AN EMPIRICAL ANALYSIS OF VERTICAL AND HORIZONTAL INCOME AND NON-INCOME INEQUALITY IN NIGERIA: A CASE STUDY OF KADUNA STATE

BY
SALAMATU IDRIS ISAH
PH.D/FSS/27273/2001-2002

BEING A DISSERTATION PRESENTED TO THE DEPARTMENT OF ECONOMICS, AHMADU BELLO UNIVERSITY, ZARIA AS PART OF THE REQUIREMENTS FOR THE AWARD OF DOCTOR OF PHILOSOPHY(Ph.D) DEGREE IN ECONOMICS.

APRIL 2011

DECLARATION

I, **SALAMATU IDRIS ISAH** hereby solemnly declare that the whole of this work now submitted for the Doctor of Philosophy (Ph.D) Degree in Economics of the Ahmadu Bello University, Zaria is the result of my research and has not been presented to any University for the award of a degree. All references in the work have been duly acknowledged. All errors and omissions in this work are solely mine.

Salamatu Idris Isah Date

CERTIFICATION

This is to certify that this dissertation titled "**An Empirical Analysis of Vertical and Horizontal Income and Non-Income Inequality in Nigeria: A Case Study of Kaduna State"** by Salamatu Idris Isah meets the regulations governing the award of the degree of Doctor of Philosophy (Ph.D) Degree in the Department of Economics, Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

1 ---------- ----------
Prof. Abdul Ganiyu Garba **Date**
(Chairman, Supervisory committee)

2 ---------- ----------
Prof. G.D. Olowononi **Date**
(Member, Supervisory committee)

3 ---------- ----------
Prof. Mike Kwanashie **Date**
(Member, Supervisory committee)

4 ---------- ----------
Dr. Ishaya Audu **Date**
(Head, Department of Economics)

5 ---------- ----------
Prof. Joshua Adebayo **Date**
(Dean, Postgraduate School)

DEDICATION

This work is dedicated to all Career Mothers whom at the same time are Good wives, Mothers, and best Mentors. I am grateful to Almighty **ALLAH** for seeing me through the Program in good health and in His bounties, **Alhamdu lillah.**

ACKNOWLEDGEMENT

I wish to acknowledge the support and contribution of supervisors, Prof. Abdul-Ganiyu Garba, Prof. G.D. Olowononi and Prof. Mike Kwanashie whose contributions and research experiences have been of enormous help in this study. My special gratitute goes to my main supervisor, Prof. Abdul- Ganiyu Garba for invaluable mentoring and for the comments on the various drafts of this dissertation. His comments have resulted in lots of improvements, may Almighty Allah Bless you sir.

I am very grateful to my colleagues in the Department of Economics, especially Dr. Abdulsalam Sikiru Bidemi and Mr Damian Lawong, for their tireless efforts toward the success of this work. The comments and encouragement of Prof. P.K. Garba, Prof. P.S Aku, Dr. Muhammed Muttaka Usman, Dr. Aliyu Sunusi Rafidadi, Dr Sani Badayi, Mallam Z.T. Abdallah, Mrs. Rahanatu Lawal, Hajia Binta Jahun, Dr. Mike Duru and Mallam Dahiru Suleiman are highly appreciated.

The moral and financial support and encouragement I had from my dear husband, Prof. Jibrin Mohammed Jibrin and **"the boys"** Tahir Jibrin, Ibrahim Jibrin and Abdallah Jibrin are commendable; may Almighty Allah continue to bless you with His wisdom.

Finally, I acknowledge the financial support in form of grant given to me to facilitate the field work and data analysis by the French Institute for Research in Africa (IFRA, Nigeria) and the Ahmadu Bello University Board of Research. This dissertation has also received funding support from the Ahmadu Bello University, Macarthur Foundation Project Grant.

Salamatu Idris Isah

March, 2011

TABLE OF CONTENTS

TITLE PAGE i
DECLARATION ii
CERTIFICATION iii
DEDICATION iv
ACKNOWLEDGEMENT v
TABLE OF CONTENTS vi
LIST OF OF TABLES x
LIST OF FIGURES / CHARTS xv
ABSTRACT xvi
1.0 GENERAL INTRODUCTION 1
1.1 Background of the Study 1
1.2 Statement of the Problem 3
1.3 Research Questions 7
1 .4 Objectives of the Study 7
1.5 Justification 7
1.6 Scope and Limitation of the Study 8
1.7 Chapters Outline 9
CHAPTER TWO 10
2.0 OVERVIEW OF POVERTY, INEQUALITY GROWTH AND CONFLICTS IN NIGERIA, 1985 -2008 10
2.1 Trend of Poverty, Inequality, Growth and Conflict in Nigeria 10
2.1.1 Trend of Poverty 10
2.1.2 Trend of Inequality in Nigeria 16
2.1.3 Trend of Growth 1980-2009 20
2.1.4 Trend of conflicts in Nigeria 22
2.2 Trend of Poverty, Inequality Growth and Conflicts in Kaduna 29
2.2.1 Trend of Poverty 29
2.2.2 Trend of Inequality 30
2.2.3 Trend of Growth 37
2.2.4 Trend of Conflict 40
CHAPTER THREE 43
LITERATURE REVIEW 43
3.0 CONCEPTUAL AND THEORETICAL LITERATURE 43

