurement processes similar to the OSO in the UK (Smith, 2011). According to Klueh *et al.* (2007), their main responsibilities were monitoring and cooperating closely with international oil companies in order to develop a ‘Norwegianised’ (exclusively Norwegian) industry; stimulating local supply industry through partnership with the IOCs; encouraging R&D and technology transfer and giving full and fair opportunity for bidding opportunities. This mirrors the case of the NCDMB, similar to the GSO and OSO, which is the body responsible for the overall coordination of local content activities in Nigeria. The Board coordinates and oversees the implementation of the Nigerian Local Content Policy.

The Norwegian Oil and gas industry placed international oil companies in the role of technical assistants in order to fast-track the Norwegian companies into fully-fledged operators. This was based on a consensus argument that operators (Norwegian government) needed to learn ‘the tools of the trade’ and to be able to meet foreign oil companies as equals (Neff, 2005). International oil companies provided Norwegian personnel on-the-job training

at operations in other parts of the world to *Norwegianise* the industry. This joint operating venture enhanced the rapid transfer of knowledge, expertise and technology the Norwegian firms would not have otherwise had.

Similarly, the partnership agreements between the NNPC and IOCs and IOCs and indigenous companies are also capable of enhancing development of Nigerian content considering that these are joint ventures with international technical expertise in their modes of operation. In Joint Ventures, (JVs) the national oil company, NNPC, partners with an IOC to exploit oil and gas resources through a joint operating agreement. Under PSCs, the NNPC owns the concession and employs IOCs as contractors to operate it. Although IOCs fund operations but revenues are shared between the parties. In the case RSCs however, the oil prospecting licence title is held by NNPC, and as such the IOC, which operates, is deemed a contractor but funds exploration and production activities.

The aggressive LCD effort by the Norwegian government has yielded considerable results, especially with respect to the development of the petroleum industry. However, this has put pressure on wages in other sectors. In the late 1970s the government also required the IOCs to fund R&D at Norwegian institutions. This was instrumental in developing globally competitive Norwegian companies in various aspects of offshore development.

The promotion of LCD in the Norwegian oil and gas industry has succeeded in building industrial competencies and capabilities of highly competitive international standard (Heum, 2008). Also, this sector has greatly increased the jobs available as a result of the utilisation of domestic capacity (Klueh *et al.*, 2007; Heum, 2008). The operation of joint ventures as a catalyst to LCD (which the Nigerian government is also operating) is expected to enhance the training of local professionals and indigenous capacity.

4.2.3.4 Impact of policy

Benchmarking achievements against the objective of Norway's LCD, it appears that the entire oil and gas business has significantly benefitted from the local content strategy adopted as shown in Table 4.1

Table 4.1: Value addition in the Norwegian oil industry

Selected figures from the business	2011	2010	2009
Taxes, bonuses and royalties			
Direct taxes paid in NOK billion	118.0	91.3	98.5
Indirect taxes paid in NOK billion	32.6	32.3	27.3
Signature bonuses paid in NOK billion	5.0	0.5	1.4
Value of profit oil in NOK billion	40.4	29.5	18.6
Capital providers			
Proposed dividend in NOK billion	20.7	19.9	19.1
Interest paid on loans in NOK billion	3.9	2.6	2.9
Employment and recruiting*			
Approximate number of employees	21,319	34,340	28,700
Pay and social benefits in NOK billion	30.7	29.1	27.1
Procurement*			
Approximate number of suppliers	12,330	18,300	18,500
Goods and services purchased (invoiced value) in NOKbillion	133.7	120.0	129.8
Investments			
Investment in own business operations in NOK billion	133.5	84.4	85.0
Social investment in NOK million	216.9	201.6	206.8
Research and Development			
R&D Expenditures in NOK billion	2.2	2.0	2.1

Source: STATOIL Annual report (2011 p.4)

Table 4.1 gives a snapshot of various areas within the oil and gas industry where significant content has been added. This is particularly evident in the differences recorded, for example, for 'Procurement' between 2009 and 2011. Nevertheless, the data themselves do not illuminate the underlying reasons for these differences in the statistics. Indeed, measuring local content still appears to be an issue as there are yet to be agreed metrics to determine the level of content that has been achieved.

4.2.4 Local content in Trinidad and Tobago

4.2.4.1 Overview of T&T's Energy/Oil and Gas Sector

Trinidad and Tobago (T & T) is located in the Southern Caribbeans and it is rich in oil and gas resources, which makes it one of the countries in Latin America in which hydrocarbon production is the main economic activity (Artana *et al.*, 2007). T & T is one of the oldest oil producing countries in the world with its first drilling in the 1860s and first production in 1902 (Paul, 2005). Oil exploration and production is said to have reached its peak in 1978 and declined in the 1980s and 1990s. T&T accounts for daily production and reserves of 0.14 million and 0.8 billion barrels respectively (BP, 2012).

Trinidad and Tobago aims to achieve widespread and sustainable development by the year 2020 (Paul, 2008). This is because of the country's investment in the energy sector. The scale and scope of the energy sector is being widened to other sectors to serve as a major driver for economic development with a focus on people and enterprise development, as well as development for the capital market, innovation and technology. Also, T & T extends its oil and gas business to various other countries which include Brazil, Germany, United States, Canada, United Kingdom and other countries in the Caribbean (Chandool, 2011).

T & T's investment in energy related projects in 2002 in the United States alone was estimated at \$1.5 billion (Artana *et al.*, 2007). Whereas other countries in the Caribbean are known for tourism, T & T has been recognised for its relatively cheap cost of energy, thus making it a centre for manufacturing, industrial processing, finance and investment which serves as a comparative advantage (Paul, 2008). However, a major challenge facing T & T is air pollution resulting from manufacturing industry activities and land degradation owing to oil exploration and production (Shah and Rivera, 2007). With the energy sector accounting for about 40% of GDP and 80% of exports (Central Intelligence Agency, 2011), Trinidad and Tobago is the leading producer of oil and gas in the Caribbean.

Its national oil company PETROTRIN was incorporated in 1993 to consolidate the upstream and downstream activities of state owned enterprises; Trinidad and Tobago Oil Company (TRINTOC) and Trinidad and Tobago Petroleum Company Limited (TRINTOPEC). PETROTRIN operates the only refinery in T&T and in addition to its own exploration and production (E&P) activities PETROTRIN has an automatic stake in the E&P activities of other operators in T&T similar to NNPC.

4.2.4.2 LCD in Trinidad & Tobago

Local content in T&T can be traced back to the 1990s. The main thrust/driver for local content in T&T is sustainability which the Prime Minister, Patrick Manning, explains as “*the ability to meet today’s needs without diminishing the capacity of future generations to meet theirs*” (PLCC, 2004, p. 2). In view of this, the main objectives of local content is to boost local involvement in the energy sector facilitated by government activities and to define metrics, targets, measures, and requirements for local content (National committee, 2005).

Issues of Local Content in the energy sector of T & T have gained prominence with the establishment of the Permanent Local Content Committee (PLCC). It can be argued that part of the major reasons for this is the contribution of the sector to national revenue and value addition which also mirrors part of the motivation for the Nigerian LCD (NNPC, 2005a). In the blueprint issued by the PLCC, the main intent for local content for nationals of T & T is that “*it will maximise the level of participation of its national people, enterprises, technology and capital through the development and increasing use of locally owned businesses, local financing and human capabilities in the conduct of all activities connected with the energy sector along its entire value chain, within and outside T & T*” (PLCC, 2004, p. 6).

Following this statement, Paul (2005) emphasises that development of local capability should bear more focus since this transcends the development of local capacity. In a way, Paul (2005) emphasises the development of core technical skills, so as to bridge the existing gaps that warrants the dominance of foreign capacity. This argument by Paul (2005) is based on the fact that the energy resources are gradually being depleted which leaves the source for future wealth “hanging on the balance”. He argues that the energy sector should be the base for transforming other sectors to enhance value addition, technological know-how and innovation capability of local businesses and institutions. In line with this argument, the PLCC re-iterates the need to ensure that indigenous capability is developed to generate wealth for the future, hence the need for indigenous capability development which becomes the focus of local content in T&T.

Adebola *et al.* (2006) also suggest that capability development in the Nigerian oil and gas sector should precede content development because the requisite skills needed to operate in the oil and gas sector need to be acquired before indigenous capacity can be fully harnessed. To this end, the government of T&T seeks to achieve increased GNP over GDP (i.e.

production of higher value added goods and services for export) and as explained by Barclay (2003), increasing local capability is the pathway to achieving such increased GNP.

4.2.4.3 LCD Strategy

As noted earlier, T&T has taken the path of capability development to enhance availability of indigenous capacity for the development of local content in future. The implementation strategy is such that the country intends to maximise indigenous manpower so as to generate backward linkages which will increase the local value added in the economy whilst creating a multiplier effect. In a sharp contrast, PLCC (2004) argues that in spite of T&T's drive for development of local capability, this has merely been achieved because giving preference to local suppliers on the basis of cost, quality and timeliness of delivery of goods and/or services, has not contributed to the development and competitiveness of local operators.

A critical consideration of T&T's strategy reveals that the argument to develop local capability focuses on a long term sustainability arrangement such that, engaging local capacity will be a continued process and will transcend the oil and gas sector. In a similar vein, the Nigerian LCD policy has been challenged by various authors who have argued that the section regarding indigenous capability (section 3[1] and [2]) can only be fulfilled when indigenous capability is developed within the industry via training and skills development of Nigerian nationals in various aspects such as welding, IT, manufacturing and engineering (Ihua *et al.*, 2009; Bakare, 2011; IPIECA, 2011; Nwaokoro, 2011). Therefore, in as much as LCD is being advocated, countries are only likely to derive substantial benefits from this when they have sufficient in-country capability.

This strategy adopted by T&T is referred to as the "push" model. According to Warner (2011) this is a progressive step-wise model that involves considerable undertakings from oil companies by providing direct and prolonged assistance to indigenous firms to improve quality, capacity and reliability. On the contrary, Ihua *et al.* (2009) argue that this model may not be functional in Nigeria since multinationals are profit oriented and primarily concerned with maximising shareholders' funds. They argue that the model suggested by Warner (2011) be driven with optimal balance whereby assistance is provided on one hand, and strict regulations imposed on the other.

In summary, the PLCC is of the opinion that competing with already established firms cannot develop local capability but give prospective indigenous firms a chance to do, learn and improve. Having stated this, the PLCC through a stepwise approach directed efforts to maximise local content and participation in some key areas which include local ownership and local financing, giving preferential consideration to local suppliers, indigenous manpower development, development of indigenous technical capability and the creation and maintenance of appropriate databases.

4.2.4.4 Impact of policy

In spite of the absence of a well-articulated policy, T&T government, through the adoption of the local participation framework has considerably driven local content to involve the participation of indigenous firms through partnerships (JVs) with multinationals. These JVs have helped to train T&T nationals in technical core areas. In addition, these JVs contributed to the establishment of the first specialised fabrication yard in T&T which cost \$44 million², amounting to a savings of \$10 million as a result of this partnership.

Although there are no publicly available statistics on local content in T&T, it appears that there is considerable involvement and more jobs are being created.

4.2.5 Local content in Angola

4.2.5.1 Overview of the Angolan oil and gas sector

The oil and gas sector of Angola over the past decade has recorded increased production. Angola has become one of the largest crude oil producing countries in Africa. In 2009, Angola's production surpassed Nigeria, one of the largest oil producing countries in Africa due to attacks on oil infrastructure in the Niger Delta (Energy Institute (EI), 2008). The Angolan oil sector which accounts for over 95 percent of export revenues and over 75 percent of government revenues plays an important role in the economy (Tordo and Anouti, 2012). The Angolan oil sector is regulated by the 2004 Petroleum Act which establishes the rules of access and performance of petroleum operations in the areas of available surface and

² The company estimated that the domestic fabrication of the Cannonball platform would cost \$10 million more than the \$44 million cost of importing it. Another concern was timely delivery. By the end of the project, the cost premium was \$9 million as it achieved a 40 percent local content in spending, 65 percent in project management hours, and 85 percent in fabrication hours. These were significant achievements following previous near-zero levels [Tordo and Anouti, 2012 p. 172].

submerged national territory, internal waters, territorial sea, exclusive economic zone and continental shelf. The sector accounts for 40% of the country's GDP (BP 2011)

Like other oil producing countries, Angola's oil activities are managed by the state owned oil company SONANGOL which was created in 1976 by the Angolan government. In 1978, SONANGOL became the sole concessionaire for oil and gas exploration and production in Angola (SONANGOL, 2012). SONANGOL works with foreign companies through Joint Ventures (JVs) and Production Sharing Agreements (PSAs) like the NNPC, although NNPC operates RSCs which SONANGOL does not. Negotiations of oil concessions as well as aftermath control, is the responsibility of the state oil company's subsidiary, SONANGOL Holdings. In Nigeria, the Department of Petroleum Resources (DPR) performs this task.

Oil exploration and production in Angola takes place both onshore and offshore, but with large concentration in the latter. The offshore blocks are divided into three bands: shallow water blocks 0-13 (band A); deepwater blocks 14-30 (band B); and ultra-deepwater blocks 31-40 (band C) (Ariweriokuma, 2008).

In recent years, SONANGOL has become more active in both upstream and downstream operations, operating with major IOCs like BP, Chevron, Total, ExxonMobil and Eni. Despite crude oil production limitations imposed by OPEC, Angola produces 1.8 million barrels per day and has proven reserves of 13.5 billion barrels (BP, 2012)

4.2.5.2 LCD in Angola

LCD in Angola started from the constitutional premise that *“all deposits of liquid and gaseous hydrocarbons belong to the Angolan people,”* (Angolan Law 13/78 of 26 August 1978). Similar to Norway and Nigeria, this was referred to as “Angolanisation” - understood to mean promoting Angolan employment in the oil and gas industry and domestic sourcing of goods and services, which is the main objective of the local content policy (Ovadia, 2012). However, for Angola, this also refers to the domestic sourcing of goods and services. Following this constitution, a directive which mandated all companies involved in E&P of crude oil in the country to contribute to the training of nationals in the sector was established. Furthermore, this directive contained deadlines for succession of foreign expatriates by indigenous manpower.

This Petroleum Law (1978) gave SONANGOL exclusive concession for oil exploration and development, although SONANGOL executed a joint agreement in the form of PSCs with the IOCs. Angola further pursued the development of local content by the introduction of Decree No. 20/82, which highlights targets regarding the numbers of Angola nationals employed by the IOCs that operate especially at the upstream. This decree also ensures that a mandatory framework for the training and promotion of Angolan employees is instituted.

Since the establishment of SONANGOL in the 1970s, the company has succeeded in offering blocks for bidding and negotiating with interested oil companies (Klueh *et al.*, 2007). SONANGOL has now become a holding company with autonomous subsidiaries for exploration and production. Ovadia (2012) notes that SONANGOL has now become one of the most powerful national oil companies having achieved considerable success in its leadership and organisation, making it one of the top producers in Africa. He bases his argument on the fact that the country's population is about one tenth of Nigeria's population but can still compete favourably in terms of production with Nigeria which ranks among the first 10 producers of oil in the world.

4.2.5.3 LCD Strategy

LCD was further strengthened at the end of the 27 years of civil war in Angola. The country was left with a deficit of human capital and a non-functioning economy apart from oil and gas which contributed about 76 percent of GDP (Levett *et al.*, 2012). Following this, the need to introduce strict rules to employ Angolans and source for materials from locally run businesses arose.

Having established several laws to govern LCD in Angola, the government developed strategies to ensure compliance. In terms of employment, the Angolan government realised skill gaps within the Angolan workforce. In view of this, the operators were obliged to contribute annually an amount in foreign currency for training the Angolan workforce in order to bridge these skill gaps (CRES, 2008). Similarly, the 1% Nigerian Content Development Fund (NCDF) is expected to be used for training indigenous manpower. However, Angola's strategy appears to be more proactive in that the Angolan government engaged the services of an NGO to provide a linkage between global supply chains and local enterprises. This helped to improve the capacity and competitiveness of local companies in

Angola. In addition, the linkage revealed specific areas of improvement for local businesses which included: training; technology transfer and on-time service delivery.

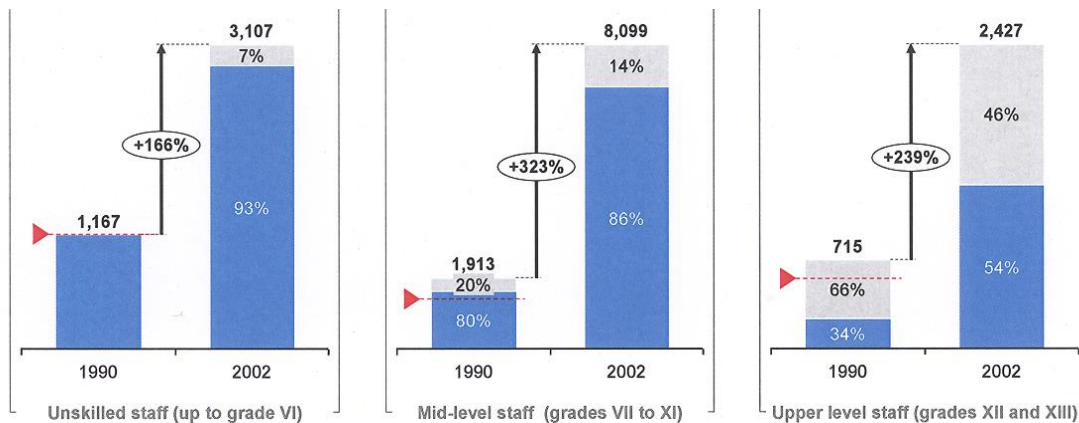
In a bid to promote social and economic development, the Angolan government also amended foreign exchange and customs regulations regarding operators. These new regulations also included amendments included a requirement for foreign companies to keep their funds in Angolan banks. Capital availability has been highlighted as a major source of development for an economy, especially when there are resources which can be harnessed through the utilisation of this capital (Chinn and Ito, 2006; Griffin, 1970; Florida and Kenney, 1988). Invariably, the new Angolan regulations in this respect helped promote availability of funds for loans. Also the NOGIC Act provides that operators should carry out all their financial transactions in-country (NOGIC Act, 2010 Section 52). However, the extent to which foreign firms comply with this is dependent on the credibility of commercial banks in Nigeria which in the past has been plagued with misconduct.

Overall, the Angolan petroleum industry has witnessed an average growth rate of 35% and this has been attributed to the development of local content (MINPET, 2009).

4.2.5.4 Impact of policy

So far the local content policy has had an impact on employment of indigenous manpower at various levels of employment viz unskilled, mid-level and skilled staff. According to Tordo and Anouti (2012), overall level of Angolanisation (indigenous employment across all levels) has increased from 35 to 88 percent with skilled staff constituting the highest level of increase (see Figure 4.3)

Figure 4.3: Achieved Angolanisation Rate versus Target, 1990



Source: Tordo and Anouti, (2012, p. 34)

Regarding domestic sourcing of goods and services, preferential treatment (decree 127/03) is given to Angolan companies in contract awards and in the supply of goods and services. This is especially common to those not requiring heavy capital investment and with a basic, medium or higher level of specialised know-how (Tordo *et al.*, 2013). Driven by this decree, SONANGOL has so far developed over 20 joint ventures with foreign companies for the supply of non-core goods and services to the oil and gas industry (Tordo and Anouti, 2012).

4.2.6 Local content in Indonesia

4.2.6.1 Overview of the Indonesian Oil and Gas Sector

Oil and gas production in Indonesia commenced as far back as 1890, although the industry was run by international companies until 1950s (Heum *et al.*, 2003). This was followed by a new set of regulations in carrying out oil and gas development activities issued by the government. Following a series of mergers, Indonesia's national oil company PERTAMINA was formed in 1968 with a similar responsibility as other countries like Norway, Kazakhstan, Nigeria etc. PERTAMINA acts as a regulator in the industry and manages PSCs with IOCs (PERTAMINA 2012). In the last 20 years, Indonesia has been stable with a daily production of about 1.5 million barrels which makes the country the largest producer of oil in Asia Pacific after China.

However, a key feature in Indonesian oil and gas sector is the increasing role of gas such that, gas is now replacing oil which was the key natural resource in Indonesia. Although oil

outputs have decreased, gas exploration have far increased, becoming the primary major hydrocarbon resource in Indonesia (Levett *et al.*, 2012), and the world's largest exporter of Liquefied Natural Gas (LNG) (BP, 2012).

4.2.6.2 LCD in Indonesia

There are established laws by the Indonesian government, to promote LCD. Among these are Oil and Gas Law No. 22/2001 segregating regulatory roles and commercial operations; Supply Chain Management Manual PTK 007/2009 as revised in 201150; Ministry of Industry Regulation No. 16-16/2011 on local content calculation; Investment Law No. 25/2007 (applicable only to limited liability companies domiciled in Indonesia and owned by Indonesian investors).

The main objective for LCD in Indonesia is to drive knowledge transfer so as to enhance indigenous companies' competitiveness at national, regional and international levels (Tordo and Anouti, 2012). As such, the government's effort has been targeted at domestic capability development, as this is pre requisite for knowledge transfer and competitiveness. LCD in Indonesia is viewed similarly to LCD in Malaysia because the Indonesian government refers to the local supplier as suppliers producing in Indonesia regardless of ownership of the company (Heum *et al.*, 2003). This means that local content is viewed in terms of production location as per the definition of Ballantyne (2002).

BPMIGAS is the state upstream oil and gas regulator with a vision to *“be a proactive and trustworthy partner in optimizing the benefits of the upstream oil and gas industry for all stakeholders while becoming one of the Nation's engines in mobilizing different economic and industrial activities”* (Tordo and Anouti, 2012 p.84). Therefore, the achievement of this vision hinges on prioritizing domestic and regional human resources roles, and utilizing in-country goods and services. In addition, it is expected that a considerable amount (at least half) of the total budget of oil and gas projects be spent domestically in order to increase local content.

4.2.6.3 Local Content Strategy

Having assessed in-country capabilities, BPMIGAS launched a holistic set of policy initiatives aimed at increasing the level of participation of domestic capabilities in the

upstream, increasing domestic sourcing of goods and services, and raising the contribution of the domestic banking sector in financing procurement transactions.

To further promote the development of local capabilities, BPMIGAS published a set of guidelines in 2005 to increase the share of spend on Indonesian personnel to 75 percent by 2010 (Heum *et al.*, 2003). Furthermore, the recruitment of foreigners required the approval of the regulator, with such approval to be granted only in the absence of local capability (*ibid*). These laws were also extended to the downstream and in fact, recruitment at this level required that priority is given to residents in the operating areas.

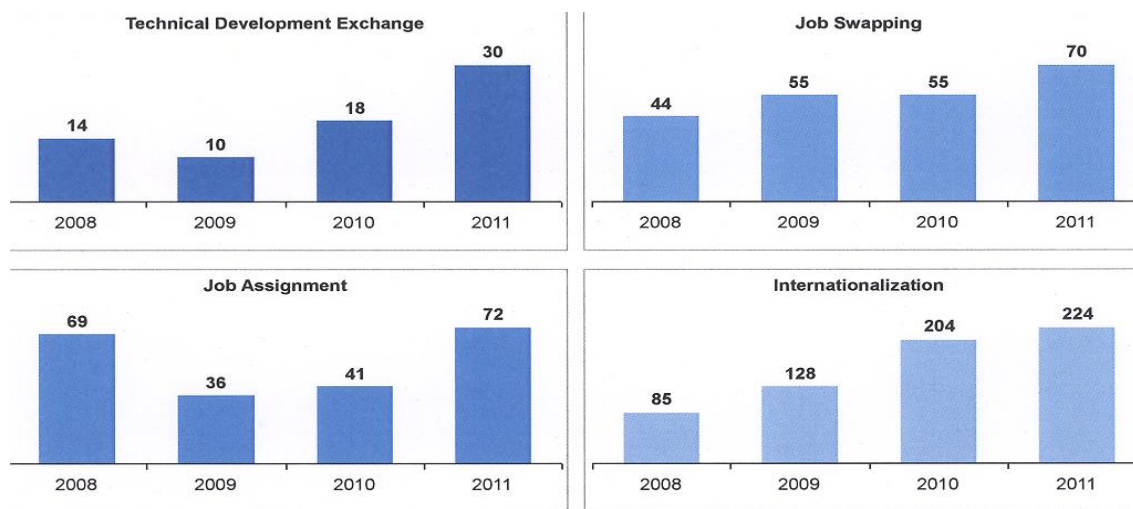
In Nigeria, the south communities have clamoured in the past for jobs in the oil and gas sector. However, only a few of these residents have been direct beneficiaries. Although, it could be argued that they lack core technical skills, considering the strategy of Indonesia, host community residents were given priority at the downstream (marketing and distribution) which required less technical skills than the upstream and midstream. Nigeria's downstream activities have been taken over by independent marketers because processed crude oil is imported. However, in the case of Indonesia, the regulators still have a firm grip from upstream to downstream.

As part of contract agreements signed with foreign firms, BPMIGAS requires contractors to present in-country capability development plans (Heum *et al.*, 2003). Such plans must include a detailed mentoring system which allows trainee Indonesians in the oil and gas sector to be properly tutored and mentored by a more senior staff, thus becoming capable of being able to handle projects in future. The NOGIC Act ensures a succession plan for Nigerian personnel which is achieved by understudying an experienced staff. However, this does not specify whether the staff should be more senior than the trainee or not, rather the overarching aim is to learn the 'art of the trade' within four years so as to take up the position afterwards. Other parts of the contract agreement includes educational and training programmes, domestic and overseas on-the-job training and, international career and exchange programmes which is aimed at internationalisation of the Indonesian personnel. Upon agreement with the contractor, violation of any of these contractual terms attracts severe penalties.

4.2.6.4 Impact of policy

Regarding the development of local capabilities, it appears that Indonesia has achieved considerable success looking at it from the number of indigenous employees who are engaged in technical development exchange, job swapping, job assignment and internationalisation (Tordo and Anouti, 2012).

Figure 4.4 Number of Indonesians (individuals) Engaged in Capability Development Programs, 2008–11



Source: Tordo and Anouti, (2012, p.97)

Note: Numbers in the four quadrants refer to units of individuals

Figure 4.4 shows an appreciable increase in each of these areas suggesting that capability has been developed in core areas enabling Indonesian nationals to engage in job swapping. Regarding internationalisation, it appears that Indonesians are able to compete with their international counterparts both on-the-job and the international job market. In addition, multitasking abilities appear to have been developed thanks to exchange programmes in technical development.

Having discussed LCD in six countries, Table 4.2 shows a comparative analysis of content development in these countries in the light of important variables that have emerged in the course of this review.

Table 4.2: Oil and Gas Industry and policies to foster local content: An International comparison

	Brazil	United Kingdom	Norway	Trinidad & Tobago	Angola	Indonesia
Year of oil discovery	1939	1960s	1960s	1860s	1900s	Exact year unknown
Year production commenced	1940s	1960s		1902	1990s	1890
Nat. Pet. Coy/year of establishment	PETROBRAS 1953	BP (Part ownership)	STATOIL 1960S	PETROTRIN 1993	SONANGOL 1976	PERTAMINA 1968
Exploration activities	Onshore and offshore	Offshore	Offshore	Offshore	Onshore and offshore	
Daily production (million barrels)	2.2	1.1	3.4	0.2	1.8	1.5
Oil reserves (billion reserves)	15.1	2.8	6.9	0.8	13.5	4.0
Local content indices	Brazil's local content is premised on the Petroleum Law of 1997 (9478/97). It operates RSCs with other companies and currently has a local content level of 80-90 percent	United Kingdom issued discretionary licences for exploration and established the Offshore Supplies Office (OSO) to guide and monitor these licences as well as ensure the inclusion of British nationals in O&G activities. LC level is said to have reached 70%.	Norway's local content is premised upon the Royal Decree of 1972. It also established the Government Supplies Office (GSO) similar to OSO to promote Norwegian nationals. It engages in JVs with other companies to develop local content	T&Ts local content policy is premised upon a local content policy which highlights fiscal and non-fiscal measures to develop indigenous content. This policy is regulated by the Permanent Local Content Committee (PLCC). In addition, it operates JVs, PSCs and RSCs.	Angola is premised upon several laws for LCD. These include Petroleum Act 2004, Petroleum law 1978 Decree 20/82 and decree 127/03. In addition, it engages in JVs and PSAs with other companies.	Indonesia's local content law is premised upon Oil and Gas Law No. 22/2001 segregating regulatory roles and commercial operations; Supply Chain Management Manual PTK 007/2009 as revised in 201150; Ministry of Industry Regulation No. 16-16/2011 on local content calculation; Investment Law No. 25/2007
Main local content objective	Development of local suppliers & technology, employment and income		Capability development so as to enhance Norwegian presence in all facets of the business	local involvement in the energy sector and definition of metrics, targets, measures, and requirements for local content	Promoting Angolan employment and domestic sourcing of goods and services	Knowledge transfer to enhance competitiveness at national, regional and international levels
Local content strategy	'Delayed gratification' and in-house capacity and capability development	Establishment of OSO, introduction of auditing procedure and the provision of financial assistance to the UK supplies industry	Local content policy; establishment of GSO	Capability development and the maximisation of indigenous manpower to generate backward linkages in order to increase value added	Mandating operators to contribute financially to training of nationals; engagement of an NGO to provide linkage between global supply chains and local enterprises	Local content policy; guidelines to increase share of spend on Indonesian personnel
Impact of local content policy	Active participation of Brazilian nationals from upstream to downstream. Brazilian participation in supply and logistics, contract awards and R&D	Local content increased from 30% in 1973 to 82% in 1986 and in fact with nearly 100% local content in post-development operations.	Local involvement in every facet of the oil and gas business environment as well as active participation in industry activities from upstream to downstream	Development of indigenous capability and establishment of partnerships	Increase in overall indigenous employment levels (unskilled, semi-skilled and skilled) with skilled staff constituting the highest level of increase	Development of local capability which has enabled Indonesian nationals engage in technical development exchange, job swapping and job assignment internationalisation

Source: Researcher's analysis (2012)

4.3 LESSONS LEARNT AND CRITICAL SUCCESS FACTORS

Earlier sub-sections highlighted LCD in six countries using Olsen (2010) classification. Having subjected the local content activities of these countries to critical scrutiny, various factors which contributed to the successful development of local content have emerged. Although it may be too early to determine if LCD has been successful or not in each of these countries given that some of them are newcomers, it appears useful to attempt to identify critical success factors that could be considered in relation to Nigeria.

From the analysis, it was observed that most of these countries either had a policy or a law in place to support in-country development, particularly insofar as ‘employment and job creation’ is concerned. This shows that these countries realised that it was not just enough to embark on content development but that it was also necessary to have a legal framework of support for policy enforcement and to ensure compliance. Similarly, the Petroleum Act (1969) was a law which considered content development in Nigeria but it was the NOGIC Act, which was signed in 2010, that made the provisions of the schedules more specific.

Although none of these countries was seen to operate the entire oil and gas industry by themselves (i.e., they required the presence of the IOCs) each of these countries had their own national oil companies/corporations that played a supervisory role in maintaining the activities of the industry, and ensuring a high level of local content particularly with respect to employment. The exploration and production activities with these operators were carried out in partnership with the national oil companies in form of JVs, PSCs and RSCs.

It is also evident that ‘experience’ plays a critical role in the countries selected for analysis, since oil and gas production commenced over 60 years ago with the exception of Angola. The development of local content can be said to be long overdue in Nigeria owing to the fact that Angola which commenced production in the 1990s is already enforcing strict local content laws. Another example is Ghana (although Ghana is not considered in the analysis) where oil and gas was discovered in the mid-2000s, and yet already has a policy framework for LCD. Of particular interest is the case of Brazil where the content development strategy can be termed ‘delayed gratification’. The Brazilian oil industry took up the challenge to develop in-country capacity and during this process, imported oil and gas products for consumption. Presently, Brazil is ranked high in terms of LCD and several countries take Brazil as a model for LCD.

This high level of success in LCD in Brazil can be attributed to their approach from the start. The Brazilian experience is in sharp contrast with that of Nigeria in that Brazil maintained a closed oil and gas sector at their developmental stages to nurture in-house skills and capabilities while Nigeria did not. Instead, the Nigerian government embraced the “oil boom” and abandoned the installation of adequate structures for managing the industry.

4.4 CONCLUDING REMARKS

This chapter began by considering LCD in other countries. An overview of each country’s oil and gas sector was considered alongside LCD in the country. In addition, the strategy adopted for local content was considered and whilst considering each of these variables, careful comparison with the Nigerian situation was carried out to provide an analytic overview of the Nigerian policy.

The countries selected were based on Olsen’s (2010) classification of countries engaging in LCD. This classification was based upon two categories: old timers and newcomers. The old timers selected were Brazil, United Kingdom and Norway while the new comers selected were Trinidad and Tobago, Angola and Indonesia. The analysis was based on each of these countries’ oil and gas sector (history and development), LCD and local content strategy. The findings of this international comparison were summarised by means of a table which considered various variables in each of the countries selected. Critical success factors for LCD were also outlined.

In conclusion, the analysis revealed that generally, the overarching aim/objective for establishing local content policies in each of these countries was to develop in-country capacity and ensure that nationals play an active part in their country’s oil and gas industry. Having considered their success factors, one important lesson learnt is that overall; countries devoted their attention to the achievement of indigenous employment and job creation. The review reveals that in every country which has succeeded in LCD it is indigenous employment and job creation both in terms of policy formulation and implementation that appeared to provide the basis for success. It is for this reason that this research will devote exclusive focus on the appraisal of this specific LCD policy objective.

CHAPTER FIVE

REVIEW OF THEORETICAL FRAMEWORKS AND EMPIRICAL WORK ON LCD APPRAISAL

5.1 CHAPTER OVERVIEW

This chapter begins by considering the main stakeholders addressed in the Nigerian Oil and Gas Local Content Act (NOGIC Act) outlining their roles and responsibilities as they relate to the policy. The following sections provide a critical evaluation of past theoretical frameworks and empirical studies, considering different variables and constructs which have been adopted to examine LCD. Having appraised what has been done before on LCD, the researcher will highlight ‘the gap’ in the literature, hence narrowing the focus of the study towards its primary purpose.

5.2 STAKEHOLDERS ADDRESSED IN THE NIGERIAN OIL AND GAS LOCAL CONTENT ACT (NOGIC Act 2010).

The Local Content Act addresses four main stakeholders which should work together as a single entity to enhance the achievement of the set objectives of the policy. These are:

- i. Government
- ii. Operators
- iii. Legal services sector
- iv. Financial services sector

The government has the role of the regulator to ensure that the provisions and guidelines of the Act are adhered to, and this role is performed by the NCDMB. Other parastatals that work in conjunction with the Board are the Nigerian National Petroleum Corporation (NNPC), the Department of Petroleum Resources (DPR) Nigerian Content Division (NCD), the Nigerian Investment Petroleum and Management Services (NAPIMS), and the Petroleum Development Trust Fund (PTDF).

The operators include IOCs and indigenous operators. These are further classified as shown in Table 5.1.

Table 5.1: Classification of oil and gas operators

Operator	Category	Title	Description
Indigenous	A	Wholly indigenous company	Indigenous company with 100% financial and operational responsibility.
	B	Indigenous company with Foreign Equity Partner	The indigenous company is the operator and majority holder.
	C	Indigenous Company in partnership with Foreign Operator	Foreign partner is the minority interest holder (whether sole risk or PSC), the Operator and the provider of funds and is expected to transfer operatorship within a specified period to the indigenous partner.
IOCs	D	Joint Venture Operation	NNPC is non-operating majority interest holder in partnership with multinational operator(s).
	E	Production Sharing Contract	NNPC and or licensed holders are non-operating concessionaires with operator(s) bearing all costs recovered over time from production.

Source: Hilary-Nwokonko, (2004, p. 30)

The operators (both foreign and indigenous) work with contractors which are mainly oil and gas service companies. The contractors are divided into multinational service providers (1st tier suppliers) and indigenous service providers (2nd tier suppliers). These two sets of contractors offer procurement and other technical services to the operators. Meanwhile other contractors who work with the operators are Engineering, Procurement and Commissioning (EPC) contractors, and fabricators.

The legal sector plays a multifaceted role. It is constituted by mainly legal firms that in addition to working with private firms also work with the regulators to ensure compliance of the Act.

The financial services sector is divided into banking and insurance sectors which are responsible for providing financial and insurance services to the operators and contractors.

Table 5.2: Roles and Responsibilities of Local Content Policy Stakeholders

Stakeholders	Roles and responsibilities	Section in Local Content Bill
Government	<ul style="list-style-type: none"> Guiding, monitoring, coordinating and implementing the provisions of the act through the Board (NCDMB) Transparent protection of domestic industries Setting targets for the growth of R&D Setting up of Nigerian Content Consultative Forum (NCCF) which shall provide a platform for information sharing and collaboration in the oil and gas industry Regular assessment and verification of the Nigerian Content Performance 	<p>4</p> <p>3(2)</p> <p>36</p> <p>57 & 58</p> <p>62</p>
Operators	<p>IOCs</p> <ul style="list-style-type: none"> Ensure that Nigerians are given first consideration for employment and training Developing indigenous capacity in compliance with the schedules of the Act by employing Nigerian nationals Submitting a Nigerian Content Plan to the Board setting out how they will give first consideration to Nigerian goods and services Development of indigenous firms through partnerships and joint ventures Providing the Board with proposed bidders list of contracts exceeding \$1,000,000US\$ Providing the Board with Employment and Training (E&T) Plan for every project to be undertaken and declaration of expatriate quota Employment of Nigerians only in junior and intermediate cadres Submission of R&D plan every six months and R&D reports on a quarterly basis to the Board <p>Indigenous firms</p> <ul style="list-style-type: none"> Development of manpower and equipment to globally acceptable and competitive standards through joint partnerships with operators and foreign multinationals Providing all fabrication and welding activities needed in the oil and gas industry 	<p>10(1)(b)</p> <p>11(3)</p> <p>12</p> <p>13</p> <p>17(1) & (2); 18(1) & (2)</p> <p>29-34</p> <p>35</p> <p>38 & 39</p> <p>13, 15</p> <p>53</p>
Legal sector	<ul style="list-style-type: none"> Handling all legal services within the oil and gas industry 	51
Financial sector	<ul style="list-style-type: none"> Providing advice on the appropriate framework and tax incentives for foreign and indigenous companies establishing facilities in Nigeria Insuring all oil and gas and other related businesses Handling all financial services regarding the oil and gas industry 	<p>48</p> <p>49 & 50</p> <p>52</p>

Source: Developed by the author drawing on the NOGIC Act, 2010

Table 5.2 highlights the responsibilities of the main stakeholders as contained in the NOGIC Act 2010. Considering the government, their roles and responsibilities are geared towards ensuring compliance with the Act, which they carry out in conjunction with other parastatals.

For example, Olomola and Olumide (2005) commended the effort of NAPIMS in ensuring that low and medium technology contracts are awarded to indigenous companies, and less attention is paid to price competitiveness over their foreign counterparts. Hillary-Nwokonko (2004) argues that the government still lacks regulatory empowerment abilities. In line with this argument, Nwaokoro (2011) challenges the independence of the NCDMB arguing that the Board should not be made to take any directive from the Minister of Petroleum Resources on transparency grounds.

However, the commitment to the ratification of the Act in itself, has been applauded by Ovadia (2012) who explains that this is a commendable step towards the development of indigenous capacity.

The operators are divided into IOCs and indigenous operators. While the government acts as regulators, the operators are adherers. Their role is mainly compliance with the policy and they do this by ensuring that the targets that the regulator (government) sets are met in line with the schedules of the Act. A critical consideration of their responsibilities as highlighted in Table 5.2 suggests that the operators play an important role in the oil and gas industry, as these stakeholders (IOCs and indigenous operators) carry out upstream activities. While arguments have been raised in the past that the IOCs especially are more profit, rather than capacity development driven (Esteeves and Barclay, 2011), operators have also increased their level of compliance with the local content capacity. This is evident by contract awards and training that are given to indigenous manpower, and partnership agreements between IOCs and indigenous companies for the supply of goods and services.

As stated earlier, the legal sector administers legal services in line with the existing laws that govern the oil and gas industry. These services cut across every stakeholder group in the industry. However, some of the legal practitioners are appointed mainly to represent the government especially in international issues regarding the oil and gas industry.

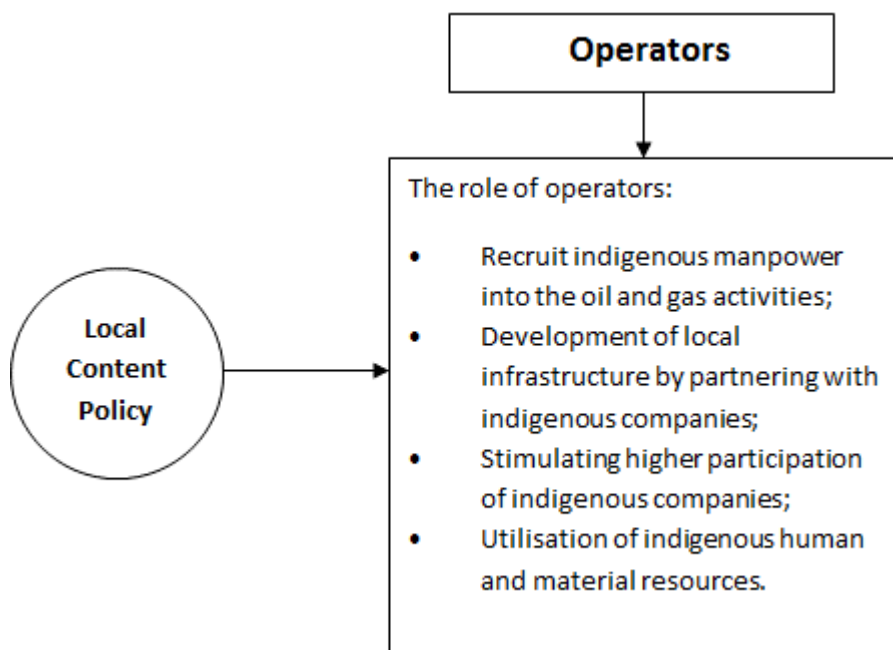
The financial sector is meant to cater for all financial and insurance activities of the operators to reduce capital flight (Omenikolo and Amadi, 2010). The policy mandates that all financial transactions related to oil activities be carried out in-country. In addition, the banks are also expected to set aside a given percentage of funds to award loans to indigenous contractors.

5.3 A REVIEW OF CONCEPTUAL FRAMEWORKS ON LCD

In order to appraise the impact of the LCD policy, it is necessary to review past literatures and frameworks that have been developed for this by different authors. It is also necessary to bear in mind that, as illustrated in Tables 5.1 and 5.2, the stakeholders upon which the policy is based are the main points of consideration. One of the frameworks which has been put forward as a viable model to appraise LCD is that of Ihua (2010). Although, the framework can help the assessment of the efficacy of this policy, the appraisal is nevertheless restricted to the operators' angle though it addresses relevant constructs such as: job creation; development of local infrastructure; stimulating higher participation of indigenous companies; and utilisation of indigenous human and material resources.

This framework has been concisely simplified by the author and illustrated in Figure 5.1.

Figure 5.1 Framework to appraise the efficacy of the Nigerian Local Content Policy



Developed by researcher drawing from Ihua (2010)

Another framework which has been used to appraise the efficacy of the LCD policy is that of Heum *et al.* (2003). In this case, the appraisal is more extensive given that it addresses two stakeholder groups- government and operators. It identifies various constructs for evaluating government and operators' commitment which can be summarised as follows:

Government commitment towards the policy

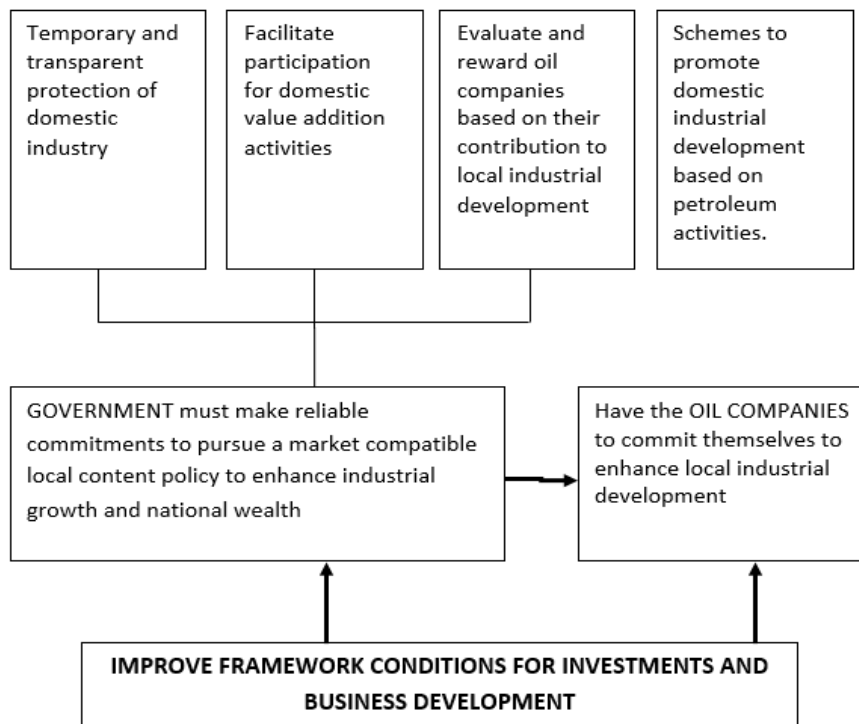
- Transparent protection of domestic industries
- Facilitating stakeholders' participation for domestic value addition,
- Evaluating and monitoring the implementation of the policy
- Rewarding and creating incentives for compliant oil companies
- Provision of infrastructural amenities to enhance an enabling business environment for other stakeholders

Operators' commitment towards the policy

- Creating oil and gas based schemes to promote domestic industrial development.
- Contract awards to local indigenous firms
- Facilitating training and capacity building activities within the Oil and Gas Industry
- Partnering with government agencies to establish and equip institutions targeted at developing courses and modules specifically required in the Oil and Gas Industry.

The framework of Heum *et al.* (2003) shows a step-wise approach for achieving increasing local content. This framework tends to attract the IOCs to provide incentives for indigenous companies. Furthermore, this approach reflects what Warner (2011) labels as a 'pull' approach whereby local content is achieved by consciously building the capacity of national and local skills to access opportunities. This is considered as local capability development (Tordo and Anouti, 2012).

Figure 5.2: Framework for a viable local content policy approach

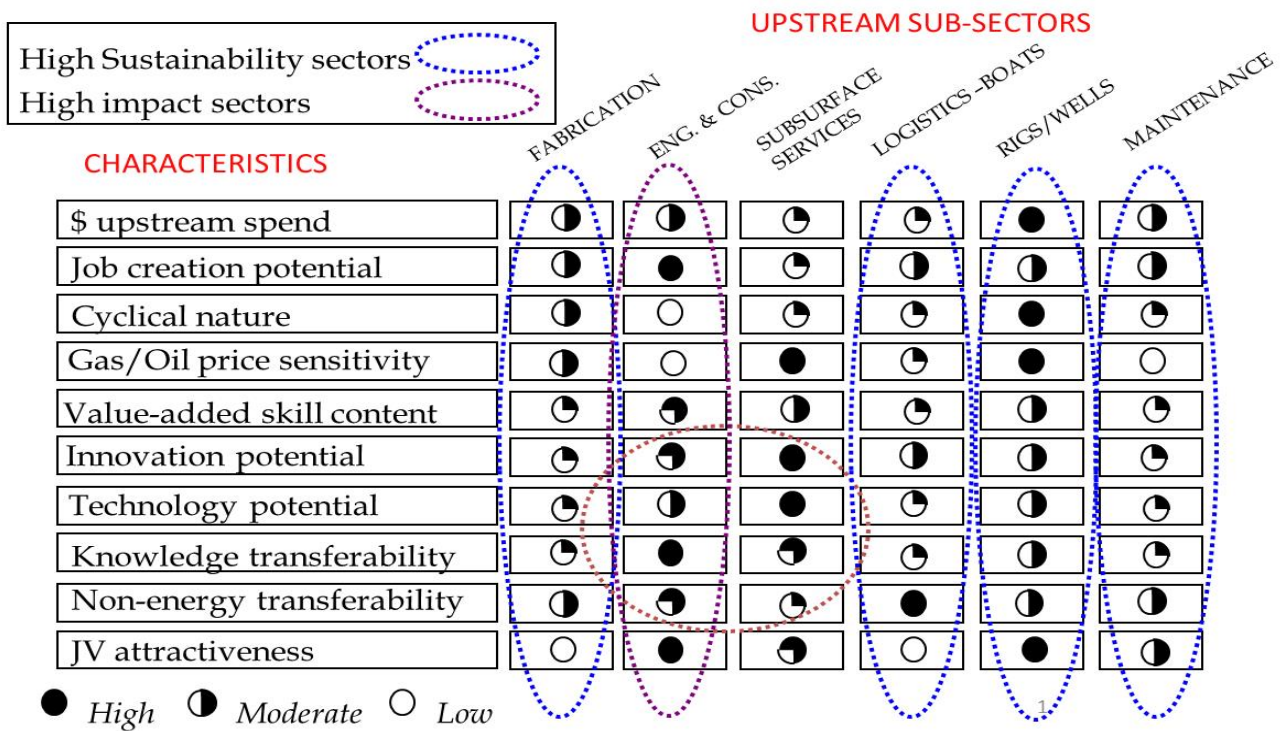


Source: Heum et al. (2003, p. 63)

Although this is argued to be a more progressive approach, this framework appears not to be robust enough to catch the full reach of the policy’s efficacy, considering the restriction to two stakeholder groups. Consequently, the developers of the framework themselves (Heum *et al.*, 2003) admit the need to improve upon the framework to appraise the Nigerian local content policy, especially if this policy is to benefit industrial growth and wider sectors of the economy. In addition, as also noted by Olabowale (2009), the framework is too simplistic, because it exhibits a single linear progression between the regulators (government) and the operators.

Paul (2008) argues that services required for upstream oil and gas activities like fabrication, engineering and construction, and drilling/well services have high potential for broadly achieving local content and indigenous participation. He further developed a framework to appraise local content considering certain variables as shown below.

Figure 5.3: Enhancing Local Content and participation

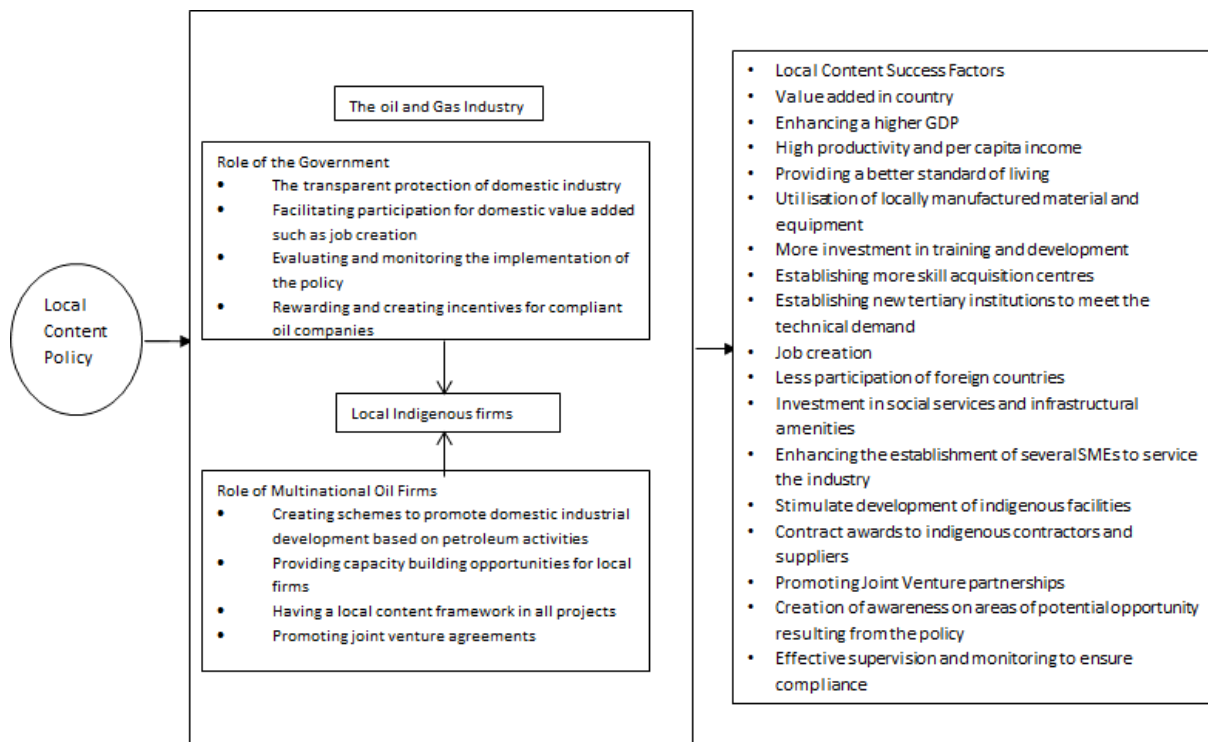


Source: Paul (2008, p. 20)

The framework shown above appears to be more comprehensive than the first two, in that it considers more variables, although this still concentrates on the government and operators: However, the weakness of this framework is that it was developed to appraise specifically LCD of Trinidad and Tobago, whose oil and gas industry and local content policy approach differs from that of Nigeria (see chapter five). Nevertheless, there are lessons from this framework considering the many variables and constructs taken into account.

Similar to past frameworks considered, Olabowale (2009) developed a model which focused on the government and the operators. However, the author considered the operators (IOCs) in isolation of indigenous operators. His argument was based on the fact that the IOCs had greater concessions and technical abilities; hence they had more responsibilities in developing indigenous capacity. The author identified useful constructs and critical success factors for the policy. This framework is shown in Figure 5.4.

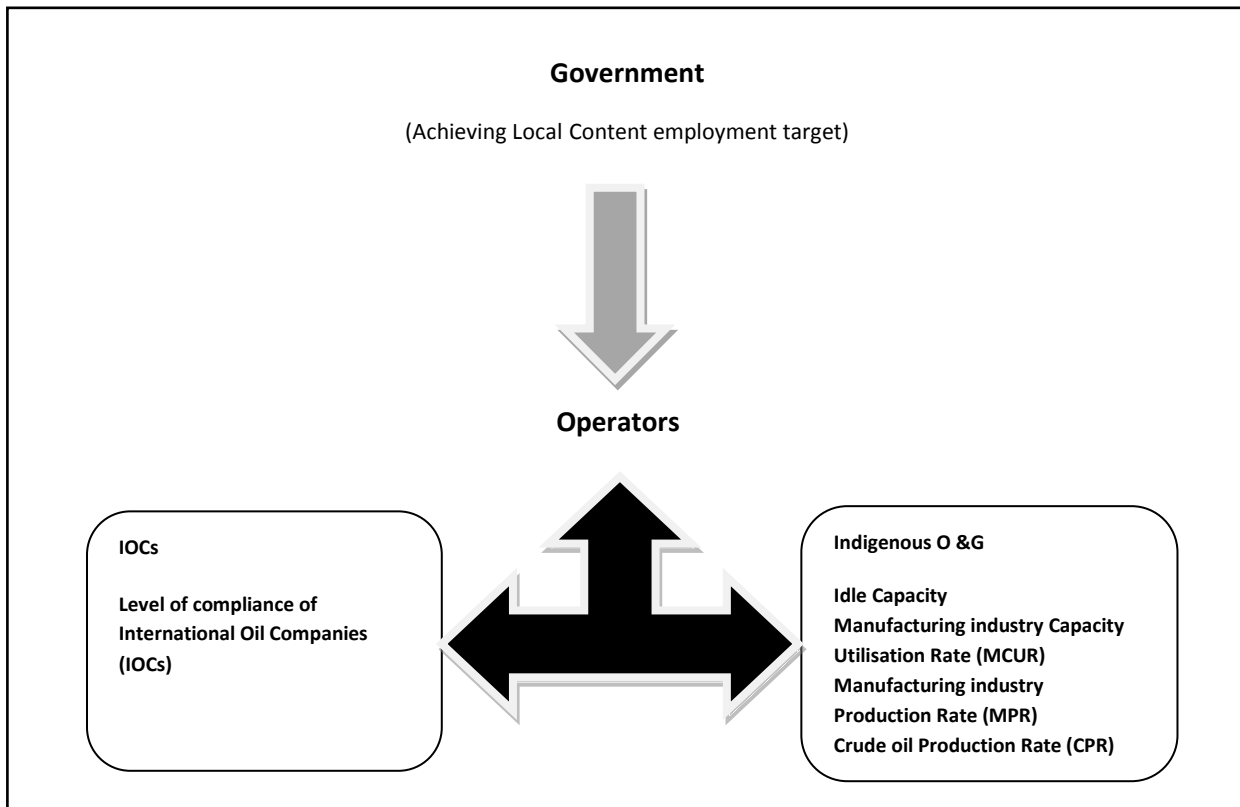
Figure 5.4: Framework for appraising Local Content Policy



Source: Olabowale, (2009, p.73)

While Olabowale’s framework isolates the indigenous oil and gas operators, in a broader study, Bakare (2011) developed a framework to assess the level of indigenous content present in the Nigerian manufacturing industry, which he describes as a ‘catalyst’ to LCD. His framework is based on achieving indigenous employment target in the oil and gas industry and revolves around government and operators (IOCs and indigenous oil and gas operators). The robustness of this framework as compared with Olabowale (2009) is in the consideration of both IOCs and indigenous operators. In addition, the NOGIC Act (2010) had been passed into law at the time the research was carried out which might have given the researcher a better insight into the practice of local content. Bakare (2011) highlights various constructs, although mostly restricted to the manufacturing industry which fall under the ‘governance’ of indigenous participants. He argues that if these variables are carefully monitored to reach peak performance, the level of employment in the O&G industry will be raised to meet the set target. In order to give a clearer picture of the constructs identified, Figure 5.5 provides a graphical illustration.

Figure 5.5: Local Content Development



Source: Researcher's own diagram developed by drawing from Bakare's (2011) conceptualisation

Although this framework pays particular attention to the manufacturing industry, its uniqueness and/or novelty value lies in the fact that having subjected the constructs to critical scrutiny, Bakare's framework gives a clearer picture of the indigenous participants and firms involved in the development of Local Content. However, this framework does not consider various other stakeholders in-depth and would therefore require an extension to make it a comprehensive framework for analysis.

In another study on LCD by Omenikolo and Amadi (2010), the authors identify the challenges for effective implementation of the Nigerian content policy through the use of questionnaires, using an extensive framework that incorporates various useful constructs. In their argument, they highlight that Nigeria has considerable potential for developing a viable approach that would enhance an effective oil and gas local content policy. They further claim that the government has a major role to play in enhancing its effectiveness. This was followed by the identification of various constructs and findings which have been further developed into Table 5.3.

Table 5.3 An eclectic framework for enhancing Effective Local Content in Nigeria

Constructs	Findings
Infrastructural Development:	<ul style="list-style-type: none"> • Insufficient power supply • Poor transportation and telecommunication network, • Inexistent public utilities
Political Stability:	<ul style="list-style-type: none"> • Frequent attacks on foreigners and foreign interests in the Niger Delta
Investment Climate:	<ul style="list-style-type: none"> • Very poor investment climate • Poor infrastructure, • Unaffordable adequate housing • Improper health care • Poorly motivated crime fighting unit
Projects Financing:	<ul style="list-style-type: none"> • Inadequate finance for large projects in the country
Transparency:	<ul style="list-style-type: none"> • Widespread corruption • Absence of transparency
Education Standards:	<ul style="list-style-type: none"> • Low educational standards • Incessant industrial action by academic unions.
Legal Policy:	<ul style="list-style-type: none"> • Laws and acts guiding regulation of petroleum activities are not treated with seriousness and speed
Licensing System:	<ul style="list-style-type: none"> • Signature bonuses
Resource Management:	<ul style="list-style-type: none"> • Ineffective management of resources
Research & Development:	<ul style="list-style-type: none"> • No R & D collaboration between the multinational oil companies operating in Nigeria and the universities and other research institutions.
Environmental Policy:	<ul style="list-style-type: none"> • Huge losses of arable land due to oil spills from petroleum activities • Loss of livelihood security occasioned by oil-related environmental devastation • Lack of environmental maintenance, especially after exploration activities in the oil exploration areas.

Source: Developed from Omenikolo and Amadi (2010, p. 18)

The useful constructs developed for this framework help highlight the government side of LCD policy (see Table 5.3). This calls for an extensive study on the role that the government needs to play as regulators, in ensuring the effective implementation of the LCD Policy.

5.3.1 Critical Evaluation of the Frameworks

Having reviewed various frameworks and constructs developed by various authors, it should first be noted that each of these authors concentrated on the government and/or the operators. This clearly shows that these two stakeholders have a key role in LCD. This assertion finds support in Table 5.2 which confirms the many roles and responsibilities of the government and operators.

While Ihua (2010) restricted his framework to operators alone, Heum *et al.* (2003) extended their model by considering operators and the government. Although Ihua (2010) identified useful constructs in spite of his sole focus on a single stakeholder, an improvement is seen in the framework of Heum *et al.* (2003) who developed their framework in the light of both the government and the operators.

Paul (2008) developed a more comprehensive framework for local content appraisal. He argued that fabrication, engineering and construction had high potential for achieving local content, and a framework considering the operators and government was developed with more variables. In considering this framework, it can be argued that the depth of the framework is credited to the fact that this was developed to appraise LCD in Trinidad and Tobago whose history in oil and gas production is traceable to the 1860s (CIA, 2011). In addition, development of indigenous content in Trinidad and Tobago has been highly successful since the 1990s as seen in chapter five (T & T Energy Sector, 2004).

Olabowale (2009) considered the frameworks of Heum *et al.* (2003) and Paul (2008) in developing a model to appraise the Nigerian LCD Policy from a broader perspective. He considered operators and governments as key stakeholders. The innovation of this framework is the author's ability to suggest critical success factors that can be taken into account in the development of local content. However, a critical consideration of this framework suggests that it is somewhat anachronistic as it preceded the NOGIC Act which had not been passed into law at the time of the research; probably this would have informed the author to cover a wider perspective.

In a more recent study, Bakare's (2011) framework focuses on the government and operators (IOCs and indigenous operators), with particular emphasis on indigenous participants. Similarly this was not limited to a single stakeholder, but the value added of this author's framework stems from his argument which suggests that indigenous participants (operators)

have important roles to play in LCD. In addition, this framework was developed after the NOGIC Act had been passed into law which accounted for the particular attention paid to indigenous operators thus contributing to the uniqueness of the study.

Finally, Omenikolo and Amadi (2010) restricted their framework to a single stakeholder-the government. This framework was developed to inform the government's role in enhancing the development of the Nigerian local content policy. The framework identified various useful constructs which are detailed in Table 5.3.

Having evaluated the frameworks developed by various authors, it appears imperative to develop a more comprehensive, eclectic framework bringing together all the stakeholders involved. This will be done after having carried out a thorough review of the empirical literature on the appraisal of LCD and policy.

Table 5.4: Summary table of theoretical frameworks on LCD

s/no	Author	Stakeholder(s) considered	Constructs identified
1	Ihua (2010)	Operators	Job creation; development of local infrastructure; higher participation of indigenous communities; utilisation of indigenous human and material resources
2	Heum <i>et al.</i> (2003)	Government; Operators	Transparent protection of domestic industries; facilitating stakeholders' participation for domestic value addition; evaluating and monitoring the implementation of the policy; rewarding and creating incentives for compliant oil companies; provision of infrastructural amenities to enhance an enabling business environment for other stakeholders; creating oil and gas based schemes to promote domestic industrial development; contract awards to local indigenous firms; facilitating training and capacity building activities within the Oil and Gas Industry; Partnering with government agencies and other stakeholders to establish and equip institutions targeted at developing courses and modules specifically required in the Oil and Gas Industry.
3	Paul (2008)	Government; Operators	Upstream spend; job creation potential; cyclical nature; gas/oil price sensitivity; value-added skill content; innovation potential; knowledge transferability; non-energy transferability, JV attractiveness.
4	Olabowale (2009)	Government; Operators	Transparent protection of domestic industries; facilitating participation for domestic value added such as job creation; evaluating and monitoring the implementation of the policy; rewarding and creating incentives for compliant oil companies; creating schemes to promote domestic industrial development based on petroleum activities; providing capacity building opportunities for local firms; having a local content framework in all projects; promoting joint venture agreements
5	Bakare (2011)	Government; Operators	Achieving Local Content employment target; level of compliance of International Oil Companies (IOCs); idle capacity; Manufacturing industry Capacity Utilisation Rate (MCUR); Manufacturing industry Production Rate (MPR); Crude oil Production Rate (CPR)
6	Omenikolo and Amadi (2010)	Government	Infrastructural Development; political stability; investment climate; projects financing; transparency; education standards; legal policy; licensing system; resource management; research & development; environmental policy

Source: Researcher's own table 2012

Table 5.4 shows a summary of the theoretical frameworks developed by various authors. Each of these authors has identified various variables from the standpoint of different stakeholders, mainly government and operators. In view of this, there appears to be a gap in the literature as regards to other stakeholders in the oil and gas industry who are affected by the policy.

5.4 REVIEW OF EMPIRICAL STUDIES ON LOCAL CONTENT APPRAISAL

Various empirical studies have been carried out to appraise LCD. While the theoretical appraisal focused more on the frameworks used, and the approaches that were utilised by the authors, this section considers major variables that have been adopted by different authors for their appraisal.

Having carried out the theoretical review from the standpoint of stakeholders, the empirical review is based on some selected objectives of the NOGIC Act as highlighted in chapter four. The basis for selection is backed by the research question and the focus of this research which is highlighted in the latter part of this chapter and subsequent chapters (see Section 5.5). Following this review, a summary table is presented at the end of each of these objectives, which pulls the review together in one piece, including all the past works reviewed and the various sub themes that were considered in these studies.

5.4.1 First Consideration in Exploration and Contractual Rights

5.4.1.1 Promoting higher participation of indigenous firms within the oil and gas Industry

The overarching aim of LCD is increasing indigenous content and minimising foreign capacity as much as possible. The predominance of foreign capacity in any industry would limit indigenous capacity development. Although in many cases, the presence of foreign capacity is largely attributed to unavailability of capable local skills, technical expertise, manpower and production capacity and capability to compete favourably (Omenikolo and Amadi, 2010).

Aneke (2002) in an exploratory study on indigenous participation highlighted key variables responsible for lack of participation of indigenous firms within the oil and gas industry which include: lack of funding from financial institutions, inadequate infrastructure, unfavourable

business climate, lack of partnering between indigenous contractors and technically competent foreign companies.

Ihua (2010) tested these variables using qualitative data gathered via case studies and interviews. The data were subjected to thematic content analysis and it was found that, although there has been an increase in the contract awards to indigenous firms, this is still very low compared to what the policy recommends (see schedules in NOGIC Act, 2010). This follows from Ihua *et al.* (2009) in a similar study where content analysis was adopted, which revealed that bureaucracy and administrative bottlenecks are still the major factors militating against indigenous participation.

5.4.1.2 Enhancing entrepreneurial activities within the oil producing region

Ogechukwu and Latinwo (2010) in an extensive exploratory study found that entrepreneurial development especially in developing countries has been quite problematic. Certain obstacles to entrepreneurial development that were identified include economic obstacles, suggesting poverty level as a variable for measuring this. Other obstacles identified include technological backwardness (lack of technical know-how), political-legal obstacles (instability in government and legislature), managerial barriers (lack of strategic management skills), behavioural issues (lack of behavioural codes, standards and ethics), production/operation problems (lack of complete information on the production technique available) and finance and accounting problems (misappropriation of development loans).

Ihua *et al.* (2011) obtained data from a survey of 120 randomly chosen indigenes in a particular region of Nigeria in order to determine if there are existing entrepreneurial opportunities using multiple linear regression models. They used five variables which include: joint venture and technology transfer; establishment of SMEs; utilisation of local inputs and materials; increased contract awards to indigenous contractors; and financial capacity. Finance was identified as the most significant factor (at the 5% level of significance) constraining the development of entrepreneurial activities in the oil and gas sector.

5.4.1.3 Promoting higher participation and development of indigenous SMEs

The activities of SMEs in boosting LCD cannot be overemphasised. World leaders in LCD like Brazil argue that “*local content cannot be boosted unless the businesses are there to support it*” (Oil and Gas IQ, 2010, p.1). Presently, PETROBRAS has set up 14 million SMEs worldwide, which account for 21 percent of the Nation’s GDP (UNCTAD, 2011). Also, the contribution of SMEs in enhancing competition and entrepreneurship has been described as a source of benefit and innovation to any economy (Demirguc-Kunt and Ayyagri, 2003). Organisations like the World Bank and the United Nations have invested in SMEs globally especially developing countries and this has proven successful.

The involvement of SMEs in the development of the Nigerian economy in particular has been appraised by several authors (Mambula, 2002; Lal, 2007; Aremu and Adeyemi, 2011; Okpara and Koumbiadis, 2009) and reported as having a high potential in adding value to the economy via employment creation, increasing per capita income, enhancement of regional economic balance and effective resource utilisation (Ogujuiba *et al.*, 2004). In recognition of the importance of SMEs in Nigeria as a driver of economic liberalisation, research reveals that funding is a major factor that hinders the growth of SMEs (Olu, 2009). As a result of this, various micro lending institutions have been established. These include: Nigerian Bank for Commerce and Industry (NBCI), National Economic Reconstruction Fund (Nerfund), the People’s Bank of Nigeria (PBN), the Community Banks (CB), and the Nigerian Export and Import Bank (NEXIM). However, these financial institutions have been found to have a low capital base (Ogujuiba *et al.*, 2004).

In an early study carried out by Ekpenyong and Nyong (1992) on SMEs in Nigeria, questionnaires were administered alongside interviews across SMEs which were grouped under six main headings which include; one man business; partnership, co-operative, family business, private limited company and public limited company. The results obtained indicated that on the average, capital base of these businesses were low, owing to the sizes of the business and the tendency to be called “business owners/managers” rather than merging to form partnerships which would build a stronger business and increase capital base. Notwithstanding this, access to credit facilities also hindered the growth of other SMEs which were larger in size.

More recently, Ogboru (2007) investigated the development of SMEs in Nigeria in the light of funding arrangements available. These comprised of SMEs in the manufacturing, mining, power, construction, food and general services sectors. The author adopted the mixed research method by administering semi structured questionnaires and conducting interviews with executives and key informants of various SMEs in Nigeria within the sectors researched upon. The findings revealed that access to credit facilities posed a major problem owing to major factors like heavy collateral and poor capital base of awarding institutions. Having subjected various variables e.g., educational qualification of SME executives/managers, working experience, length of years of establishment of SME, geo-political location of the SMEs and source of funding to scrutiny, it was found that the funding arrangements by the government have not yielded the desired results for the development of SMEs.

In a more specific research on SMEs in the oil and gas industry, Ihua (2010) conducted interviews with three key informants in oil and gas firms (SMEs). The results were analysed using content analysis and it was found that contract awards to SMEs had increased to an extent, but without the participation of new entrants (SMEs) into the industry.

Table 5.5 Analysis Table: First consideration in exploration and contractual rights

Objective	Section in Local content Bill	Policy Performance Indicators (PPIs)	Variables	Associated data source	Methodology	item	Case study/ industry context
First consideration in exploration and contractual rights	3 & 12 NOGIC Act (2010, p. 1&3)	“all operators and project promoters shall consider Nigerian Content when evaluating any bid where the bids are within 1% of each other at commercial stage and the bid containing the highest level of Nigerian Content shall be selected provided the Nigerian content in the selected bid is at least 5% higher than its closest competitor”. (NOGIC Act, 2010, p. 3)	<ul style="list-style-type: none"> Promoting higher participation of indigenous firms within the oil and gas industry 	Ihua, (2010 pp. 6-10), Ihua et al, (2009, pp. 167-169), Aneke (2002, pp. 1-4)	Primary Survey: Multiple Case Studies, Semi structured and open ended interviews (snowballing)	Employment status, state of residence/origin, knowledge of local content policy, understanding of the principles of local content policy	Oil and gas industry
			<ul style="list-style-type: none"> Enhancing entrepreneurial activities within the oil producing region 	Ihua et al. (2011 pp. 225, 230-234), Ogechukwu and Latinwo, (2010, pp. 61-64), MANLOC (2011), Miller (1983), Zahra (1993), Zahra and Covin (1995)	Primary survey: Questionnaire	Residents/indigenes of Niger-Delta region of Nigeria. (Bayelsa, Delta and Rivers states)	
			<ul style="list-style-type: none"> Promoting higher participation and development of indigenous small to medium sized (SMEs) firms. 	Ihua, (2010 pp. 7) Ekpenyong and Nyong, (1992 pp. 4-10), Ogboru (2007, pp. 94-232)	Primary survey: semi structured interviews with key informants. Secondary survey: Information from company websites, data from websites and archival records	Small to Medium sized Enterprises (SMEs) across various industries	

Researcher’s analysis (2012)

5.4.2 Utilisation of indigenous human and material resources

5.4.2.1 Growth and productivity of manufacturing industry

Another strand of literature on local content appraisal has focused on the utilisation of indigenous human and material resources by concentrating on growth and productivity. Productivity can be expressed either as output per operator or output per man-hour, expressed in money value (economic productivity) or in quantities (physical productivity) (Anyanwu, 2004). However, when it is measured in physical units, it can be calculated as

$$X_t = \frac{Q_t}{Q_o} \div \frac{L_t}{L_o} \quad (1)$$

given that:

X_t = productivity index

Q = output in physical units

L = labour inputs

t and o are current and base periods, respectively.

On the other hand, if the value of output is used to measure productivity, the following formula is generally used:

$$X_t = \frac{P_o Q_t}{P_o Q_o} \div \frac{L_t}{L_o} \quad (2)$$

where P_o is the base period unit price of output and other variables are as defined above.

Anyanwu (2004) utilised secondary data available from the Central Bank of Nigeria database (Manufacturing Industry Capacity Utilisation Rate) and the above formula to estimate the level of productivity in the Nigerian manufacturing industry. The time series data obtained was for three time periods 1966-1975, 1976-1985 and 1986-1998. The results indicated that the growth rate in the manufacturing industry in the period 1966-75, stood at an annual average of 12.9 percent. In the period 1976-85, an average growth rate of 18.5 percent was obtained, which was attributed to the establishment of more import substitution industries. However, with the collapse of the world oil market from the early 1980s, and the introduction of the Structural Adjustment Programme (SAP) in 1986 in Nigeria, manufacturing output

growth fell drastically to an annual average of about 2.6 percent during the period 1986-98. Between 1993 and 1998, growth in the manufacturing industry was already negative.

Alao (2010) explains that productivity measures the level of efficiency at which resources are being utilised. In other words, higher or increasing productivity implies that more output is being realised with the same level of input or the same level of output being realised with less input.

Alao (2010) used the Index of Manufacturing Production (IMP) (estimated using the Nigerian annual time series data covering the period between 1979 and 2008) as the dependent variable and, as explanatory variables: the rate of growth of gross domestic product (GDP); interest rate spread (IRS); foreign direct investment (FDI); banks' credit to the manufacturing sub-sector (CMS); inflation rates (INF); exchange rates (EXR); Quantity of Graduates' Employment (QGE); Structural Adjustment Dummy variable (SAD) and Political Crisis Dummy variable (CD). The study also adopted a Structural Adjustment Programme Dummy (SAP) variable taking the value of one (1) for the period of economic reforms, and a value of zero (0) for the non-SAP periods. Also, it uses a political stability factor - Crisis Dummy (CD) variable (zero for crisis-free periods and one for crisis-enveloped years).

The equation is specified as follows

$$IMP=f(DP) \tag{3}$$

$$\text{Where } DP = f(GDP, INF, IRS, CMS, EXR, FDI, QGE, SAD, CD) \tag{4}$$

Substituting (4) into (3)

$$IMP=f(GDP, INF, IRS, CMS, EXR, FDI, QGE, SAD, CD) \tag{5}$$

The model is further specified as:

$$IMP = a_0 + a_1GDP + a_2INF + a_3CMS + a_4FDI + a_5EXR + a_6IRS + a_7QGE + a_8SAD + a_9CD + U \tag{6}$$

$$a_0 > 0; a_1 > 0; a_2 > 0; a_3 > 0; a_4 > 0; a_5 < 0; a_6 < 0, a_7 > 0, a_8 > 0, a_9 < 0$$

where:

IMP - Index for Manufacturing Production;

DP - Determinants of productivity;

GDP - rate of growth of gross domestic product;

IRS - Interest Rate Spread;

CMS - Banks' Credit to the Manufacturing sub-sector;

INF - Inflation Rates;
 FDI – Foreign Direct Investment;
 EXR - Exchange Rate;
 QGE – Quantity of Graduates’ Employment;
 SAD - Structural Adjustment Dummy;
 CD – Crisis Dummy.

The statistical significance of these variables was tested at the 10% level of significance using the Augmented Dickey-Fuller (ADF) test. Interest Rate Spread (IRS) and Exchange Rates (EXR) had a negative but significant relationship with the Index of Manufacturing Production (IMP). However, Economic Reforms (SAD) had a positive and significant relationship with IMP, thus implying that deregulation of the Nigerian economy has a positive impact on productivity and performance in the Nigerian Manufacturing sub-sector. In conclusion, the ECM model indicated that the growth of the Nigerian manufacturing industry between 1979 and 2008 has been positively influenced by the liberalisation of the economy.

5.4.2.2 Manufacturing industry Capacity Utilisation Rate (MCUR)

Capacity Utilization as explained by Christiano (1981) is a measure of the intensity with which a national economy (or sector, or firm) makes use of its resources. This is also referred to as “output gap” and represents the degree of underutilization of resources. Capacity utilisation is mostly used in the manufacturing industries particularly because of the homogeneity of inputs and outputs. Christiano specifies a model to measure the capacity utilisation rate in the manufacturing industries of nine selected industrialised countries.

Christiano (1981) explains that the production function method is more general than the output/capital method because it can take account of non-trend like shifts in the capital/labour ratio. In view of this Christiano (1981) adopts a Cobb Douglass production function as illustrated by Artus (1970) below:

$$\alpha = \exp r L \log(WY) - \log T \tag{7}$$

where

W_t is the hourly wage rate,

T is the number of peak out-put points (e.g., the number of elements in D), and $\exp x \equiv e^x$.

Next,

setting $Z_t = \log Y_t - (1 - \alpha)K_t - \alpha L_t$, $t \in D$, one chooses C , r , and u , for $t \in D$ in

$$Z_t = C + rt + u_t \quad (8)$$

so that $\sum u_t^2$ is minimized. Capacity output, Y_t^c , is then defined as

$$Y_t^c = (\exp C) e^{rt} K_t^{(1-\alpha)} (L_t^p)^\alpha \quad t = 1, \dots, T \quad (9)$$

where $L_t^p = 1$

Christiano (1981) observes that the results obtained from using data available from the database were different from the one available from the survey. This discrepancy was attributed to the fact that survey-based figures are computed by using more highly disaggregated data. The results obtained indicated that the capacity utilisation increased, on average, over the short term period tested but this varied with respect to the levels of agreement that was entered into between these countries and the industry.

Similarly, Dhrymes' (1971) study bears a strong resemblance to that by Artus (1970) although this has been modified because f_t and k_t are set equal to unity at cyclical peaks and to zero otherwise, before proceeding with the estimation. In this case however, degrees of freedom are lost (i.e fewer available observations) thus making it difficult to estimate as many parameters as Artus does.

Comparing these two methods however, Artus' (1970) method seems to have the advantage of making use of a sufficient number of observations, thus making statistical inference more reliable. In his findings, it was observed that capacity utilisation rates were increasing, and this was adduced to the high level of industrialisation of these countries.

Bakare (2011) also specified a multiple linear equation on the manufacturing industry capacity utilisation rate to specifically measure the impacts of local content on the capacity utilization rate in the Nigerian manufacturing industry. This equation is specified as follows:

$$MCUR = \Omega_0 + \Omega_1 LOCCL + \Omega_2 MAPRT + \Omega_3 CROPR + \mu_i \quad (10)$$

Where

MCUR: Manufacturing Industry Capacity Utilization Rate

LOCCL: Local Content Level in Nigerian Oil Sector

MAPRT: Manufacturing Industry Production Rate

CROPR: Crude Oil Production Rate

μ_i : Error term

Bakare's (2011) findings indicated that the independent variables included in the regression model explained 85% of systematic variation in manufacturing industry capacity utilization, meanwhile, other variables not included in the model explained a 15% variation in manufacturing industry capacity utilization.

The analysis adopted three main steps-Phillips Perron (PP) test of stationarity, Johansen test of co-integration and the error correction mechanism (ECM) analysis. The results revealed a negative and statistically significant effect of crude oil production rate on the manufacturing industry capacity utilisation rate. This was attributed to idle capacity in the indigenous oil and gas service companies in particular, as a result of their inability to win sizeable contracts to deploy maximum resources.