3.1.1 Conceptual Issues: Inequality 43
3.1.2 Vertical Inequality 44
3.1.3 Poverty 45
3.2 Mainstream Thought: Relationship between Income Inequality, Poverty and Growth 46
3.2.1 Relationship between Inequality and Growth. 48
3.2.2 Relationship between Inequality and Poverty 60
3.3 Socio – Economic causes of Vertical Inequality 65
3.4 Horizontal Inequality, Poverty, Growth 69
3.4.1 Conceptual issues: Horizontal Inequality 69
3.4.2 Causes of Horizontal Inequality 70
3.4.3 Relationship between Horizontal Inequality and Conflict 73
3.5 Empirical Framework 77
3.5.1 Measurement of Vertical and Horizontal Inequality 77
3.6 Standard Techniques and Measurement of Variables of Interest 93
3.7 Determinants of Horizontal Inequality 95
3.8 Surveys of Horizontal Inequality: Case Studies in Nigeria 97
3.9 Relationship between Vertical and Horizontal Inequality 99
3.10 Implications of Literature Review for the Study 100
CHAPTER FOUR 103
4.0 RESEARCH METHODOLOGY 103
4.1 Conceptual and Theoretical Framework 103
4.1.1 The Conceptual 103
4.1.2 Theoretical Framework 105
4.2 EMPIRICAL FRAMEWORK OF THE STUDY 108
4.2.1 Measures of Inequality: Tools Adopted 108
4.2.2 Other Tools Of Analysis 110
4.3 Sources of Data 112
4.4 The Study Area 113
4.5 Research Design 116
4.5.1 Sampling Technique and Sample size 116
4.5.2 The Research Instrument 117
4.5.3 Tools of Analysis 117
4.6 Variables Considered in Measurement and Analysis 117
4.7 Hypothesis 118

CHAPTER 5 119
RESULTS AND DISCUSSION 119
5.0 Introduction 119
5.1 Socio–Economic Characteristics of the Respondents 119
5.1.1 Demographic Characteristics of Respondents 120
5.1.2 Economic Characteristics of Respondents 122
5.2.3 Distribution of respondents based on estimated income from Wages/ Salaries .. 123
5.2.4 Distribution of Respondents based on come from Wages per annum by Location ... 126
5.2.5 Distribution of respondents according to wages per annum (range) by Gender ... 128
5.2.6 Distribution Of Respondents according to Income from Other Sources (Assets). 131
Distribution of respondents according to income from other sources (Assets) in 131
5.3 Distribution of Respondents Based on Total income Per Annum 133
5.3.1 Distribution of Total Income according to Location 134
5.4 Distribution based on Access to Socio-economics Infrastructures 137
5.4.1 Distribution of respondents according to Access to Health Care Services 137
5.4.2 : Distribution of respondents according to children accessibility to education . 138
5.4.3: Distribution of Respondents according to Food expenditures per month 140
5.4.4 Distribution of Respondents based on expenditure per month on education 141
5.4.5 Distribution of Respondents based on Expenditure on Health care Services 142
5.5 Presentation and Discussion of Vertical and Horizontal Inequality Measures Results 144
5.5.1 Vertical Income Inequality Result 144
5.6 Horizontal Income Inequality Results 145
5.6.1 Total Income Inequality by Location, Religion, Gender and Ethnicity 146
5.6.2 Total Income Inequality and Job Status 147
5.6.3 Annual Wage Income Inequality by Religion, Ethnicity, Gender And Location. 148
5.6.4 Estimates of Wage Income Inequaality by Job Status 150
5.6.5 Estimates of Other Sources of Income (Asset) Inequality by Gender, Location, Ethnicity and Religion 151
5.7 Distributional Decile and Quintile Groups Results 153
5.7.1 Deciles/ Quintile Analysis of Total Income Inequality 153
5.7.2 Access To Food 155
5.7.3 Access to Health 157
5.8 Established Proverty Line Determination Result 158
5.8.1 Established Proverty Line ; Vertical Result 159
5.8.2 Established Relative Poverty Line; Horizontal Result (by Location) 161

5.8.3 Established Poverty Line: Poorest Of The Poor 163
5.9. Established Poverty Line: Horizontal Results 164
CHAPTER SIX 167
6.0 SUMMARY, CONCLUSION AND RECOMMENDATION 167
6.1 Summary 167
6. 2 Conclusion 169
6.3 Recommendations 171
BIBLIOGRAPHY 174
APPENDICES 194

LIST OF OF TABLES

Table 1 : Poverty levels in Nigeria from 1980-2004 ---------- 7

Table 2 : Poverty levels by Proportion from 1980 – 2004 ---------- 7

Table 3 : Regional Poverty Rate for 1980-2004 ---------- 8

Table 4 : Relative Poverty Incidence by Sector and Region ---------- 13

Table 5 : States with highest incidence of poverty 1980- 2004 ---------- 13

Table 6 : States with lowest incidence of poverty ---------- 14

Table 7 : Self – Assessment of poverty by State ---------- 14

Table 8 : Age group by relative poverty incidence ---------- 15

Table 9 : Poverty and Gender of Head of Households ---------- 15

Table 10 : Inequality measure by Sector and State ---------- 16

Table 11 : Trend in Poverty and Inequality in Nigeria by state ---------- 17

Table 12 : Inequality in Total Food consumption Expenditure By Urban and Rural Areas ---------- 19

Table 13 : Inequality in Total Consumption Expenditure by Households size ---------- 20

Table 14 : Nigerian GDP and Growth rate (2001-2008) ---------- 21

Table 15 : Sectoral Composition of GDP (1995- 2008) ---------- 22

Table 16 : Selected Major Crises in some States in Northern Nigeria (2000 -2009) ---------- 23

Table 17 : Number of Industrial Disputes/ Strikes in Nigeria ---------- 24

Table 18 : Zonal Ranking by Population, Economic activity and welfare ---------- 24

Table 19 : GDP and Per Capita income by zones and States in Nigeria (2007) ---------- 24

Table 20 : Poverty Incidence by States (1996- 2004) ---------- 25

Table 21 : Human Development Statistics in North-West zone of Nigeria ---------- 31

Table 22 : Enrolment in Secondary Schools by sex in Kaduna State ---------- 32

Table 23 : Trend in Gross Enrolment Ratio and completion Rate in Primary Schools (1999-2004) ---------- 32

Table 24 : Enrolment, Teacher and Number of Class room ---------- 33

Table 25 : Number of Secondary Schools and Enrolment in 1999- 2004 ---------- 34

Table 26 : Enrolment in Local Government Areas and Number of Teachers in 2004 ----------34

Table 27 : Health Personel – Patient ratio ----------35

Table 28 : Access to Safe Water by Population in Kaduna State ----------36

Table 29 : Water Demand and Population in some Local Government Areas (2000-2006) ---------- 36

Table 30 : Boreholes Spread in Kaduna Rural area ---------- 36

Table 31 : National GDP and Kaduna State GDP (2002-2008) ---------- 37

Table 32 : Uneployment rate by Zones and States in Nigeria 2007 ---------- 39

Table 33 : Percentage Distribution of the Underempployed Population by employer in Kaduna state ---------- 39

Table 34 : Percentage Distribution by Employment Status in Kaduna State(2005) ---------- 39

Table 35 : Some Descriptive Inequality Measures and their Properties ---------- 80

Table 36 : Some Empirical Studies with types of Data and Tools used in analysis ---------- 94

Table 37 : Distribution of Population in Kaduna State by Local Government Council ---------- 115

Table 38 : Distribution of Respondents according to Gender, Gender of Households and Marital Status ---------- 120

Table 39 : Distribution of Respondents according to
Tribes by Location ---------- 121

Table 40 : Distribution of Respondents according to
Major source of Income ---------- 123

Table 41 : Decomposition of Sources of income by Location ---------- 123

Table 42a : Distribution of Respondents based on estimated
income from Wages per Month ---------- 124

Table 42b : Distribution of Respondents according
to annual Wages by Gender ---------- 125

Table 42c : Distribution of Respondents according
to annual Wages ---------- 126

Table 43 : Distribution of Respondents according to
Wages per Annum; Location Decomposition ---------- 127

Table 44 : Distribution of Respondents according
to annual Wages by Gender ---------- 129

Table 45 : Distribution of Respondents according
to annual Wages by Religion ---------- 130

Table 46 : Distribution of Respondents based on income from
Other sources (Asset) per Annum ---------- 131

Table 47 : Decomposition of respondent by Location ---------- 133

Table 48 : Distribution of Respondents according to Total Income;
Locatiob decomposition as Percentage of Total ---------- 135

Table 49 : Distribution of Respondents according to
Total income by Religion ---------- 136

Table 50 : Distribution of Respondents according to
Total income by Gender ---------- 137

Table 51 : Distribution of Respondents according to
Health Care accessibility ---------- 138

Table 52 : Distribution of Respondents according to
Children accessibility to Education ---------- 140

Table 53 : Distribution of Respondents according to Food Expenditure per month ---------- 141

Table 54 : Distribution of Households Expenditure per Month on Education ---------- 142

Table 55 : Distribution of Households according to Expenditure on Health care Service per Month ---------- 143

Table 56 : Distribution of Households according to Expenditure on Health care Service per Annum ---------- 143

Table 57 : Estimated Vertical Inequality Results ---------- 145

Table 58 : Estimated Result of Total Income Inequalities by Religion, Ethnicity, Gender and Location ---------- 145

Table 59 : Estimated Result of Total Income Inequalities by Job Status ---------- 147

Table 60 : Estimated Result of Annual Wage income Inequalities by Religion, Ethnicity, Gender and Location ---------- 148

Table 61 : Estimated Result of Annual Wage Income Inequalities by Job Status ---------- 149

Table 62 : Estimated Result of Asset income Inequalities by Religion, Ethnicity, Gender and Location ---------- 153

Table 63 : Distributional Summary statistics of Total Income by 10 Decile Groups ---------- 154

Table 63b : Distributional Summary statistics of Total Income by 5 Quintile Groups ---------- 154

Table 64 : Distributional Summary statistics of Monthly Food Expenditure by 5 Quintile Groups of Households in Kaduna State 2008 ---------- 155

Table 65 : Distributional Summary statistics of Annual Food Expenditure by 5 Quintile Groups of Households in Kaduna State 2008 ---------- 155

Table 66 : Distributional Summary statistics of Monthly Health Expenditure by 5 Quintile Groups of Households in Kaduna State 2008 ---------- 158

Table 67 : Established Vertical Poverty Line Using Two- Third Mean per Capita Households Income ---------- 160

Table 68 : Established Horizontal Relativel Poverty Line for Locations by Income Sources ---------- 162

Table 69 : Established Relative Poverty Line for Poorest of the Poor; Vertical Analysis ---------- 164

Table 70 : Established Relative Poverty Line for Poorest of the Poor ; Vertical Analysis ---------- 165

LIST OF FIGURES / CHARTS

Figure 1 : Trend of Poverty by Sectors in Nigeria ---------- 12

Figure 2 : Relative Poverty Trend by Location and zone ---------- 17

Figure 3 : Poverty Index – Growth rate ---------- 18

Figure 4 :Poverty – Gini Index ---------- 18

Figure 5: Inequality Trend by Location and Zones ---------- 19

Figure 6 : Real GDP Growth rate from 2002-2008 ---------- 43

Figure 7 : Kaduna State per Capita Income ---------- 44

Figure 8 : The Poverty, Inequality and Growth Relationship ---------- 47

Figure 9 : Theoretical Approaches ---------- 53

Figure 10 : The Poverty- Growth- Inequality Triangle ---------- 62

Figure11: Decomposition of Changes in distribution andPovertywithGrowthandDistributionalEffect ---------- 64

Figure12:The theoretical framework and the main points of Divides in Nigeria and Kaduna State ---------- 107

Figure 13 : Map of Kaduna State Showing Case Study Area (Locations) ---------- 114

Figure 14 : Educational and Literacy Levels of the Respondents ---------- 122

Figure 15 : Distribution of Respondents by Other Sources (Asset) income ---------- 132

Figure 16 : Monthly Food Expenditure by Five Quintile Groups of Households in Kaduna State ---------- 156

Figure 17 : Annual Food Expenditure by Five Quintile Groups of Households in Kaduna State ---------- 157

Figure 18 : Monthly Health Expenditure by Five Quintile Groups of Households in Kaduna State ---------- 158