5.4.2.3 Availability of credit facilities for the development of indigenous companies

Omofonmwan and Odia (2009) carried out a study to identify the rationale behind the series of confrontations, confusion and low productivity in the Niger-Delta region of Nigeria as well as proffering mitigating measures in addressing the dilemma. Among the variables considered was lack of access to credit facilities by the inhabitants of the Niger Delta community. The study critically reviewed past literatures on the history and development of the Niger Delta from 1956 (when oil was discovered in commercial quantity in the Niger Delta region). Having considered this variable as a major limiting factor in the oil producing region, the author suggested that before credit facilities are made available, basic infrastructural facilities like regular supply of portable/safe drinking water, health care facilities, accessible and paved roads, educational facilities (scholarships, vocational and skill acquisition centres), electricity, sporting facilities, town hall, agricultural development and

community income yielding ventures (palm oil mill, rice mill, cassava mill) should be provided so that there would be a conducive environment for the proper utilisation of the credits which are advanced to the businesses for their development. In the absence of this, he warned that there would be continuous hostilities, hostage taking, physical combat with the military personnel and police and mass vandalism of petroleum pipelines, which would defeat the purpose of any loan awards.

Anuwa (2005) also considered financing options for indigenous firms in Nigeria with specificity on SMEs. Questionnaires were administered to collect data on 10 formal and informal financial institutions. Also, 20 SMEs were randomly selected across Kaduna and Abuja (Northern Nigeria) for this study. While the questionnaire for commercial banks and informal institutions contained questions on the attitude of financial institutions towards financing SMEs, the SMEs' questionnaire was designed to provide data to assist in determining the SMEs schedule of fund acquisition and the mix accessed by the SMEs.

The results obtained showed that there are numerous sources of finance available but there seems to be some difficulty in accessing them, especially from formal financial institutions because they are more discerning in their choice of SMEs they choose to finance. In the case of the informal financial institutions, although it was found that the un-regulated informal financial intermediaries provide substantial access to credit facilities through savings mobilisation, they do not address the problems of other smaller enterprises whose level of financial need is so low as to meet the fund's optimal scale of investment.

From a broader perspective, Bhatia and Khatkhate (1975) evaluated the effect of financial intermediation on entrepreneurial development in 11 African countries (Ghana, Ivory Coast, Kenya, Madagascar, Malawi, Mauritius, Morocco, Nigeria, Sierra Leone, Tunisia and Zambia). To test this, certain indicators were selected based on literatures considered by the authors to determine variables that directly affect financial intermediation.

In view of this, currency, demand deposits and quasi money to GNP were taken as indicators. GDP figures were preferred over GNP for uniformity purpose as the GNP figures were not available for all the countries in their sample. These variables were subjected to empirical scrutiny by considering the ratios of the indicators to the total GDP and the per capita GDP in each of the countries of their sample. Three sets of results were obtained. At one end, the increase in growth of per capita GDP increased financial intermediation, at the other end, it

was observed that there was also an increase in per capita GDP but it did not have any effect on financial intermediation. However, the third result showed that financial intermediation is sometimes positively and sometimes negatively correlated with the level of per capita GDP.

5.4.2.4 Capability of Nigerian banks in providing credit facilities

Owualah (1999) evaluated the performance of private banks and management consultants in providing credit and management assistance to participants in the Small-Scale Industries and Graduate Employment (SIGE) Programme. This research was carried out using the perceptions of the loan beneficiaries in the SIGE Program as to the degree their businesses were constrained by the availability of credit. 500 structured questionnaires dealing with aspects of the loans from banks as well as the perceptions of the beneficiaries on a number of selected criteria for the banks and consultants were administered, on a stratified random sample in 7 states of Nigeria. These states were selected on the basis of potential level of youth unemployment using as a proxy their level of secondary and tertiary education enrolment. Out of these questionnaires, 232 were completed, indicating a response rate of 46%, which were analysed using a simple t-test.

The results indicated that only 28 percent of the respondents obtained the entire amount originally sought. 69 percent of the respondents indicated that their loans fell short of what they had requested, while 3 percent failed to respond to this question. Further analysis showed that, on the whole, about 55 percent of those requests that were partially met received 50 percent of what they initially required while the modal size of the loans to the entire group was 52 percent. The study concluded that without the right complement of financial and business management support, entrepreneurship may be limited.

Onugu (2000) examined the developmental role of community banks, using 'deposit mobilisation capability' and 'funding capacity' in key sectors of the rural economy as yardsticks. For this study, a random sampling technique was used to sample various community banks in South Eastern Nigeria. A bank that has disbursed less than 30 percent of its total deposit required was regarded under-trading which implies that the bank was not helping economic development whereas one disbursing over 70 percent was regarded as over-trading, indicating that its ability to meet its obligations for all its deposits in the long term may be low. The results obtained showed that only about 23.3 percent of deposits were

ploughed into the economy through loans and advances, thus these banks were under-trading and not contributing to economic development. It was concluded that the reason for this could be attributed to operators' involvement in capital flight, a 'risk averse' or 'loan shy' attitude of operators, or to operators' involvement in direct trading.

Table 5.6: Analysis Table: Utilisation of indigenous human and material resources

Objective	Section in Local content Bill	Policy Performance Indicators (PPIs)	Variables	Associated data source	Methodology	item	Case study/ industry context
Utilisation of indigenous human and material resources	12; 49-52 NOGIC Act (2010, p. 8-11)	As from the commencement of this Act, the minimum Nigerian content in any project to be executed in the Nigerian oil and gas industry shall be consistent with the level set in Schedule to this Act	Growth and productivity of Manufacturing Industry	MANLOC (2011 pp.8-10), Anyanwu (2004, pp. 127-130) Alao (2010, pp. 29-32)	Secondary Data from National Bureau of Statistics and Central Bank of Nigeria	Infrastructure availability, access to credit, product demand;	Manufacturing Industry
		(Section 11(1) NOGIC Act, 2010 p. 2 & 23)	Manufacturing industry Capacity Utilisation Rate (MCUR)	Bakare, (2011 pp. 83-87) Artus, (1970, pp. 256) Dhyrnes, (1970, p. 200-202), FRB, (1994, pp.16-18)	Multiple Linear Regression	Local Content Level (LOCCL), Manufacturing Industry Production Rate (MAPRT), Crude Oil Production Rate (CROPR)	Oil Industry
		MATERIALS AND PROCUREMENT: Nigerian content level Steel plates and flatsheets 100% Steel pipes 100%	Availability of credit facilities for the development of indigenous companies.	Ihua, (2010 pp. 8); Heum et al, (2003 pp. 68) Ihua, (2010 pp 8); Bhatia and Khatkhate, (1975 pp. 132-145); Omofonmwan and Odi, (2009 pp. 25-30); Anuwa, (2005 pp. 10-14)	semi structured interviews with key informants.	currency, demand deposits and quasi money to GNP	Small to Medium sized Enterprises (SMEs), Commercial banks, oil and Gas
			Capability of Nigerian banks in providing credit facilities	UNCTAD/CALAG (2006, pp. 63-70), Owualah (1999 pp.321-330) Onugu (2010, pp. 104-107)	Primary survey of banks and secondary analysis of commercial bank data	Capital base, Loan grants, interest rate	Banking

5.4.3 First Consideration for Employment and Training

5.4.3.1 Employment generation and utilisation of local human resources

Ihua (2010) collected two sets of data. The first set consists of key informants from multiple-case studies conducted on three small to medium-sized firms operating within the oil industry, while the second set were semi-structured interviews with five key informants, which were obtained by snowballing. These respondents preferred anonymity, thus they were identified as Alpha, Beta and County and; K101, K102, K103, K104 and K105 respectively.

Questions asked at interview included those relating to the frequency of contract awards and how often these firms partner with others to form joint ventures. The responses were subjected to content analysis and following this, the rates of employment generation and utilisation of local human resources were determined. This result from this analysis showed that contract awards to indigenous firms had increased thus creating more jobs. This was evident in the responses of Alpha, Beta and County who indicated an increase in staff strength from 12 to 63, 15 to 39, and 18 to 44, respectively.

Bakare (2011) also highlights the impact of a high manufacturing industry capacity utilisation rate (MCUR) on indigenous employment generation. Thus following the estimation of the model specified as:

$$MCUR = \Omega_0 + \Omega_1LOCCL + \Omega_2MAPRT + \Omega_3CROPR + \mu_i \quad (11)$$

he finds that a 1% increase in local content level in oil sector increases the manufacturing industry capacity utilisation rate by 12%, thus resulting in employment generation and value addition for the Nigerian economy.

5.4.3.2 Cause and effect of skill gap among potential employees

Dainty *et al.* (2004) carried out a research on how to bridge the existing skill gap in the technology industry. The primary respondents/participants were industry stakeholders, although the collective opinions of key clients, consultants, contractors, industry bodies and employers of all sizes were also included to give a more robust result. This study was carried out in the East Midland area of England. In addition to this, a focus group was convened and

a sampling procedure was devised. All the individual and collective responses were recorded and having interviewed all these people on ways by which the skill gap can be bridged, this was analysed using QSR NVivo software.

The results obtained showed that a key factor militating against a successful regional skills strategy was the lack of a regional industry identity. In addition, it was suggested that the specification of new materials and processes could help to alleviate the current situation such as engaging employers in training, accessing funding streams and training frameworks and the provision of labour market intelligence.

EI *et al.* (2008) undertook a research to ascertain the level of awareness of skill gap among energy companies. This research was conducted in three separate segments: (i) a questionnaire sent to 300 energy companies on their recruitment policies; (ii) another questionnaire were sent to 2,400 individuals employed in the energy industry regarding their short and long term employment expectations; and (iii) interviews with HR personnel, 10 EI Partners and other key company contacts on their changing employment needs, recruitment practices and development policies (EI *et al.*, 2008). Over 1300 responses were received in total and these questionnaires were jointly compiled by the three partners involved in the research.

The main variables tested to ascertain the causes of the skill gap in the energy industry included global demand for oil, number of qualified engineers with right skills and experience, attractiveness of sector and availability of technical and commercial skills. The results obtained showed ways by which the skill gap can be bridged which include: internal cross skilling and leadership development programmes; external recruitment from competing companies or other industries; external recruitment from customers or suppliers; increased use of technology; and greater use of remote and virtual ways of working.

Table 5.7 Analysis Table: First consideration for employment and training

Objective	Section in Local content Bill	Policy Performance Indicators (PPIs)	Variables	Associated data source	Methodology	item	Case study/ industry context
First consideration for employment and training	28-31 NOGIC Act (2010, p. 6&7)	The holder of an oil mining lease shall ensure that a. within ten years from the grant of his lease	<ul style="list-style-type: none"> Employment generation and utilisation of local human resources 	Ihua, (2010 p. 7); Ihua, (2011 p. 229-235), Bakare (2011 pp.86-90)	Multiple case studies with SMEs & key informants, semi structured questionnaires		Small to Medium sized Enterprises (SMEs) and banking
		1. The number of citizens of Nigeria employed by him in connection with the lease in managerial, professional and supervisory grades (or any corresponding grades designated by him in a manner approved by the Minister) shall reach at least 75% of the total number of persons employed by him in those grades; and 2.The number of citizens of Nigeria in any one such grade shall be not less than 60% of the total; and (b) all skilled, semi-skilled and unskilled workers are citizens of Nigeria	<ul style="list-style-type: none"> Cause and effect of skill gap among potential employees 	Peek <i>et al.</i> (2008), Dainty <i>et al.</i> (2004, pp. 275-281) EI <i>et al.</i> (2008, pp. 5-26)	Questionnaires	Percentage of expatriates in oil & gas fields, educational level & staff training, Vocational & technical training, Insurance cover, Knowledge of advanced technologies	Oil and gas industry
		Section 38, Petroleum (Amended) Act 1969	<ul style="list-style-type: none"> Establishment of skill acquisition centres 	NOGIC Act, (Section 30, pp.7 2010); Obi (2008, pp.85-87)	Exploratory study	<p>PRIMARY VARIABLES: Infrastructural Development, Political Stability, Investment Climate, Project Financing, Transparency</p> <p>SECONDARY VARIABLES: Educational standards, Legal policy, Licensing system, Resource Management, Research & Development, Fiscal Policy, Environmental policy</p>	The Nigerian Government

5.5 RESEARCH FOCUS OF THE STUDY AND EVALUATIVE FRAMEWORK

Having considered LCD from various standpoints (i.e theoretical and empirical) and having reviewed the policy in detail in the light of the NOGIC Act, it appears evident that the main thrust of the policy is on indigenous employment by the operators (IOCs and indigenous operators) and the creation of local jobs by the service providers (multinational and indigenous) (NOGIC Act 2010 Sections 10(1)(b), 11(3), 12, 13, 15, 29-35). As seen in the review of LCD in other countries, the aim of each of these countries is geared towards having their nationals employed and manning the affairs of the industry. Similarly, the Nigerian LCD policy has an overarching aim of value addition and development of in-country capacity. This hinges upon local employment and in-country job creation which appears to be the common denominator among countries with policies to develop local content.

Various authors have argued that local employment and job creation should be paramount in the development of LCD policies and strategies. The policy has been highlighted as one which ensures a level playing ground for foreign and indigenous players with an ultimate goal of creating jobs locally which transforms into sustainable indigenous growth (INTSOK Report, 2011). This simply highlights the fact that LCD policy is capable of bridging the skill gap that exists within the host country because it produces an environment for competitiveness and skill enhancement/development.

Ozigbo (2008) posits that LCD should be encouraged because it is a strategy that can help increase the quantum of indigenous goods and services produced which translates into employment generation. In spite of Ozigbo's argument, availability of employment as stated by Evangelista and Savona (2003) is only guaranteed by the availability of innovative skills, and these skills can be acquired by partnering (Heckman, 1998).

Warner (2011) re-iterates that the use of nationals in the industry cannot be over emphasised in the development of backward and forward linkages. Furthermore, the author states that the employment of nationals is a good metrics for measuring LCD in the oil industry.

There is an increasing awareness for indigenous capacity development and job creation in the global oil industry. As pointed out by Ovidia (2012), Angola's local content policy is geared towards the employment of local manpower to create direct benefits for the country's

nationals. On the socio economic angle, the need for local content in Nigeria is paramount for the employment of Nigerian nationals so as to reduce capital flight. It is estimated that Nigeria loses \$8 billion to capital flight via foreign employment, contract awards and importation of equipment (Bakare, 2011; Ihua *et al.*, 2011). In a bid to tackle a similar problem, the Angolan decree 20/82 was established to promote Angolan employment in the oil and gas industry and this decree sets targets and terms for the employment of Angolans. In a similar assertion, Olomola and Olumide (2005) explain that the principal focus of a local content policy for Nigeria should be the creation of more jobs for Nigerians and to encourage the purchase of locally manufactured goods and services.

Although the LCD policy focuses on various aspects (such as first consideration for Nigerians in exploration and contractual rights; utilisation of indigenous human and material resources; first consideration for employment and training; research and development; technology transfer), ‘employment and job creation’ seems to be the bedrock upon which the policy objectives stand. It is for this reason that the present study (this PhD thesis) will focus on the ‘indigenous employment and job creation’ objective of the LCD policy.

The literature review identified a gap in the literature, which arises from the under-consideration of the LCD policy from a holistic point of view (i.e., from the standpoint of all the stakeholders). Accordingly, this research will focus on the employment and job creation aspect of this policy from the standpoint of various stakeholders in the Nigerian oil and gas industry, particularly those identified from a full stakeholder analysis to be carried out by the researcher.

5.6 CONCLUDING REMARKS

The chapter commenced by outlining the roles and responsibilities of the stakeholder groups that are specifically highlighted in the NOGIC Act. Following this, various conceptual frameworks on LCD were appraised from the perspective of the number of stakeholders considered by the authors. Overall, it was found that at best, these authors only considered two stakeholder groups for their appraisal. These were the government and IOCs stakeholder groups which suggests that these stakeholder groups probably have considerable influence (a contention which will be explored in more detail in later chapters).

The empirical review was guided by the objectives of the NOGIC Act but given that the research focus of this thesis hinges on indigenous employment and job creation, the review laid emphasis on this area by concentrating on past studies and the methodologies that were adopted in answering the research questions of the respective studies.

Drawing from these reviews (theoretical and empirical reviews, and the review of LCD in other countries), a clearer ‘research focus’ was clearly highlighted having identified the ‘research gap’ and possible areas where this study can contribute to the existing body of knowledge.

The next chapter reviews various theories underpinning LCD, culminating in a novel evaluating framework for the assessment of the impact of LCD and a thorough review of stakeholder theory as the conceptual overarching framework of reference for conducting the analysis.

CHAPTER SIX

REVIEW OF THEORIES UNDERPINNING LOCAL CONTENT DEVELOPMENT

6.1 CHAPTER OVERVIEW

This chapter reviews various theories that could be said to underpin LCD. Having reviewed these theories, one main theory-Stakeholder Theory is found most suitable to adopt for this study, although the other theories are also considered but not in as much detail as stakeholder theory. Following this, a thorough examination of stakeholder theory is carried out carefully discussing it in detail. Having done this, a framework for the study is developed based on the literature reviews in past chapters and the main theory underpinning the study. The chapter concludes highlighting the step-by-step application of this framework in this thesis.

6.2 INTRODUCTION

Following from the discussion on LCD in other countries, it was concluded that the overarching aim of the local content policy (LCP), including LCP in Nigeria, centres around 'indigenous employment' and having their nationals operate the industry themselves. Therefore, the definition of the NOGIC Act (2010) which suggests that local content is more about competitiveness than protectionism³ is upheld.

Bearing this in mind, various theories have been considered in the light of their importance and usefulness to LCD.

6.3 GROWTH THEORY

Growth theory developed in the 1950s and 1960s by economic theorists such as Solow, Stiglitz and Uzawa. Jovanovic (2000) broadly highlights three main factors that determine growth: (i) the progress of science and productive knowledge, (ii) the growth of individual skills, and (iii) incentives.

Local content can be classified within the second category as highlighted by Jovanovic (2000) (growth of individual skills) which he highlights as one of the main constraints to

³ Competitiveness is the ability of a contractor/domestic supplier to supply goods or render services in an international market. Importantly, this market could be entirely within the domestic economy, with foreign and local firms competing against each other in open competition. Or, it can mean a market in a foreign country accessible to domestic suppliers.

The term protectionism refers to the intended or unintended economic policy of restraining trade between countries through methods such as tariffs (taxes), on imported goods, or restrictive import quotas and regulations designed to discourage imports (Warner, 2011p.11)

growth. Literature abounds on skill development as a major factor necessary for developing local content (see Ozigbo, 2008; OECD, 2006). Supporters of endogenous growth theory argue that the productivity in the economies of today's industrialised countries, compared to the pre-industrialised era, is evidence that growth was created and sustained from within the country, and not as a result of external interventions (Martin and Sunley, 2008). Consequently, this is responsible for sustainability because of the presence of indigenous skills and the ability to hand down these skills and competencies to future generations.

However, in developing countries, the constraining force on growth seems not to be predominantly the cost of adopting new ideas, but the lack of skill to put existing and available ideas into practice, thus creating a skill gap (Jovanovic, 2000). According to Lucas (1988), technology can be shared or transferred across various countries such that some technology is being operated in another country, although not by indigenous manpower (for example, see chapter 3 [subsection 3.4] case of NIKE), because of the aforementioned skill gap that characterises such countries. In view of this, technology is being operated using the skills of external manpower. According to Aghion and Howitt (1997) sustaining a positive growth rate of output per capita in the long run in any economy is dependent upon advances in technological knowledge in the form of new skills and other processes. This assertion is underpinned by the neo classical model of endogenous growth developed by Solow (1956) and Swan (1956) which postulates that growth of per capita output is the result of capital accumulation and/or technological progress.

Growth theory can be argued to support competitiveness in that growth in any sector of an economy will lead to competitive advantage which will in turn bring about an opportunity to carve a niche within thus developing capacity in that area of specialisation.

6.4 THEORY OF CONTENT PROTECTION

The concept of LCD can be argued as a means of content protection and value addition (Grossman 1981). The issue of content protection is connected to the concept of value addition. As various states strive to ensure that their resources and in fact economy, are protected from external dominance (which may arise as a result of lack of competencies within the state), the need to develop technical and technological skills then arises among the indigenes of the state hence leading to value addition.

In articulating the theory of domestic content protection and content preference, Grossman (1981 p. 583) suggested that *“a given percentage of domestic value added or domestic*

components be embodied in a specified final product". As much as it is argued that protectionist states' develop their local content, Grossman (1981) argues that it may be impossible to develop a final product completely without the input of external manpower. Therefore, while averting international dominance in any economy, it is to be noted that the development of developing economies, is still dependent on developed economies from Grossman's assertion. In other words, no country can attain development in isolation. Thus, the definition of local content in Indonesia resonates whereby local content is seen as domiciliation irrespective of the manpower involved in these processes. In view of this, it can be argued that among other reasons for the clamour to develop local content is only a 'disguised' means to protect the intermediate stages of production of developing economies.

On the contrary, Chao and Yu (1993) argue that although the utilisation of imported materials to produce domestic final product spurs the growth of the domestic sector, this brings about an undesirable effect of lowering the domestic value added to the final product. Along this line of argument, Chao and Yu (1993) concludes in their analysis that reducing the import of foreign intermediates will more likely be the solution to achieving an increase in in-country element of final products. While Chao and Yu argue from the standpoint of an increasing local content, Richardson (1993) highlights that the utilisation of imported materials to produce final products tends to induce foreign capital flows. This is because foreign firms will be forced to set up operations in locations where they are being affected by domestic content protection laws. By doing this, indigenous employment will increase as well as more jobs being created, as a result of domiciliation of foreign operations. This provides an underpinning for the assertion of Grossman (1981) which explains that an increase in content protection will impact positively on the host community, and the economy at large.

6.5 NECESSITY AND OPPORTUNITY THEORY OF INDIGENOUS ENTREPRENEURSHIP

The unemployment rate in Nigeria has been categorised as 'chronic' according to Gbosi (1997). This is because the high and consistent unemployment cuts across old and young, as well as educated and non-educated (Oyebade, 2003; Ajayi and Adeniji, 2008; Gbosi, 1997). Having considered this situation, various authors have suggested that the practice of entrepreneurship is capable of reducing unemployment and other social problems common among young people (Owualah and Obokoh, 2008; Nwoye, 1997; Adjebeng-Asem, 1990).

The Global Entrepreneurship Monitor (GEM) conducts one of the largest on-going studies of entrepreneurial dynamics in the world. The study explores the role of entrepreneurship in national economic growth as it affects various countries. The GEM has set an agenda for researching the relationship between entrepreneurship and economic development and has developed various concepts around the indigenous entrepreneurial theory, these are ‘Necessity Theory’ and ‘Opportunity Theory’ of indigenous entrepreneurship (Block and Sandner, 2009; Block and Wagner, 2006; Reynolds *et al.*, 2002; Stenberg *et al.*, 2006). The difference between these two theories is in the motivation of the entrepreneurs to start their venture (Block and Wagner, 2006).

Necessity Theory purports that businesses are conditioned by differential effects of necessity such that indigenous entrepreneurs emerge in poor developing countries due to poverty, the need to survive, unemployment, lack of choice at work and low levels of education (which reduces the potential of gaining well-paid jobs) (Ihua *et al.*, 2011; Rosa *et al.*, 2006). This theory contradicts the 2001 GEM model which proposes that increased growth in the economy is the result of increased emergence of entrepreneurs. A critical examination of necessity theory would suggest that entrepreneurs may emerge for their own ‘personal survival’ or to ‘make ends meet’ as the case may be (Ihua *et al.*, 2011). This is in line with the popular slogan “*necessity is the mother of invention*”.

Opportunity theory views the concept of indigenous entrepreneurship development from another perspective. According to Acs *et al.* (2009), opportunity theory is reflected in developed countries where entrepreneurial activities are developed in order to exploit a perceived business opportunity. Ihua *et al.* (2011, p. 226) explain this theory as an ‘*inspiration*’ which comes as a result of “*opportunities spotted in the market*”. The GEM 2004 data shows that 65 percent of entrepreneurs in the world are opportunity entrepreneurs while 35 percent are necessity entrepreneurs. This suggests that entrepreneurs are predominant in developed countries.

However, this argument has been dispelled in Nigeria, a developing country where business start-ups tend to be a mix of both necessity and opportunity connotations (Ihua *et al.*, 2011). This is because some businesses are started in the country as a result of dire need for survival, loss of jobs and inability to gain employment while others are started as a result of an emergent opportunity spotted in the market.

Both necessity and opportunity theories of entrepreneurship link entrepreneurship with endogenous growth theory in that they both, via entrepreneurship, seek to develop growth within the economy. Although literature abounds on the existence of several perspectives to the discourse of entrepreneurship, such as the Schumpeterian, neo classical, and Austrian school of thought, there is clear evidence that following the second world war, the focus on entrepreneurship has increased as a result of the role it plays in economic growth (Venesaar and Loomets, 2006; High, 2004; Ogbo and Nwachukwu, 2012).

Relating these theories to this research, various authors have highlighted the role entrepreneurship plays in developing public policies (Xheneti and Smallbone, 2008; Bagchi and Pal, 2003; Minniti, 2008; Acs and Szerb, 2007). Since the main thrust of the LCD policy is to promote indigenous development via participation of indigenous firms in oil and gas and other related activities, to generate local jobs and other sources of employment, it is imperative to consider the theories of indigenous entrepreneurship (necessity and opportunity) as part of the relevant theories for this research.

6.6 STAKEHOLDER THEORY

Before addressing the issue of stakeholder theory, Scholl (2002) suggests that the word 'stakeholder' needs to be unbundled. He also argues that the definition of a 'stake' should precede that of a 'stakeholder' since that is what qualifies the word stakeholder itself. Following from this, Mitchell *et al.* (1997, p. 858) refer to a stake as "*legal, moral, or presumed claims, or on the capacity to affect an organisation's behaviour, direction, process, or outcomes*". Having addressed this, the issue of who stakeholders exactly are can now be addressed. According to Freeman (1984, p. 31) "*stakeholders are those groups without whose support, an organisation ceases to exist*". This definition suggests that stakeholders are pillars of support and as such play vital role in ensuring the very existence of an organisation. In addition, Freeman (1984) explains that stakeholders are any group or individual that can either affect, or is affected by the achievement of a corporation's objective and purpose. From the definitions above, several others have been suggested by various authors to give a clearer picture of who stakeholders are. Table 6.1 outlines various definitional dimensions by which stakeholders can be classified.

Table 6.1: Who is a stakeholder? A definitional taxonomy

Source	Stake
Stanford memo, 1963	"those groups without whose support the organization would cease to exist" (cited in Freeman & Reed, 1983, and Freeman, 1984)
Rhenman, 1964	"are depending on the firm in order to achieve their personal goals and on whom the firm is depending for its existence" (cited in Nasi, 1995)
Ahlstedt & Jahnukainen, 1971	"driven by their own interests and goals are participants in a firm, and thus depending on it and whom for its sake the firm is depending" (cited in Nasi, 1995)
Freeman & Reed, 1983: 91	Wide: "can affect the achievement of an organization's objectives or who is affected by the achievement of an organization's objectives" Narrow: "on which the organization is dependent for its continued survival"
Freeman, 1984: 46	"can affect or is affected by the achievement of the organization's objectives"
Freeman & Gilbert, 1987: 397	"can affect or is affected by a business"
Cornell & Shapiro, 1987: 5	"claimants" who have "contracts" with the organisation
Evan & Freeman, 1988: 75-76	"have a stake in or claim on the firm"
Evan & Freeman, 1988: 79	"benefits from or are harmed by, and whose rights are violated or respected by, corporate actions"
Bowie, 1988: 112, n. 2	"without whose support the organization would cease to exist"
Alkhafaji, 1989: 36	"groups to whom the corporation is responsible to"
Freeman & Evan, 1990	contract holders
Thompson et al., 1991: 209	in "relationship with an organization"
Savage et al., 1991: 61	"have an interest in the actions of an organization and ... the ability to influence it"
Hill & Jones, 1992: 133	"constituents who have a legitimate claim on the firm ... established through the existence of an exchange relationship" who supply "the firm with critical resources (contributions) and in exchange each expects its interests to be satisfied (by inducements)"
Brenner, 1993: 205	"having some legitimate, non-trivial relationship with an organization [such as] exchange transactions, action impacts, and moral responsibilities"
Carroll, 1993: 60	"asserts to have one or more of the kinds of stakes in business"-may be affected or affect ...
Freeman, 1994: 415	participants in "the human process of joint value creation"
Wicks et al., 1994: 483	"interact with and give meaning and definition to the corporation"
Langtry, 1994: 433	the firm is significantly responsible for their well-being, or they hold a moral or legal claim on the firm
Starik, 1994: 90	"can and are making their actual stakes known"- "are or might be influenced by, or are or potentially are influencers of, some organization"
Clarkson, 1994: 5	"bear some form of risk as a result of having invested some form of capital, human or financial, something of value, in a firm" or "are placed at risk as a result of a firm's activities"
Clarkson, 1995: 106	"have, or claim, ownership, rights, or interests in a corporation and its activities"
Nasi, 1995: 19	"interact with the firm and thus make its operation possible"
Brenner, 1995: 76, n. 1	"are or which could impact or be impacted by the firm/organization"
Donaldson & Preston, 1995: 85	"persons or groups with legitimate interests in procedural and/or substantive aspects of corporate activity"
Gray <i>et al.</i> , 1996:45	"Any human agency that can be influenced by, or can self influence the activities of the organisation in question"
Carroll and Nasi, 1997:46	"Any individual or group who affects or is affected by the organisation and its process, activities and

	functioning”
Argandona, 1998:1099	“Those who have an interest in the company (so that the firm, in turn, may have an interest in satisfying their demands”
Frederick, 1998:361	“Everyone in the community who has a stake in what the company does”
CCBE, 1999:257	“Parties that have a stake in the corporation: something at risk, and therefore something to gain or lose, as a result of corporate activity”
Gibson, 2000:245	“Those groups or individuals with whom the organisation interacts or has interdependencies and any individual or group who can affect or is affected by the actions, decisions, policies, practices, or goals of the organisation”
Ruf <i>et al.</i> , 2001:145	“Constituencies who have explicit or implicit contracts with the firm”
Orts and Strudler, 2002:218	“Participants in a business (who) have some kind of economic stake directly at risk”
Phillips, 2003a:30-1	“Normative stakeholders: for whose benefit the firm should be managed. Derivative stakeholders: potential to affect organisation and its normative stakeholders
Bucholz and Rosenthal, 2005:138	“people who are affected by the corporation but not integral to its basic identity
Uslay, 2007:35	“A group of people who have a legal title to an asset or a property”
PMBOK, 2008:5	“People who possess specialist or organizational knowledge needed for the work”
Bourne, 2009:2	“A set of people affected by a decision related to the work or its outcomes”
Parmar, 2010:44	“People who are treated in a certain way or who have a particular right (legal or moral) protected”
Gurkov <i>et al.</i> , 2011:4	“A person, group of persons, organisation , network or institution that supplies crucial resource for the very existence of the firm and is capable to claim for an adequate return for the resource supplied”
Miles, 2012:260	“An association or group impacted by the work or its outcomes, or have the ability to impact (or influence) the execution of work or its outcomes”

Source: Developed/updated by the author drawing from the earlier taxonomy developed by Mitchell et al. (1997, p.958)

According to Freeman (1984), stakeholders can be divided into internal and external. While internal stakeholders consist of customers, suppliers, owners and employers amongst others, external stakeholders include competitors, pressure and interest groups. Freeman’s classification suggests that one group is not more important than the other as their levels of importance is dependent upon what is being explored. Another classification is that suggested by Clarkson (1995). These are Primary and Secondary stakeholders. Clarkson defines primary stakeholders as *“those without whose continuing participation, the corporation cannot survive as a going concern.....if any primary stakeholder group such as customers or suppliers becomes dissatisfied and withdraws from the corporate system in whole or part, the corporation will be seriously damaged as a going concern”* (Clarkson, 1995, p. 106).

Secondary stakeholder groups are defined as those who influence or are affected by the corporation but do not have any direct engagement with it hence, they are not essential for its

survival (Clarkson, 1995). In as much as the survival of the corporation does not depend on this stakeholder group, Clarkson (1995) argues that they have the capacity to mobilise public opinion either in favour of, or in opposition to the corporation's performance. This assertion suggests that secondary stakeholders can be in the form of interest and pressure groups. A good example which bears relevance to this study are pressure groups in the Niger-Delta (South-south) area of Nigeria where oil is being produced. These groups have affected the production of oil and have claimed responsibility for breaking pipelines, abduction, kidnap and killings of oil workers in the past, who work for primary stakeholders such as operators (indigenous and multinational operators) and suppliers of oil and gas services.

Stakeholders are also classified in terms of importance versus influence. According to Bailur (2006, p. 67), "*importance illustrates a stakeholder whose problems, needs, and interests are the priority of the intervention, and influence is how powerful the stakeholder is*".

Since publication of Freeman's (1984) *Strategic Management: A Stakeholder Approach*, stakeholder theory has attracted considerable attention by management research. Freeman (1984) proposed a managerial perspective that calls for the identification of all key stakeholders of the firm. These should include all those who may 'affect or be affected by' a corporation such as owners, customers, employees and suppliers (see Clarkson, 1995; Freeman, 1984; Freeman and Reed, 1983; etc.)

Perspectives on the stakeholder theory have developed around three different approaches namely: descriptive, normative and instrumental (Bailur, 2006; Reed *et al.*, 2009; Freeman *et al.*, 2004; Donaldson and Preston, 1995; Friedman and Miles, 2002). Generally, the descriptive approach describes what a corporation is. According to Donaldson and Preston (1995, p. 6) "*it describes the corporation as a constellation of co-operative and competitive interests possessing intrinsic value*". The descriptive approach is grounded in the organisational behaviour literature, and describes the characteristics and behaviour of stakeholders involved in a corporation, paying attention to how the stakeholders interact with one another to deliver corporate objectives (Bailur, 2006). Although Trevino and Weaver (1999) express that this approach is merely descriptive and solely concerned with the way stakeholders interact. Donaldson and Preston (1995) argue that the descriptive stakeholder analysis is rarely conducted standalone but acts as a necessary precursor to the normative and instrumental approaches of stakeholder theory, since it provides a detailed explanation for past, present and future affairs of the stakeholders in the corporation.

The instrumental approach is more pragmatic in that it focuses on understanding how “organisations, projects and policy makers can identify, explain and manage the behaviour of stakeholders to achieve desired outcomes” (Reed *et al.*, 2009, P. 136). This is a more in-depth approach as it seeks to examine if there are any connections between the practice of stakeholder management and the achievement of various corporate performance goals (Friedman and Miles, 2006). However, it cannot be argued as more important than the descriptive approach since the descriptive is a precursor to the instrumental approach (Reed *et al.*, 2009).

The instrumental approach considers how policy makers manage stakeholders to achieve desired outcomes. Hence Friedman and Miles (2006) posit that it is essentially hypothetical. Therefore, one cannot ignore the appropriateness of this approach for the present study because of this study’s concern with examining how the stakeholders are interconnected. In addition, the instrumental approach finds support from the seminal work of Olsson *et al.* (2004) and Woodhill and Roling (1998). These authors argue that carrying out a stakeholder analysis (instrumentally) helps to seek information from a wide range of sources hence providing a robust knowledge base. This is especially important for this study which incorporates various stakeholder groups that have a direct involvement with indigenous employment and job creation.

The normative perspective is grounded in business ethics and corporate social responsibility (CSR) (Bailur, 2006; Freeman, 1984; Clarkson, 1995; Reed, 2002). Although Brown and Forster (2013) argue that CSR and normative stakeholder theory are separate and distinct, this is because CSR obligations are directed to the society while normative stakeholder theory are more specific. More specifically, the normative approach addresses how stakeholders should be treated based on underlying moral and philosophical principles (Mellahi and Wood, 2003). Phillips (1997) suggests that this approach is based on the principle of fairness and common good. In other words, stakeholder relations should be driven by moral principles, hence stockholders should not be seen as more highly placed than stakeholders (Mellahi and Wood, 2003), but every entity (stakeholder) should be entitled to equality of interest and opportunity.

In as much as this research tends to pay attention to stakeholder relationship and responsibility, it is important to note that the only way by which a good working relationship can be fostered between each of these stakeholder groups is to ensure that each of them exhibit their moral obligation to one another in order to drive fairness and equity. In addition,

Reed (2002) argues that the normative stakeholder approach bears strong relevance to developing countries especially with regard to the objective of providing employment opportunities and doing this within the confines of the right business ethics.

It is also worthy of note that although normative approach grounds itself in business ethics, it does not completely dispel economic considerations. In view of this, Jones and Wicks (1999, p. 209) reiterate that the normative track does not seek *“to shift the focus of firms away from marketplace success toward human decency but to come up with understanding of business in which these objectives are linked and mutually reinforcing”*.

Having outlined the main principles of the normative stakeholder theory, critics of this approach have put forward concerns. Friedman (1970) argues that since normative theory is grounded in CSR, the social responsibility of business is to increase profits. He added that *“the business of business is business.....Business has a ‘social conscience’ and takes seriously its responsibilities for providing employment, eliminating discrimination, avoiding pollution and whatever else may be the catchwords of the contemporary crop of reformers. In fact they are—or would be if they or anyone else took them seriously—preaching pure and unadulterated socialism. Businessmen who talk this way are unwitting puppets of the intellectual forces that have been undermining the basis of a free society these past decades.”* (Friedman, 1970, p. 1).

Along these lines of argument, Trevino and Weaver (1999, p.225) ask a salient question: *“wouldn’t normative stakeholder theory’s concern for intrinsic interests of all legitimate stakeholders sometimes dictate that a firm should go out of business?”* Bailur (2006) also supports this sarcastic critique by stating that stakeholder theory can be regarded as artificially altruistic because the key concern of the normative approach is for stakeholders to succeed in their initiatives rather than fight for fairness as suggested by Phillips (1997).

The framework/model that is developed for carrying out the stakeholder analysis for this study addresses the three approaches, even though the study appears to be primarily grounded within the normative approach of stakeholder theory. A critical consideration of each of these three approaches suggests that the normative aspect bears strong relevance to this research in appraising the selected objective for the study of ‘indigenous employment and job creation’ which is closely linked to CSR. This is the case especially when considering the fact that stakeholders have a responsibility of providing jobs for nationals, as well as supporting avenues through which more jobs will be created either through award of bigger contracts or

helping emerging entrepreneurs to establish themselves. Also, business ethics bears strong relevance in that, the NOGIC Act carefully states how the stakeholders are to be responsible to the entire populace in conducting their businesses. A good example is in mandating contracts to be awarded to suppliers' in-country and using the services of only Nigerian companies in carrying out their financial and legal activities.

6.6.1 Application of Stakeholder Theory to Public Policy

Even though stakeholder theory was originally conceived with reference to the private sector firm, it has now begun to be applied to public sector organisations as well as government policies. Scholl (2002) argues that the development of the theory is set out to reveal today's prevailing neoclassical economic concept of the firm. In view of this, stakeholder theory has now been applied to public sector organisation and government policies. Although Donaldson and Preston (1995) seem to doubt the appropriateness of the theory within the public sector stating that the firm (private sector) is governed by fraudulently different principles from the public sector. Scholl (2002, p.13) dispels this argument arguing that *“even though most public managers perform their tasks for different ends (e.g public interest) as opposed to their private-sector counterparts (e.g survival of the firm, or profit) their decisions have the same capacity of affecting individuals or groups when pursuing their organisation's objective”*. Apparently this shows that the consequences of the decisions that are made by the public managers and their organisations are capable of affecting them in the same way as the private sector. Therefore, it can be stated that the definition of Freeman (1984) of stakeholders does not only refer to the private sector but covers both public and private sectors at large.

Although quite limited, literature on public sector and government policies that has applied stakeholder theory as the underlying theoretical framework of reference has made quite a mark.

Reed *et al.* (2009) applied the stakeholder theory to Participatory Natural Resource Management. Having reviewed the stakeholder theory in the light of its three main approaches (descriptive, normative and instrumental), the authors applied the stakeholder analysis to the Rural Economy and Land Use (RELU) programme.

Four case studies were considered, these include RELU-Birds, RELU-Floodplains, RELU-Deer and RELU-Sustainable Uplands. Each of these case studies outlined the stakeholder theory approaches. The RELU-Birds served a good example of the descriptive approach. This

was used to clarify and provide some illustration of the basic theoretical concepts of the theory. In addition, this case study critically evaluated the interest and influence framework of categorising stakeholders. The RELU-Floodplains provided a more in-depth analysis of stakeholder categorisation imploring an interest-influence matrix which can be adopted for analysis of changes in the composition of stakeholders over a period of time. The RELU-Deer management examined the inter relations among the stakeholders using a qualitative approach. This was then followed by adopting a quantitative approach to examine these inter relations, although this was done in the context of a qualitative identification and categorisation.

Bailur (2006) too applied stakeholder theory by analysing the Gyandoot Telecenter projects in Madhya Pradesh (India). The telecenters considered consist of multipurpose community telecenters and public internet access points (or informational kiosks), which form the cornerstone of Information and Communication Technologies for Development (ICT4D) projects. Stakeholders for this study were identified on the basis of pre-existing, secondary literature. Bailur suggested that the importance of the process of identification of stakeholders cannot be overstated because key stakeholders are tied to the sustainability and best practice in any project. Overall, the author found it useful adopting a stakeholder analysis because it gave a clearer picture of the stakeholders which were important, but not previously considered for the analysis of the telecenter project.

Having reviewed these theories in relation to LCD, it appears that each of the theories bears significance to the study in one form or the other. In previous chapters, past frameworks have been reviewed and as such appraised the policy from the standpoint of a maximum of two/three stakeholders. Therefore, subjecting these theories to scrutiny, it appears that stakeholder theory ought to underpin the research given that the appraisal of the Nigerian local content policy necessitates a thorough stakeholder analysis. Furthermore, the limited examples of the application of stakeholder theory to the public sector provides an even greater justification for adopting this theory for this study, thus making an additional contribution to the existing body of knowledge in this area. In summary, although the other theories will also inform the analysis to answer the research question, stakeholder theory constitutes the overarching theoretical framework for the analysis that follows and to structure the findings based upon interview data.

6.7 OVERARCHING STAKEHOLDER APPROACH AND EVALUATIVE FRAMEWORK

It should be emphasised at this point that development of a stakeholder framework to evaluate the impact of LCD (on indigenised employment and job creation) requires two distinct development stages. The first stage entails - building upon the literature review, including the analysis of LCD in other countries and conceptual frameworks on LCD – the development of theory-based ‘evaluative criteria’ designed to assess the impact of the LCD on ‘indigenised employment and job creation’. The second stage entails framing/juxtaposing this (novel) evaluative framework thus developed within a stakeholder approach so as to allow for a polycentric policy appraisal through stakeholder analysis. This section highlights the thesis’ contribution in these respects.

Building upon the literature review, including the analysis of LCD in other countries and conceptual frameworks on LCD, the (theory-based) analytical framework to be employed to answer the question of whether the Nigerian LCD policy had any impact on indigenous employment and job creation revolves around the following evaluative criteria (or sub-objectives) as shown in Table 6.2.

Table 6.2: Framework of evaluative criteria/sub-objectives and associated sources

s/no	Evaluative criteria/sub objectives	Literature source	NCD directive	NOGIC Act
i	Value added	Ihua (2010); Heum <i>et al.</i> (2003); Olabowale (2009); Ihua <i>et al.</i> (2009)	Directives 4, 5, 6, 11, 13	Section 3 (1) (2) (3), 11(4), 49(1)
ii	Dynamism of HE curriculum vs industry demands	Heum <i>et al.</i> (2003); El <i>et al.</i> (2008) Omenikolo and Amadi (2010); Aduke (2008)	Directives 14,23	Section 36, 37, 38, 39, 40
iii	Suitability and employability of graduates	Dainty <i>et al.</i> (2004); El <i>et al.</i> (2008)	Directive 23	Section 29, 31(1), 35
iv	Payment’ for LCD	Omenikolo and Amadi (2010); Aneke (2002);		Section 30, 104
v	Emergence of in-country entrepreneurs	Bakare (2011); Ogechukwu and Latinwo (2010); Ihua <i>et al.</i> (2011)	Directives 5, 11, 12, 15, 18, 20	Section 13, 53
vi	Domiciliation vs indigenisation	Bakare (2011)	Directives 1, 2, 10, 13, 17	Section 14, 46, 47, 53

Author generated (2013)

Table 6.3 below provides a full map of the rationale underlying each of these evaluative criteria (sub-objectives) alongside a description of how each is to be assessed in later chapters.

Table 6.3: Evaluative criteria, rationale for inclusion, data and operational requirements

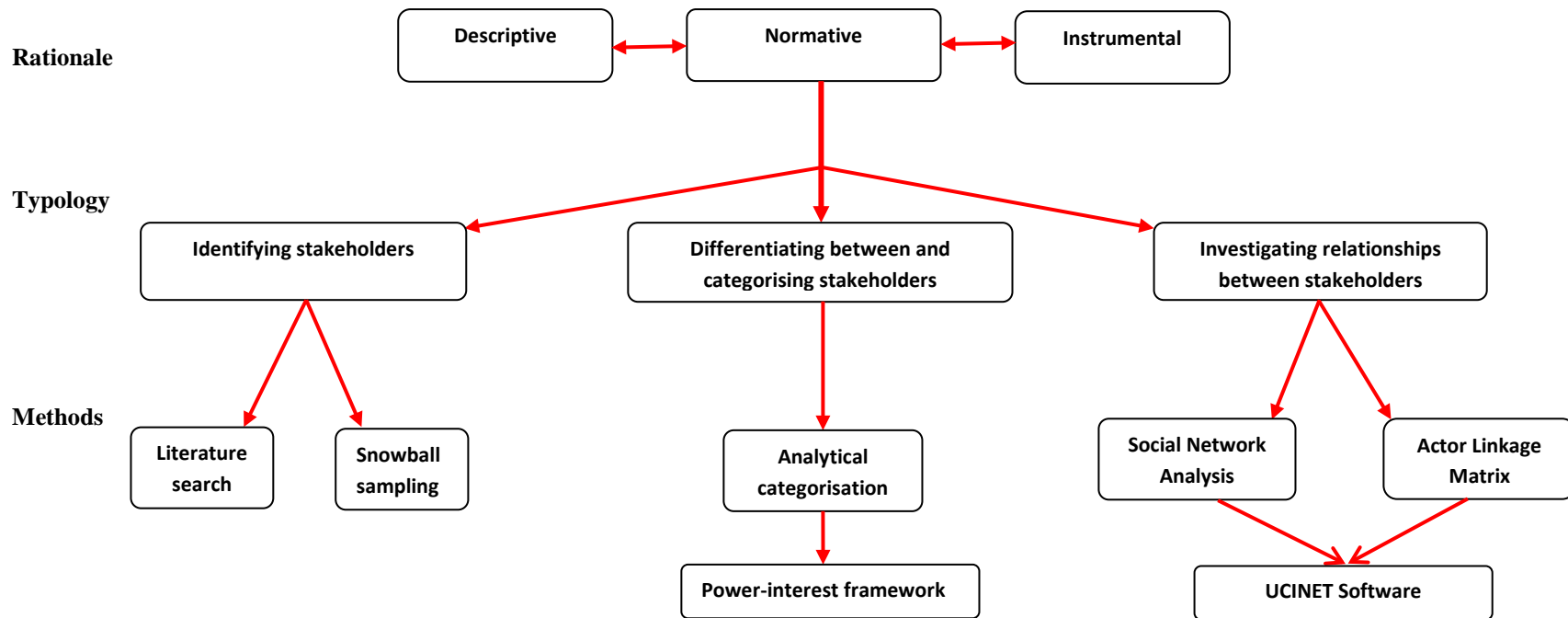
Objectives	Data required	Analytical model/technique	Associated source/Author	Remarks on rationale for inclusion
To explore the level of value added within the Nigerian oil and gas industry	Primary data: Semi-structured interviews Secondary data: Secondary data on indigenous and foreign employment figures in the Nigerian oil and gas industry; data and other statistics regarding employment and training; local content Policy review documents and stakeholder reports	Thematic Content analysis; documentary analysis	NOGIC Act 2010 (Section 30) ; Esteeves and Barclay (2011); Grossman (1981); National Mirror (November 6, 2013); IMF World economic outlook (2013); NCDMB internal document (2013); National Bureau of Statistics (2013); Ihua <i>et al.</i> (2009); Appleton and Cowley, (1997); Dew (2005); Dew (2006); Goodpaster, (1991); Varvazovszky and Brugha, (2000); Brugha, and Varvazovszky (2000)	The essence of considering this as part of the sub objectives of this study is to examine indigenous participation in areas such as employment contract and EPC, which are areas where value is expected to be added to the oil and gas industry.
Explore the dynamism of the curriculum of HE institutions in meeting the current demands of the oil and gas industry	Primary data: Semi-structured interviews Secondary data: Data on graduate enrolment and turnout; data on number of Nigerian universities; data on annual budgetary allocation for education in selected countries	Thematic Content analysis; documentary analysis	Salami, (2011); Chiemeke et al. (2009); Omenikolo and Amadi (2010); National Bureau of Statistics (2011); Data obtained from National Universities Commission (2013); World Bank (2012); Varvazovszky and Brugha, (2000); Brugha, and Varvazovszky (2000)	Considering the research question, it is worthy of note to examine how dynamic the university curriculum is, in meeting the demands of the oil and gas industry. This is because employment of graduates is dependent on the level of knowledge and basic skill they have acquired in the HE institutions. In addition, the general standard of education in Nigeria is examined to see if it has had any effect on indigenous employment.
Based on the skills acquired in institutions displayed by young employees, determine their suitability and employability on their job, and their potential for ascending to higher	Primary data: Semi-structured interviews Secondary data: Accreditation reports for Nigerian universities; data on existent skill gaps; world university rankings	Thematic Content analysis; documentary analysis	Omenikolo and Amadi, (2010); Petroleum Act (1969); NOGIC Act (2010); Eweje (2007); NOGIC Act (2010); PTFD (2010); Appleton and Cowley, (1997); Dew (2005); Dew (2006); Goodpaster, (1991);	The rationale for the analysis of the suitability and employability is to examine if indeed Nigerians can actually play an active role in a significant proportion of the activities in the oil and gas sector from upstream to downstream. This is because it goes a long way

positions/cadre within the oil and gas industry	by subjects		Varvazovszky and Brugha, (2000); Brugha, and Varvazovszky (2000)	in determining the percentage of indigenous employees alongside the potentials of indigenous players' emergence in the industry.
To obtain stakeholders' perspective on the main stakeholder(s) responsible for the "payment" for LCD	Primary data: Semi-structured interviews Secondary data: IOCs reports and government archives	Thematic Content analysis; documentary analysis	Petroleum Act (1969); Eweje (2007); Total (2010); Shell (2011); Chevron (2011); Autin and Tijani (2006); Varvazovszky and Brugha, (2000); Brugha, and Varvazovszky (2000)	The debate on which stakeholder should fund and/or champion the cause of LCD has been long standing. This sub objective analyses the roles and responsibilities of the stakeholder groups to determine which stakeholder(s) has the responsibility for funding LCD and to suggest means by which this initiative can be sustained as a means to achieving the target of the policy.
To determine the implication of LCD on the potentials of indigenous entrepreneurs in the Nigerian oil and gas industry	Primary data: Semi-structured interviews Secondary data: Data on number of indigenous oil and gas operators in Nigeria	Thematic Content analysis; documentary analysis	Ihua et al. (2011); Department of Petroleum Resources (2013); Dew (2006); Goodpaster, (1991); Appleton and Cowley, (1997); Dew (2005); Dew (2006); Goodpaster, (1991); Varvazovszky and Brugha, (2000); Brugha, and Varvazovszky (2000)	This sub objective sought to explore the potentials of indigenous entrepreneurial emergence as a means to creating more jobs in-country. Since the policy supports indigenous entrepreneurial development, the sub objective sought to analyse the impact of the policy on potential in-country players arising to take advantage of the local content policy.
To explore the issue of Domiciliation Vs Indigenisation as a way of LCD from stakeholders perspective	Primary data: Semi-structured interviews Secondary data: Data on power generation; data on kidnappings and hostage taking	Thematic Content analysis; documentary analysis	Ovadia (2009); Ono and Lahiri (1998); Grossman (1981); Ikelegbe (2005); National Bureau of Statistics (2011); Ewarhieme (2010); Varvazovszky and Brugha, (2000); Brugha, and Varvazovszky (2000)	The rationale for exploring domiciliation and indigenisation is to determine which of these methods appears more suitable for LCD. The advantages and disadvantages of each of these were considered in line with the Nigerian environmental context and conclusions were drawn based on the findings for this sub-objective.

Source: Researcher's analysis (2013)

The second stage of development, entails framing this (novel) evaluative framework within a stakeholder approach so as to allow for a polycentric policy appraisal through stakeholder analysis. To this end, the researcher has developed a framework for the stakeholder analysis as shown in Figure 6.1.

Figure 6.1: Framework for stakeholder analysis of LCD policy



Framework developed by researcher from Reed et al., (2009, p. 1936) and Bailur, (2006, p. 69 - 73)

Figure 6.1 depicts the framework developed for this stakeholder analysis. It mainly consists of the rationale, typology and methods. As earlier stated, the rationale for carrying out the stakeholder analysis from the normative angle is because of the roles and responsibilities stakeholder groups are meant to play in achieving their respective objectives towards LCD.

The full application of the framework (with a detailed specification of the details of implementation of each stakeholder analysis technique employed) is presented in the methodology chapter (chapter 7).

6.8 CONCLUDING REMARKS

This chapter offered a concise review of theories that bear relevance to the main research question of this study, namely growth theory, theory of content protection, entrepreneurship theory and in more depth considered exclusively the opportunity and necessity hypotheses of entrepreneurship and, stakeholder theory which provides the main underpinning for this study.

Stakeholder theory was considered following from the theoretical review and also because the research question requires consideration of a multiplicity of stakeholders. Following the unbundling of the word 'stakeholder', stakeholder classifications were considered based on various authors' arguments. These classifications include: internal and external; and, primary and secondary. Stakeholder theory was also considered based on three approaches-descriptive, normative and instrumental. In addition, classification of stakeholders in terms of importance and influence were also highlighted.

The chapter concluded by developing a robust framework which will be used to conduct a stakeholder analysis in subsequent chapters. Although at strategic points throughout the analysis, various aspects of the theories succinctly reviewed in this chapter will be considered, it is stakeholder theory that has been chosen as the conceptual framework for this study both to conduct a full stakeholder analysis and to structure the data collection to address the specific objectives underpinning the research question.

CHAPTER SEVEN

RESEARCH METHODOLOGY

7.1 CHAPTER OVERVIEW

Previous chapters have examined in depth the concept of LCD and have identified various theoretical and empirical constructs. In addition, the latest chapter reviewed various theories underpinning LCD, identifying stakeholder theory as the conceptual framework of reference for this study. This chapter sets out to outline the various stages of the research methodology considering the sampling methods in detail. It also provides a justification for each of the techniques and methods adopted by the researcher. An evaluation of the reliability and validity of the sampling instruments employed is also put forward.

7.2 UNDERSTANDING THE NATURE AND PURPOSE OF THE STUDY

Saunders *et al.* (2009) highlight that a researcher's understanding of the nature and purpose of his/her research cannot be over emphasised. Having realised that the outcome of research differs, it is necessary to have a clear understanding of the position the research occupies within the research continuum either basic or applied, so as to determine the audience which would make the best use of the findings as well as those who would benefit the most from the results.

In line with this, Saunders *et al.* (2009) argue that while the basic research which lies at one end of the continuum is undertaken largely by universities as a result of an academic agenda, applied research lies at the other end, and is directed to managers and practitioners.

Basic research hinges more on the theoretical perspective and its key consumer is the academic community. It is also referred to as 'fundamental' or 'pure' research. On the other hand, applied research is more practical in its approach, and tends to address issues that are seen as topical and is presented in ways that practitioners and policy makers understand and can act upon ("real world research").

Given the research question as well as the aims and objectives of this study, the author considers the fact that this policy addresses how government and practitioners should develop indigenous capacity for the growth and development of the Nigerian economy. In this sense, the research serves a practical and policy oriented purpose. Yet, this research is also undertaken as part of a doctoral program in a university, with the aim of contributing to the existing body of knowledge, within a rigorous theoretical framework. Therefore, the research can be considered within the

basic and applied research spectrum. Table 7.1 highlights the features of basic and applied research.

Table 7.1: Basic and Applied Research

Basic research	Applied research
Purpose	
Expand knowledge of processes of business and management	Improve understanding of particular business or management problem
Results in universal principles relating to the process and its relationship to outcomes	Results in solution to problem
Findings of significance and value to society in general	Findings of practical relevance and value to manager(s) in organisation(s)
Context	
Undertaken by people based in universities	Undertaken by people based in variety of settings including organisations and universities
Choice of topics and objectives determined by the researcher	Objectives negotiated with originator
Flexible timescales	Tight timescales

Source: Saunders et al. (2003, p. 53)

Collis and Hussey (2009) classify research according to purpose, process, logic and outcome. In considering the purpose of the research, what comes to mind is the question “why” while process refers to the way in which research is conducted which may involve collecting primary and/or secondary data. This answers the “how” question.

The logic of the research asks the researcher whether he/she is moving from the general to the specific or *vice versa* as the case may be, while the outcome of the research asks the question of whether the research is trying to solve a particular problem or make a contribution to knowledge (Saunders *et al.*, 2003). In the same vein, it is possible to consider the research at hand in the light of purpose, process, logic and outcome such that, the purpose of this research is to appraise the Nigerian oil and gas industry content policy within the employment and job creation spectrum. The process involves collection of data which would be subjected to analysis to obtain the findings (purpose), leading to a contribution to an existing body of knowledge (outcome).

Gaining a deeper understanding of the nature of any research is dependent on understanding its purpose which has been classified using three-fold classification viz exploratory, descriptive and explanatory types (Collis and Hussey, 2009; Saunders *et al.*, 2003; Saunders and Lewis, 2012). Collins and Hussey (2009, p. 10) explained that “*exploratory research is conducted into a*

research problem or issue when there are very few or no earlier studies to which we can refer for information about the issue or problem". This helps to develop the concept more clearly, establish priorities, develop operational definitions and improve the final research design of the researcher (Blumberg *et al.*, 2005). Saunders *et al.* (2003 p.6) also remarked that this asks the question of "*what is happening*". This method can be summarised as a prior research before the main body, so as to understand the problems that may be encountered. Exploratory research can be conducted through a search of the literature, talking to experts in the subject and conducting focus group/interviews (Saunders *et al.* 2003).

"A descriptive study tries to discover answers to the questions who, what, when, where and sometimes, how" (Blumberg *et al.*, 2005, p.10). This is used to portray phenomena and to portray an accurate profile of persons, events or situations (Collis and Hussey, 2009). It involves the adoption of mainly quantitative data-gathering techniques (Neuman, 2003; Cooper and Schindler, 2008) and the creation of a distribution of the number of times the researcher observes a single event (Cooper and Schindler, 2008).

Explanatory research is seen as a continuation of descriptive research (Collis and Hussey, 2009) because it goes on to explaining and analysing what has been described earlier. This should help the researcher to understand the research better because it attempts to explain the reasons for the phenomenon that the descriptive study observed (Cooper and Schindler, 2008).

The research question for this study calls for an exploratory, explanatory and descriptive focus and as highlighted by Robson (2011) the purpose of enquiry could change over time particularly because the research employs multi-strategy designs (Bryman, 2008; Robson, 2011). In line with this, the study began with an exploratory study by identifying relevant literatures on LCD policy and subjecting them to scrutiny hence developing a framework to answer the research question and achieve the study objectives. Along these lines, the researcher has engaged in conversations with experts and practitioners in the field of LCD, in addition to consulting the literature. This is followed by an interpretation of results and a discussion of findings and their implications.

7.3 THE EPISTEMOLOGICAL AND PHILOSOPHICAL POSITION

Epistemology refers to the study of the social world. It is particularly concerned with what is acceptable as "*valid knowledge*" (Collis and Hussey, 2009 p.9). The word originates from the greek word "*episteme*" which means "*how we can come to know the world*" (Trochim, 2006, p.1). Epistemology examines the relationship between the researcher and what is being

researched. Another issue surrounding epistemology is the theory about “truth” i.e views about similarities and differences between the natural and social worlds (Richie and Lewis, 2003, p.14). Epistemology is also concerned with the way knowledge is acquired which can either be by induction or deduction. The inductive process involves using evidence as the genesis of a conclusion while the deductive process uses evidence in support of a conclusion (Richie and Lewis, 2003).

Collis and Hussey (2009) argue that beginning any research by exploring its epistemological and philosophical stance is of high importance because this has a direct implication on the research approach and method of data collection. A good understanding of the philosophical issues surrounding research helps to clarify the research design (Easterby-Smith *et al.*, 2002). Saunders *et al.* (2003) highlight that an early clarification of research design enables a researcher to recognise which design will work and why so as to avoid issues of trying out several methods which would consume time, money and other resources.

Having outlined the philosophical issues surrounding epistemology, research methodologies have been found to hinge on two main paradigms, the positivist and the phenomenological (Collis and Hussey, 2009; Saunders *et al.*, 2003). These two philosophies are viewed as two extremes of a continuum. While the positivists are interested in the inter relationship of the objects they are studying, and believe that these objects were in existence prior to the time they took interest in them, phenomenologists consider that researchers have values which help to determine what are recognised as facts as well as the interpretations which are drawn from them (Collis and Hussey, 2009).

The main idea about positivism is that the social world exists externally and as such, the researcher is independent and not part of the research investigated. Rather than drawing inferences subjectively through sensation, reflection or intuition, phenomena are measured through objective methods (Easterby-Smith *et al.*, 2002). On the phenomenologist angle however, the key idea is that reality is not objective and exterior but socially constructed (Easterby-Smith *et al.*, 2002). Hence reality is determined by people and not by external factors, and the researcher is more involved; trying to understand the rich and complex world (Burrell and Morgan, 1979). Table 7.2 shows the key features of the positivist and phenomenological paradigms.

Table 7.2: Features of the two main paradigms

Positivistic paradigm	Phenomenological paradigm
Tends to use and produce quantitative data	Tends to produce qualitative data
Uses large samples	Uses small samples
Concerned with hypothesis testing	Concerned with generating theories
The location is artificial	The location is natural
Reliability is high	Reliability is low
Validity is low	Validity is high
Generalises from sample to population	Generalises from one setting to another

Source: Collis and Hussey (2009 p.55)

Having highlighted the features of the positivist and the phenomenologist paradigms, the question begs: which paradigm do we stand by? Easterby-Smith *et al.* (2002, p.28) suggest that “*it is not possible to identify any philosopher who ascribes to all aspects of one particular view*”. In view of this, the assertion of Saunders *et al.*, (2003) which states that “*research rarely falls into the positivist’s and phenomenological camps*” applies. In addition, Easterby-Smith *et al.*, (2002, p. 28) claim that “*even self-confessed extremists do not hold consistently to one position or the other*”. This view aligns with that of Trochim (2006) who argues that research cannot be purely subjective or objective.

Although this research, which focuses on the appraisal of the Nigerian LCD policy, may appear to lean towards the phenomenological continuum in some ways (obtaining first-hand information from stakeholders and other participants which the policy has a direct effect on) it is not completely devoid of positivistic features considering that it employs the use of some quantitative data and even regression analysis to verify the robustness of the results. In addition, some of the qualitative analysis carried out generated quantitative results.

Given the above, the research can be said to adopt multiple perspectives and both primary and secondary data. The author agrees with Cotkin (1994) and Molteberg and Begstrom (2000) who explain the term ‘middle ground pragmatism’ as a situation where researchers employ different methodological approaches to their research (Creswell, 2003; Easterby-Smith, *et al.*, 2002).

Robson (2002 p. 158) refers to a similar situation where qualitative and quantitative approaches are combined as “*methodological triangulation*”.

Although the author realises that the epistemological stance adopted is conceived as a result of literatures that have examined the research area in question, this approach is also particularly suited because of the nature of the research question (although this could not have been developed without the researcher’s pragmatist epistemological commitment from the start).

7.4 THE METHODOLOGICAL FRAMEWORK

A methodological framework refers to the combination of different approaches that can be utilised to generate research data (Collis and Hussey, 2009). Usually, the methodology is developed after the research question has been formed.

7.4.1 Research Approach

The research approach helps to set out a clearer picture about data collection and research design. This has been broadly classified into the deductive and inductive approach (Robson, 2002; Saunders *et al.*, 2000; Ritchie and Lewis, 2003).

Research projects involve the use of theories but, the exact time when these theories become necessary for consideration, is dependent upon the research approach adopted. This is underpinned by the assertion of Saunders *et al.* (2003 p.85) who state that “*the extent to which you are clear about the theory at the beginning of your research raises an important question concerning the design (approach) of your research project*”. In the case of this research, it became necessary to consider the theory after the research focus had been highlighted, following the theoretical and empirical reviews (chapter six). The consideration of the theory at that time appeared to be timely and appropriate owing to the gap found in literature and an attempt to fill this gap and contribute to the existing body of knowledge.

7.4.1.1 Deductive approach

The deductive approach is seen as a ‘theory-testing’ approach (Saunders *et al.*, 2000; Ritchie and Lewis, 2003; Tekaya, 2008). Ali and Birley (1998) explain this approach as an abstract logical relationship among concepts. The deductive approach involves the establishment of hypotheses from a theory (Ali and Birley, 1998), after which these hypotheses are tested against theory to examine if they confirm the theory or not. In other words, the theory could be verified or rejected/falsified. This research approach leans more towards positivism.

7.4.1.2 Inductive approach

The inductive approach, on the other hand, moves from specific observations to broader theoretical generalisations (Burney, 2008). This approach is regarded as a ‘theory-building’ approach because it follows from an interpretative perspective in which the result of the analysis of a researchers’ data is what informs the formulation of theory (Saunders *et al.*, 2000). This approach can be said to lean more towards grounded theory in that, grounded theory emphasises the discovery of theory from data systematically obtained from research (Crooks, 2001).

The general view, as suggested by Hyde (2000), is that quantitative enquiry examines data which are in numbers and qualitative enquiry examines data expressed in narrative form thus quantitative adopts a deductive approach while qualitative an inductive approach. Although Hyde (2000) expresses a distinction between these two approaches in theory, he posits that this does not completely reflect actual research. Blakie (1993) argues that there is no such thing as a pure deductive or inductive approach. In view of this, he argues that research usually contains an element of both inductive and deductive approaches which he identifies as ‘abductive approach’. Saunders *et al.* (2003 p.99) also argue that “*these approaches and strategies obviously do not exist in isolation and therefore can be mixed and matched*”. In addition, Perry and Jensen (2001) state that adopting an inductive approach strictly with no prior theory will prevent the researcher from benefitting from existing theory. On the other hand, the adoption of a purely deductive approach will prevent the emergence of new theories. Following this argument, Parkhe (1993 p.253) states that “*both extremes are untenable and unnecessary*”.

Because this research exhibits features present in both positivist and phenomenological realms, it is impossible to isolate one approach from the other. By this, the researcher argues that the research takes an ‘abductive’ approach in the sense as stated by Blakie (1993). Given that the research involves the appraisal of a public policy with different stakeholders, several theories have been considered (theory of content protection, theory of entrepreneurship [necessity and opportunity theory] and stakeholder theory) although with one main theory underpinning the study (stakeholder theory). In addition, secondary data have been employed for the robustness of the findings and to ensure triangulation.

Having highlighted the purposes of the study, Robson (2002) argues that the purpose of research may change as the study proceeds especially in the case of real world research, which this PhD research is based upon. Also, the research question calls for an exploratory, descriptive and explanatory focus and as earlier highlighted by Robson (2011), the purpose of enquiry could

change over time particularly because the research employs multi-strategy designs (Bryman and Bell, 2011; Robson, 2002). In line with this, the study began as exploratory study by identifying relevant literatures on local content policy and subjecting them to theoretical scrutiny so as to develop a framework for the study. Following this, the local content policy objectives were examined and scrutinised, after which the indigenous employment and job creation aspect was found to be the main thrust of the policy hence forming the basis of this PhD research. Having appraised this objective, the research took an explanatory turn after obtaining results which are explained in written, numerical, visual and graphical formats.

7.5 RESEARCH STRATEGY

Generally, the research strategy can be regarded as a plan by which the research questions set by the researcher are answered (Saunders *et al.*, 2003). According to Bryman and Bell (2011), the research strategy can be viewed as a way by which the research is conceptualised given a research question which guides the general design of the research. Bryman and Bell (2011) broadly classify research into quantitative and qualitative, but this has been further broken down into experiment, survey, ethnography, grounded theory, narrative research, action research, cross-sectional and longitudinal research (Saunders, *et al.*, 2003; Cresswell, 2003). These strategies have been argued to fall under the inductive and deductive research approaches (Saunders, *et al.*, 2003; Easterby-Smith, *et al.*, 2002). Nevertheless, the decision on the research strategy to be adopted should be based on the research question(s) at hand.

This research is based on appraising the indigenous employment and job creation objective of the Nigerian oil and gas LCD policy using a stakeholder approach. As stated earlier, it requires gathering first-hand information from stakeholders via in-depth semi structured interviews and accessing existing data and reports on the policy and the industry so as to understand the interaction and linkages between these stakeholders.

7.6 RESEARCH DATA

Irrespective of the form quantitative or qualitative, data sources are broadly classified into primary and secondary (Collis and Hussey, 2009), a distinction that forms the broad classification for data collection techniques. Primary data consists mainly of surveys which include experiments, observation, questionnaire and interview. This shows that it requires obtaining first-hand information from human participants. In addition, it suggests that primary data are collected for a specific purpose. Secondary data relate to information collected from

diverse sources which may include stored information or electronically accessed information. Generally, they are not collected for a specific purpose like primary data. Sources of secondary data include published printed sources, books, journals/periodicals, magazines/newspapers, published electronic sources, websites, databases etc. The major difference between these two sets of data is that while primary data is obtained first-hand, secondary data is drawn from existing sources.

Having highlighted the features of both primary and secondary data, it is worth noting that one should not be considered superior to the other because each of them can either be used solely or in combination with one another.

This research employs both primary and secondary data. This can be justified mainly by the research question which seeks to examine the effect of the LCD policy on indigenous employment and job creation. Multiple data sources have been adopted in order to achieve each of the sub objectives that have been outlined to answer our research question. Primary data include in-depth semi structured interviews with the primary stakeholders involved in achieving the employment and job creation objective of the LCD policy. Secondary data include documentary data and statistical data. Documentary data include reports on indigenous and foreign employment, local content policy documents and stakeholder reports and reports (eg. From the Nigerian Universities Commission). Statistical data include data capacity utilisation rates in the manufacturing industry and Nigerian refineries, oil and gas production rate for indigenous and multinational operators, and number of officially listed oil and gas workers who are nationals and non-nationals. Other statistical data collected include the number of engineering and geo sciences graduates turned out from Nigerian universities, number of officially listed IOCs, number of officially listed indigenous operators, number of officially listed multinational service providers and number of officially listed indigenous service providers.

This collection of multiple data for one study is referred to as ‘mixed method’ (Cresswell, 2003; Robson 2011). Such a method (associated with multiple strategies) ensures that the results of the investigation are cross-checked with one another, and this enables triangulation (Jick, 1979; Bryman and Bell, 2011). Mathison (1988) argues that triangulation increases the validity of the research findings.

7.6.1 Interviews

Research interviews are purposeful discussions between two or more people which help in gathering appropriate data (Saunders *et al.*, 2003). According to Collis and Hussey (2009), they can be viewed as a prompting or probing process where participants are asked to express how they feel or think about a particular subject. They are therefore research instruments which are meant to probe deep into issues because this offers the researcher an opportunity for first-hand information. Hannabuss (1996) argues that interviews bring out the best in respondents because the researcher should be able to adjust to the pace and style of the interviewee.

Three main types of interviews have been highlighted by various authors; structured, semi structured and unstructured (Cresswell 2009; Saunders *et al.*, 2003; Collis and Hussey, 2009). According to Collis and Hussey (2009) each of these three types of interviews can be classified within different paradigms; structured and unstructured interviews can be classified within the positivist and interpretive paradigms respectively.

7.6.1.1 Unstructured interviews

Unstructured research interviews are those which have not been prepared beforehand (Collis and Hussey, 2009). Ramos (1989) posits that they appear more like experiences which are shared between researchers and interviewees when they come together to create a 'conversational intimacy' for the purpose of developing context. Collis and Hussey (2009) reckon that this research method though can generate lots of data, can be cumbersome and time consuming.

7.6.1.2 Structured interviews

Strauss *et al.* (2003) explain that structured interviews are based on pre-determined/standardised sets of questions which require standardised sets of answers from participants. Wilson *et al.* (1998) view structured interviews as a formal discussion between a researcher and a participant, which is a way of identifying criteria that are specific for assigning an outcome category.

7.6.1.3 Semi structured interviews

Semi-structured interviews can be regarded as a combination of both unstructured and structured interviews. Although this process consists of an interview guide used by the interviewer, this can be modified based on the pattern and mode with which the questions go (Robson, 2002). According to Saunders *et al.* (2003), the interviewer is not under compulsion to ask the interviewee all the pre-set questions given that the interviewee may have touched on some points

during the conversation because of the semi-formal pattern of this survey. By implication, other questions which are not originally prepared can be asked. Collis and Hussey (2009) highlight that this method enhances the quality of information/data collected because the researcher is able to obtain detailed information, and even explore unexpected areas that are of importance.

7.6.1.4 Type of interview adopted and justification

The semi-structured interview method was considered imperative for this research because this allowed the researcher to have some control over the line of questioning (Cresswell, 2009). This was important because of the dynamism of the policy resulting from current policy and industry developments. In addition, the existence of a dearth of information on this subject area motivated this choice. The interview posed an opportunity to probe the respondents in order to access information that was appropriate for the study.

The interview also proved a useful tool in obtaining in-depth knowledge of the stakeholders' different views on various areas. This confirmed the assertion of Rowley (2012) who argues that interviews help in gaining insights into certain issues and understanding opinions, attitudes, processes, behaviours and predictions. The oil and gas sector is a dynamic sector in which there are daily developments and as such the researcher reckons that in as much as relying on archived information may provide some form of useful evidence, this may not completely deliver an up-to-date appraisal of this policy objective. Therefore, obtaining first-hand facts through interviews from a multiplicity of stakeholders helped gain new insights which provided the researcher an opportunity to engage in richer and further interview questions with other participants, who fell within the same stakeholder group, and other stakeholder groups who were interviewed in the course of the research.

Although the research is not opinion based (grounded theory), the responses made by the participants served as a base to generate other interview questions. By this, the assertion of Kvale (1996, p.14) who expressed that using interviews as a source of data collection helps the researcher in gaining up to date knowledge becomes imperative. He states that interviews are “*an interchange of views between two or more people on a topic of mutual interest which sees the centrality of human interaction for knowledge production*”.

This research is not completely exploratory, since it moves to a descriptive and then explanatory phase (See Collins and Hussey, 2009 p.10). Gray (2004) explains that interviews help the researcher to probe and clarify issues that are unclear and this is important for this study because

of the complexity of the Nigerian oil and gas industry (Okafor, 2007b). In addition, Arksey and Knight (1999 p.32) re iterate that “*interviewing is a powerful way of helping people to make explicit things that have hitherto been implicit- to articulate their perceptions, feelings and understandings*”. Arguably, it was important to ensure this clarification thus ensuring that the findings from this research are adequately used and not misleading for further policy formulation and implementation.

Given that participants are very busy senior executives, the interview also becomes a powerful tool for research because, as Gray (2009) outlines, asking these kind of respondents to fill a questionnaire may not be appropriate. They may not give much priority and attention to a questionnaire because of their busy work schedules. The researcher supports Gray’s argument and reckons that via interviews these participants are likely to be more willing to talk about their jobs. In addition, Cohen and Manion (in Gray 2004) suggest that interviews are strong tools in gathering information about a person’s knowledge and preferences.

Also, given that the target participants in the research belong to a certain category and are quite limited and restricted, the return rate of a questionnaire becomes an important issue for consideration (Kvale, 1996; Gray, 2009). Hence, also in order to mitigate the problem of a low return rate, the researcher deemed it fit to conduct interviews.

Table 7.3: Comparison of Interviews and Self-Administered Questionnaires

Characteristics	Interviews	Self-administered questionnaires
Provide information about	As for questionnaires, but potential for exploring in more depth	Attitudes, motivation, opinions, events
Best at	Exploring stories and perspectives of informants	Testing the validity of a hypothesis
Richness of responses	Dialogue between interviewer and respondent allows for nuances to be captured and for questions to be clarified and adapted or improvised Long interviews common	Questions cannot be modified once printed, and nuances of respondent's voice cannot be heard Long questionnaires rarely acceptable
Ethics	Interviewers know whom they have interviewed, although transcripts can be anonymized	Anonymous questionnaire responses can be assured
Sample size	With the exception of telephone interviews, less suitable for wide coverage	If generalizing to a population, samples often have to be large
Time cost Planning and design	Devising interview guide, piloting, etc., may be less of an issue	Devising questionnaire (checking validity and reliability), piloting, etc. may be very time-consuming
Operation	Arranging interviews, travelling, establishing rapport – all time-consuming	Distributing questionnaire
Data transcription	Typically 7–10 hours for 1 hour interview	Usually swift, especially where optical readers are used
Data analysis	Time needed usually underestimated	Usually swift (unless there are many open-ended questions)
Money costs	High if includes interviewers, travel costs, tapes, batteries, transcription of tapes	Mainly costs of printing, distributing and receiving questionnaires. Looks cheap per questionnaire, but looks more expensive if return rate low

Source Gray (2009 p.4)

Having highlighted the justifications for carrying out interviews as part of the research strategies for this research, it is important to highlight the particular type of interview that was found to be most suitable.

Given that this study sought to understand the position of various stakeholders on the employment and job creation objective of the LCD policy, the researcher thought that the line of questioning had been clearly defined and as such developed a guide as to the kind of information that would be required from the stakeholders. However, the researcher acknowledged that a high level of flexibility would be required so as to create themes and acquire more in-depth knowledge from these practitioners/participants (respondents). In view of these considerations, the researcher selected the in-depth semi structured interview method for this study.

In-depth semi-structured interviews can either be carried out as one-on-one or one to many (Saunders *et al.*, 2003). While one-on-one interviews are the ones which involve only the interviewer and interviewee, the one-to-many allows both multiple interviewers and interviewees, an example is focus groups. For this research, a one-on-one in-depth semi-structured interview was adopted. This method was found suitable because of its ability to make respondents speak freely on a topic like local content since some aspects of it are sensitive (Cresswell, 2009).

According to Saunders *et al.* (2003), one-on-one interviews can be carried out either face to face or via telephone, while one-to-many refers to the use of focus groups. Considering the advancement in technology, it is apparent that other computer media like skype, blackboard collaborate, wimba etc could also be argued as a one-on-one or one-to-many method of conducting interviews, depending on what the researcher's objective and research question(s) are, and the participant's preference- of course.

Given the sensitivity and confidentiality associated with information regarding oil and gas issues (Grafanaki, 1996), the interviews were carried out one-on-one and the main interview mode was telephone interviews. These interviews were audio recorded with the participant's permission.

Carr and Worth (2001) argue that the telephone interview is an interpersonal communication and a strategy for obtaining data without a face-to-face meeting. In other words, this data collection technique is devoid of visual cues but establishes an interactive sequence whereby the context of discussion is primarily set by the interviewer and interviewee's voices.

Having considered the advantages and disadvantages of various options, telephone interviews have been chosen for several reasons.

7.6.1.5 Justification for carrying out telephone interviews

The Nigerian oil and gas industry has been characterised by political instability and crises in the past (Emmanuel *et al.*, 2009) and given the 'climate', oil and gas workers tend to be more security conscious. Telephone interviews has been adjudged as offering greater personal safety and security to interviewees (Carr and Worth, 2001; Marcus and Crane, 1986) and in view of this, the interviewees preferred telephone interviews so that their facial identity and exact location remained undisclosed. Sturges and Honrahan (2004) warn that researchers should be safety conscious when carrying out fieldwork. They suggest that telephone interviews may be the most appropriate tool to carry out research in unpredictable areas. Although Opdenakker

(2006) argues that the location of an interviewee places value on the contextual data that may be obtained, it should be noted that this mainly focuses on verbal data and not contextual data or participant observation. As a matter of consideration, Cresswell (2003) discourages natural settings for interviews because these have been found to increase environmental distraction.

The target respondents for this research are senior executives; very busy professionals who work on tight schedules. As such, the researcher was conscious of the fact that these interviewees could be fatigued or suddenly engaged in other duties. In order to mitigate this, the interview time was intended to be flexible such that it could be easily re scheduled to accommodate the respondents' availability. True to the researcher's anticipation, quite a number of the interviews had to be rescheduled for various reasons owing to the schedules of the interviewees (see Appendix 2). Regarding the issue of fatigue, Garbett and McCormack (2001) highlight that interviewees may be fatigued during the course of a lengthy telephone interview, but McCoyd and Kerson (2006) dispels this argument, stating that participant telephone interviews have been found to last between one and a half to two hours, with little or no fatigue. The average interview time for all the respondents was 55 minutes. Interviewees displayed a high level of enthusiasm without showing any form of fatigue in their voices and responses. Similarly, the interview sessions showed no signs of hurry on the part of the participants.