ABSTRACT

The literature on poverty has evolved to the point where poverty and inequality are believed to have vertical and horizontal dimensions. Yet, most of the survey studies and researches on poverty and inequality in Nigeria lack sufficient and adequate analysis of horizontal inequality. This identified knowledge gap has weakened the effectiveness of both micro and macro level policy intervention on poverty and inequality in Nigeria. This is because the chances of a successful reduction of poverty and inequalities among individuals and group of individuals can be limited by the existence of inequalities in the identified dimensions. This dissertation provides useful information on the nature, pattern and extent of horizontal inequality in Kaduna state to support the thesis that horizontal inequality is a major constraint to the effectiveness of anti-poverty and anti-inequality policy measures. The collected data was on three major sources of households income (wages/salaries, assets and total income), using cluster survey methods to include in the sample a demographically diverse set of households in terms of gender, income groups, ethnicity and religion. The data was collected in three local Government areas (Kaduna North, Kaduna South and Giwa) in Kaduna state of Nigeria. The study made used of relative poverty line threshold, Gini coefficient, Theil Index, Coefficient of Variation and Quintile as tools of analysis. The results from the various analyses provided empirical evidence of the nature, pattern and extent of both the general level of inequality (vertical) and between groups(horizontal) inequalities in Kaduna State. The dissertation revealed that (i) the major source of income among the respondents was earnings (wages and salaries); (ii) the income gap between the rich and the poor in all the three income sources was wide in each location and (iii) the nature of the degree in asset inequality was 86%, 75% and 74% in Kaduna North, Kaduna South and Giwa, respectively. In terms of degrees of earnings inequalities, it was 94%, 57%, and 45% in Kaduna South, Kaduna North and Giwa, respectively. The percentages of the poor in vertical analysis averaged 40% in total income source and Earnings but with 17.5% in Asset. Horizontally, in Kaduna North, the percentage of the poor ranged between 20% (assets) and 76% (wages/salaries). The Gini Indices also show very high unequal distribution across gender, religion, location and ethnic groups as well as in access to basic infrastructure like health and education. Based on the above findings, the study concluded that the level of vertical and horizontal inequalities in Kaduna state is significant and the causes are multi- dimensional in nature. The major determinants are earnings, assets, total income and job status. The findings of this study implies that anti-inequality policies in Kaduna State will not be effective if they do not account for both the vertical and horizontal dimensions of poverty. Therefore, government policy must be designed to target the least disadvantaged groups in each location focusing on the unique nature and extent of horizontal inequalities in each location. Such a targeted response guided by the information on the nature, pattern and extent of horizontal and vertical inequalities in each location will more likely to be effective in raising the poverty reduction elasticities of growth and, of government intervention.

CHAPTER ONE

1.0 GENERAL INTRODUCTION

1.1 Background of the Study

The principal hypothesis on the nature and causes of the variation in income distribution in the course of development was first formalized by Kuznets (1955) as the Inverted U hypothesis. The Inverted U hypothesis suggests that, at low levels of per capita income, inequality increases with per capita income and decreases only at the later stages of development – resulting in an inverted U – shaped relationship between per capita income and income inequality. The inverted U hypothesis was the basis of early development thought and policy which focus on growth (Garba, 2005) .

By the late 1960s and early 1970s however, inequality and poverty had became serious problems within development thought and policy. The significance of inequality and poverty issues is exemplified by the significance attached to them in the Millennium Development Goals (MDGs) as goal 1 and 3 adopted by 189 countries in the Millennium Submit in 2000 to achieve a uniform set of bench-marks by 2015.

More recent literature has brought attention to the nexus between inequality, poverty and growth (Ravallion, 1998; Bigsten, 2001; and Toney, 2002). Ravallion (1998) pointed out that wide income disparities tend to co-exist with poverty which may translate into lower long – run economic growth. According to Ravallion (1998) high level of income inequality can contribute to high level of poverty in three ways:

i) For any given level of economic development, higher inequality implies higher poverty, since a smaller share of resources is received by those at the bottom of the distribution of income or consumption.

ii) Higher initial inequality may lead to lower subsequent growth and therefore less poverty reduction. This implies that the negative impact of inequality on growth may result from various factors; most significantly poor access to credits and other resources that may be concentrated in the hands of privileged groups, thereby preventing the poor from investing.

iii) Higher level of inequality may reduce the benefit of growth to the poor because a higher initial inequality may lower the share of the poor from growth. Thus, at the extreme, if a single person should have all the resources at whatever the state of growth, poverty will never be reduced until that poverty comes with a reduction in inequality.

The literature has thus established that inequality is an important dimension of social well-being and it has economic as well as social consequences which can be highly damaging to development .Toney (2002) linked increasing inequality with poverty by stressing that large inequalities can impede economic growth and consequently diminish the possibilities of reducing poverty. According to Toney (2002), if any Governments or donors want to conquer poverty, they cannot afford to ignore inequality because poverty issues cannot be separated from distributional questions. Toney (2002) also pointed out that much of Latin American's continuing poverty is explicable in terms of large inequalities rather than weak economic performance. Similarly, in Africa the poverty problem is exacerbated by apparently rapid widening inequalities. Sub-Sahara African Gini Coefficient is 47.4 with the poorest 20% of the population earning only 5.3% of total income. In Kenya, top 10% of households receive 42% of total income while the bottom 10% receive less than 1% (Handley et.al 2009).

The most significant aspect of the points above is that the relationships between growth, inequality and poverty have been the subject of theoretical, empirical and policy debate.While

there is no consensus on the nature of the relationship between growth, inequality and poverty, or the impact of inequality on economic growth. Empirical evidence across countries suggests that the initial country conditions are significant in specifying the type of relationship that could exist between growth, inequality and poverty (Bigsten et al, 2001). Further, it is supposed that what constitutes improved growth rate as well as successful reduction of inequality and poverty in a country is actually influenced by the initial conditions and the efficiency and composition of public expenditure (Ravallion 1998; Bigsten et al, 2001).

Conventional studies of inequality and poverty focused on the vertical dimension. However, Stewart (1999, 2000,2001, 2002, 2005, 2007) brought attention to the horizontal dimension of inequality (spatial and inter-group). The seriousness and possible economic and social consequences of vertical and horizontal inequality in Nigeria were highlighted by World Bank (1996) , UNDP (1996), Garba (1998) and Gboyega et al,(2004). With the advent of the Poverty Reduction Strategy Papers (PRSPs) and Millennium Development Goals (MDGs), in-depth studies of vertical and horizontal inequalities are needed in order to articulate the necessary measures for reducing poverty. Case studies of States using socio – economic and demographic information would help to identify clearly the nature and trend of income inequality in order to understand the nature of poverty and inequality in Nigeria, a key pre-requisite to effective intervention.

1.2 Statement of the Problem

Survey studies and researches that provide key information on poverty level, inequality and on standard of living can enhance the design and formulation of policies, reforms and programmes targeting poverty and inequalities. It therefore become important that in conducting such surveys and researches, the instrument and context should contain an appropriate policy framework that relate to policy objectives. A general weakness of the reports from the five surveys conducted by

the National Bureau of Statistics (NBS) in 1980,1985, 1992, 1996 and in 2004 and of studies on poverty and inequality in Nigeria is i**nformation gap on horizontal inequality.** These studies lack sufficient and adequate analysis of horizontal inequality and poverty .The knowledge gap weaken the effectiveness of both micro and macro level policy intervention on poverty and inequality in Nigeria. It has been established that information gap undermine the efficiency of choices.

Stewart (2001) pointed out that the inclusion of such vital information or data on both horizontal and vertical dimensions of inequalities would provide a comprehensive policy framework for programs targeting poverty and inequality. On the contrary, the exclusion of any of the multiple dimensions of poverty and inequality can be an impediment that could weaken the effectiveness of anti poverty strategies and by so doing, weaken the capacity of Nigeria to achieve the Millennium Development Goals. Studies by Stewart (1999,2000, 2001, 2002 and 2005) on horizontal dimension of inequality suggest that horizontal analysis provide useful information that society or country can use to combat most horizontal tensions which build up to perpetuate violent conflict.

In Nigeria, horizontal tensions, violent / insecurity in key urban centres e.g Zangon Kataf, Kaduna, Kano, Bauchi, Jos, Shagamu, and Lagos have been linked to horizontal inequality. While the crisis may not have reached the scale of similar crisis in Rwanda, Somali and Sudan, they are serious enough to require new ways of generating information to aid the design of poverty and inequality reducing policies.

Since the adoption of the structural adjustment program in the mid 1980s, successive Nigerian Governments have pursued policies that claimed to target growth without addressing inequality. There seems to be implicitly a tolerance for growing inequality (Gboyega et al, 2004) . The failures of policy manifests in ;

1) The worsening of income distribution within individual households, groups, states and regions which have resulted in poverty being currently not just concentrated in some remote and backward states but also prevails in the most prosperous areas in the country (some urban centres).
2) The unbalanced development among states, local government areas and regions which has led to greater inter regional, and interstate income inequality.

In Nigeria, majority of the populace live in abject poverty with per capital income below $240 per annum. An overview of poverty and inequality trends in Nigeria from the five surveys conducted between 1980 and 2004 revealed poverty incidence for1980 as 28.1%, 46.3%in 1985, 42.7% in 1992, 65.6% in 1996 and 54.4% in 2004. Moreso, the population in poverty has maintained a steady increase from 18.26million in 1980 to 68.70 million in 2004 (NBS, 2005) . Poverty level by Zone for 1980 to 2004 show North Central, North East, and North West , having the highest poverty with 67.0%, 72 2% and 71.2 % in 2004 as against 64.7 %, 70.1 % and 77.2 % in 1996. These figures are far above the national average estimated at 54.4% in 2004 and what was obtained in the southern part of the country.

Kano, Kaduna and Plateau states the centres of recent horizontal crisis have inequalities higher than regional averages, The values of the Gini coefficient were 0.4318 for Kano State, 0.4226 for Kaduna and 0.4390 for Plateau State. These values are a little above the average estimate for the North West zone (0.3711) and North central (0.3934). Poverty incidence in Kaduna state decreased from 67.7 % in 1996 to 50.07 % in 2004. The population proportion of very poor in Kaduna state was estimated to be 11.87% and moderately poor as 59.94 %, giving a total of 71.81 % as poor and 28.19 % as non poor in 2004.

Poverty Incidence have increased significantly in nine states from 1996. The states include Jigawa, Kogi, Kwara, Kebbi, Yobe, Bauchi, Lagos, Zamfara, and Taraba States .The

highest Poverty incidence in 2004 were in Jigawa, Kebbi, Kogi, Bauchi , Yobe and Kwara states, with 95.07 %, 89.65 %, 85.60 %, 86.2 %, 83.25 %, and 85.22 % respectively.

Given the above scenario, despite government efforts on structural change overtime, the existing poverty and inequality reducing policies have not reduce poverty or inequality significantly. Structural change affects individuals, groups, and Regions differently. Group membership is intrinsic to human development, and when the benefits and costs of structural change correspond to ethnic or religious affinities, or geographic location, individuals may perceive development in terms of those cleavages. Such inequalities may be source of conflict and adversely affect well-being. Hence, for any poverty reduction programmes to work and be sustain in the long run, the identified information gap must be bridge. Such that surveys on poverty and inequality must be instruments that focuses on all dimensions that include identification of vulnerable groups and imbalances, and the causes of the imbalances so that it would help to reduce some of the observed horizontal tensions that perpetuate social unrest and subsequently conflicts in Nigeria.

The main thesis of the study is that there is a knowledge gap about the horizontal dimension of poverty and inequality. The knowledge gap is a major constraint to the design of anti- poverty strategies and policies. Filling the knowledge gap will improve policy design and policy effectiveness of pro- poor growth.

It is expected that the data generated from the study would stimulate the debates and further researches on inequality and more empirical evidence which would serve as a policy module for the government when designing an intervention for inequality, poverty and growth in Nigeria.