In as much as interviewers might want to observe participants during the interview process, it should be noted that this research is not an ethnographic study hence, the priority was to obtain data relevant to the oil and gas local content policy. Burnard (1994) argues that non-verbal cues are lost during telephone interviews but this research mainly focuses on verbal data from the stakeholders hence participant attire, residence, office and economic status which are highlighted by Burnard (1994) appear not to be relevant in this case. In fact, Chapple (1999) points out that these factors are not essential and may be causing some sort of distraction to the interviewer. Novick (2008) reiterates that the loss of non-verbal data is a compensation for the telephone interviews because, if present, it could be misinterpreted or misused by the interviewer.

Although literature abounds that telephone interviews could reduce rapport and in depth discussion in some way (Novick, 2008), Burnard (1994) advises interviewers to take time to chat with the interviewee prior to the time of the interview. In view of this, the researcher maintained constant communication with the respondents on various semi-formal and informal topics prior to the main interview. Also, Tausig and Freeman (1988) advise that the interviewer should try to

understand the most appropriate intonation that suits the respondents. In line with this, the researcher took special care to observe this in the course of communication with the respondents.

The researcher also took into consideration the culture and language tone used in the Nigerian workplace. For example, the participants were senior and management executives and in the Nigerian workplace such people are highly revered and respected. Therefore, the researcher was careful to use the appropriate language for acceptance and also to ensure that the responses obtained were not distorted in any form. In addition, the researcher obtained prior information about the participants from the websites of their organisations to understand their job descriptions which helped guide the sequence in which the questions were going to be asked (although still maintaining the prepared question guideline). In addition to cultural issues, the researcher also considered the fact that telephone manners in Nigeria greatly differ from the United Kingdom where this study is being carried out, and this was also taken into full consideration. Being a Nigerian national, the researcher was advantaged in this respect.

Access to respondents was also considered a major reason why the telephone interview became imperative vis-à-vis alternative approaches. Firstly, access in terms of the respondents' position, and second, in terms of location. The respondents are executives of highly prestigious oil and gas firms and gaining face-to-face access to these respondents would have required the application of many bureaucratic protocols which would have been very time consuming. Considering the fact that this interview process cuts across various respondents with different peculiarities, it appeared inappropriate to go through such bureaucracy for each of them because of the time constraint. In terms of location, these respondents are located in several locations around Nigeria and travelling to conduct face-to-face interviews may be time consuming, cost ineffective (especially in cases where the respondents become suddenly unavailable) and risky, given the condition of road and transportation system within the country.

Also for anonymity purposes, Miller (1995) highlights that some respondents will prefer telephone interviews to face-to-face. A point which certainly applied to this study.

Overall, the data collected was rich owing to the fact that the researcher was already known to the respondents directly or indirectly. Generally, the level of enthusiasm exhibited was high, given that this was their area of expertise and not much of academic information had been published in this area. Other participants who helped in the snowballing process had met the researcher at an annual conference of global LCD experts at least twice (2011 and 2012, see 'Acknowledgements' at the start of the thesis). Owing to this, prior conversations helped the

researcher in that, the participants were able to give a good background to other participants that were recruited on the researcher's behalf.

In conclusion, part of the motivation for conducting telephone interviews is rooted in literature which abounds on their success rate. Chapple (1999) initially expressed scepticism on the quality of data to be obtained from her research, but she later expressed that the richness of the data obtained was in no way different from that of face-to-face interviews. Carr (1999) too noted that the use of telephone interviews far exceeded her expectations. Novick (2008) concludes that there is no justification to favour face-to-face interviews over telephone interviews. Also, having acknowledged the limitations involved with this process, it appears that there is still a good justification for conducting telephone interviews, particularly given the context and the participants for the study.

7.6.2 Documentary data

Scott (1990) refers to documents as artefacts in which their central features are inscribed in text which are produced by individuals and/or groups as part of their jobs or exclusively for their practical needs. According to Mogalakwe (2006) social researchers have found documents as useful data for research projects. This is also referred to as the 'documentary research method'. Payne and Payne (2004) describe this method as one which involves categorising, investigating, identifying and interpreting the limitations involved in physical research. Mogalakwe (2006) adds that while historians may consider the documentary research method as a 'monopoly', social scientists rely on this method as a supplement to data collected via social surveys and in-depth interviews.

In the case of this research, the documentary research method was employed for two main reasons. Firstly, to compensate for the limitations that arise in the collection of data via in-depth interviews (as highlighted in the earlier sub section) and secondary statistical data. Secondly, for the purpose of triangulation which enhanced the validity of the results obtained.

Documentary evidence can be classified into two types. These are primary documents and secondary documents (Mogalakwe, 2006). While primary documents refer to eye-witness accounts, secondary documents are those produced by people not present physically at the scene but have read eye witness accounts and produced such documents based on their profession or experience (Bailey, 1994). For this study, careful selection of various documents was carried out from both primary and secondary sources which include government libraries, company

websites, newspapers and accredited magazines, personal contacts from interviewees, government agencies and credible websites. These documents were then subjected to critical scrutiny employing Scott's (1990) quality control criteria for documentary data: These are authenticity, credibility, representativeness and meaning.

In accessing these data, the researcher found that documentary evidence also had certain limitations. Firstly, it was evident that to, a large extent, determining the accuracy of the information gathered relied mostly on the researcher's sense of judgement.

Another limitation the researcher encountered with documentary data is the fact that the data contained also irrelevant information which is largely because this is data which has not been produced for this specific (research) purpose(s). Hence, much time was needed to sort out, screen, scrutinise and prioritise the required relevant data.

In sourcing documentary evidence, the researcher found that some documents were tagged "classified". Access to these documents through the organisations entailed long bureaucratic processes and for some, access was still not granted.

7.6.3 Statistical data

Qualitative statistical data are usually expressed in words and not numerically. They can be differentiated into nominal and ordinal data (Velleman and Wilkinson, 1993). Nominal data include measurements of categories such as gender and religion while ordinal data consists of variable measurement categories such as colour and behaviour.

Quantitative statistical data are data sets which are numerically expressed. For example, temperature and time. This is regarded as a more precise form of measurement which tells the extent of a thing, as compared with qualitative data sets which in most cases give a description of a thing. The issue of which is better is then thought not to arise given that their use is dependent on the specific objective(s) that a researcher intends to pursue, which will be done using the most suitable tool.

As a robustness test and a means of triangulating the findings from the qualitative data obtained, the researcher sought to examine the factors influencing indigenous employment and job creation in the Nigerian oil and gas industry. Therefore, the use of quantitative statistical data appeared more suitable for achieving this having already obtained qualitative data from interviews and documentary evidence. Quite clearly this was not a matter of opinion or

perception, but a question of letting the data speak. Following this, data were obtained from statistical databases of credible sources which include the Central Bank of Nigeria (CBN), National Universities Commission (NUC), Nigerian Content Division (NCD) of the Nigerian National Petroleum Corporation (NNPC) and British Petroleum (BP).

A careful point of consideration to note is that statistical data do not exist for the sole purpose of this study and as such, may not contain certain features which the researcher may require. In view of this, some adjustments had to be made to use certain variables as a proxy in the absence of the required data, which is explained in-depth in the analysis (chapter 11). According to Glass (1976) this sort of data are data which have been analysed using some analytical tools before the researcher adopts them for further analysis.

Given that the oil and gas sector is a fast moving one, relying solely on a single set of data may not suffice to obtain a true picture of the current situation, thus justifying the purpose of carrying out a robustness test using statistical data via regression analysis. The usefulness of the statistical data is drawn from the fact that it showed a reflection of both past and present, i.e pre- and post-implementation of the local content policy.

Most of the secondary data were not available in the format the researcher required them to be. In addition, some of the data had to be extracted from a whole lot of other data which required much time and a high level of carefulness and precision to ensure that the data were not mixed up while adjusting them to the format desired by the researcher.

7.7 SAMPLING TECHNIQUE

There are mainly two techniques for sampling; these are probability and non-probability sampling. In the case of probability sampling, samples are drawn at random from a known population. The case of non-probability sampling pertains to a variety of sampling techniques for selecting a sample in the absence of a known complete list of the population (Saunders and Lewis, 2012). In this case, the researcher cannot select the sample from the population at random and in view of this, the probability of each member of the population selected cannot be known.

Table 7.4: Probability and non-probability sampling techniques

Probability	Non-probability
Simple random sampling	Quota sampling
Systematic random sampling	Purposive sampling
Stratified random sampling	Snowball sampling
	Self-selection sampling
	Convenience sampling

Source: Saunders and Lewis, (2012 p. 135)

The Nigerian oil and gas directory appears to be the only official document which contains a comprehensive compilation of oil and gas companies, and this provides a list of firms involved in oil and gas activities. Also contained in this document is a classification of registered firms, although there seem to be some difference with the way the NOGIC Act has broadly classified these stakeholders in that the directory further classifies them within various smaller segments hence some firms appear more than once on the list. The researcher also acquired the list of these firms from the Department of Petroleum Resources (DPR) but there appeared to be some differences and slight discrepancies between the directory list and that from DPR.

In view of this, the researcher had prior knowledge of some of the participants that were selected for the study and since these samples are typical of the population, the samples are considered illustrative and representative. This also provides a justification for recruiting participants to recruit other participants (snowballing) who have knowledge of the given research area and the phenomenon under study.

Given the inadequacy in the information on the exact number of the entire population, Hoinville *et al.* (1978) suggest that the decision of sample size becomes more one of judgement than of calculation. In view of this, the sampling technique adopted is the non-probability technique. This sampling technique (non-probability) consists of purposive sampling and snowball sampling. Purposive sampling refers to a sampling method whereby the researcher selects the samples that will be best able to answer the research questions and meet the objectives, while snowball sampling is a sampling method whereby respondents assist the researcher in providing other leads and participants (Saunders and Lewis, 2012; Saunders *et al.*, 2003).

Saunders and Lewis (2012) also state that within the non-probability sampling technique, participants are either homogenous or heterogeneous. Given that these participants are spread across various stakeholder groups, the samples are heterogeneous. While Saunders and Lewis (2012) suggest that for homogenous samples, 10 respondents may be adequate, they reckon that heterogeneous samples should attract 15 to 25 participants so as to have a more balanced argument. That said, how small or large a sample is, may not be the main point of consideration. Hair *et al.* (1998) argued that a small sample size may be regarded as having limited statistical power. Yet, this argument has been dispelled by various authors who highlight that there are various cases where a large sample size has effect on statistically weak relationships, thus making them appear significant (Sekaran and Bougie, 2010; Saunders and Lewis, 2012, Sekaran, 2000). Consequently Richie and Lewis (2003) argue that generally qualitative samples are usually smaller in size than quantitative samples. Following these arguments, the selection of sample size was guided by the concerns of each of these authors, whilst considering the limited number of experts in the research area, as well as accessibility to respondents.

7.8 SAMPLING STRATEGY

A sample is a sub-group (subset) of a population (complete group) from which a researcher is able to draw data and subsequent conclusions that are generalisable to the population of interest (Saunders and Lewis, 2012). Samples are collected because it is impracticable to collect data from an entire population especially when it is a large one (Saunders and Lewis, 2012). However, in collecting samples, De Vaus (2002) suggested that it is expedient that the researcher has adequate knowledge of the population, sample frame and sample size.

According to Bryman and Bell (2007 p.176), a sample frame refers to the list of samples within a given population (Saunders and Lewis 2012; Sekaran and Bougie, 2010), while sample size refers to the number of elements/variables chosen from the sample frame (Cresswell, 2003).

For this research, the population refers to the entire stakeholder groups in the Nigerian oil and gas industry. The focus is on the LCD policy which narrows the research area, consequently determining the sample frame. Following from the framework in Figure 6.1, (see p.146) the sample frame consists of 16 stakeholder groups which were found to have a direct bearing with the local content policy. These included: IOCs; indigenous operators; international oil and gas service companies (1st tier suppliers); indigenous oil and gas service companies (2nd tier suppliers); financial sector; legal sector; EPC contractors and fabricators; pressure groups; oil

and gas industry employees; HE institutions; federal government (government); independent marketers; independent refiners, pipeline companies; journalists; Trade Unions.

7.8.1 Selection of sample size

The importance of the sample size cannot be overemphasised especially as it offers statistical significance, reliability and validity (Tekaya, 2008). In view of this, Bryman and Bell (2007) suggest that in selecting sample size, the main criterion should be the ability of the size of the sample to guarantee precision and not necessarily the question of how large or small the sample size is. Another important factor that has been highlighted for consideration in selecting sample size is time and cost (Blumberg *et al.*, 2005). This factor also appears important for this research given that this is a PhD research which is time bound and only funded for three years.

According to Bryman and Bell (2007), the importance of precision, time and cost cannot be understated. Other factors which have been highlighted in relevant literature include: i) non-response; ii) heterogeneity of the population; iii) kind of analysis iv) extent of variability/homogeneity in population (Bryman and Bell, 2007).

In selecting the sample size for this research, careful attention was paid to the fact that this involved a stakeholder analysis and that the participant information had significant implications on the results. Reference was also made to the definition of stakeholders by Freeman (1984) who defines stakeholders as individuals who affect or are affected by certain decisions or actions. Following this, the researcher started by mapping out the entire stakeholders in the Nigerian oil and gas industry following the review of past literatures considered in previous chapters (chapters 1 to 7).

With regards to allocation of priority to stakeholder groups, Mitchell *et al.* (1997) suggested that the legitimacy and power of the potential stakeholders in relation to the issues in question (research question) should be considered. Although no clear-cut priority was given to one stakeholder over the other. On this point (see also Grimble and Chan, 1995) some of the interview questions varied between one stakeholder to the other resulting in different average times in which the interviews for various stakeholder groups lasted. This was mainly because the stakeholder groups were designed to meet different objectives of the study (see Table 9.2, p. 219).

Given that this research employs a mixed methods approach and both primary and secondary data were required for addressing the sub objectives, the researcher agrees with the assertion of

Marshall (1996) who states that the determination of sample size for a qualitative study centres on its appropriateness in answering the research questions. Cresswell (2003) suggest ≤ 10 interviews for phenomenological studies although this study does not fully rest on the phenomenological paradigm. Guest *et al.* (2006) recommend about 12 participants for interview-based studies. In view of these, the researcher also considered the advice of Onwuegbuzie and Leech (2007) who stated that qualitative research data should not be too small that it becomes difficult to achieve data saturation or too large to become difficult to extract rich, thick data; more so, as predicted by Marshall (1996), as the study progressed, more themes and new categories emerged which required the collection of additional data from these stakeholders.

However, the boundary for this research has been set given that attention focuses on the indigenous employment and job creation aspect of the policy. By this, the researcher is justified in selecting a sample size based on the entire stakeholder groups that fall within the aspect of the policy being considered (indigenous employment and job creation). These stakeholder groups constituted the pool from which the sample size for this study was drawn.

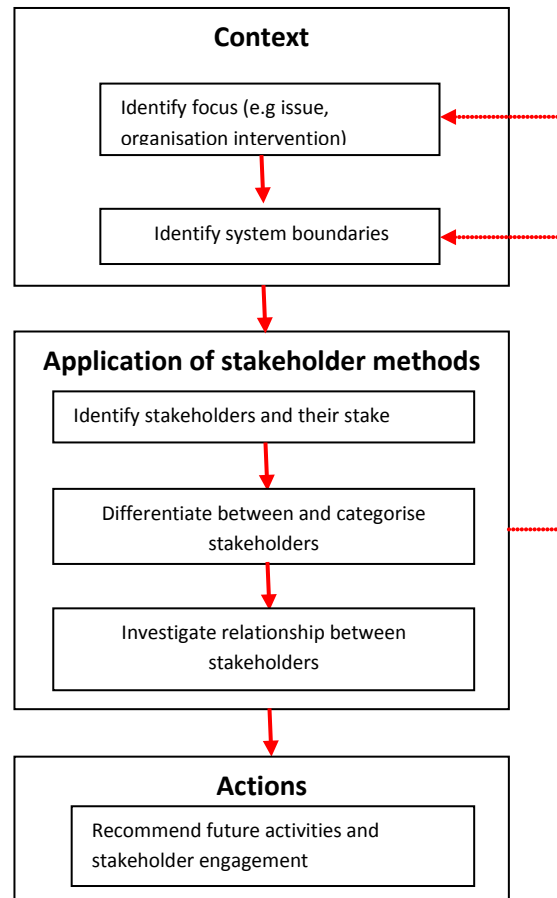
Overall, the researcher was guided by the framework developed for stakeholder analysis (Figure 6.1) which helped in the identification of the stakeholder groups. Based on Ackermann and Eden (2011) framework, eight different stakeholder groups were identified (see chapter 9). The researcher selected a total sample size of 28 respondents across these eight stakeholder groups, on which in-depth interviews were carried out. Key areas covered in the interview include: value addition; curriculum dynamism; suitability and employability of Nigerians; 'payment for local content'; indigenous entrepreneurial emergence; domiciliation vs. indigenisation. These are considered in more detail in Table 7.5 (p.178).

Against this backdrop, Granovetter (1973) argues that the need to study the social reactions that link these stakeholders together cannot be overemphasised so as to examine how these stakeholders form strong and/or weak ties with one another. Following this, the analysis chapter (chapter 9) begins with a stakeholder analysis following from the framework presented in Figure 6.1, after which the research sub-objectives which have been developed to answer the main research question are considered.

7.9 APPLICATION OF THE STAKEHOLDER FRAMEWORK

This research was broadly informed by the framework of Reed *et al.* (2009) who outlined a step-by-step method for carrying out stakeholder analysis. This is shown in Figure 7.1.

Figure 7.1: Schematic Representation of key methodological steps necessary for stakeholder analysis



Source: Reed et al.(2009, p.1947)

7.9.1 Identification of stakeholders

In the search for the identification of which stakeholders deserve management attention, analyses that drew from a variety of other perspectives (exchange transactions, power dependencies, legitimacy claims, etc.) led to extensions of the stakeholder framework, to include also government, consumer advocates, the media, and a variety of other interest and/or pressure groups (e.g., Bailur, 2006; Cummings and Doh, 2000; Donaldson and Preston, 1995; Mitchell *et al.*, 1997). As a management tool, stakeholder theory assesses stakeholders' identity on the basis

of the possession of one or more of three relationship attributes: power, legitimacy, and urgency. According to Mitchell *et al.* (1997), the greater the possession of these attributes, the more stakeholders' claims should be taken into account.

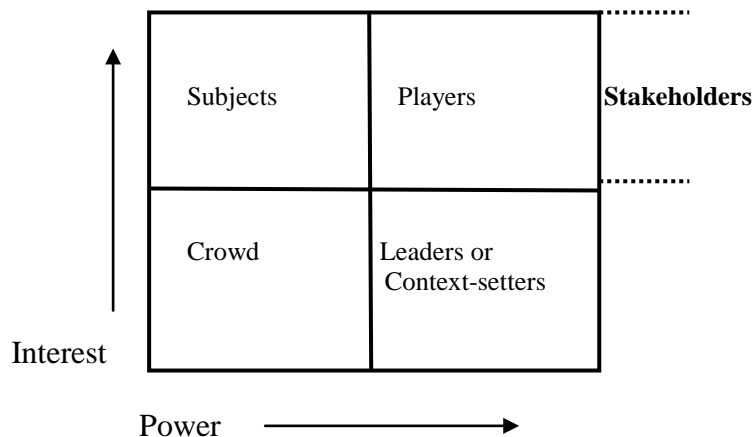
For this research, the need to identify the stakeholders for addressing the research question cannot be overemphasised. Ackerman and Eden (2011) advise against relying on generic lists of stakeholders for appraisal. Furthermore, they argue that in practice, management teams only work with a set of stakeholder groups that will ensure the success of a project. Having considered this, it is important to appreciate the fact that the Nigerian oil and gas industry consists of various stakeholder groups, but this research addresses the local content policy and more specifically the employment and job creation aspect of this policy. It is in this light that the researcher has developed a stakeholder framework of analysis which helps to address the research question.

Several authors have suggested different ways of identifying stakeholders (Ackerman and Eden, 2011; Freeman, 1984; Bryson, 2004; Bailur, 2006). These include focus groups and interviews. Having considered the peculiarity of this research, secondary sources and snowballing were the main methods for identifying the relevant stakeholders. Although semi structured interviews were carried out in this research, this was done after the stakeholder groups had been identified. It is also important to state that the use of focus groups for identifying stakeholders was not deemed to be necessary in this research because there are clear cut responsibilities of each of these stakeholders within the oil industry and as such, the use of secondary literature and snowballing appeared to be appropriate and sufficient. Moreover, being able to assemble a focus group of top executives within the oil and gas industry was not feasible because of their different time schedules.

7.9.2 Differentiation and categorisation of stakeholders

For the stakeholder differentiation and categorisation, the researcher adopted the stepwise framework of Bryson (2004) and the power-interest framework of Ackerman and Eden (2011). The stepwise approach enabled the researcher to examine each of the various stakeholder groups using different variables. Having subjected these answers to critical scrutiny, the stakeholders were then fitted into the power-interest framework. The variables within this framework include subjects, players, crowd and leaders or context-setters. This is shown below.

Figure 7.2: The Power-Interest Framework



Source: Ackermann and Eden (2011, p.233)

From the framework, it can be observed that the ‘interest’ (vertical) axis ranges from low to high, and the ‘power’ (horizontal) axis in like manner. This research employed the use of analytical categorisation which are a set of methods in which stakeholders are classified by the researcher conducting the analysis. This is based on the researcher’s observation and the nature of the research question. Various categories of categorisation methods have been highlighted, and these include interest-influence (power) (Lindenberg and Crosby, 1981), cooperation-competition (Freeman, 1984), urgency, legitimacy and influence (Mitchell *et al.*, 1997) and cooperation-threat (Savage *et al.*, 1991).

Usually, these categorisation methods make use of Venn diagrams and/or matrices for analysis. Of all of these methods, the interest-influence (power framework) is adopted for this research for the following reason. The research question is based on examining the extent to which the indigenous employment and job creation objective of the LCD policy is being achieved and as such, there is a need to determine the stakeholder groups who firstly belong to, or rather, have an interest in the oil and gas sector and the LCD policy. Having done this, then the issue of influence (power) they have in achieving the employment and job creation objective becomes a necessary consideration, because it allows to focus on the examination of their stake and role in providing employment opportunities.

From Figure 7.2, key players can be seen as those who have high interest and high influence (power) (Reed *et al.*, 2009). According to Ackermann and Eden (2011), this category is referred to as stakeholders. At this point, it is important to re-iterate that each of the stakeholders identified are not less important than the others, as such the stakeholder groups that have been

categorised as ‘players’ in this study are those that have been selected to answer the research question based on the framework of Bryson (2004).

Although context setters are highly influential, they tend to have low interest. Reed *et al.* (2009) argue that this stakeholder group poses a significant risk, hence they should be monitored and managed appropriately. Subjects are seen to have high interest but low power. However, Reed *et al.* (2009) argue that there are occasions whereby ‘subjects’ can begin to desire some power hence forming a coalition to enhance their influence. On this account, Reed *et al.* (2009) warn that interest and influence can and often do change over time, thus shifting stakeholders’ position across the quadrants of the matrix.

7.9.3 Interrelationship of stakeholders

Generally the issue of interrelationships among stakeholders has been viewed beyond mere business or ethical interactions. Seratt (2010) argues that interrelationships between stakeholders are better viewed as power networks which do not reside exclusively within states, institutions or corporations but are, instead, located within societal structures. The third step of the stakeholder analysis, therefore, investigates the relationships existing between stakeholders. The use of the social network analysis (SNA) and ‘actor-linkage’ matrix (ALM) have been found to be useful tools for investigating the relationship among stakeholders (Biggs and Malsaert, 2004; Biggs and Malsaert, 1999; Davies, 2005; Reed *et al.*, 2009).

7.9.3.1 Social Network Analysis (SNA)

Social Networks refer to the linkages that exist among a group of people which possess similar or complimentary characteristics and these linkages help to interpret their social behaviour. Serrat (2010) refers to social networks as nodes of individual groups or organisations which bear relational ties in one or more types of interdependencies which could be in the form of shared values, visions, ideas, social contacts, kinship, joint membership, etc.

Generally social networks exist among people who work together within a firm, corporation or industry. The study considers stakeholders within the oil and gas industry and therefore, it can be argued that the stakeholders selected for the study exist in a social network. According to Hatala (2006), SNA is a methodology which examines the structure that exists among actors, groups and organisations and this methodology helps in explaining the variations in beliefs, behaviours and outcomes. Similar to ALM to be examined in the next section, SNA also uses matrices for

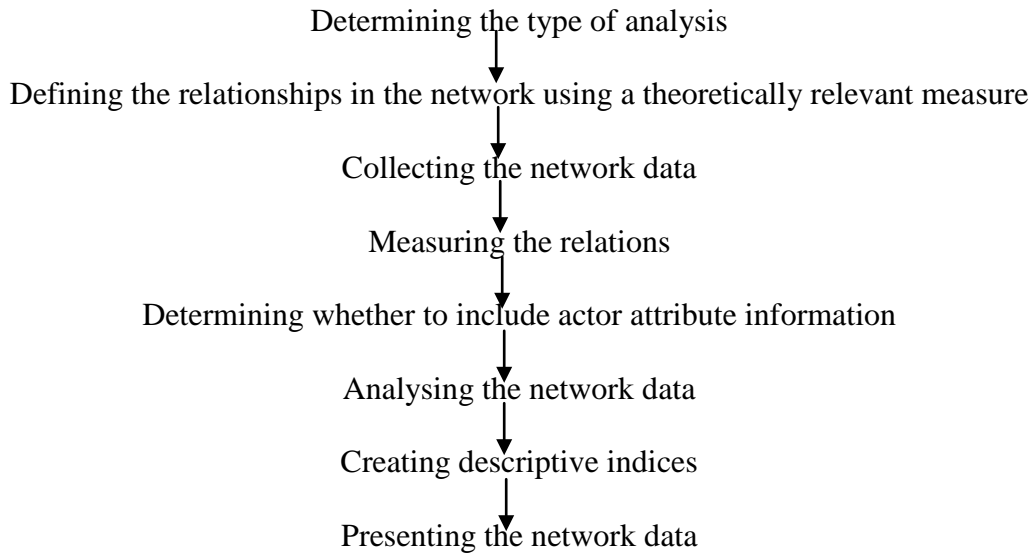
its analysis although SNA analysis can also be represented visually with the use of sociograms. SNA captures the ties that exist between actors i.e it analyses the presence and/or absence of a tie. Furthermore, it examines the direction of the ties that exist between the actors.

SNA originates from the field of sociology but it has now branched out from its original field and is now commonly used in other fields, these include management, anthropology and psychology (Hatala, 2006). In addition, Toikkanen and Lipponen (2011) argue that SNA is currently being used in social sciences and this confirms the argument of Reed *et al.* (2009) who suggest that SNA can be used to investigate the interrelationship that exists between stakeholders in natural resource management.

The consideration of SNA for this stakeholder analysis stems from the research question. In order to determine the extent to which local content policy has impacted indigenous employment and job creation, it is important to examine the relationship that exists among the actors that are responsible for fulfilling this objective. This will help in understanding the extent to which the stakeholders are working together to make employment available and create more jobs within the oil and gas sector. For example, if operators still award a large percentage of contracts to foreign firms without considering other stakeholders like the second tier suppliers, then more local hands cannot be employed by these stakeholders in the absence of required jobs. Also, entrepreneurial development within this sector will be minimal since service contracts will not be guaranteed. Therefore, it becomes imperative to examine the relational ties that exist among the actors (stakeholders) in the light of the research question.

The method of SNA in the social sciences has attracted considerable interest in recent decades. This is credited to John Scott, Stanley Wasserman and Katherine Faust (Scott, 2000; Wasserman and Faust, 1994) whose seminal work on social networks has provided a framework for SNA within the social science and management fields. For this research, the SNA framework of Hatala (2006) who combines the framework of Scott (2000) and Wassermann and Faust (1994) is adopted. This framework is summarised in eight steps as shown in Figure 7.3.

Figure 7.3: Steps for Social Network Analysis (SNA)



Source: Hatala (2006, p.50)

Firstly, it is important to determine the type of analysis to be conducted. Hatala (2006) argues that the analysis can either be ego network analysis or complete network analysis. In the case of ego network analysis, the relationship that exists from one end such that there is no attempt to bring these actors together but the information they supply from their individual ends is what counts. On the other hand, complete network analysis brings the individuals together to exchange their views. For this study, the ego analysis is preferred since the research does not gather its data from focus groups. In addition, the ego analysis is supported so as to enable each of these stakeholders to speak without any form of bias or external influence, as in the case of what may be found in a ‘complete network analysis’. Also, as part of the justification for carrying out telephone interviews, the participants work on tight schedules and bringing them together at a convenient time for all of them would have been very difficult.

The stakeholder relationships examined stem from the research question. For this study, the researcher considers stakeholders communication relations, instrumental relations and interpersonal relations as paramount amongst others. This is because these forms of relations affect how contract awards can be sustained which is important for indigenous employment, the emergence of entrepreneurs and the development of existing entrepreneurs. As highlighted earlier, the techniques for collecting data are interviews and existing secondary sources. The data collected for the SNA were transformed into likert scale format to enable a matrix presentation of the results (chapter nine).

7.9.3.2 Actor Linkage Matrix (ALM)

Another method through which the interrelationship of stakeholders can be measured is ALM. The ‘actor-linkage’ matrix shows the extent of the link between major actors in an innovation system i.e the interrelationships between different actors of a system. According to Biggs and Matsuert (1999), the ALM helps to map out the existing situation to identify key linkages, hence providing a rationale for intervention.

Considering the ALM in the light of this research, it appears that this is a useful tool to examine the interrelations among the eight stakeholders selected for the study. Also, since the ALM has one cell for every possible linkage, this encourages the researcher to think more creatively and innovatively in analysing these relationships from a holistic point of view, since each of these relationships can be analysed at any one time. The ALM also appears to be a robust tool in that, the strength of the ties/links among these stakeholders can be easily analysed to determine the level of interest and influence each of the stakeholders considered have in providing indigenous employment and contribution to the development of entrepreneurs within the oil and gas sector.

7.10 METHODOLOGICAL FRAMEWORK FOR ANALYSIS OF SUB OBJECTIVES

To clarify the methodological approach of the thesis, Table 7.5 highlights the complete methodological steps for the analysis of the research sub objectives undertaken in this study, indicating how each of the sub objectives was addressed. Details of the interview sessions with each of the respondents are also contained in Appendix 2

Table 7.5: Analysis of research sub objectives

Sub objectives/evaluative criteria	Data required	Data source/stakeholder identified	Job titles and positions of respondents in the company	Analytical model/technique	Associated source/Author	Remarks on rationale and relevance
To explore the level of value added within the Nigerian oil and gas industry	<p>Primary data: Semi-structured interviews</p> <p>Secondary data: Secondary data on indigenous and foreign employment figures in the Nigerian oil and gas industry; data and other statistics regarding employment and training; local content Policy review documents and stakeholder reports</p>	<p>Primary data: Senior executives of the following stakeholders: IOCs; indigenous operators; government; EPC contractors and fabricators; multinational service providers; indigenous service providers.</p> <p>Secondary data: Nigerian Content Development and Monitoring Board; Department of Petroleum Resources; Nigerian National Petroleum Corporation; IOCs reports and government archives.</p>	Local content managers; local content officers; business development managers and senior executives	Thematic Content analysis; documentary analysis	NOGIC Act 2010 (Section 30) ; Esteeves and Barclay (2011); Grossman (1981); National Mirror (November 6, 2013); IMF World economic outlook (2013); NCDMB internal document (2013); National Bureau of Statistics (2013); Ihua <i>et al.</i> (2009); Appleton and Cowley, (1997); Dew (2005); Dew (2006); Goodpaster, (1991); Varvazovszky and Brughha, (2000); Brughha, and Varvazovszky (2000)	The essence of considering this as part of the sub objectives of this study is to examine indigenous participation in areas such as employment contract and EPC, which are areas where value is expected to be added to the oil and gas industry.
Explore the dynamism of the curriculum of HE institutions in meeting the current demands of the oil and gas industry	<p>Primary data: Semi-structured interviews</p> <p>Secondary data: Data on graduate enrolment and turnout; data on number of Nigerian universities; data on annual budgetary allocation for education in selected countries</p>	<p>Primary data: IOCs; multinational service providers; government; engineering and geo science tutors; young employees of oil and gas industry.</p> <p>Secondary data: National Bureau of statistics (NBS); Nigerian Universities Commission (NUC); World Bank</p>	Local content managers; local content officers; business development managers and senior executives; junior and intermediate engineers; graduate employees; professors and senior lecturers	Thematic Content analysis; documentary analysis	Salami, (2011); Chiemeké <i>et al.</i> (2009); Omenikolo and Amadi (2010); National Bureau of Statistics (2011); Data obtained from National Universities Commission (2013); World Bank (2012); Varvazovszky and Brughha, (2000); Brughha, and Varvazovszky (2000)	Considering the research question, it is worthy of note to examine how dynamic the university curriculum is, in meeting the demands of the oil and gas industry. This is because employment of graduates is dependent on the level of knowledge and basic skill they have acquired in the HE institutions. In addition, the general standard of education in Nigeria is examined to see if it has had any effect on indigenous employment.
Based on the skills acquired in	<p>Primary data: Semi-structured interviews</p>	<p>Primary data: Senior executives of the</p>	Local content managers; local	Thematic Content analysis;	Omenikolo and Amadi, (2010);	The rationale for the analysis of the suitability and

institutions displayed by young employees, determine their suitability and employability on their job, and their potential for ascending to higher positions/cadre within the oil and gas industry	Secondary data: Accreditation reports for Nigerian universities; data on existent skill gaps; world university rankings by subjects	following stakeholders: IOCs; indigenous operators; Indigenous operators; multinational service providers; indigenous service providers; EPC contractors and fabricators Secondary data: Nigerian Universities Commission; Times Higher Education; PTDF	content officers; business development managers and senior executives; senior HR executives, HR managers; Executive directors; graduate employees	documentary analysis	Petroleum Act (1969); NOGIC Act (2010); Eweje (2007); NOGIC Act (2010); PTDF (2010); Appleton and Cowley, (1997); Dew (2005); Dew (2006); Goodpaster, (1991); Varvazovszky and Brugha, (2000); Brugha, and Varvazovszky (2000)	employability is to examine if indeed Nigerians can actually play an active role in a significant proportion of the activities in the oil and gas sector from upstream to downstream. This is because it goes a long way in determining the percentage of indigenous employees alongside the potentials of indigenous players' emergence in the industry.
To obtain stakeholders' perspective on the main stakeholder(s) responsible for the "payment" for LCD	Primary data: Semi-structured interviews Secondary data: IOCs reports and government archives	Primary data: Senior executives of the following stakeholders: government; IOCs; indigenous operators; indigenous operators; multinational service providers; indigenous service providers; engineering and geo science tutors Secondary data: operators' websites	Local content managers; local content officers; business development managers; senior executives; professors and senior lecturers	Thematic Content analysis; documentary analysis	Petroleum Act (1969); Eweje (2007); Total (2010); Shell (2011); Chevron (2011); Autin and Tijani (2006); Varvazovszky and Brugha, (2000); Brugha, and Varvazovszky (2000)	The debate on which stakeholder should fund and/or champion the cause of LCD has been long standing. This sub objective analyses the roles and responsibilities of the stakeholder groups to determine which stakeholder(s) has the responsibility for funding LCD and to suggest means by which this initiative can be sustained as a means to achieving the target of the policy.
To determine the implication of LCD on the potentials of indigenous entrepreneurs in the Nigerian oil and gas industry	Primary data: Semi-structured interviews Secondary data: Data on number of indigenous oil and gas operators in Nigeria	Primary data: stakeholders: government; indigenous operators; indigenous operators; multinational service providers; indigenous service providers; EPC contractors and fabricators Secondary data: Department of Petroleum Resources (DPR); Nigerian Content Development and Monitoring Board (NCDMB).	Local content managers; local content officers; business development managers and senior executives	Thematic Content analysis; documentary analysis	Ihua et al. (2011); Department of Petroleum Resources (2013); Dew (2006); Goodpaster, (1991); Appleton and Cowley, (1997); Dew (2005); Dew (2006); Goodpaster, (1991); Varvazovszky and Brugha, (2000); Brugha, and Varvazovszky (2000)	This sub objective seeks to explore the potentials of indigenous entrepreneurial emergence as a means to creating more jobs in-country. Since the policy supports indigenous entrepreneurial development, the sub objective sought to analyse the impact of the policy on potential in-country players arising to take advantage of the local content policy.
To explore the issue of Domiciliation Vs Indigenisation as a way of LCD from	Primary data: Semi-structured interviews Secondary data:	Primary data: stakeholders: government; IOCs; indigenous operators; multinational service	Local content managers; local content officers; business development	Thematic Content analysis; documentary analysis	Ovadia (2009); Ono and Lahiri (1998); Grossman (1981); Ikelegbe (2005);	The rationale for exploring domiciliation and indigenisation is to determine which of these

stakeholders perspective	Data on power generation; data on kidnappings and hostage taking	providers; indigenous service providers; EPC contractors and fabricators Secondary data: National Bureau of Statistics (NBS); Police crime diary, Bayelsa state, Nigeria	managers and senior executives		National Bureau of Statistics (2011); Ewarhieme (2010); Varvazovszky and Brugha, (2000); Brugha, and Varvazovszky (2000)	methods appears more suitable for LCD. The advantages and disadvantages of each of these were considered in line with the Nigerian environmental context and conclusions were drawn based on the findings for this sub-objective.
--------------------------	--	---	--------------------------------	--	--	---

Developed by Researcher (2013)

7.11 PILOT STUDY

According to Polit and Beck (2009), a pilot study is a trial run carried out in preparation for the main study. Usually, this is carried out to test logistics as well as gather the necessary information for the main, larger study, so as to improve the efficiency of the process and the quality of data that will be obtained.

Following the generation of interview questions for the various stakeholder groups, the process of the pilot evaluation was conducted first with academic experts and, then, with practitioners (experts in the field). The academic experts consisted mainly of the researcher's supervisory team who helped address issues relating to structure and pattern with which the questions were formulated, ordered and formatted, in addition to confirming both face and content validity by ensuring that the questions posed reflected the parallels between the theoretical and practical realms of the 'content' domain. Having addressed these aspects, pilot interviews were carried out with eight respondents, one for each stakeholder group selected for the study. The primary reason was to test these questions on practitioners and academics so as to obtain useful feedback before starting the actual data collection.

The extensive pilot study provided useful feedback that helped considerably to ensure that all the questions posed to respondents were clear, content-rich and devoid of any 'leading' or 'misleading' elements which may have caused any form of bias. The pilot-testing process also offered respondents, at the end of the interview, an opportunity to critique the interview process (design), in terms, for example, of the tone used by the interviewer, the sequence of the questions posed, the clarity of the questions themselves, and overall duration of the interview. As a result of this process, questions that did not provide useful data (information) were discarded, ambiguous areas clarified, and in some cases, definitions of critical constructs (such as 'payment' for LCD) were shared with respondents prior to posing related questions (in the interviews carried out in the main study) so as to ensure a common interpretation of the theoretical concepts involved.

Additional specific examples of changes made as a result of the pilot interviews include the removal of a question regarding respondents' perception of the financial sustainability of the oil and gas business in which they worked. This question resulted in being too sensitive a question to ask to generate any meaningful responses from interviewees and, consequently, it was removed from the plan of questions to be posed for the main study. Another question

which proved too controversial during the pilot interviews with government officials related to the perception of political influence and/or corruption in the context of decision-making processes involving the relationship between the Federal Government and international oil companies. This question too was, therefore, removed from the line of questioning planned for the interviews to be conducted as part of the main study.

Also the question related to the extension of ‘the waiver window’ of the policy which was initially intended to address ‘value addition’ in the oil and gas industry (“*In what ways has the waiver window extension contributed to value addition?*”) was modified as a result of the pilot study. Pilot study participants suggested that the question should not be limited to ‘value addition’ alone, but also be used to complement the question on ‘indigenous employment and entrepreneurial emergence’, since the waiver window extension has a direct effect on the establishment of indigenous entrepreneurs in the Nigerian oil and gas industry. Accordingly, this question was modified as follows: “*Recently, the waiver window, set to expire in 2013, has been extended by two years. This suggests that foreign contractors will still be benefiting from projects meant to be executed in Nigeria. What do you think will be the impact of this extension on indigenous employment?*” Finally, as a result of the feedback received from participants in the pilot study, the researcher disciplined himself to speak more slowly when asking questions whilst also giving respondents explicit opportunities for asking for further clarifications on questions posed.

7.12 DATA RELIABILITY AND VALIDITY

The issue of validity and reliability should not be argued as peculiar to any research paradigm. According to Golafshani (2003 p.897) “*like reliability and validity as used in quantitative research are providing a springboard to examine what these two forms mean in the quantitative research paradigm, triangulation as used in the quantitative research to test the reliability and validity can also illuminate some ways to test or maximise the validity and reliability of a qualitative study*”. Following from this statement, it is important for any researcher to consider these concepts irrespective of the method employed. The essence of reliability and validity as suggested by Golafshani (2003) is trustworthiness, rigour and quality.

De Vaus (2002 p. 30) defined the unit of analysis as “*the unit about which we obtain information*”. For this study, the research instruments are interviews, documentary data and

statistical data. The unit of analysis are individuals who form the primary stakeholders of the Nigerian local content policy and who were interviewed by the researcher.

As much as reliability appears to be a necessary condition, Churchill (1979) advises that this should be complemented by an analysis of validity. Therefore the following subsection will consider the features of reliability and validity with specific reference to this study.

7.12.1 Reliability

Reliability can be defined as the extent to which data collection methods will produce consistent findings (Saunders and Lewis, 2012). This consistency lies in the repeatability and replicability of the research by either the researcher or another (Golafshani, 2003). In testing the reliability of a survey, Litwin (1995) highlights three types. These are: i) test-retest reliability; ii) alternate-form reliability; iii) internal consistency reliability. For this research, reliability will be discussed based on these reliability types. However, it is important to note that Blumberg *et al.* (2005 p.385) state that “*reliability means many things to many people, but in most contexts the notion of consistency emerges*”.

The test-retest approach is a situation whereby the same test, using same research instrument is administered to the same set of people/respondents twice, over a time span between two weeks and six months (DeVaus, 2002; Blumberg *et al.*, 2005; Litwin, 1995). However, De Vaus (2002) also highlights the demerits of this approach stating that it is often difficult to administer the same test to the same people twice. In addition, he highlights the problem that people may not be able to reproduce that which they have stated initially. Also according to Saunders *et al.* (2009) persuading respondents to answer the same set of questions twice may pose difficulties. However, De Vaus (2002) suggests that this may be alleviated by conducting a trial on a smaller but similar group which may be available for a retest. Alternate-form reliability is also referred to as ‘parallel-form reliability’. In this case, the same attribute is being measured but with the use of different wordings (Sekaran and Bougie, 2010; Litwin, 1995). The order and sequence of the questions also changes in the research instrument. Blumberg *et al.* (2005 p. 385) explain that this measures “*the degree to which alternative forms of the same measure produce same or similar results*”. Tekaya (2008) argues that it may pose a difficulty for researchers ensuring that these questions are truly equivalent and capable of returning the same answers. The internal consistency approach is a psychometric measure which is applied to a group of items which measure different aspects

of the same concept. This is done by estimating through an inter-correlation formula the degree of homogeneity of the instruments in reflecting the same underlying constructs.

Much consideration was put into reliability testing of the research instruments used for this study because data was collected from different sources (interviews, stakeholders' reports and publications, and secondary data). In view of this, different reliability tests were adopted.

For the interviews, the alternate form reliability appeared suitable given that the researcher could refer back to a respondent's response by linking subsequent responses. This provided reliability for the data obtained from interviews; in spite of the demerits highlighted of this method. The opportunity to refer to past responses by the respondents was available given that the questions were asked sequentially.

The internal consistency approach appeared to be suitable in the case of the quantitative secondary data given that the inter correlation among the scores of items could be estimated. In the case of the stakeholder reports and publications however, information that appeared doubtful was double checked from similar sources to ascertain its veracity.

7.12.2 Validity

According to Blumberg *et al.* (2005 p. 379) "*validity refers to the extent to which a test measures what we actually wish to measure*". Litwin (1995) highlights four major types of validity. These are: i) face validity; ii) content validity; iii) criterion validity; and iv) construct validity.

Face validity is seen as a causal form of item appropriateness (Litwin, 1995). In this case, the review of a research instrument is done by an untrained individual such as a friend or even a professional but not necessarily knowledgeable of the field of study. Saunders *et al.* (2009) argue that it is just a way of trying to evaluate if the research instrument makes sense.

Content validity is more in-depth than face validity because the measure of appropriateness of the instrument is done by people who are experts in the field of study (Lewin, 1995). Blumberg *et al.* (2005 p.380) explain this as the judgement or panel evaluation with the content validity ratio expressing the "*degree to which the content of the items adequately represents the universe of all relevant items under study*". Litwin (1995) opines that this is more of an opinion-based approach with minimal scientific basis.

For this research, both face and content validity have been utilised and this enabled the researcher to make amendments and refine the questions following the pilot study carried out with academics and practitioners. In addition, it has helped the researcher to search more literature and familiarise with current trends in the research area which helped tremendously during the process of data collection.

Criterion validity is a measure of how well an instrument stacks up against another instrument (Litwin, 1995). According to Neuman (2003), this is measured by comparing it with another measure of the same construct. Litwin (1995) divides criterion validity into concurrent and predictive validity. In the case of concurrent validity, the survey instrument is judged against another which is an acceptable standard. Litwin (1995 p.37) refers to this as a “*gold standard*”, which is widely accepted as a standard test. Predictive validity is however referred to the extent to which measures can predict future events (Neuman, 2003).

Although this research has highlighted various constructs in previous chapters, whereby previous theoretical and empirical work served as a useful blueprint for the measurement of these constructs, there is a need to exercise some level of care in utilising the constructs that have been identified.

Construct validity is argued to be the most valuable way of assessing an instrument, although it is generally seen as the most difficult way as well (Litwin, 1995). It usually measures the extent of meaningfulness when a survey instrument is used. This method is only determined after many years of experience with a survey instrument (Litwin, 1995). It comprises of convergent and divergent validity.

Convergent validity implies the use of different instruments to collect data which give the same result (Blumberg *et al.*, 2005). There appears to be some similarity between divergent validity and alternate-form reliability although Litwin (1995) argues that alternative-form reliability is more theoretical requiring multiple investigators utilising different approaches. Divergent validity measures the underlying ‘truth’ and in testing for divergent validity, the instrument should not show any close correlation with similar instruments (Litwin, 1995).

7.13 HANDLING OF DATA

Richards (1998) argues that getting close or keeping a distance from data collected poses risks either way. Therefore a need to strike a balance becomes imperative, so that the

researcher can absolve himself from data to avoid any forms of bias during the analysis and interpretation stages.

The researcher has taken considerable efforts to absolve himself completely from the data collected so as to avoid any bias. In addition, the process of data handling was carefully thought through before the data analysis commenced. Overall, the researcher adopted a flexible but thorough process pre and post data collection which consisted of two main stages- recording and transcribing; and, coding and allocation of themes.

7.13.1 Recording and transcribing data

The purpose of recording interviews is to enable the researcher to recollect all that was discussed during the interview. Bryman (2008) considers this mandatory. Particularly for this research, this was found useful because it helped the researcher to concentrate rather than furiously take notes during the interview.

In order to retain the richness of the data collected, these were transcribed ad verbatim (solely by the researcher). Following Green and Thorogood (2009, p.117) “*transcribing conversation is, of course, a translation process in itself. The choices of punctuation, spelling and detail of the transcript all affect how it is read by those analysing it*”. Although the process was a rather lengthy one, it was very useful since it brought the researcher closer to the data during the transcribing stage, which proved particularly helpful for an early identification of themes.

7.13.2 Coding and allocation of themes

The data were sorted to provide answers to each of the sub-objectives (see Table 9.2). However, there was still flexibility in incorporating the responses from other stakeholder groups (by way of triangulation across stakeholders’ perspectives) to enhance the robustness of the data. This process served as first stage for coding (Barbour, 2008; Green and Thorogood, 2009). As described by Barbour (2008, p. 196) when discussing the “*early stages of coding*”, this process enabled the researcher to develop abbreviations for each of the stakeholders and begin to allocate codes to each of the evaluative criteria. The purpose of allocating these codes was to “*reconstruct the data in a meaningful and comprehensive fashion*” (Jurgenson, 1989, p.107).

On completion of data transcribing, themes were identified for each research sub-objective and codes allocated to each of these themes (see Table 7.6 and Appendix 4). Green and Thorogood (2009, p. 201) posit that “*these kinds of cut and paste techniques are ‘low technology’ but they work. They allow the researcher to compare, contrast and start to build up categories and typologies and to discuss the meaning of their data*”. Table 7.6 provides a description of the main codes, categories and themes generated as a result of this approach. See also Appendix 4, which provides an even more detailed description of the sub-codes associated with each of the various themes associated with each category.

Table 7.6: Codes, Categories and Themes

Abbreviations	Main Code	Category	Themes
GOV IOC INO MSP ISP EPC TUT YMP	01	Value addition	Employment contract; percentage of Nigerian and foreigners present in participants workforce; impact of the waiver window extension; and contract and sub-contract awards.
	02	Curriculum dynamism	usefulness of curriculum; curriculum modification; university collaboration; tutor-practitioner interaction; students’ practical experience; curriculum dynamism and graduates’ competency
	03	Suitability and employability	skill set of the potential employees; skill gaps present ; suitability and employability of potential employees
	04	Funding local content	Functions and responsibilities of stakeholder groups; CSR activities; training and re training of employees
	05	Emergence of entrepreneurs	Entrepreneurial activities; service delivery
	06	Domiciliation and indigenisation	Advantages and disadvantages of domiciliation; Advantages and disadvantages of indigenisation

Source: Generated by the author (2014)

Note: ‘GOV’ refers to government; ‘IOC’ refers to international oil companies; ‘INO’ refers to indigenous operators; ‘MSP’ refers to multinational oil and gas service companies; ‘ISP’ refers to indigenous service companies; ‘EPC’ refers to engineering, procurement & commissioning and fabricators; ‘TUT’ refers to HE institutions; and ‘YMP’ refers to young employees.

The researcher adopted “thematic content analysis” for analysing the data obtained. Content analysis is defined by Kaplan (1943, p. 230) as “*a technique which attempts to characterise the meaning in a given body of discourse in a systematic and quantitative fashion*”. In spite of it being a labour-intensive method, especially in the midst of enormous data available, thematic content analysis proved to be an effective way of obtaining richer data.

In order not to lose the essence and quality of the data obtained, the most evident themes were examined and subjected to further scrutiny. This was carried out having generated frequency counts of recurring themes at the initial stages of the analysis. This was seen as an essential step also for the purpose of comparison with existent literature and past works reviewed in previous chapters (see Penny *et al.*, 2011) given that this research seeks to appraise the extent to which the policy objectives have been met.

7.14 RESEARCH ETHICS

The university regulation on research involving human participants is that ethics approval should be sought from the University Research and Ethics Committee (UREC) before the research can commence. Having satisfied all the requirements of UREC, unconditional approval was given on August 20, 2012 to commence the study (see Appendix 1).

7.15 CONCLUDING REMARKS

This chapter discussed the methodology adopted for this research. It started by explaining the nature and purpose of the research. It further explained the research continuum in which this research stands and provided a clear justification for this. The chapter also outlined the epistemological and philosophical stance taken by this research, and explained why. It further outlined the methodological framework, considering various research approaches. Various alternative research strategies were considered and the strategy adopted spelt out, which is interviews, documentary data and statistical data. The justification for and limitations of these strategies were also outlined appropriately.

Care was also taken in outlining the choice of the sampling technique, sampling strategy, and the sampling size. For the interviews, a total of 28 respondents were interviewed. The researcher adopted the analytical framework of Reed *et al.* (2009) for the stakeholder analysis building on this framework for carrying out the analysis for this study. Moreover, a broad framework showing a step-by-step approach of how each of the sub objectives for the research was to be investigated was clearly highlighted (see Table 7.5). Validity and reliability issues were also taken into consideration.

CHAPTER EIGHT

STAKEHOLDER ANALYSIS

8.1 CHAPTER OVERVIEW

This chapter presents a stakeholder analysis, utilising the process and methods outlined earlier. The analysis commences with the identification of the stakeholders in the Nigerian oil and gas industry. Guided by the research question, this is followed by a categorisation of stakeholders into the ‘power-interest’ framework. This is followed by the social network analysis (SNA) and an actor-linkage matrix (ALM).

8.2 STAKEHOLDER IDENTIFICATION AND CATEGORISATION

The stakeholder analysis commences with the identification stage by outlining various stakeholders in the oil and gas industry. The main roles and responsibilities of the stakeholders identified have been outlined alongside other variables such as: level of involvement in oil and gas activities; level of influence on employment in the oil and gas industry; level of influence and support for emerging oil and gas entrepreneurs; level of interest in oil and gas sector; and stakeholder’s importance to oil and gas industry. In line with the research question, the results from the analysis then enable the author to fit each of these stakeholders into one of the quadrants of the power-interest framework. This analysis is shown in Table 8.1.

Table 8.1 Identification of and differentiation between stakeholders

Stakeholders identified	Responsibilities to the oil and gas industry (in respect to indigenous employment and job creation)	Level of involvement	Level of influence on employment in oil and gas industry	Level of influence and support for emerging oil and gas firms	Level of interest	Stakeholder's importance to oil and gas industry	Overall assessment with framework
IOCs	<p>Ensure that Nigerians are given first consideration for employment and training.</p> <p>Developing indigenous capacity in compliance with the schedules of the act, by employing Nigerian nationals.</p> <p>Development of indigenous firms through partnerships and joint ventures.</p> <p>Providing the Board with Employment and Training (E&T) Plan for every project to be undertaken and submission of expatriate quota.</p> <p>Employment of Nigerians only in junior and intermediate cadres.</p> <p>Submission of R & D plan on quarterly basis to the Board.</p>	Direct involvement	Strong	Strong	Strong	IOCs are critical to the industry because they are mainly involved in exploration and production of crude oil and other major activities such as support for potential entrepreneurs. They also have a strong influence on employment and on emerging entrepreneurs within the industry. Their level of interest in the oil and gas sector is, consequently, considered very strong.	Player
Indigenous operators	Development of manpower and equipment to globally acceptable and competitive standards through joint partnerships with regulators and foreign multinationals.	Direct involvement	Strong	Medium	Strong	Similar to the IOCs, indigenous operators are also important to the industry because they are also involved in exploration and production of crude oil and other major activities. The indigenous operators are directly involved because of their primary activities and because of their inevitable influence on employment given their recruitment potential. Although they have been deemed not to have a strong influence on the emergence and development of entrepreneurs as compared with IOCs, they partner with smaller firms to execute their activities. Similar to IOCs, their interest in the oil and gas industry is deemed to be strong.	Player
International oil and gas service companies (1st tier suppliers)	<p>Delivering oil services and execution of contracts for operators.</p> <p>Procurement of oil and gas equipment on behalf of operators.</p>	Direct involvement	Strong	Medium	Strong	The international oil and gas service companies are a very significant stakeholder in the industry. They provide services ranging from technical procurement to supplies. Their primary industry of engagement is the oil and gas industry and as such, they have a direct involvement. Oil and gas services are provided to the operators by the service companies and as such, they	Player

						require more labour than the operators to execute various contract projects that are awarded by the operators. In view of this, their level of interest is deemed high in the industry.	
Indigenous oil and gas service companies (2nd tier suppliers)	Delivering oil services and execution of contracts for operators. Procurement of oil and gas equipment on behalf of operators.	Direct involvement	Strong	Medium	Strong	The indigenous oil servicing companies also bear strong relevance in the oil industry because they provide similar services like the 1 st tier suppliers. Although, the level of services they offer is dependent on their size, experience and capability. 1 st tier suppliers also sub contract oil services to them. In as much as the 2 nd tier suppliers may handle less projects and offer less services than the 1 st tier suppliers, they also require employees to execute their projects, hence they are deemed as having strong influence on employment in the industry. On this basis, they have a direct involvement with the industry with a high level of interest.	Player
Financial sector	Providing advice on the appropriate framework and tax incentives for foreign and indigenous companies establishing facilities in Nigeria. Insuring all oil and gas and other related businesses. Handling all financial services within the oil and gas industry.	Indirect involvement	Weak	Medium	Medium	Compared with the operators and service companies, they do not bear as much importance. However, the NOGIC Act mandates that all financial activities within the sector be carried out in-country but with the waiver window being given to operators and service companies (this is not yet being fully complied with). The financial industry is deemed to have an indirect involvement with the industry since they service a wide range of industries without showing preference for anyone particularly. They influence employment in the oil and gas industry minimally and as such their level of influence is deemed weak. Given that the NOGIC Act also seeks to develop entrepreneurs within the oil industry, more attention is currently being paid to loan awards for entrepreneurs within the oil industry. By this their level of interest and influence on employment is considered as medium.	Subjects
Legal sector	Handling all legal services within the oil and gas industry.	Indirect involvement	Weak	Medium	Medium	Similarly to the financial industry, the legal industry is yet to be strengthened after the expiration of the waiver window which will now mandate the domiciliation of all legal services. Although it is possible to argue that the legal sector is considerably more involved than the financial sector, their level of involvement is still not as strong as the operators or service companies. Although they render legal services to the oil and gas firms, they currently do not have a strong stake in terms of employment within the industry. Nevertheless, their level of influence on the industry as well as their interest is significant.	Subjects
Fabricators	Fabrication of oil and gas equipment (e.g pipelines, drill bits etc) in line with operators	Direct involvement	Strong	Medium	Strong	The NOGIC Act seeks to improve domestication of activities and domiciliation. Hence fabricators are	Player

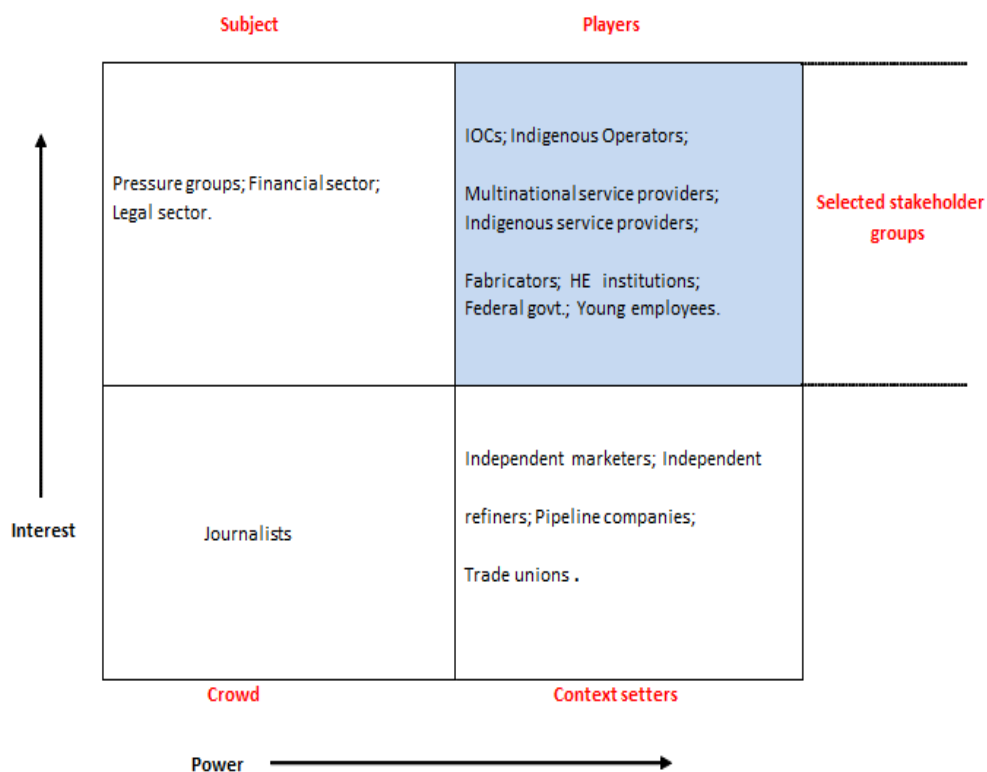
	and service company requirement. Providing all fabrication and welding activities needed in the oil and gas industry.					highly relevant for the manufacturing of oil and gas equipment required by operators, service providers, etc. With the ratification of the NOGIC Act, new fabrication yards have been established and old ones revamped. They have a direct link with the oil industry and have a strong influence on employment. In terms of their influence on emerging entrepreneurs in the oil industry, this is minimal compared to IOCs. However, they have a strong interest in the oil and gas industry.	
Pressure groups	These include: Movement for the Emancipation of the Niger Delta (MEND); Militant Ijaw Youths, Movement for the Survival of Ogoni People (MOSOP); etc. Their main 'responsibilities' are to fight for their community and ethnic rights, prevail on government for community development and protect the interest of their environment.	Indirect involvement	Medium	Weak	Strong	This stakeholder group has indirect involvement, in spite of their community element. However, their power cannot be underestimated especially when they agitate for community development and welfare support. To some extent, this stakeholder group influences employment within the oil industry by exerting pressure on operators and service companies to hire community residents and members. However, they do not have direct influence on entrepreneurial development although this is dependent on where entrepreneurs set up their operations. Generally, they have a strong interest in the industry because they claim that the thriving of the industry is dependent on the availability of crude oil of which the largest deposit is found within their community.	Subjects
Oil and gas industry employees	These include engineers, geo- scientists, physicists etc. Their responsibilities are mainly to perform their task, manage the industry and ensure its smooth running.	Direct involvement	Strong	Medium	Strong	Various policy documents, including the NOGIC Act (2010) emphasise first consideration for employment and training for Nigerian nationals. There is no doubt that this stakeholder group is the backbone of the industry because they supply the manpower. In view of this, their interest in the industry is unarguably strong.	Player
HE institutions	Training manpower using potential employees of the oil industry. Keeping up to date with technological development within the industry so as to update teaching curriculum.	Indirect involvement	Strong	Medium	Medium	HE institutions play a major role in employment as far as the oil and gas industry is concerned since the basic knowledge and skills required by employees is acquired in these institutions. Although such institutions may not have direct involvement with the industry, they supply them with the basic skills required and by this they are considered to have a strong influence. However, the development of entrepreneurs is considered from a more general perspective rather than a particular focus on the oil industry.	Player
Federal Government	Guiding, monitoring, coordinating and implementing the provisions of the act through the Board (NCDMB). Transparent protection of domestic industries. Setting targets for the growth of R&D in the	Direct involvement	Strong	Strong	Strong	The Federal Government acts as the regulator of the oil and gas industry. This is premised upon the Petroleum Act which highlights that <i>"the entire ownership and control of all petroleum in, under or upon any lands to which this section applies shall be vested in the state"</i> (Petroleum Act, 1990, p. 2). As such, the government is directly involved in the industry. The government	Player

	Nigerian oil and gas industry. Setting up of Nigerian Content Consultative Forum (NCCF). Regular assessment and verification of Nigerian Content Performance.					also regulates employment within the industry and enforces compliance of the LCD policy. Undoubtedly, therefore, the Federal Government has a strong interest in the oil and gas industry because it constitutes its main source of revenue.	
Independent Marketers	Purchasing of refined products and selling them at retail outlets.	Indirect involvement	Medium	Medium	Medium	The main role of the independent marketers is to supply finished products. This stakeholder group is solely involved in downstream activities and as such its level of involvement with major upstream activities is minimal.	Context setters
Independent Refiners	Purchasing of crude oil and processing it into finished products.	Indirect involvement	Medium	Medium	Medium	The role of the independent refiners is to transform crude oil into finished products. This stakeholder group is solely involved in downstream activities and as such its level of involvement with major upstream activities is minimal.	Context setters
Pipeline companies	Transporting crude oil, refined products, natural gas and natural gas liquids using networks of pipes and pumping or compressor stations.	Indirect involvement	Medium	Medium	Medium	The pipeline companies perform mainly downstream activities within the oil industry. This stakeholder group is solely involved in downstream activities and as such its level of involvement with major upstream activities is minimal.	Context setters
Journalists	Keeping up-to-date and reporting on activities in the oil and gas industry.	Indirect involvement	Weak	Weak	Medium	The main role of journalists is to monitor and report happenings within the industry. Their job is more general as they cover industry wide issues and activities.	Crowd
Trade Unions	Protecting interest of employees in the oil and gas industry.	Direct involvement	Medium	Medium	Medium	Trade unions are responsible for protecting the interest of employees within the industry. Although they are directly involved, their jurisdiction is circumscribed to ensuring that the employees' rights are upheld and that their welfare is adequately catered for.	Context setters

Source: Author's analysis (2013)

Ackermann and Eden (2011) argue that within an organisation (or community), the groups that fall within the category of high ‘interest’ and high ‘influence’ are regarded as stakeholders. For this research, 16 stakeholders were identified within the oil and gas sector. Consequently within the category of the researcher’s classification and analysis, the group that fell within the ‘players’ category are IOCs, indigenous operators, international (multinational) oil and gas service companies (1st tier suppliers), indigenous oil and gas service companies (2nd tier suppliers), EPC contractors and fabricators, young employees in the oil and gas industry (1-7 years), HE institutions and federal government. The others were contained within the ‘subject’, ‘crowd’ and ‘leaders’ quadrant as per Figure 7.2.

Figure 8.1: Application of The Power-Interest Framework; categorisation of stakeholders in relation to Local Content Policy in Nigeria.



Source: Researcher’s analysis (2012)

Following the identification and categorisation of the stakeholder groups, an analysis of the interrelationships of the stakeholder groups using the SNA and ALM is carried out.

8.3 SOCIAL NETWORK ANALYSIS (SNA)

The purpose for conducting a SNA as part of the framework for this research is to critically examine the relationship among the stakeholder groups that have been identified. Bearing in mind that the framework employed consists mainly of identification, categorisation and interrelationship, the issue of identification and categorisation has set a good background for examining the interrelationship through the use of SNA. Considering that the research question addresses the extent to which the LCD policy has affected 'indigenous employment and job creation' among various stakeholder groups in the oil and gas industry, the SNA investigates the interaction of these stakeholder groups with each other, and how their interrelationships bear relevance with indigenous employment and job creation within the Nigerian oil and gas industry.

Given that this analysis investigates the interrelationship among all the stakeholder groups identified, and not the relationship that exists from the standpoint of any one particular individual stakeholder group, the network analysis of the theoretical blueprint developed by Serrat (2010) and Hatala (2006) is adopted. In order to critically analyse the existing relationships among stakeholders, the investigation is based on one of the questions of the interviews which asks: "*can you please rate your (working) relationship with each of these stakeholder groups on a scale of 1 to 5, where 1 is weak and 5 is strong*". By working relationship, the stakeholder groups were made to understand that this encompasses contract award, CSR activities, interaction and collaboration among others.

Out of a total of eight stakeholder groups selected for this research, seven of them were considered for the SNA with the exception of the 'young employee' stakeholder group. This is because it is reasonable to expect that the views of the young employee' stakeholder group will have been adequately represented already as they are scattered among the other stakeholder groups accounted for.

In the narrative that follows, the nomenclature employed is simplified by choosing a '3 letter abbreviation' for each of the stakeholder groups, as illustrated in Table 8.2.

Table 8.2: Stakeholder group abbreviations for Social Network Analysis

Stakeholder group	Abbreviation
Government	GOV
International operating companies	IOC
Indigenous operators	INO
Multinational oil and gas service providers	MSP
Indigenous oil and gas service providers	ISP
EPC contractors and fabricators	EPC
Engineering and Geo sciences tutors	TUT

The findings from the SNA are presented in both matrix and sociogram forms. The matrices were developed by transforming qualitative data (obtained from the responses of the participants during in-depth semi structured interviews) into quantitative form. The matrices enabled the researcher to form a quick overview of all the data at once, across the entire stakeholder groups analysed. The matrix analysis is presented in both ‘binary’ and ‘valued’ measurements. Given that the data for this SNA takes the form of a likert scale measurement, the original matrix below is presented in ‘valued’ form.

Table 8.3: Valued data presented in a matrix format (bi-directional)

	GOV	IOC	INO	MSP	ISP	EPC	TUT
GOV		4	3	4	3	3	2
IOC	5		3	4	3	2	3
INO	4	3		3	4	2	1
MSP	4	5	2		4	4	3
ISP	3	3	4	4		3	2
EPC	4	4	2	4	4		2
TUT	3	1	1	2	2	1	

Author’s field survey (2013)

From the matrix depicted in Table 8.3, it can be observed that the matrix is bi-directional and this implies that the level of ‘relationship tie’ that stakeholder A claims is in existence with stakeholder B does not necessarily mean that the same tie is perceived to exist by stakeholder

B between stakeholder groups B and A. The data is then dichotomised so that it takes a binary format. This dichotomisation is undertaken in two stages. For the first stage, values 1 to 3 are recoded as 0 i.e ‘no relationship’ and 4 to 5 as 1, meaning that there is an existing relationship tie. Henceforth, this is referred to as ‘Dichotomisation 1’. In order to account for a wider range of responses, this process is repeated so that the analysis accounts for a greater representation. Hence, values 3 to 5 are recoded as ‘1’, and 1 to 2 as ‘0’. Henceforth, this dichotomisation is referred to as ‘Dichotomisation 2’. For both dichotomisation 1 and 2, 0 represents no relationship while 1 represents an existing relationship.

For dichotomisation 1, the analysis is presented in Table 8.4 consisting of the matrix and the sociogram.

Table 8.4: Binary data presented from Table 8.3 after being dichotomised (Dichotomisation 1)

	GOV	IOC	INO	MSP	ISP	EPC	TUT
GOV		1	0	1	0	0	0
IOC	1		0	1	0	0	0
INO	1	0		0	1	0	0
MSP	1	1	0		1	1	0
ISP	0	0	1	1		0	0
EPC	1	1	0	1	1		0
TUT	0	0	0	0	0	0	

Author's field survey (2013)

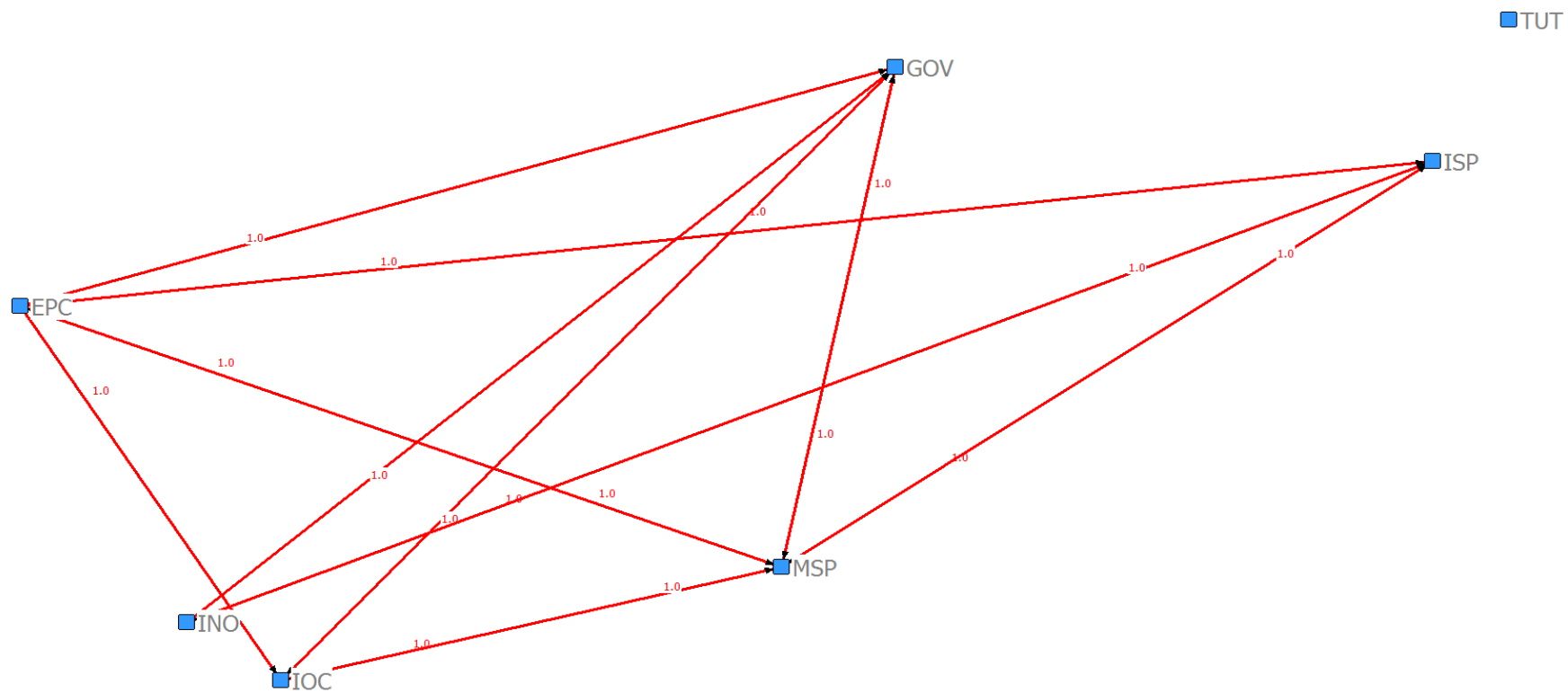
At first sight, consideration of dichotomisation 1 suggests that one cannot say that there is a strong relationship among all the stakeholder groups but there are some existing relationships among stakeholders. A more in-depth analysis reveals that there is no existing relationship between the stakeholders and HE institutions (TUT) and vice versa. The implication of this is that there is no particular connection between the providers of the base knowledge needed by potential employees and the industry players. This triggers the question: *‘how can in-country content be developed’?*

It has been argued that the Local Content Act lacks strength in taking HE institutions into significant consideration, and this is reflected in the findings. Hence an urgent need for intervention should be considered in line with the argument of Omenikolo and Amadi (2010)

on low educational standards in Nigeria. The issue of stakeholder collaboration which is addressed in greater depth in the analysis of the sub-objectives elaborates further on this.

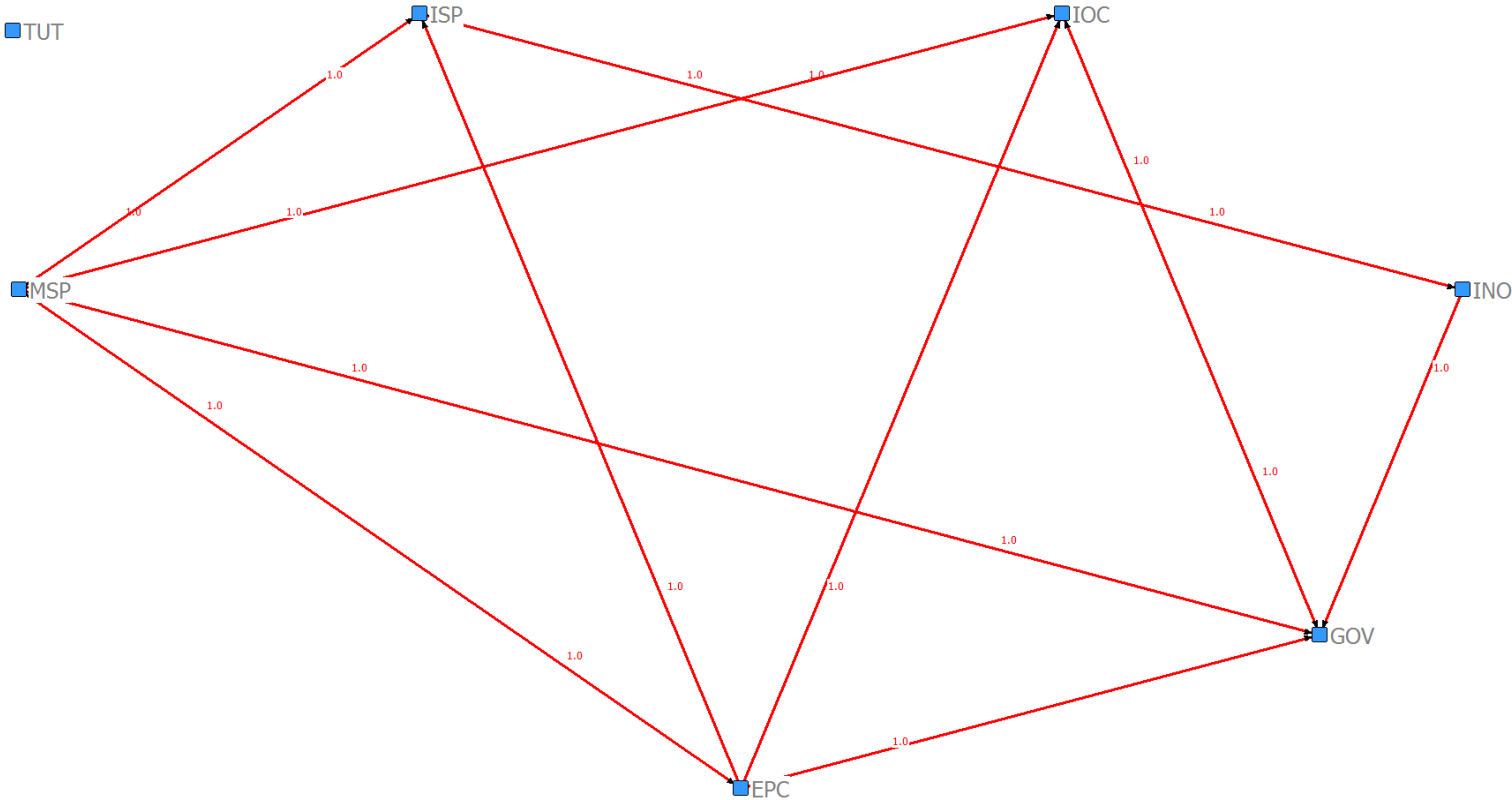
In order to have a visual representation of these findings, this result is represented with the sociograms below (Figure 8.2a, 8.2b and 8.2c).

Figure 8.2a: Sociogram representation of matrix data in Table 8.4 (*Random form*)



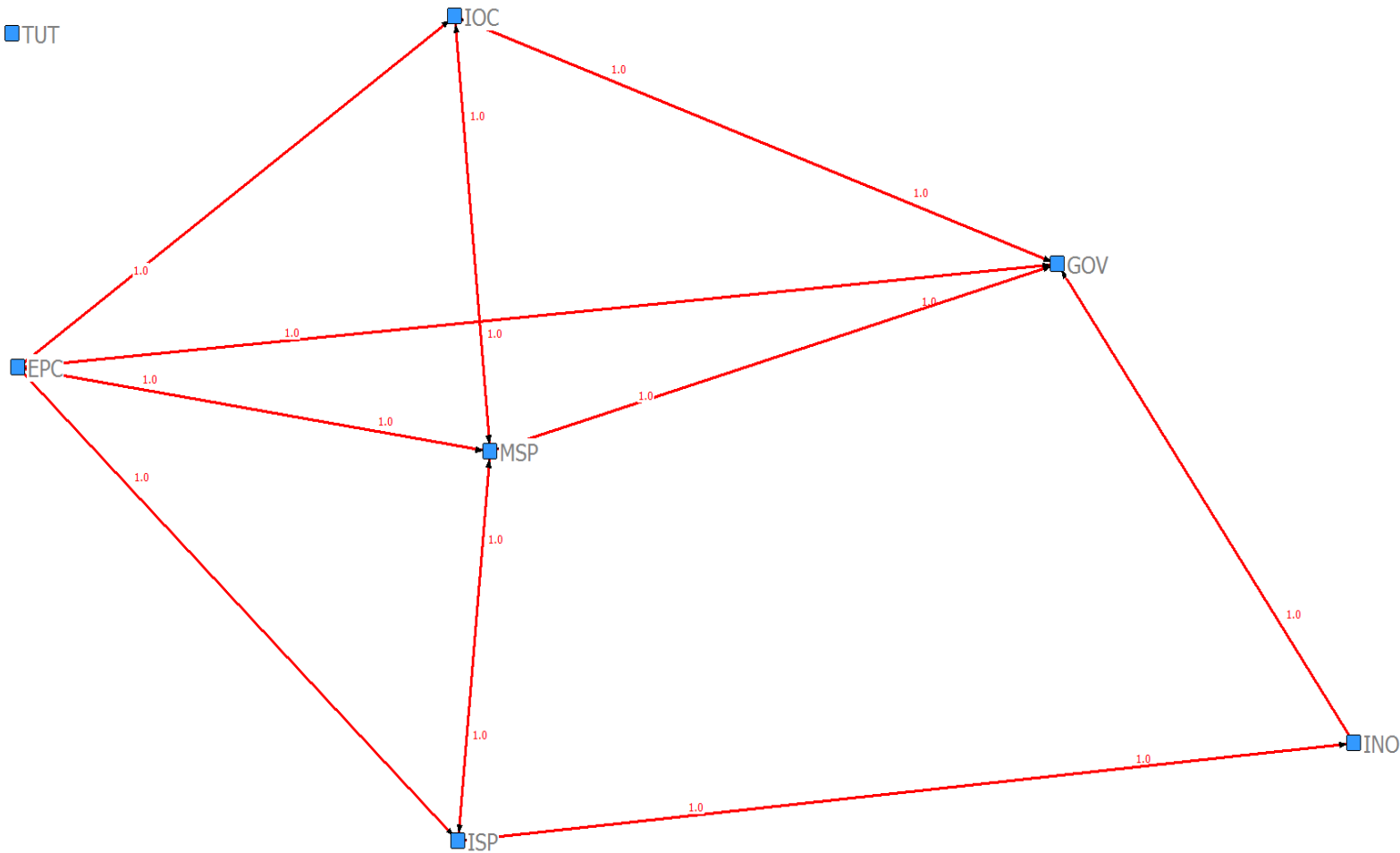
Author's field survey (2013)

Figure 8.2b: Sociogram representation of matrix data in Table 8.4 (Circle form)



Author's field survey (2013)

Figure 8.2c: Sociogram representation of matrix data in Table 8.4 (Spring embedding)



Author's field survey (2013)

8.3.1 Analysis of the sociograms

The sociograms provide a visual representation of the results presented earlier in matrix form. The absence of a relationship between HE institutions and other stakeholder groups is seen more clearly in this sociogram format as there is no line (tie) that connects the ‘TUT’ node with any other stakeholder group. Other findings from these visual structures reveal that some sort of relationship, either unidirectional or bidirectional, still exists between some stakeholders. From the various sociograms presented, consideration is given to the *random form* sociogram (Figure 8.2a) as the sociogram of ‘best fit’ owing to the highest number of bidirectional relationships it has, compared with other sociograms presented for the dichotomisation 1 matrix. Hence, this becomes the unit (sociogram) of analysis.

Considering this from the standpoint of the government, the government only exhibits a bidirectional relationship with the IOC and the MSP (International Oil Companies and Multinational oil and gas Service Providers) stakeholder groups as seen in the sociogram, which suggests that there is still a significant level of foreign dominance and dependence within the Nigerian oil and gas industry. This finding is of critical importance, and reveals that for in-country content to be fully developed, there is a need to ensure that the same bidirectional relationship emerges between the government and indigenous operators and service providers alike, so as to promote indigenous capacity and capability development.

In an attempt to account for a wider range of responses, data are recoded such that 3 to 5 represents 1 (existing relationship) and 1 to 2 represents 0 (no relationship). As explained earlier, this is called ‘dichotomisation 2’. The matrix is presented in Table 8.5 below.

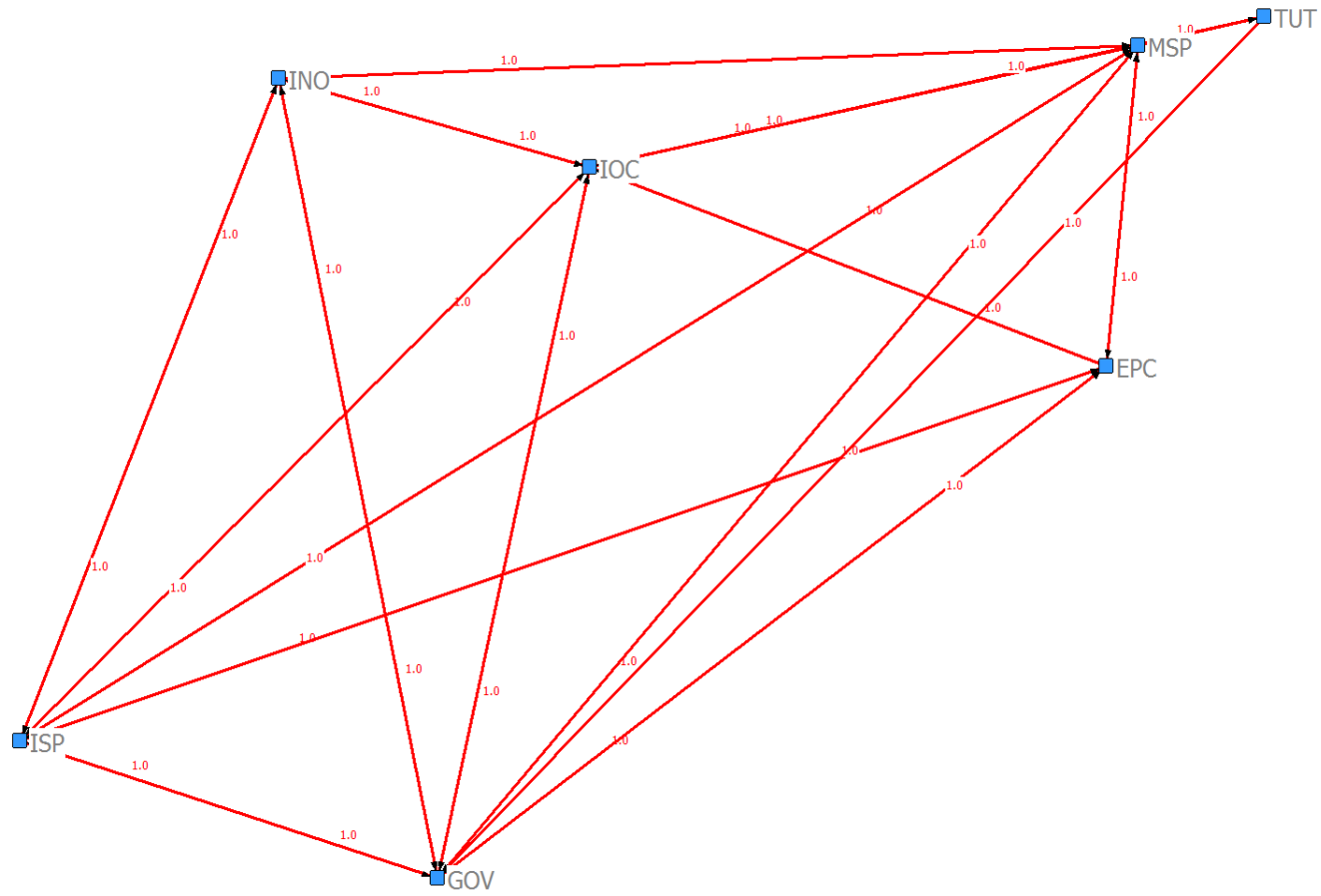
**Table 8.5 Binary data presented from Table 8.3 after being dichotomised
(Dichotomisation 2)**

	GOV	IOC	INO	MSP	ISP	EPC	TUT
GOV		1	1	1	1	1	0
IOC	1		1	1	1	0	1
INO	1	1		1	1	0	0
MSP	1	1	0		1	1	1
ISP	1	1	1	1		1	0
EPC	1	1	0	1	1		0
TUT	1	0	0	0	0	0	

Author's field survey (2013)

Findings from dichotomisation 2 reveal the existence of more relationships as compared to dichotomisation 1. The government accounts for more relational ties, and particularly HE institutions also exhibit considerable connections. Generally, dichotomisation 2 exhibits stronger relationship ties among the stakeholder groups as compared to dichotomisation 1. This is because dichotomisation 2 is developed more flexibly than dichotomisation 1, in order to account for a wider range of responses. Visual representations of these findings are presented in the sociograms below (figure 8.3a, 8.3b and 8.3c).

Figure 8.3a: Sociogram representation of matrix data in Table 8.5 (*Random form*)



Author's field survey 2013

Figure 8.3b: Sociogram representation of matrix data in Table 8.5 (Circle form)

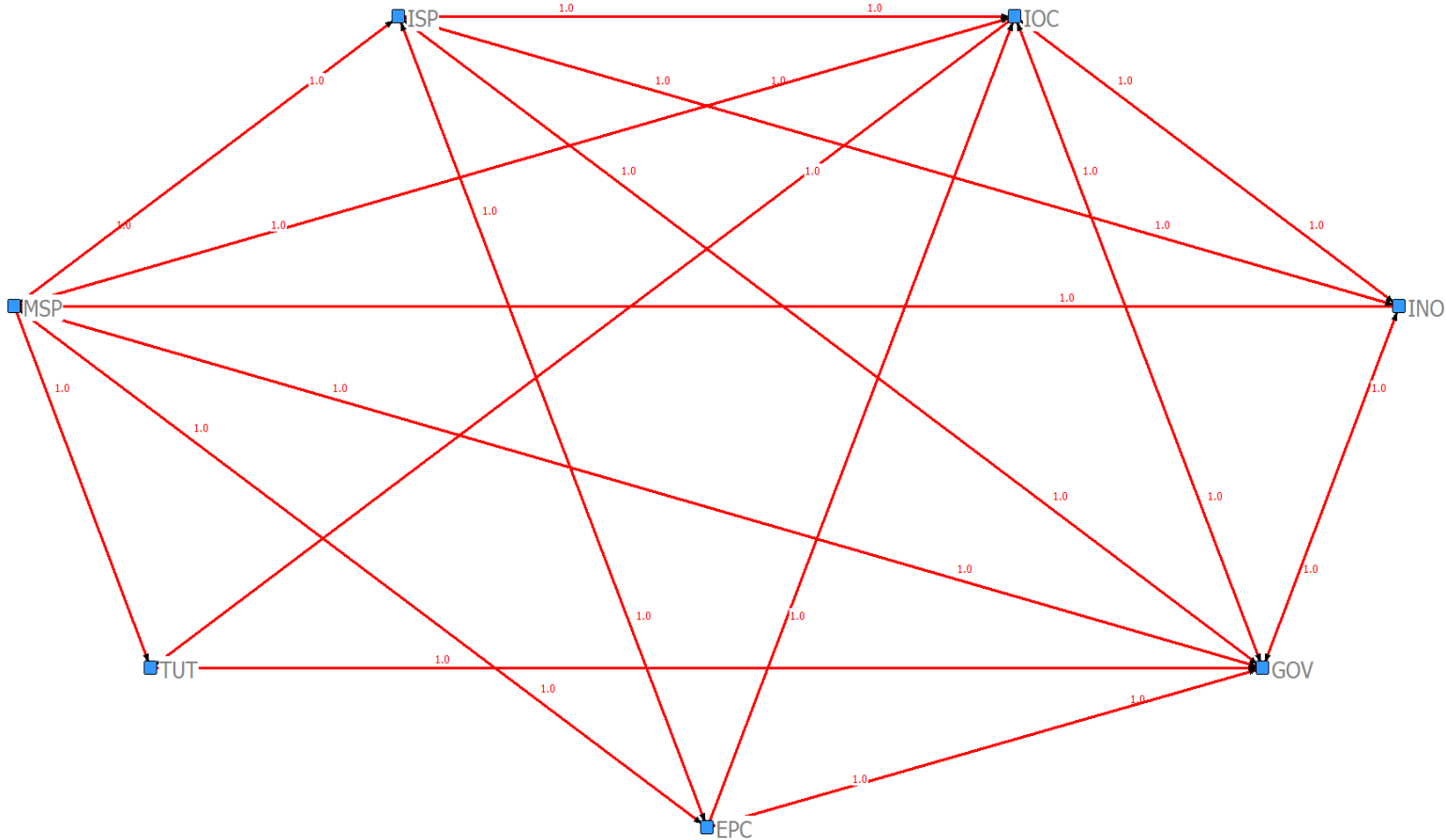
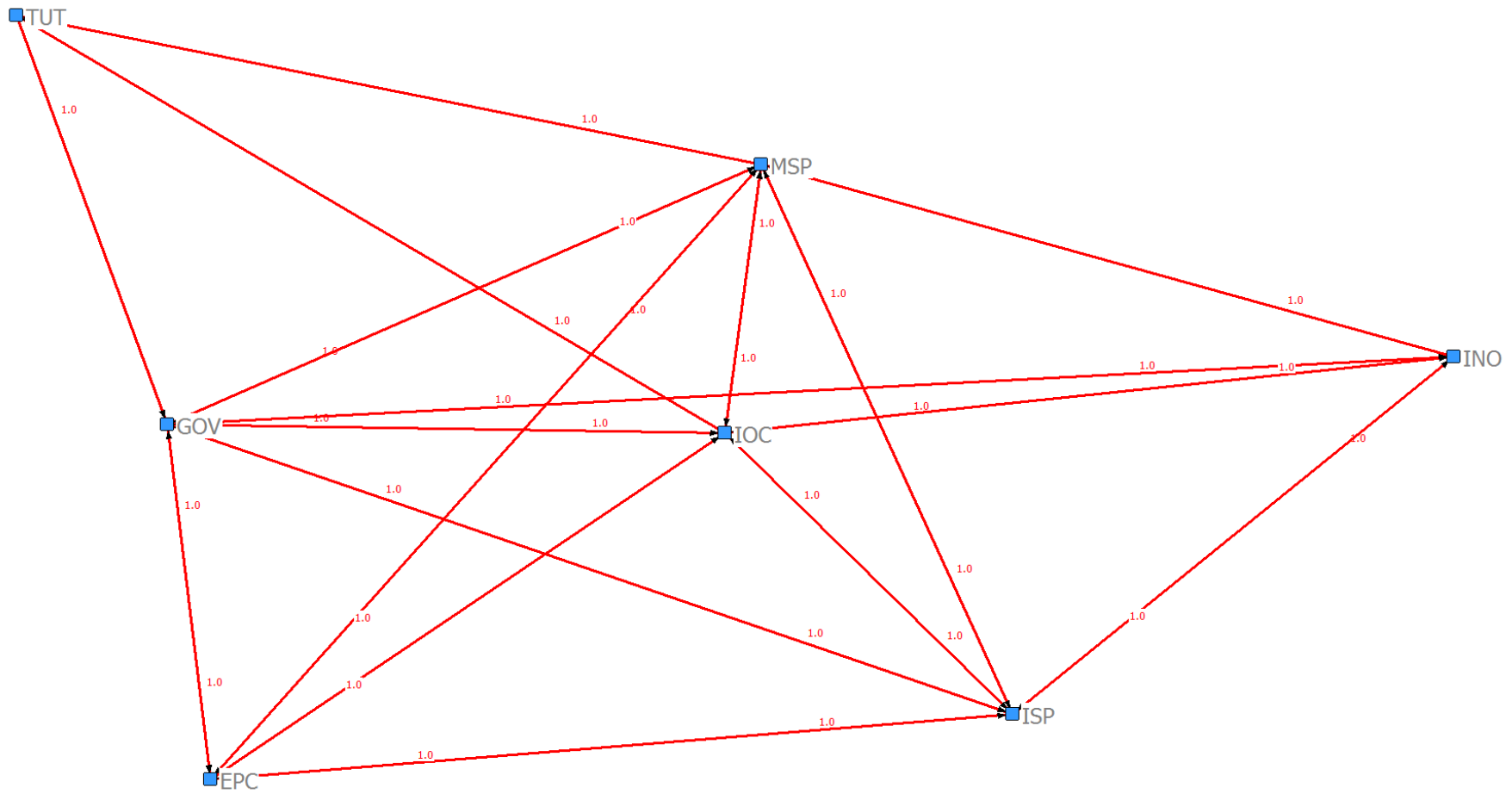


Figure 8.3c: Sociogram representation of matrix data in Table 8.5 (*Spring embedding form*)



Author's field survey 2013

Having considered these sociograms, Figure 8.3c which is presented in ‘spring embedding form’ is the one of ‘best fit’ for this analysis because it possesses the highest number of bidirectional ties present within the sociogram.

Firstly, these findings reveal that there is a relationship between the ‘TUT’ (HE institutions) stakeholder group and the MSP, IOC and the GOV stakeholder groups, although these ties are unidirectional. It is worth highlighting that these relationships have been detected also thanks to the researcher’s effort to ascertain if any form of relationship at all exists. Yet, for these relationships between stakeholders to be significant, there is a need for the ties to become stronger. Section 57 of the NOGIC Act formed the platform for the Nigerian Content Consultative Forum, which is primarily set up to enhance collaboration among the stakeholders, but the extent to which this collaboration is being facilitated requires critical appraisal. As Omenikolo and Amadi (2010) argue, the low level of R & D ties between Nigerian universities and the oil and gas industry constitute an important ‘weak link’.

The findings from dichotomisation 2 also reveal that, considering the result from the standpoint of other stakeholder groups’ relationship with the government, there exist more bidirectional relationships, which were not detected in dichotomisation 1. Although this finding suggests that more relationships are starting to develop among these stakeholders, clearly the HE institutions stakeholder group (TUT) still appear to have a low working relationship with other stakeholder groups, including the industry ‘players’.

8.3.2 Determination of centrality

The research also determined the ‘centrality’ of the ties present within the network. ‘Centrality’ refers to the position of a node (stakeholder group) within the entire network and measures the way by which information is passed from one group to the next (Hatala, 2006). Therefore, by determining their centrality, the aim is to investigate the level of interaction flow among stakeholder groups. Centrality consists of two measures: local centrality and global centrality. Local centrality deals with the number of direct ties a particular node (stakeholder group) has with other nodes (stakeholder groups) in the network. Global centrality is determined by investigating how strategically a particular node (stakeholder group) is positioned within the network.

Since the analysis of centrality bears relationship with existing ties, the selection of the figure of ‘best fit’ takes into consideration these ties. Figures 8.2a, 8.2b and 8.2c have been found to

have 16 ties each, while figures 8.3a, 8.3b and 8.3c have 29 ties each. In view of this, figures 8.3a, 8.3b and 8.3c are taken as the figures of ‘best fit’ and hence the unit of analysis.

Analysis of local centrality indicates that a high level of centrality exists among all stakeholders apart from the TUT stakeholder group which exhibits limited centrality as compared with other stakeholder groups. This suggests a considerable working relationship among the stakeholder groups, with the exception of the HE institutions.

The analysis of the global centrality suggests that the IOC stakeholder group exhibits global centrality given that it has a position of strategic significance in the overall structure of the network (see fig. 8.3a and 8.3c). This suggests that the IOCs are a major stakeholder group and an important deciding factor as far as oil and gas activities are concerned irrespective of the exploration and production (E & P) arrangement (JOAs, PSCs and RSCs) they have with the Nigerian government and the NNPC. Although, it can be argued that the government should exhibit global centrality like the IOCs, this may not be so due to the fact that the main activities in the upstream (E & P) which determine midstream and downstream activities are majorly carried out by the IOCs. Although the IOCs partner with the government through JOAs, PSCs, SCs and RSCs as the case may be, the main work is executed by the IOCs. Having said this, it appears that the government stakeholder group (who are the regulators) who should normally be the stakeholder group to exhibit global centrality even exhibits more unidirectional ties than bi directional ties. This is further discussed in subsequent chapters.

8.3.2.1 Determination of betwensness

Another way of measuring centrality is the determination of ‘betwensness’ which refers to a particular node (stakeholder group) lying ‘between’ other nodes (stakeholder groups). The lower the degree of ‘betwensness’ the higher the level of centrality to the network and its role as an intermediary to other networks. *“The ‘betwensness’ of a point measures the extent to which an agent can play the part of a ‘broker’ or ‘gatekeeper’ with a potential for control over others”* (Scott, 2000, p.86).

In line with this argument, the unit of analysis (Figures 8.3a, 8.3b and 8.3c) suggests that the IOC could therefore be interpreted as an intermediary between other stakeholder groups in the network (see figures 8.3a and 8.3c). As such, this result corroborates the global centrality results. In essence, other stakeholders are dependent on the IOCs to carry out oil and gas activities.

These findings are also corroborated by Freeman's approach to 'betweenness' that is built around the concept of 'local dependency' which, in turn, suggests that a point is dependent upon another if the paths which connect it to the other points pass through these points (see Scott, 2000, p.87). This is shown clearly in figure 8.3a and 8.3c, where the IOC appears to be in the middle with several points passing through this stakeholder group. This shows the extent of interdependency, although from Freeman's theory, it can be concluded that the other stakeholders are dependent upon the IOCs.

Having carried out the SNA, it is found that there are existing relationships among the stakeholders considered, however these ties exist at various levels. Having grouped the analysis into dichotomisation 1 and 2, dichotomisation 1 reveals existing relationships, but to a lesser extent than dichotomisation 2, which is developed more flexibly. The analyses of centrality and betweenness have also shown that the IOCs play a vital pivotal role in the oil and gas industry and, invariably, without this stakeholder group, oil and gas activities at midstream and downstream level could not take place. The level of these relational ties is now examined further using the Actor Linkage Matrix (ALM).

8.4 ACTOR-LINKAGE MATRIX (ALM)

The ALM is an illustration of the relationships among stakeholder groups. This tool has been adopted as part of the research framework because of its ability to map the existing interrelationships within the Nigerian oil and gas industry. The ALM helps highlight areas where relationships are lacking and also helps to identify areas where there are possibilities of strengthening weak relationships.

The ALM is developed from the value data presented earlier in matrix format in Table 8.3. A quick recap of the research question and the question asked in order to develop Table 8.4, serves as a primary guide for developing the ALM. Therefore, 1 and 2 are rated as weak (W), 3 as medium (M), and then 4 and 5 as strong (S) ties.

Table 8.6: ALM showing the extent of relational ties among stakeholder groups

	GOV	IOC	INO	MSP	ISP	EPC	TUT
GOV		S	M	S	M	M	W
IOC	S		M	S	M	W	M
INO	S	M		M	S	W	W
MSP	S	S	W		S	S	M
ISP	M	M	S	S		M	W
EPC	S	S	W	S	S		W
TUT	M	W	W	W	W	W	

Author's field survey (2013)

Consideration of the level of these relationship ties generally shows a distribution of the level or strength of these ties. The TUT stakeholder group generally exhibits weak ties with other stakeholder groups. This is investigated in greater depth in the analysis of the interviews. On the other hand, strong ties are exhibited by the government because these are the regulators of the industry, though such ties are particularly evident with IOCs and MSPs. Having considered this ALM, it can be concluded that, generally, there are on-going relationships among the key players in the industry, though they should be strengthened via the local content policy. However, a more conscious effort should be made to extend these relationships to the TUT stakeholder group.

In order for the oil and gas industry to achieve the objectives of the local content policy, it is expected that stakeholder groups work hand in hand, especially INOs, ISPs and local HE institutions. From the findings, it can be observed some level of disjoint between HE institutions and the other stakeholder groups. Even though it may not be possible to determine exactly the precise level or 'strength' of these interrelationships within the network of stakeholders, it is expected that the stakeholder groups are tightly connected. Following this, the aim is to determine the 'level of connectivity' within the network by calculating the density of the network using the following equation:

$$\frac{l}{n(n-1)/2}$$

where

l represents the number of lines (ties) present and n the number of nodes present within the network (network density index, from Hatala, 2006, p.56). The value of the density ranges from 0 to 1, where 1 depicts complete density. For dichotomisation 1, a density of 0.43 was obtained. In other words, the actual number of ties present within the network is 43% of the potential number of possible ties. For dichotomisation 2, a density of 0.76 was obtained which represents 76% of the total number of possible ties within the network. From these two values, the mean density can be determined, giving a mean density of 59.5% present within the network. This indicates that in order to achieve a higher level of connectivity within the network, stakeholder groups need to establish greater/stronger working relationships. Based solely on this measure, therefore, much work still needs to be done by stakeholders to ensure a common and interrelated *modus operandi* that would aid and hence facilitate the achievement of the LCD policy objective.

But how could a higher density level and therefore a higher level of connectivity (hence greater ties among the stakeholder groups) be obtained? This can be achieved mainly through closer interaction and collaboration among stakeholders which is a '*conditio sine qua non*' for the implementation of the indigenous employment and job creation LCD policy objective. This is addressed in greater depth in the analyses carried out in subsequent chapters.

8.5 CONCLUDING REMARKS

The chapter presented a stakeholder analysis which was carried out based on the framework developed earlier. The analysis consisted of identification, categorisation and interrelationships among stakeholder groups.

A total of 16 stakeholder groups were identified, which were further subjected to critical scrutiny and fitted into the 'interest-power framework. Overall, eight stakeholder groups emerged as 'players' having 'high-interest-high-power'. Other stakeholders fell within the category of subject, crowd or context setters.

Following the identification and categorisation, the SNA and ALM which made use of matrices and sociograms were employed for the analysis of the interrelationship among the stakeholders. Generally it was found that, although there are existent relationships among the stakeholders, a significant percentage of these relationships were unidirectional. The bidirectional relationships found were mostly between government and MSP and,

government and IOC, hence no bidirectional relationship existed between the government and indigenous players.

One of the findings which called for attention is the limited tie between the HE institutions and other stakeholders, given that the institutions are responsible for providing the knowledge base required by the industry players.

Although the stakeholders demonstrated a high level of local centrality within the network, the IOC stakeholder group appeared to exhibit global centrality, suggesting that this stakeholder group pivotally determines the activities in the oil and gas industry. However, the inability of the government (regulators) to exhibit global centrality in the network is a weakness which requires serious attention. The analysis of betweenness further revealed that other stakeholders are dependent on the IOC stakeholder group for their survival in the industry.

The ALM proved a useful tool in determining the extent of relational ties among stakeholders. This was achieved by classifying these ties into weak, medium and strong. Following this, the level of interconnectedness of the network quantitatively by determining the connectivity of the entire network was estimated. An average of 59.5% was obtained suggesting that considerable effort is still required by the stakeholder groups to strengthen their ties.

CHAPTER NINE

INTERVIEW DATA FINDINGS

9.1 CHAPTER OVERVIEW

In order to ensure adequate comprehension of the purpose of this research, it is important to recap the research question before outlining the chapter overview. The main research question of this study is: *Has the Nigerian oil and gas LCD policy had any impact on the indigenisation of employment and job creation?* Following from the stakeholder analysis, the chapter commences by profiling the respondents from each of the stakeholder groups considered and then critically analyses the sub objectives of this research, linking the findings to those of prior work reviewed in previous chapters. The sub objectives, as per the evaluative criteria of the framework adopted are as follows:

- To explore the *extent of value addition within the Nigerian oil and gas industry*;
- Explore the *dynamism of the curriculum* of HE institutions in meeting the current demands of the oil and gas industry;
- Based on the skills acquired in institutions displayed by young employees, determine the *suitability and employability of graduates* on their job, and their potential for ascending to higher positions/cadre within the oil and gas industry;
- To obtain stakeholders' perspective on the main stakeholder(s) responsible for *'funding' LCD*.
- To determine the implication of LCD on the potentials of *emerging indigenous entrepreneurs* in the Nigerian oil and gas industry;
- To explore the issue of *Domiciliation vs. Indigenisation* as a way of LCD from stakeholders' perspective.

9.2 PROFILE OF PARTICIPANTS

To recap, the data collected for this research were from three main sources. First, semi-structured interviews across eight different stakeholder groups relevant in answering the research question, which were identified through stakeholder analysis (see chapter eight). The second set of data was collected from various credible documentary materials consisting of government reports, industry reports, company reports and research reports. Thirdly, quantitative data were collected from various statistical databases from various organisations,

namely, the Central Bank of Nigeria (CBN), Nigerian National Petroleum Corporation (NNPC), British Petroleum (BP) and the National Bureau of Statistics (NBS).

Although 32 contacts were made across the eight stakeholder groups, a total of 28 semi structured interviews were carried out eventually consisting of: IOCs; indigenous operators; Engineering, Procurement, and Commissioning (EPC) contractors and fabricators; multinational oil and gas service companies (1st tier suppliers); indigenous oil and gas service companies (2nd tier suppliers); HE institutions, consisting of experienced engineering and Geo science tutors; young employees in the oil and gas industry; and, government (regulators). The distribution of these respondents (and annotated remarks) are presented in Appendix 2. Table 9.1 summarises the interviews carried out.

Table 9.1: Distribution of Selected Stakeholders' interviewed

s/no	Stakeholder group	Number of contacts made	Number interviewed	Remarks
1	IOCs (IOC)	4	3	Participants were drawn from the major IOCs in Nigeria for the interview
2	Indigenous operators (INO)	4	3	The participants selected within this stakeholder group were drawn from across the geo political zones of Nigeria
3	EPC contractors and fabricators (EPC)	3	3	The participants selected within this stakeholder group were companies who manufacture equipment such as steel and pipes for the oil and gas industry
4	Multinational oil and gas service companies (MSP)	4	3	The participants selected in this stakeholder group were multinationals spread across various specialist areas of the oil servicing sector which includes surface, subsurface, FEED and procurement
5	Indigenous oil and gas service companies (ISP)	4	4	The participants selected in this stakeholder group were indigenous firms spread across various specialist areas of the oil servicing sector which includes surface, subsurface, FEED and procurement
6	HE institutions (TUT)	4	4	The tutors selected for this study were veterans in their field with at least 10 years' experience in teaching engineering and Geo Science modules with core knowledge and update of the Nigerian oil and gas industry.
7	Young employees (YMP)	5	5	The participants selected in this stakeholder group cut across all the other stakeholder groups selected for the study who had 1-7 years' experience.
8	Government (GOV)	4	3	Participants were selected across the government bodies and parastatals that are mainly regulators of the oil and gas industry knowledgeable about the policy
Total		32	28	The total number of interviews carried out reflects 87.5% rate of the total number of contacts made.

Researcher's compilation (2013)

For the purpose of confidentiality and anonymity, this research does not refer to any respondents by name nor does it disclose the organisations which respondents represent. The analysis is carried out on a stakeholder group basis. However, the direct quotes have been labelled by respondents' titles and stakeholder group they belong to. Therefore, emphasis will be placed on the stakeholder group rather than the individuals.

IOCs

The respondents from the IOCs were all local content managers. Each of these respondents had over nine years of experience in the oil and gas industry and had the opportunity to work for various oil and gas companies and divisions within the firm, before managing their company's local content division for at least three years until the time of interview. Their experiences span across writing and evaluating local content plan and strategies, advising their respective companies on LCD, and ensuring full compliance with the directives contained in the NOGIC Act. In addition, they have had experience in recruiting employees (nationals and expatriates alike) to fill various graduate and more senior positions. Their responsibility also entails reviewing and evaluating tenders to ensure that tenders conform to the local content plan regarding procurement of materials, equipment leasing and recruitment of personnel as contained in the NOGIC Act, and individual company requirements. The main responsibilities of the IOCs are in the upstream sectors of exploration and production. They operate a joint agreement with the government through the NNPC in the form of JOAs, PSCs and RSCs.

Indigenous operators

The participants for the indigenous operators' stakeholder group were all local content managers with at least 7 years' experience in the oil and gas industry. Interestingly, each of these respondents had worked for an IOC for at least five years before joining an indigenous operator. As a result, these respondents were able to provide balanced argument having acquired experience from two different stakeholder groups.

Similar to the IOCs, the responsibilities of the indigenous operators include E&P and other upstream activities. Although these stakeholder groups are indigenous companies which mostly benefit from OMLs farmed out by IOCs, they still partner with foreign firms especially in the areas where they lacked capability.

EPC contractors and fabricators

The respondents for the EPC contractors and fabricators stakeholder group were all local content managers of their companies. Their responsibilities span beyond servicing the oil and gas industry alone. However, the oil and gas industry remains one of the largest industries that these stakeholder group provide services for. The participants in this stakeholder group had spent at least five years in the engineering industry and acquired technical and/or management experience before managing the local content division.

The background of these respondents varied from technology to management, providing a good blend for the researcher to obtain balanced information from the respondents. Apart from the oil and gas industry, this particular stakeholder group services other industries like engineering and construction, providing engineering and construction services as needed by various clients for different projects. With respect to the oil and gas industry, their services also include fabrication of materials and procurement. In terms of company structure, two of the participants' companies are fully incorporated in Nigeria but not completely indigenous having at least 51% Nigeria shareholdings. However, the third participant's company is fully indigenous (Nigerian).

Multinational oil and gas service providers

The respondents from the multinational oil and gas service providers (MSPs) were all local content managers with an average of seven years of experience in the oil and gas industry and three years of experience as local content managers. Two of the respondents in this stakeholder group had a legal background and one of them from the management sciences. Prior to their appointment in their current role, these respondents had worked in at least two managerial roles thus giving the researcher confidence in the data obtained with regards to the relevance of their past experience and hence suitability.

Their main responsibilities include building indigenous capacity and in-country capability nationally as well as ensuring that the local content plan contained in their bids and tenders conform to the NOGIC Act. These respondents therefore, act as interphase between their companies and the regulators (government). Their roles also involve developing skills and competences within their workforce through the development of various training plans and programmes to ensure that the succession plan as contained in the Act is achieved to the

highest standards. The companies in this stakeholder group have mainly foreign structure but have been incorporated in Nigeria although the shareholding structure is not fully Nigerian.

Indigenous oil and gas service providers

The respondents for the indigenous oil and gas service providers were a mix of senior executives consisting of a Project Manager, a Senior Business Development Manager, an Executive Director with 37 years of experience with an IOC and an Operations Manager. Each of the respondents in this stakeholder group had over 11 years of experience in the oil and gas industry working in various key roles, ranging from managerial to consultancy. Of particular interest within this stakeholder group is that each of these respondents also played a role as LCD managers/advisors, given their years of experience and their sound knowledge on LCD affairs. Their services to the oil and gas industry include procurement, Front End Engineering Design (FEED), oil prospecting and seismic surveys amongst others.

Although these are fully Nigerian (indigenous) firms, they have established alliances with foreign technical partners to provide training and for the purpose of understudying. In addition, these partnerships are also established for executing job contracts for which facilities are not available in-country or for those jobs which are deemed to be beyond the abilities of the indigenous companies.

HE institutions

The HE institutions stakeholder group (also referred to in this thesis as ‘tutors’ or ‘engineering and geo sciences tutors’) consists of experienced lecturers/tutors from reputable universities in Nigeria (Ahmadu Bello University; Modibo Adama University of Technology; Federal University of Technology, Minna; Covenant University) involved in engineering and geo science courses that have been fully accredited by the National Universities Commission (NUC). The respondents were veterans in the engineering faculties with over 10 years of experience and knowledgeable about the local content policy. This consisted of two Chemical Engineering Professors, one Senior Lecturer in Chemical Engineering and one Senior Lecturer in Petroleum Engineering who also had industry experience before joining academia. Basically, their responsibilities to the oil and gas industry include teaching modules and keeping au fait with current issues in, and developments of the industry in order to keep up-to-date knowledge-base needed by graduates to perform in the oil and gas industry. These respondents teach modules which include Thermodynamics, Chemical

Engineering Materials, Strength of Materials, Plant Design and Corrosion to mention a few. In addition, their responsibilities also cut across research and development (R & D) to the industry so as to enhance collaboration and foster interaction among stakeholder groups in order to promote growth and development in the oil and gas industry. Other responsibilities of this stakeholder group include external collaboration with universities and research institutes both within and outside the country.

Young employees

The young employees' stakeholder group consists of employees in the oil and gas industry. These respondents had 1-7 years' experience in the industry. Of particular note is that this stakeholder group is drawn from a mixed population of stakeholder groups (IOCs, indigenous operators, Multinational service providers, indigenous service providers, EPIC contactors and fabricators) within the industry, providing a good mix and balanced views/perspective of this particular stakeholder group.

Government

The respondents from the 'government' stakeholder group consisted of two senior managers in the local content division and one local content coordinator. These respondents were drawn from various parastatals of the Federal Government of Nigeria regulating the oil and gas industry. Each of these respondents had at least seven years' experience within the government parastatals and had been involved in ensuring due process for government and other national policies. As such these respondents were 'deemed fit' for this research as a result of their vast experience in liaising with other stakeholder groups on policy and other related matters within the oil and gas industry.

9.3 ANALYSIS OF SUB OBJECTIVES/EVALUATION CRITERIA

Given the background for each of the stakeholder groups identified, Table 9.2 gives a concise resume of each of the sub-objectives to be addressed in relation to the stakeholder groups that have been considered relevant for the analysis. At this point, it is worth mentioning that subdividing each of the sub objectives against various stakeholder groups does not suggest that the analysis of each of the sub objectives is strictly restricted to the stakeholder groups outlined for each of them. Instead, this only serves as a general guide to easily comprehend how the analysis was carried out. As such, there are cases where the views of other stakeholder groups have been considered in order to provide a balanced argument.

Table 9.2: Stakeholder groups for analysis of each research sub objective

s/no	Sub objective	IOC	INO	MSP	ISP	GOV	EPC	TUT	YMP
1	To explore the level of value added within the Nigerian oil and gas industry	✓	✓	✓	✓	✓	✓	X	X
2	Based on the skills acquired in institutions displayed by young employees, determine their suitability and employability on their job, and their potential for ascending to higher positions/cadre within the oil and gas industry	✓	✓	✓	✓	✓	✓	X	X
3	Explore the dynamism of the curriculum of institutions of higher learning in meeting the current demands of the oil and gas industry	✓	X	✓	X	✓	X	✓	✓
4	To obtain stakeholders' perspective on the main stakeholder(s) responsible for the "payment" for local content development	✓	✓	✓	✓	✓	✓	✓	X
5	To determine the implication of local content development on the potentials of indigenous entrepreneurs in the Nigerian oil and gas industry	X	✓	✓	✓	✓	✓	X	X
6	To explore the issue of Domiciliation Vs Indigenisation as a way of local content development from stakeholders perspective	✓	✓	✓	✓	✓	✓	X	X

Author generated (2013)

9.3.1 Extent of value addition within the Nigerian oil and gas industry

The first sub-objective explores the current state/level of value added within the Nigerian oil and gas industry (at the time of writing, 2013/2014). For the purpose of this research, value addition is considered drawing upon the provisions of the NOGIC Act 2010 (Section 30) which considers value addition from the standpoint of having a visible and dominant indigenous (Nigerianised) presence across employment, contract awards, EPC, and other activities in the oil and gas industry. In analysing this sub-objective, various sub themes were considered and these include ‘employment contract’, ‘percentage of Nigerian and foreigners present in participants’ workforce’, ‘impact of the waiver window extension’, and ‘contract and sub-contract awards’.

Starting with ‘employment contracts’, it was found that most of the Nigerian employees were employed generally on a permanent basis apart from non-technical and unskilled jobs that most of the stakeholder groups had outsourced to other companies. However, cases of contract employment were found to be common with EPC contractors and fabricators and some of the indigenous oil and gas service companies’ stakeholder group. Further investigation into this revealed that this is more of a cost cutting/ saving measure. The contract employees’ data remain in the skill pool/database of these firms and are only called upon when there are contracts/projects to be executed. Given that contract availability varies with time and size, the employers recruit at project start-up and these contracts are then terminated at various phases of completion, depending on the job of the contract employee.

A more critical consideration of such contract employment for a highly technical industry such as oil and gas is that, building a strong, reliable and dependable technical workforce may pose some challenges as contract employees cannot be fully committed to these companies at any point in time. This is because they are mostly driven/motivated by the availability of jobs, and they may show no particular preference or solidarity for these companies if better job prospects arise elsewhere.

Considering the percentage of indigenous employees in the workforce of the selected participants, it was found that, since the signing of the NOGIC Act in 2010, indigenous employee capacity has risen according to the responses of the participants across the stakeholder groups. Various excerpts from the interviews of some of the participants regarding indigenous capacity in the workforce are as follows:

“.....well, we have more than eighty percent locals” (indigenous capacity)
[Local content Manager; multinational oil and gas service provider]

“.....like I said earlier, our foreign labour force is low but then with the local content policy, it has become lower. It used to be about 12 percent foreign capacity, but now it is 9 percent” **[Local content Manager, EPC contractor]**

“.....our workforce is over 95 percent Nigerian.....” **[Local content Manager, IOC]**

These excerpts would suggest that the local content policy has contributed to the increase in the indigenous workforce among the stakeholders in the Nigerian oil and gas industry. To complement these findings, reports and bulletins from the regulators of these industry players (NCDMB) were scrutinised, with the resulting evidence offering further support to the view that Nigerians now constitute considerable proportion of the available in-country workforce of the Nigerian oil and gas industry.

Nevertheless, it would be premature to conclude that the LCD policy is making, or has made a significant impact as far as development of in-country capacity is concerned. This is because, even though the findings suggest that stakeholders are actively engaged in ensuring that the succession plan for Nigerians to take charge of positions not held by Nigerians after four years as contained in the NOGIC Act (Section 31) is in place and being complied with, further evidence is called for to reach such a conclusion. In view of this, the research sought to critically appraise the issue of ‘contract and sub contract awards’ to indigenous companies.

Having realised that the only way by which indigenous employment can be promoted, as well as more jobs created, is through projects/contracts executed in-country, the researcher sought to find out from indigenous service providers the extent to which they had benefitted from contracts from the IOCs and sub contracts from multinational oil and gas service companies and EPC contractors. It also appeared useful to find out if the indigenous companies have also sub contracted in any way.

On contract awards, it appears that even though some of the respondents adduced to more contract awards, other issues have also come up requiring intervention. Regarding the impact of local content policy, undoubtedly, this has had a significant effect on contract awards according to participants’ responses:

“.....local content policy has led to increased contract awards that have impacted our indigenous workforce, definitely it has. We now have the opportunity to employ more Nigerians. In fact I have seen this company grow in the last three years by 20-25 percent....” [Project Manager, indigenous oil and gas service provider]

“.....many opportunities have come our way in the form of new contracts, in fact we have had to partner with other companies for the ones we could not handle alone”. [Senior Business Development Manager, indigenous oil and gas service provider]

This evidence would appear to provide empirical support to the claims by Esteeves and Barclay (2011) who asserted that the local content policy has resulted in an increase in contract awards. As a result of this increase in contracts awarded to Nigerian companies, there seems to have been a consequent increase in the indigenous percentage of workforce in these companies, thus fulfilling this objective of the local content policy.

Accordingly, Section 3(2) of the NOGIC Act qualifies indigenous companies as long as they are able to demonstrate ownership of equipment and competence. Given that the availability of employment vacancies is based on job/contract availability, it is expected that these companies' workforce would not have experienced a percentage increase if the jobs were not forthcoming. Archival scrutiny of the NCDMB report on job creation (NCDMB report, April, 2013) between April 2010 (when the Act was signed on) and December 31, 2012 reveals that over 30, 862 jobs have been created in-country as a result of executing jobs in-country. These roles span across junior to senior cadres and are distributed across marine, oil rigs, fabrication and engineering design services.

Against this backdrop, in as much as there is a significant increase in jobs across the oil and gas industry, the kind of contracts that are awarded to some of these companies have to deal with issues of capability and especially certification.

Based on the data gathered from the IOCs interviewed, it was found that they are keen on awarding some contracts to indigenous companies but not to the extent they would wish to, because a significant percentage of such indigenous companies' workforce are not certified. On certification however, regulators argue that they can be awarded certification whilst on

the job but then this option hinges on service delivery (which is discussed in greater depth later in this chapter). Despite these caveats, indigenous service companies re-iterate that:

“.....we still cannot get to do the big jobs without some alliance with foreign companies.....” [Operations Manager, indigenous oil and gas service provider]

Taking a critical look at the above, squaring the issue of certification becomes imperative. This is because, according to the report of the NCDMB (NCDMB, 2014), the LCD policy has led to the proliferation of more service companies in the last three years in spite of the fact that these companies are still battling with the issue of considerable patronage from the IOCs and multinational service companies.

On sub-contracts, the multinational service companies were found to sub-contract jobs to indigenous companies on a regular basis, and upon the ratification of the Act, the sub-contracts have increased. This has been found to be so firstly because MSPs consider it as a way of partnering with the indigenous companies to bring them up to standard. Secondly, because this is in line with the local content plan contained in the tender for contract award of these multinational oil and gas service companies. In addition, some of these contracts are awarded as part of CSR activities.

On the part of indigenous companies however, it was found that rather than sub-contract any jobs to other companies, they either form a consortium with another indigenous company or a foreign technical partner. This is especially the case where they are working on a tight schedule and need to deliver on time, or when they do not have in-house capability. In most cases (since the implementation of the local content policy) these foreign partners come in-country to execute these jobs. However, there are also occasions where these are done abroad due to the unavailability of relevant facilities or equipment. A good example, gathered from participants' responses, is 'flow assurance related simulations' activities which require facilities not yet available in Nigeria. Prior to these partnerships, the potential awardees are mandated by law to state whether they are partnering or forming a consortium in their tender for contract award.

As part of the evaluation of the state of 'value added' to the Nigerian oil and gas industry, the researcher considered it necessary to explore the issue of foreign partners/companies, and the role of OEMs (Original Equipment Manufacturers). Although this is explored in greater

depth in further analysis presented later in this chapter, it was found that contrary to what foreign partners were ‘normally’ doing, since the ratification of the local content policy, foreign partners now deem it necessary to establish work stations in-country (Nigeria). Excerpts from the interviews frame this issue well as follows:

“.....but for the local content, I do not see how OEMs will have ceded that to us..... I remember that three years ago when we discussed this with them they said an outright ‘NO’.....[Executive Director, indigenous oil and gas service provider]

From the above, the policy appears to have opened doors to greater indigenous participation that should further enhance capacity and capability development, and, at the same time, generate more employment following the establishment of these workstations. Furthermore, the theory of content protection as stated by Grossman (1981) in the literature review resonates. Grossman bases his argument on the fact that, as much as OEMs and other foreign firms have a significant part to play in product development and the provision of services “*a given percentage of domestic value added or domestic components be embodied in a specific final product*” (Grossman, 1981, p.583). The resultant effect of such indigenous participation is that the government is able to oversee these activities and have control over foreign capacity as much as possible. In addition, this is expected to lead to indigenous capability development, and in fact ownership in the long run. Overall, the theory emphasises that growth and economic development is expected to be achieved through LCD.

It appears that Nigeria is gradually achieving content protection, since a significant amount of indigenous input (in the form of product and/or services) is expected to be utilised with the domiciliation of the activities of OEMs. This theory further finds support in Section 11(1) of the NOGIC Act.⁴ Having stated this, caution needs to be exercised in suggesting that this theoretical approach is sending investors (i.e operators and service providers) away. Rather, this is viewed with the lens of value addition for the Nigerian economy at large.

The findings also reveal an increase in ‘manhours worked’ on these or similar projects. Participants comment that in-country manhours have increased giving an indication that more projects are carried out in-country as a result of the local content policy. Commenting on a similar project which a respondent had handled in the past:

⁴ As from the commencement of this Act, the minimum Nigerian content in any project to be executed in the Nigerian oil and gas industry shall be consistent with the level set in Schedule to this Act [NOGIC Act, 2010, Section 11(1)].

“.....so far we have achieved over 2 million manhours and we still hope to achieve more in the coming year and this is far above what we used to have before the Act was signed.” [Local Content Manager, EPC contractor]

In spite of this achievement, it was found that efforts in developing indigenous capacity to increase ‘manhours in-country’ need to be further stepped up and this is connected to the issue of certification discussed earlier:

“..... On manhours to be worked, I cannot say we are fully there yet because getting competent in-country hands to do what we need to do is very difficult due to limited availability”. [Project Manager, indigenous oil and gas service provider]

The findings reveal that the only way by which manhours can be further increased is if capability is developed in core areas like welding, OEM, FEED, and other technical areas like the complete in-country building of topsides of FPSOs. The NOGIC Act clearly states the schedules of manhours required in-country for different operations in the upstream and downstream sectors. The findings suggest that achieving these targets is dependent upon, and constrained by, the availability of in-country capability and the issue of certification, both of which require much closer attention.

As part of value addition, the impact of the waiver window also appears to play a major role in determining the level to which such addition can materialise. The waiver window which in the Act is also referred to as the ‘waiver clause’, is a grace period of three years from the date when the Act was signed (April 22, 2010) for operators and contractors alike to carry out activities outside Nigeria. These activities include fabrication, manufacturing and so on and import equipment as well as manpower. Within this period, it is expected that appropriate mechanisms and arrangements should be made to domicile these activities in-country. In view of this clause, therefore, this research explored the impact of the three year grace period on in-country value addition as well as the implication of a further extension of the waiver window.

Generally, it was found that participants’ responses were skewed depending on whether they were indigenous or multinational players. The indigenous participants were of the opinion that the three year grace period has impacted on indigenous capability development. Their perception of the waiver is that the activities of the multinationals have suppressed

indigenous players. By way of contrast, multinationals players clamour for a further extension of the grace period, owing to the fact that from their assessment, the Nigerian oil and gas industry still requires considerable external intervention. As eloquently argued by one IOC local content manager:

“..... we need to extend the waiver window and track progress carefully to succeed and then we need to make sure that the industry on which we are building this whole plan on does not die.....we cannot replace flow lines because they are forcing us to source steel pipes from Nigeria when we don't have enough steel pipe mills so let's not do the normal 'Nigerian things' and take decisions based on emotions rather than facts.....[Local Content Manager, IOC]

Inevitably, these two points of view are bound to reflect the self-interest on the part of the indigenous firms on one side, and multinationals on the other. While the indigenous players argue that the extension of the waiver window will slow down operations and hence capability development, it should be noted that foreign players are businesses which are profit conscious and as such, will want to have value for every manhour invested in the industry. Having said this, the issue of the extension of the waiver window appears to be playing out itself accordingly given that there is still a dearth of local capability in certain areas, and that these skill gaps can only be filled with the pre-requisite abilities, themselves dependent upon an appropriate level of training and education.

9.3.2 Learning Curriculum and Industry demands

This research sub-objective sought to explore the dynamism of the curriculum in HE institutions, especially in universities given the current demands of the oil and gas industry. In analysing this objective, various sub-themes were considered and these include: relevance of the curriculum; curriculum modification; university collaboration; tutor-practitioner interaction; students' practical experience; curriculum dynamism and graduates' competency.

Considering the relevance of the curriculum, it is important to note that universities and other institutions of learning cannot fully train an individual to become an engineer, geologist, and so on. This is because the value of practical hands-on experience cannot be underestimated. However, these institutions play a major role in providing the general knowledge that students bring to work when they are employed, as such the importance of this knowledge

base cannot be overemphasised, because this forms the foundation upon which further practical experience is gained. In view of this, the research sought to find out the relevance of the (theoretical) knowledge-base that students' acquired from HE institutions, particularly universities. The justification for considering universities in particular, comes from the literature, whereby various researchers have suggested that university graduates are preferred for employment to graduates from polytechnics, owing to more relaxed entry conditions requirement for enrolment into the polytechnics than the universities (eg., Salami, 2011; and Chiememeke *et al.*, 2009).

The findings reveal that, generally, the university curriculum has not provided adequate knowledge needed by industry. The main participants for this sub theme are the young employees' stakeholder group who have eventually been employed in the oil and gas industry. This is what they expressed on the usefulness of the curriculum:

“.....definitely not, my answer is based on comparison with people who studied the same course as I did at undergraduate level in foreign universities. They have more background knowledge than we do”. [young graduate educated in Nigeria]

Given that the oil and gas industry is a global industry, and quite a number of the operators and service providers are multinationals, employees have opportunities to attend training and development programmes abroad, go on cross postings or even do projects abroad. This is usually an avenue for them to work with colleagues from other countries, and a good opportunity to assess themselves in terms of basic knowledge brought to the job. In a similar study, Chiememeke *et al.* (2009) interviewed graduates of engineering and management studies and found that only few respondents perceived most of the theories they learnt at university (Nigerian universities) applicable to their job. In particular, graduates rated the practical aspects of their education very poorly.

This is not to state that the situation is completely appalling in Nigeria, but the findings suggest that the curriculum should be revised to provide a more up-to-date and more relevant knowledge for a dynamic industry such as oil and gas, especially because of its global nature:

“..... I found that some of the modules we did were obsolete and they are not relevant to the industry's current requirements and expectations.....”
[young graduate, EPC]

In terms of relevance, the findings suggest that the relevance of this curriculum is also questionable given that it is not meeting current requirements in the industry. However, tutors argue that their task is to give the basic, foundation knowledge upon which students should build on, while in the industry. Yet, graduates opine that this foundation is currently not meeting the present requirements and it is therefore insufficient. As such there is a need for the curriculum to be modified:

“.....most of the lecturers are not ‘practising lecturers’ and what I mean by this is that, they are not up to date with the current know-how in the industry.....” [young graduate, EPC]

The main objective of learning is to acquire useful knowledge that can be applicable and relevant to what a person does. Going back to the above quote on lecturers not being ‘practising lecturers’, the data also unveiled the case of one tutor who had acquired industry experience before joining academia and this participant seemed to better appreciate the need for curriculum development of a kind more aligned to developments and challenges currently experienced within the industry:

“.....about a year ago, we found that we did not have a module called offshore drilling or offshore technology and we have now introduced it.....” [Senior Lecturer, Petroleum Engineering]

This quote captures both the dynamism of the Nigerian oil and gas industry and the constant ‘catch-up’ universities are experiencing to keep pace with such developments. Oil exploration is now majorly done in the offshore and deepwaters and this reflects a shift from previous onshore activities. As such the curriculum needs to cater for the current requirements of the industry. As acknowledged by another tutor:

“.....to be honest with you, the curriculum is not moving in line with the advancements in the oil and gas industry.....in terms of technology, I will say the university is lagging severely behind” [Senior Lecturer, Chemical Engineering]

These findings provide empirical support to the assertion by Omenikolo and Amadi (2010) who emphasised the low standard of education in Nigeria. The curriculum dynamicity appears to be low. It needs to be updated so that potential graduates are able to come to speed with the current industry activities.

The earlier SNA had already revealed that the level of interaction between industry and universities is limited and the data from interviews corroborates this result (triangulation). Often the only channel of interaction universities have is through CSR activities which the industry players extend to universities. These activities mainly take the form of scholarships and donation/provision of equipment for demonstration.

Regarding interaction between the government and universities, this too can be described as questionable. Tutors reckon that the government “who are meant to be regulators”, has failed to provide the necessary infrastructure to enhance the quality of tertiary education in Nigeria. One of the participants pointed out that between 2003 and 2013, university tutors have gone on strike no less than five times with the shortest of these strike actions lasting for over two months. Recently, a six-month strike was just called off (June – December, 2013). During these strike actions, academic activities within the universities are paralysed and students are forced to be idle waiting endlessly for negotiations to go on before normal academic activities resume. These incessant strike actions are in relation to government not fulfilling their part in providing necessary upgrades to the infrastructure needed to enhance the quality of education in Nigerian universities.

The declining quality of education is further evidenced by the global ranking of universities issued by the Times Higher Education. The data available which was considered according to subjects (Engineering and Technology) (for fairness and to reduce bias) indicates that between 2008 and 2013, no Nigerian university has made it to the top 200 world universities. This does not reflect well for a country whose oil and gas resources are in the top 10 in world global rankings:

“.....The only fear that is being expressed now is that the standard of education in-country is dropping due to incessant strike actions. Yet, the government is not investing in education and in the near future our graduates will compete even less favourably.....” [Local Content Manager, indigenous operator]

Having found that this is a significant factor militating against curriculum development, the researcher explored other avenues that could complement for the curriculum inadequacy and probably bridge the gap to some extent. In view of this, the study sought to find out if there are existing fora where these stakeholders meet, as this may help tutors in keeping up-to-date. The findings revealed that there are limited fora, platforms or outlets that exist where

academics and practitioners meet to exchange ideas. As found in the earlier SNA, there appears to be a significant dislocation between academia and industry and even if there is at all any form of interaction, the ALM results suggest that this is, at best, weak. The tutors also highlighted that another avenue that would have bridged the collaboration gap was if tutors were able to have their sabbatical in industry:

“there are no particular forums,, except for conferences.....they (IOCs) hardly offer sabbatical schemes for academics and in terms of interaction at conferences, this is weak....” [Senior lecturer, Chemical Engineering]

However, universities have themselves been criticised for their lack of willingness for self-development which would, of course, also enhance intellectual capacity. From the findings, the regulators state that academia needs to ‘step up their game’ to enhance both national and international collaborations:

“.....will you tell me that schools like MIT or Imperial College will be asking the IOCs for funds? Not at all. But because of their intellectual capacity, the IOCs will want to associate and collaborate with them but considering the educational standards in Nigeria, what sort of collaboration can you expect?” [Local content data analyst, government]

From the above, it appears that the regulators (government) expect a significant contribution from universities. This point is connected with the issue of infrastructural development as discussed earlier. However, those universities which have made significant contributions in various fields of endeavour have attracted practitioners and industry to themselves thus moving them forward.

As part of investigating further how to bridge the existing curriculum gap, the study also sought to find out if students engaged in any form of industrial experience during their undergraduate courses, so as to give them an ‘eye opener’ into the dynamics of the industry. It was found that particularly students of Technology and Geo sciences had a total of 12 months (divided into 3 phases) Student Industrial Work Experience Scheme (SIWES) during their five year course of study. The first stage (which lasts 3 months), which comes up in their second year, is carried out internally within the university where they engage in practical industry experience under the supervision of their tutors and often industry players.

The second phase (3 months) is carried out during the summer holiday of the third year. Students engage in industrial placements within various industries of their specialisation. The third phase lasts for six months and this is done during the second semester and parts of the summer holiday in the fourth year. This is also expected to be done in industry.

Regarding the effectiveness of the SIWES, this was considered from the standpoint of availability of appropriate places for students and the effectiveness of supervision of the work experience.

The research revealed that most of the students do not gain access to appropriate places to undergo the SIWES as a result of unavailable spaces on the part of some of the companies, and their unwillingness to accept students for this purpose. Eventually, students are left with no choice other than to undergo the programme in other places that often are not directly related to their field of study or desired specialisation because the industrial placement remains, nevertheless, a pre-requisite for graduation:

“.....back in the days, companies like [names of companies concealed] took on our students for the student experiences but now they don't do that like before and this now restricts our students from linking their learning with hands-on experience and practical application specifically related to their field of study.....” [Senior lecturer, Chemical Engineering]

For those students who succeed in gaining access to appropriate places, findings indicate that there were cases whereby students were not allocated to the right mentors to make the most from such practical experience. However, in the cases whereby students were placed in relevant companies (perhaps through personal connections), they were said to perform very well. This finding may appear to be a mismatch from the earlier finding which suggested that students lack an adequate knowledge base. However, this can be argued to be a demonstration of a willingness to learn in the face of a 'rare' opportunity for these students, and also of the benefits that can be reaped from availability of the right infrastructure, facilities and an enabling environment.

Exploring the effectiveness of supervision of this programme, tutors argued that the level of supervision has declined mainly because the number of supervision visits have been cut down as a result of lack of funds.

Against this backdrop, graduates and tutors alike suggest that the programme should not be scrapped. Instead, it should be revamped and properly funded to meet its initial objectives. This would help to provide more hands-on experience for students, and also to make up for the current deficiencies in the curriculum. On a more encouraging note, the tutors' responses on students' performance based on the reports they receive from their mentors suggest that a large percentage of these students have performed well in terms of their willingness to learn as trainees.

9.3.3 Suitability and employability of graduates

Next, this research sought to determine the 'employability and suitability of graduates' based on the skills they bring to the job from their various HE institutions. Various sub themes have been addressed in the analysis of this sub objective and these include the skill set of the potential employees, skill gaps present and how to bridge existing gaps and, suitability and employability of these potential employees. In addition, this sub objective appraises the potential of these employees (having gained employment) to ascend to higher cadre for example, through promotion to supervisory and managerial posts.

With regards to skill set, the operators and service providers generally agreed that they did not expect fresh graduates who have just been employed to have any specific skill particularly tailored to the oil and gas industry. However, general skills were expected:

“.....most of the schools in Nigeria are more theory based (I left the university a long time ago and even then, the practical experiences were not exceptional) with little or no practicals so it's when they come on board that we begin to expose them to these things.....”[Operations Manager, indigenous oil and gas service provider]

This is actually based on their individual experiences and the declining state of the Nigerian education. In view of this, participants' comments underlined, over and over again that the basic skills and knowledge displayed currently, is far lower compared to what was obtained in the past. However, exceptional cases were cited where some of these graduates already possessed certain specialised skills at employment. After probing further on this point, it was found that this happened in exceptional cases, usually peculiar to students who have taken a keen interest in self-development and might have had the opportunity to be exposed to practical activities of the oil and gas industry during the SIWES. Other areas where

exceptional performances of these newly employed were recorded pertained to software simulations which industry players attribute to keen interest in IT and technology.

This finding however, suggests that these ‘fresh’ graduates have considerable potential. Indeed, all the industry players’ indicated that after undergoing in-company training these graduates performed excellently on the job, although some of the industry players express that if these skills were acquired in the institutions of learning, the time and cost of training would have been minimal. This, in turn, would have allowed the companies to accommodate more graduates, hence providing more jobs.

Following from this, the research sought to explore the skill gaps in the industry and how these can be bridged. At the broad level, it was found that the gaps within the skill base are small owing to the fact that Nigerian employees have been able to come up to speed relatively quickly. However, specific technical skills like engineering design is said to be lacking. Another major skill is lacking in the area of flow assurance although this aspect is said to be quite new in Nigeria and the investment of setting up flow assurance centres could only, realistically, be carried out as a joint effort of the players in the industry because of the large capital investment required. The findings also reveal that funding is a major issue and this is a major reason why in-country development has been retarded for years:

“.....what we need in Nigeria is more discipline and commitment (from every stakeholder). Where there is a will, there is a way and with more investment and better education and training, lots of Nigerians could do these jobs!” [Local content Manager, indigenous operator]

From the analysis, the existing skill gaps do not appear to be causing an irreparable setback. As the quote above suggests, with more investment, discipline and commitment, which are a joint stakeholder effort, great progress could be achieved in advancing the industry. Consequently, in spite of the findings on the existing skill gaps, the research also unveiled some of the ways by which the skill gap could be bridged.

It is worth noting that government has set up a national skill pool where undergraduates and graduates alike, acquire training depending on their level and area of specialisation. However, other stakeholder groups suggest that embedding a culture of fairness and equity in selection, and quality training is the only way by which this laudable initiative will have a lasting effect.

“.....you know the discrimination against polytechnic graduates in Nigeria, you find out that people don’t like employing them.....” [Local Content Manager, EPC]

The discrimination against polytechnic graduates in Nigeria has been long standing and this has raised much controversy in the past. Given the nature of the industry, it should be expected that more attention should be paid to polytechnics because they are supposedly more exposed to, and more interested in technical aspects than universities. However, this has not been the case. Other findings on ways by which skill gaps can be bridged as gauged by respondents, are better collaboration between academia and industry players (which was addressed earlier), self-development on the part of Nigerian employees, and better regulation of the industry through the NCDMB.

Having addressed the issue surrounding indigenous skills in the Nigerian oil and gas industry, the research explored the suitability and employability of Nigerians in the industry, and their potential for ascending to higher (supervisory and managerial) cadres based on their skill set.

In order to mitigate any form of bias that may arise from exploring this sub objective, the researcher explored this sub theme (suitability and employability; ascension to higher cadre) from the standpoint of two groups i.e the government (regulators) in one group, and the industry players (operators and service providers) in another. Subjecting these two perspectives to critical scrutiny, reveals that these two groups had similar views in that, generally, Nigerian graduates were said to be highly employable:

“over time from my experience, Nigerians appear to be qualified and are doing very well in the oil industry. They are skilful and in fact, Nigerian skills are exported out of the country so in terms of skills and capabilities, Nigerians are doing very well;.....yes, it has been wonderful, the contribution of Nigerians to projects. [Local Content Coordinator, government].

“Generally what I see is a high level of competence; I believe a Nigerian can match up to any other national anywhere in the world in terms of skill, competence and expertise relevant to the oil and gas industry; it’s all about opportunity and an enabling environment [Local content Manager, EPC; Local Content Manager, IOC]

On the other hand, the suitability and employability of indigenous skills have been questioned in certain areas. In as much as the findings reveal that Nigerians are highly employable and suitable, there are some deficiencies with respect to technical skills as well as basic theoretical skills as compared with what was obtainable in the past:

“for certain areas in the oil and gas industry, you can employ Nigerians from the least (lower) position to the top, but in other areas like the core technical you can’t hire Nigerians at all since they lack specialised technical knowledge”. [Operations Manager, indigenous oil and gas service provider]

“.....Well, as a Nigerian, I have to be factual on this one, like everybody appreciates, education has been taking a downturn in our country in the past 10 to 15 years,you may look at what I call the old vintage of Nigerians who had proper education and training and the new Nigerians who are nominally graduates and as far as content is concerned, the new vintage if you engage the new vintage you may have to go through the process of retraining; they require close supervision.....”
[Executive Director, indigenous oil and gas service provider]

In one form or the other, the issue of the low standard of education in Nigeria (Omenikolo and Amadi, 2010) keeps resonating from the data. This shows the importance of acquiring the relevant basic theoretical skill set alongside increasingly specialised skills. Regarding the potential of these employees to climb the corporate ladder on the basis of their skills and performance on the job, the Petroleum Act (1969) mandates that within 10 years of operation, Nigerians should ascend to at least supervisory cadre.

It was also found that Nigerian employees in the past have ascended to higher cadres and this is mainly because of the training which is combined with industry exposure. Findings also revealed their capability is enhanced through experience, although this could have been achieved quicker if in possession of an adequate knowledge base. On the issue of exposure, the stakeholders reiterate that the place of understudying cannot be overemphasised and this is one of the strategies outlined in the NOGIC Act.

9.3.4 Funding LCD

Local content in Nigeria as discussed in chapter 4 is traceable to the Petroleum Act of 1969. Since then, much has been done in terms of LCD and the different stakeholders involved have played different roles. The following sub-objective focuses on the responsibilities of the various stakeholder groups and asks the question “which of these stakeholder groups is actually meant to ‘pay’ for local content”?

The sub objective seeks to determine which stakeholder group has the greatest responsibility in ensuring the fruition and functioning of LCD. By functioning it is meant providing logistics for training, for re-training, coordinating and championing the cause of LCD. This has been a long standing debate as far as capacity development is concerned. In view of this, the only stakeholder group that did not particularly feature in the analysis of this sub objective is the young graduates’ stakeholder group. Understandably, this group can be seen more as a beneficiary of LCD rather than a group responsible for driving, sponsoring and funding its implementation.

In analysing this sub objective, various sub themes have been considered and these revolve around the functions and responsibilities of the stakeholder groups in the oil and gas industry. Other functions like CSR activities and passion for training and re training for employees in the oil and gas industry are considered. Regarding the responsibilities of the stakeholder groups to the oil and gas industry, for the purpose of this sub objective, the stakeholders are grouped into regulators (government), basic knowledge/education provider (HE institutions), operators (indigenous and IOCs) and service providers (multinational, indigenous and EPC contractors and fabricators).

The groups’ names typically suggest their respective responsibilities to the oil and gas industry. However, their responsibilities are not limited to these alone because some of these stakeholders engage in other forms of CSR activities to further enhance the development of the industry.

Operators and service providers in particular were found to engage in one form of CSR activity or other ranging from impacting host communities to offering scholarship opportunities in academic institutions from primary to tertiary level. This evidence corroborates the findings of Eweje (2007) who observed that the extension of CSR activities

to host communities particularly in the Niger Delta region has had a far reaching effect through infrastructural development and the creation of employment opportunities.

Although the findings in the present study reveal that operators and service providers have been commended for their CSR activities, the regulators (government) still argues that much more is expected of them in support of host communities and institutions especially at tertiary level. The data further suggest that the service providers need to be more proactive as far as CSR activities are concerned:

“yes we have CSR initiatives. We extend that to schools, homes, and the needy. We just try to impact the community around us, not necessarily professionals, but to make an impact on society at large”. [Local content Manager, multinational oil and gas service provider]

Meanwhile, operators have as part of their core responsibilities CSR activities that span beyond host communities and institutions, because this is a core part of their business strategy. Having said this, CSR is not completely left to the discretion of the service providers (as expressed in the excerpt above). They are expected to produce evidence of the visible impacts which they systematically record in their oil and gas reports and other company and sector based publications.

The research also sought to find out particularly how the stakeholders are contributing to LCD. The findings reveal that the most common way by which the stakeholder groups have pursued the development of local content is via capability development and expansion of capacity to enhance job creation:

“.....we give opportunities to some locals to come and work in our workshops”. [Local content Manager, multinational oil and gas service provider]

“.....we train human capacity for indigenous companies and provide them with the needed technology, development of their personnel via trainings such as understudying our own personnel to see how things are being done”. [Local content Manager, multinational oil and gas service provider]

The findings reveal that offering training and understudy opportunities is a profitable strategy by which the service providers contribute to content development. With this strategy, it is

expected that both skill and specialisation will be developed as well as confidence on the part of these trainees and by so doing, indigenous capacity developed. Information collected through the interviews also underlined multinational companies' attempts to form some sort of partnership with indigenous service companies while executing their projects:

“.....we also dedicate some manhours to cover engineering, bring in their teams and integrate those teams with our team, to try to develop their capacity.....” [Local content Manager, EPC]

It is expected that this will promote a good relationship and an opportunity for these indigenous companies to understudy their foreign counterparts and hence develop their capability. Over the years, this type of partnership was found to have yielded positive results:

“.....for example, there is an indigenous company we work closely with, initially they had about 40 engineers but when they reached full capacity, they employed up to 400 engineers because we ensured that we awarded contracts to them”. [Local content Manager, IOC]

On the issue of understudying, the NOGIC Act (2010) outlined that this is a means by which content can be developed in the oil and gas industry, and that is the point from which the succession plan began. Without understudying, there cannot be a succession plan, hence content cannot be easily developed, but an opportunity to understudy provides a more practical experience beyond training which should enhance the coming up to speed of indigenous manpower.

Regarding capacity development, the multinational operators have adopted a strategy to create more indigenous jobs given that they cannot absorb the total capacity in the workforce:

“.....we are working with PETAN and developing a road map through which we can deliberately pick out some indigenous companies and purposefully grow them into world class business within 15-20 years.....we partnered Nigerian banks last year to launch a capacity building fund for local content worth \$5 billion....” [Local content Manager, IOC]

This quote provides strong evidence that at least some strategies to build capacity in-country are on-going and if this pace is maintained, it is expected that the main thrust of the local

content policy which is value addition, of which indigenous employment and job creation are paramount, will be achieved.

With respect to the role of the government, (who are the regulators) they have created a skill pool through the Joint Qualification System (JQS) of the NCDMB whereby people with specialised skills can go and register such that, as jobs within this skill requirement are advertised, priority is given to these people as a way of developing in-country capacity. In addition, the government embarks on training programmes periodically for these registered candidates. However, the multinational service companies and the IOCs have stated that the government still 'pushes' the responsibility of training these people to them, which they have gladly accepted, but after expending much time and funds, there are no jobs available for these trainees on completion of their training. In view of this, the multinational service providers' claim that these trainings will have yielded its intended purpose only if the trainees gain employment in the industry upon completion of their training.

Against this backdrop, the issue of in-country Research and Development (R&D) seemed not to have been looked into in terms of content development. The findings reveal that there is limited research going on in the Nigerian HE institutions, with most R&D being carried out outside the country. Earlier on, the SNA and consideration of the university curriculum suggested limited collaboration and interaction between academia and industry. Meanwhile, careful reading of the NOGIC Act (see chapter 3) revealed that R&D activities are a major aspect of content development, but unfortunately, there has not been significant impact according to the responses of the tutors' stakeholder group, with limited collaboration between them and the oil industry as far as R & D is concerned in-country.

Having considered this, the issue of 'who pays for LCD' needs to be addressed. From a summary of the key findings from each of the stakeholder groups it can be concluded that none of the stakeholder groups have accepted it as their responsibility. The findings reveal that the government stakeholder group suggests that the IOCs and HE institutions should be responsible mainly because it is the institutions' responsibility to provide the first line of training. Unfortunately, the government have failed to realise that LCD goes beyond the issue of training. Research is an integral part of content development, and at the moment, R & D opportunities have not been extended to the institutions. In the case of the IOCs, the government stakeholder group expresses that since they need to have the right competencies to deliver standard service in the industry, then the onus lies on the IOCs to pay for LCD.

Similarly, the IOCs and TUT stakeholder groups highlight that the onus lies on government as regulators of the stakeholder groups. Whilst the IOCs maintain that the NCDMB have been charged with the responsibility of overseeing the industry and also manage the National Content Fund (which is 1% of every contract award), the tutors conclude that the government manages the proceeds from the oil and gas industry, as such they should manage the sponsorship of LCD.

The multinational service companies fully agree that they have a significant responsibility as far as payment for local content is concerned. However, this stakeholder group states that it is meant to be a collective responsibility of the multinational service providers and the IOCs, mainly because the service companies have lost trained manpower in the past to IOCs:

“.....we invest so much in these people and the IOCs take them because they see them as ‘hot cake’ and we don’t get any compensation from the IOCs for taking them from us.....[Local content Manager, multinational oil and gas service provider].

In order to avoid future occurrences, the multinational service providers suggest that if the IOCs also invested so much in training as they do, then ‘staff poaching’ between each other would be reduced.

Regarding the indigenous oil and gas service providers, they state that it is the responsibility of the government and the IOCs. Their argument is based on the fact that they (government and IOCs) are the ones who have the higher shareholding when they engage JOAs, PSCs, and RSCs. As such, if they want a continued high shareholding percentage, then they should be ready to take up the responsibility of paying for local content. On reflection, the service providers should also acknowledge that, irrespective of the fact that the IOCs possess a higher shareholding, the existence of service providers is dependent upon the existence of the operators. As such, the argument should be presented from a more balanced perspective.

However, the government stakeholder group maintains that the onus lies on the HE institutions and the IOCs because it is the institutions’ responsibility to provide the first line of training for the IOCs. Nevertheless, government should recognise the extent to which they have provided the needed infrastructures and necessary funding as discussed earlier (see 9.3.2) in these institutions of learning before making that assertion.

Overall, the data suggest that every stakeholder is relying on other stakeholder groups to champion the cause of in-country capacity development and in so doing, value addition will not be achieved within the time frame specified in the schedules of the Act therein. However, the evidence also shows that most of the groups appear to have begun to look inwards, thus beginning to realise that the task is not the sole responsibility of any particular stakeholder group, but a joint responsibility:

“Well’ it is every stakeholder’s responsibility, depending on the aspect of the training and job, so I believe it is a collective responsibility”. [Local content Manager, multinational oil and gas service company]

“It is meant to be done in partnership, it is easy for us to say that the government should provide the adequate financial support but take the university for example, the curriculum has to be in consonance with what the industry requires so there is supposed to be a partnership for this to work”. [Executive Director, indigenous oil and gas service provider]

“everyone has a role to play and I think it will be unfair to say the onus lies solely on government.....”. [Local content data analyst, government]

“It is a joint responsibility, it’s not one man’s job even in the developed world, everybody contributes to developing their human capital”. [Local content Manager, IOC]

“It’s high time we recognise the fact that this debate cannot advance the industry, rather let us look inwards as key players and join hands together to develop capacity in the oil and gas industry”. [Local content Manager, indigenous operator]

From these assertions, it can be concluded that LCD is not the sole responsibility of a single stakeholder or two. On this account, it is expedient to consider the fact that each of these groups’ responsibility to the oil and gas industry is unique. Whilst the absence of the contribution of any individual stakeholder group would have a negative effect on the industry as a whole, it is evident that the magnitude of the respective roles and associated responsibilities means that the poor performance of one stakeholder group may affect the industry more than others.

Having subjected their roles and responsibilities to critical scrutiny, all the stakeholders' contribution can be said to be necessary yet singularly insufficient. The conclusion, therefore, is that the key players in the industry (operators, service providers and EPC contractors and fabricators) have a major responsibility in paying for LCD whilst being regulated by the government. Consequently the government also has a significant stake in developing local content because of its major shareholding in JOAs, RSCs, etc. In addition, over 90% of government revenue comes from the oil and gas industry, so it is expected that the government should not be pushing the 'lifeblood' of the economy to the hands of other stakeholders who are ultimately, profit driven organisations. In view of this, the data collected does not absolve the government and institutions from this responsibility, as they too need to do more to enable other stakeholders to fulfil their duties and LCD responsibilities as far as the 'funding' of LCD is concerned.

9.3.5 Local content policy, indigenous players and potential in-country entrepreneurs

LCD in Nigeria is particularly centred on value addition, of which 'indigenous employment and job creation' forms an integral part. For the analysis of this sub objective, the researcher explored participants' perceptions in relation to the implication of local content on indigenous players (operators and service providers) and potential in-country entrepreneurs. For this sub-objective, the various arguments put forward by the industry players are scrutinised. Aiming to provide a balanced interpretation for this analysis, the main themes for consideration revolve around entrepreneurial activities and service delivery, with emphasis placed upon the quality of service that potential entrepreneurs can offer.

Specifically, the discussion regarding the emergence of entrepreneurs centred around participants' comments on what will be the implication of the LCD policy on the emergence of new industry players, since it is expected that in-country capacity and capabilities stand a chance for contract awards or other forms of service delivery, in line with the local content Act.

Overall, the findings based on the perception of the participants, suggest that there is great potential for such emergence. This is because these players stand a chance of benefitting from contract awards hence creating more jobs. The responses appear to form a consensus view. However, most of the participants also anticipated challenges that could provide some barriers:

“well, the chances are good. It’s just that some of these entrepreneurs may not be qualified.....” [Project Manager, indigenous oil and gas service provider]

It was also suggested that in a bid to comply with the local content laws, operators may fall into ‘wrong hands’ that are not capable of executing certain jobs to the required standard. Nevertheless, operators state that irrespective of the local content law, contracts should be awarded on the basis of track record and experience:

“I am very sure any new entrepreneur would have a track record, for example what have they done before or where has the company staff or owners worked before, these are things to be considered but I believe any new entrepreneur will have some form of track record”. [Operations Manager, indigenous oil and gas service provider]

But then, it appears that some participants, particularly indigenous providers, are not in full support of the argument about ‘track record’. They claim that that the government should investigate the motive behind such pre conditions because this may form a sort of justification for unfair selection and bias. As such it is better to maintain the status quo than investing so much in establishing a law with questionable ‘terms and conditions’:

“Well, it is an opportunity for new companies to start up but the difficulty is in getting them registered with the IOCs.....it might be easy to register with smaller companies, but the assurance of getting contracts is not there..... With the IOCs it is more difficult, because they ask for a lot of documents. [Senior Business Development Manager, indigenous oil and gas service provider]

Aside from the issue of qualifications, another challenge raised is that of registering with the IOCs. From this excerpt, it can be evinced that starting up or registering a new company in itself is not where the challenge lies, but in getting connected with the source(s) that will keep the business running:

“The opportunities are considerable no doubt but of course the structure and processes for getting these jobs are still ambiguous and cloudy and fraught with bureaucratic caveats.....” [Operations Manager, indigenous oil and gas service provider]

“Even though the process of registering appears to be pretty straight forward on paper, the intricacies are enormous and this makes the process difficult and lengthy” [Project Manager, indigenous oil and gas service provider]

According to the findings, there is an enormous amount of bureaucracy and red tape in registering with the IOCs, although this appears to be a seemingly short process as IOCs argue that they only need to complete the form and meet the ‘necessary requirements’. Quite a number of these indigenous service providers now exist following the ratification of the Act. However, just a small percentage has been actively engaged since then.

In order to mitigate these challenges, operators suggest that emerging entrepreneurs can partner with reputable international companies with obvious track records and, by doing this, create a win-win situation whereby capability will have been built in-country and this will serve as international investment for the international companies.

A critical consideration of entrepreneurial emergence in the oil and gas sector from the standpoint of the necessity and opportunity theory of entrepreneurship covered in the review of the literature suggests that the emergence of these entrepreneurs is somewhat skewed between the two theories which confirms the assertion of Ihua *et al.* (2011) who argue that business start-ups tend to display a mix of both necessity and opportunity connotations.

The responses of participants were explored regarding the nature of indigenous entrepreneurial start-ups. Participants had various views regarding this:

“.....the truth is that everyone wants to take advantage of local content policy to their benefit, especially monetarily, so it is expected that more oil and gas businesses will spring up in no time” [Local content data analyst, government].

The argument of this participant would suggest that entrepreneurial start-ups will emerge as a result of opportunities spotted in the market. This excerpt confirms the findings of the NCDMB report on the proliferation of indigenous oil and gas service companies. Furthermore, participants still base their argument on the fact that entrepreneurial emergence is founded on the premise of opportunity, not only for the financial benefits but also for the prestige they derive from ownership:

“.....since necessity is the ‘mother’ of invention, you can be sure that no doubt, everyone who has an idea of any oil and gas service or activity will take advantage of the policy. In addition, you know the norm in Nigeria, people want to enjoy the prestige of being called a CEO of an oil company. [Local content manager, indigenous operator].

Still from the opportunity perspective, participants based their argument on the monetary benefit of the policy to indigenous entrepreneurs, explaining that despite all economic odds, it appears that entrepreneurs are keen to exploit the opportunity to invest in business start-ups, although cost of service delivery will be marked up to accommodate their profit since the NOGIC Act gives first consideration for Nigerian goods and services as stated in Section (16).

“.....the business terrain of the country is not encouraging as a result of lack of security and basic amenities required especially power. However, I still believe entrepreneurs will emerge but the cost of providing services may be high because they are primarily out for business purposes”[Local content Manager, IOC]

However, participants also reckon that much entrepreneurial emergence is more necessity rather than opportunity driven. They argue that the government should be responsible for fostering entrepreneurial emergence, so as to achieve the intended purpose of content development in various areas, especially in terms of employment and contract awards. This argument finds backing from the sub-objective on ‘payment’ for LCD on the issue concerning which stakeholder group is responsible for funding local content:

“.....my personal thought on this is that government should encourage the start-up of more indigenous oil companies. However this should be monitored so that their purpose of existence is achieved-which is to provide employment for nationals....”[Project Manager, indigenous oil and gas service provider].

If we are speaking about entrepreneurial development, we are no doubt fulfilling the tenets of the Act, but my advice is that as much as these entrepreneurs will be conscious of making profit, it should be seen more as a contribution to the development of local content[Local content Manager, IOC]

From the necessity perspective, many entrepreneurs in the industry have been established as a result of unemployment thus making them self-employed. However, from the opportunity side, the ratification of the local content Act can be referred to as an ‘opportunity spotted in the market’.

The various arguments by participants suggest that the intention for entrepreneurial emergence is a mixture of both necessity and opportunity. As much as the emergence of entrepreneurs in the oil and gas industry is considerably out of monetary and prestigious opportunities, entrepreneurial emergence is also driven by the necessity.

Against this backdrop, the continued existence of an entrepreneur appears to be dependent on the quality of service delivery. As such, the perception of participants on this issue is explored.