1.3 Research Questions

The core research questions of the study are:

1) What is the nature and extent of vertical and horizontal inequalities in Kaduna State?
2) What are the possible causes of vertical and horizontal poverty and inequalities in Kaduna state?
3) What are the implications of answers to questions (1) and (2) for pro-poor policies in Kaduna State and possibly for Nigeria?

1 .4 Objectives of the Study

The following are the objectives of this dissertation:

1) To assess the nature, patterns and extent of vertical and horizontal inequality in Kaduna state of Nigeria.
2) To evaluate the causes of vertical and horizontal poverty and inequalities in Kaduna state.
3) To deduce the policy implications of objectives (1) and (2).

1.5 Justification

The study has identified a knowledge gap in poverty and inequality studies in Nigeria. The missing knowledge gap is on the nature and extent of horizontal dimensions (such as ethnicity, religion, gender, and region/ location) of poverty and inequality. The study attempted to fill this Knowledge gap by collecting and providing information on horizontal inequality and poverty in Kaduna state. This dimension would give distinct information and guide to policy choice than the univariate indices (vertical dimension). The usefulness of the information provided on horizontal dimension would enhance policy choice so that group targeting programmes will make policy on poverty and inequality reducing strategies more effective in Kaduna state and stimulate the extension of the framework to national effort to achieve the MDGs. In addition, the policy implications drawn from the information would help policy

makers in promoting effective initiations that would advance the capabilities of disadvantaged households, groups of individuals and communities in Kaduna state.

1.6 Scope and Limitation of the Study

The focus of the study was limited to Kaduna State with specific locations; Giwa, Kaduna North and Kaduna South, (three Local Government Areas). The reason for selecting these Locations ,is that the two locations; Kaduna North and Kaduna South are post conflict societies which have witnessed civil conflicts in 1980s and early 1990s. Civil conflicts are group conflicts that are perpetuated by horizontal tensions; a result of collective grievances on the side of disadvantaged group feeling frustration and being antagonised especially when their relative deprivation is as a result of actual exploitation and discrimination. A society with such group conflict can have a systemic economic and non economic resources inequality between groups especially ethnic groups(Stewart, 2000). Conflict can undermine development, worsen poverty and increase level of inequality. Kaduna North and Kaduna South are Multi-diverse societies with ethnic, religion, region and other group characteristic affiliations that are prone to conflict. Thus, analysing the systemic horizontal inequality would aid in providing information on the extent of the existing inequality in post conflict societies and one that is none (Giwa Local Government Area).

Analysis of the study focused on four key elements of Horizontal dimensions of inequalities, gender, ethnicity, religion and location. The analysis explored not only the nature and extent of inequality in the various income sources (wages/salary, assets and wealth), but also the non income in terms of access to socio – economic opportunities. However, data sets for this study were from a survey, hence, the quality of the data, and the results from the study depend largely on the willingness of the respondents to answer truthfully the questions put to them.

1.7 Chapters Outline

Chapter One of the study consist of general introduction, statement of the problem, research questions, objectives, Justification, methodology, and scope and limitation of the study . The focus in chapter two was overview of poverty, inequality, growth and conflict in Nigeria, and in Kaduna state. The key focus of the discussion in this chapter is to assess the existing nature and pattern of inequalities at National and at state levels. Chapter three is the review of literature (conceptual, theoretical and empirical frameworks) key issues such as the link between poverty, inequality and growth were explored, in addition to key determinants of vertical and horizontal inequalities. The content in chapter four focused on the theoretical and empirical frameworks, Methodology and procedures used for the study, this include the research design, sampling framework, instruments used for data collection and tools used for data analysis. Chapter five presents result and discussion while chapter six presents summary, conclusion and recommendations.

CHAPTER TWO

2.0 OVERVIEW OF POVERTY, INEQUALITY GROWTH AND CONFLICTS IN NIGERIA, 1985 -2008

2.1 Trend of Poverty, Inequality, Growth and Conflict in Nigeria

2.1.1 Trend of Poverty

To understand poverty in Nigeria as a whole, and for policy makers to be able to allocate resources efficiently for poverty reduction, three factors need to be examined: the nature of income inequality in rural and urban areas, the extent and the severity of states and regional inequalities and the causes of these disparities. A study by Elbadawi *et al*. (2005) which stressed out the need to support policies addressing inequality emphasized that to eradicate poverty on the scale and scope called for by the Millennium Development Goal, simply defining poverty and pro-poor growth is not enough, but our understanding must be brought to the dynamic relationship between inequality and poverty reduction. Such that politics intended to address and alleviate poverty must accommodate the elasticity of poverty with respect to inequality. In addition, policy must be focused to reduce inequality especially in highly unequal economies. The authors suggested two ways through which policy can address the issue of inequality;

(a) Policy can address it directly or through progressive redistribution schemes, (b) policy can address it indirectly by increasing the opportunities of the disadvantage. The former is possible but unlikely to happen in some states for political consideration, while the later is possible if unequal opportunities are identified.

In Nigeria, Poverty has been recognized as a handicap to development, an overview of Poverty and Inequality trends in Nigeria from five surveys conducted between 1980 and 2004 revealed the incidence Poverty has risen sharply from 28.1%, to 54.4% (Table 1). The relative

shares of the core poor has also increased steadily from 6.2%, to 22% . The population in poverty has maintained a steady increase from 18.26million to 68.70 million an increase of 26.5% (NBS, 2005) . This increase is also reflected in the number of moderately poor (Table 2).

Table 1 Poverty levels in Nigeria From 1980 – 2004

Year	Poverty incidence %	Estimated Population (million)	Population in Poverty (million)
1980	28.1	65	18.26
1985	46.3	75	34.73
1992	42.7	91.5	39.07
1996	65.6	102.3	67.11
2004	54.4	126.3	68.70

Source : Computed from National Bureau of Statistics report 2005
Note; since 2004 survey studies have not been conduct to reflect current situation.

The Regional structure of poverty is diverse along the geo-political dimension, the three zone in the North (North East, North West, and North central) are the poorest in that order (Table 3), while the three zones in the South (South East, South South and South West) are the relatively better off with figures above the national average in 2004.

Table 2 : Poverty levels by Proportion From 1980 -2004

Year	**Core Poor**	**Moderately Poor**	**Non Poor**
1980	6.2	21.0	72.8
1985	12.1	34.2	53.7
1992	13.9	28.9	57.3
1996	29.3	36.3	34.4
2004	22.0	32.4	43.3

Source : Computed from National Bureau of Statistics report 2005

Table 3 :Regional Poverty Rate For 1980- 2004

Zone	Year				
	1980	**1985**	**1992**	**1996**	**2004**
South- East	12.9	30.4	41.0	53.5	26.7
South – South	13.2	45.7	40.8	58.2	35.1
South – West	13.4	38.6	43.1	60.9	43.0
North – Central	32.2	50.8	46.0	64.7	67.0
North –West	37.7	52.1	36.5	77.2	71.2
North – East	35.6	54.9	54.0	70.1	72.2

Source : Computed From the National Bureau Of Statistics 2005 Report

The figures for states poverty incidence (Table 5,6 and 7) indicate that poverty have increased tremendously in nine of the states since 1996, their levels are above the national averages. The top states with higest poverty levels in 2004 were Jigawa (91.1%), Kebbi (90.4 %), Kogi(88.60%), Bauchi(82.2%), Yobe(81.1%,) and Kwara (79%) states respectively.

The spatial Poverty differences in urban and rural areas have not change despite government reforms and programmes in the areas.

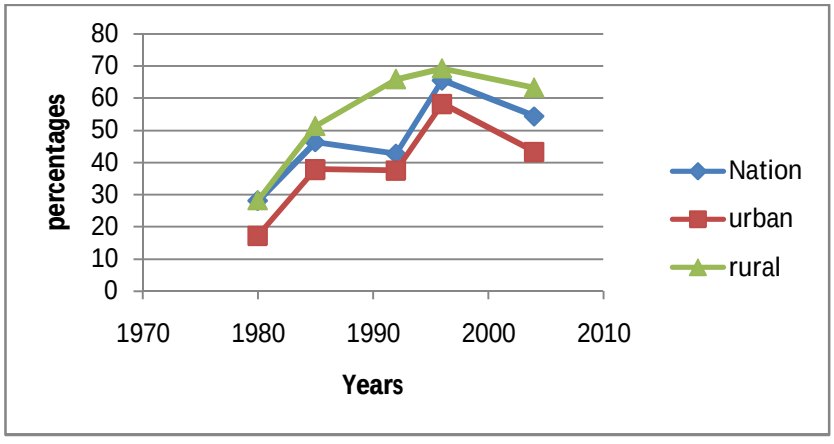


Fig.1 Trend of poverty by sectors in Nigeria

From the graph though, the percentage of total poor in urban centres have declined from 58.2% in 1996 to 43.2% in 2004, the percentage of total poor in the rural area is still very high with 69.3% in 1996 to 63.2% in 2004 (Table 4).

Table 4 : Relative Poverty Incidence By Sector And Region For 1980 - 2004

Year	Urban (%)			
	Core Poor	Moderately poor	Total Poor	Non Poor
1980	3.0	14.2	17.2	82.8
1985	7.5	30.3	37.8	62.2
1992	10.7	26.8	37.5	62.5
1996	25.2	33.0	58.2	41.8
2004	15.7	27.5	43.2	56.8
Year	**Rural (%)**			
	Core Poor	**Moderately poor**	**Total Poor**	**Non Poor**
1980	6.5	21.8	28.3	71.7
1985	14.8	36.6	51.4	48.6
1992	15.8	30.2	46.0	54.0
1996	31.6	38.2	69.3	30.7
2004	27.1	36.2	63.2	36.7

Source: NBS Report 2005

The values in Table 4 revealed that poverty is still a rural phenomenon. These statistics on Poverty provide very useful information on the deteriorating level of poverty at state levels. (Table 7)

Table 5 : States with Highest Incidence of Poverty

State	Incidence of Poverty (P0)	Poverty Gap (P1)
Jigawa	92.1	0.4967
Kebbi	90.4	0.4322
Kogi	88.6	0.5713
Bauchi	82.2	0.3573
Yobe	81.1	0.3563
Kwara	79.3	0.4236

Source: National Bureau of Statistics (2007)

From the Table 5, Kogi state has the deepest poverty gap (about 0.57) thought it is not the poorest, then followed by Jigawa, Kebbi, Bauchi and Kwara (NBS Report 2005).

Table 6 : States with Lowest Incidence of Poverty

State	Incidence of Poverty (P0)	Poverty Gap (P1)
Oyo	23.2	0.0652
Osun	28.8	0.0807
Imo	30.8	0.0954
Bayelsa	32.4	0.1148
Abia	33.2	0.1041
Ogun	35.0	0.1093

Source: National Bureau of Statistics
Note: (National P0 is (54.4)

Table 7: Self – Assessment of Poverty by State (Some Selected States)

State	Very Poor	Averagely Poor	Non-Poor
National	**21.37**	**54.10**	**24.54**
Abia	34.45	46.68	18.87
Adamawa	26.97	47.21	25.82
Akwa Ibom	16.86	49.35	33.79
Anambra	16.19	54.29	29.52
Bauchi	27.01	59.26	13.73
Borno	36.86	50.87	12.27
Ebonyi	36.74	49.84	13.42
Enugu	17.24	59.53	23.23
Gombe	12.25	62.03	25.72
Jigawa	13.87	47.15	38.97
Kaduna	11.87	59.94	28.16
Kano	18.40	54.58	27.02
Katsina	5.60	67.71	26.69
Kogi	28.63	56.24	15.12
Niger	18.10	56.39	25.51
Plateau	19.42	58.33	22.25
Sokoto	17.89	59.64	22.47
Yobe	26.29	55.04	18.67
Zamfara	18.52	54.12	27.36