The issue of quality service delivery remains questionable as participants express various concerns on emerging entrepreneurs. Generally, the perceptions of participants is affected to an extent by irregularities in the Nigerian system hence, they argue that quality may be compromised for profit on the part of indigenous entrepreneurs in order, for example, to offset loans they have taken out from banks to execute the contract.

However, it is suggested that there should be a yardstick for measuring services provided so as to maintain the required standard. In addition, it was suggested that these entrepreneurs should be encouraged to merge. Firstly to give them an opportunity to be considered ‘worthy’ of contract awards and also to enhance their capacity:

“.....as long as it is a level playing field, competition will sort out the issue of quality”. [Executive Director, indigenous oil and gas service provider]

This quote suggests that competition will be the deciding factor in the long run, but certainly not for the short-term ‘business as usual’. As such, it will be a competition driven environment and companies without the required skills and partnerships may have less opportunities than those that are more qualified. Unfortunately, the companies most likely to lack such prerequisites are indigenous start-ups.

It is important to consider that although the Nigerian oil and gas industry is the industry in question, in order to deliver quality service, global acceptable standards need to be maintained. However, participants seemed to concord on the view that the issue of

'assurance' of quality service delivery is not a problem because of existing global product and services certification criteria which are fully implemented in the Nigerian oil industry. Moreover, the evidence unveiled that contractors monitor indigenous companies who have been awarded contracts at every stage to ensure the highest level of compliance and service delivery. Some respondents counter-argued that this certification is merely an administrative procedure wherein the criteria for attaining certification mainly rests upon the ability to have a process, which is ratified upon presentation of a draft document explaining this process. Overall, there is evidence suggesting that the standard assurance bodies have helped in putting checks and balances in product and service delivery.

9.3.6 Domiciliation versus Indigenisation

Local content in Nigeria has been seen to appeal to both individuals and corporate bodies. One school of thought views Nigerian content development from the standpoint of domiciliation, i.e a situation whereby activities of key players in the industry will be carried out in-country and no longer outside Nigeria (Ovadia, 2012). Another school of thought views content development from a perspective of indigenisation. A situation whereby Nigerians adopt the needed technology by understudying their foreign counterparts abroad and then come and take charge of the entire activities of the industry themselves. Still mindful of the research question (what is the effect of the local content policy on indigenous employment and job creation) this sub-objective explores which of these two approaches (domiciliation and indigenisation) is predominant, and the view of participants as to which should be adopted to drive and ensure that in-country content development is achieved in Nigeria. For this analysis, the views of every stakeholder group selected for this research was sampled since LCD is a collective responsibility (as evinced from previous findings).

In analysing this sub-objective, participants' views were taken into account regarding the issue of domiciliation which was considered side by side with indigenisation. Regarding domiciliation, participants' welcomed the idea as a way of developing both capacity and capability in that, if activities are domiciled in-country, capability will be developed via in-country understudying and training. Also capacity will be developed as the industry stands a chance for expansion and more people will be employed. Domiciliation also provides the opportunity to bring about FDI which may serve as a contributor to the economy and as a catalyst to indigenous employment (see also Ono and Lahiri, 1998). Aside from attracting

FDI, the policy tends to regulate it such that the use of both inputs and manpower are monitored to ensure that this conforms to the provisions of the Act.

“I think domiciliation is the way forward, because this creates room for employment and the development of the immediate environment and community.....” [Local content Manager, indigenous oil and gas operator]

Domiciliation was also supported by respondents based on the fact that quite a number of indigenous firms do partner with foreign firms because they lack the requisite equipment to do their jobs. Therefore it is expected that with the fruition of domiciliation, indigenous companies will find it easier to partner with these companies so as not just to benefit from their equipment alone, but their skills and experience as well.

An argument in support of domiciliation finds its backing from globalisation theory which explains that nobody (country) can operate in isolation:

“.....we cannot tell anyone not to operate in our country because we too have to operate in different countries.....” [Local content Manager, IOC]

When viewed through the lens of an increasingly globalised economy, the argument for domiciliation gains even more support, especially to bring about faster economic development, as well as encourage content protection (Grossman, 1981). While the argument for domiciliation found more support, participants noted that in as much as domiciliation should be encouraged over indigenisation, some skill sets still require sending Nigerians abroad to learn via understudy and training so that they can have a mix of both the theoretical and practical knowledge to enhance in-country knowledge transfer upon their return.

However, the data also reveal arguments against domiciliation. Currently, the Nigerian environment is not conducive enough to the establishment of some of these companies for two main reasons: security, and availability of basic amenities. This point is connected with the issue of kidnappings and abductions reviewed in earlier chapters (see also Ikelegbe, 2005). In view of this, establishing their workstations in-country is considered as ‘high risk’ by these investors who in the past have had employees kidnapped, abducted or even killed:

“I frown at domiciliation because in the first instance you need to provide these foreign investors with security and an enabling environment and I don’t think Nigeria does that at the moment. It is difficult for example for

an American to successfully go and work freely in the Niger Delta and you and I know that that is where he is required the most to do his job, so security is a very serious issue.....” [Operations Manager, indigenous oil and gas service provider]

Regarding the issue of basic amenities, the findings reveal that till date, Nigeria is still struggling to put basic amenities like power, water and good roads in place. Some participants shared experiences highlighting that some of their projects have been found to be far cheaper to be carried out abroad than in Nigeria, because of the lack of basic amenities within the latter. As such, some of the multinationals have been seen to ship in semi-completed or fully completed modules into Nigeria. Within this context, an argument in support of domiciliation is that achieving LCD has obvious investment costs, whilst appreciating this, the findings re iterate that:

“the policy is not sending them away but telling them to build up people that will understudy them in-country where there is no capacity” [Local content coordinator, government]

Even participants who argue against domiciliation seem to agree that certain skills are lacking in-country and rather than asking Nigerians to go abroad to understudy these skills, a win-win situation could be created if expatriates are encouraged to domicile their activities in-country and invest in the expansion of their own business.

Considering both sides of the argument emerging from the data, it can be concluded that domiciliation enhances both FDI and employment but considering the implication of domiciliation highlighted from the findings, there needs to be some balance. Following this, it cannot be stated categorically that one perspective is better or more important than the other. In order to achieve the main thrust of the local content policy, a proper balance should be struck in line with the peculiarities of the activity involved in the oil and gas industry so as to enhance a fair (win-win) situation on the part of the investors and the entire Nigerian State.

9.4 CONCLUDING REMARKS

This chapter analysed the data from interviews conducted across the eight stakeholder groups selected for this study. The analysis was carried out based on the sub objectives of the research.

Value addition in the Nigerian oil and gas industry was considered from different perspectives. Regarding employment, it was found that employees are employed both on contract and a permanent basis mainly because jobs are not available all the time and as such, employers would rather employ based on job availability. However, the downside of this approach is the non-commitment or less than ideal commitment on the part of the contract employees. However, the evidence suggests that indigenous employee capacity has increased within the Nigerian oil and gas industry in recent years.

Still on value addition, contract awards to indigenous companies were also found to be on the increase compared to what was obtained in the past. In addition, there has been considerable partnership and consortium between indigenous and foreign companies to execute contracts alongside setting up of in-country work stations by OEMs, which is considered a significant step towards LCD⁵. Although there are no official data/statistics in the public domain to corroborate the evidence emerging from the interviews, one newspaper article recently stated that: *Shell Companies in Nigeria (SCiN) awarded 96 per cent of their total number of contracts to Nigerian companies (total value of \$2.4 billion) in 2012, an increase of \$1 billion above the 2011 figure. The firm stated, we have also signed off the Shell/ Petroleum Technology Association of Nigeria (PETAN) road map. This presents a platform for the selection and deliberate capacity development support for some Nigerian indigenous service companies with a view to helping them become global players in the long term.* (National Mirror, November 6, 2013).

This finding aligns to Grossman's theory of content protection which postulates that for economic growth and development, it is expected that indigenous input is present in every product development and service offerings. The findings also revealed that Nigeria is gradually treading the path to content protection.

In as much as indigenous employee capacity has increased and there are existing partnerships among foreign and local companies, one major setback is the lack of certified employees in specific areas (such as welding, FEED, etc), which happens to be a criterion for awarding

⁵ After six decades of being dominated by multinational and state-owned corporations, Nigeria's petroleum industry is seeing increasing participation by the domestic private sector. According to official data, local companies now control over 30% of the upstream sector, up from less than 10% in 2010. (The Economist Intelligence Unit [EIU] November 11, 2013).

certain contracts, and the IOCs and MSPs may not be willing to compromise. On the positive side, the partnerships and consortia appear to be a means by which some of the companies lacking these certifications have been ‘bailed out’ by partnering with companies which possess these requirements.

On the waiver window, it was concluded that the oil and gas industry still requires a considerable amount of external intervention. Hence, the waiver could still be extended but it ought to be regulated properly to prevent external foreign dominance.

The second sub objective examined the dynamism of the university curriculum in meeting industry demands. It was found that the basic knowledge provided by the HE institutions has not been adequate in meeting current standards of the oil industry. As a result, industry players are forced to invest in training and re-training these employees. Generally, the standard of education has fallen in Nigeria. This is due to lack of government investment. A downward spiral has taken hold as evidenced by incessant strike actions embarked upon by university tutors, owing to various disagreements with the government (regulators) over recent years.

On the issue of the interaction between universities and industry players, this is observed to be quite low. Attention was also paid to current university rankings for specific subject areas and it was found that in the last five years (2008-2013), no Nigerian university has made it to the top 200 on the Times Higher Education global rankings.

The issue of students’ practical experience was also considered as part of curriculum development and in some way compensating for the inadequacies of the curriculum. It was found that available spaces for students’ practical experiences were limited, and in addition, the effectiveness of supervision had declined over the years. However, students who were fortunate to gain access to industry placements via the SIWES scheme, were said to have performed excellently, owing to reports from their industry supervisors.

The third sub objective addressed the issue of suitability and employability of Nigerians in the oil and gas industry. Various issues were explored before determining how suitable and employable Nigerians are. In terms of skill set, generally Nigerians were said to acquire the needed skills after undergoing training provided by their employers. However, there are still skill gaps that exist in core technical and engineering areas. Hence, in these areas, foreign capacity is still being employed, for example, flow assurance.

With regards to education, this issue appeared to come up over and over again in participants' responses, which suggested that the low standard of education in Nigeria was mainly responsible for the current skill gaps being experienced.

Nevertheless, it was found that in spite of these skill gaps, once employed many Nigerians manage to ascend to supervisory and managerial positions owing to training, hands-on experience and hard work. On 'suitability and employability', however, it was found that employers are still fairly dissatisfied with the overall skill set of the new crop of home educated Nigerians.

The fourth sub objective addressed the long standing debate centred on which stakeholder group should be responsible for the 'payment' of LCD. In determining this, CSR activities were considered and it was found that though CSR activities have been, and still are being extended to various quarters, the government still expects more to be done for the host communities where oil and gas operations take place.

The issue of training and understudy was also considered. Regarding training, an argument that institutions should engage more in first line training was put forward but this was dispelled by university tutors who stated that R & D, which is an integral part of training, has not been extended to the institutions by the operators and providers, under the regulation of the government. However, understudying was encouraged as a way of speedily developing manpower and also to compensate for the shortfalls of lack of training.

On 'payment' for local content, various arguments were considered regarding various stakeholders' responsibilities. A significant proportion of the stakeholders interviewed concluded that it is a joint responsibility and raised vital points for consideration. Subjecting these points to further scrutiny, it was argued that the operators and service providers should be responsible for 'paying' for local content. This was backed up from the 'global centrality' and 'betwensness' measures of the analysis carried out earlier with the SNA, which suggests that other stakeholder groups depend on the IOCs especially to carry out oil and gas activities. However, the government has been challenged to rise to their responsibilities and not hand over the main source of revenue to organisations that are, inevitably, profit driven. Therefore, in as much as the operators and service providers perform the role of 'paying' for local content, this should be done under the supervision of the regulators (government), and not absolving the government as well as the institutions from this task.

The fifth sub objective considered entrepreneurial emergence, centred on the perception of participants who opined that there is much potential for new entrepreneurs to emerge, but their ability to win contracts depends upon their track record which is bound to be limited. Accordingly, participants advised that emerging entrepreneurs could partner with existing companies who do have a successful track record. But such alliances are not a 'free lunch' as they would have to entail complementarity and mutual benefit.

One main challenge currently being faced by these emerging entrepreneurs involves registering with the IOCs. Participants expressed that they found it easier to register with smaller companies, but the probability of contract awards when joining with these companies is lower than that partnering with the IOCs provides. Indigenous service providers in particular highlighted the challenges encountered when trying to register with IOCs, stating that the bureaucratic bottlenecks were enormous.

Entrepreneurial emergence was explored based on the opportunity and necessity theory of entrepreneurship. It was found that entrepreneurial emergence was a mixture of both opportunities spotted in the market and the necessity to develop local content, especially in areas of contract awards and indigenous employment.

Service delivery was considered from a global perspective because the oil and gas business requires full compliance with global standards given of the nature of the industry.

Also for this sub-objective, the study sought to explore the quality of service delivery upon the emergence of new entrepreneurs. On this issue, industry players put forward the view that competition will resolve the issue of service delivery in that, the better the service delivered, the more competitive the entrepreneur will be. Whilst this may well apply to the long-run, questions remain on the quality of standards to be offered by start-ups in the short term.

For the sixth sub objective, the issue of domiciliation versus indigenisation was addressed.

Various arguments put forward by participants were considered as to which of these two approaches should be encouraged to best develop local content. Domiciliation was advocated on the grounds that it will encourage capability development and also create more jobs. From another point of view, indigenisation was promoted on the grounds that security of the potential investors was not fully guaranteed (under domiciliation) and that basic amenities like power, water and good roads are often still unavailable or inadequate.

It was considered that both domiciliation and indigenisation bore strong relevance in their own respects and as such, a proper balance should be struck since despite their theoretical asymmetry, they are not mutually exclusive. The appropriateness of each, being dependent upon the peculiarities of the specific activity in question to be domiciled or indigenised, in greater or smaller proportions to increase the probability of a win-win situation.

CHAPTER TEN

FURTHER ANALYSIS AND DISCUSSION

10.1 CHAPTER OVERVIEW

This chapter provides further discussion and analysis of the findings based on the earlier stakeholder analysis and of the results from interviews. It employs the use of stylised facts (further data trends on specific aspects raised) and more documentary evidence to subject earlier findings to further scrutiny. For robustness purposes and triangulation, a regression analysis to ascertain whether in fact the LCD policy has impacted upon local employment and job creation will also be conducted.

10.2 FINDINGS FROM SNA AND ALM ANALYSES

The SNA and ALM clearly showed the relational ties and interrelationships between the selected stakeholder groups. It is worthy of note that the interrelationship and relational ties shown in the analysis bear strong relevance to indigenous employment and job creation in that the more the existing ties among the stakeholder groups, the greater the job opportunities available within the network, and also the greater the potential for more jobs being created in order to properly manage and sustain the network. Invariably, the weaker the ties, the lower the ‘density’ of the stakeholder network. Hence the opportunity to develop in-country capacity will be less, compared to a more cohesive network.

In addition, the ALM highlights the extent of relational ties within the network (which also measures the cohesiveness of the network). The ALM differentiated the extent of the ties into weak, medium and strong. Undoubtedly a strong relational tie is expected to generate a more cohesive network in communication, association and in fact, ‘employment and job creation’, compared to a medium and weak relational tie.

To re iterate, the SNA and ALM analyses were carried out to examine the interrelationship among the stakeholder groups. Table 8.3 (see p.196) showed a bi-directional matrix which implied that the stakeholder groups had some sort of relationship with one another. However, further analysis revealed that the level of the relationship of stakeholder groups with one another is not equal and opposite, as can be seen from various sociograms presented in the analysis.

Having said this, dichotomisation 1 provided some more interesting results from the sociogram of 'best fit' (random) illustrating a bi-directional relationship between the following stakeholder groups:

- a. Indigenous Operators (INO) and Indigenous Service Providers (ISP)
- b. International Operators (IOC) and Multinational Service Providers (MSP)
- c. Multinational Service Providers (MSP) and Indigenous Service Providers (ISP)
- d. Multinational Service Providers (MSP) and EPC contractors

Taking a closer look at these interrelationships, the findings suggest limited association between the foreign players (especially IOCs) and indigenous players. This finding is quite significant when considering that the aim of the LCD policy is to integrate the international and local players. Clearly there exists a bi-directional relationship between the indigenous operators (INO) and Indigenous Service Providers (ISP) but this association can be expected because they are both local. Furthermore, the findings revealed that the relationship between the IOCs and the Indigenous Service Providers (ISP) is indirect (see Figure 8.3a), such that this is only possible through the Multinational Service Providers (MSP) who sub contract to them, but not the IOCs directly.

Generally it was found that the MSPs associate more with the indigenous stakeholder groups than the IOCs do, as it is also found an existing bi-directional relationship between the MSPs and EPC contractors. This pattern could be attributed to the fact that, since the MSPs are meant to provide services for the IOCs, they utilise other stakeholder groups to ensure on-time delivery. Although it would be premature at this point to suggest that the MSPs are an intermediary between the IOCs and other industry players, the results reveal that apart from the government (who are the regulators of the oil and gas industry), only the MSPs exhibit bi-directional relationship with the IOCs.

This assertion is corroborated by further analysis indicating that there is no direct linkage between the IOCs and the ISPs (see Figure 8.3a) and this is only possible through the MSPs. This shows a clear picture in that, in reality, a large percentage of IOC contracts are awarded to MSPs who then sub contract to the ISPs and EPC contractors.

Notable in the analysis is the dislocation (dichotomisation 1) between the HE institutions (TUT) and other stakeholder groups, evidence corroborated by the responses of the participants from interviews. This calls for further consideration, as the only way by which

in-country capacity can be maximised is through the development of an indigenous knowledge base; and the TUT stakeholder group constitutes a significant avenue for this development.

In the past, the government (regulators) has paid little attention to the TUT stakeholder group. This has resulted in several disruptions in the activities of academics (incessant strike actions and lack of adequate infrastructure) thereby forcing the industry players to look externally for more capable hands. To date, the extent of the collaboration between the TUT stakeholder group and the other stakeholder groups remains limited. Unfortunately, the IOC stakeholder group which exhibits global centrality among other stakeholder group does not have a direct tie with the TUT stakeholder group. As such, bridging the gap becomes more difficult, with a negative impact on content development in the long run. Moreover, the fact that the IOCs appear to be the intermediary between other stakeholder groups as seen in the analysis of 'betweenness' suggests that until there is a direct relational tie between the IOCs and TUT (which is expected/assumed to be bi-directional according to the precepts of the Act) there will remain a severe weak link as far as content development is concerned.

Consequently there is a need to examine the government's activities with a closer lens. The SNA revealed that the government only exhibits a bi-directional relationship with the IOCs and MSPs, and these two are international stakeholder groups. It is expected that if the government is really keen on LCD, there should be visible bi directional ties between the government and other indigenous stakeholder groups including TUT. The findings indicate that this is not the case at present. This suggests an imbalance with the level of regulation the government provides for the oil and gas industry. Being aware that the IOCs and MSPs constitute the main stakeholder groups which play active roles in the industry, and considering past corrupt practices within the Nigerian oil and gas industry, it appears that there are still on-going irregularities (or at best, disfunctionalities) especially among the regulators (government) which needs to be investigated further.

In any case, the tie between the IOCs and other stakeholder groups should be strengthened so as to enhance in-country capacity development. In a way, the SNA anticipates the answer to the question of "who pays for local content", clearly exhibiting the responsibilities of the IOCs in content development. More evidence showing that there is a need for closer ties among the stakeholder groups is given by the density analysis which unveiled a mean density of only 59.5%. Following the argument of Hatala (2006) - who suggests that a higher density

reflects a closer tie – it can be concluded that a density of 59.5% among the stakeholder groups in the oil and gas industry appears to be far too low for optimum in-country capacity development. Evidently, there is a need for closer ties to arise.

Overall, the SNA suggests that there is still much to be done in terms of fostering good working interrelationships among stakeholders.

In order for the LCD policy to achieve the objective of creating more jobs and indigenous employment, these ties have to be stronger, with a much higher density within the network, and of course, the TUT stakeholder group should not be left to ‘stand-alone’.

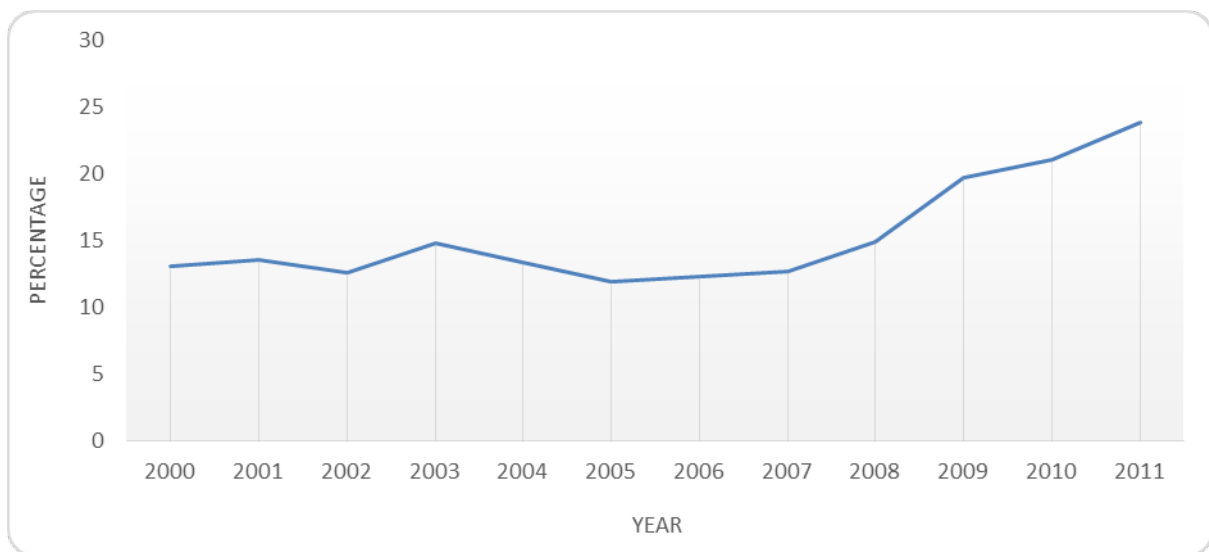
10.3 VALUE ADDITION

Value addition, as discussed in the first sub objective, means having an indigenous (Nigerianised) presence across employment, contract awards, EPC, etc. Considering this in the light of the research question, it is found that the more value added in-country especially in the area of in-country contract award and EPC, the greater the potential for indigenous employment, because there will be a need to employ more labour (capacity) to do these jobs. Invariably, in-country value addition in the Nigerian oil and gas industry is directly proportional to indigenous employment and job creation. This provides a justification for the consideration of this sub objective in providing answers to the research question.

The analysis of the value added to the industry considered various themes, of which contract employment types was one. Normally, the extent of commitment of any employee to any job is dependent on the offering(s) by the employer. A case whereby employees are only called upon when there are available jobs will affect the development of such companies, and the industry at large.

Although Section 7 of the Nigerian labour Act⁶ requires employers to state in writing the terms and conditions of the employee's contract of employment, the extent to which this is complied with in Nigeria appears to be very low and not properly monitored by regulating bodies/authorities. In addition, the unemployment rate is high and increasing. As a result, most employees are more concerned about securing jobs and as such pay less attention to labour laws which are not properly upheld and monitored.

Figure 10.1: Nigeria unemployment rate



Source: Data obtained from IMF World economic outlook (2013)

Figure 10.1 shows the increasing unemployment rate in Nigeria between 2000 and 2011. Although, this covers all the sectors in the economy, and may well be linked to the effects of the global recession, it is also a reflection of what occurs in the oil and gas industry. Between

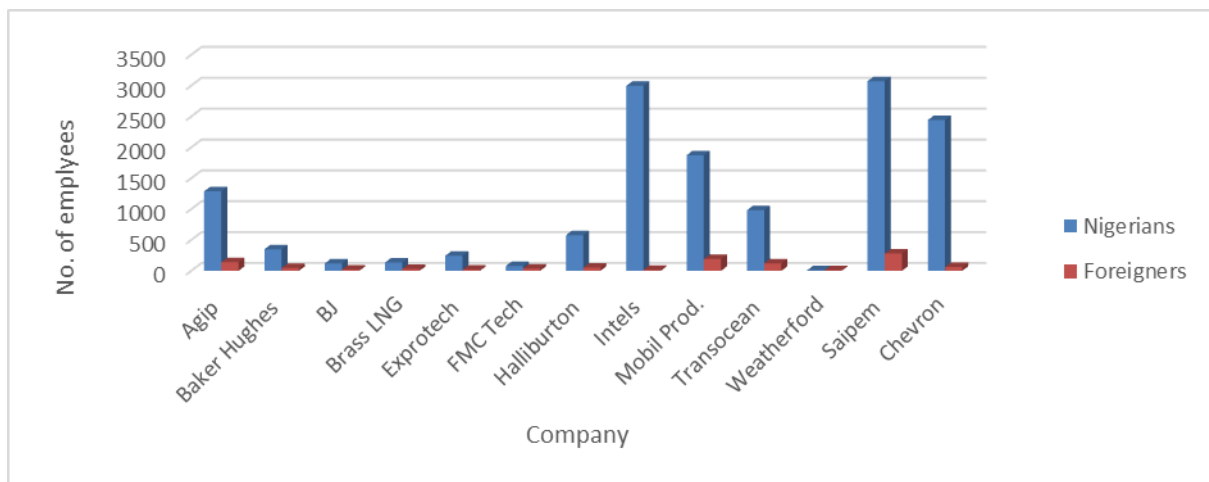
⁶ 7. (1) Not later than three months after the beginning of a worker's period of employment with an employer, the employer shall give to the worker a written statement specifying-

- (a) the name of the employer or group of employers, and where appropriate, of the undertaking by which the worker is employed;
- (b) the name and address of the worker and the place and date of his engagement;
- (c) the nature of the employment;
- (d) if the contract is for a fixed term, the date when the contract expires;**
- (e) the appropriate period of notice to be given by the party wishing to terminate the contract, due regard being had to section 11 of this Act;
- (f) the rates of wages and method of calculation thereof and the manner and periodicity of payment of wages;
- (g) any terms and conditions relating to-
 - (i) hours of work, or
 - (ii) holidays and holiday pay, or
 - (iii) incapacity for work due to sickness or injury, including any provisions for sick pay; and
 - (h) any special conditions of the contract.

[Labour Act Chapter 198 Laws of the Federation of Nigeria 1990]

2000 and 2011, the unemployment rate has nearly doubled. Therefore, with an increasing population, which in turn, in the long term, causes an increase in the population of who can and is able to work, there is no doubt that the unemployment rate will be on the increase. In the meantime, many employees neither consider the terms and conditions of the job nor the contract type, as long as they are guaranteed an immediate income from the job, they take it up.

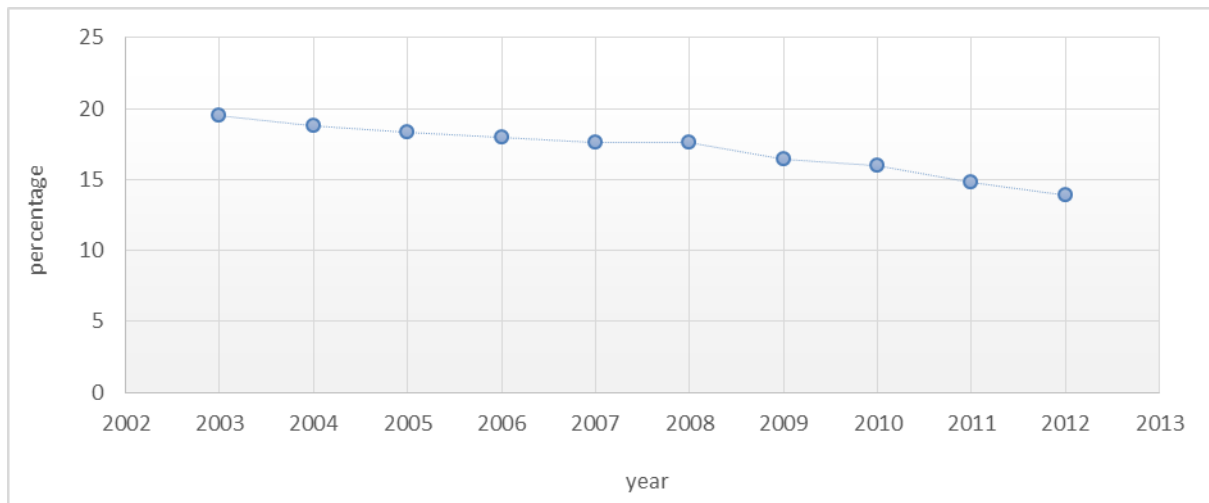
Figure 10.2: Number of Nigerian employees versus foreigners in selected oil companies



Source: Data obtained from NCDMB internal document (2013)

Figure 10.2 reveals the number of Nigerian employees versus foreigners in selected oil companies. In as much as the research findings reveal that indigenous employee capacity has risen, which is also evidenced by Figure 10.2, this does not reflect a commensurate increase in the contribution of the GDP of the oil and gas industry as shown in Figure 10.3 below.

Figure 10.3: GDP contribution of oil and gas industry at constant basic prices (%)



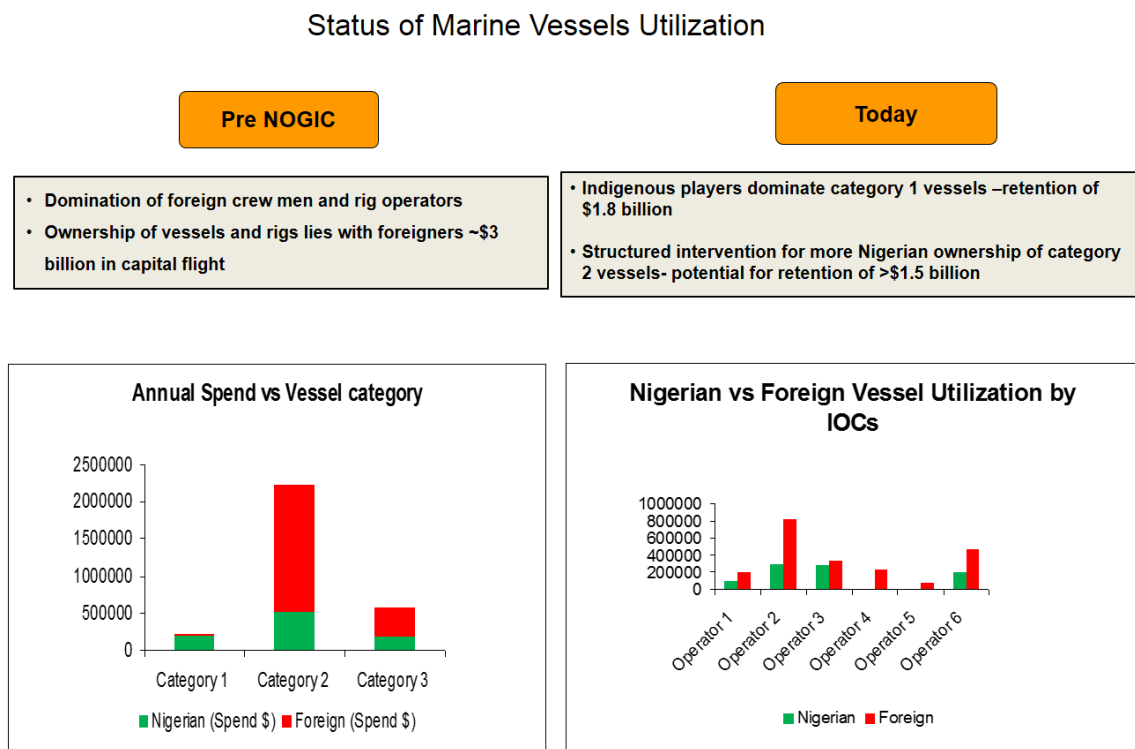
Source: National Bureau of Statistics (2013)

The Nigerian Petroleum minister Dizeani Allison Madueke confirmed recently that 90% of the expenditure in the oil and gas industry is paid to non-resident companies⁷ and this suggests a corresponding increase in capital flight as expressed by Ihua *et al.* (2009). The policy has certainly aided increased contract awards to indigenous companies (as evidenced by the data collected from interviews), but going by the assertion of the petroleum minister, it appears that most of these companies lack in-country capability and as such, form partnership/consortium with foreign companies, who in some way will eventually become the direct beneficiaries of these payments (contracts). Therefore, in as much as value is being added in the area of contract awards to indigenous companies, it appears that there is still a problem in terms of retention of the monetary benefits of the contracts in-country.

Value addition has also been witnessed in the upstream which, in turn, has reduced capital flight, thus encouraging the retention of more funds in-country. Figure 10.4 gives an illustration of utilisation services in the upstream before and after the NOGIC Act was signed.

⁷ It is estimated that about 90% of the expenditure in the oil and gas industry is paid to non-resident companies. In reality therefore, only a minute portion of the amount is available for the development of our economy (THISDAY LIVE 21 March, 2013).

Figure 10.4: Status of Marine Vessels Utilisation



Source: NCDMB (2012)

Figure 10.4 reveals that following the utilisation of Nigerian owned vessels, a huge capital which would have been repatriated abroad has been retained in-country. Prior to the signing of the Act, it can be seen from Figure 10.4 (left hand diagram) that the Nigerian spend is low compared to the foreign spend in the three categories. This suggests that the crew was dominated by foreigners and other upstream workers. Invariably, the vessel would have been owned by a foreign company.

However, following the signing of the NOGIC Act, a visible presence of both Nigerian companies and indigenous employees is noticeable, even though foreign services still retain dominance (see right hand diagram of Figure 10.4). If this pattern is anything to go by, it is expected that this will improve in favour of the Nigerian companies in the future.

Considering value addition in the economy through LCD, undoubtedly there has been a significant increase in terms of indigenous employment and indigenous contract awards. However, there is still room for more jobs to be created if the external expenditure on contract execution is brought to the barest minimum by doing these contracts in-country. This will not only reduce capital flight, it will also increase the economy’s GDP. Therefore, it can be concluded that value has been added to the economy through LCD, but there is still much

value to be added upon the tightening of the lapses that are still being witnessed in the Nigerian oil and gas industry.

10.4 LEARNING CURRICULUM AND INDUSTRY DEMANDS

The analysis of the learning curriculum appears as an important sub-objective in answering the research question because the curriculum determines the knowledge base and basic skills required to operate in the oil and gas industry. In other words, the quality of theoretical knowledge acquired in the institutions of learning alongside the practical skills will determine the extent to which indigenous manpower fits ('at least' initially) the industry, before additional training and hands-on experience is further acquired in companies. Therefore, the learning curriculum is to provide at least the basic and general knowledge required and the extent of its quality will determine the capacity that can be absorbed.

This research unveiled a preference for university graduates over polytechnic graduates. This evidence is corroborated by the data displayed in Table 10.1 below which indicates more enrolment in universities than in polytechnics. Although other factors may play a role, the higher number of enrolments in universities may also be explained by the expectation of a higher probability for recruitment at completion of HE.

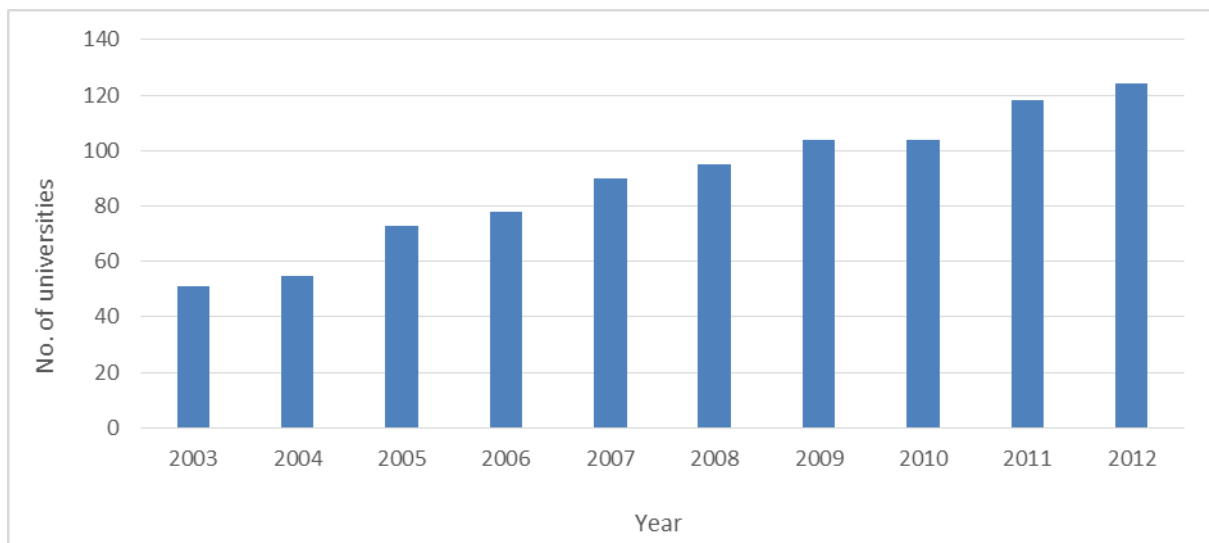
Table 10.1: Enrolment in the Universities and Polytechnics

Session	Polytechnics	Universities
2005/2006	191,251	393,386
2006/2007	167,385	412,588
2007/2008	153,836	435,278
2008/2009	147,815	474,343
2009/2010	151,903	508,747

Source: National Bureau of Statistics (2011)

The Figure below also shows an increasing number of universities in Nigeria

Figure 10.5: Increasing number of universities in Nigeria



Source: Data obtained from National Universities Commission (2013)

Unfortunately, the standard of Nigerian universities has been rated poorly in terms of knowledge base, learning experience and its ability to provide the adequate knowledge required for graduates particularly to conveniently kick-start their career in the oil and gas industry. As eloquently argued by Dabalén *et al.* (2000, p. 3) regarding Nigerian university graduates: “*graduates are poorly prepared for work.a university degree is no longer a guarantee of communication skills or technical competence.*”

Data from interviews also revealed that government has not been sufficiently supportive to step-up the standard of education in Nigerian universities owing to their lack of fulfilment of their agreement with the Academic Staff Union of Universities (ASUU) to develop university infrastructure, which has led to incessant strike actions since 1992.

Table 10.2 shows the annual budgetary allocation for education in some selected countries.

Table 10.2: Some selected countries' annual budgetary allocation on education

S/No.	Country	% Budget allocation to education	Position
1.	Ghana	31.0	1 st
2.	Cote d' Ivore	30.0	2 nd
3.	Uganda	27.0	3 rd
4.	Morocco	26.4	4 th
5.	South Africa	25.8	5 th
6.	Swaziland	24.6	6 th
7.	Mexico	24.3	7 th
8.	Kenya	23.0	8 th
9.	United Arab Emirate	22.5	9 th
10.	Botswana	19.0	10 th
11.	Iran	17.7	11 th
12.	USA	17.1	12 th
13.	Tunisia	17.0	13 th
14.	Lesotho	17.0	14 th
15.	Burkina Faso	16.8	15 th
16.	Norway	16.2	16 th
17.	Colombia	15.6	17 th
18.	Nicaragua	15.0	18 th
19.	India	12.7	19 th
20.	Nigeria	8.4	20 th (Last)

Source: World Bank (2012)

The data from Table 10.2 provides irrefutable evidence of a low budgetary allocation for education both in absolute terms and in comparison with other countries in Africa, and the rest of the world. Education is strongly encouraged as the driving force for socio-economic advancement and economic development in any nation. Sadly it appears that Nigeria's budgetary allocation of 8% cannot provide any meaningful development to the education sector. To recall one of the participants' response in the previous chapter:

“... On comparison with people who studied the same course as I did at undergraduate level in foreign universities, they have more background knowledge than we do...”. [young graduate; indigenous oil and gas service provider]

Aside from the responsibilities of government, the findings suggest that the educational standards should be improved and the curriculum should be more dynamic and interactive, so as to encompass practicals in order to prepare graduates for industry. To this end, both theoretical and practical aspects of the curriculum will need to be improved so that graduates

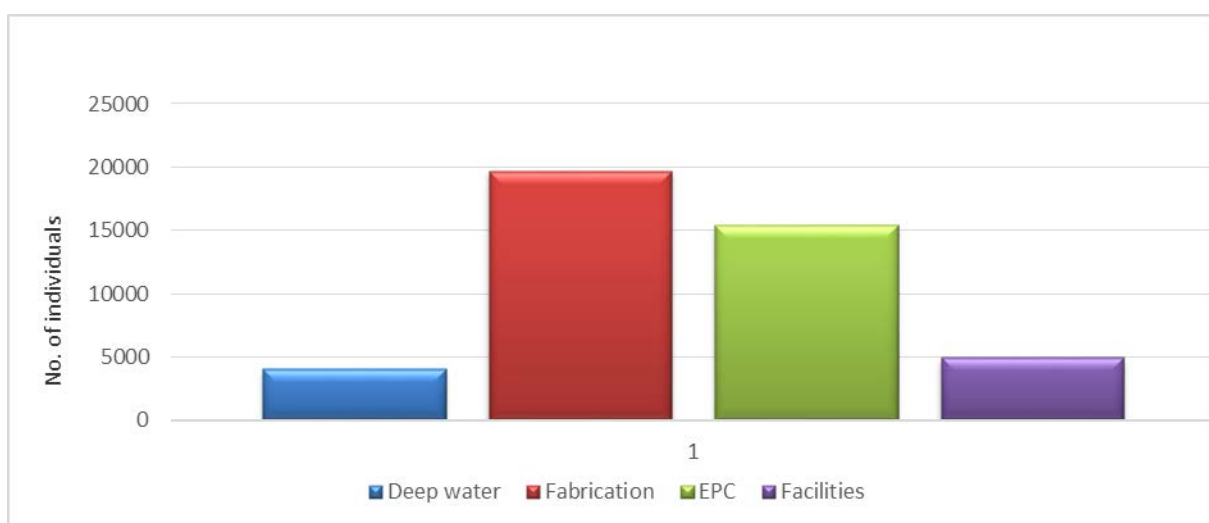
can have the opportunity to be competitive in international labour markets in the oil and gas industry.

10.5 SUITABILITY AND EMPLOYABILITY OF GRADUATES

Following from the sub-objective on the curriculum, the relevance of the suitability and employability of graduates is considered. It should be borne in mind that the stakeholder groups (especially industry players) are profit driven, as such they are conscious of the fact that in as much as they have a mandate for developing in-country capacity and capability via indigenous employment and job creation, the suitability and employability of potential employees is of great relevance to their ‘bottom line’. As discussed earlier, these stakeholders do not expect that fresh graduates bring refined skills to the job, but their ability to demonstrate basic knowledge in their specialisation. This is what qualifies them as being suitable and/or employable.

Although the findings revealed that a considerable amount of Nigerians are employable and suitable, a non-trivial skill gap still exists in the oil and gas industry as depicted in Figure 10.6. This confirms the argument by the participants that indigenous capacity is still lacking in core technical areas. Even though it appears that the skill gap for deep water is low, it does not reflect that this skill is available, rather this technology is just emerging and the statistics depict the current requirement in the industry.

Figure 10.6: Skill gaps/shortages in the Nigerian oil and gas industry



Source: Data obtained from PTDF (2010)

Other technical areas like fabrication and EPC show a high skill shortage. These in particular are core skills needed to enhance exploration and production in the upstream sector.

Therefore, the absence of these skills in-country forces the operators and service providers to expand their quota of foreign manpower.

Overall, there is some evidence pointing to efforts by the government to bridge these gaps, which are ongoing. For example, the skill pool which is set up by the NCDMB to train individuals. However, the government should realise that this requires much more than just re-training. Additionally, it should entail enhancing the quality of education and practical experience at the grass root level (HE institutions) and, hence, greater investment in the higher education sector. This will not only reduce the burden on NCDMB, it will result in training more manpower and less expenditure on training, which would have obvious benefits for the oil and gas industry at large. Following this, more indigenous capacity and capability would be created in the process.

10.6 FUNDING LCD

Undoubtedly, building capacity in the area of indigenous employment and job creation is a significant investment. Aside from its capital intensity, its associated logistics and sourcing of manpower among other things contribute to this investment. As such, the question: 'who pays for local content' begs. Therefore, the consideration of the issue of funding LCD is an important aspect to answer the research question. This is because the extent to which local content is 'paid' for will determine the extent of capability development which is critical for employment and job creation.

The main argument about who 'pays' for local content centred on the industry players' CSR activities, and their responsibilities to the oil and gas industry. Table 10.3 shows a compilation from documentary data on various activities of industry players, showing various ways by which these players have contributed to capacity development and local content.

Table 10.3: CSR and local content activities of selected multinational oil companies

TOTAL	SHELL	CHEVRON	EXXONMOBIL
<p>Akpo Oil & Gas Deepwater Development Project (OML 130), achieved 7.85 million man-hours in local employment, 25,900 tonnes of steel in local fabrication and an overall Nigeria Content value of 80% in the field's life</p> <p>Usan Deepwater Development (OML 138) achieved 30,000 tonnes Nigerian employment as well as 480,000 man hours in detailed engineering studies.</p> <p>Entered into Frame Agreements with six Nigerian Engineering companies including Crestech, Delta Afrik, Netco-Batelitwin, Saipem Cakasa Fluor and Dover having Crestech, Dover and Netco (subsidiary of NNPC) performing the entire basic engineering of OML 130.</p> <p>Employed 352 Nigerians between 2008 and 2010 and sent 219 on expatriation to acquire specialist knowledge in various aspects of the industry.</p> <p>Establishment of the Institute of Petroleum Studies, in partnership with French Institute for Petroleum and the University of Porthacourt, Nigeria.</p>	<p>Awarded contracts worth more than \$947 million to Nigerian companies in 2010 representing 96% of the overall number of contracts awarded.</p> <p>Employed around 6,000 direct employees and contractors with 90% of them as Nigerians.</p> <p>Awarded contract of \$694 million to Caverton Helicopters Ltd. in 2010 to provide helicopters and associated services.</p> <p>Awarded operational insurance policy contract worth \$7.6 million to Sovereign Trust Insurance for Bonga Deepwater Production Vessel.</p> <p>Awarded contract worth \$41 million to Dorman Long for brown field maintenance of the Bonga and EA FPSOs.</p> <p>Trained 1900 service providers in 2010 on contract processes and developed eight indigenous dredging companies.</p> <p>Provided technical support for the certification of a Nigerian pipe mill (the only Nigerian-owned pipe mill in the country) owned by SCC Nigeria Limited, Abuja</p> <p>Shell Intensive Training Programme for graduate employees. This one-year course prepares new employees for the type of work they will perform when they join projects later.</p>	<p>Commissioned the first FPSO simulation training facility in Nigeria.</p> <p>Pioneered farm out of marginal oil and gas fields to Nigerian companies, beginning with the Ogbelle Field.</p> <p>In collaboration with the Lagos Business School, built the capacity of 272 Nigerian contractors.</p> <p>Organised a capacity-building workshop for approximately 800 community contractors and provided Nigerian Petroleum Exchange (NIPEX) introduction to contractors in the Niger Delta.</p> <p>Under the EGTL project, awarded over 280 service subcontracts to Nigerian companies, placed 3,700 purchase orders with Nigerian suppliers and vendors and created over 10,000 direct/indirect jobs.</p> <p>Capacity-building initiatives are in place for local community contractors and local labor; 225 Nigerians were hired and trained as operators and technicians.</p>	<p>Total steel fabrication exceeding 11,000 metric tons (MT), including FPSO topsides structures, piles, the CALM buoy, subsea manifolds and jumpers</p> <p>Double jointing, insulating and coating of 5,000 MT (12km) of risers and flowlines</p> <p>Largest CALM buoy built to date in Nigeria</p> <p>First subsea SIT executed in West Africa</p> <p>SCNL , located in Rumuolumeni (Port Harcourt), completed local fabrication of the FPSO topside components with a total weight of 2,400 MT and 750,000 work-hours.</p>

Source: Total's achievement in Content Development (2010); Shell in Nigeria: Nigerian Content (2011); Chevron Nig. Ltd. CSR Report (2011); Autin and Tijani (2007).

Table 10.3 reflects CSR activities by selected multinational companies operating in Nigeria. These activities cover various areas like employment, contract awards, training and development of indigenous manpower, community development, scholarships, establishment of indigenous companies, partnerships, etc. Undoubtedly, these companies appear to be contributing to LCD in various ways but an analysis of these CSR activities suggests that these companies have focussed more on similar activities which is easily noticeable to the public to attract quick commendation. However, grass root developmental activities like direct collaboration with academia appear to be lacking and this is a useful precursor to LCD.

As seen in the SNA, there is a disjoint between the HE institutions and industry players, with no complete bi-directional relationship among the players themselves. In as much as their activities towards LCD are worthy of commendation, closer ties would enhance the synchronisation of these activities.

In addition, the government has a similar and perhaps, a greater responsibility in ensuring that LCD is achieved. In most JV operations, the government's share is about 60% and this runs through other operations like PSCs, RSCs and SCs. This reiterates the extent to which the government depends on the oil industry. For a government like Nigeria whose 'lifeblood' is the oil industry, it is expected that every necessary infrastructure should be put in place to develop in-country capacity and capability. This will not only improve GDP, it should also have a multiplier effect on other sectors and improve overall living standards in the long run. As stated earlier, the oil players are businesses who are profit driven therefore, in as much as they engage in these activities, they will definitely not do this to the detriment of their profits. Hence, there is a major role the government has to play.

As noted earlier, there has been a lot of corruption in the oil and gas sector ranging from embezzlements to sabotage, and other ways by which oil funds have been diverted into private 'pockets' without these culprits responsible for such acts being made to face the law. This has encouraged corruption which is rampant even amongst the leadership and as such, clouded their minds from the development of indigenous manpower and the welfare of the populace. As argued by one of the participants:

"...even though the government claims to also be paying for local content by training manpower, these trainees are still pushed to us to train at a highly subsidised cost to government...." [Local content Manager, multinational oil and gas service provider]

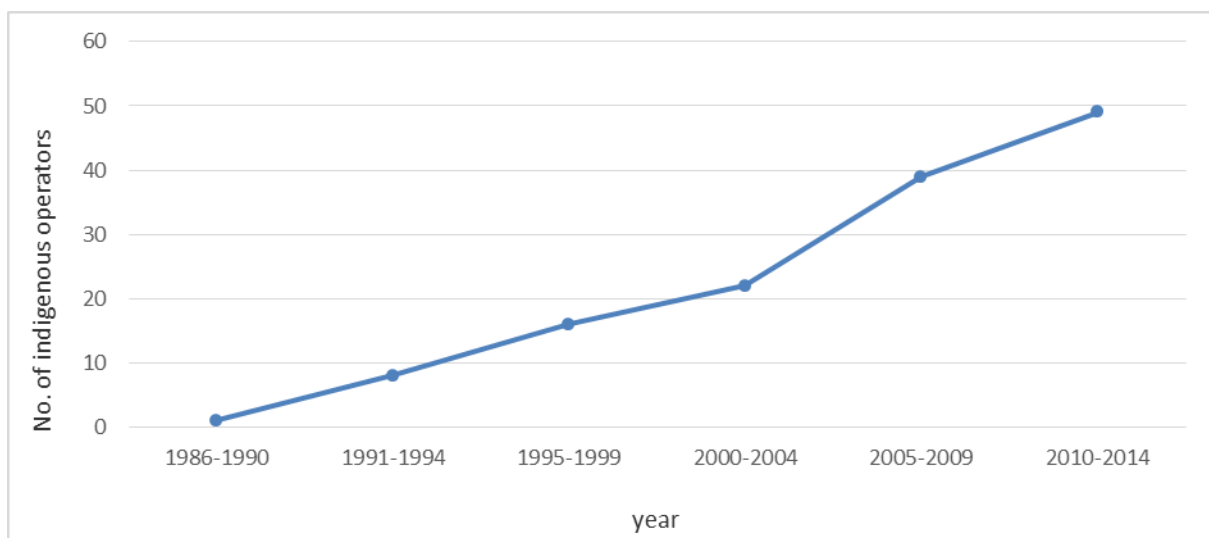
Overall, notwithstanding the importance of the industry players, the government should eliminate corruption and engage in the task of developing the economy, and improving the well-being of Nigerians through the development of in-house capacity and manpower.

10.7 LOCAL CONTENT POLICY, INDIGENOUS PLAYERS AND POTENTIAL IN-COUNTRY ENTREPRENEURS

One of the major areas where the government is striving to develop in-country content is contract awards. However, this can only be possible if there are competent indigenous companies that can execute oil and gas contracts, either as stand-alone or in partnership/consortium with other companies (both national and international). The research explored the potential of the emergence of in-country entrepreneurs upon the development of the local content policy and following the ratification of the Act. This sub-objective is relevant in that indigenous employment will only be possible as a result of the emergence of new indigenous businesses. In addition, jobs can only be created following the emergence of new entrepreneurs.

The findings from participants revealed that there has been an increasing number of entrepreneurs in the oil and gas industry as a result of the local content policy.

Figure 10.7: Number of indigenous oil and gas operators in Nigeria



Source: Data obtained from Department of Petroleum Resources (DPR) (2013)

Figure 10.7 highlights increasing number of indigenous operators in the industry with the highest increase between 2005 and 2014. Over the last decade, LCD in Nigeria gained momentum given the strong emphasis placed on it by government. The increase within this

period surpasses the emergence of operators between 1986 and 2004 by 27%. The 18 year period between 1986 and 2004 witnessed the establishment of a total of 22 indigenous operators while 28 indigenous operators emerged between 2005 and 2014, a 9 year period. Although the analysis from Figure 10.7 mainly focuses on the emergence of indigenous operators, the SNA revealed a bi-directional tie between the indigenous operators and indigenous service providers, and the ALM results revealed a strong tie between these two stakeholder groups. This suggests that there would be a corresponding increase in the number of indigenous service providers that have emerged within those same periods.

It follows from the analysis that there is considerable potential for the further emergence of indigenous entrepreneurs which would inevitably translate into indigenous employment and more jobs being created. However, this can only be sustained if the contracts are made available to the potential entrepreneurs.

Overall, it cannot be concluded with certainty that the emergence of more indigenous operators and service providers is the main factor responsible for the increase in jobs recorded by NCDMB. In as much as credit is given to the indigenous players, a significant number of these jobs have been created by international players, especially service providers who employ indigenous manpower to carry out direct labour, and in cases of sub-contract awards, these indigenous contractors are monitored and supervised closely by the foreign contractors to ensure quality service delivery.

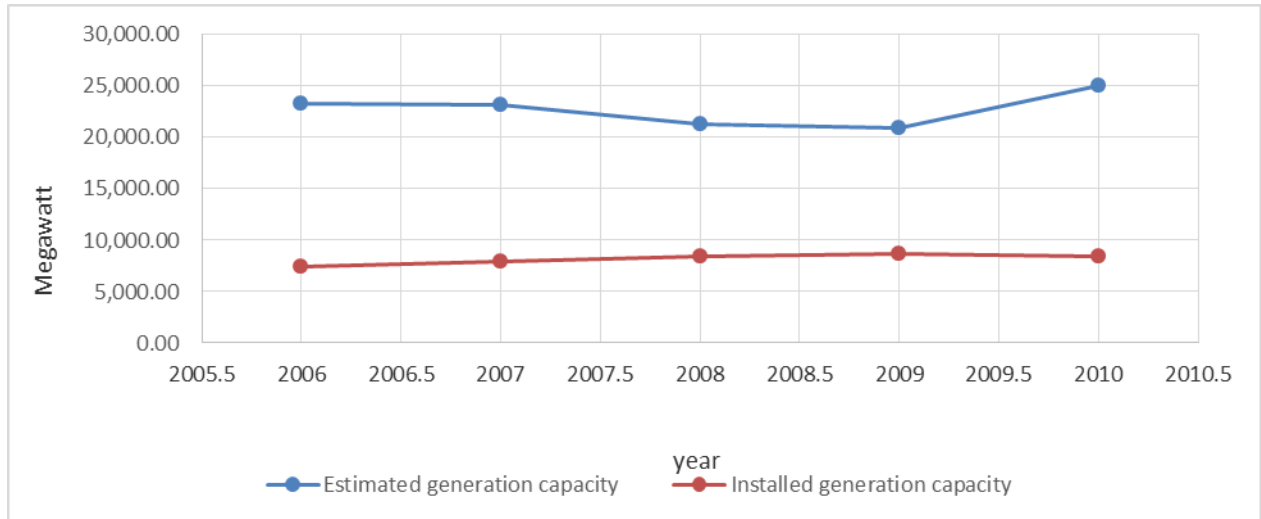
10.8 DOMICILIATION VERSUS INDIGENISATION

The research question centred on extent to which LCD has had an effect on indigenous employment and job creation. As part of the sub-objectives, the issue of domiciliation versus indigenisation was examined. This is because, since domiciliation encourages industry players to domicile their activities in-country, it is expected that this may enhance the employment of indigenous capacity and also create more jobs as more activities are domiciled in-country.

The findings revealed two main arguments against domiciliation: the lack of basic amenities and the issue of security. With regard to basic amenities, power supply has been highlighted as the main problem that can hinder domiciliation in Nigeria. Participants argued that some contracts have been found to be cheaper to execute abroad rather than in-country, this is especially because alternative sources of power (power generators) are more costly to run and

in fact less effective, compared with the normal supply of power, but this is not in regular supply in Nigeria at the moment.

Figure 10.8: Estimated generation capacity versus installed generation capacity of electricity in Nigeria



Source: Data obtained from National Bureau of Statistics (2011)

The issue of regular power generation and supply has been long standing in Nigeria, with the country struggling to generate 6,000 megawatt of power for over the past 10 years. Figure 10.8 provides evidence of the estimated generation capacity and installed generation capacity of electricity in Nigeria. Clearly the installed generation capacity between 2006 and 2010 is an indication of a questionable power sector with the lowest percentage difference being about 40% of the estimated generation capacity.

Although the installed generation capacity between 2006 and 2010 as shown in figure 10.8 is still over 7000MW for each year, Nigeria has not had an actual generation of 6,000MW since inception. At best the country has managed to generate just over 4,000MW. Nigeria has a population of about 160 million in total. Using the United Kingdom as a tool for comparison, whose population is about 75 million, the UK has generated over 20,000MW from various sources (including fossil fuels and renewable sources) on an annual basis in the last five years. An in-depth analysis on this poor generation of power in Nigeria revealed that this takes its root from corrupt practices rampant within the government circles.

Another major argument against domiciliation is the lack of guaranteed security of oil workers (indigenous and foreign) who have been a target by the militants and pressure groups. Table 10.4 is an excerpt of criminal activities of these groups ranging from hostage

takings to kidnappings of oil workers which poses a strong threat to foreign workers especially.

Table 10.4: Police Records of Some Cases of Kidnapping/Hostage-taking/Sea Piracy in Niger Delta

s/n	Nature of cases	Date Reported	Location of Cases	Militants involved	Hostages/victims & their origin	Date of Release	Reason for action
1	Kidnapping	03/03/04	Biseni, Bayelsa (BYS)	32 Militants	13 Hostages	08/03/04	Oil company security operatives/Youths clash
2	Hostage taking	19/12/05	Peretotu BYs	24 Militants	42 Hostages	03/10/06	Impeachment of BYs Speaker/Government
3	Hostage taking	15/01/06	Swali BYs	48 Militants	14 Expatriates & 1 Nigeria	23/02/06	Arrest of one militant in Port Harcourt
4	Sea Piracy	19/02/07	Sagbama BYs	9 Sea Pirates	6 Policemen	19/02/07	No source of livelihood
5	Militant attack	10/05/07	Otueke BYs	Faceless Militants	16 Victims	23/05/07	Detention of Alamieyeseigha
6	Kidnapping	25/05/07	Akassa BYs	40 Militants	9 Expatriates of TEXACO	08/06/07	Oil Production without development of the area
7	Kidnapping	31/07/07	Amarata BYs	14 Militants	11 Year- Old boy of a member of BYHA	04/08/07	Welfare of militants
8	Kidnapping	08/08/07	Gbarain, BYs	11 Militants	Mother of the Speaker of BYHA	22/08/07	Welfare of militants
9	Kidnapping	18/08/07	Akassa, BYs	23 Militants	Mother of a member of BYHA	07/09/07	Welfare of militants
10	Kidnapping	08/10/07	Odi, BYs	Commander Pius Group	1 Nigeria	15/10/07	Ransom
11	Kidnapping	15/10/07	Southern-ljaw BYs	Unknown	1 Nigeria	15/10/07	Ransom

Source : Ewarhieme (2010) Culled from Police Crime Diary, Bayelsa State Command

Some of the participants conclude that indigenisation may be a safer route to LCD so as to ensure adequate facilities and safety of foreign oil workers. This makes sense when contextualised within the evidence of Table 10.4.

However, there are arguments against indigenisation as well. These are based primarily on cost implication and effectiveness. On cost implication, it would be financially demanding to send a meaningful number of Nigerians abroad to understudy their foreign counterparts, and acquire the necessary skills, given the size and requirements of the Nigerian oil and gas industry. Furthermore, participants argue that the time to grasp varies among individuals as such, given that the benefits of training only last for a given period of time, the probability that every individual sent abroad would have acquired the necessary skills optimally, to the extent of becoming a trainer upon their return, may be slim. As such, government and industry players may not be attaining much value in return for the funds invested.

In addition, participants doubt that training manpower abroad would be as effective as training them in-country especially when considering issues of initial adaptation to a new environment.

Scrutinising these two sides of the argument, it can be concluded that in order to develop local content in the area of indigenous employment, the route of domiciliation cannot be discarded, because in-country investment and FDI will bring about employment of indigenous capacity. On the other hand, in order for jobs to be created in-country, there is a strong necessity to develop indigenous skills.

10.9 A ROBUSTNESS TEST: REGRESSION ANALYSIS

Overall, therefore, going back to the main research question of this thesis which is: *Has the Nigerian oil and gas LCD policy had any impact on the indigenisation of employment and job creation?* evidence from interview data, documentary data and the stylised facts of various indicators points towards the fact that the local content policy has in no doubt contributed to the increase in indigenous employment and job creation in the Nigerian oil and gas industry, despite the various shortcomings which the evidence has unveiled in various areas (that constitute clear areas for improvement). In particular, the stakeholder analysis (SNA and ALM) suggests that stakeholder groups need to be in closer working relationships. Issues pertaining to the lack of collaboration between academia and industry and, lack of professionally certified indigenous manpower were also factors found militating against the

attainment of indigenous employment to its full potential. Other factors found include skill gaps in core technical areas; limited proliferation of indigenous firms; insecurity of OEMs and lack of basic amenities for foreign investors. These were areas found amongst others, limiting the policy from attaining its full potential.

Despite the triangulation of evidence, as a further robustness test, it is also useful to run a simple regression model in order to establish whether the key finding that the policy has already had a positive impact is corroborated by statistical evidence produced through regression analysis. Such estimations are intended to provide an indication as to the robustness of the findings obtained via qualitative research and the stylised facts.

Specifically, these estimations aim at investigating the factors affecting indigenous employment and job creation in the Nigerian oil and gas industry. As discussed earlier (chapter four) the implementation of LCD in Nigeria started in the early 2000s. Therefore, to ascertain whether the policy has had an impact, a regression analysis across two separate sample periods is undertaken. The first, for the period 1980-1999 and the second, for the period 2000-2012. This is to enable the researcher to assess the effect of the implementation of local content policy on indigenous employment and job creation pre and post implementation.

10.9.1 Data

Time series data from 1980 to 2012 were used to carry out this regression analysis. These data were obtained from the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS), BP statistical database, Nigerian Content Development and Monitoring Board (NCDMB) and the Nigerian National Petroleum Corporation (NNPC).

Data selection was primarily guided by past literature which suggested various factors affecting content development in Nigeria (see Bakare, 2011; Ihua *et al.*, 2009). In addition, other factors considered for selection of these variables included are: the nature of the model; the relevance of the data in answering the research question; availability of data from credible sources, and data quality. Having considered these, the dependent variable for this model is indigenous employment level in the oil and gas industry (ELinOG). The independent variables include: number of indigenous players (operators and service providers) in the oil and gas industry (IPinOG); number of engineering and geo science graduates turned out at bachelors degree level from Nigerian universities (ENGCEO); GDP contribution of the oil

and gas sector (GDP); percentage of gas utilised (PCNTGAS); capacity utilisation rate in Nigerian refineries (CURREF).

10.9.2 The model

The analysis will be based on two linear regression models. The first model (Model 1) will cover the period 1980-1999. During this period, the local content policy had not been implemented in Nigeria. The second model (Model 2) will cover the period 2000-2012, during which the local content policy had been implemented. The regression models' results will be compared so as to draw conclusions on the effect of each of these variables on local content pre implementation and post implementation of the policy. To start with, the indigenous employment level in the oil and gas industry (ELinOG) is dependent on certain factors, a statement which can be represented as:

$$LOCCL = \{FACTORS\} \dots\dots\dots (1)$$

Where 'FACTORS' are the variables considered to be influencing indigenous employment and job creation in the Nigerian oil and gas industry. Hence, the following regression model is specified:

$$ELinOG = f\{IPinOG + ENGCEO + GDP + PCNTGAS + CURREF\} \dots\dots\dots (2)$$

Where

ELinOG= employment level in the oil and gas industry

IPinOG= number of indigenous players in the oil and gas industry

ENGCEO= Number of engineering and geo sciences graduates turned out at bachelors level

GDP= GDP contribution of the oil and gas sector at constant prices

PCNTGAS= percentage of gas utilised

CURREF= capacity utilisation rate in Nigerian refineries

Equation (2) is expressed in linear form as

$$ELinOG = \beta_0 + \beta_1 IPinOG + \beta_2 ENGCEO + \beta_3 GDP + \beta_4 PCNTGAS + \beta_5 CURREF \dots\dots\dots(3)$$

Introducing an error, econometrically the model is expressed as:

$$ELinOG = \beta_0 + \beta_1 IPinOG + \beta_2 ENGGE0 + \beta_3 GDP + \beta_4 PCNTGAS + \beta_5 CURREF + Vi \dots (4)$$

Where V_i is an error term expected to be normally and independently distributed, with a zero mean and a constant variance ($N(0, \sigma^2)$) hence complying with Ordinary Least Square (OLS) assumptions (see Kennedy, 1999).

10.9.3 Data description

Indigenous employment level in the oil and gas industry (ELinOG). Due to unavailability of this particular data, a proxy was employed which could capture indigenous employment growth rate in the oil and gas industry. The proxy used to capture this variable is the indigenous players' crude oil production rate. This is because it is expected that an increase or decrease in the crude oil production rate of indigenous players will be directly affected by the number of employees, who are likely to be predominantly Nigerian nationals. Such data was obtained from the NNPC statistical bulletin. It differentiates the crude oil production of indigenous operators from multinational operators and, as such, it is ideal for the purposes of this analysis. Next, the percentage of crude oil production for indigenous operators which is used as the data for the analysis is calculated.

Number of indigenous players (operators and service providers) in the oil and gas industry (IPinOG). This was obtained from two main sources: NNPC and NCDMB, which represented the number of officially registered companies in Nigeria (Corporate Affairs Commission) and with the NNPC and NCDMB.

Number of engineering and geo sciences graduates turned out at bachelors level (ENGGE0). These data represent the number of engineering and geo science graduates turned out within the time period considered. These include: chemical engineering; electrical/electronics engineering; mechanical engineering; civil engineering; water engineering and metallurgical engineering. The geo science graduates include: geology; geo physics; physics electronics and physics/computer science. Data were obtained from the NBS database.

GDP contribution of the oil and gas sector at constant prices (GDP). These data on GDP contribution of the oil and gas sector at constant prices were obtained from the National Bureau of Statistics (NBS) database. This variable represents the value of all the goods and services produced in the Nigerian oil and gas industry on an annual basis.

Percentage of gas utilised (PCNTGAS). These data were obtained from the BP statistical database which records the amount of gas produced in total on an annual basis, and the total amount of gas flared. From these two sets of data, the percentage of gas utilised on an annual basis for the years considered is calculated, which is then used as the data for the analysis.

Capacity Utilisation Rate in Nigerian Refineries' (CURREF). Capacity utilisation is referred to as the ratio of actual to the maximum potential output consistent with a given capital stock (Nelson, 1989). In other words, capacity utilisation is the current level of operational achievement per day. For example, if a company has the capacity/potential to produce 1000 items, working at full capacity, but only produces 500 as a result of inadequate capacity, then the company is said to be producing at a capacity utilisation rate of 50%. Likewise in the Nigerian refineries, the Central Bank of Nigeria has measured the capacity utilisation rates of the four refineries and the average rates, which represented in percentages have been obtained from the CBN statistical database for the analysis.

10.9.4 A priori expectations and theoretical significance of the model

It is expected that the variables in the model will influence indigenous employment and job creation in the Nigerian oil and gas industry either positively or negatively. In addition, it is expected that the two time periods of estimation will exhibit different estimated coefficients across the pre and post implementation sample periods if the policy had a significant effect on the elasticities of the determinants of indigenous employment and job creation in the oil and gas industry.

10.9.5 Data processing

The data were processed using SPSS. These data were transformed to their natural log equivalent. This was done so as to interpret the results of the estimated coefficients as elasticities. The results are presented in two separate tables. Table 10.5 contains the results of the regression model from 1980-1999 (Model 1), while Table 10.6 contains the results of the model from 2000-2012 (Model 2). For simplicity and comprehension, henceforth referred to as Table 10.5 and 10.6 or model 1 and 2, respectively.

Table 10.5: Model 1: Regression analysis to determine the variables influencing indigenous employment and job creation in the Nigerian oil and gas industry. 1980-1999

Variables			
	beta	p-values	VIF
Constant	2.100		
Number of indigenous players (operators and service providers) in the oil and gas industry	0.123	1.356	1.03
Engineering and Geo science graduate turnout	0.110	0.262	1.09
GDP contribution of the oil and gas sector	-0.202	0.354	1.13
Percentage of gas utilised	-0.270	0.145	1.20
Capacity utilisation rate in Nigerian refineries	0.021	0.036	1.32
F-value		86.153	
\bar{R} (adjusted R ²)		0.8378	
Durbin watson		2.1778	
Mean dependent variable		27.0033	
S.D dependent variable		6.19663	

Source: Researcher's analysis (2014)

Dependent variable: Indigenous employment level in the oil and gas industry (ELinOG)

Table 10.6: Model 2: Regression analysis to determine the variables influencing indigenous employment and job creation in the Nigerian oil and gas industry. 2000-2012

Variables			
	beta	p-values	VIF
Constant	2.73		
Number of indigenous players (operators and service providers) in the oil and gas industry	0.041	0.025	1.03
Engineering and Geo science graduate turnout	0.090	0.039	1.07
GDP contribution of the oil and gas sector	-0.755	0.312	1.13
Percentage of gas utilised	0.057	0.041	1.27
Capacity utilisation rate in Nigerian refineries	-0.024	0.032	1.34
F-value		81.641	
\bar{R} (adjusted R ²)		0.8475	
Durbin watson		2.1654	
Mean dependent variable		38.4576	
S.D dependent variable		8.61254	

Source: Researcher's analysis (2014)

Dependent variable: Indigenous employment level in the oil and gas industry (ELinOG)

Tables 10.5 and 10.6 report the results of the regression analysis to determine the significant determinants of indigenous employment and job creation in the Nigerian oil and gas industry. Model 1 contains the result pre implementation of the policy (1980-1999), while Model 2 contains the result post implementation of the policy (2000-2012).

The Durbin Watson statistic was used to test for autocorrelation (Maddala, 2001). A value of 2.1778 and 2.1654 was obtained for models 1 and 2 respectively, which conformed to standard value range, thus implying that the residuals are independent and not autocorrelated.

Multicollinearity is another potential problem that may affect the reliability of the results in OLS estimation. If the regressors are highly correlated among themselves (i.e highly collinear) the standard errors of the estimated coefficients will be over inflated. This, in turn, may make some variables statistically insignificant when, in fact, they are (should be) significant. To be reassured about the reliability of the results therefore, the extent of the collinearity present in the data was measured using the 'Variance Inflation Factor' (VIF), which assesses how much the variance of an estimated regression coefficient increases if the regressors are correlated (the VIF measure was easily computed using the minitab software). Given that all VIF values for both models are between 1 and 1.4, it can be safely concluded that the regressors are only mildly correlated, but not enough to be concerned about the reliability of the results (multicollinearity becomes a serious concern only when the VIF exceeds 5 (see Maddala, 2001).

The F-value statistic tests the overall significance of the regression under the null hypothesis that all the slope coefficients (the Betas) are zero (Kennedy, 1999, p. 65). The F-values for models 1 and 2 (86.153 and 81.641), therefore, indicate rejection of the null.

The value of the adjusted R-squared (\bar{R}^2) indicates the explanatory power of the model (Maddala, 2001). \bar{R}^2 for model 1 is 83 percent. The implication of this is that the regressors (number of indigenous players in the oil and gas industry; engineering and geo science graduate turnout; GDP contribution of the oil and gas sector; percentage of gas utilised and capacity utilisation rate in Nigerian refineries) collectively explain about 83% systematic variations in the indigenous employment level in the Nigerian oil and gas industry. For model 2, the value of the \bar{R}^2 is 84 percent, which suggests that the independent variables collectively explain about 84% systematic variations in the indigenous employment level in the Nigerian oil and gas industry, a slightly better result. The remaining 17% and 16%

variation in models 1 and 2 respectively are explained by other variables outside the model (which however do not display systematic influences that hinder the adequacy of the proposed specification).

Number of indigenous players in the Nigerian oil and gas industry

The (beta) estimated coefficient of indigenous players (operators and service providers) in the oil and gas industry in model 2 (0.041) suggests that a 1 percent increase in the number of indigenous players (operators and service providers) added to the Nigerian oil and gas industry will lead to a corresponding 4.1 percent increase in indigenous employment in the Nigerian oil and gas industry. The elasticity is considerably higher than that recorded in model 1, which is 0.123. This finding further strengthens the results of the interview data which suggest that there has been an increase in entrepreneurial emergence. In addition, it is corroborated by Figure 10.7 which suggests an increase in the number of indigenous operators between 1986 and 2012.

Engineering and geo science graduate turnout

The value representing engineering and geo science graduate turnout in model 2 suggests that 1 percent increase in graduate turnout will result in a corresponding 9.0 percent increase in indigenous employment in the oil and gas industry. This is in sharp contrast to what is obtained in model 1 which can be attributed to foreign dominance in the Nigerian oil and gas industry within this period (1980-1999).

However, in as much as there is a significant improvement after the implementation of the local content policy, this does not suggest that graduate employment has been overly outstanding in the industry. Nevertheless, according to the results of these estimations, the mechanisms through which local graduates translate into local workers in the Nigerian oil and gas industry have improved since the elasticity of ELinOG to ENGGE0 turnaround has increased considerably post policy implementation. Hence, despite the findings from interviews, a low level of educational standard in Nigeria is observable which, however, is compensated by the rigorous training employers provide to Nigerian graduates upon employment.

Hence, it can be asserted that following the implementation of the LCD policy, there is a potential for an even further increase in the indigenous employment rate in the Nigerian oil

and gas industry *ceteris paribus*, and upon the improvement of the educational standards in Nigeria.

Percentage of gas utilised

The disposal of associated gas in oil production and processing into the atmosphere is referred to as gas flaring (Elvidge *et al.*, 2009). Although the argument to release these gases into the atmosphere is that it acts as a safety device to protect vessels or pipes from over pressuring (Grevet, 2007), its global environmental impact cannot be quantified. Gas flaring activities takes place mainly in Nigeria in oil production wells, chemical plants and refineries.

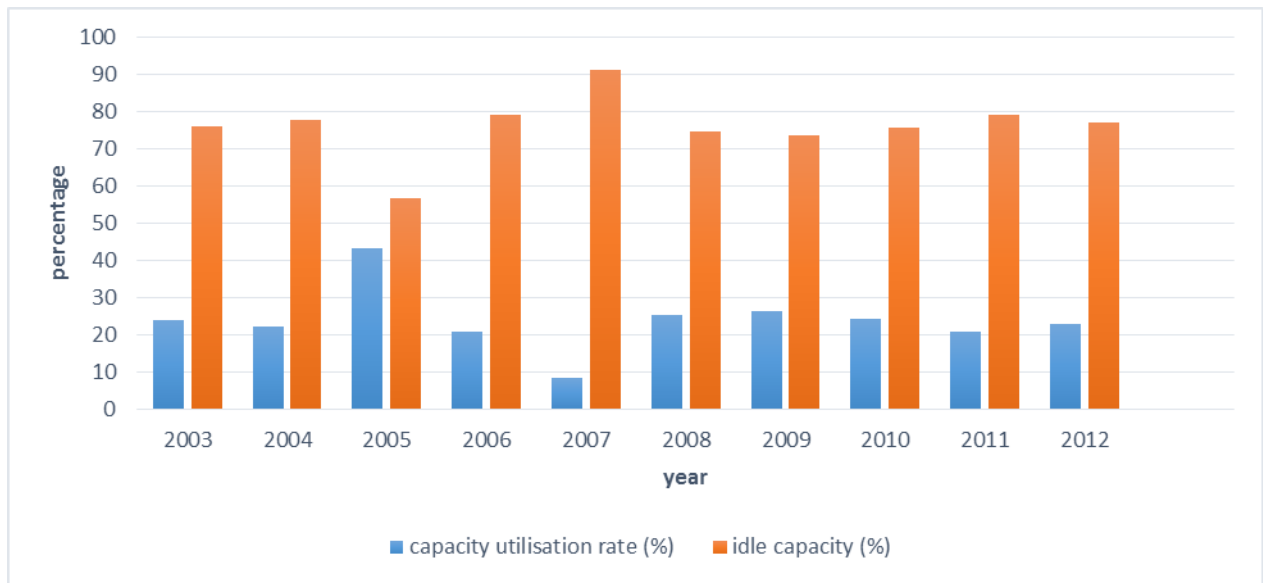
In as much as gas flaring activities in the Nigerian oil and gas industry could be termed as industry safety measures, it has caused environmental degradation to host communities. Consequently the economic impact of gas conservation is huge with implications for both domestic and industry activities. For example, the use of gas as a fuel for cooking both domestically and industrially, as against the use of fossil fuels like wood and coal, whose environmental effects is deforestation and emission of greenhouse gases which is detrimental to the global environment (Strachan and Lal, 2004; Lashof and Ahuja, 1990; Meinshausen *et al.*, 2009).

The value for the percentage of gas utilised in model 2 (0.057) suggests a significant difference from the corresponding value in model 1. While in model 1 this variable does not show statistical significance, in model 2 it does, suggesting that a 1 percent increase in gas utilised leads to a corresponding 5.7 percent increase in indigenous employment.

Capacity utilisation rate in Nigerian refineries

The results from Model 1 suggest that a 1 percent increase in capacity utilisation rate in the (Nigerian) refineries will contribute a 0.21 percentage increase in indigenous employment in the oil and gas industry. However, the Nigerian refineries' capacity utilisation rate has been on a constant decline over the years. Figure 10.9 shows increasing idle capacity in the Nigerian refineries.

Figure 10.9: Capacity utilisation rate and idle capacity in Nigerian refineries



Source: Data obtained from NNPC Annual statistical bulletin (2012)

Figure 10.9 gives a clear indication that Nigerian refineries are producing far below capacity. This implies that potential indigenous employment opportunities have been lost in the past ten years or more. A newspaper report⁸ indicates that apart from idle capacity which has plagued the Kaduna refinery (one of the four refineries in Nigeria), the government still pays out over £40 million in salaries to idle workers annually, which is a huge loss.

Following from these findings, Model 2 suggests that a 1 percent increase in capacity utilisation rate in the refineries will lead to a 2.4 percent decrease in indigenous employment rate in the oil and gas industry. This suggests that the idle capacity in the Nigerian refineries has taken its toll on indigenous employment, which is reflected in the findings.

Idle capacity in Nigerian refineries has been attributed to malfunction of equipment, obsolete equipment, fire outbreaks, poor management and lack of maintenance (BMI, 2012c). However, alongside these causes one cannot but acknowledge the concomitant role of corrupt practices, since it is expected that regular servicing and upgrade of refineries should be a priority in Nigeria as the economy is primarily dependent upon the oil and gas industry. Several attempts have been made in the past to upgrade these facilities, privatise and/or even

⁸ A nerve-racking revelation has come from the Senate Committee on Petroleum (Downstream) that the Federal Government is losing over N700 billion yearly due to the comatose nature of the Kaduna Refining and Petrochemicals Company (KRPC). The Federal Government spends a whopping N12 billion yearly on staff salaries in the company (INFORMATION NIGERIA, January 26, 2012).

establish new ones. However, it appears that both privatisation and other agreements related to infrastructural development were only signed, but are yet to be implemented (BMI, 2009a; BMI, 2009c; BMI, 2012c).

10.10 SUMMARY OF FINDINGS, CONTRIBUTION AND ENHANCED FRAMEWORK

Table 10.7 presents a detailed summary of the entire findings of this research, structured according to the theory-based evaluative framework developed earlier in the thesis and the stakeholder approach employed.

Table 10.7: Summary of research findings

Research Question: Has the Nigerian oil and gas LCD policy had any impact on the indigenisation of employment and job creation?

Research framework			
Preliminary analysis	Analytical tools	Results and findings	Remarks
Identification of stakeholders	Thematic content analysis; documentary analysis	16 stakeholders in total emerged from identification of the stakeholders in the oil and gas industry	Based on the analysis, these 16 stakeholder groups identified were found to play different roles within the upstream, midstream and downstream sectors of the Nigerian oil and gas industry
Categorisation of stakeholders	Analytical categorisation; Thematic content analysis; documentary analysis	Stakeholder groups were categorised into subjects; players; crowd; leaders or context setters. The analysis focussed on the players and these include: IOCs; indigenous operators; international oil and gas service companies (1st tier suppliers); indigenous oil and gas service companies (2nd tier suppliers); EPC contractors and fabricators; oil and gas industry employees; HE institutions; federal Government (government);	The categorisation of these stakeholders was done adopting the Power-Interest framework of Ackermann and Eden (2011). This categorisation was mainly considered with respect to the research question, as such the 8 stakeholder groups that fell within the 'high-power high-interest' (players) quadrant were the ones selected for this research.
Social Network Analysis (SNA)	UCINET software	Stakeholder groups exhibit relational ties with one another, however, this is not equal and opposite Bi-directional relationship exists between the following stakeholder groups: a. Indigenous Operators (INO) and Indigenous Service Providers (ISP) b. International Operators (IOC) and Multinational Service Providers (MSP) c. Multinational Service Providers (MSP) and International Service Providers (ISP) d. Multinational Service Providers (MSP) and EPC	The SNA examined the interrelationships among the stakeholders and determined if there were unidirectional or bi directional relationships existing among the stakeholders. The UCINET software proved as a useful tool in portraying these relationships through various matrices and sociograms, which appeared to be quite comprehensible and interactive.

		<p>contractors</p> <p>There is limited association between the foreign players (especially IOCs) and indigenous players.</p> <p>There is also limited relationship between the HE institutions (TUT) and other stakeholder groups.</p> <p>Government only exhibits bi-directional relationship with the IOCs and MSPs</p>	
Actor-Linkage Matrix (ALM)	UCINET software	The ALM determined the extent of the relational ties among the stakeholders by differentiating these ties into weak, medium and strong.	This differentiation proved useful especially for policy recommendation, so as to know exactly where efforts are necessary to build weak relationships and strengthen existing medium relationships alike.
Analysis of Sub objectives/evaluative criteria			
Sub objectives	Analytical tools	Results and findings	Remarks
To explore the level of value added within the Nigerian oil and gas industry	Thematic content analysis; documentary analysis	Value has been added in various areas in the Nigerian oil and gas industry, and these include, indigenous ownership, capacity building, capability development, indigenous employment, entrepreneurship etc	There appears to still be considerable lapses in terms of value addition in the oil and gas industry. Presently, there is still a significant level of capital flight which is mainly because of lack of indigenous capability, in view of this, there is limited potential for indigenous employment.
Based on the skills acquired in institutions displayed by young employees, determine their suitability and employability on their job, and their potential for ascending to higher positions/cadre within the oil and gas industry	Thematic content analysis; documentary analysis	<p>There is the need to subject Nigerian employees to intensive trainings before they can come up to speed</p> <p>Core technical skills were found to be lacking generally among Nigerian employees for example flow assurance skills.</p>	In terms of suitability and employability, Nigerians are suitable after the trainings because of their ability to grasp practical aspects easily. Also, they have been found to ascend to supervisory and managerial levels owing to their performances. However, a lot still needs to be done at the grass root in terms of providing the adequate theoretical knowledge base needed for potential employees.
Explore the dynamism of the curriculum of HE institutions in meeting the current demands of	Thematic content analysis; documentary analysis	The standard in the Nigerian education has fallen and in fact not meeting the requirements of the oil and gas industry.	The level of interaction and collaboration between academia and industry is poor. In addition, the government has not paid adequate attention to the educational sector in terms of provision of basic

the oil and gas industry		non-dynamism of the university curriculum with current technology in the oil and gas industry	infrastructure, let alone bridging the existing gap between academia and industry.
To obtain stakeholders' perspective on the main stakeholder(s) responsible for the "payment" for LCD	Thematic content analysis; documentary analysis	Stakeholders were found not wanting to take responsibility for 'payment' for local content. However, it was concluded that it is a joint responsibility Government ought to rise to the responsibility of championing the cause of LCD, not particularly minding the roles of other stakeholders given that, oil is the main resource that sustains the Nigerian economy.	The oil and gas industry should be mainly looked after by the government, given that oil is the lifeblood of the economy. Therefore, it is not expected that the government should not contest the responsibility of 'payment' for local content with any stakeholder group, and so rise to their responsibility. However it is expected that other industry players should also support LCD.
To determine the implication of LCD on the potentials of indigenous entrepreneurs in the Nigerian oil and gas industry	Thematic content analysis; documentary analysis	There are existing potentials for the emergence of indigenous entrepreneurs and in fact evidences suggesting this increase, as a result of the local content policy. This is attributed to increase in indigenous contract awards and domiciliation of activities in-country.	The issue of quality service delivery following the emergence of new indigenous businesses will be sorted out through competition. Hence how competitive entrepreneurs will be in winning bids and contracts depends on their quality of service delivery.
To explore the issue of Domiciliation Vs Indigenisation as a way of LCD from stakeholders perspective	Thematic content analysis; documentary analysis	The challenges with domiciliation are the unavailability of basic amenities like stable power supply, and the issue of security. For indigenisation, the cost implication was the high point. In addition, trainees may not fully grasp all they require within the periods of their trainings and as such, the purpose being defeated	Both domiciliation and indigenisation bear relevance in different respects. As such it is expected that a balance is struck depending on various specific areas so as to determine which of the two strategies to adopt.
Robustness test: Regression analysis			
To examine the factors influencing indigenous employment and job creation in the Nigerian oil and gas industry	Regression analysis	The following variables were found to be significant post implementation of the policy: Number of indigenous players in the Nigerian oil and gas industry; engineering and geo science graduate turnout; percentage of gas utilised; capacity utilisation rate in Nigerian refineries.	The analysis was carried out in two stages, pre and post implementation of the policy. It was found that various factors that were found insignificant pre implementation had become significant post implementation with higher elasticities. This suggests that the policy has had a positive effect on indigenous employment and job creation.

Author generated (2014)

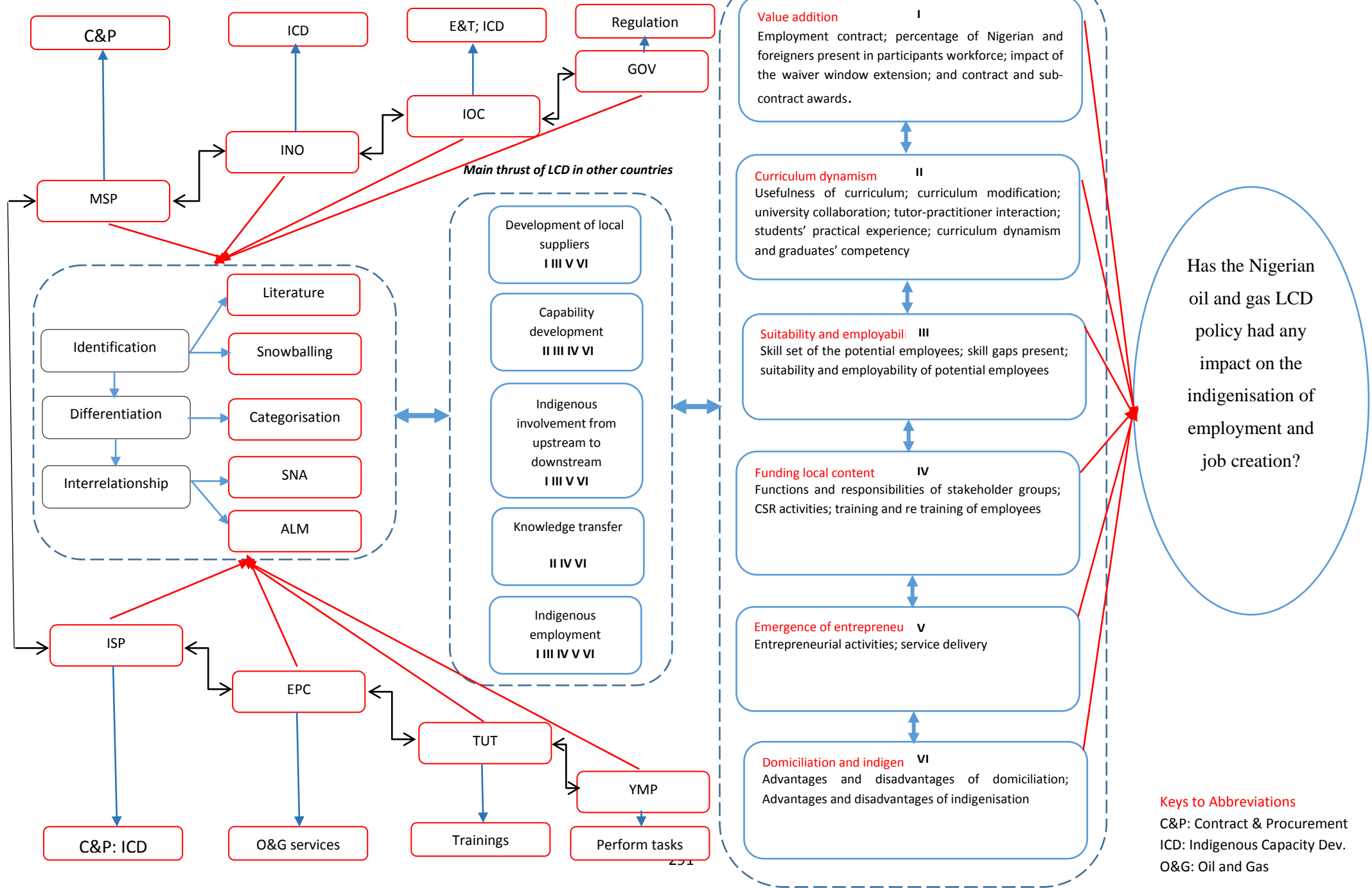
Several contributions emerge from the findings of this study. First, these findings add to previous knowledge on the efficacy of the LCD policy by highlighting the importance of a multiplicity of 'actors' in the Nigerian oil and gas industry, many of which, in spite of considerable interest and/or involvement in both industry activities and the LCD policy, are found to exert limited influence, having no power roles to instigate a change in the current state of affairs (best exemplified by the fact that a very large proportion of jobs within the industry is still carried out by non-nationals and most of the profit generated by the industry is repatriated abroad). Opening the analysis of the sector to consideration of all the constituencies that have a stake in the industry and to whom the government may have a moral or social responsibility towards is, in this sense, an endeavour that promotes transparency by encouraging further scrutiny through the lens of stakeholder groups that have had, traditionally, no voice in shaping policy. In this respect, the findings also call for a greater empowering of Nigerian citizens, by instilling a sense of ownership of *their* natural resources that would enable, in turn, a more vigorous demand for accountability.

Second, the findings contribute to a greater understanding of both the dynamics of the Nigerian oil and gas industry and on how to increase the effectiveness of the Nigerian LCD policy. In particular, the analysis of the relational structure that exists among the stakeholders highlights that in spite of the existence of some relationships among key industry players, a significant percentage of these relationships are unidirectional. Bidirectional relationships were mostly found between the government on one side, and international operating companies and multinational service providers on the other. HE institutions still play a marginal role, as evidenced, for example, by the minimal level of local 'centrality' displayed by this stakeholder group vis-à-vis others. Significantly, it was also found that it is IOCs rather than the government that exhibit global centrality within the network, suggesting that in spite of the ratification of the NOGIC Act (2010), this stakeholder group still pivotally determines the activities of the Nigerian oil and gas industry, with other stakeholder groups, including indigenous companies, being dependent on the IOCs for their survival in the industry. Notwithstanding the fact that the achievement of the LCD policy objectives is a collective responsibility, the coordination and facilitation of the collaboration needed for LCD to come to fruition is evidently the main responsibility of the regulators, i.e. the government. Yet the inability of the government to exhibit global centrality in the network is a major weakness, particularly when it is acknowledged that this role is currently still being

played by the very stakeholder group that is meant to benefit the least from the successful achievement of LCD, i.e. IOCs.

Third, in order to address the objectives of the thesis and hence answer the main research question, the author developed a novel, enhanced framework that juxtaposes an original theory-based model of evaluative criteria for the assessment of LCD on a stakeholder analysis framework. The resulting overarching evaluative framework for the stakeholder analysis application to LCD is depicted in Figure 10.10. This framework was developed by drawing on the literature review (i.e. LCD in other countries and the theoretical and empirical review of LCD) and the model developed by the author to answer the main research question (see Table 6.2; Table 6.3; Table 7.5; Table 9.2; and Figure 6.1). Such a framework provides an original and significant step towards the development of a more comprehensive framework for the appraisal of the efficacy of the Nigerian LCD policy. Indeed, consistent with a much overdue shift towards a polycentric understanding of policy making and assessment, the novel evaluative framework and application of stakeholder analysis to Nigerian LCD developed in this thesis can be seen as an essential blueprint for any future LCD policy analysis aimed at establishing its effectiveness.

Figure 10.10 Evaluative Framework for Stakeholder Analysis Application to LCD



Building upon the evaluative criteria and the particular stakeholders chosen for this study, the enhanced framework juxtaposes the earlier framework for this study with the main thrust of LCD in other countries, thus providing a blueprint for any future research that would attempt a stakeholder appraisal of LCD for any other country.

Whilst the enhanced framework highlights particular evaluative criteria to be considered in the stakeholder appraisal of any of these countries based upon their main thrust, it should be noted at this point that this framework provides a useful first step towards the development of a further robust framework for such an analysis. As such, in appraising LCD in other countries using a stakeholder analysis, this enhanced framework (Figure 10.10) cannot be overlooked. Although this framework is developed based on eight stakeholders that emerged from the stakeholder analysis carried out in this study, this does not limit any future study to the number of stakeholders chosen. Thus, it could have more or less than the eight stakeholders being considered depending on the results of the stakeholder analysis of such a study.

Therefore, this provides a contribution to LCD stakeholder appraisal for other countries and a useful first step for further analysis.

CHAPTER ELEVEN

CONCLUSIONS

11.1 CHAPTER OVERVIEW

This concluding chapter begins by providing a summary of the research findings, structured by the research objectives of this thesis. Following a synopsis of the contribution to knowledge, the implications of the findings are explicitly highlighted. The next section provides a clear set of recommendations for the various stakeholders. The chapter concludes with a discussion of the limitations of this study and suggestions of profitable avenues for future research.

11.2 SUMMARY OF MAIN FINDINGS

The initial mapping of LCD based literature revealed the scarcity of both theoretical and empirical studies, especially in the area of local content appraisal. The additional critical review allowed the author to be more informed. Regarding theory, this appeared to be more limited than empirical literature because to the author's knowledge, no existing literature has appraised the Nigerian local content policy using stakeholder theory.

The first research objective of this thesis (see section 1.4.2 in 'Introduction') was - in addition to providing contextual information on Nigeria - to conduct an analysis of the macro environment of the Nigerian oil and gas industry. The key finding from this analysis is that the Nigerian oil and gas industry is plagued by problems in the technological and environmental domains, which are not being properly addressed politically. Also, policy makers seem to be unable to leverage on the economic opportunities that continue to be available thus reinforcing the socio-economic and environmental threats that the future of the industry poses to Nigeria.

The second sub objective was to undertake a full stakeholder analysis in order to identify key stakeholders and assess the relational structure that exists among stakeholder groups. The research analysis commenced with the identification and categorisation of the various stakeholder groups in the oil and gas industry. In identifying the stakeholders operating in the industry, a wide range of documentary data and extant literature were consulted. Having subjected these to critical analysis, a total of 16 stakeholder groups were found to be operating within the Nigerian oil and gas industry. In terms of categorisation, this was carried

out in line with the research question (*Has the Nigerian oil and gas LCD policy had any impact on the indigenisation of employment and job creation*), adopting the power-interest framework of Ackermann and Eden (2011). Eight stakeholder groups fell within the 'high power-high interest' quadrant: international/multinational operators (IOCs); indigenous operators; multinational service providers (1st tier suppliers); indigenous service providers (2nd tier suppliers); HE institutions; federal government; young employees (with 1-7 years' experience in the oil and gas industry); EPC contractors and fabricators. Hence these eight stakeholder groups formed the unit(s) of analysis for this thesis.

The SNA and ALM investigated the interrelationship of the stakeholder groups. The SNA revealed that there are existing relational ties (directional and/or bi-directional) among the stakeholders, however, these ties are not equal and opposite. Specifically, it was found that bi directional ties were more predominant among stakeholder groups in the same categories. For example, between indigenous operators and indigenous service providers (ISPs); and between multinational operators and multinational service providers (MSPs). Although the research revealed the existence of bi-directional relationships between MSPs and ISPs, and MSPs and EPC contractors; these were attributed to sub contract awards to ISPs and EPC contractors, which the MSPs are allocated to by the IOCs. However, there is no existing bi- directional tie between IOCs and indigenous players. In fact, there is no direct linkage between the IOCs and ISPs particularly, except through the MSPs. This gives a clear indication of the state of LCD and of the opportunity open to stakeholders to understand the demerits of working in isolation or being selective in terms of which stakeholder to engage with.

The SNA and ALM revealed that for local content to be developed, bi-directional relationships would have to be present between indigenous and multinational players, especially the IOCs. Regarding the government, they only exhibit bi-directional ties with the IOCs. It is expected that government as regulators should exhibit a bi-directional relationship with each of the other stakeholders (both indigenous and multinational), however the existing bi- directional relationship with the IOCs alone suggests further weaknesses. The research also revealed a notable disjoint between HE institutions (TUT) and other stakeholder groups.

The computation of the average density of the entire network suggests that there is a need to increase the cohesiveness of the network in order to promote LCD. The findings also revealed that the IOC stakeholder group exhibited global centrality within the network, thus

indicating other stakeholder groups' dependency on the IOCs for oil and gas activities. To conclude, the ALM determined the extent of existing ties among stakeholder groups' which were classified into weak, medium and strong.

The third research objective was to develop a theory-based analytical framework to guide the analysis for appraising the extent to which the Nigerian LCD policy had an impact on indigenous employment and job creation. Various aspects and definitional features of local content were considered and it was found that these were all geared towards value addition. A review of LCD in six countries (old-timers and new comers) revealed that the overarching aim for LCD is the development of in-country capability so that nationals of each of these countries manage the activities of the oil and gas industry in their respective countries. Having reviewed past theoretical and empirical literatures on LCD, it was found that the issue of 'indigenous employment and job creation' within the oil and gas industry rests mainly on the stakeholders operating in the industry. Following this review, an analytical framework was developed based on six sub objectives/criteria to answer the main research question (see Table 6.3 and Table 7.5).

The fourth research objective was to investigate by means of semi-structured interviews, documentary evidence and statistical data the extent to which the Nigerian LCD policy had an impact on 'indigenous employment and job creation' according to the following evaluative criteria: (i) value added; (ii) dynamism of HE curriculum vs industry demands; (iii) suitability and employability of graduates; (iv) 'payment' for LCD; (v) emergence of in-country' entrepreneurs; (vi) domiciliation vs indigenisation.

To determine the extent of value addition within the Nigerian oil and gas industry, this study relied on the responses of the participants and the analysis of documentary data using various sub themes which included employment contract, contract and sub contract awards, percentage of Nigerians and foreigners present in participant workforce, and the impact of the waiver window extension. It was revealed that employees are employed on both permanent and contract basis. However employees on non-permanent contracts show no particular commitment to employers as such, which means they could easily migrate to firms offering better terms at any point in time. Overall, the unemployment rate in Nigeria was found to have increased over the years. As such, employees were more concerned about securing jobs, hence paying less attention to the terms and conditions of their employment contract.

Regarding contract and sub contract awards, although this was found to have increased considerably over the years, non-certification of indigenous companies still appeared to limit their capacity to win contract awards. As a way of mitigating this problem, indigenous companies have formed partnerships/consortia with other companies who are certified in such areas of competence. This development has also led to in-country capacity and capability development, resulting in an increase in the percentage of Nigerian employees compared to the past (pre implementation of the policy). On the waiver window, it was found that the oil and gas industry still requires a considerable amount of external intervention therefore, it is only logical to extend the waiver. However, this should be regulated to protect infant companies and emerging entrepreneurs from being suppressed.

Value addition was also considered from the perspective of theory of content protection (see chapter 6). This theory argued that there should be an amount of indigenous input in product development and service delivery. This research has revealed that the Nigerian oil and gas industry is gradually developing content protection having successfully domiciled activities of OEMs in-country. Hence it is expected that this will aid capability development and give Nigeria more control over their resources in the long run.

The dynamism of the curriculum in HE institutions was investigated considering the following themes: usefulness of curriculum; curriculum modification; university collaboration; tutor-practitioner interaction; students' practical experience; curriculum dynamism and graduates' competency.

Generally, the disjoint found in the SNA between the TUT and other stakeholder groups was confirmed by the findings of the interviews because, there appeared to be a significant dislocation between academia and industry. Indeed, the data obtained revealed that the curriculum had barely changed, and as such not in tandem with current industry operations. This limited collaboration between academia and industry has resulted in a 'tired' and 'out of date' curriculum with limited dynamism. Regarding the level of interaction between industry players and universities, this was found to be limited as CSR activities in the form of scholarships and donation/provision of equipment were the sole form of interaction. The interaction between the government and universities was found to be questionable owing to past disagreements which led to incessant strike actions by university tutors since 1992, as a result of government not fulfilling their promises.

Against this backdrop, the researcher sought to investigate if there are any forms of practical experiences students undergo during their course of study. It was found that although practical experience is a vital part of the curriculum, access to firms where such practical, hands-on experiences can be gained were not readily available for all the students. However, for those students who had opportunities to gain access (through personal relationships and high powered connections), industry players had commended their performance and their willingness to learn during the work experience programmes.

Overall, the findings revealed that the university curriculum has not provided adequate knowledge needed by the industry culminating into a low standard of education in Nigeria. In addition, the deficiency in the HE curriculum was found to have had a significant impact on LCD in that, over the years, limited capability has resulted in the importation of manpower and the repatriation abroad of contract awards.

Regarding employability and suitability of graduates, the themes addressed in the analysis included: skill set of the potential employees; skill gaps present and how to bridge existing gaps; suitability and employability of these potential employees; and the potential of employees to ascend to higher cadre.

In as much as operators and service providers did not expect graduates and young employees to bring high level skills onto the job, it was expected that they demonstrated at least a basic level of general skills and theoretical knowledge. The findings revealed that the level of general skill displayed is far lower compared to what was obtained in the past. However, exceptional cases found were as a result of past experiences gained during the practical experiences students acquired while at university, and in some cases via personal development. Areas where significant skill gaps were found are technical areas like fabrication, FEED and flow assurance amongst others. Although the effects of these skill gaps appear not to have halted the activities of the oil and gas industry, this has impacted on LCD leading to exportation of contracts and importation of manpower, resulting in capital flight. However, a strategy to bridge the existing skill gaps was found to have been introduced by the government, which is a national skill pool where undergraduates and graduates alike can register to acquire further training depending on their level and area of specialisation.

Overall, the findings revealed that Nigerian graduates were suitable and employable; although deficiencies in certain technical skills were still found to be evident. That said,

Nigerians have ascended to supervisory and managerial cadres, although this has only been possible through a combination of training and industry experience gained over several years.

With regard to the question of which stakeholder group is to champion the cause of LCD (*payment for local content*) the themes considered revolved around CSR activities as well as other functions and responsibilities of the stakeholder groups in the oil and gas industry.

Whilst the government argued that payment for local content should be the responsibility of the operators and service providers since they carry out their activities in various host communities, and also utilise ‘government trained’ manpower, the operators and service providers argued that they have extended CSR activities to the host communities in the past and more are still on going. Operators and service providers further argued that it is time for the government to rise to the challenge of driving the LCD agenda, since they are businesses that have ‘paid their dues’(to the government).

Having subjected the arguments from both sides to critical scrutiny, it was concluded that although the operators and service providers had a major part to play in LCD, ‘payment for local content’ is a joint responsibility of all stakeholders in order to produce a win-win situation. Of course, this does not absolve the government in any way, since they are also a major stakeholder group and in fact, the regulators of the industry.

If Nigerians are to be employed in the industry and more jobs created, the government will have to play a significant part in championing the cause of LCD. As for the other stakeholders’, all the stakeholders’ contribution can be said to be necessary yet singularly insufficient.

Regarding the emergence of in-country entrepreneurs, the analysis centred around participants’ comments on what the implication of local content policy will be on the emergence of indigenous entrepreneurs (operators and service providers). The themes considered focussed on entrepreneurial activities such as service delivery, with emphasis placed upon the quality of service that potential entrepreneurs can offer.

Entrepreneurial emergence in the oil and gas industry was evaluated on the basis of opportunity and necessity theory of entrepreneurship, i.e an opportunity spotted in the market or a necessity based on service requirements. The findings revealed that entrepreneurial emergence is a mixture of both opportunity and necessity because clearly some of the entrepreneurs have taken advantage of the local content policy, especially for those who are

yet to be certified and as such form partnerships and consortia with other firms. On the other hand, some others were found to have emerged based on necessity especially in areas where capability is still lacking within the Nigerian oil and gas industry.

Furthermore, the findings revealed that there is great potential for such emergence, as these players stand a chance of benefitting from contract awards hence creating more jobs. However, the quality of service delivery appeared to be a major concern since these potential entrepreneurs were anticipated to have limited experience and track record. Regarding this, participants concluded that competition and standard regulatory bodies will resolve the issue of quality service delivery since it is expected that product and services would be certified by standard bodies, such as ISO. Regarding competition, participants argue that entrepreneurs with low quality products will eventually become less competitive in the market and, consequently fade out.

LCD was also viewed from the perspective of domiciliation versus indigenisation. Arguments for domiciliation included development of capacity and capability, leading to employment. Also, domiciliation was argued for on the basis of the support it gives to infant companies who partner with more established companies in order to grow and have access to more contract awards. In addition, domiciliation was argued to support FDI which is expected to enhance the development of the economy.

In contrast, other participants supported indigenisation for two main reasons. Firstly security, and secondly, lack of basic amenities within Nigeria. Regarding security, participants argued that the Nigerian environment is not conducive enough at the moment because of issues of kidnappings and abductions both of which pose a high risk to investors. Regarding basic amenities, Nigeria is still struggling to put basic infrastructure like power supply, water and good roads in place. As such, some projects have been found to be far cheaper to be carried out abroad.

Having considered these two sides of the argument emerging from the interview data, it was concluded that both domiciliation and indigenisation present advantages and disadvantages, therefore a proper balance should be struck in line with the peculiarities of the activity to be carried out so as to know what approach to adopt at every given time.

The fifth and final research objective was to draw some policy implications and recommendations. Whilst both implications and recommendations stemming from the

findings will be highlighted in the sections below (12.3 and 12.4 respectively), it is opportune to end this section with a final word on the main research question of this thesis.

Overall, the findings indicate that the Nigerian LCD policy has had already some positive impact on indigenous employment and job creation. However, although LCD is progressing, this is occurring at a slow pace. On this account, it should be borne in mind that Nigeria is a developing country that is plagued with corruption and many political issues typically associated with a growing democracy in a developing country. Recent events⁹ have confirmed that the determination by the government to take control of its resources cannot be achieved in the medium term. It may be opportune at this point to borrow the words of Igo Weli (local content manager SPDC, Nigeria) who explained that local content is more of a 'marathon' rather than a 'sprint' (Weli, 2013). This statement resonates with the LCD experience of countries like Brazil and Norway, which many other countries are currently adopting as their LCD model (see chapter four). These countries also developed local content over a long period.

11.3 IMPLICATIONS

To the author, it appears that these findings have important policy implications from both the governmental and stakeholder/practitioner (managerial) perspectives.

Although eight stakeholder groups were drawn for this research, it appears that there are clear implications and recommendations to be drawn for the government, IOCs, indigenous service providers and HE institutions.

11.3.1 Government

It was found that there is still limited indigenous capability in core technical skills and in specific certified areas. The resultant effect of this is that huge amounts which could have been retained in-country will be spent either to carry out certain projects abroad or to hire foreign skilled manpower to do these in-country. By this, capital flight will still be prevalent thus limiting the potential for economic development. Depending on the perspective taken (i.e., importation of manpower or transfer of services abroad), capital is still lost because the spend is still carried out abroad

⁹ On April 14, 2014, Nigerian Islamic sect Boko Haram abducted over 200 schoolgirls. About 230 girls are still believed to be missing, prompting widespread criticism of the Nigerian government [BBC News Africa].

Regarding the suitability and employability of Nigerians, if further training has to be provided abroad to enhance indigenous manpower capability, then competent hands will be limited as a result of this training. Consequently, this will bring about a potential decrease in additional manpower that could have been trained in-country if these services were carried out in Nigeria. In the long run, the objective of increasing indigenous participation in core technical skills hangs on the balance, since there are limited opportunities for training. Eventually, this will have implications for the waiver window in that, it will be further extended. This in turn will make the achievement of, achieving the local content targets as stated in the schedules of the NOGIC Act even more difficult.

The limited interaction and collaboration between academia and practitioners (operators and service providers) also suggests reduced knowledge transfer, which is mainly because there is not much R&D performed by academia for the industry players. The resultant effect of this will be 'brain drain' especially in the research based institutions because there is a tendency that tutors will migrate to locations where they can advance their careers and contribute to an active research system in their respective fields of work. Bearing in mind that these experiences cannot be bought, the government may lose experienced hands (and 'brains') in the educational sector owing to lack of interaction and collaboration. Currently the educational standard is low, and with intellectual flight, this can become even lower.

In as much as the research concluded that 'funding local content is a collective responsibility of all stakeholders', if the government does not honour its responsibility of championing the cause for content development, then the objective of indigenous employment and job creation may not be completely achieved. It must be emphasised at this point that the overarching aim of the LCD policy is that of ensuring that Nigerians fully participate in the activities of the industry from upstream to downstream. Industry players are profit driven businesses, although conscious of the fact that they need to abide by the laws of their business environment. Overall therefore, the onus lies on government to drive the policies forward and ensure compliance.

Regarding entrepreneurial emergence, the LCD policy has contributed to the establishment of more indigenous oil firms, both operators and service providers which in future, are expected to grow and become capable of handling major projects akin to the large multinational service companies. However, this is only achievable by setting clear standards from the onset. Nevertheless, the 'proliferation' of these indigenous companies poses the challenge of being

properly monitored and regulated by the government. This is because, in as much as competition was argued to be the solution to quality service delivery by participants, in the event that the standard of the service offerings of these emerging indigenous companies become questionable, this will return the oil and gas industry back to the status quo (foreign dominance).

Domiciliation and indigenisation bear different relevance in their various respects and these should be encouraged as much as possible by the government. However, it should be borne in mind that a dominance of indigenisation over domiciliation will hamper FDI thus affecting economic growth and development.

11.3.2 International Oil Companies (IOCs)

The implication of the capital flight earlier discussed is that it could result in government placing sanctions on the IOCs. In addition, capital flight may result in government asking for a re negotiation of certain terms and conditions for the purpose of tightening the business environment, for example in JVs, PSCs, RSCs or even award of OPLs to IOCs in future.

Regarding curriculum dynamism, the required knowledge base by the IOCs may not be easily achieved through HE institutions due to the low level of interaction between academia and IOCs. In the long run, the resultant effect of this is likely to be the importation of foreign manpower. Asides from the fact that this does not encourage LCD, it is a significant cost for the IOCs themselves. This disconnect which is caused by the low level of interaction will also hinder any forms of collaboration in future.

Regarding entrepreneurial emergence, since the findings reveal an increase in the emergence of indigenous entrepreneurs, IOCs will have more choices of available service providers. However, this may result in an inequitable distribution in the award of these contracts to various entrepreneurs as IOCs may show preference for some over others. Bearing in mind that as part of IOCs CSR, they assist in the development of indigenous service providers. Therefore, it is expected that IOCs will give more consideration to the already existing indigenous players they have an alliance with, before considering new entrepreneurs. Overall, the level of development in capacity and capability of indigenous service providers is likely to vary, depending on their relationship with the IOCs.

11.3.3 Indigenous service companies

Lack of certification among indigenous service providers is expected to lead to forfeiture of jobs to certified companies which are mostly foreign companies. On the other hand, in the event of partnership/consortium because of non-certification, profits will be shared (though not necessarily equally because certain modules may be carried out abroad). Regarding the waiver window, if this is extended, it could stifle infant indigenous service firms because they may not be able to favourably compete with more established companies including indigenous service companies, let alone foreign firms.

Since the curriculum is not meeting industry demands adequately, limited capacity is available to indigenous service companies as a high cost is incurred in training manpower. Invariably, lack of particular core skills may limit contract awards. However, subjecting this manpower to further training is likely to alleviate the problem of the low standard of education. This would also facilitate their ascension to supervisory and managerial levels, following skill acquisition and experience.

Domiciliation of activities is also likely to lead to increased sub-contract awards for indigenous players, and also increased potential for technological capability through training and entrepreneurship. However, this could also result to difficulty in indigenous start-ups considering that they may not have as much infrastructure and human capability to be at par with their foreign counterparts. As much as indigenisation is expected to help to train indigenous manpower via understudying, the cost implication may place a quota on frequency of these understudies and the amount of manpower that could be sponsored. Invariably, there existing skill gaps may remain.

11.3.4 HE institutions

The limited collaboration between academia and industry is another important finding from which a key implication follows: Academia is not playing any significant role in terms of providing the manpower needed by the industry players. There is, therefore, a disjoint between HE institutions and industry players in the SNA (see Figures 8.2a, 8.2b and 8.2c in chapter nine). In addition, the low standard of education in Nigeria creates a lack of confidence in the quality and ability of graduates in Nigerian institutions, who may end up not being at a par with their international counterparts in terms of skill set.

11.4 RECOMMENDATIONS

Several additional recommendations are put forward based on the findings. Firstly, recommendations to the government and then to other stakeholders are presented.

11.4.1 Government

Following from the findings, clear implications are drawn regarding the government to protect the sovereignty of Nigerians and its natural resources, so as to ensure that these remain in control of Nigerians, irrespective of their knowledge and technical know-how. Whilst recognising the contribution of international players to ‘value addition’, oil and gas activities should be domesticated as much as possible to enhance indigenous participation, employment and the development of the local economy.

The government should also invest in capacity building so as to make the requisite skills available in-country. This investment could be in form of training in specific areas of competency, especially where there are skill gaps. It could also be in areas of project financing and funding local businesses, as well as working in collaboration with IOCs and MSPs to identify new opportunities for local suppliers. In doing this, government should ensure adequate upgrade of facilities needed by these local suppliers to meet the demands of the international players (IOCs and MSPs).

Undoubtedly, the flora and fauna of the Niger-Delta should be well protected. This is a ‘conditio sine qua non’ for the preservation of the eco-system. It is expected that the welfare of inhabitants of the oil producing region should be of paramount importance, so that they can enjoy a healthy life and livelihood whilst exploration and production activities take place in this region. Mechanisms to reduce environmental pollution (like oil spillages and greenhouse gas emissions) to the barest minimum, should be put in place as this issue has been a major cause for various unrests which have been staged in the past by various pressure groups (see Table 10.4).

There is also the need to enhance the participation of host communities in oil and gas activities from upstream to downstream. In addition to contributing to entrepreneurial development and employment among the host communities, this would be beneficial to alleviate poverty, thereby reducing militancy and criminal activities which would be conducive to a safer environment for future development of, and investment in the Nigerian oil and gas industry.

As much as the government are seen as regulators, it is expected that their controlling responsibilities should not be handed to operators as such. Chapter 320 of the NNPC Decree No 33 of 1977, p.2 highlights clear-cut responsibilities of the NNPC. From inception, the government's national oil company had clear responsibilities of:

5.1 (a) working in close relationship with operators for exploring and prospecting for oil

5.1(b) refining, treating, processing and generally engaging in the handling of petroleum for the manufacture and production of petroleum products and its derivatives.

5.1 (c) purchasing and marketing petroleum, its products and by products;

5.1 (d) providing and operating pipelines, tanker-ships or other facilities for the carriage or conveyance of crude oil, natural gas and their products and derivatives, water and any other liquids or other commodities related to the Corporation's operations;

5.1 (e) constructing, equipping and maintaining tank farms and other facilities for the handling and treatment of petroleum and its products and derivatives;

5.1 (f) carrying out research in connection with petroleum or anything derived from it and promoting activities for the purpose of turning to account the results of such research;

5.1 (g) doing anything required for the purpose of giving effect to agreements entered into by the Federal Government with a view to securing participation by the Government or the Corporation in activities connected with petroleum;

5.1 (h) generally engaging in activities that would enhance the petroleum industry in the overall interest of Nigeria;

5.1 (i) Undertaking such other activities as are necessary or expedient for giving full effect to the provisions of this Decree.

Consideration of these responsibilities triggers the question: “*to what extent has NNPC lived up to these remits?*”. The bulk of the crude oil is now refined abroad as production capacity and capacity utilisation rates are low as evidenced by the research findings. Operators now have to acquire pipelines for themselves for their activities. In addition, there is an evident disjoint between the government and HE institutions who are meant to foster R&D in the oil and gas sector (see Figures 8.2a, 8.2b and 8.2c in chapter eight). This is where the issue of government partnering with key stakeholders arises. Therefore, having signed on the NOGIC Act, the government should uphold its responsibilities and prevent a repeat of the limited compliance as seen with the NNPC decree.

The government should also ensure that marginal fields and oil blocks should be awarded on merit. According to Sweetcrude (March 2014 edition), 31 marginal fields are to be awarded soon, for the second time since 2003 when 24 were awarded. However, only 33% success has

been recorded from the 2003 awards. Award of oil blocks should be tied to the development of the downstream sector and other industries in the Agro-allied sector. This should enhance diversification in the economy. Hence, the government should focus on developing Nigeria into a multi-faceted economy via the oil and gas industry.

Considering the state of the educational standard in Nigeria, there is an urgent need for the government to overhaul the educational sector so as to provide the necessary infrastructure, and up-to-date theoretical and practical materials which will enhance the quality of graduates turned out by the HE sector. The universities and other institutions of learning should be funded adequately and provided with up-to-date equipment so as to produce the quality of graduates required by the oil and gas industry. This will also reduce “brain drain” a situation whereby the government loses competent and bright manpower to foreign institutions as a result of better facilities and/or better monetary rewards.

The government should provide necessary facilities and assistance alongside putting pressure on commercial banks to make available adequate medium to long term loans to indigenous players. This should reduce the cost of doing business, and also promote a more friendly business environment, which is a path to LCD.

Whilst the 2010 LCD target of 75% was not achieved, the government should work towards setting another target and evaluation systems (KPIs included) in the future. There ought to be transparency and fairness on the part of government in setting these targets. It is also expected that there ought to be sanctions and penalties on any stakeholder for deviations and breaches of any laid down plan or law.

Having stated this, adequate structures will need to be put in place to persuade foreign investors to domicile activities in-country. A situation whereby about 4000MW of average daily power supply services a population of about 160 million denotes, still, a highly insufficient level of infrastructural development. This is because power supply is a key determinant factor for in-country investment.

In addition, there is a need for the country’s overall business climate to be improved to facilitate FDI and domiciliation. Aspects of corruption in relation to entry of foreign investors (only touched upon in this thesis) need to be addressed vigorously. Other areas of corruption such as sabotage, embezzlements and formation of oil cabals which have plagued the Nigerian oil industry in the past should be properly checked. Of particular importance is the

security of lives and property. These are aspects that also determine entrepreneurship emergence and development.

More generally, the government should properly assume their responsibility as regulators by ensuring the supervision and monitoring of the policy guidelines. This is to ensure that stakeholders conform to the laid down rules of the policy and operate accountably to government. Realistic considerations in terms of specific targets should be considered. In addition, the PIB should be harmonised with the NOGIC Act when it is eventually passed. This is because the PIB is a key determinant to FDI. Overall, the security of life and assets should be guaranteed through institutional processes and good governance.

11.4.2 Other stakeholders

In order to ensure development of indigenous players (operators and service providers) bureaucratic bottlenecks and red tape should be removed in both registration and bidding processes and in fact, lessening the pre-qualification, tender and bidding requirements whilst maintaining high quality standards. This is likely to encourage indigenous players to bid alongside their foreign counterparts.

Also, IOCs, as part of their contribution towards LCD should set up training centres which would adequately cater for both theoretical and technical needs of potential indigenous manpower in the industry.

As part of technological transfer, IOCs should involve the participation of local manpower in technical activities from inception to completion so as to enhance development of core skills. In the same vein, IOCs should assist indigenous design firms in areas such as skill acquisition, infrastructural development and even fund them when the need arises, so as to enhance their capacity to participate in various projects ranging from onshore to deepwaters.

Regarding service delivery, indigenous firms should step up the quality of their projects and service delivery so as to meet international standards. It is expected that engaging in up-to-date training and appraisals as well as partnering with international firms will enhance their capability and technical know-how.

HE institutions should seek to partner with other institutions abroad for collaborative purposes such as exchange programme for students, R&D, and knowledge dissemination through face-to-face contact, printed materials or other means such as e-learning technology.

Regarding funding, the institutions should seek creative options to raise funds. For example, via Internally Generated Revenue (IGR) from commercial ventures within the institutions, research projects and grants as well as spin-off companies emerging from projects within the institutions. Vibrant alumni network may also help in seeking financial assistance.

Finally, it also appears plausible to suggest that Nigeria should avoid developing local suppliers in the oil industry at the expense of other investments in other potentially valuable industries from the standpoint of job creation. While this industry does, of course, constitute the driving sector for economic growth, it should be recognised that this industry is more capital than labour intensive and it is an industry susceptible to the cyclical nature of the petroleum business¹⁰. Hence, an economic development strategy that centres on diversification of the economy should be just as important as expanding local content in the oil and gas sector.

11.5 CONTRIBUTION TO KNOWLEDGE

This thesis makes several significant contributions to knowledge and theory.

First, although some work has been done in relation to local content and capacity development, there is still a dearth of information in this area, especially regarding Nigerian LCD. Prior literature has considered LCD in Nigeria from the angle of capacity utilisation (Bakare, 2011); entrepreneurship (Ihua *et al.*, 2011) and legal implication (Nwaokoro, 2011) amongst others. In terms of policy appraisal, no particular author has set out primarily to appraise the policy, and the few studies attempting to do so have not evaluated its efficacy in terms of employment and job creation in any depth.

The few past studies considering LCD have only focussed on, at most, three stakeholder groups at a time. This thesis redirects attention to the crucial role which stakeholders play in enhancing the achievement of the local content objectives. Furthermore, the primary aim was to appraise stakeholders and as such, having identified 16 stakeholder groups from the start, 8 of them were finally appraised in full, following the categorisation of these stakeholder groups with respect to the research question. This research clearly shows that any future study cannot afford to overlook the roles of the stakeholder groups involved in driving the policy.

¹⁰ As evidenced by other countries such as the US, which over the years has experienced strong bursts of activity followed by periods of reduced investment and employment, a cyclical effect compounded by volatile commodity prices.

Secondly, the study contributes to knowledge by demonstrating how stakeholder theory can be usefully applied to appraise public policies. The author only found two past studies which have adopted stakeholder theory to appraise public policy (Reed *et al.*, 2009; Bailur, 2006). Therefore, adopting stakeholder theory as the main framework of analysis for this research provides a useful blueprint for future applications. In this context, it helped to shed light on the roles and responsibilities of each of these stakeholder groups, setting the path to LCD.

Thirdly, in spite of the fact that the theory of entrepreneurship was not the main theory that underpinned the study, the findings regarding entrepreneurial emergence in the Nigerian oil and gas industry also provided an understanding of the rationale for such emergence, suggesting that entrepreneurial emergence in the oil and gas industry is a mixture of both necessity and opportunity.

Finally, the findings of the research have revealed various areas that need to be strengthened by various stakeholder groups for the LCD policy to come to full fruition and significantly enhance indigenous employment and job creation. By revealing areas of disjoint in interrelationships, the findings should also be of significance to practitioners and stakeholder groups alike so as to bridge the existing relational gaps and thus achieve the main thrust of the policy - indigenous employment and job creation.

11.6 LIMITATIONS AND AVENUES FOR FURTHER RESEARCH

Notwithstanding the contribution of the findings uncovered by this study, several limitations should be acknowledged. First, the data used was limited not only to the selected stakeholder groups, but to specific respondents (experts in the area of LCD). The research relied on the perception of a single respondent from each company. In as much as the researcher can confidently reject any concerns relating to single informant bias, the researcher cannot completely rule out the possibility that multiple respondents from within the same company would have somewhat improved the validity of the data. However, for issues related to subject expert constraints as discussed earlier (see chapter 7), the research was designed to interview one respondent per company from the start. Given that this area is still relatively new, it had to be a respondent knowledgeable in the research area hence, the number of participants available to take part in the study was inevitably limited.

The methodological approach allowed the research to draw clear boundaries around the central aspect of LCD; focussing on 'indigenous employment and job creation'. This is because an attempt to carry out a complete appraisal of all the sub objectives of the LCD

policy using a stakeholder analysis, given the time constraint of a PhD thesis, would not have allowed for sufficient depth to be reached.

Although the author justified the rationale for carrying out telephone interviews, lack of face-to-face access still posed some limitations in that visual cues were absent. In as much as cogent justifications were put forward for adopting telephone interviews as the main method for data collection, one cannot exclude that face-to-face interviews could have helped strengthen conversations, perhaps leading participants at some point during the interview to become freer with the interviewer, thus giving more in-depth information, especially with regard to the sensitive issue of security. Future studies could investigate the issues surrounding security in the Nigerian oil and gas industry in more depth, and examine in more detail the impact of this on capacity building and LCD.

Snowball sampling within the context of this research was found to be the most appropriate method for recruiting participants. However, one cannot rule out the possibility that some of the participants might have concealed some vital pieces of information. Following from issues regarding concealment, statistical databases in Nigeria appear to be relatively weak and very basic. As such, even in cases where data were available, accessing these data required personal relationship in organisations. In the course of this research, the researcher observed that some of the data required were not even available on Nigerian databases, but were found in international databases. Generally, the 'data culture' of Nigeria is very poor.

Although to ensure reliability and validity in this research, the majority of the measurement scales employed were subjected to rigorous evaluation (see discussion in methodology chapter), with most of these items having been used in one form or another in previous studies, a number of items were originally developed by the author, as such, these have not been tested before. However, it should be noted that this study is one of the first that has carried out a stakeholder analysis in the Nigerian oil and gas industry. Moreover, through triangulation, the primary data obtained was complemented by data obtained from documentary sources and other secondary statistical data used in this study, thus increasing the confidence that can be placed upon the patterns emerging from the data.

Given that the target respondents for this research were mainly top executives, accessibility posed a challenge, especially because of bureaucratic bottlenecks. In some cases, accessing local content managers or other relevant respondents required several days or even months of waiting. Moreover, some of the intended respondents eventually declined participating. One

main reason for declining to take part in the study was related to issues of security. Because some of these respondents were recruited by snowballing, the participants might have been unsure of the identity of the researcher and as such may not have been prepared to 'divulge' oil and gas information which is considered as very 'sensitive'.

Notwithstanding the above, given the time constraints, the researcher could not accommodate any more interviews (many of which had to be re-scheduled more than four times). However, the respondents were adequately spread across the eight stakeholder groups. In terms of statistical analysis, data availability permitting, a much more comprehensive model and more sophisticated econometric techniques could be employed.

Despite the limitations highlighted above, the findings of this thesis provide useful insights for the direction of the policy and whilst the thesis represents an initial step towards enhancing scholars and practitioners' understanding of the implications of the LCD policy, additional research is certainly needed for evaluating its efficacy.

REFERENCES

- ABDULLAHI, A., 1984. The Problems and Prospects of the Green Revolution for Agricultural and Rural Development of Nigeria. *The Green Revolution in Nigeria; Institute for Agricultural Research, Samaru, ABU – Zaria*. 1-8.
- ACCENTURE, 2008. Developing Local Content Programs. *Press Document*. 1-8.
- ACCI, 2011. Local Content Report. 1-31.
- ACKERMANN, F., and EDEN, C., 2011. *Making Strategy: Mapping out Strategic Success*. London: SAGE 2nd ed.
- ACSS Z.J., and SZERB, L., 2007. Entrepreneurship, Economic Growth and Public Policy. *Small Business Economics* (28)2-3: 109-122.
- ACS, Z.J., BRAUNERHJELM, P., AUDRETSCH, D.B., and CARLSSON, B.O., 2009. The knowledge of Spillover Theory of Entrepreneurship. *Small Business Economics* (32): 15–30.
- ADEBOLA, D.F., OKORO, J.O., NWASIKE, O.T., 2006. Building Local Capability: A Case Study of Agbami Project. *Paper Presentation at the 30th SPE Annual International Conference and Exhibition (NAICE) held in Abuja, Nigeria 31st July – 2nd August 2006*.
- ADEFULU, A., 2011. Nigerian Local Content Policy. An Analytical Report. *Barristers, Solicitors and Notaries Public*: 1-24.
- ADES, ALBERTO, and DI TELLA, R., 1999. Rents, Competition, and Corruption. *American Economic Review*: 982-993.
- ADESOJI, D.J., 2010. The Correlates of Public Housing Satisfaction in Lagos, Nigeria. *Journal of Geography and Regional Planning* (3)2: 17-28.
- ADEYEMO, S. A., OGUNLEYE, A. O., OKE C. O., and ADENLE S. O., 2010. A survey of factors determining the Employability of Science and Technology Graduates of Polytechnics and Universities in the Nigerian Labour Market. *Journal of Science and Technology Education Research* (5)1: 99 – 106.
- ADJEBENG-ASEM, S., 1990. Technical Entrepreneurship and Socio-economic Development: The Nigerian Experience. *Technovation* (10)4: 213-234.
- ADUKE, A.F., 2008. Usage and Challenges of Information Communication Technology (ICT) in Teaching and Learning in Nigerian Universities. *Asian Journal of Information Technology*: 290-295.
- AGHION, P., and HOWITT, P., 1997. *Endogenous Growth Theory*. The MIT Press Cambridge, Massachusetts London, England.
- AIGBEDION, I., and IYAYI, S. E., 2007. Environmental Effect of Mineral Exploitation in Nigeria. *International Journal of Physical Sciences* (2)2: 33-38.

- AJAYI, K., and ADENIJI, A.A., 2008. Graduate Unemployment in Nigeria: A Blind Spot in the Nation's Educational System. *The African Symposium*.
- AKINBAMI, J.F.K., ILORI, M.O., OYEBISI, T.O., AKINWUMI, I.O., and ADEOTI, O., 2001. Biogas Energy use in Nigeria: Current Status, Future Prospects and Policy Implications. *Renewable and Sustainable Energy Reviews* (5)1: 97–112.
- ALAO, R.O., 2010. Productivity in the Nigerian Manufacturing Sub-Sector: An Error Correction Model (ECM) *European Journal of Economics, Finance and Administrative Sciences* (20): 25-33.
- ALI, H., and BIRLEY, S., 1999. Integrating Deductive and Inductive Approaches in a study of New Ventures and Customer Perceived Risk. *Qualitative Market Research: An International Journal* (2)2: 103 – 110.
- AMEH, M.O., 2006. The Shift from Joint Operating Agreements to Production Sharing Contracts in the Nigerian Oil Industry: Any Benefits for the Players? *Energy Law and Policy CEPMLP* 1-15.
- ANDERSEN, S.S., 1991. *The struggle over North Sea Oil and Gas: Government Strategies in Denmark, Britain, and Norway*. Scandinavian University Press (Oslo and Oxford and New York).
- ANEKE, P., 2002. The role of major Operators in the Development of Local Content in the Nigerian Oil and Gas Industry'. *A paper delivered during a National Seminar on the dynamics of Equipment Leasing and Contract Financing for Local Contractors in the Oil and Gas Sector*. Port Harcourt, Nigeria.
- ANP, 2010. Local content in Brazilian Oil & Gas industry. National Agency of Petroleum, Natural Gas and Biofuels – ANP.
- ANUWA, S.A.S., 2005. Financing options for Small and Medium Scale Enterprises in Nigeria. *Nigerian Defence Academy, Kaduna*: 1-12.
- ANYANWU, C. M., 2004. Productivity in the Nigerian Manufacturing Industry. *Central Bank of Nigeria series*: 124-136.
- APPLETON, J.V., and COWLEY, S., 1997. Analysing Clinical Practice Guidelines. A method of Documentary Analysis. *Journal of Advanced Nursing* (25): 1008-1017.
- AREMU, M. A., and ADEYEMI, S.L., 2011. Small and Medium Scale Enterprises as a Survival Strategy for Employment Generation in Nigeria. *Journal of Sustainable Development* (4)1: 200-206.
- ARINZE, P.E., 2011. The impact of Oil Price on the Nigerian Economy. *Journal of Research in National Development (JORIND)* (9)1: 211-215.
- ARIZONA OGWU 2007. Oil and Gas Local Content Policy: Challenging the Limelight of Nigeria's Technology.
- ARIWERIOKUMA, S., 2008. *The Political Economy of Oil and Gas in Africa: Tthe case of Nigeria*. Routledge.

- ARKSEY, H., and KNIGHT, P.T., 1999. *Interviewing for Social Scientists*. SAGE, London
- ARTANA, D., AUGUSTE, S., MOYA, R., SOOKRAM, S., and WATSON, P., 2007. Trinidad and Tobago: Economic Growth in a Dual Economy. *Inter-American Development Bank*: 1-87.
- ARTUS, J. R., 1970. The short-run effects of Domestic Demand Pressure on British Export Performance. *Staff Papers* (17): 247-76.
- ASUNI, J.B., 2009. Understanding the Armed Groups of the Niger Delta. *Working paper; Council on Foreign Relations*.
- ATKINSON, G., and HAMILTON, K., 2003. Growth and the Resource Curse Hypothesis *World Development* (31)11: 1793–1807.
- AUTIN, D. B., and TIJANI, A., 2007. Erha and Erha North Development: setting the pace for Nigerian Content. *Offshore Technology Conference* 1-10.
- AUTY, R.M., and MIKESELL, R.F., 1998. *Sustainable development in mineral economies*. Oxford: Clarendon Press.
- AWOGBENLE, A.C., and IWUAMADI, K.C., 2010. Youth unemployment: Entrepreneurship Development Programme as an Intervention Mechanism. *African Journal of Business Management* (4)6: 831-835.
- AYINDE, O. E., 2008. Empirical Analysis of Agricultural Growth and Unemployment in Nigeria. *African Journal of Agricultural Research* (3)7: 465-468.
- AYODELE, O.R., and FRIMPONG, S., 2003. Economics of Nigerian Marginal Oil Fields. SPE Hydrocarbon Economics and Evaluation Symposium, Dallas, Texas. *Society of Petroleum Engineers*. 1-14.
- BAGCHI, S., and PAL, D., 2003. Entrepreneurship and Indian Economy: Role of Government Policies in Entrepreneurship Development.
- BAILEY, K., 1994. *Methods of Social Research*, Fourth Edition, New York: The Free Press.
- BAILUR, S., 2006. Using Stakeholder Theory to analyse Telecenter Projects. *The Massachusetts Institute of Technology Information Technologies and International Development* (3)3: 61–80.
- BAKARE, A.S., 2011. Local Content Policy in Oil Sector and the Capacity Utilization in Nigerian Manufacturing Industry. *Business and Management Review* (1)6: 82 – 92.
- BALLANTYNE, P., 2002. Collecting and Propagating Local Development Content; Synthesis and Conclusions. *Research report 7*: 1-17.
- BARBOUR, R., 2008. *Doing Focus Groups*. Sage Publications,

- BARCLAY, L.A., 2003. FDI Facilitated Development: The case of Natural Gas Industry of Trinidad and Tobago. *Discussion Paper Series*: 1-48.
- BARRELL, R., and PAIN, N., 2011. Foreign Direct Investment, Technological Change, and Economic Growth within Europe. *The Economic Journal* (445)107: 1770-1786.
- BARROWS, R., and ROTH, M., 1990. Land Tenure and Investment in African Agriculture: Theory and Evidence. *The Journal of Modern African Studies* (28): 265-297.
- BARTLETT, C.A., and GOSHAL, S., 1998. Managing across borders: The Transnational Solution. *The Journal of the National Committee on American Foreign Policy*: 20 -22.
- BASEDAU, M., 2005. Context Matters - Rethinking the Resource Curse in Sub-Saharan Africa. *Working Papers Global and Area Studies* (1): 1-46.
- BECK, T., DEMIRGÜÇ-KUNT, A., and LEVINE, R., 2003. Small and Medium Enterprises, Growth and Poverty: Cross-Country Evidence. *World Bank Policy Research Working Paper* 3178: 6 -16.
- BELDERBOS, R., CAPANNELLI, G., and FUKAO, K., 2000. The Local Content of Japanese Electronics Manufacturing Operations in Asia. *East Asian Economic Development* (9): 1-15.
- BHATIA, R.J., and KHATKHATE, D., 1975. Financial Intermediation, Savings Mobilization, and Entrepreneurial Development: The African Experience. *Staff papers - International Monetary Fund* (22)1: 132-158.
- BIGGS, S., and MATSAERT, H., 1999. An Actor-Oriented Approach for strengthening Research and Development Capabilities in Natural Resource Systems. *Public Administration and Development* 19: 231-262.
- BIGGS, S., and MATSAERT, H., 2004. Strengthening Poverty Reduction Programmes using an Actor-Oriented Approach: Examples from Natural Resources Innovation Systems. *Network Paper* 134: 1-23.
- BLAIKIE, N., 1993. *Approaches to Social Enquiry*. Published Cambridge: Polity Press.
- BLOCK, J., and SANDNER, P., 2009. Necessity and Opportunity Entrepreneurs and their duration in Self-Employment: Evidence from German Micro Data. *Journal of Industry Competition and Trade* (9)2: 117-137.
- BLOCK, J., and WAGNER, M., 2006. Necessity and Opportunity Entrepreneurs in Germany: Characteristics and Earnings Differentials. *Munich University Library in Germany*.
- BLUMBERG, B., COOPER, D., and SCHINDLER, P. S., 2005. *Business Research Methods*, McGraw-Hill Education.
- BMI 2012. Nigeria Oil and Gas Report: 3rd and 4th Quarter, *Part of BMI's Industry Report & Forecasts Series* 3 & 4: 1-112.
- BMI 2013. Nigeria Oil and Gas report: 1st to 4th Quarter. *Part of BMI's Industry Report & Forecasts Series* 1/2/3/4: 1-137.

- BP, 2011. BP Statistical Review of World Energy. Available from http://www.bp.com/assets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2011/STAGING/local_assets/pdf/statistical_review_of_world_energy_full_report_2011.pdf. [Accessed on January 30, 2013].
- BP, 2012. BP Statistical Review of World Energy Available from http://www.bp.com/assets/bp_internet/globalbp/globalbp_uk_english/reports_and_publications/statistical_energy_review_2011/STAGING/local_assets/pdf/statistical_review_of_world_energy_full_report_2012.pdf [Accessed on January 17, 2013].
- BRISBE, T., 2011. Global Local Content Summit, *September 2011, London*.
- BROWN, J.A., and FORSTER, W.R., 2013. CSR and Stakeholder Theory: A tale of Adam Smith. *Journal of Business Ethics* 112: 301–312.
- BRUGHA, R., and VARVASOVSKY, Z., 2000. Stakeholder Analysis: A Review. *Health, Policy and Planning* (15)3: 239-246.
- BRYMAN, A., 2008. *Social Research Methods* 3rd ed. London: OUP.
- BRYMAN, A., and BELL, E., 2007. *Business Research Methods* 2nd ed Oxford University Press.
- BRYMAN, A., and BELL, E., 2011. *Business Research Methods* 3rd ed Oxford University Press.
- BRYMAN, A., 2008. *Social Research Methods*. 3rd ed. Oxford University Press.
- BRYSON, J.M., 2004. What to do when Stakeholders Matter: Stakeholder Identification and Analysis Techniques. *Public Management Review* 6(1): 21–53.
- BURRELL, B., and MORGAN, G., 1979. *Sociological paradigms and organisational analysis*. UK: Heinmann.
- BURNARD, P. 1994. The Telephone Interview as a Data Collection Method. *Nurse Education Today* 14: 67–72.
- BURNEY, A., 2008. Inductive and Deductive Research Approach. *An International Journal for Teachers*, Oxford University Press.
- BUSINESSDAY, 2013. Nigeria's Refining Capacity to hit 800,000bpd by 2017. Available from <http://businessdaynigeria.com/nigeria-s-refining-capacity-hit-800000bpd-2017>. [Accessed on July 15, 2013].
- CARR, E.C., 1999. Talking on the Telephone with people who have experienced pain in hospital: Clinical Audit or Research? *Journal of Advanced Nursing* 29: 194–200.
- CARR, E.C., and WORTH, A., 2001. The use of the Telephone Interview for research. *Journal of Research in Nursing* 6: 511–524.
- CASELLI, F., and MICHAELS, M.G., 2009. Do Oil Windfalls improve Living Standards? Evidence from Brazil. *NBER Working Paper No. 15550*: 1-43.

- CBN, 2012. Economic Report, August 2012. *Central Bank of Nigeria Publication* 1-53.
- CCI., 2011. Local Content Policy Position Advocacy – February 1-8.
- CGD, 2013. Nigerian debt relief. Available from <http://international.cgdev.org/initiative/nigerian-debt-relief>. [Accessed on September 09, 2013].
- CHANDOOL, C., 2011. Oil and Gas and the environment in Trinidad and Tobago: Experience and Challenges. *Conference Proceedings Annual Meeting of the International Association for Impact Assessment Centro de Convenciones, Puebla – Mexico*. 1-5.
- CHAO, C., and YU, E. S.H., 1993. Content Protection, Urban Unemployment and Welfare. *The Canadian Journal of Economics* (26)2: 481-492.
- CHAPPLE, A., 1999. The use of Telephone Interviewing for Qualitative Research. *Nurse Researcher* 6: 85–93.
- CHEVRON, 2011. Chevron Nigeria Limited 2010 Corporate Responsibility Report: People, Partnership and Progress. *Chevron Publication*. 1-15.
- CHIEMEKE, S., LONGE, O.B., LONGE, F.A., SHAIB, I.O., 2009. Research Outputs from Nigerian Tertiary Institutions: An Empirical Appraisal. *Library Philosophy and Practice* 1-10.
- CHINN, M.D., and ITO, H., 2006. What Matters for Financial Development? Capital Controls, Institutions, and Interactions. *Journal of Development Economics* 81: 163 – 192.
- CHINWEZE, C., ABIOLA-OLOKE, G., ONYERI, I., KENNEDY-ECHETEBU, C., and JIDEANI, C., 2012. Oil and Gas activities and the Nigerian Environment. Conference Proceedings' Energy Future. The role of Impact Assessment. *32nd Annual Meeting of the International Association for Impact Assessment 27 May- 1 June 2012, Centro de Congresso da Alfândega, Porto - Portugal (www.iaia.org)*.
- CHRISTIANO, L.J., 1981. A Survey of Measures of Capacity Utilisation: *Staff Papers - International Monetary Fund* (28)1: 144-198.
- CHUKWU, P.O., 2009. Joint Venture and Production Sharing Contracts. *Conference Paper* 1-10.
- CHURCHILL JR., G.A., 1979. A Paradigm for developing better Measures of Marketing Constructs. *Journal of Marketing Research* (16)1: 64-73
- CLARKSON, M., 1995. A Stakeholder Framework for Analysing and Evaluating Corporate Social Performance. *Academy of Management Review* (20) 1: 92–117.
- CNN, 2013. Christine Amanpour interviews Dr Ngozi Okonjo-Iweala. Available from <http://www.youtube.com/watch?v=PQgYThXydSg>. [Accessed on July 6, 2013].

- COFFEY, W.J., and POLÈSE, M., 1984. The concept of Local Development: A Stages Model of Endogenous Regional Growth. *Papers in Regional Science* (55)1: 1–12.
- COHEN, D., 2006. Crabtree B. Qualitative Research Guidelines Project. Available from <http://www.qualres.org/HomeSemi-3629.html> [Accessed on November 22, 2012].
- COLEMAN, J.S., 1959. Relational Analysis: The study of Social Organisations with Survey Methods. *Human Organization* (17) 4: 28-36.
- COLLIER, P., and GODERIS, B., 2008. Commodity Prices, Growth, and the Natural Resource Curse: Reconciling a Conundrum. *Social Science Research Network*. 11-45.
- COLLIS, J., and HUSSEY, R., 2009. *Business Research: A practical guide to Undergraduate and Postgraduate students*. 3rd (ed). Published Basingstoke.
- COOPER, D.R and SCHINDLER, P.S., 2008. *Business Research Methods* 10th ed. London: McGraw-Hill.
- COTKIN, G., 1994. Middle-Ground Pragmatists: The Popularization of Philosophy in American Culture. *Journal of the History of Ideas Inc* (55) 2: 283-302.
- COURSON, E., 2009. Movement for the Emancipation of the Niger Delta (MEND) Political Marginalization, Repression and Petro-Insurgency in the Niger Delta. *Discussion paper* 1-32.
- CRES., 2008. Skills Shortages in the Global Oil and Gas Industry: How to close the gap Part II. Case Studies : Nigeria-Angola. *Centre De Recherches Entreprises Et Societes* 1-97.
- CRESWELL, J. W., 2003. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 2nd (ed). Published Thousand Oaks; London: SAGE 2003.
- CRESWELL, J. W., 2008. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. 3rd (ed). Published Thousand Oaks; London: SAGE 2003.
- CROOKS, D. L., 2001. The importance of Symbolic Interaction in Grounded Theory Research on Women's Health. *Health Care for Women International* (22): 11–27.
- CROUCH, G.I., and RITCHIE, J.R.B., 1999. Tourism, Competitiveness and Societal Prosperity. *Journal of Business Research* (44)3: 137-152.
- CUMMINGS, J.L., and DOH, J.P., 2000. Identifying Who Matters: Mapping Key Players in Multiple Environments. *California Management Review*, (42) 2, 83-104.
- DABALEN, A., ONI, B., and ADEKOLA, O. A., 2000. Labour Market Prospects for University Graduates in Nigeria. *The Nigeria University System Innovation Project Study*.
- DAINTY, A.R.J., STEPHEN G.I., and DAVID S.R., 2004. Bridging the Skills Gap: A Regionally Driven Strategy for resolving the Construction Labour Market Crisis. *Engineering, construction and architectural management* (11)4: 275–283.

- DAVIES, R., 2005. Scale, Complexity and the Representation of Theories of Change Part II. *SAGE Publications London* (11) 2: 133–149.
- DEMIRGUC-KUNT, A.T., and AYYAGARI, M., 2003 Small and Medium Enterprises across the Globe: A new Database. *Research Working papers* (1) 1: 1-34.
- DE VAUS, D., 2002. *Surveys in Social Research*, Australia: Allen and Unwin.
- DEW, K., 2005. Documentary Analysis in CAM research: Part 1. *Complementary Therapies in Medicine* (13): 297—302.
- DEW, K., 2006. Documentary Analysis in CAM research: Part 2. *Complementary Therapies in Medicine* (14): 77-80.
- DHRYMES, P.J., 1971. Distributed Lags: Problems of Estimation and Formulation.
- DONALDSON, T., and PRESTON, L E., 1995. The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications. *The Academy of Management Review* (20)1: 65-91.
- EASTERBY-SMITH, M., LOWE, A., and THORPE, R., 2002. *Management Research*. 2nd (ed). Published London.
- EBEGBULEM, J.C., EKPE, D., ADEJUMO, T.O., 2013. Oil Exploration and Poverty in the Niger Delta Region of Nigeria: A Critical Analysis. *International Journal of Business and Social Science* (4) 3: 279-287.
- EBEKU, K.S.A., 2008. Niger Delta Oil, Development of the Niger Delta and the new Development Initiative: Some reflections from a Socio-Legal Perspective. *Journal of Asian and African Studies* (43): 399.
- EJIBUNU, H.T., 2007. Nigeria's Niger Delta Crisis: Root Causes of Peacelessness. *EPU Research Papers* (7)7: 1-41.
- EKONG, P.S., DUCHEYNE, E., CARPENTER, T., OWOLODUN, O.A., OLADOKUN, A. T., LOMBIN, L.H., and BERKVEN, D., 2012. Spatio-temporal Epidemiology of Highly Pathogenic Avian Influenza (H5N1) outbreaks in Nigeria, 2006–2008. *Preventive Veterinary Medicine* (103)2–3: 170–177.
- EKPENYONG, D.B., and NYONG, M.O., 1992. Small and Medium-Scale Enterprises in Nigeria: Their Characteristics, Problems and Sources of Finance. African Economic Research Consortium, Nairobi. *AERC Research Paper* 16: 6-30.
- ELVIDGE, C., SUTTON, P.C., TILOTTAMA, G., TUTTLE, B.T., BAUGH, K.E., BHADURI, B., and BRIGHT, E., 2009. A Global Poverty Map derived from Satellite Data. *Computers & Geosciences* (35)8: 1652-1660.
- EMMANUEL, A.O., OLAYIWOLA, J.J., and BABATUNDE, A.W., 2009. Poverty, Oil Exploration and Niger Delta Crisis: The Response of the Youth. *African Journal of Political Science and International Relations* (5)3: 224-232.

- EMOLE, C.E., 1996. The Petroleum (Amendment) Decree, 1996, of Nigeria. *Journal of African Law* (41) 2: 239-245.
- ENERGY INSTITUTE, DELOITTE, and NORMAN BROADBENT, 2008. Skills Needs in the Energy Industry. *A Report on the initial findings of three surveys conducted by Energy Institute, Deloitte and Norman Broadbent* 1-32.
- ESHETT, E.T., OMUETI, J.A.I., and JUO, A.S.R., 1989. Soil Properties and Mineralogy in relation to Land Use on a Sedimentary Toposequence in South-Eastern Nigeria. *The Journal of Agricultural Science* (112)03: 377-386.
- ESTEVEZ, A.M., and BARCLAY, M., 2011. Enhancing the benefits of Local Content: Integrating Social and Economic Impact Assessment into Procurement Strategies. *Impact Assessment and Project Appraisal* (29)3: 205–215.
- EHWARIEME, W., 2010. Contending Issues in the Niger Delta Crisis of Nigeria. Part of the Conflict and Development Series. *Journal of alternative perspectives in the social sciences, Inc*: 95-122.
- EWEJE, G., 2007. Multinational Oil Companies' CSR Initiatives in Nigeria: The Scepticism of Stakeholders in Host Communities. *Managerial Law* (49)5/6: 218-235.
- EVANGELISTA, R., and SAVONA, M., 2003 Innovation, Employment and skills in Services. Firm and Sectoral Evidence. *Structural Change and Economic Dynamics* (14)4: 449–474.
- EZEDINMA, C., and CHUKUEZI, C., 1999. A Comparative Analysis of Urban Agricultural Enterprises in Lagos and Port Harcourt, Nigeria. *Environment and Urbanization* (11)2: 135-144.
- EZIRIM, A.C., OKEKE. C.T and EBIRIGA, O.T., 2010. A Review of the Economic and Market-Oriented Business Reforms. *Journal of Sustainable Development in Africa* (12)4: 58-71.
- FAGBADEBO, O., 2007. Corruption, Governance and Political Instability in Nigeria. *African Journal of Political Science and International Relations* (1)2: 28-37.
- FLORIDA, R. L., and KENNEY, M., 1988. Venture Capital, High Technology and Regional Development. *Regional Studies* (22)1: 33-48.
- FRB, 1994. Capacity Utilisation and U.S Inflation: Past and Prospective Causes of High Employment. *Economic Review Fourth Quarter*.
- FREEMAN, R.E., 1984. *Strategic Management: A Stakeholder Approach*. New York, NY, USA: Basic Books.
- FREEMAN, R.E., and REED, D.L., 1983. Stockholders and Stakeholders: A new perspective on Corporate Governance. *California management review* (25): 88-106
- FREEMAN, R.E., WICKS, A.C., and PARMAR, B., 2004. Stakeholder Theory and the Corporate Objective Revisited. *Organization science* (15)3: 364–369.

- FRIEDMAN, M., 1970. The Social Responsibility of Business is to increase its profits. *New York Times Magazine* September 13, 1970: 210-227.
- FRIEDMAN, A.L., and MILES, S., 2002. Developing Stakeholder Theory. *Journal of Management Studies* (39)1: 1–21.
- FRIEDMAN, A.L., and MILES, S., 2006. *Stakeholders: Theory and Practice*. Oxford University Press
- FRYNAS, J.G., 2005. The False Developmental Promise of Corporate Social Responsibility: Evidence from Multinational Oil Companies. *International Affairs* (81)3: 581-598.
- GARBETT, R., and MCCORMACK, B., 2001. The Experience of Practice Development: An Exploratory Telephone Interview Study. *Journal of Clinical Nursing* 10: 94–102.
- GARUBA, O., and DAUDA, S., 2010. Trans-Border Economic Crimes, Illegal Oil Bunkering and Economic Reforms in Nigeria. *Policy Brief Series. Global Consortium on Security Transformation*
- GBOSI, A.N., 1997. Chronic Unemployment in Nigeria. *International Journal of Employment Studies* (5)1: 55-159.
- GBOYEGA, A., SØREIDE, T., MINH LE, T., and SHUKLA, G.P., 2011. Political Economy of the Petroleum Sector in Nigeria. *Policy Research Working Paper 5779, The World Bank, Africa Region*.
- GILBERT, B., 2007. Gas Flaring Emission Contributes to Global Warming. *Renewable Energy Research Group Luleå University of Technology Sweden* 1-14.
- GLASS, G.V., 1976. Primary, Secondary, and Meta-Analysis of Research. *Educational researcher* (5)10: 3-8.
- GOLAFSHANI, N., 2003. Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report* (8)4: 597-607.
- GOODPASTER, K.E., 1991. Business Ethics and Stakeholder Analysis. *Business Ethics Quarterly* (1)1: 53-73.
- GORSUCH, R.L., 1997. Exploratory Factor Analysis: It's role in Item Analysis. *Journal of Personality Assessment* (68)3: 532-560.
- GRAFANAKI, 1996. How research can change the researcher: The need for Sensitivity, Flexibility and Ethical Boundaries in conducting Qualitative Research in Counselling/Psychotherapy. *British Journal of Guidance and Counselling*. (24)3: 329-338.
- GRANOVETTER, M., 1973. The Strength of Weak Ties. *American Journal of Sociology* (78): 1360-1380.

- GRAY, D.E., 2004. *Doing Research in the Real World*. London : SAGE 2004.
- GRAY, D.E., 2009. *Doing Research in the Real World*. London 2nd ed.: SAGE 2009.
- GREEN, J., and THOROGOOD, N., 2009. *Qualitative Methods for Health Research*. 2nd ed. London: Sage Publications.
- GRIFFIN, K., 1970. Foreign Capital, Domestic Savings and Economic Development. *Bulletin of the Oxford University Institute of Economics & Statistics* (32): 99–112.
- GRIMBLE, R., and CHAN, M.K., 1995. Stakeholder Analysis for Natural Resource Management in Developing Countries: Some Practical Guidelines for making Management more Participatory and Effective. *Natural resources forum* (19): 113-124.
- GROSSMAN, G.M., 1981. The Theory of Domestic Content Protection and Content. *The Quarterly Journal of Economics* (96)4: 583-603.
- GROVE, A. T., 1958. The Ancient Erg of Hausa Land, and similar formations on the South Side of the Sahara. *The geographical journal* (124)4: 528-533.
- GUEST, G., BUNCE, A., and JOHNSON, L., 2006. How many interviews are enough? : An Experiment with Data Saturation and Variability. *Family Health International* (18): 59-82.
- GUILHOTO, J.J.M., ICHIHARA, S.M., POSTALI, F.A.S., REGUEIRA, K.W.D., CANELAS, A., DA FONSECA, M.M., and CUNHA, N., 2007. The Oil and Gas Sector in the Brazilian Economy. *Paper presented at the 16th International Input-Output Conference 2 – 6 July, 2007, Istanbul, Turkey*: 1-28.
- HAIDER, A., and BIRLEY, S., 1999. Integrating Deductive and Inductive Approaches in a study of New Ventures and Customer Perceived Risk. *Qualitative Market Research: An International Journal* (2)2: 103-110.
- HAIR, J., ANDERSON, R., TATHAM, R., and BLACK, W., 1998. *Multivariate Data Analysis*, 5th ed. Prentice Hall International, London.
- HANNABUSS, S., 1996. Research interviews. *New Library World* (97)5: 22 – 30.
- HATALA, J., 2006. Social Network Analysis in Human Resource Development: A New Methodology. *Human Resource Development Review* 5: 45-71.
- HECKMAN, R., 1998. Planning to solve the “Skills Problem” in the Virtual Information Management Organization. *International Journal of Information Management* (18)1: 3–16.
- HEUM, P., QUALE, C., KARLSEN, J.E., KRAGHA, M., and OSAHON, G., 2003. SNF Report No. 25/03. Enhancement of Local Content in the Upstream Oil and Gas Industry in Nigeria: A Comprehensive and Viable Policy Approach. *A Joint study by SNF Institute for Research in Economics and Business Administration*.
- HEUM, P., 2008. SNF Working Paper No. 02/08. LCD: Experiences from Oil and Gas Activities in Norway *SNF Project No. 1285*, 1-21.

HEYNEMAN, S. P., 1997. The quality of education in the Middle East and North Africa (MENA). *International Journal of Educational Development* (17)4: 449-466.

HIGH, J., 2004. The Roles of Entrepreneurship in Economic Growth: Toward a Theory of Total Factor Productivity George Mason University - School of Public Policy. *University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship*.

HILARY-NWOKONKO, C., 2004. Enhancing Local Content in the Upstream Oil and Gas Industry in Nigeria: An Appraisal of Current Policy. *Oil, Gas & Energy Law Intelligence (OGEL)* (2)1: 1-16.

HOFER, C.W., and SCHENDEL, D., 1978. Strategy formulation: Analytic concepts. *St. Paul, Minnesota: West Publishing Company*.

HOLMES, T., 2009. Local Content in Brazil: Conceptual Framework and Methodological Implications. *Digithum. The humanities in the digital age* (0)11: 1-8.

HOINVILLE, G., JOWELL, R., and ASSOCIATES, 1978. *Survey Research Practice*. London: Heinemann Educational Books.

HYDE, K.F., 2000. Recognising Deductive Processes in Qualitative Research, *Qualitative Market Research* (3)2: 82 – 90.

IBEANU, O., 2000. Oiling the Friction: Environmental Conflict Management in the Niger Delta, Nigeria. *Environmental Change & Security Project Report* 6: 19-32.

IDEMUDIA, U., 2009. Oil Extraction and Poverty Reduction in the Niger Delta: A Critical Examination of Partnership Initiatives. *Journal of Business Ethics* (90): 91–116.

IDEMUDIA, U., and ITE, U. E., 2006. Corporate–Community Relations in Nigeria’s Oil Industry: Challenges and Imperatives. *Corporate Social Responsibility and Environmental Management* 13(4): 194–206.

IEA, 2013. Energy Security, Energy Efficiency, and Energy Dialogue. *Parliament of Malaysia /Research Unit/HA: Energy Security, Energy Dialogue and Energy Efficiency*. 1-26.

IHUA, U.B., AJAYI, C., and ELOJI, K.N., 2009. Nigerian Content Policy in the Oil and Gas Industry: Implications for Small to Medium-Sized Oil-Service Companies. *Proceedings of the 10th Annual Conference 2009 IAABD; Repositioning African Business and Development for the 21st Century Simon Signé*. 162-168.

IHUA, U.B., 2010. Local Content Policy and SMEs Sector Promotion: The Nigerian Oil Industry Experience. *International Journal of Business and Management* (5)5: 1-11.

IHUA U.B., OLABOWALE, O.A., and ELOJI, K.N., 2011. Entrepreneurial Implications of Nigeria’s Oil Industry Local Content Policy Perceptions from the Niger Delta region. *Journal of Enterprising Communities* (5) 3: 223-241.

IKELEGBE, A., 2001. Civil Society, Oil and Conflict in the Niger Delta region of Nigeria: Ramifications of Civil Society for a Regional Resource Struggle. *The Journal of Modern African Studies* (39): 437-469.

IKELEGBE, A., 2005. The Economy of Conflict in the Oil Rich Niger Delta Region of Nigeria. *Nordic Journal of African Studies* (14) 2: 208–234.

ILEDARE, O.O., 2010. Evaluating the Impact of Fiscal Provisions in the Draft Petroleum Industry Bill on Offshore E&P Economics and Take Statistics in Nigeria. *Nigeria Annual International Conference and Exhibition*. Society of Petroleum Engineers.

IMF, 2013. World Economic Outlook, Transitions and Tensions. *World Economic and financial surveys* 1-251.

IMOBIGHE, T.A., 2004. Conflict in the Niger Delta. A Unique Case or a Model for Future Conflicts in other Oil-producing Countries? *Oil Policy in the Gulf of Guinea: Security and Conflict*.

INDEXMUNDI, 2012. Nigeria's Factbook. Available from <http://www.indexmundi.com/nigeria/#Economy>. [Accessed on November 30, 2012].

IPIECA, 2011. Local Content Strategy: A Guidance Document for the Oil and Gas Industry. *The Global Oil and Gas Industry Association for Environmental and Social Issues* 1-36.

ITE, U.E., 2004. Multinationals and Corporate Social Responsibility in Developing Countries: A case study of Nigeria. *Corporate Social Responsibility and Environmental Management* (11)1: 1-11.

IYOHA, M.A., and ORIAKHI, D., 2002. Explaining African Economic Growth Performance: The Case of Nigeria. *African Economic Research Consortium* 1-64.

JAGUN, A., HEEKS, R., and WHALLEY, J., 2008. The Impact of Mobile Telephony on Developing Country Micro-Enterprise: A Nigerian Case Study. *Information Technologies and International Development* (4)4: 47–65.

JAMISON, D.W., and JANSEN, C., 2001. Technology Transfer and Economic Growth *Industry and Higher Education* (15)3: 189-196.

JICK, T.D., 1979. Mixing Qualitative and Quantitative Methods: Triangulation in Action. *Administrative Science Quarterly* (24)4: 602-611.

JIKE, V.T., 2004. Environmental Degradation, Social Disequilibrium, and the Dilemma of Sustainable Development in the Niger-Delta of Nigeria. *Journal of Black Studies* (34)5: 686-701.

JOAB-PETERSIDE, S., 2007. On the Militarization of Nigeria's Niger Delta: The Genesis of Ethnic Militia in Rivers State. *Nigeria Working Paper No. 21 Center for Advanced Social Science (CASS) Port Harcourt, Nigeria* 2007 1-21.

- JONES, T.M., 1995. Instrumental Stakeholder Theory: A Synthesis of Ethics and Economics. *Academy of Management Review* (20)2: 404-437.
- JONES, T.M., and WICKS, A.C. 1999. Convergent Stakeholder Theory. *Academy of Management Review* (24)2: 206-221.
- JOVANOVIC, B., 2000. Growth Theory. *National Bureau of Economic Research Working paper* 7468: 1-15.
- JURGENSON, D.L., 1989. *Participant Observation: A Methodology for Human Studies*. London: Sage Publications
- KAPLAN, A., 1943. Content Analysis and the Theory of Signs.
- KARL, T.L., 1997. The Paradox of Plenty: Oil Booms and Petro-States. *Berkeley: University of California Press*.
- KATENGEZA, S.P., 2009. Malawi Agricultural Commodity Exchange and Spatial Rice Market Integration. *Research Thesis 117804. Collaborative Masters programme in Agricultural and Applied Economics*.
- KENNEDY, P., 1999. *A guide to econometrics, fourth edition*, Blackwell publishers limited, Oxford 468 pages.
- KENNEDY, 2010. Projects Newsletter. Oil and Gas; Power Mining & Natural Resources; Renewable & Green Energy. *Newsletter Issue 12 – July 2010*.
- KEYNOTE, 2009. *Offshore Oil & Gas Industry Market Report 2009*. 5th ed.
- KLUEH, U., PASTOR, G., SEGURA, A., and ZARATE, W., 2007. Inter-Sectoral Linkages and Local Content in Extractive Industries and beyond- The case of Sao Tome and Principe. *IMF Working Paper, African Department*. WP/07/213. 1-49.
- KRUGMAN, P., 1979. A Model of Innovation, Technology Transfer, and the World Distribution of Income. *Journal of Political Economy* (87) 2: 253-266.
- KVALE, D., 1996. *Interviews: An Introduction to Qualitative Research Interviewing*. Sage Publications, Thousand Oaks California.
- LABOUR ACT, 1990. Chapter 198. Laws of the Federation of Nigeria. Available from <http://www.nigeria-law.org/LabourAct.htm> [Accessed on April 11, 2014].
- LADO A.A., and WILSON M.C., 1994. Human Resource Systems and Sustained Competitive Advantage: A Competency-Based Perspective. *The Academy of Management Review* (19)4: 699-727.
- LAHIRI, S., and ONO, Y., 1998. Foreign Direct Investment, Local Content Requirement and Profit Taxation. *The Economic Journal* (108): 444-457.
- LAL, K., 2007. Globalisation and the Adoption of ICTs in Nigerian SMEs. *Science Technology Society* (12)2: 217-244.

LAMIDO, S., 2010. Growth prospects for the Nigerian economy. Convocation Lecture by Mr Sanusi Lamido Sanusi, Governor of the Central Bank of Nigeria, at the Igbinedion University Eighth Convocation Ceremony, Okada, Edo State. *BIS Review* 166/2010 1-18.

LAREDO, G.C., LOPEZ, C., ALVAREZ, R.E., and CANO J., 2004. Naphthenic Acids, Total Acid Number and Sulphur Content Profile Characterization in Isthmus and Maya Crude Oils. *Fuel* 83: 1689–1695.

LASHOF, D.A., and AHUJA, D.R., 1990. Relative Contributions of Greenhouse Gas Emissions to Global Warming. 529-531.

LAWAL, G., and TOBI, A., 2006. Bureaucratic Corruption, Good Governance and Development: The Challenges and Prospects of Institution Building in Nigeria. *Journal of Applied Sciences Research* (10)2: 642-649.

LEARN NC, 2012. Map of linguistic groups in Nigeria. Available from <http://www.learnnc.org/lp/multimedia/8819>. [Accessed on November 30, 2012].

LEE, M.K.O., 1996. IT Outsourcing: Practical for Management. *Industrial Management and Data Systems* (29)5: 15-20.

LEVETT, M., CHANDLER, A.E., PATTERSON, T., and SAVOY, C.M., 2012. Maximising Development of Local Content across Industry Sectors in Emerging Markets. How Private Sector Self-interest can help U.S Development Policy. *A report of the CSIS project on U.S leadership in development* 1-36.

LIBRARY OF CONGRESS, 2008. Available from <http://www.loc.gov/search/?q=nigeria> [Accessed on June 16, 2012].

LINDENBERG, M.M., and CROSBY, B.L., 1981. *Managing Development: the Political Dimension*. Kumarian Press, West Hartford, CT.

LITWIN, M.S., 1995. *How to measure survey reliability and validity*. Sage Publications.

LUCAS, J., 1994. The State, Civil Society and Regional Elites: A Study of Three Associations in Kano, Nigeria. *African Affairs* 93: 21-38.

LUCAS, R.E., 1988. On the Mechanics of Economic Development. *Journal of Monetary Economics* 22: 3-42.

LUQMAN, S., and LAWAL, F.M., 2011. The Political Economy of Oil and the Reform Process in Nigeria's Fourth Republic: Successes and Continue Challenges. *Journal of Arts, Science & Commerce* (2)2: 1-18.

LYNN, K.T., 1997. *The Paradox of Plenty – Oil Booms and Petro-States*, Berkeley University of California Press.

MACPEPPLE, H., 2002. An Overview of Operations of Local Contractors in the Nigerian Oil and Gas Industry: Key issues. *A Paper delivered at a Technical Workshop on Local Content, Port Harcourt*.

- MADDALA, 2001. *Introduction to econometrics*. John Wiley and sons West Sussex. 3rd ed. 636 pages.
- MALMBORG, F.V., and STRACHAN, P.A., 2005. Climate Policy, Ecological Modernization and the UK Emission Trading Scheme. *European Environment*. (15) 3, 143–160.
- MAMBULA, C., 2002. Perceptions of SME Growth Constraints in Nigeria. *Journal of Small Business Management* (40)1: 58-65.
- MANLOC, 2011. Challenges facing the manufacturing/fabrication sector over local content production. *Paper Presented at NCCF2011 Workshop, Lagos. 9th November 2011* Manufacturers Association of Nigeria. 9-20.
- MANYONG, V.M., IKPI, A., OLAYEMI, J.K., YUSUF, S.A., OMONONA, B.T., OKORUWA, V., and IDACHABA, F.S., 2005. Agriculture in Nigeria: Identifying Opportunities for Increased Commercialization and Investment. *International Institute of Tropical Agriculture (IITA) in collaboration with University of Ibadan*.
- MARCUS, A.C., and CRANE, L.A., 1986. Telephone Surveys in Public Health Research. *Medical Care* (24)2: 97–112.
- MARSHALL, M.N., 1996. Sampling for Qualitative Research. *Family Practice* (13)6: 522-525.
- MARTIN, R., and SUNLEY, P., 2008. Slow Convergence? The New Endogenous Growth Theory and Regional Development. *Economic Geography* (74)3: 201-226.
- MATHISON, S., 1988. Why triangulate? *Educational Researcher* (17)2: 13-17.
- McCASKIE, T.C., 2008. The United States, Ghana and Oil: Global and Local Perspectives. *African Affairs* (107)428: 313–332.
- MCCOYD, J.L., AND KERSON, T.S. 2006. Conducting Intensive Interviews using email: A Serendipitous Comparative Opportunity. *Qualitative Social Work* 5: 389–406.
- MEHLUM, H., MOENE, K., and TORVIK, R., 2006. Institutions and the Resource Curse. *The Economic Journal* 116: 1–20.
- MELLAHI, K., and WOOD, G., 2003. The Role and Potential of Stakeholders in “Hollow Participation”: Conventional Stakeholder Theory and Institutional Alternative. *Business and Society Review* (108)2: 183–202.
- MEINSHAUSEN, M., MEINSHAUSEN, N., HARE, W., RAPER, S.C.B., FRIELER, K., KNUTTI, R., FRAME, D.J., and ALLEN M.R., 2009. Greenhouse-Gas Emission Targets for limiting Global Warming to 2 C. *Nature* (7242)458: 1158-1162.
- MENZIE, D.C., and HINN, H.I., 2006. What matters for Financial Development? Capital Controls, Institutions, and Interactions. *Journal of Development Economics* (81)1: 163–192.

- MILLER, D., 1983. The Correlates of Entrepreneurship in Three Types of Firms. *Management Science* (29)7: 770-791.
- MILLER, C., 1995. 'In-depth Interviewing by Telephone: Some Practical Considerations'. *Evaluation and Research in Education* (9)1: 29-38.
- MINISTRY OF ENERGY GHANA, 2010. Local Content and Local Participation in Petroleum Activities. *Policy framework*. 2
- MINNITI, M., 2008. The Role of Government Policy on Entrepreneurial Activity: Productive, Unproductive, or Destructive? *Entrepreneurship Theory and Practice* (32)5: 779-790.
- MINPET, 2009. Local Content in Angola. Available from http://www.rkk.no/en/INTERNATIONAL/Angola/MINPET__Ministry_of_Industry_Petroleum [Accessed on September 28, 2012].
- MITCHELL, R.K., AGLE, B.R., and WOOD, D.J., 1997. Toward a theory of Stakeholder Identification and Salience: Defining the principle of who and what really counts. *Academy of Management Review* (22): 853-886.
- MOGALAKWE, M., 2006. The use of Documentary Research Methods in Social Research. *African Sociological Review* (10)1: 221-230.
- MOLTEBERG, E., and BERGSTROM, C., 2000. Our Common Discourse: Diversity and Paradigms in Development Studies. *Centre for Environment and Development Studies. Agricultural University of Norway, Working Paper Number 20*.
- MOMMER, B., 2002. *Global Oil and the Nation State*. Oxford University Press 250 pages.
- NATIONSONLINE., 2012. Administrative and Political Map of Nigeria. Available from <http://www.nationsonline.org/oneworld/>. [Accessed on November 30, 2012].
- NATIONAL COMMITTEE, 2005. Vision 2020 Draft National Strategic Plan. Available from http://www.meetmanning.com/home/pdf/national_plan.pdf. [Accessed on July 3, 2012].
- NBS, 2010. Nigeria Poverty Profile 2010. *NBS Report*. 1-31.
- NBS, 2011. Annual Abstract of Statistics, Federal Republic of Nigeria. 1-698.
- NEFF, S., 2005. Memorandum on International Best Practice in Development of Local Content in the Energy Sector. *Goldwyn International Strategies, LLC*. 1-42.
- NEITI, 2012. Transparency, Hypocrisy and Trade of Blood Oil in Nigeria. *NEITI news report*.
- NELSON, R. A., 1989. On the measurement of Capacity Utilization. *Journal of industrial economics* (37) 3: 273-286.
- NENIBARINI, Z., 2004. Impacts of Extractive Industries on the Biodiversity of the Niger Delta. *National Workshop on Coastal and Marine Biodiversity Management*. 1-11.

- NEUMAN, W.L., 2003. *Social Research Methods: Quantitative and Qualitative Approaches*; 5th (ed). Published Boston, Mass. ; London : Pearson Allyn and Bacon 2006.
- NEWSOM, C., 2011. More Than a Local Affair; Conflict in the Niger Delta. United States Institute of Peace Special Report. 1-20.
- NIES S., 2008. Oil and Gas Delivery to Europe: An Overview of Existing and Planned Infrastructures. *European Governance and the Geopolitics of Energy* 3-23.
- NIGERIA OIL AND GAS, 2011. Nigeria Local content. Available from http://www.nigeria-oilgas.com/nigerian_local_content-26-10-2-art.html. [Accessed on November 12, 2011].
- NNPC, 2005. Partnering for Sustainable Growth of Nigeria's Oil and Gas Industry. *News Report*
- NNPC, 2010. Annual Statistical Bulletin. Corporate Planning and Strategic Division. 1-68.
- NNPC, 2011. Annual Statistical Bulletin. Corporate Planning and Strategic Division. 1-65.
- NOGIC ACT, 2010. Nigeria Oil and Gas Industry Content Bill, *Explanatory Memorandum*. 1-33.
- NORDAS H.K., VATNE E., and HEUM P., 2003. The Upstream Petroleum Industry and Local Industrial Development. A comparative study. *SNF-project No. 4245 Private Sector Development in the Nigerian Upstream Industry*. 1-95.
- NOVICK, G., 2008. Is there a bias against Telephone Interviews in Qualitative Research *Research in Nursing & Health* (31): 391–398.
- NPC, 2012 Available from <http://www.population.gov.ng/index.php/publications/138-national-and-state-population-and-housing-tables-2006-census-priority-tables-vol-1> [Accessed on June 16, 2012].
- NURKSE, and RAGNAR, 1953. Problems of Capital Formation in Underdeveloped Countries. *Cambridge University Press, New York*.
- NWADIALO, B.E., 1989. Soil-Landscape Relationships in the Udi-Nsukka Plateau, Nigeria. *CATENA* (16) 2: 111–120.
- NWAPA, L., 2007. Nigerian Content Development in the Oil and Gas Industry. In *FNCCI Conference*, vol. 20, 2007.
- NWAOKORO J. E., 2011. Signed, Sealed but will it Deliver? Nigeria's Local Content Bill and Cross-Sectoral Growth. *Journal of World Energy Law and Business* (4)1: 40-67.
- NWAPA, E.C., 2012. Nigerian Content Implementation; Roadmap for Industrialization. *Conference paper presented at the 8th Global Local Content Summit, London*. 1-33.

NWANOSIKE, M.R.O., 2011. Economic Analysis of Groundnut Enterprise in Rafi Local Government Area of Niger State, Nigeria. *International Research Journal of Applied and Basic Sciences* (2)4: 155-162.

NWILO, P.C., and BADEJO, O.T., 2005. Oil Spill Problems and Management in the Niger Delta. *International Oil Spill Conference Proceedings 2005* (1): 567-570.

NWOKEJI, G.U., 2007. The NNPC and the Development of the Nigerian Oil and Gas Industry: History, Strategy and Current Directions. *The James A. Baker III Institute for Public Policy. Rice University.* 7-19.

NWOYE, M.I., 1997. The role of the private sector in the promotion of young entrepreneurship in Nigeria *Technovation*, (17)9: 521-528.

NWOZOR, A., 2010. A Delta of a Minefield: Oil Resource Conflict and the Politics of Amnesty in Nigeria. *Conflict trends* 1-8.

OBI, C.O., 2008. LCD in the Nigerian Oil and Gas Industry: Why it is not succeeding? *Dissertation submitted in partial fulfillment of the requirements for the Degree Master of Engineering.* Potchefstroom Campus of the North-West University. 15- 80.

OBUAYA, T., 2005: "Local Content Implementation in Nigeria: A Road Map." *A paper presented at the Nigerian Oil and Gas Conference, Abuja, Nigeria.*

ODUJINRIN AND ADEFULU 2011. Local Content Policy. *Barristers, Solicitors & Notaries Public* 1-24.

ODUNIYI, M., 2003. Crude Oil Theft: Bunkerers get more daring. Available from <http://www.legaloil.com/news.asp>. [Accessed on 27/6/2013].

OECD, 2006. The Challenge of Capacity Development: Working towards Good Practice. *DAC Guidelines and Reference Series.* 1-48.

OGBO, A., and NWACHUKWU, A.C., 2012. The Role of Entrepreneurship in Economic Development: The Nigerian Perspective. *European Journal of Business and Management*, (4)8: 2222-2839.

OGBORU, P.L., 2007. An Evaluation of Funding Arrangements for Small and Medium Scale Enterprises (SMEs) in Nigeria. *Dissertation Project Submitted in Partial Fulfilment of the Requirements for the Award of the Degree of Doctor of Philosophy in Management, St Clements University, British, West Indies.* 94-232.

OGECHUKWU, A.D., and LATINWO, H. K., 2010. Entrepreneurial Developments and Small Scale Industry Contribution to Nigerian National Development- A Marketing Interface. *Information Management and Business Review* (1)2: 51-68.

OGIEMWONYI, C.O., 2001. "Alliancing as tool to increase Local Content in the Nigerian Oil Industry". *A Paper presented at the Offshore Petroleum Conference, Houston.* (April/May). 1-6.

- OGUEJIOFOR, G.C., 2006. Gas flaring in Nigeria: Some aspects for Accelerated Development of Sasol Chevron GTL Plant at Escravos. *Energy Sources, Part A*, 2006. 1365-1376.
- OGUJIUBA, K. K., OHUCHE, F. K., and ADENUGA, A. O., 2004. Credit Availability to Small and Medium Scale Enterprises in Nigeria: Importance of New Capital Base for Banks – Background and Issues *Working Paper*. 1-25.
- OGUNBODEDE, E.F., ILESANMI, A.O., and OLURANKISE, F., 2010. Premium Motor Spirit and the Nigerian Public Passenger Transportation System. *The Social Sciences* (5)2: 113-121.
- OGUNDIYA, I.S., 2010. Democracy and Good Governance: Nigeria's Dilemma. *African Journal of Political Science and International Relations* (4) 6: 201-208.
- OGWUDA, 2004. Benin Rivers Killings: US detectives storm Warri to fish out bandit. Vanguard Newspaper, Wednesday, 28 April, 2004.
- OIL AND GAS IQ, 2010. Four ways by which local content can lead to local contentment. Available from <http://www.oilandgasiq.com/gas-oil-production-and-operations/articles/4-ways-in-which-local-content-can-lead-to-local-co/>. [Accessed on May 28, 2010].
- OIL AND GAS UK, 2010. Oil & Gas UK Economic Report. 1-60.
- OKAFOR, E.E., 2007. Rethinking African Development: A Critical Overview of Recent Developments in the Petroleum Sub-Sector in Nigeria. *Journal of Social Science* (15)1: 83-93.
- OKAFOR, E.E 2007. Globalisation, Casualisation and Capitalist Business Ethics: A Critical Overview of situation in the Oil and Gas Sector in Nigeria *Journal of Social Science* (15)2: 169-179.
- OKIGBO III, P.O., and ENEKEBE, D., 2011. Nigeria: Fuel Subsidy Removal. Achieving the optimal solution. *Policy brief*. 1-4.
- OKPARA, J.O., and KOUMBIADIS, N.J., 2009. Strategic Export Orientation and Internationalization Barriers: Evidence from SMEs in a Developing Economy. *Journal of International Business and Cultural Studies* 1: 1–10.
- OLABOWALE, A.B., 2009. The Nigerian Oil and Gas Industry: appraising the impact of the Local Content Participation Policy. *M.B.A Dissertation*.
- OLADELE, O.I., KOYAMA, O., AND SAKAGAMI, J.I., 2004. Africa in search of Extension System: Experience from Nigeria. *Journal of Food Agricultural Environment* (2)1: 276-280.
- OLARINMOYE, O.O., 2008. Politics Does Matter: The Nigerian State and Oil (Resource) Curse. *Africa Development* (33)3: 21–34.

OLOMOLA, A., and OLUMIDE, S., 2005. The Quest for Local Content in the Upstream Sector of the Nigerian Oil and Gas Industry. *Oil, Gas & Energy Law Intelligence (OGEL)* (3)1: 1- 16.

OLOWU, R.A., AYEJUYO, O.O., ADEWUYI, G.O., ADEJORO, I.A., DENLOYE, A.A. B., BABATUNDE, A.O., and OGUNDAJO, A.L., 2009. Determination of Heavy Metals in Fish Tissues, Water and Sediment from Epe and Badagry Lagoons, Lagos, Nigeria. *E-Journal of Chemistry* (7)1: 215-221.

OLSEN, W.H., 2010. Local Content. *Intsok Norwegian oil and gas partners*. 1-19.

OLSSON, P., FOLKE, C., HAHN, T., 2004. Social-Ecological Transformation for Ecosystem Management: The Development of Adaptive Co-management of a Wetland Landscape in Southern Sweden. *Ecology and Society* 9.

OMEJE, K., 2005. Oil Conflict in Nigeria: Contending issues and perspectives of the local Niger Delta people. *New Political Economy* (10)3: 321-334.

OMENIKOLO, I.A., and AMADI, R.O., 2010. Challenges facing Nigerian Local Content in Oil and Gas Industry. *Wilolud Journals, Continental J. Renewable Energy* (1): 15 – 20.

OMOFONMWAN, S.I., and ODIA, L.O., 2009. Oil Exploitation and Conflict in the Niger-Delta Region of Nigeria. *Journal of Human Ecology* (26)1: 25-30.

OMONOBI, K., 2004. We'll flush out these Sea Pirates from Niger Delta, vows Zamani Task Force Boss, Lagos. Vanguard Newspaper, 19 June, 2004.

OMOTOLA, 2006. The Next Gulf? Oil Politics, Environmental Apocalypse and Rising Tension in the Niger Delta. Selected works. 1-31.

ONO, Y., and LAHIRI, S., 1998. Foreign Direct Investment, Local Content Requirement and Profit Taxation. *The Economic Journal* (108): 444-457.

ONUGU, C.U., 2000. The Development Role of Community Banks in Rural Nigeria. *Development in Practice* (10)1: 102-107.

ONWUEGBUZIE, A.J., and COLLINS, K.M.T., 2007. A Typology of Mixed Methods Sampling Designs in Social Science Research. *The Qualitative Report* (12)2: 281-316.

ONWUEGBUZIE, A.J., and LEECH, N.L., 2007. Sampling Designs in Qualitative Research: Making the Sampling Process More Public. *The Qualitative Report* (12)2: 238-254.

OPDENAKKER, R., 2006. Advantages and Disadvantages of four interview techniques in Qualitative Research. *Qualitative Social Research* (7)4: 1-13.

OPUKRI, C.O., and IBABA, I.S., 2008. Oil Induced Environmental Degradation and Internal Population Displacement in the Nigeria's Niger Delta. *Journal of Sustainable Development in Africa* (10)1: 1-21.

OSAGHAE, E.E., 1995. The Ogoni Uprising: Oil Politics, Minority Agitation and the Future of the Federal State. *African Affairs* (376)94: 325–344.

- OVADIA, J.S., 2012. The Making of Oil-backed Indigenous Capitalism in Nigeria. *New Political Economy* 1-26.
- OWUALAH S. I., 1999. Banks and Consultants in Nigeria's Job Creation Program. *Small Business Economics* 12: 321–330.
- OWUALAH, S.I., and OBOKOH, L.O., 2008. Tackling Youth Restiveness in the Niger Delta Region of Nigeria through Entrepreneurship. *Journal of Enterprising Communities: People and Places in the Global Economy* (2)2: 168 – 179.
- OYEBADE, S.A., 2003. Education and Unemployment of Youths in Nigeria: Causes, Impacts and Suggestions. 45-65.
- OZIGBO, N.C., 2008 Technological Capacity Building in the Nigeria's Oil and Gas Industry *Proceedings of the 19th Annual International Information Management Association San Diego, CA.* 1-16
- PACK, H., and TODARO, M., 1969. Technological Transfer, Labour Absorption, and Economic Development. *Oxford Economic Papers, New Series* (21)3: 395-403.
- PAPYRAKIS, E., and GERLAGH, R., 2004. The Resource Curse Hypothesis and its Transmission Channels. *Journal of Comparative Economics* (32): 181–193.
- PARKHE, A., 1993. "Messy" Research, Methodological Predispositions, and Theory Development in International Joint Ventures. *The Academy of Management Review* (18)2: 227-268.
- PAUL, A.E., 2005. Sustainability – Local Content and diversification (Setting up a fair and realistic local content policy, adapted to the existing skills base) Trinidad & Tobago Case Study. *Good Governance Workshop II.* 1-23.
- PAUL, A.E., 2008. Extracting from an Extractive Industry. Maximising Local Value in the Trinidad & Tobago Energy Sector. *Caribbean Energy Specialists.* 1-27.
- PAYNE, G., and PAYNE, J., 2004. *Key Concepts in Social Research*, London: Sage Publications.
- PEEK, P., FENARD, J., GANTES, P., and THEILER, C., 2008. Skills Shortages in the Global Oil and Gas Industry; How to close the gap Part I (UNDP and UNITAR), an oil company (AFREN) and a Swiss foundation (CRES), and in consultation with ILO. 9-38.
- PENNY, K., JEREMY, S., VALORIE, A.C., and RORY, J., 2011. Risk Communication and Informed Consent in the Medical Tourism Industry: A Thematic Content Analysis of Canadian Broker websites. *BMC medical ethics* (12)1: 1- 17.
- PERRY, C., and JENSEN, O., 2001. Approaches to Combining Induction and Deduction in One Research Study. *Southern Cross University*
- PETRAD., 2009. Local Content Training Module *Training module information* PETRAD. 1-15.

PETROLEUM ACT: Chapter 10 (Chapter 350 LFN 1990) Laws of the Federation of Nigeria.

PETROLEUM TRAINING INSTITUTE, 2011. Vision and Mission Statement. Available from <http://ptinigeria.org/>. [Accessed on October 30, 2011].

PHILLIPS, R., 1997. Stakeholder Theory and a Principle of Fairness. *Business Ethics Quarterly* (7)1: 51-66.

PIB 2012. The Petroleum Industry Bill. 1-223.

PINTO, B., 1987. Nigeria During and After the Oil Boom: A Policy Comparison with Indonesia. *The World Bank Economic Review* (1)3: 419-445.

PLCC, 2004. Local Content and Local Participation Policy and Framework: *The Republic of Trinidad and Tobago Energy Sector*.

POLIT, D.F., AND BECK, C.T., 2009 *Essentials of Nursing Research: Appraising Evidence for Nursing Practice 7th (ed.)*. China: Wolters Kluwer/ Lippincott Williams and Wilkins.

QIU, L.D., and TAO, Z., 2001. Export, Foreign Direct Investment, and Local Content Requirement. *Hong Kong University of Science and Technology*. 1-27.

RADOSEVIC, S., VARBLANE, U., and MICKIEWICZ, T., 2003. Foreign Direct Investment and its effect on Employment in Central Europe. *United Nations Conference on Trade and Development Division on Investment, Technology and Enterprise Development*. (12)1: 59-90.

RAMOS, M.C., 1989. Some Ethical Implications of Qualitative Research. *Research in Nursing & Health* (12)1: 57-63.

REDMAN, R., PFEIFER, C., BRZOZOWSKI, E., and MARKARIAN, R., 2008. A Comparison of Methods for Locating, Tracking and Quantifying Submerged Oil used during the T/B Dbl 152 incident. *International Oil Spill Conference Proceedings* 1: 255-259.

REED, D., 2002. Employing Normative Stakeholder Theory in Developing Countries: A Critical Theory Perspective. *Business and Society* (41): 166-207.

REED, R., and DEFILLIPPI, R.J., 1990. Causal Ambiguity, Barriers to Imitation, and Sustainable Competitive Advantage. *The Academy of Management Review* (15)1: 88-102.

REED, M.S., GRAVES, A., DANDY, N., POSTHUMUS, H., HUBACEK, K., MORRIS, J., PRELL, C., QUINN, C.H., and STRINGER, L.C., 2009. Who's in and Why? A Typology of Stakeholder Analysis Methods for Natural Resource Management. *Journal of Environmental Management* 90: 1933-1949.

REYNOLDS, P. S., MICHAEL, C., WILLIAM, D.B., ERKKO, A., and MICHAEL, H., 2002. *Global Entrepreneurship Monitor 2001 Executive Report*, Babson Park/London: Babson College and London Business School.

RICHARD, L., 2005 *Handling Qualitative Data: A Practical Guide*. London: Sage Publications.

- RICHARDS, L., 1998. Closeness to Data: The Changing Goals of Qualitative Data Handling. *Qualitative Health Research* (8)3: 319-328.
- RICHARDSON, M., 1993. Content Protection with Foreign Capital, *Oxford Economic Papers* (45): 103-117.
- RITCHIE, J., and LEWIS, J., 2003. *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. Published London.
- ROBINSON, J.A., TORVIK, R., and VERDIER, T., 2006. Political Foundations of the Resource Curse. *Journal of Development Economics* 79: 447– 468.
- ROBSON, C., 2002. *Real World Research: A Resource for users of Social Research Methods in Applied Settings*. 2nd (ed). Published Oxford: Blackwell.
- ROBSON, C., 2011. *Real World Research: A Resource for users of Social Research Methods in Applied Settings*. 3rd (ed). Published Chichester: Wiley.
- RON, J., 2005. Paradigm in Distress? Primary Commodities and Civil War. *Journal of Conflict Resolution* 49: 443-450.
- ROSA, P.J., KODITHUWAKKU, S., and BALUNYWA, W., 2006. Entrepreneurial Motivation in Developing Countries: What Does “Necessity” And “Opportunity” Entrepreneurship Really Mean? *Frontiers of Entrepreneurship Research* (26)20: 1-17.
- ROSS, M.L., 2008. Blood Barrels: Why Oil Wealth fuels Conflict. *Foreign Affairs* (87)3: 2-8.
- ROSS, M.L., 2011. The Political Economy of the Resource Curse. *Review Articles World Politics* (1)2: 297-322.
- ROSTOW, and WALT W., 1960. *The Stages of Economic Growth: A Non-Communist Manifesto*. Cambridge, UK: Cambridge University Press.
- ROWLEY, J., 2012. Conducting Research Interviews. *Management Research Review* (35)3: 260 – 271.
- RUGMANN, A.M., and COLLINSON, S., 2002. *Mountain Equipment Case + Benetton/Flextronics case + Nike case*. *International Business* 258-262; 317-321. London Financial Times/Prentice Hall
- SACHS, J.D., and WARNER A.M., 1999. The Big Push, Natural Resource Booms and Growth. *Journal of Development Economics* (59): 43–76.
- SAGGI, K., 2002. Trade, Foreign Direct Investment and International Economic Transfer: A survey. *The World Bank Research Observer* (17) 2: 191-235.
- SALAMI, C.G.E., 2011. Entrepreneurial Interventionism and Challenges of Youth Unemployment in Nigeria. *Global Journal of Business & Management Research* (11)7.

- SAMSON, I.O., and LUCKY, O.O., 2009. Oil Exploitation and Conflict in the Niger-Delta Region of Nigeria. *Journal of Human Ecology* 26(1): 25-30.
- SAUNDERS, M., 2003. *Research Methods for Business Students*. 3rd ed. Prentice Hall.
- SAUNDERS, M., 2009. *Research Methods for Business Students*. 5th ed. Prentice Hall.
- SAUNDERS, M., 2012. *Doing Research in Business and Management: An Essential Guide to Planning your Project*. Financial Times Prentice Hall.
- SAUNDERS, M., and LEWIS, P., 2012. *Doing Research in Business and Management: An Essential Guide to Planning your Project*. Financial Times Prentice Hall.
- SAVAGE, G.T., NIX, T.H., WHITEHEAD, C.J., and BLAIR, J.D., 1991. Strategies for Assessing and Managing Organizational Stakeholders, *Academy of Management Executive* 5: 61-75.
- SCHOLL, H.J., 2002. Applying Stakeholder Theory to E-Government: Benefits and Limits. *International Federation for Information Processing (74)*: 735-747.
- SCOTT, J., 1990. *A Matter of Record: Documentary Sources in Social Research*, Cambridge Polity.
- SCOTT, J., 2000. *Social Network Analysis*. SAGE Publications 2nd ed.
- SEKARAN, U., 2000. *Research Methods for Business: A Skill-Building Approach* 3rd ed. Chichester: Wiley.
- SEKARAN, U., and BOUGIE, R., 2010. *Research Methods for Business: A Skill Building Approach* 5th ed. Chichester: John Willey & Sons Ltd.
- SEKUMADE, B., 2009. The Effects of Petroleum Dependency on Agricultural Trade in Nigeria: An Error Correlation Modelling (ECM) Approach. *Scientific Research and Essay* (4)11: 1385-1391.
- SERRAT, O., 2010. Social Network Analysis. *International Publications Key Workplace Documents Asian Development Bank*. 1-6.
- SHAH, K.U., and RIVERA, J.E., 2007. Export Processing Zones and Corporate Environmental Performance in Emerging Economies: The case of the Oil, Gas, and Chemical Sectors of Trinidad and Tobago. *Policy Sciences* (40)4: 265-285.
- SHAXSON, N., 2007. Oil, Corruption and the Resource Curse. *International Affairs* (83)6: 1123-1140.
- SHELL, 2011. Shell in Nigeria; Nigerian content. *Shell Publication* 1-2.
- SHELL DEVELOPMENT COMPANY (SPDC), 2004. Should Oil-Companies Directly Finance Development for Oil Extraction and Poverty Reduction in the Niger Delta 115 Local Communities? *The Case of Shell-Nigeria*, in R. Traub-Merz and D. Yates (eds.), *Oil Policy*

in the Gulf of Guinea: Security and Conflict, Economic Growth, Social Development (Friedrich-Ebert-Stiftung, Bonn).

SKLAR, R.L., ONWUDIWE, E., and KEW, D., 2006. Nigeria: Completing Obasanjo's Legacy. *Journal of Democracy* (17) 3: 100-115.

SMITH N.J., 2011. *The Sea of Lost Opportunity: North Sea Oil and Gas British Industry and the Offshore Supplies Office*. Handbook of Petroleum Exploration and Production. Volume 7.

SMITH, M., and RICHARD, J.T., 2000. The Chairman's Statement-A Content Analysis of Discretionary Narrative Disclosures. *Accounting, Auditing & Accountability Journal* (13)5: 624-647.

SOLOW, R., 1956. A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics* 70: 65 – 94.

STERNBERG, ROLF, BRIXY, U., and SCHLAPFNER, J.F., 2006. Global Entrepreneurship Monitor. *Länderbericht Deutschland 2005, Hanover/Bonn: University of Hanover and IAB*.

STRACHAN, P.A., and LAL, D., 2004. Wind Energy Policy, Planning and Management Practice in the UK: Hot Air or a Gathering Storm?. *Regional Studies* (38)5: 549-569.

STURGES, J., and HANRAHAN, K.J., 2004. Comparing Telephone and Face-to-Face Qualitative Interviewing. *Qualitative Research* (4)1: 107-118.

SUMNER, A., and TRIBE, M.A., 2008. *International Development Studies: Theories and Methods in Research and Practice*. London : SAGE.

SWAN, T.W., 1956. Economic Growth and Capital Accumulation. *Economic Record* 32: 334 – 361.

SWEETCRUDE, 2014. A Vanguard Monthly Review of the Energy Industry, *March 2014 edition*.

TAIWO A.S., 2010. The Influence of Work Environment on Workers' Productivity: A case of selected Oil and Gas industry in Lagos, Nigeria. *African Journal of Business Management* (4)3: 299-307.

TAUSIG, J.E., and FREEMAN, E.W., 1988. The next best thing to being there: Conducting the Clinical Research Interview by Telephone. *American Journal of Orthopsychiatry* (58): 418–427.

TEECE, D. J., 1979. Technology Transfer by Multinational Firms: The Resource Cost of Transferring Technological Know-How. *The Economic Journal* (87)346: 242-261.

TEKAYA, A., 2008. The impact of Asset Specificity on Outsourcing Performance: A Disaggregated Analysis by Buyer-Supplier Asset Specificity Dimensions. *PhD Thesis submitted to Oxford Brookes University*.

THE REPUBLIC OF TRINIDAD AND TOBAGO ENERGY SECTOR., 2004. Local Content and Local Participation Policy and Framework. *Ministry of Energy and Energy Resources 2*.

THISDAY, 2013. Nigeria Loses \$6bn Annually to Crude Oil Theft. Available from <http://www.thisdaylive.com/articles/nigeria-loses-6bn-annually-to-crude-oil-theft/143737/> [Accessed on July 15, 2013].

THISDAYLIVE, 2013. Bureaucracy Delays Transmission of 2013 Budget. Available from <http://www.thisdaylive.com/articles/bureaucracy-delays-transmission-of-2013-budget/136347/>. [Accessed on December 11, 2013]

TICHY, N.M., TUSHMAN, M.L., and FOMBRUN, C., 1979. Social Network Analysis for Organizations. *The Academy of Management Review* (4)4: 507-519.

TOBI, D.M., 2008. Achieving Local Content in Nigeria's Energy Sector: What are the Effects on Nigeria's Foreign Investment Policy? *LL.M. Dissertation 2008. Dundee*.

TOIKKANEN, T., and LIPPONEN, L., 2011. The Applicability of Social Network Analysis to the Study of Networked Learning. *Interactive Learning Environments* (19)4: 365-379.

TORDO, S., and ANOUTI, Y., 2012. Local Content in the Oil and Gas Sector: Case Studies *World Bank Publication* 1-174.

TORDO, S., WARNER, M., MANZANO, O.E., and ANOUTI, Y., 2013. Local Content Policies in the Oil and Gas Sector. *A World Bank study* 1-173.

TOTAL, 2010. Total Upstream Companies in Nigeria: Achievements in Nigerian Content Development. *Total Publication*.

TRADINGECONOMICS., 2012. Nigeria Population. Available from <http://www.tradingeconomics.com/nigeria/population>. [Accessed on November 30, 2012].

TRANSPARENCY INTERNATIONAL, 2013. Corruption Measurement tools. Available from <http://www.transparency.org/country#NGA>. [Accessed on July 15, 2013].

TREVINO, L., and WEAVER, G., 1999. The Stakeholder Research Tradition: Converging Theorists—Not Convergent Theory. *Academy of Management Review* (24) 2: 222–227.

TROCHIM, 2006. Positivism and Post-Positivism Research methods knowledge base. Available from <http://www.socialresearchmethods.net/kb/positvsm.php> [Accessed on June 16, 2012].

TUC, 2012. NLC briefing on removal of fuel subsidy. Available from <http://www.tuc.org.uk/international-issues/countries/nigeria/international-development/nlc-briefing-removal-fuel-subsidy>. [Accessed on September 2, 2013]

TURNER, T., 1977. Two Refineries: A Comparative Study of Technology Transfer to the Nigerian Refining Industry. *ISS Occasional Papers* 1-64.

UGOCHUKWU, C.N.C., and ERTEL, J., 2008. Negative Impacts of Oil Exploration on Biodiversity Management in the Niger Delta area of Nigeria. *Impact Assessment & Project Appraisal* (26) 2: 139-147.

UKIWO, U., 2007. From “Pirates” to “Militants”: A Historical Perspective on Anti-State and Anti-Oil Company Mobilization among the Ijaw of Warri, Western Niger Delta. *Journal of African Economies* (106)425: 587-610.

UNCTAD, 2011. World Investment Report 2011. *Non-Equity Modes of International Production and Development*. 27-52.

UNCTAD/CALAG, 2006. Creating Local Linkages by Empowering Indigenous Entrepreneurs. *United Nations Conference on Trade and Development African Oil and Gas Services Sector Survey* (1): 19-60.

UNCTAD., 2011. Non-Equity Modes of International Production and Development. *World Investment Report*. 70-84.

US DEPT OF ENERGY, 2011. Oil & Gas Technology Transfer Initiatives. Available from <http://www.fe.doe.gov/programs/oilgas/techtransfer/index.html>. [Accessed on November 16, 2011].

UYIGUE, E., and AGHO, M., 2007. Coping with Climate Change and Environmental Degradation in the Niger-Delta of South Nigeria. Benin. Community Research and Development Centre (CREDC). 1-30.

VELLEMAN, P.F., and WILKINSON, L., 1993. Nominal, Ordinal, Interval, and Ratio Typologies are misleading. *The American Statistician* (47) 1: 65-72.

VENESAAR, U., and LOOMETS, P., 2006. The Role of Entrepreneurship in Economic Development and Implications for SME Policy in Estonia. *Paper presented to the 14th Nordic Conference on Small Business Research, Stockholm, Sweden* 1-17.

WARNER, M., 2011. *Local Content in Procurement: Creating Local Jobs and Competitive Domestic Industries in Supply Chains*. Greenleaf Publishing Limited.

WASSERMAN, S., and FAUST, K., 1994. *Social Network Analysis: Methods and Applications*. New York: Cambridge University Press.

WATTS, M., 2004. Resource Curse? Governmentality, Oil and Power in the Niger Delta, Nigeria. *Geopolitics* (9)1: 50-80.

WELI, I., 2013. Nigeria’s Local Content Marathon – Key Strides, Forward Steps and Challenges. *Nigeria/Netherlands Business Forum - The Hague*.

WELLS, J., and HAWKINS J., 2010. Increasing ‘Local Content’ in Infrastructure Procurement. Part 1. *Proceedings of the Institution of Civil Engineers Management, Procurement and Law*. May Issue MP2 (163): 65–70.

WHITBREAD, S., 2012. Sustainable Local Content, The UK Experience Britcham *International Energy Seminar Local Content in the Oil and Gas industry* 1-27.

WILSON, J.T.L., PETTIGREW, L.E.L and TEASDALE, G.M., 1998. Structured Interviews for the Glasgow Outcome Scale and the Extended Glasgow Outcome Scale: Guidelines for their use. *Journal of Neurotrauma* (15)8: 573-585.

WOODHILL, J., RO LING, N., 1998. The Second Wing of the Eagle: The Human Dimension in learning our way to more Sustainable Futures. In: Ro ling, N., Wagemakers, A. (Eds.), *Facilitating Sustainable Agriculture: Participatory Learning and Adaptive Management in Times of Environmental Uncertainty*. Cambridge University Press, Cambridge, 46–69.

WORLDOFMAPS.NET, 2012. Map of Nigeria (Map Population Density). Available from <http://www.worldofmaps.net/en/africa/map-nigeria/map-nigeria-population-density.htm>. [Accessed on November 30, 2012].

WORRELL, E., BERKEL, R.V., FENGQI, Z., MENKE, C., SCHAEFFER, R., and WILLIAMS R.O 2000. Technology Transfer of Energy Efficient Technologies in Industry: A Review of Trends and Policy issues. *Energy Policy* (29)1: 29-43.

WRIGHT, P.M., MCMAHAN, G.C., and McWILLIAMS, A., 1994. Human Resources and Sustained Competitive Advantage: A Resource-Based Perspective *The International Journal of Human Resource Management* (5)2: 301-326.

XAVIER, S.I.M and SUBRAMANIAN, A., 2003. Addressing the Natural Resource Curse: An Illustration from Nigeria. *NBER Working Paper No. 9804*. 1-46.

XHENETI, M., and SMALLBONE, D., 2008. The Role of Public Policy in Entrepreneurship Development in Post-Socialist Countries: A Comparison of Albania and Estonia. *EBS Review* (24)1: 24-37.

YABUUCHI, S., GU, W., 2002. Local Content Requirements and Urban Unemployment. *International Review of Economics and Finance* (2003)12: 481–494.

YAKASAI, A.G.A., 2001. Corporate Governance in a Third World Country with particular reference to Nigeria Governance: *An International Review* 238-253.

APPENDIX 1

UNCONDITIONAL ETHICS APPROVAL

Professor Glauco De Vita
Director of Studies
Business School
Faculty of Business
Oxford Brookes University
Wheatley Campus

20 August 2012

Dear Professor De Vita

UREC Registration No: 120647

An appraisal of selected objectives of the Nigerian Oil and Gas industry content policy

Thank you for your recent emails outlining your response to the points raised in my previous letter about the PhD study of your research student Oluwatosin Lagoke, and attaching the revised documents. I am pleased to inform you that, on this basis, I have given Chair's Approval for the study to begin.

The UREC approval period for this study is two years from the date of this letter, so 20 August 2014. If you need the approval to be extended please do contact me nearer the time of expiry.

In order to monitor studies approved by the University Research Ethics Committee, we will ask you to provide a (very brief) report on the conduct and conclusions of the study in a year's time. If the study is completed in less than a year, could you please contact me and I will send you the appropriate guidelines for the report.

Yours sincerely

Hazel Abbott

Chair of the University Research Ethics Committee

cc Dr Sola Adesola, Second Supervisor
Oluwatosin Lagoke, Research Student
Samantha Miles, Research Ethics Officer
Jill Organ, Graduate Office
Louise Wood, UREC Administrator

Headington Campus Gipsy Lane
Oxford OX3 0BP UK

Tel: 01865 482639

APPENDIX 2

INTERVIEW SCHEDULES AND TIMINGS

s/no	Stakeholder	Job title/position	Date scheduled for interview	Time Scheduled for interview	Did interview hold at scheduled date	Did interview hold at scheduled time	Rescheduled date for interview	Rescheduled time for interview	Remarks
1	YMP	Project Engineer	04/02/2013	20:00	YES	YES	-	-	Access to this respondent did not pose much of a problem. The interview took place at the time scheduled and the respondent appeared to be prepared for the interview owing to the level of enthusiasm displayed during the course of the interview and no disruption was encountered with the telephone reception throughout the interview
2	ISP	Business Development Manager	07/02/2013	20:00	YES	NO	-	20:30	Access to this respondent did not pose much of a problem. The participant had official issues that came up at work and had to delay closing time and as such, the interview had to be rescheduled by 30 minutes. However, the respondent appeared to be prepared for the interview owing to the level of enthusiasm displayed during the course of the interview and no disruption was encountered with the telephone reception throughout the interview
3	YMP	Reservoir Engineer	09/02/13	07:00	YES	NO	-	08:00	Access to this respondent did not pose much of a problem, although the participant was working a tight schedule, this informed the reason for having the interview at the time we did. The interview was rescheduled by 1 hour upon the request of the participant to get some further rest and be refreshed. the respondent appeared to be prepared for the interview owing to the level of enthusiasm displayed during the course of the interview and no disruption was encountered with the telephone reception throughout the interview
4	TUT	Professor of Chemical Engineering	09/02/13	15:00	YES	YES	-	-	Access to this respondent did not pose much of a problem. The interview took place at the time scheduled and the respondent appeared to be prepared for the interview owing to the level of enthusiasm displayed during the course of the interview and no disruption was encountered with the telephone reception throughout the interview
5	GOV	Local Content	12/02/13	10:00	YES	NO	-	11:00	Access to this respondent did not pose much of a problem although the interview had to be rescheduled because of

		Coordinator							sudden official matters that arose, eventually the interview began at 11:15. The respondent appeared to be prepared for the interview owing to the level of enthusiasm displayed during the course of the interview and no disruption was encountered with the telephone reception throughout the interview
6	ISP	Executive Director	12/02/13	12:00	YES	YES	-	-	Access to this respondent posed a bit of problem such as not picking calls and engaging in very short conversations at the times when the phone was answered. This can be attributed to his role and job description. The researcher tried to call on the day the interview was held and the participant was in a very relaxed mood and he suggested the interview took place at that time. The respondent appeared to be prepared for the interview owing to the level of enthusiasm displayed during the course of the interview and no disruption was encountered with the telephone reception throughout the interview
7	INO	Local content manager	14/02/13	13:30	NO		14/02/13	18:00	Access to this participant posed a bit of problem because the researcher had to communicate with him through an intermediary. However, when the researcher finally had direct access, the respondent displayed a high level of interest in the research. Throughout the interview, there was no disruption encountered with the telephone reception.
8	ISP	Project Manager	16/02/13	14:00	NO	NO	19/02/13	12:00	Access to this respondent did not pose much of a problem although the interview had to be rescheduled twice because of sudden official commitments that arose; The respondent appeared to be prepared for the interview owing to the level of enthusiasm displayed during the course of the interview. Within the first 3-4 minutes of the interview, there was a disruption from the phone line but after this disruption no further disruption was encountered with the telephone reception throughout the rest of the interview
9	YMP	Subsea Engineer	20/02/13	21:00	YES	YES	-	-	Access to this respondent did not pose much of a problem. The interview took place at the time scheduled and the respondent appeared to be prepared for the interview owing to the level of enthusiasm displayed during the course of the interview and no disruption was encountered with the telephone reception throughout the interview
10	INO	Local content Manager	23/02/13	08:00	YES	YES	-	-	Access to this respondent did not pose any problem because the participant was highly interested in the research. The interview took place at the time scheduled and the respondent appeared to be prepared for the interview owing to the high

									level of enthusiasm displayed during the course of the interview. A slight disruption was encountered five minutes into the interview but afterwards, the interview was hitch free throughout the rest of the interview
10	IOC	Local Content Manager	27/02/13	10:00	NO	NO	28/02/13	15:00	Access to this participant proved difficult owing to the tight schedules of the participant. The interview was re scheduled because the participant had to make an unscheduled trip on the date initially fixed for the interview. However, the participant called the researcher to apologise and re schedule. Throughout the interview, the participant displayed a high level of enthusiasm and no disruption was encountered with the telephone reception throughout the interview.
11	INO	Local content Manager	15/03/13	11:30	NO	NO	19/03/13	16:00	Although access to this participant did not prove difficult but the participant had intimated the researcher of his tight work schedules. The interview was re scheduled because the participant needed to sort out company matters that came up suddenly, but the interview eventually took place. Throughout the interview, the participant displayed a high level of enthusiasm and no disruption was encountered with the telephone reception throughout the interview.
12	MSP	Local content Manger	20/03/13	09:00	NO	NO	27/03/13	10:00	Getting direct access to this participant required several bureaucracies. Eventually an interview date and time was fixed. However, the participant was kind enough to contact the researcher a day to the initially scheduled date requesting a postponement. After a week, the interview took place and the respondent devoted so much attention to the researcher. Regarding telephone, reception, this was excellent as there was no disruption throughout the conversation.
13	EPC	Local content Manger	21/05/13	10:00	NO	NO	30/06/13	10:15	This participant occupied dual role in the company, hence had so much workload. However, the participant had so much interest in the research and assured the researcher of his participation. However, he warned making a late request for a reschedule which did happen. Eventually, the research took place about a month later but this recorded a high level of success given that it took place outside the participant's work environment (in his car) to avoid distraction.
14	TUT	Professor of Chemical Engineering	01/06/13	10:00	YES	YES	-	-	Access to this respondent did not pose any problem because the participant was highly interested in the research. The interview took place at the time scheduled and the respondent appeared to be prepared for the interview owing to the high

									level of enthusiasm displayed during the course of the interview. A slight disruption was encountered with the telephone reception immediately the interview commenced but afterwards, the interview was hitch free throughout the rest of the interview
15	GOV	Public Affairs Officer	15/06/13	11:00	YES	YES	-	-	Access to this respondent did not pose any problem because the participant was highly interested in the research. The interview took place at the time scheduled and throughout the interview, the participant displayed a high level of enthusiasm and no disruption was encountered with the telephone reception throughout the interview.
16	MSP	Local Content Manager	11/06/13	11:00	NO	NO	15/06/13	11:00	Access to this participant proved difficult owing to the tight schedules of the participant. The interview was re scheduled because the participant had to attend an unscheduled meeting at the time initially fixed for the interview. However, the participant sent an e mail to the researcher to apologise and re schedule. Throughout the interview, the participant displayed a high level of enthusiasm and no disruption was encountered with the telephone reception throughout the interview.
17	TUT	Senior Lecturer Petroleum Engineering	19/06/13	20:30	YES	YES	-	-	Access to this respondent did not pose any problem because the participant was highly interested in the research. The interview took place at the time scheduled and throughout the interview, the participant displayed a high level of enthusiasm and no disruption was encountered with the telephone reception throughout the interview.
18	YMP	Subsea Engineer	13/08/13	21:30	YES	YES	-	-	Access to this respondent did not pose any problem because the participant was highly interested in the research. The interview took place at the time scheduled and throughout the interview, the participant displayed a high level of enthusiasm and no disruption was encountered with the telephone reception throughout the interview.
19	TUT	Senior Lecturer Chemical Engineering	19/08/13	09:45	YES	YES	-	-	Access to this respondent did not pose any problem because the participant was highly interested in the research. The interview took place at the time scheduled and throughout the interview, the participant displayed a high level of enthusiasm and no disruption was encountered with the telephone reception throughout the interview.
20	YMP	Oil data analyst	18/08/13	18:30	NO	NO	19/08/13	18:30	Access to this respondent did not pose any problem because the participant was highly interested in the research. Although the interview did not take place at the initial time scheduled

									due to participant's family commitment but throughout the interview, the participant displayed a high level of enthusiasm and no disruption was encountered with the telephone reception throughout the interview.
21	IOC	Head of Nigerian Content	13/09/2013	16:00	YES	YES	-	-	Access to this participant proved difficult and the researcher needed to access the respondent through another staff of the company. Besides this, the respondent worked on tight schedules and this was another major challenge even after the researcher finally had access to the respondent. Overall, the interview went well but it had to be interrupted for about two minutes as a result of an emergency the respondent needed to act upon swiftly. Throughout the interview, the participant displayed a high level of enthusiasm and no disruption was encountered with the telephone reception throughout the interview.
22	MSP	Nigerian Content Coordinator	03/10/2013	17:00	YES	YES	-	-	Access to this participant proved difficult as a result of bureaucracy in that, other junior staff refused to allow the researcher speak with the respondent. After two months of persistence, the researcher was granted access and the respondent was very happy to grant the interview. Overall, the interview went well and throughout the interview, the participant displayed a high level of enthusiasm and no disruption was encountered with the telephone reception throughout.
23	IOC	Local content Manager	04/10/2013	14:00	YES	YES	-	-	This participant granted access easily to the researcher, slight disruptions were encountered three minutes into the telephone conversation but after this, the interview went smoothly uninterrupted
24	EPC	Local content Manager	05/10/2013	17:00	NO	NO	17/10/13	18:00	There were some bureaucracies in accessing this respondent. Eventually a date was agreed with the participant through his PA, but later re scheduled. Overall, the researcher observed that there was a bit of protocol to be followed in getting access but once booked in, the process went well. The respondent delayed his closing time to attend the interview, which went on uninterrupted throughout
25	YMP	Well engineer	10/10/2013	20:00	YES	YES	-	-	Access to this respondent did not pose much of a problem. The interview took place at the time scheduled and the respondent appeared to be prepared for the interview owing to the level of enthusiasm displayed during the course of the interview and no disruption was encountered with the telephone reception

									throughout the interview
26	ISP	Operations Manager	17/10/13	09:45	YES	YES	-	-	This researcher was accessed through LinkedIn and he responded speedily. Following this a telephone conversation was initiated for familiarisation purposes and fixing an interview date. The interview went on as scheduled and this was uninterrupted
27	EPC	Local content Manager	25/10/13	13:30	NO	NO	26/10/13	12:00	Access to this respondent was also through social media (LinkedIn) but the participant did not respond on time. However, the researcher remained persistent until a phone call was initiated. The interview was re scheduled owing to work commitments but this eventually turned out successful with no interruption throughout the telephone conversation
28	GOV	Local content Analyst	26/10/13	20:00	YES	YES			This respondent was easily accessed but requested an evening interview, particularly because he wanted to be well prepared. According to him he reckoned it was going to be a long interview lasting several hours given that he was speaking from the government angle. Overall, the interview went on smoothly and uninterrupted, lasting slightly over an hour

Source: Generated by Author (2014)

NOTE: YMP means young employees

APPENDIX 3

INTERVIEW QUESTIONS

INTERVIEW GUIDELINE QUESTIONS FOR GOVERNMENT (GOV)

1. What are your responsibilities to the oil and gas industry
2. One of the objectives of the Local Content Policy is to give first consideration for employment and training to Nigerians, can you comment on how the government through your organisation (mention the name of the organisation) has been working towards achieving this objective?
3. How achievable do you think this objective is given that there has been foreign dominance in this sector since inception?
4. (Can you please comment on the waiver window being asked for by operators in terms of local content development) Recently, the waiver window which was meant to expire in 2013 has been extended by 2 years, this suggests that foreign contractors will still be benefiting from projects meant to be executed in Nigeria, what do you think will be the impact of this extension on indigenous employment
5. Given that the Act requires that only Nigerians should be employed within the junior and intermediate cadre, can you please comment on this based on the reports that you get from the companies
6. If you please permit me to group the working cadre into junior intermediate and senior, can you please comment on the distribution of Nigerians and foreigners across these cadres?
7. If these targets are still achievable, in how many years do you think this can be achieved?
8. It is expected that a local content plan consisting of certain amount or percentage of Nigerian employees be included when bidding for any project, please can you comment on the level of compliance of the operators in this regard.
9. What can you say about the suitability and employability of Nigerian employees in the oil and gas labour market
10. Given that local content development is a national policy, and for this policy to be achieved a number of infrastructures needs to be put in place of which a major one is training and re-training employees of the industry. Which of the stakeholders do you think is responsible for this, please explain why
11. Do you think this should be the sole responsibility of one particular stakeholder? If yes please give reasons
12. If no, which stakeholders do you think should bear the responsibility and why
13. What major skills are lacking among Nigerians and how do you think this skill gaps can be bridged
14. Do you think other stakeholders like the operators and institutions of learning have any role in bridging these skill gaps, please explain
15. Does the government embark on any training activities/programmes for indigenous employees and/or non-employees
16. Please can you give details of these training activities
17. What sort of working relationship (communication/ friendship/advice/ conflict/trust) do you have with

IOCs	Indigenous operators	Multinational oil and gas service companies	Indigenous oil and gas service companies	Steel and pipe fabricators	Institutions of higher learning	Young graduates	Government (Regulators)

18. Generally, can you rate your **relationship tie** on a scale of 1 to 5 where 1 is weak and 5 is strong

(EXCLUSIVELY FOR NCDMB)

19. The Local Content Policy also mandates that a Local Content Plan containing employment and training (E and T) plans be submitted to the board, do these operators comply with this directive

b. If they do how often do they submit this to the Board ?

20. If you please permit me to group the working cadre into junior intermediate and senior, can you please comment on the distribution of Nigerians and foreigners across these cadres in the oil companies?

21. Can you comment on the level of Nigerian content present in the entire workforce of the Nigerian oil and gas company

INTERVIEW GUIDELINE QUESTIONS FOR MULTINATIONAL OPERATORS (IOCs)

1. One of the objectives of the Local Content Policy is to give first consideration for employment and training to Nigerians, can you comment on how your company has been working towards achieving this objective?
2. Can you please comment on the level of indigenous capacity currently in the workforce of your organisation?
3. Can you please comment on their employment contract i.e are they all employed as contract, or permanent staff
4. Given that the Act requires that only Nigerians should be employed within the junior and intermediate cadre, can you please comment on this as it affects your company
5. If you please permit me to group the working cadre into unskilled semi-skilled and skilled, can you please comment on the distribution of Nigerians and foreigners across these cadres?
6. The Act recommends various manhours to be worked by Nigerians, how have you been complying with this as it affects different skillsets.
7. On a general note, what can you say on the expatriate quota of your company?
8. Given that the Act mandates that there should be a succession plan for any position not held by Nigerians, what measures are being taken to increase the level of Nigerian content in all categories of your company's workforce to meet the requirement of the NOGIC Act
9. Can you please comment on the long term plan for this quota
10. What can you say about the suitability and employability of Nigerian employees in the oil and gas labour market.
11. Can you please comment on the skill acquired by graduate employees from the universities and institutions of higher learning in enhancing their performance on their job
12. When graduates are employed, are they sent to field immediately to learn on the job or do you provide some sort of trainings
13. Can you please comment on the trainings you offer these graduates
14. What can you say about the potentials of these local employees in achieving supervisory and managerial roles while foreign employees are present
15. What are the major problems you face in terms of employing Nigerians
16. What major skills are lacking among Nigerians and how do you think this skill gaps can be bridged
17. Do you think other stakeholders like the government and institutions of learning have any role in bridging these skill gaps, please explain
18. Do you think the local content policy should be more of domiciliation or indigenous workers going abroad to understudy experts
19. What are your responsibilities to the oil and gas industry
20. Given that local content development is a national policy, and for this policy to be achieved a number of infrastructures needs to be put in place of which a major one is training and re-training employees of the industry. Which of the stakeholders do you think is responsible for this, please explain why
21. Do you think this should be the sole responsibility of one particular stakeholder? If yes please give reasons
22. If no, which stakeholders do you think should bear the responsibility and why
23. Given that your company is a multinational operator (and you may not be able to absorb all employable employees) what other strategies are you taking to promote local content in the Nigerian oil and gas sector (for example, are you working with other institutions like banks)

24. What sort of working relationship (communication/ friendship/advice/ conflict/trust) do you have with

IOCs	Indigenous operators	Multinational oil and gas service companies	Indigenous oil and gas service companies	Steel and pipe fabricators	Institutions of higher learning	Young graduates	Government (Regulators)

25. Generally, can you rate your **relationship tie** on a scale of 1 to 5 where 1 is weak and 5 is strong

26. Recently, the waiver window which was meant to expire in 2013 has been extended by 2 years, this suggests that foreign contractors will still be benefiting from projects meant to be executed in Nigeria, what do you think will be the impact of this extension on indigenous employment

INTERVIEW GUIDELINE QUESTIONS FOR MULTINATIONAL SERVICE COMPANIES (MSP)

1. What are your responsibilities to the oil and gas industry
2. One of the objectives of the Local Content Policy is to give first consideration for employment and training to Nigerians, can you comment on how your company has been working towards achieving this objective?
3. Can you please comment on the level of indigenous capacity currently in the workforce of your organisation?
4. Can you please comment on their employment contract i.e are they all employed as contract, or permanent staff
5. Given that the Act requires that only Nigerians should be employed within the junior and intermediate cadre, can you please comment on this as it affects your company
6. If you please permit me to group the working cadre into junior intermediate and senior, can you please comment on the distribution of Nigerians and foreigners across these cadres?
7. On a general note, what can you say on the expatriate quota of your company?
8. Given that the Act mandates that there should be a succession plan for any position not held by Nigerians, what measures are being taken to increase the level of Nigerian content in all categories of your company's workforce to meet the requirement of the NOGIC Act
9. Can you please comment on the long term plan for this quota
10. What can you say about the suitability and employability of Nigerian employees in the oil and gas labour market.
11. Can you please comment on the skill acquired by graduate employees from the universities and other institutions of higher learning in enhancing their performance on their job
12. When graduates are employed, are they sent to field immediately to learn on the job or do you provide some sort of trainings
13. Can you please comment on the trainings you offer these graduates
14. What can you say about the potentials of these local employees in competing with foreign employees
15. What are the major problems you face in terms of employing Nigerians
16. What major skills are lacking among Nigerians and how do you think this skill gaps can be bridged
17. Do you think other stakeholders like the government and institutions of learning have any role in bridging these skill gaps, please explain
18. Given that local content development is a national policy, and for this policy to be achieved a number of infrastructures needs to be put in place of which a major one is training and re-training employees of the industry. Which of the stakeholders do you think is responsible for this, please explain why
19. Do you think this should be the sole responsibility of one particular stakeholder? If yes please give reasons
20. If no, which stakeholders do you think should bear the responsibility and why
21. What sort of working relationship (communication/ friendship/advice/ conflict/trust) do you have with

IOCs	Indigenous operators	Multinational oil and gas service companies	Indigenous oil and gas service companies	Steel and pipe fabricators	Institutions of higher learning	Young graduates	Government (Regulators)

22. Generally, can you rate your **relationship tie** on a scale of 1 to 5 where 1 is weak and 5 is strong
23. How often do you secure project/procurement contracts from the operators
24. How has these contracts impacted on your company's labour force
25. Given that your company is a multinational operator (and you may not be able to absorb all employable employees) what other steps are you taking to promote local content in the Nigerian oil and gas sector.
26. What percentage of your contract awards do you subcontract to indigenous contractors
27. Recently, the waiver window which was meant to expire in 2013 has been extended by 2 years, this suggests that foreign contractors will still be benefiting from projects meant to be executed in Nigeria, what do you think will be the impact of this extension on indigenous employment

INTERVIEW GUIDELINE QUESTIONS FOR INDIGENOUS OPERATORS (INO)

1. One of the objectives of the Local Content Policy is to give first consideration for employment and training to Nigerians, can you comment on how your company has been working towards achieving this objective?
2. Can you please comment on the level of indigenous capacity currently in the workforce of your organisation?
3. Can you please comment on their employment contract i.e are they all employed as contract, or permanent staff
4. Given that the Act requires that only Nigerians should be employed within the junior and intermediate cadre, can you please comment on this as it affects your company
5. If you please permit me to group the working cadre into unskilled semi-skilled and skilled, can you please comment on the distribution of Nigerians and foreigners across these cadres?
6. The Act recommends various manhours to be worked by Nigerians, how have you been complying with this as it affects different skillsets.
7. On a general note, what can you say on the expatriate quota of your company?
8. Given that the Act mandates that there should be a succession plan for any position not held by Nigerians, what measures are being taken to increase the level of Nigerian content in all categories of your company's workforce to meet the requirement of the NOGIC Act
9. Can you please comment on the long term plan for this quota
10. What can you say about the suitability and employability of Nigerian employees in the oil and gas labour market.
11. Can you please comment on the skill acquired by graduate employees from the universities and institutions of higher learning in enhancing their performance on their job
12. When graduates are employed, are they sent to field immediately to learn on the job or do you provide some sort of trainings
13. Can you please comment on the trainings you offer these graduates
14. What can you say about the potentials of these local employees in achieving supervisory and managerial roles while foreign employees are present
15. What are the major problems you face in terms of employing Nigerians
16. What major skills are lacking among Nigerians and how do you think this skill gaps can be bridged
17. Do you think other stakeholders like the government and institutions of learning have any role in bridging these skill gaps, please explain
18. Do you think the local content policy should be more of domiciliation or indigenous workers going abroad to understudy experts
19. What are your responsibilities to the oil and gas industry
20. Given that local content development is a national policy, and for this policy to be achieved a number of infrastructures needs to be put in place of which a major one is training and re-training employees of the industry. Which of the stakeholders do you think is responsible for this, please explain why
21. Do you think this should be the sole responsibility of one particular stakeholder? If yes please give reasons
22. If no, which stakeholders do you think should bear the responsibility and why
23. Given that your company is a multinational operator (and you may not be able to absorb all employable employees) what other strategies are you taking to promote local content in the Nigerian oil and gas sector (for example, are you working with other institutions like banks)

24. What sort of working relationship (communication/ friendship/advice/ conflict/trust) do you have with

IOCs	Indigenous operators	Multinational oil and gas service companies	Indigenous oil and gas service companies	Steel and pipe fabricators	Institutions of higher learning	Young graduates	Government (Regulators)

25. Generally, can you rate your **relationship tie** on a scale of 1 to 5 where 1 is weak and 5 is strong

26. Recently, the waiver window which was meant to expire in 2013 has been extended by 2 years, this suggests that foreign contractors will still be benefiting from projects meant to be executed in Nigeria, what do you think will be the impact of this extension on indigenous employment

INTERVIEW GUIDELINE QUESTIONS FOR INDIGENOUS SERVICE COMPANIES (ISP)

1. Can you please comment on the employment contract of your company's workforce i.e are they all employed as contract, or permanent staff
2. Given that the Act requires that only Nigerians should be employed within the junior and intermediate cadre, can you please comment on this as it affects your company
3. If you please permit me to group the working cadre into junior intermediate and senior, can you please comment on the distribution of Nigerians and foreigners across these cadres?
4. On a general note, what can you say on the expatriate quota of your company?
5. Given that the Act mandates that there should be a succession plan for any position not held by Nigerians, what measures are being taken to increase the level of Nigerian content in all categories of your company's workforce to meet the requirement of the NOGIC Act
6. Can you please comment on the long term plan for this quota
7. What can you say about the suitability and employability of Nigerian employees in the oil and gas labour market.
8. Can you please comment on the skill acquired by graduate employees from the universities and institutions of higher learning in enhancing their performance on their job
9. When graduates are employed, are they sent to field immediately to learn on the job or do you provide some sort of trainings
10. Can you please comment on the trainings you offer these graduates
11. What can you say about the potentials of these local employees in achieving supervisory and managerial roles while foreign employees are present
12. What are the major problems you face in terms of employing Nigerians
13. What major skills are lacking among Nigerians and how do you think this skill gaps can be bridged
14. Do you think other stakeholders like the government and institutions of learning have any role in bridging these skill gaps, please explain
15. Given that local content development is a national policy, and for this policy to be achieved a number of infrastructures needs to be put in place of which a major one is training and re-training employees of the industry. Which of the stakeholders do you think is responsible for this, please explain why
16. Do you think this should be the sole responsibility of one particular stakeholder? If yes please give reasons
17. If no, which stakeholders do you think should bear the responsibility and why
18. Since the implementation of the policy, what impact has it had on contract awards for your company?
19. How has the implementation of the policy affected your workforce (in terms of employment)
20. Can you please comment on the production level of your company since the implementation of the policy
21. With the local content policy in place, what do you think are potentials of entrepreneurial development in terms of new companies emerging
22. As much as the LC policy seeks to develop entrepreneurs, what can you say about the quality and standard of the products that will be produced by these potential entrepreneurs
23. Are there cases where you have had to sub contract procurement or technical services to other companies, please give details
24. What sort of working relationship (communication/ friendship/advice/ conflict/trust) do you have with

IOCs	Indigenous operators	Multinational oil and gas service companies	Indigenous oil and gas service companies	Steel and pipe fabricators	Institutions of higher learning	Young graduates	Government (Regulators)

25. Generally, can you rate your **relationship tie** on a scale of 1 to 5 where 1 is weak and 5 is strong
26. Recently, the waiver window which was meant to expire in 2013 has been extended by 2 years, this suggests that foreign contractors will still be benefiting from projects meant to be executed in Nigeria, what do you think will be the impact of this extension on indigenous employment

INTERVIEW GUIDELINE QUESTIONS FOR EPC CONTRACTORS AND FABRICATORS (EPC)

1. Can you please comment on the employment contract of your company’s workforce i.e are they all employed as contract, or permanent staff
2. On a general note, what can you say on the expatriate quota of your company?
3. Can you please comment on the long term plan for this quota
4. Can you please comment on the skill acquired by graduate employees from the universities and institutions of higher learning in enhancing their performance on their job
5. When graduates are employed, are they sent to field immediately to learn on the job or do you provide some sort of trainings
6. Can you please comment on the trainings you offer these graduates
7. What can you say about the potentials of these local employees in achieving supervisory and managerial roles while foreign employees are present
8. What are the major problems you face in terms of employing Nigerians
9. What major skills are lacking among Nigerians and how do you think this skill gaps can be bridged
10. Do you think other stakeholders like the government and institutions of learning have any role in bridging these skill gaps, please explain
11. Given that local content development is a national policy, and for this policy to be achieved a number of infrastructures needs to be put in place of which a major one is training and re-training employees of the industry. Which of the stakeholders do you think is responsible for this, please explain why
12. Do you think this should be the sole responsibility of one particular stakeholder? If yes please give reasons
13. If no, which stakeholders do you think should bear the responsibility and why
14. Since the implementation of the policy, what impact has it had on contract awards for your company?
15. How has the implementation of the policy affected your workforce (in terms of employment)
16. Can you please comment on the production level of your company since the implementation of the policy
17. With the local content policy in place, what do you think are potentials of entrepreneurial development in terms of new companies emerging
18. As much as the LC policy seeks to develop entrepreneurs, what can you say about the quality and standard of the products that will be produced by these potential entrepreneurs
19. Are there cases where you have had to sub contract procurement or technical services to other companies, please give details
20. Nigerian oil and gas sector (for example, are you working with other institutions like banks)
21. What sort of working relationship (communication/ friendship/advice/ conflict/trust) do you have with

IOCs	Indigenous operators	Multinational oil and gas service companies	Indigenous oil and gas service companies	Steel and pipe fabricators	Institutions of higher learning	Young graduates	Government (Regulators)

22. Generally, can you rate your **relationship tie** on a scale of 1 to 5 where 1 is weak and 5 is strong
23. Recently, the waiver window which was meant to expire in 2013 has been extended by 2 years, this suggests that foreign contractors will still be benefiting from projects meant to be executed in Nigeria, what do you think will be the impact of this extension on indigenous employment

INTERVIEW GUIDELINE QUESTIONS FOR YOUNG EMPLOYEES IN THE OIL AND GAS INDUSTRY (YMP)

1. How long have you been working for your company
2. Can you please comment on the sufficiency of the skill acquired your past institution of learning in doing your job
3. Do you think the teaching curriculum provided you with the basic skill needed for your job
4. Can you please comment on the quality of trainings provided so far by your company in enhancing your job
5. How confident did you feel before and after the initial trainings
6. With the knowledge acquired in the trainings, do you think you are able to compete successfully with expatriates for supervisory and managerial positions
7. In what ways do you think the teaching curriculum can be improved to meet the needs of the oil and gas industry

INTERVIEW GUIDELINE QUESTIONS FOR GEO SCIENCE AND ENGINEERING TUTORS (TUT)

1. Given that you are an experienced tutor who has been teaching Engineering/Geo science (modules) courses in the past years, can you please comment on what has changed in the curriculum
2. Apart from the curriculum, has there been other changes especially in the mode of delivering these courses (modules) to students
3. Does the curriculum entail practical classes where the students are able to appreciate the courses better
4. Within the students' time of study, do they engage in any practical industrial experience
5. If yes, are there ways to assess the knowledge they acquired while on the field where these practical knowledge was gained
6. Please can you comment on the quality and applicability to industry, the course (module) you teach to students
7. How dynamic is this curriculum with technological advancement
8. Are there any existing forums where you interact with industry experts to know what their demands are with respect to the graduates they employ into the industry? Please explain
9. Are there any existing avenues where tutors get to update themselves on industry activities to enhance the delivery of updated technologies and findings to students? Please how important do you think this is?
10. On the overall, can you please comment anonymously (if you know any) on the general report you get about your students who are currently employed in the industries.
11. What are your responsibilities to the oil and gas industry
12. Given that local content development is a national policy, and for this policy to be achieved a number of infrastructures needs to be put in place of which a major one is training and re-training employees of the industry. Which of the stakeholders do you think is responsible for this, please explain why
13. Do you think this should be the sole responsibility of one particular stakeholder? If yes please give reasons
14. If no, which stakeholders do you think should bear the responsibility and why
15. What sort of relationship (communication/ friendship/advice/ conflict/trust) do you engage in with (mention stakeholder)? Do you engage in any forms of conversation or derive any mutual benefit from each other

IOCs	Indigenous operators	Multinational oil and gas service companies	Indigenous oil and gas service companies	Steel and pipe fabricators	Institutions of higher learning	Young graduates	Government (Regulators)

16. Generally, can you rate your **relationship tie** on a scale of 1 to 5 where 1 is weak and 5 is strong

APPENDIX 4

Codes and data categories

Main Code	Category	Codes	Theme
01	Value addition		
		01a	Employment contract
		01b	Percentage of indigenous vs foreigners in workforce
		01c	Impact of waiver window extension
		01d	Contract and sub contract awards
02	Curriculum dynamism of HEIs and industry demands		
		02a	Usefulness of curriculum
		02b	Curriculum modification
		02c	University collaboration
		02d	Tutor-practitioner interaction
		02e	Students' practical experience
		02f	Curriculum dynamism of HEI
		02g	Graduates competency
03	Suitability and employability of graduates		
		03a	Skill set of potential employees
		03b	Existent Skill gaps
		03c	Bridging skill gaps
		03d	Suitability and employability
		03e	Ascension to higher cadres
04	Funding LCD		
		04a	Responsibilities of stakeholders
		04b	Whose responsibility is LCD?
05	Entrepreneurial emergence in the oil and gas industry		
		05a	Entrepreneurial emergence rate
		05b	Quality of service delivery
		05c	Entrepreneurial intension (opportunity and necessity)
06	Domiciliation vs. indigenisation		
		06a	Advantages of domiciliation
		06b	Disadvantages of domiciliation
		06c	Advantages of indigenisation
		06d	Disadvantages of indigenisation

APPENDIX 5

INTERVIEW TRANSCRIPT

Value addition			Strategy adopted		
Locals present	Employment contract	Ways of promoting and monitoring	Contract	Sub contract	Conclusion
<p>BH: Well, more than 80% locals (indigenous capacity)</p> <p>BH: Most of our employees are permanent staff and not contract except for the consultants that we have, and these are Nigerians anyway. Yes, Nigerians being that they are well experienced in the industry and probably maybe have reached retirement age but you know most of these people, they go to companies from time to time, they consult and provide services. These are the people we consider as consultants because they are not full employees its just for their experience we require them</p> <p>BH: well, as it is we are 100% compliant, most of our personnel are Nigerians. Most especially we have engaged in training Nigerians and we have Nigerian understudies, (understudy) to learn the roles and responsibilities and after some time they can come up to speed (responsibility) and take over the positions not held by Nigerians</p> <p>BH: Most of our consultants are Nigerians Yes, Nigerians being that they are well experienced in the industry and probably maybe have reached retirement age but you know most of these people, they go to companies from time to</p>	<p>ISS: Employment contract They are all permanent staff, though we employ some contract staff but mostly unskilled. Basically, those people who do the technical bits are permanent staff</p> <p>OSS: : They are permanent staff of course you can't be talking about local content and having contract staff except for outsourcing jobs like cleaners. Well like I said to you that my company is 100% Nigerian as such all our employees are Nigerians and the only experts that come to play any major role are our equipment manufacturers and these people I oversee and these are our technical partners and these [people only come to provide services here</p>	<p>As part of ways to support indigenisation, Some scope of work which we think they can handle, for example the use and supply of equipment which is within their range. We won't ask them to go do what we feel can affect their business, so whatever fits into their scope of work we invite them, so whatever profit they make they invest back into their business and get better equipment, and this is a fair game</p> <p>OKW: For certain areas in the oil and gas industry, you can employ Nigerians from the least position to the top and these areas include engineering design apart from umblicals and probably FPSO and also refining, but any other areas you cannot hire Nigerians</p> <p>WP: Efforts on indigenisation. Good enough, this is part of the pre-conditions of the expatriates, so it's either they accept or reject this but of course some of them do not understand the full implication of what they have been asked to do and once they start to realise that, they want to put up an opposition but definitely we work with them to ensure that they comply and for those that cannot comply fully, they stay for some time and then they find their way out, but then this is in very rare cases</p> <p>OSS: Efforts to develop indigenisation. Yes it is a minimum standard for us and what we are even looking at is to bring them to come and develop our workshop and as we speak we have constructed a workshop which they have accepted to come and fully equip it with the necessary infrastructures so that some of the things which are usually shipped to them can be done in-country. With this infrastructure we hope to ensure that only minimum activities are carried out outside the country</p> <p>SAI: Following from the 91% Nigerians and 9% expatriates what</p>	<p>WP: LC policy has led to increased Contract awards and have impacted on our indigenous workforce. Definitely it has. We now have the opportunity to employ more Nigerians now. In fact I have seen this company grow in the last 3 years by 20-25%</p> <p>ISS: On contract awards It has had a great impact, a lot of opportunities has come our way in form of contracts, in fact we have had to partner with other companies for the ones we cannot handle alone. One thing I will commend the operators for is that they encourage us to partner with other companies when we cannot handle contracts alone, so I think the policy implementation has increased contract awards for our company</p>	<p>BH: On sub contract Yes we do sub contract to indigenous companies</p> <p>ISS: On Sub contracts Usually, we do not bid for contracts we cannot execute so as to save ourselves from being blacklisted by these companies. In most cases the contracts we take up are only the ones we are sure to execute</p> <p>WP: On sub contracts No, because we have been able to handle our projects by ourselves. We have not had any big project that will attract a consortium or sub contracting to other companies, so in cases where we have project aspects that cannot be handled by us we either bring in expatriates from our branches abroad or we send the job abroad to be done that can better handle it. And most times, it is an infindecimal part of the</p>	<p>BH: indirect Firstly, we should understand that no foreign company in the Nigerian oil and gas industry especially can run on its own. It's got to have at least 51% Nigeria share holding. In the case of our company, the way we help is that we train human capacity for indigenous companies and provide them with the needed technology, development of their personnel via trainings such as understudying our own personnel to see how things are being done</p> <p>WP: Well, yes full compliance but you know there are specific schedules contained in the Act and that is where we are currently concentrating on e.g manhours to be worked and so on. I cannot say we are fully there yet because getting competent in-country hands to really do what we need to do is not</p>

<p>time, they consult and provide services. These are the people we consider as consultants because they are not full employees its just for their experience we require them</p> <p>WP: All our employees are permanent staff. Definitely we are in compliance. At least 80 percent of our workforce are Nigerians in fact about 85-90 percent I'll say, of which many of them are in the senior cadre</p> <p>ISS : Well, for my company, I think we are in compliance because all our staff are Nigerians, both junior or middle staff are Nigerians, we do not have any expatriates and this is because well, because the kind of services we provide does not require so much technicalities beyond our capability</p> <p>ISS: On the impact of the LC policy on workforce. Definitely it has increased our workforce because we require more hands now that we get more contracts than before, we have seen this as an opportunity to employ more people, and I can say that employment has increased as a result of the local content policy</p> <p>OKW: it is 100% indigenous but we have strategic alliance with some foreign companies but fully owned by Nigerians. For the engineering and technical division, we are about 200 of us and over 180 of us are permanent staff, the people we have as contract staff are our support staff like cleaners and the likes</p> <p>WP: I may not have the full overview of what the expatriate quota is supposed to be, but from the view point of the current project that I manage, out of the about 110 people working on that project, we only have about 15 to 16 expatriates</p> <p>SAI: Like I said earlier, our foreign labour force is low, but then with the local content policy it has become lower, It used to be about 12% foreign capacity but now it is about 9%, invariably the policy has made us more compliant, because training has to be stepped up because after some time there would not be need for any foreign capacity. So it has impacted to the extent that we must follow strict guidelines as laid down by the policy, and one of our</p>		<p>we do is this, a lot of the experts that we have, they work on different projects and generally what you find is that they move from one project to another and by this, they pass on knowledge. So what we try to ensure is a kind of knowledge transfer between the expatriates and the Nigerians that are working with them. At a particular time having worked for an amount of time, Nigerians are required to take up these expatriate positions that's why we try to ensure the technology transfer. We also have an understudy programme which ensures and sensitises the expatriates on the need to transfer knowledge to whoever they are working with</p> <p>SAI: Yes our Engineering team is currently developing from scratch about 40 subsea engineers who are undergoing training in Paris right now. This is because there is a lack of capacity in that area in Nigeria, and I know for welding. We have a welding school at porthacourt where for community people that we have to employ will usually have to go through a programme in our welding school. And also for our FPNL staff, we have a training programme each year whereby each of the departments put in for areas which they lack manpower or can undergo competencies, and then a training programme is designed for the personnel as well, so generally I think our training programmes are standard and all these are apart from the NCD training programmes that</p> <p>DAE: In order to make up for the 10% foreign capacity there are successive plans to take over this 10% and NCDMB, which is the monitoring board are driving that to ensure that this is achieved</p> <p>we are obligated to do</p> <p>NCD: We have something called the Expatriate Management System and the data of the expatriates are captured in a card with an RFID chip implanted in the card, so in a case where an expatriate comes up to do a job without passing through the right channel, this will be triggered by our system, so on our own part, these are one of the security measures we have put in place to ensure compliance</p> <p>DPR: As a result of the local content policy, the players are now being subjected to passing expatriate employment requests through the regulators who will now critically examine the reason why an expatriate should be brought in to do the job instead of a Nigerian. And in cases where this is not justifiable the request is</p>	<p>OSS: On contract awards, (fill up the rest from the text) I must admit that my own company has benefitted. If you take the issue of the workshop I talked about earlier but for the local content, I do not see how the OEMs will have ceded that to us for example because they know 5that in a few years from now no equipment will be taken out of the country for repairs or refurbishment so they are pro active in setting up a workshop for us for example.</p> <p>OKW: On contract awards (Pick up the rest) Well, like I have said, it is helping but we still cannot do the big jobs without some alliance with the foreign companies, say \$10million -\$15million. By and large I have not seen any Nigerian company fully Nigerian that can go out to bid alone without an alliance with another company for a \$500million or even a \$150million project and do it all alone but generally thee policy has not increased in any way the contract awards for this company</p> <p>WP: On contract</p>	<p>project.</p> <p>OSS: On sub contract In the case of my company, as a result of my years of experience in the industry we go into some consortium arrangements so that way there are some contracts we jointly execute with some small companies even though we are small, so if we have a contract for example whose scope my company cannot completely give the best, then we go into an arrangement with another company and form a consortium and we let the company awarding the contract know that we are going into a consortium with some other company who has some skills and in fact we are thinking of some mergers and acquisition of other companies for example with a company into well testing because we see this aspect as a lead frontier that is going to emerge in the oil and gas industry so we are thinking of acquiring the company or going into partnership with them, so by and large, we don't sub contract to other smaller companies but we go into partnership with them to execute our contract</p> <p>OKW; On sub contract Yes we have and what we did was to get some Nigerians who are more skilled to help us on a project. So basically, the reason for this was as a result of their technical</p>	<p>fully available.</p> <p>OSS: Very good conclusion on this objective; pick the rest up The dynamics of the oil company is such that employment is based on contract availability so the more the number of companies.</p> <p>WP: Very good conclusion for this objective, pick up full text.I feel it is still too drastic. Take for example the Act says 90% of the total FEED</p> <p>WP: Conclusion on indigenous employment (fill in the gaps) . I believe that the IOCs can be made such that whoever has gone through probably one year of training in an oil and gas project, that person should be employable in the junior cadre.</p> <p>NCD: If you take a statistics of each of these IOCs, you will find out that you have a lot more Nigerians in their employment than foreigners. I do not work for any of these IOCs and we do not have data at our own end, but a simple sampling will prove this to you. Every Nigerian has at least a son, daughter, brother, sister, father mother or aunty working in the oil and gas industry. That alone should tell you that foreign capacity in the employment of the oiul and gas industry is quite limited. But then the question you should now be</p>
---	--	--	--	--	--

<p>business policies is working with local people, this is because it is cheaper and also because we have always had this mind of connecting with the locals, so it has always been our business strategy we can always connect with the people we are working with because it would not make sense to populate a project in a local community with expatriates because when there is a problem, it will be a lot more easier to understand and resolve it with people in the community (locals) rather than with expatriates</p> <p>DAE: well, at this point, may I still say we are still a growing company and as a result of this, we still have about 90% Nigerian staff and 10% Expatriates</p> <p>ALC: Yes, prior to this time it was alarming but with the local content Act and the help of the NCDMB, a lot of laws has been enforced, and of course it is expedient for us to abide by the law, so the expatriate quota has seriously dropped ND Nigerians are now given the opportunity to man some sensitive positions</p> <p>ALC: With respect to increase in workforce, yes it has, don't forget I told you we have really cut down on expatriate quota now unlike before where a lot of jobs were given to expatriates, but with the local content policy, this has helped to really cut down on this, this is because the cost of hiring an expatriate will help service a lot of Nigerians</p> <p>SAI: To start with our staff strength is about 91% Nigerians and our foreign capacity is about 9%, but more importantly like I have explained that this is a construction company, we only need these staff when we have work, of course we do have work most of the time, but then we have a database of people that have worked with us in the past, for example if we don't have work we have to let them go but the database help us keep records of competent people, and then we regularly and routinely carry out recruitment exercises, recruitment campaign, advertisement in the papers to get new hands and probably new competencies.</p> <p>DAE: On workforce, Ok, the contracts we are doing here is project specific because I earlier mentioned the Odumara project, this is a project like so many others we have had in the past. Right now we have so many projects, the headquarters of Daewoo is in Porthacourt and most of the staff there are employed on permanent basis. For the projects however, most of them are employed on contract basis and as such, their contracts end on expiration of the</p>		<p>turned down</p> <p>LNG: We achieve this through our tender process. Whenever our vendors tender for contract, we ask them to give us a Nigerian content plan which includes their intention in giving preference to Nigerians as a matter of fact they have trained and employed Nigerians in Project Management thereby building their capacity</p> <p>LNG: On Bechtel local content, Yes they have, they have complied as much as possible. They have trained some Nigerians and even retained some of them, basically, Bechtel has done a lot in that area. Right now as I speak with you, Nigerians are working with them and they are still training other Nigerians in Project Management</p> <p>NCD: Ok well I will speak from my own perspective, prior to the advent of the Nigerian content act before the Act was signed into law, Nigeria did not have Tanker vessels but now they have two and that provides job opportunities however there are different personnel that work on these vessels. Then there has been over 20,000 jobs created since the advent of the Act not only that so many companies have taken advantage of it and they are now getting more projects I give you two examples of two Nigerian companies into FEED and prior to the Act were not getting jobs, but now they are, so more and more Nigerian companies are getting jobs and PETAN is able to give you a better statistics of this</p> <p>SHE: Ok, the first thing we've done is to actually embed LCD in our contracting and tendering processes, so for every single contract that rolls out of the system, we have built a structure to maximise the Nigerian content of that contract, so that's what we've done and the Nigerian content department is actually involved in that process and reviews every single submission that goes to theto ensure that the objective is being met. We also developed our own policy (a policy) way back in 2006 ahead of the act, and that's also very clear on our responsibility and the structures we've put in place to ensure that one of our major efforts towards sustainability is to maximise local content in all we do</p> <p>SHE: On employing Nigerians, We are doing a lot, training people, you know about our scholarship scheme, and then we want to enhance the talent pipeline in the Niger Delta, like every year picking 10 graduates from the Niger Delta region and sending them to world class institutions in the UK like Imperial college and the likes to acquire post graduate studies with a view to employing them on their return and that has been running for two years now and its been working very well. We also initiated</p>	<p>awards (fill in the gap) I will say it has increased the jobs/contracts we get because normally some of those jobs that would have gone outside Nigeria normally are now getting to us and also this has led to the proliferation of more servicing companies in the past 3 years.</p> <p>ALC: On contract awards It has had a lot of impact and increased contract awards. In fact for potential entrepreneurs the local content is capable of giving them good prospects. Even in situations where these entrepreneurs do not have the total capability, they can still bid in partnership with other firms</p> <p>DAE: On contract awards Yes, I think there is enormous contract awards with the passage of the content law. Sub contracting jobs are such that if you want to play a fast one, the law will chase you. In fact sub contracting jobs to vendors and the likes is much more than it used to be, so there is progress in award of contracts and even job creation</p>	<p>abilities and expertise in that areas but we have not had an instance where we needed to sub contract because of the size of the project and our lack of capacity to deliver within the required time</p> <p>SAI: On sub contract, Yes, well like I just said, if we are working with engineers from the indigenous companies, definitely they are not going to be working with us for free. For services as well, I know that for FPNL about 95% of these that we have given out have been sub contracted to indigenous companies. And sometimes when these are sub contracted with international companies, they are made to partner with indigenous companies so as to facilitate technology transfer. Generally I will say we do a lot of that and about 95% goes to indigenous companies</p> <p>DAE: On sub contract In a way that when you sub contract jobs, when this is done, the sub contractor now needs to employ more people</p> <p>DAE: On sub contract and workforce, Yes it has and so far we have achieved over 2 million manhours and we still hope to achieve more in the coming year and this is far from what we used to have before the Act was signed. The issue is the more you employ people</p>	<p>asking is "who are the people doing the core jobs", and that brings us to the idea of local content. We don't want a situation whereby a platform is fabricated in Korea and brought to Nigeria, so if it can be done in Nigeria, why don't we do it here, and that's the idea of local content development</p> <p>ADD: In conclusion for job creation Areas of Engineering and Procurement, in terms of engineering the area of FEED Design and the design of FPSO and other things. In terms of construction, there's a lot being done currently in that regard in the country unlike before where these forms of constructions and fabrication were done abroad, some of them are now being done in Nigeria. The areas where we lack specialised hands are the areas where we want to start training Nigerians for</p> <p>SHE: In conclusion on employment, There is no way our company can employ over 30,000 graduates so what we are doing is to help build the capacity of the local companies so that they can absorb those youths and also by building their capacity they can offer them a better value proposition in terms of employees, in terms of remuneration, in terms of</p>
--	--	---	---	---	---

<p>projects</p> <p>NCD: Now if you take a critical look of each of these companies, you will find that a larger percentage of their employees are Nigerians and apart from this, some of the Nigerians are also employed by these companies outside the country. Now I can categorically tell you this, for certain positions currently occupied by expatriates, we have mandated that the expatriate be understudied by at least 2 Nigerians and after 4 years it is expected that knowledge has been transferred so one of them takes up that position and the position now becomes Nigerianised, do not forget that we have gaps in the industry and this is the strategy we are using to close these gaps</p> <p>SHE: Our workforce is over 95% Nigerians. I'll just give you one example. The /Mobil oil and gas facility somewhere in Bayelsa state, a very new oil and gas facility with modern technology (everything) which will produce over a billion of gas and over 70,000 barrels of oil is manned 100% by Nigerians. A project of that magnitude is something an operator can easily use to justify expatriates employment in Nigeria but we chose to train Nigerians to run that facility 100 percent so that tells you a bit about the kind of philosophy we have. Also if you look at it, my company has two operating units in Nigeria and they are both managed by Nigerians. We have two Nigerian Managing Directors and also the senior management are Nigerians and they have executive powers and can take decisions. The country chairman is a Nigerian so indeed for us is Nigerian content is very important. It goes beyond it just being a legal requirement but it is actually the right way to do business and to operate, and we do our best even with all the militations from the society and the system to maximise local content in all we do and we also appreciate that we operate in a global industry with global standards. HSE and quality are very key in terms of what we hold there. So we also have to clearly state that in trying to get local content we do not compromise any of those requirements</p> <p>ADD: Yes we have more Nigerian staff, about 95%. Yes we have both permanent and contract staff, the contract staff are those who are recruited for particular projects and on expiration of such projects, their contract terminates and these contract staff are more of Nigerians than expatriates. With regards succession plan, this happens when we recruit expatriates with specialised skills and before they get on their job, we ask them for their succession plan to see how Nigerians can acquire those skills by understudying these</p>		<p>FEED Engineering training for young Nigerian graduates and we pick young Nigerian graduates and train them in the Shell office in our industrial area in Porthacourt for a year. At the end of that training, we absorb some of them and others get jobs with other oil and gas companies in Nigeria</p> <p>TOT: Promoting local employment We try to develop fabrication yards and indigenous Engineering companies. For example there is an engineering company that we work closely with, initially, they had about 40 engineers but when they reached full capacity, they got up to 400 engineers because we ensured that we awarded contracts to them and when the volume of these contracts increased, they employed more people</p> <p>ADD: upon the award of contracts we try to ensure that the contractor sticks to their plan for local content development as included in the tender in terms of employment and training. Depending on the number of years for which the project is going to last, we usually want the contractor to break this down for us to see. In terms of procurement, we usually try to know where materials will be procured from-Nigeria or Abroad and if Abroad we will want the contractor to justify the reasons for this</p> <p>ADD: Local employment strategy The strategy we have adopted is to extend the years of their contract and the scope, in that way they are able to absorb greater capacity and employ more Nigerians</p> <p>SHE: Promoting indigenous employment We are doing a lot, training people, you know about our scholarship scheme, and then we want to enhance the talent pipeline in the Niger Delta, like every year picking 10 graduates from the Niger Delta region and sending them to world class institutions in the UK like Imperial college and the likes to acquire post graduate studies with a view to employing them on their return and that has been running for two years now and its been working very well. We also initiated FEED Engineering training for young Nigerian graduates and we pick young Nigerian graduates and train them in the Shell office in our industrial area in Porthacourt for a year. At the end of that training, we absorb some of them and others get jobs with other oil and gas companies in Nigeria.</p> <p>Okw: On the impact of the local content policy on workforce: Yes, we are trying to build capacity on our own and as such we are employing more people, unfortunately we realise that the jobs are not forthcoming and in a way we are strangulating ourselves, these jobs come in trickles, for example getting one or two jobs from the IOCs in 3 years and that's not enough to sustain the workforce especially for areas like engineering design</p>		<p>the better because the measurement of performance is based on manhours</p>	<p>other benefits, that's what is lacking. We need to have enough companies who can actually offer a good value proposition, good jobs so that our youths will stop running outside the country once they graduate so what we are doing is to help build the capacity of those local companies who will in turn absorb the youths in the country</p>
---	--	--	--	---	--

<p>expatriates</p> <p>WP: We have seen the decline of expatriates now. Particularly in my company, every expatriate at a senior level is mandated to mentor and train Nigerians to enhance a good succession plan, so most times what we have is someone working in close relationship or understudying in any higher senior position such that when that person leaves, the other person can then take over and that even cascades down to the way we run our projects</p>		<p>where you do not need equipment, you need to keep people busy. We have had instances where we have stayed for close to 1 year without any serious jobs and of course we still have to pay salaries, and the reason is that having expanded our capacity we cannot let go of these people because we are still anticipating</p>			
--	--	---	--	--	--

Curriculum modification	Curriculum usefulness	University collaboration	Students' practical experience	Tutor-practitioner interaction	Students' competence	Curriculum Dynamicity
<p>ADF: Yes, to an extent because with the changes that have taken place in the oil and gas industry in the past years but the areas where the curricula is not meeting the demands of the oil and gas industry is in the area of skill development for example computer aided design and ability to analyse tools, chemicals and even results and you know that these tools require high technology. Also the issue of software is another shortfall in the curricula, whereby these softwares are not available in the institutions for learning and you will find that most of these softwares require just basic knowledge but because they are not available. Overall, I will say the problem is just lack of basic equipment which are high tech.</p> <p>MAU: I think not much has changed in the curriculum, not much over the years, although in the research review that we will do, there will be some additional</p>	<p>UCH: Well, its in two ways, there's the yes aspect in the sense that, the basic topics like material balance, diffusion and other processes we learn that in school. However, the schooling curriculum does not train you to become a petroleum engineer, they don't train you to become a reservoir engineer. With Chem engr, you can actually work in different fields even the banks. So they just teach you the concept and they expect that with the concept, at least you can manage when you are in a specific discipline. Having said that, I feel that if the universities... when people are admitted in the universities at some point people can specify</p>	<p>OSS: It is meant to be done in partnership, like the Nigerian content law is meant to work in partnership why I say so is this it is easy for us to say that the government should have the adequate financial support but take the industry for example, the curriculum has to be in consonance with what the industry requires so there is supposed to be a partnership for this to work, although the government may provide the enabling environment and the funding, but then the industries that require these people will have to be proactive to let the government and the institutions know what they require so as to produce graduates that are germane to what the industries require. The government and the universities may not necessarily know what the industry requires and because the world is dynamic and d moving and fast pace everyday so there is need for partnership and that's what the local content law is all about. Partnership among the stakeholders from the educational institutions and the government and of course from the IOCs themselves</p> <p>NCD: No that's not what I am saying, take for example will you tell me that schools like MIT or Imperial College will be asking the</p>	<p>MAU: Yes our curriculum is unique. The engineering curriculum in Nigeria is unique in that we have the industrial experience, we have what is called the student work experience which is done within the university and we have the student industrial work experience which is done in the factory outside the university. Together, this is supposed to be a whole year where students should have hands on experience in the practical aspects of the curriculum, so that is meant to make up for the decline in the practical not gained in the universities, but unfortunately, that too is declining because the supervision of the industrial work experience has declined over the years. The industries to absorb the students have also declined over the years</p> <p>MAU: Yes I think that, that practical training area or practical teaching area has declined over the years like I said. It is supposed to improve but it has declined because lack of equipment is a very good reason, (very often) lack of personnel that are adequately competent and interested to provide the practical training. I would also say a little bit of lack of enthusiasm or persistence by the students... you know a whole lot of problems, but I can see the practical aspect declining in most Nigerian universities.</p> <p>MAU: On SIWES supervision and effectiveness Yes, in the past we used to go and visit them and supervise, we work together with their industrial supervisor and have a report/assessment and so on, and</p>	<p>BH: On relationship ties Institutions of higher learning 3, because of CSR ACTIVITIES</p> <p>WP: On relationship ties My company believes so much in training and this is something that drives us. In fact we have a programme that goes into higher institutions of learning where we train undergraduates and give them a feel of what they will be doing in the industry and this programme runs all year round and we invest so much money in that. Currently we are running a training school whereby people coming out from schools can go into and start learning engineering before they become employed and this does not matter whether we retain them or not, this is more of a CSR activity for the oil and gas industry. What we are trying to do is to create the needed skills for the long run schools we have been to include OAU and FUTA</p> <p>SAI: On relationship ties For institutions of higher learning, we don't really partner with them and as such it is a 2</p> <p>DPR: On relationship ties We have a form of relationship with them through the professional bodies like National Institute of Petroleum exports and the likes. We sponsor conferences, we organise stakeholder forums together and these are done on a regular basis and we even extend this relationship to the students of faculties that are relevant to the industry. Most of the Board members of</p>	<p>WP: Well, it's either here nor there. What mostly guides us in our employment processes especially in recent times is what the IOCs have put down in their charter concerning the positions being held by Nigerians or expatriates, you know they give a requirement for number of years of experience and all the likes, and when we look at that you see certain things for concern, for example how long ago did well engineering start in Nigeria that they will now require someone with 12 years experience and who is a senior and real engineering in Nigeria did not start until about 15 years ago and then they are now asking for someone with 13 years experience and that's difficult. When you look at CVs, you see people who have worked in different industries for that length of time but not all in the oil and gas industry but we work with the IOCs closely and we make them understand that some individuals may not have the required years' of experience, but are able</p>	<p>MAU: Well, the technology is changing but what we give in the university is the basic foundation, what we give in Chemical engineering is the broad basic education, foundation in Knowledge upon which they can build several other areas so if they move into the industries they can then move on, or if they move into the research institutes they can build on the foundation, but we don't give them all they need, no we definitely don't</p> <p>PRE: For instance in this university, about a year ago we found that we did not have a module called offshore drilling or offshore technology and we have now introduced it, we are about to review our curriculum, we try to review it regularly. In some cases, we have accreditation teams that come from the NUC to accredit courses and the curriculum is reviewed at these times too. We also have COREN who come along every 4 years to do a thorough review of both modules and tutors and whenever they find gap(S) they ask questions and see what can be done, but NUC has a minimum requirement for all universities</p>

<p>courses.. in IT for example, entrepreneurship there would be added, that will modify the curriculum development but the curriculum has remained stable for a long time</p> <p>MAU: On student practicals, Yes I think that, that practical training area or practical teaching area has declined over the years like I said. It is supposed to improve but it has declined because lack of equipment is a very good reason, (very often) lack of personnel that are adequately competent and interested to provide the practical training. I would also say a little bit of lack of enthusiasm or persistence by the students... you know a whole lot of problems, but I can see the practical aspect declining in most Nigerian universities.</p> <p>PRE: As an undergraduate I studied Chemical Engineering, but now I am into Petroleum Engineering. However I have seen a bit of change in the chemical engineering curriculum</p>	<p>where they want to practice in, this can come from internships. So when they have their internships, I think there should be a point, maybe in their fifth year, or even maybe a six year course and in their sixth year, they should have a specific knowledge i.e they break into petroleum engr. Class and then they are taught the basics of petroleum engr. So you can perform better</p> <p>BRO: Definitely not, my answer is based on comparison with people who studied the same course as I did at undergraduate in foreign universities, they have more background knowledge than we do</p> <p>DSH: Even in school, we found</p>	<p>IOCs for money, not at all, but because of their intellectual capacity the IOCs will; want to associate and collaborate with them but considering the educational standards in Nigeria what sort of collaboration would you aspect. : I am not aware of R & D particularly but I know that companies like Shell Exxonmobil and Chevron have some sort of collaboration with UNIPORT</p> <p>NCD: Well the most available form of collaboration I suppose will be in the area of R&D and I personally feel that there must be a working relationship before they can have an R&D collaboration. The question the institutions should now ask themselves is that, so far what have they brought to the table for the industry players to get really attracted to them, that is the only way I feel they can start. Another question is that what strides have these institutions made in these particular fields of endeavour to attract these collaboration from the industry. In other words are they known to have made significant contributions in this area in the past. I can tell you categorically that (I will not mention the name of the school) a particular service provider donated equipment and softwares to a school to aid teaching and learning amongst the students and it was found that the recipient faculty of these equipment and software refused to share them with other faculties! In another separate case, Schlumberger</p>	<p>then at the end the students come in with a report which we assess and grade, although we still continue to assess and grade the report for the SIWES. The SWP is done locally, that is properly assessed, I think that is still quite effective to some extent although the duration has been cut down in most universities and the varieties of activities has also been reduced in most universities, but generally the things they do are still quite effective with the SWEP but the SIWES has declined</p> <p>PRE: For engineering in Nigeria, this is a five year course. During the second semester of their fourth year, throughout the second semester and the summer, which can amount to 5 to 6 months they are attached to industries for practical experience. Throughout this period, they are out of school and in such cases, they are attached to supervisors within their individual places of assignment and these people monitor and train them, but by and large we have been getting positive feedbacks for example I met some officials of Chevron at a technical presentation and they made good comments about our students</p> <p>PRE: On SIWES supervision and effectiveness Well, it is not actually easy for these students to secure placements with the companies especially the multinationals where students can undergo these trainings and experiences, sometimes even if the students succeed in getting a place, they may not be attached to a mentor or a division/department in the company that will give practical experience of the theories learnt in school and this is a big challenge, there are cases whereby students have returned from these placements and</p>	<p>the LNGS are from the institutions of higher learning. I will say 4 for the institutions. For graduates in the industry I will say 2 because we do not relate with them directly although we relate with them but through other medium</p> <p>MAU: I think we have very few of that kind of interaction. I remember PTFD tried to do something like that, they set up some projects which were competed for. We also tried to bring in the industry people and university people in some seminars and workshops but this is still very little effort because we need a lot more of that kind of effort and so I can say that there is a disconnect between the industry and the university, a very strong disconnect</p> <p>PRE: R: Well, in the past we did not have but as at a month ago there was this forum for petroleum engineers alone which was organised by the society of petroleum engineers and was tagged oil and gas education summit where we had professionals from industry, academics from universities and government officials who met to chat a way forward and actually the issue is like there's really no collaboration between the industry and the university because if here was one we will have cases where universities will have to proffer solution to the industry but most multinationals fall back to their home base for research, at the moment, it is only Shell I know that carries out research in-country within the Nigerian universities, but in few cases where these exists, I found that that those who initiate such researches from the industry are probably Alumni but in such cases it is even limited because if the</p>	<p>to the work. So in terms of technical experience, no doubt we have challenges but I will say these are surmountable because these are people looking at the future and who understand that they need to work hard and gain the required experience to handle future projects and of course experience is transferable from project to project. One set back however, is the academic qualification of current graduates, there are cases in interviews where you wonder if the interviewee has actually acquired their certificate by themselves. However, there are cases of exceptional candidates but sometimes you are disappointed at some of them.</p>	<p>which I don't think has changed in a while but when you see the course content, I don't think there are any changes over the years</p> <p>ABU: To be honest with you, the curriculum is not moving in line with the advancement in the oil and gas industry except in the area of the software I mentioned earlier, so in terms of technology I will say the university is lagging behind with the advancement in the oil and gas industry, this is because funds are limited and secondly researches in the oil and gas industries are not carried out in Nigerian universities and this is responsible for this lag</p> <p>ADF: Yes it is not as dynamic as it should be, the teacher-student ratio is very low and more attention is paid to the industry now than the academia. Most people want to go into the industry. The curriculum is not dynamic as it should but I know there is a lot of review going on now and I hope we can catch up sometime</p> <p>KAY: Yes the curriculum provided me with the basic skill I needed for the job, when</p>
---	---	--	---	--	---	--

<p>which is only in the area of computer application, so compared with what we had then, we have two modules on computer application, back in the days of my undergrad. It was not common to see students with computers in fact their dissertations were taken to business centres to be typed with a manual or electric typewriter. In the case of running programmes like FORTRAN, we had to pay for time, say one hour to have access to a computer to run these programmes, but now a lot of students have laptops for their personal use and some schools now have computer labs. Where the tutor can have access to delivering a lecture via a projector screen. Students are now compelled to use MATHLAB and other mathematical applications to solve problems, but apart from these I do not think there has been any change in the curriculum because it's the same textbooks I used in the early 90s that are still being used now, at most more current editions. In terms of lecturer student relationship, I think it is better than it used to be</p>	<p>that some of the modules we were doing were even obsolete and they are not relevant to the happenings now, besides this most of the lecturers we have are not 'practising lectures' and what I mean by this is that they are not up to date to know the current happenings in the industry, as such they still stick to the old curriculum. If the curriculum can be updated, removing some modules and replacing it with others. Take for example the SIWES programme in the fourth year, a lot of people do not even go the places with the relevant experience. I was fortunate among so many to gain relevant experience offshore during the SIWES and that was my motivation for working in the oil and gas industry. I worked as a field</p>	<p>donated equipment and software to a particular university and this same university now made another request for these equipment by contacting their head office in Houston, Texas. Further investigation then revealed that the ones earlier donated had been locked up somewhere and not in use and seeing all these, I am sure the industry players will not be willing to collaborate with these institutions and if they are, they need to know specifically whom they are assigning any tasks to or who they are working with directly</p> <p>NCD: Well the most available form of collaboration I suppose will be in the area of R&D and I personally feel that there must be a working relationship before they can have an R&D collaboration. The question the institutions should now ask themselves is that, so far what have they brought to the table for the industry players to get really attracted to them, that is the only way I feel they can start. Another question is that what strides have these institutions made in these particular fields of endeavour to attract these collaboration from the industry. In other words are they known to have made significant contributions in this area in the past. I can tell you categorically that (I will not mention the name of the school) a particular service provider donated equipment and softwares to a school to aid teaching and learning amongst the students and it was found that the recipient</p>	<p>where they had the placements is in no way related to their course of study, this is largely because placement spaces in the industry is limited.</p> <p>ABU: Yes they do have SIWES, Student Industrial Work Experience Scheme. During my days as an undergraduate, we used to have this come up twice and also we had SWEP, Student Work Experience Programme which takes place after the second semester of the second year and the idea is that students can gain experience from other engineering core areas and having done this, they go back to their own core areas to be assigned tasks relevant to the student's course of study. In the third year, students go on 3 months industrial training during the summer holiday. In the student's fourth year, they go on six months industrial training which covers the entire semester and part of the summer holiday period and students are allowed at this time to go to any industry of their choice but of course restricting them to their desired or potential interest areas of study and expertise . but then there has been some changes, although SWEP still remains as it is, students no longer go on the three months industrial experience but only the six months one. This is part of cost saving on the ITF (Industrial Training Fund) the body that coordinates this activity centrally</p> <p>ABU: On SIWES supervision and effectiveness Well this is being monitored appropriately. It is expected that within the six months of this SIWES, the students are visited twice so as to ensure that the objectives of the scheme are being met. Particularly with my own department Chemical Engineering, it is expected that students should return to the</p>	<p>academia knows the demands and challenges of the industry, then they will be forced to keep up with world trends which will translate to a change in the universities</p> <p>ADF: There has been but it is not enough. Currently we had an industry-university forum in my current place of sabbatical where we asked them what we can offer. Also we have a case of someone who has retired from Shell and is being allowed to be part of/start a department where Petroleum Engineering can be taught in a skilful manner so that they are able to deliver the practical aspects of the theories being learned in the universities and this helps because it is not just theory all the way but there are practical aspects to this, and this is what the industry tell us they require. Overall, there is not enough of this fora but we hope that this kind of industry-university forum be on the increase. Unfortunately like I told you before, the industry pays better than the universities. It is unfortunate that the creame de la creame of university graduates are all going to the industries, as such we do not have the best hands in the universities, but then, even though we do not have the best of the best going back to the universities, we still have a few here and there developing the universities. Imagine now, I am also leaving the university. I must be honest with you I am not leaving because I am old but I am leaving because I want to go and apply myself and be more useful to Nigerians than staying in the university and this is a fact that I am telling you, and of course I want to get better financially too. I have told you that I have set up a company and if I am not going to be making so much money as to be able to pay my workers I will not venture into this and right now we are doing very well</p>		<p>you say basic... yes basic. The teaching curriculum has not provided the sufficient training (skill) to perform your job to a high expectation</p> <p>KAY: Basically from the school where I come, the teaching curriculum is not that sufficient, because it is more theoretical. Most of the curriculum are not being upgraded to the recent happenings in the oil and gas industry and you have little or no practicals to expose you to real life industry based situations</p>
---	---	---	---	--	--	---

<p>although I am not quick to make a conclusion because I attended a public university but I am currently teaching in the private university and these different environments may be responsible for this assertion. In addition, student interaction with lecturers is better and more time is created to attend to students</p>	<p>service engineer then. And this also goes to the companies, that they should be ready to accept students for SIWES and also placing them in their right divisions and to all other organisations too.</p>	<p>faculty of these equipment and software refused to share them with other faculties! In another separate case, Schlumberger donated equipment and software to a particular university and this same university now made another request for these equipment by contacting their head office in Houston, Texas. Further investigation then revealed that the ones earlier donated had been locked up somewhere and not in use and seeing all these, I am sure the industry players will not be willing to collaborate with these institutions and if they are, they need to know specifically whom they are assigning any tasks to or who they are working with directly</p>	<p>university with a comprehensive report/project highlighting student activities and the industry in general and the project should be examining ways by which certain things can be done better in the industry and these projects are submitted following an oral viva upon the students' return to the university</p> <p>ABU; On whether students gain these experience from the right places Well I will be very honest with you on this because I consider this as a research that can further help solve the situation. Back in the days, companies like Shell, Chevron and the likes take on our students for the student experiences but now they don't do that like before and this now restricts our students from learning. However, they still get the required experience based on where they have gone for the student experience. Although there are extreme cases where students are not able to get placements or cases where the students engage in activities and learning of what is not necessarily required or related the their course of study. For example student doing their SIWES in water packaging plants slots to come back to them and work for them</p>	<p>PRE: Well, in the past we did not have but as at a month ago there was this forum for petroleum engineers alone which was organised by the society of petroleum engineers and was tagged oil and gas education summit where we had professionals from industry, academics from universities and government officials who met to chat a way forward and actually the issue is like there's really no collaboration between the industry and the university because if here was one we will have cases where universities will have to proffer solution to the industry but most multinationals fall back to their home base for research, at the moment, it is only Shell I know that carries out research in-country within the Nigerian universities, but in few cases where these exists, I found that that those who initiate such researches from the industry are probably Alumni but in such cases it is even limited because if the academia knows the demands and challenges of the industry, then they will be forced to keep up with world trends which will translate to a change in the universities</p>		
---	--	---	--	--	--	--

Suitability & employability	Ascending to higher cadre	Skill set	Skill gaps	Bridging skill gaps
<p>WP: Well, it's either here nor there. What mostly guides us in our employment processes especially in recent times is what the IOCs have put down in their charter concerning the positions being held by Nigerians or expatriates, you know they give a requirement for number of years of experience and all the likes, and when we look at that you see certain things for concern, for example how long ago did well engineering start in Nigeria that they will now require someone with 12 years experience and who is a senior and real engineering in Nigeria did not start until about 15 years ago and then they are now asking for someone with 13 years experience and that's difficult. When you look at CVs, you see people who have worked in different industries for that length of time but not all in the oil and gas industry but we work with the IOCs closely and we make them understand that some individuals may not have the required years' of experience, but are able to the work. So in terms of technical experience, no doubt we have challenges but I will say these are surmountable because these are people looking at the future and who understand that they need to work hard and gain the required experience to handle future projects and of course experience is transferable from project to project. One set back however, is the academic qualification of current graduates, there are cases in interviews where you wonder if the interviewee has actually acquired their certificate by themselves. However, there are cases of exceptional candidates but sometimes you are disappointed at some of them.</p>	<p>SAI: well, as it is we are 100% compliant, most of our personnel are Nigerians. Most especially we have engaged in training Nigerians and we have Nigerian understudies, (understudy) to learn the roles and responsibilities and after some time they can come up to speed (responsibility) and take over the positions not held by Nigerians</p> <p>WP: No I don't think that trainings can enhance managerial and supervisory attainment, these are achieved by the number of years of experience instead it helps to integrate into the system and give them a good background of what engineering really is compared to the theory that has been learnt in school. so what the training does is to integrate them into work fully as an engineer on the project as the case may be</p> <p>ISS: I will say there is a lot</p>	<p>OSS: Well, like I said I oversee equipment manufacturers and as a minimum standard I have to have Nigerian engineers accompany one of the senior engineers to sort of get the equipment aboard the FPSOs. We don't allow them to bring their engineers,. However they need the equipment will have to be brought in and accompanied by one of their engineers and we mandate them to train Nigerians so as to provide the engineering maintenance for these equipment but of course they need to have a supervisory role to play so that in the event that they encounter any issues, they can sort it out. So all our engineers are trained by them and certified by them and it is actually when it is necessary that they need to come.</p> <p>OKW: I left the university a long time ago and even then the practical experiences were not exceptional so most of the schools in Nigeria are more of theory based with little or no practicals, so its when they come on board that we begin to expose them to these things. But I must say that some of them are exceptionally intelligent. Having said this, I really do not see the role the schools are playing because we have to train them</p>	<p>WP: On flow assurance skill gap, pick the rest from textWell, I know there are some companies now training people on flow assurance, in fact I visited one lately but in the case of my company, I have earlier said it is a Nigerian-Australian joint partnership as such.....</p> <p>WP: On flow assurance software acquisition, it's not just a software thing but more of a skill</p> <p>ISS: No I am not aware of any skill gaps, once we do our search we try to get the best hands, generally the major skills that are lacking is firstly based on the knowledge gap A lot of them do not know how the operations of the oil and gas industry are conducted so in most cases when we employ, we first of all put them through this and explain the workings of the oil and gas industry from the basics,. This I will call a knowledge gap and not a technical and/or skill gap</p> <p>OKW: What we need in Nigeria is more of discipline and commitment. A lot of Nigerians can do these jobs but they lack the commitment to do these jobs that's what is not found with the average foreigners he takes his job as his business, so apart from the jobs I mentioned to you earlier, I do not see any other skills lacking in-country. I think the government t has a huge role to play because firstly the environment has to be enabling for these facilities to be brought into Nigeria but unfortunately our system does not encourage foreign investors because of over regulation we need to start de regulating some of these things and make concrete plans and incentives for these investors. Let's forget about the short term but lets look at the long term effect and that was what was done in Indonesia. Initially, it looked like they were cheating on the locals but after then locals had been trained and they grasped everything the facilities have become that of the country and invariably the locals, overall it is necessary to encourage these investors to come in and give them good incentives which at the end of the day will benefit us In-country afterall they cannot carry these facilities away</p> <p>WP: Many times we have encountered people who are not actually fit probably because they are coming from another industry or probably they were doing just one thing specifically at the place where they have come from even though it</p>	<p>SAI: Ok it all has to do with our government, the orientation and definitely our educational system. So it's not something a company can drive because it's not only one industry that is suffering this. It's the whole industries in Nigeria. So if our government can do some sensitisation. Apart from this you know some schools like the polytechnics that have the OND, HND whereby after OND you go to work for sometime to gain some experience then you come back to complete your studies, to an extent these people would have acquired some experience but you know the discrimination against polytechnic graduates in Nigeria. You find out that people without degrees (university degrees), they don't like employing them except people with degrees and you find that in the university, they don't get the opportunity to go for an internship (IT) except for those who are doing an engineering course which is not even for a year but for a limited time, so its very short a time for you to get grounded and to acquire the experience you need to excel or rather be at par with their international peers</p> <p>SAI: On bridging skill gap, Well, for the government I will say they have taken interest because they have this national training pool whereby graduates, undergraduates and people who have specialised skills could go to register. Well, at the end of the day, they push these responsibilities to the companies in the oil and gas industry to train them and put</p>

<p>OSS: Well as a Nigerian I have to be factual on this one, like everybody appreciates that education has been taking a downturn in our country in the past 10 to 15 years, so if you want to really categorise the workforce in Nigeria vis a vis employability you may look at what I call the old vintage of Nigerians who had proper education and training and the new Nigerians who are nominally graduates and as far as content is concerned, very few of them will qualify as graduates and that is the unfortunate part about our country today so from an employability point of view, the new vintage so if you engage the new vintage you may have to go through the process of retraining either hands on or they require a high level of supervision</p> <p>Okw: For certain areas in the oil and gas industry, you can employ Nigerians from the least position to the top and these areas include engineering design apart from umblicals and probably FPSO and also refining, but any other areas you cannot hire Nigerians</p> <p>SAI: Generally, what I see is a high level of competence which I particularly think it boils down to doing proper recruitment, i.e having the right people for the right job</p> <p>LNG: Yes it has been wonderful, the contributions of Nigerians to projects. Actually this started from the secondment stage. Each of the shareholder would not just pick anybody we went through a rigorous interview to be seconded to this place</p>	<p>of potentials because their trainings are practical and hands on not theoretical which I believe it is a faster means of catching up</p> <p>OKW: Yes they have, very well. What I have noticed is that whenever they are opportune to travel abroad on a project they become high flyers and this tells me they have got all it takes to excel, but the exposure is what is lacking</p> <p>SAI: Yes, and that's the reason why I mentioned earlier that there is training and re training and such gives them an edge to move forward to acquire supervisory and managerial positions and to be honest people are rising and we still have Nigerian directors and General Manger</p> <p>ALC: Yes they are competent, and I know someone who has risen through the ranks in the last 10 years with the necessary trainings and he is currently a Project Manager, he was once a</p>	<p>all over from scratch. so it's not that they do not have the brains to do the job it's just that the exposure is very minimal</p> <p>ISS: I will say its quite low , because apart from them being computer literate, they do not bring in skills that are relevant to the things they get to do in the company, i.e they do not bring in the required technical skills, especially for junior and middle management, however those who come in to the senior management, they bring in technical skills which is based on their experience</p> <p>ALC: Yes this depends on individuals because as a graduate, we expect that they should have acquired all the skills they need to have in school and that knowledge can be applicable in every area depending on how smart you are and who you are working with. For instance, I am a Mechanical engineer but I have successfully worked across various projects. Now you see I am in the local content division again. Secondly I think this also comes down to determination. If a young engineer is employed and attached to a project, he gets exposed to a lot of things. For example we just completed a gas project and fresh graduates were employed. All they needed to do was to learn by asking</p>	<p>may be in the oil industry. One thing we have discovered in our system here is that we just have to be multitasking. Even though an individual might be an expert in one field, that does not mean they should not acquire other knowledge and in a lot of cases those who even claim to be experts in one field do not even know so much about their field of expertise and these are things we have found during interviews such that they cannot even defend their field of expertise but we always believe is that there is always a chance to improve and acquire additional knowledge especially with the issue of the succession plan</p> <p>WP: Yes there are, in the process industry such as the flow assurance aspect, there are limited process engineers and this boils down to the cost of the software for flow assurance, and even some big companies cannot even afford the software because it is expensive and also people hardly do flow assurance jobs in Nigeria, although this is becoming more common than it used to be before, so in most cases what happens is that for flow assurance jobs, expatriates have had to be brought in or the jobs taken abroad. Another skill lacking is in the area of process safety is loss prevention, this is a specialised area which concerns safety in design, safety on the field, now these are not occupational safety aspects but process safety and these require real experience and experts to be able to handle this. These two areas that come to mind are areas where skill is lacking</p> <p>DAE: To be honest, there is no discipline you won't find Nigerians and in an oil industry of this nature, welders particularly are in high demand. But when we talk about certification, a lot of them are not certified and I will say that is where they are in short supply</p> <p>LNG: Technical skills especially engineering design</p> <p>DPR: I do not see any particular skills lacking among Nigerians, the only area where there is lack is in the area of technology and funding and that is as a result of our level of development in the industry, you know most of the technology in the oil industry are based offshore and because our economy cannot accommodate the level of funding required in the oil and gas industry and as such we have to look outside for funding, these are the major setbacks we have in the industry but asides this, there is no skill lacking because even</p>	<p>them back into the system. Then I don't really know where it will go after that but if you are going to train somebody, there should be an avenue for the person to exercise his knowledge and skill, this is my personal opinion because it is no good use to train a person and there is no avenue to practicalise the skill</p> <p>ISS: Yes I think the institutions of higher learning since oil is the major source of revenue in Nigeria, I also think the oil and gas industry should also be involved and this can be done through partnering with the institutions of higher learning for example it may be a compulsory module for people who intend to work for the oil industry which is moderated and supervised by the major stakeholders in the oil and gas industry</p> <p>NCD: Yes, with the Nigerian content training plan which requires training from the National skill pool and not the employees of your company. In other words, you make out your training plan and send to them, then they will now advertise and send to the people that have the requisite training qualification for these areas of certification</p> <p>DAE: Yes, with the Nigerian content training plan which requires training from the National skill pool and not the employees of your company. In other words, you make out your training plan and send to them, then they will now advertise and send to the people that have the requisite training qualification for these</p>
--	--	---	--	--

<p>DPR: Over time from my experience, Nigerians appear to be qualified and are doing very well in the oil industry. They are skilful and in fact Nigerian skills are exported out of the country, so in terms and skills and capabilities, Nigerians are doing very well, and this has been over the years</p> <p>SHE: I believe a Nigerian can match up to any other national anywhere in the world in terms of skill, competence, expertise, its all about opportunity and enabling environment. I have no doubt that if you give them the same opportunity and enabling environment they will deliver. We hear the news all over the world on a daily basis about what Nigerians have done. For me that's not to be questioned. So the issues are issues of the environment, how can you get those people in here, how do you ensure that when they come in, the place is safe enough for them to work</p>	<p>deputy project construction manager, from there he was told to act as a deputy manager, and later the expatriate who was the head of the unit resigned and rather than replacing him with another expatriate, this person ascended to his position, this is because this person had worked with the expatriate for 3 years and understudied him, and upon commencing a similar project, there was no need to employ a fresh person since this person understood the project, recently he was sent to South Africa on a Managerial training.</p>	<p>questions like knowing the use of various equipment and the likes and these are individual things that they should strive to know. Definitely they will be exposed to the technical aspects but asking questions is the main determining factor of how far these graduates will go</p> <p>DAE: Yes, bear in mind that there is something called training and re training and there is always a need for this on every new job. So far we have not seen any of our graduates not performing on their task</p> <p>ALC: Generally, I will say average</p>	<p>outside Nigeria, Nigerians are performing very well in the oil and gas industry.</p> <p>SHE: No, like I said, there's none, it depends on the individual. There is no particular skill that is lacking as such, we have wonderful graduates coming out from all Nigerian universities so if you get the right one... that's why every year we go out to recruit and if you get the right guys in, you'll get massive value. On my former job, there was a guy who schooled in UNIBEN, he stepped into that role, I even told my bosses we've got a star in our hands and since then he has progressed very well and doing very well and he was trained in Nigeria. So it's difficult for me to say there is a particular skill lacking, I've not seen that; so it depends on individual and we also have very good schools in Nigeria today, most of the private universities are of good quality and a lot of people are investing in sending their children there.</p> <p>TOT: The government has a lot of role to play, the regulatory bodies have a lot of role to play and this starts from very early stages, like those approving new schools</p> <p>ADD: Apart from understudying and providing trainings, on the job training can also help bridge these gaps</p> <p>ADF: Yes there are these opportunities but honestly they are not enough. I feel that the Nigerian oil industry is highly dependent on already developed skill which is more of foreign capacity. When these tutors go out there to acquire these skills, they are not given sufficient recognition but having been in the university system for over 40 years now, I can say that there is a challenge in the system, having had the opportunity to occupy various positions, and so when I go out there to the industry, I should be able to positively influence things that are not done rightly</p>	<p>areas of certification</p> <p>ALC: In terms of bridging the skill gap, I think self development on the part of Nigerians should be paramount and this gives an edge over other employees. An example is someone after undergoing a training became a threat to his boss! It is expected that employees should be ahead of their companies because by this you can guide and advice them and when this is being done, they have no choice but to take the advice as well as keep you on the job</p> <p>ADD: The NCDMB has a major role to play in this and they monitor these closely to ensure compliance. Asides this, for every project, there is a Nigerian content budget set aside to develop in country capacity I.e training personnel both within and outside Nigeria so as to bridge the existing gap</p>
---	--	---	--	---

Stakeholders' function	Other CSR activities	Whose responsibility	Development of local content	Training and Retraining
<p>BH: drilling services, production services, oil chemical services etc. Basically we offer a complete package. We also do reservoir development studies</p> <p>SAI: We are not strictly an oil and gas company, we are more of a construction company and so what we do is to execute mega projects for our clients. We are more of an EPIC company</p> <p>DAE: Yes when I mentioned EPC you should understand. Under this Odumara Bonga project, we offer Engineering, construction, fabrication, procurement services. These are the ways we</p>	<p>BH: Yes we have CSR initiatives. We extend that to schools, homes, needy. We just try to impact the community around us, not necessarily professional, but just to feel our impact in the society</p> <p>WP: My company believes so much in training and this is something that drives us. In fact we have a programme that goes into higher institutions of learning where we train undergraduates and give them a feel of what they will be doing in the industry and this programme runs all year round and we invest so much money in that. Currently we are running a training school whereby people coming out from schools can go into and start learning engineering before they become employed and this</p>	<p>BH: Well' it is every stakeholder's responsibility, depending on the aspect of the training and job, so I believe it is collective responsibility</p> <p>BH: I think it should be the IOCs and the servicing companies with that being regulated and monitored by the NCDMB why I am saying this is because I am taking my company as an example, we invest a lot in training, and because the IOCs have to comply with this Act even in terms of their own organisation, you discover that we finish working on a project and training these people, and after a few months, they are grabbed by the IOCs. We are experiencing this a lot. We invest so much in these people and the IOCs take them because they see them as 'hot cake' and we don't get any compensation from the IOCs for taking them from us, and these are the same people who come round later to say we do not have enough resources to do their job.</p> <p>ISS: I think the government and the IOCs because this is a kind of a joint venture between the government and the IOCs, the IOCs come in explore and produce oil and make profit. I don't think it is right for them to just come and make money and leave without impacting and developing the indigenes. I think they have to give back something. Also the government gets their share from the IOCs exploration activities. I think the government should also be paying</p> <p>OSS: : It is meant to be done in partnership , like the Nigerian content law is meant to work in partnership why I say so is this it is easy for us to say that the government should have the adequate financial support but take the industry for example, the curriculum has to be in consonance with what the industry requires so there is supposed to be a partnership for this to work, although the government may provide the enabling environment and the funding, but then the industries that require these people will have to be proactive to let the government and the institutions know what they require so as to produce graduates that are germane to what the industries require. The government and the universities may not necessarily know what the industry requires and because the world is dynamic and d moving and fast pace everyday so there is need for partnership and that's what the local content law is all about. Partnership among the stakeholders from the educational institutions and the government and of course from the IOCs</p>	<p>BH: Yes we do. We give opportunities to some of the locals to come and work in our workshops</p> <p>BH: Well, for the government I will say they have taken interest because they have this national training pool whereby graduates, undergraduates and people who have specialised skills could go to register. Well, at the end of the day, they push these responsibilities to the companies in the oil and gas industry to train them and put them back into the system. Then I don't really know where it will go after that but if you are going to train somebody, there should be an avenue for the person to exercise his knowledge and skill, this is my personal opinion because it is no good use to train a person and there is no avenue to practicalise the skill</p> <p>BH: In the case of our company, the way we help is that we train human capacity for indigenous companies and provide them with the needed technology, development of their personnel via trainings such as understudying our own personnel to see how things are</p>	<p>BH: Well, employment is based on availability of the jobs because you are not going to take up people that you don't need, you won't take people that will be redundant, because you will need to pay salaries and there's no revenue coming in but the best we do is for the graduate training programmes, that's part of our responsibility. We take up fresh minds and train them, employ them any way this people are just fresh, no job and no training, so we train them and retain them, but ultimately if you want to address the issue of employment in the pool, there has to be work, there has to be commissioned projects, the industry has to be active, very active and then there will be a need, it's just the role of supply and demand, and the commissioning and approval of projects is all in the government's hands</p> <p>ISS: When graduates are employed, Well, we offer trainings which are not formal it is more of understudying whereby they are placed under mentors who they learn from before they are sent off to the field, its not really a formal kind of training, it is more of on the job training</p> <p>OSS: When we employ graduates For us as a small company we cannot afford the necessity of retraining them to what we do is hands on and like I said earlier this requires a high level of supervision and as such in order to minimise this what we do is head hunting which is also known as poaching experienced staff from other companies. But the bigger companies like Shell etc go into retraining that lasts for about one year but for us which are smaller companies we cannot afford that so we either go head hunting or when we employ the 'good' ones they are highly supervised until they can run on their feet, so the issue of training is more prevalent with the IOCs than the indigenous companies.</p> <p>OKW: When we employ graduates, we train them first both in the classroom and practical, which is done both within and outside Nigeria, although most trainings they go for outside Nigeria are basic</p>

<p>service the industry, so when you start expanding on these, then we may go into more details</p> <p>PRE: Well, I feel the major responsibility is turning out graduates and impacting applicable and current knowledge that will help them and make them employable.</p> <p>ABU: our main task is to teach and graduate students who can work in the industry. Apart from that, there is also a need for us to advise them on their operations but of course this is based on the research we carry out for them but of course there isn't so much linkage and this is hindering that particular responsibility</p>	<p>does not matter whether we retain them or not, this is more of a CSR activity for the oil and gas industry. What we are trying to do is to create the needed skills for the long run schools we have been to include OAU and FUTA</p>	<p>themselves</p> <p>OKW: Well I think this responsibility lies with every organisation that has got a Nigerian employee. However, I think there should be an alliance between the IOCs and the service companies and I am saying this because they are the people whom I am sure will do it because the government actually has a huge role to play but I do not see them doing anything in that regard. I think the government should have a separate platform that will help develop capacity. We have NCDMB but unfortunately they are not up to the task, they have no records of the number of indigenous engineers!</p> <p>SAI: Before individuals come into the industry, it is their personal responsibility to develop themselves. Also the government should ensure that the education provided for this individual and personal development is adequate and of good standard but following their entrance I think it now becomes a joint effort and not particularly that of one stakeholder. It is also the responsibility of the operators and service providers to ensure that their employees are kept up to date and they continue to remain qualified as everything changes with time. So generally, I think it is a joint responsibility in the sense that every employer should ensure that their employees are kept up to date.</p> <p>ALC: I think it is a joint effort of all the stakeholders. However I think the IOCs, although the government is also doing a lot through the NCDMB especially with the creation of the Joint Qualification System (JQS) in which every graduate is expected to register with and have their CVs submitted. The government draws from this list at random and provides training for these people chosen, which includes on the job training, and you know that this will give them a form of experience which they need to get into the oil and gas industry. This is highly essential irrespective of the certification the graduate may have, especially with OJT, this provides a balance and helps them to start a career. Whilst these trainings are conducted by NCDMB, it is advised that PETAN monitors the training to ensure it is of standard.</p> <p>LNG: As I mentioned earlier, the NCDMB in collaboration with the Petroleum Trust Fund are training Nigerian engineers from all over the oil and gas industry in the country and fresh graduates from the universities are being identified each year and they invite interested candidates to sit for aptitude tests and interview is</p>	<p>being done.</p> <p>So in terms of support we offer more of trainings and technical partnership</p> <p>BH: Well, we just go with whatever compliance levels that are expected by the government</p> <p>SAI: Local content also cuts across procurement. We are conversant with the Nigerian content equipment execution which supports the manufacturing industry. For every equipment, tools, components, parts that are supposed to be used in the Nigerian oil and gas industry, people are meant to gain certification for these things, and before you get certification for these things, you are supposed to have a plan for the development of that particular manufacturing industry in the country, so we ensure that we work with this people as well. These people that have demonstrated Nigerian content, i.e they have some plants for assembly, manufacturing, and whatever it is for that particular component in Nigeria. We also make sure we partner with them and try and develop their businesses because we understand that the reason why a lot of things are imported is</p>	<p>trainings, these helps them appreciate the theories they have been taught. What happens when they go through these trainings is that they have a better understanding of what they have studied in school and that is one huge benefit of these trainings and they are much more conscious of safety and quality after these trainings</p> <p>WP: Whenever you employ these graduates, we undergo some kind of trainings which involves the rudiments of engineering and all and it spans across various work places and departments so they can later fit into any system in future</p> <p>SAI: When we employ graduates, Yes our Engineering team is currently developing from scratch about 40 subsea engineers who are undergoing training in Paris right now. This is because there is a lack of capacity in that area in Nigeria, and I know for welding. We have a welding school at porthacourt where for community people that we have to employ will usually have to go through a programme in our welding school. And also for our FPNL staff, we have a training programme each year whereby each of the departments put in for areas which they lack manpower or can undergo competencies, and then a training programme is designed for the personnel as well, so generally I think our training programmes are standard and all these are apart from the NCD training programmes that we are obligated to do.</p> <p>SAI: On trainings and re trainings Yes like I said at the beginning of every year the heads of Department submit areas where they think their staff can build competencies for example in the local content department, if I see a need to develop a particular competency, I identify the staff and then submit this and a training programme along that line is provided for that personnel either in Nigeria or abroad and this training programme cuts across both experienced hands and new people</p> <p>DAE: When we employ graduates Yes, basically on a job of this nature, HSE is paramount and as such they need to undergo HSE training so as to know the hazards ahead and that is the first training the employees</p>
--	--	---	---	---

<p>ADF: Well, they should be taking the Nigerian oil and gas industry to a higher level. I am sure you know right now the contribution is a big shame and there are existing people in the university who can help contribute and get it to the required level of which I know I am one of them but there is a lot of politics going on</p>		<p>conducted and currently many of them are undergoing trainings and after the trainings these engineers are attached to projects</p> <p>NCD: everyone has a role to play and I think it will be unfair to say the onus lies on government. The oil companies are now seeing that it makes a lot of financial sense to work with Nigerians, it costs more to pay an expatriate, so if there is a way to increase their overhead costs and by that way making more profit, they will go for it. So everyone has a role to play</p> <p>DPR: When it comes to the first level of trainings, I think the schools have a major role to play in this. Presently, some of the schools are upgrading themselves for the industry so I think they have a major role to play and I think it is expedient that the IOCs play a major role as well because if they need to have the right competencies they should provide these trainings. Training is an integral part of local content development and I think that these stakeholders are responsible, even though other stakeholders still have a role to play. Overall, I will not say one stakeholder is more responsible because it depends on the level from which you are looking at it. The companies will definitely train to achieve their own profitability, for the school's this is more of first level training</p> <p>TOT: yeah we have NCDMB and PTDF but then most of these are still government agencies, so it all still revolves around the government</p> <p>SHE: It is a joint responsibility, its not one man's job even in the developed world, everybody contributes to developing their human capital because that's the biggest asset you have so it's the same for Nigeria. We need to collaborate, we need to work together we need to pull resources and also try to avoid duplication, so the answer to that question is indeed, all of us together, it's a team work so what I see is that we are all working on our own toiling, trying to create value educate the youth, but we need to pull resources together and find a way to ensure we are not duplicating efforts, so it's everybody together.</p> <p>MAU: Well I think government has the greatest responsibility, I think that the education of Nigeria needs to be looked into very strongly, it needs to be positioned to generate the kind of graduates that can participate in that kind of</p>	<p>because there is little or no manufacturing capacity. Apart from the fact that if we develop the industry it makes things cheaper for us in the long run, it also create jobs. We try and work with people who have gotten the certification as well so that they can develop that industry. So often times, we commit to Nigerian companies beyond their present capacity so that they can develop themselves. A lot of times we grant technical assistance as well, and like I said when executing most of our projects, we deal a lot of times with service indigenous companies, so that they can grow their capacity as well. We also dedicate some manhours to cover engineering, bring in their teams and integrate those teams with our team, try and develop their capacity, so we are actually very keen on development of indigenous capacity, because in the long run we understand that if we intend to remain in Nigeria and have our activities domiciled in Nigeria, the in-country capacity is built to world standard so that it does not obstruct our own standard and quality. At the end of the day we have to deliver everything and make sure that everything is up to standard.</p> <p>NCD: On institution of learning role in developing local content Yes I do but unfortunately there is little or nothing currently been</p>	<p>get within the first 2 to 3 days before the employees are assigned to their department and the trainings these employees get is dependent on where they are working because some of them work io site and others in the office.</p> <p>DAE: On trainings, it is of high quality, because these trainings are gotten from both indigenous and expatriates staff and these trainings enhances their performance on their job</p> <p>ALC: When graduates are employed Most trainings are provided on the job and by this they have good morale. There is a training plan mapped out already, then step by step they learn. However, employees can embark on self development and by seeing that the employee's boss' can see that the employee can bridge the gap for him and then he moves to the next level. The development plan of the company may come in a slow way, but the employee can move on a fast track, there is a standardised training plan, but their being able to go through this plan is dependent on the job they are assigned</p> <p>SAI: On re trainings at the beginning of every year the heads of Department submit areas where they think their staff can build competencies for example in the local content department, if I see a need to develop a particular competency, I identify the staff and then submit this and a training programme along that line is provided for that personnel either in Nigeria or abroad and this training programme cuts across both experienced hands and new people</p> <p>ADD: I think the government, the IOCs. The government through PTDF and he IOCs should sponsor the trainings</p> <p>SHE: Yes we are training for Nigeria, we are building capacity for Nigeria because we also derive services from other oil and gas servicing companies within Nigeria and so if they have the right human capital, we will also get the benefits from them in terms of the services they provide to us. Also, you are aware that for years we ran</p>
--	--	--	--	--

		<p>local content generation and entrepreneurship and all that, so I hold the government responsible. Also they need to fine tune a lot of things in the educational sector so as to be able to produce the right kind of graduates and if we do produce those graduates then the local content would continuously build up but if you are producing low quality graduates, I don't think you are going to achieve much in that direction</p> <p>PRE: Well for the employees, I think it should be the responsibilities of the employers but talking about local content , we still lack capacity in the semi-skilled labour aspect and such trainings do not fall back to the universities but the polytechnics that have the required equipment and tools and it also falls back to the government because they are the biggest investor in academics in the country and so I will say the government id s actually responsible because the middle level manpower is lacking and that's why graduates are employed to do middle level manpower jobs, for example graduates should not be welders or ROV (Remoted Operated Vehicle) and so if we are going to have offshore operations we do not need drivers for this operation we need probably an ROV pilot that will automatically or remotely control this operation, this for example, you don't need a graduate, this is semi skilled manpower that should be trained to do that and these are not university graduates. Overall, each of these stakeholders have specific roles to play but I still feel the government is not playing its part that's why for such semi skilled manpower for such high level operations, we lack capacity.</p> <p>ABU: Well, I will comment on re trainings. The university provides the basic trainings required but I think for the graduates who they employ to be up to standard, then the players in the industry like the operators and service companies should provide the re trainings to tailor them towards their requirement. However, I think this should be a joint effort of every stakeholder. Overall, I will still say that the IOCs should have a greater part of the task since they are the ones responsible for upstream activities.</p> <p>ADF: I think it is the government and the government has established an institution which is responsible for this- PTFD but PTFD has not been able to generate what I expected it should have been generating by now</p>	<p>done in the area of Research and Development now and no funds is being given by any IOCs for this to the Nigerian institutions. I am sure and you will bear me witness that this is not the way it works in the western world but our schools in Nigeria do not have these, they are expecting the government to provide these funds and that is impossible</p> <p>TOT: We try to develop fabrication yards and indigenous Engineering companies. For example there is an engineering company that we work closely with, initially, they had about 40 engineers but when they reached full capacity, they got up to 400 engineers because we ensured that we awarded contracts to them and when the volume of these contracts increased, they employed more people</p>	<p>the Shell intensive training programme in Warri and Porthacourt which was all aimed at taking young graduates from Nigeria and honing their skills and ensuring they are ready to contribute and play in the oil and gas industry and here again we are open to other operators coming and taking some of them on their graduation and that happened quite a lot of times. So (I mean) we are doing a lot in this place but we also recognise that there are some areas where we have gaps even with all the efforts and that's why for the time being we also want to be realistic in driving Nigerian content and that's why we always make a statement being that "Nigerian content is a Marathon and not a sprint" we are not going to endanger people's lives, endanger the business because we want to force compliance but what we will try to do is to do our best, invest money and resources to build the capacity as quickly as we can so that we can safely drive local content in every area</p> <p>SHE: When graduates are employed Of course there is orientation, we have a very robust orientation programme, they have staff who are detailed to hold their hands in the first few weeks, there is somebody to help them ensure they settle them and explain things to them, they go around the departments hearing from people on ground on what they do, so there is a huge support structure behind new employees and the orientation. Everything is geared towards the success of the employees. The focus is on team working and if you have a new man, because you don't support him, it becomes a problem for the team which affects everybody</p> <p>SHE: There is online training, there is face to face training, classroom type, there is on the job training, we have shell open university, there you can log on your own and select courses to undergo. Lots of them are free, some you just pay a token. So in Shell, we clearly say your development is in your hands and that's real because it depends on what you want. I've gone in there and selected some courses and gone through myself and gotten certification, so based on what you are doing now and what you intend to do in future, you can actually go in there and select courses and go through</p>
--	--	--	--	---

Emergence of entrepreneurs	Entrepreneurial activities	Quality and service delivery	Monitoring service delivery
<p>WP: Well the chances are good it's just that some of these entrepreneurs may not be qualified, in the sense that these are just perchance people so that's just my fear for example they can secure jobs and eventually they are not able to do it.</p> <p>ISS: Well, it is an opportunity for new companies to start up but the difficulty is in getting themselves registered with the IOCs and even if they have to go through NIPEX (Nigerian Petroleum Exchange) which is another avenue to register, it is also a major challenge. It might be easy to register with other smaller companies but the assurance of getting contracts isn't there, but then with the IOCs it is more difficult because they ask for a lot of documents and they expect any contractor to have had a lot of experience, financial capability and the likes, and these discourages them, overall, there is so much bureaucracy for new entrepreneurs penetrating into the system</p> <p>OKW: Well the opportunities are very big no doubt but of course the structure to getting these jobs are still ambiguous and cloudy, the opportunities are there for companies to spring up in these areas but we still need a well-structured system so that people at their different levels can benefit from these structures</p> <p>OSS: Well, the cake can only get bigger if the PIB is passed because as part of the Nigerian Content Law, the PIB should be passed very quickly because that is how the Nigerian content law can be sustained if not if things remain as they are now, of course there is only a limit to which you can stretch it but if the petroleum industry bill is passed and if the small medium scale fields come into production, then of course activities will now have to double and then entrepreneurs can now unleash their knowledge and use their entrepreneurial skills to benefit from the passage of the PIB so the next thing really is for the government to work fervently for the PIB to be passed so that activities can be multiplied and more entrepreneurs can come on board</p> <p>OKW: Yes there are pre-qualification exercises</p>	<p>OKW: I am very sure any new entrepreneur would have a track record, for example what have they done before or where has the company staff or owners worked before, these are things to be considered but I believe any new entrepreneur will have some form of track record</p>	<p>WP: Well the chances are good it's just that some of these entrepreneurs may not be qualified, in the sense that these are just perchance people so that's just my fear for example they can secure jobs and eventually they are not able to do it.</p> <p>ISS: Well I cannot guarantee that their service will be at a high standard, because it is expected that these indigenous service providers too will want to make a lot of profit and as such try to cut corners because most of them would have taken loans from the banks to execute these contracts, but the good thing is that the IOCs usually have strict specifications as such if substandard products are supplied to them, they would reject it so the entrepreneurs stand a risk of their products being rejected if they decide to cut corners, so there are actually standards which these entrepreneurs are measured by for product delivery</p> <p>OKW: It is expected that there should be due diligence and procedures followed in the registration of these companies and this will entail assessing their standard procedures, competence levels and the likes. Generally there should be a yardstick for whatever service they are to provide to maintain quality and save cost as much as possible</p> <p>OSS: Well, competition will have to decide that, it's not going to be business as usual it's not going to be a free for all thing it is going to be a competition driven environment so if you do not have the necessary skills and necessary partnerships to execute jobs, jobs will be given to those who are more qualified, so Overall I think competition will take care of this, things are going to be bided for so the Nigerian content law does not mean you have to give everything to any Nigerian who just comes up and says I want to do something, just like the multinationals compete among themselves, so also the Nigerian companies are going to compete among themselves and the person who has the better offering on the table wins the contract. So as long as it is a very level playing field, competition will sort out the issue of quality</p> <p>ALC: I am sure every manufacturer will want their product to be used and also they</p>	<p>ALC: Like I said earlier the company supervises and monitors any job, and if it is not of standard, it will be rejected so we are always monitoring and supervising the quality of any jobs given to indigenous companies, that is why you don't get complains of sub standard quality because these are being supervised, so these companies are doing well and without mincing words, these companies have not been found wanting</p> <p>WP: yes, what those bodies do is to see that you have a process, quality assurance, and that's what they are certified for. ISO is more of Standards Organisation of Nigeria's certification to see if you have a process that can work, and they also carry out periodic audits but then getting out a process and policy are not too difficult tasks as these companies can employ experts who can draft these for them and they get certified, and all they need is a documented evidence to get contracts but the reality is when they are on the job, there is little the Nigerian Society of Engineers is doing in this area</p> <p>DAE: We have quality standards (QOPCT) who also monitor and supervise to ensure that quality products and service are produced</p>

<p>ALC: There is an advantage of the international companies partnering with the locals and this will be a win-win situation because capacity and capability will have been built among the indigenous entrepreneurs and for the international companies, they will be able to invest abroad. An example is a Nigerian company whom I know who got a contract in Angola but could not execute it until they had to partner with the local companies in Angola. Upon the completion of the contract, the indigenes benefitted and I tell you that company did not remain small</p> <p>DAE: Yes for instance fabrication is domiciled in country and prior to this time, these were done abroad and completed modules are shipped into the country, but right now thee indigenes are now agitating to do these are the contracts are given to them</p>		<p>will like their services to be employed and this is the only way they can create a good name for their company and their generation in future, except the ones who are greedy and these will not last, also let me talk about the fact that there is a need for some of them to merge so as to combine resources, but the problem I have seen with these small companies is that, all the owners want to be called the name MD or Manager, so they find it difficult to merge, and this will definitely impede growth and local content cannot be developed</p>	<p>and delivered and that is why both the IOCs and expatriates ensure that these are well supervised, even in cases where they come from overseas.</p>
--	--	--	--

Domiciliation vs Domestication	Waiver window	Succession plan
<p>WP: My grouse (issue) with the NCD act is that it is too drastic. From my understanding, the plan has always been there, it's just that now it's being more enforced but when I go through it I see some hi-cups there. I think we are not making it progressive enough. It is too sudden. What I would have expected is more of a plan rather than an instruction if I'll put it that way. It would have been better as a plan which is outlined in phases for example in the first two years, a certain percentage of work should be carried out in Nigeria and within these two years, the other percentage done outside Nigeria should contain a percentage of Nigerians understudying. However, what I have found out about Nigerians who go abroad to understudy are not subjected to any training per say, as such it has to be a deliberate and a conscious effort on the part of the individuals. What happens in most cases is that they really don't do anything in form of understudying or acquire any trainings and they come back having learnt absolutely nothing. This has been my experience over the years. But then we expect the regulatory companies that go with them to ensure they acquire these trainings for example DPR, NAPIMS etc. but with a succession plan whereby within 2 years it is expected that those who have gone abroad to understudy should be back to develop in-country capacity, this should be a progressive plan and not just drastic before we can actually get there. This also extends to construction, whereby they want 80% of topside to be fabricated in Nigeria, the question is that how many fabricating companies do we have that can meet such demands. By and large, I think the law should be more of progressive. But then when we consider the issue of domiciliation, the Nigerian environment is not conducive enough at the moment for the establishment of some of these companies and of course there are no two ways about it, doing some projects outside Nigeria have been found to be cheaper for us and the reasons for this is not farfetched. Energy cost for carrying out these services in-country are high also basic amenities like water and the likes are expensive. As such domiciling activities poses a question on the level of returns that can be gained having invested so much for the foreign companies. So my conclusion on this is that domiciliation is encouraged however, this should be done progressively and the case of people going abroad to understudy should be monitored more closely.</p> <p>OKW: I frown at domiciliation because in the first instance you need to provide these foreign investors with security and an enabling environment and I don't think Nigeria has that at the moment. It is difficult for example for an American to successfully go and work freely in the Niger Delta and you and I know that that is where he is required most to do his job, so security is an issue. In Angola for instance, for every foreigner that goes into Angola to work, 2 of the local nationals go into the foreigner's country to understudy what the</p>	<p>BH: Indirect: On the waiver window, Well, for multinational companies, we have (fair game) when it gets to offshore and deep offshore operations, e.g the risk of rig breaking so you need high level equipment, high level technology and as it is the indigenous service providers do not have that level of investment because they are still growing companies so I will not say probably maybe any may take advantage because, the local companies as it is, don't have the technology, they don't have the full competence to operate in those terrains and right now most of the projects that are coming up are mostly deep offshore, so most of the projects are going to the international service providers so we have an advantage, so waiver or no waiver, we still have an advantage. For fabrication, we do not get involved</p> <p>NCD: Now, Nigerian content ids not about indigenisation or Nationalisation, it is primarily about having Nigerians add value in-house in the oil and gas sector. There are gaps in the industry and these arte what the local content acts seek to address. For example I will take a company like SCC, they started out as a comp[any manufacturing water pipes but we saw a need for them to produce pipes for the oil and gas industry and right now they cannot even meet demand, so there was need to extend this because we are still working on building capacity, so what we are saying is that this is not about indigenisation but Nigerians playing an active role in the industry, so we have gone away from the model of deriving the resource but being involved in the activities at every stage</p> <p>DPR: Personally I consider the waiver issue as a trade by barter agreement. For instance for a player to set up a facility in-country, they tell the government the steps they need to take to set up the facility and for one reason or the other, the government is not able to comply, then there comes an agreement between the government and the industry players such that, for this facility to be set up, we need to bring some equipment from abroad and on the part of the government, the agreement then is, you need to train Nigerians and allow them understudy the engineers who man this facility so that after an agreed time, the position is now occupied by Nigerians, so that is the concept of the waiver.</p> <p>SHE: we need to extend the waiver window and track progress carefully to succeed and then we need to make sure that the industry on which we are</p>	<p>WP: Definitely, this is because we had more expatriates a few years ago than we do now but we have seen that decline now. Particularly in my company, every expatriate at a senior level is mandated to mentor and train Nigerians to enhance a good succession plan, so most times what we have is someone working in close relationship or understudying in any higher senior position such that when that person leaves, the other person can then take over and that even cascades down to the way we run our projects. Our lead positions occupied by experts are usually taken over by Nigerians and what we usually encourage is training of Nigerians which is done either on the job, formal training or what we call Lunch and win session, which is organised by the expatriates and this is part of the responsibilities of the expatriates.</p> <p>OKW: On alliances with foreign companies Yes we do In fact the kind of alliances we have with these foreign companies is not the type such that we bring them into the country or work with them on permanent basis, this alliances is based on project and work basis and these are the times we bring them on board and what we do as part of building local capability is that we attach people to them who understudy them for the duration of time which these people will be working with us and we give these foreigners specific target on how much time it is expected of him to bring people under him or to speed for the given time the work is on</p> <p>WP: Many times we have encountered people who are not actually fit probably because they are coming from another industry or probably they were doing just one thing specifically at the place where they have come from even though it may be in the oil industry. One thing we have discovered in our system here is that we just have to be multitasking. Even though an individual might be an expert in one field, that does not mean they should not acquire other knowledge and in a lot of cases those who even claim to be experts in one field do not even know so much about their field of expertise and these are things we have found during interviews such that they cannot even defend their field of expertise but we always believe is that there is always a chance to improve and acquire additional knowledge especially with the issue of the succession plan</p> <p>ALC: Yes, with the expatriate quota, we have approximately 2 years and sometimes this is renewable, same way as projects are, so when we get a new</p>

<p>foreigner is bringing. I am not saying that we should adopt the style of the Angolans but I feel we should consider our challenges as a country and look for how to strategize to achieve our objectives, if it means sending Nigerian engineers abroad then let's do it I think what we should be more interested in is acquiring the skill, knowledge, exposure and experience so if the skill can be acquired outside the country then let's go for it! So I am an advocate of understudying and not domiciliation</p> <p>OKW: It is of no use to start saying activities should be domiciled in-country where there are no facilities for these. So I think the approach is somewhat skewed but the policy is good</p> <p>OSS: Yes it is a minimum standard for us and what we are even looking at is to bring them to come and develop our workshop and as we speak we have constructed a workshop which they have accepted to come and fully equip it with the necessary infrastructures so that some of the things which are usually shipped to them can be done in-country. With this infrastructure we hope to ensure that only minimum activities are carried out outside the country</p> <p>DAE: On emergence of indigenous companies Yes for instance fabrication is domiciled in country and prior to this time, these were done abroad and completed modules are shipped into the country, but right now these indigenes are now agitating to do these are the contracts are given to them</p> <p>DAE: My own take on that is domiciliation and this is because Nigeria is still lacking so it is better these people still bring in their equipment from abroad because we are still not okay to do these things yet. Of course we are not saying Nigerians should not fabricate and manufacture, but it is not advisable that we should go outright on domestication. For now, they will take a guiding and leading until a certain time that we are okay, we may now adjust but for now it is still okay to allow them to be part of the process, so asking them not to be will not go well in terms of developing local capability. Of course they will still be here so that we keep learning from them until a time that we become self sufficient</p> <p>ALC: I think domiciliation is the way forward, because this creates room for employment and the development of the immediate environment and</p>	<p>building this whole plan does not die-we can't build capacity if the IOCs shut down business so things like the PIB, the government needs to listen to the IOCs to make sure we have a balanced investor friendly PIB on the table, things like the waiver window, the government has to make sure that post-April 2013, we don't have shut downs, we cannot replace flow lines because they are forcing us to source steel pipes from Nigeria when we don't have enough steel pipe mills so let's not do the normal Nigerian things and take serious decisions based on emotions and not facts we need to look at the facts we need to be clear headed, we need to be truthful to ourselves and say yes, this is where we truly are at this point, so this is what we need to do, to get to where we want to be in future</p> <p>TOT: as you know, this will cause a delay but then this is needed to put things in place properly because of the current skills still lacking. In fact, some people think the 2 year extension is small because there are still obvious skill gaps. In my own personal opinion, this is causing a delay increased indigenous employment but then it does not sound unreal, so I reckon the extension is still okay and probably we need more than 2 years</p> <p>ADD: I don't see any significant effect this will have because it is only being waived for about 4 to 5 years and the government does not have any financial commitment to develop the things that are absent, so I count it as a waste of time because even with the waiver, there is no clear cut plan that within the waiver period, those things that are lacking will be provided in one way or the other. There is no commitment from the government or any other stakeholder that for example a factory is being set up for pipe production, so I count it as a sheer waste of time. I don't think so because there is no financial commitment from the government and there is no financial commitment from the IOCs maybe perhaps from other private business men in areas of steel pipes, production chemicals and valves, but I think the time will just come and pass</p>	<p>project and we do the analysis and find that the service to be carried out need more capable hands having looked in-country and found none, we then bring in an expatriate and asks some Nigerians to work with that expatriate to work with the expatriates and probably understudy him</p>
--	---	---

<p>community so that they can feel the impact of the change and new development and I feel that that's the only way by which local content can work. Back in the days, there was no close watch on domiciliation such that some of these expatriates do not even have a known office in Nigeria and they just do anything but now these things have been curbed and the policy now seeks to ensure domiciliation with a closer look</p> <p>NCD: I would say domiciliation, let the expatriates come and domicile their activities in-country. So I would say domiciliation and not indigenisation (Domestication).</p> <p>LNG: Yes, the Act has enlightened the players in the industry most eventually our foreign partners who before now could employ anybody but with the coming of the Act emphasis have been made and they are now aware that they should build capacity in-country. The Act is not sending them away, but telling them to build up people that will understudy where there is no capacity, so good success has been made in this regard</p> <p>SHE: I think it's everything. There are some skill sets we need to beef up so we still need to send people out, but of course you gain the most value out of employment so I believe the main focus should be getting oil and gas service companies and related industry to set up in country that's the only way we can create jobs. One of the biggest challenges facing Nigeria today is that of insecurity, thus creating instability in the system and of course the best tool we can use to tackle it is job creation</p> <p>TOT: I will take you back to the Indigenisation decree of 1977 when the government asked everyone to go but that did not work, it is all about performing the activities in-country so that while doing it in-country, others can learn and follow, but today I don't know how the U Turn is being made, people are talking now more of domestication, but if I will answer your question as to which will enhance local content development, then domiciliation should be encouraged given that the world is a global village wherein people operate in different countries. We (Nigeria) cannot tell anyone (foreigners) not to operate in our country because we too have to operate in other countries. So they should be encouraged to domicile their activities in-country, in so doing, Nigerians are trained, employed and money is retained in-</p>		
---	--	--

<p>country and of course we have the infrastructure. But in the event that we clamour for domestication, the oil will remain in the ground cos we do not have the required technology. Domiciliation has been the original thing, but people are trying to hijack it as such if we go back to the time prior to the act, a Nigerian company was defined as a company registered in Nigeria. The Act has only modified it by defining it as a company with 51% equity, so it is essential to state that local content can only be developed through domiciliation</p> <p>ADD: it depends on the skill, let's be honest there are some skills that cannot be learnt OR BROUGHT IN HERE. Nigerians will have to go abroad and learn these skills to understudy the foreigners. Alternatively these expatriates can be brought in for Nigerians to understudy them closely, it is a two way approach and we should note that this is all about technology so Nigerians should be sent abroad to be trained by these people. Also, bear in mind that this people are business conscious and will not come and set up if they don't stand the chance to have value for their investment. Take for example if they have to come and set up a steel pipe industry in Nigeria, how long will it take them to break even how much more to have returns on their investment and that is the reason why as much as domiciliation is a good idea, it will take a long time before this can be achieved unless the Nigerian government takes up the aspect of setting these facilities up.</p> <p>ADD: My own issue about understudying is regarding the unavailability of some heavy equipment that are not available in-country. That's why I recommend understudying, but then if we have the equipment, then the training can be done here. Usually understudying in-country is usually mandated for four years after which the expatriates are meant to go.</p>		
--	--	--