Source: Computed from National Bureau of Statistics 2006 Report

Table 8: Age Group by Relative Poverty Incidence

Year	Core Poor	Moderately Poor	Non Poor	Total
20-24	26.38	38.34	35.27	100.00
30-3	22.46	40.14	37.40	100.00
35-39	25.54	39.68	34.78	100.00
45-49	22.29	41.11	34.36	100.00
55-59	19.32	37.82	42.86	100.00
65-69	14.03	30.38	55.59	100.00
70 and above	14.03	30.38	55.59	100.00

Source: NBS 2007 Report

A productive economy is reflected in the nature of employment level, wage rate and the productive stock of human capital. World bank (2001) pointed out that improvement in any aspect of well-being especially income tends to be correlated with improvement in other aspect (health, education e.t.c.). The implication of the statistical distribution of prevailing poverty level among age groups between 30-35years and 45-49years is worrison.The contest for economy growth in the vision 2020 in Nigeria could be undermine by the existing nature of poverty in supposed to be productive working age groups

Table 9: Poverty and Gender of Head of Household

Year	Male Headed		Female Headed	
	Non Poor	Poor	Non Poor	Poor
1980	70.8	29.2	73.1	26.9
1985	52.7	47.3	61.4	38.6
1992	56.9	43.1	60.1	39.9
1996	33.6	66.4	41.5	58.5
2004	41.8	58.2	56.5	43.5

Source: NBS 2005 Report

NBS study in 2004 revealed that male-headed households are more likely to be in poverty than female headed ones, this analysis shows that female headed households are smaller in size and their educational level generally is high. The household size of 50% of female headed households have size 2-4 persons, while the household size of about 46% of male – headed household was 5-9 person. It is significant to note from the NBS (2004) that the female-headed

households constituted only about 16% of the household and most of them were widows while most of the male-headed household were in monogamous marriages. Household size was found to be a major determinant of the level of poverty, and households headed by persons without education had a higher chance of being in poverty (NBS 2005).

2.1.2 Trend of Inequality in Nigeria

In the past fifteen years (1985-2004) Nigerian level of Inequality has been on the increase despite various reforms on markets, globalization and privatization. These spatial imbalances have been aggravated at urban and rural areas, and at the six geo-political zone. Gini values at zonal and state levels are in Table 10 and 11 below;

Table 10 : Inequality Measure by Sector and State

Inequality Measure		**Gini Coefficient**		
Years	1985	1992	1996	2004
National	**0.43**	**0.41**	**0.49**	**0.49**
Sector:				
Urban	0.49	0.38	0.52	0.54
Rural	0.36	0.42	0.47	0.52
Geo- Political Zone				
South – South	0.48	0.39	0.46	0.51
South East	0.44	0.40	0.39	0.45
South West	0.43	0.40	0.47	0.55
North Central	0.41	0.39	0.50	0.39
North East	0.39	0.40	0.49	0.46
North West	0.41	0.43	0.47	0.37

Source: National Bureau of Statistics, 2007

The data on inequality in Nigeria is limited and where available, it is measured by Gini coefficient. Since 1985 the values have been rising at national level except in 1992 when it declined slightly. Unlike the rising trend of poverty incidence, Inequality at zonal levels have been fluctuating over the years and the scenario is worst in urban centres than rural areas (Figure 5) . Three of the geo-political zones; North West, North East and South West seems to have higher disparities. At state levels, 7 states had above National average, this includes Lagos (0.6429), Nassarawa ((0.6429), Kogi (0.5555), Akwa Ibom (0.5003), Cross Rivers (0.5046),

Ogun (0.5251) and Taraba (0.5118).The State with Lowest Gini value in the table is Zamfara (0.3366).

Table 11 :Trends in Poverty and Inequality in Nigeria by state (2004)

	Percentage Pop	Incidence of poverty P0	Poverty Gap P1	Poverty Severity 2	Welfare gap P1/P2	Contribution	Gini
States:							
Abia	2.62%	22.27	0.0904	0.0424	0.4059	1.07	0.4693
Adamawa	2.36	271.73	0.3149	0.1768	0.4390	3.11	0.4696
Akwa-Ibom	2.70	34.82	0.1584	0.0843	0.4548	1.73	0.5003
Bauchi	3.21	86.29	0.3220	0.1676	0.3731	5.09	0.4782
Bayelsa	1.08	19.98	0.994	0.0557	0.4977	0.40	0.4757
Cross River	2.14	41.61	0.1969	0.1039	0.4731	1.64	0.5046
Edo	2.44	33.09	0.1568	0.0804	0.4739	1.48	0.4585
Enugu	2.29	31.12	0.1118	0.0512	0.3591	1.31	0.4435
Gombe	1.67	77.01	0.2936	0.1568	0.3812	2.36	0.4343
Jigawa	3.22	27.39	0.4413	0.2643	0.4641	5.63	0.4397
Kaduna	4.41	50.24	0.1155	0.0516	0.2300	4.08	0.4226
Kano	6.52	61.29	0.1530	0.0778	0.2497	7.34	0.4318
Katsina	4.21	71.06	0.2351	0.1155	0.3308	5.50	0.4110
Kogi	2.41	88.55	0.5346	0.3619	0.6037	3.92	0.5555
Lagos	6.41	63.58	0.3473	0.2200	0.5462	7.49	0.6429
Nassarawa	1.44	61.59	0.1582	0.0734	0.2568	1.63	0.6429
Ogun	2.62	31.75	0.1023	0.422	0.3224	1.53	0.5251
Oyo	3.86	24.08	0.0585	0.244	0.2431	1.71	0.4315
Plateau	2.27	60.37	0.2003	0.1082	0.3317	2.52	0.4390
Taraba	1.69	62.15	0.2112	0.1022	0.3399	1.93	0.5118
Yobe	1.57	83.25	0.3178	0.1723	0.3817	2.40	0.4503
Zamfara	2.26	80.93	0.3264	0.1752	0.4032	3.36	0.3366
FCT	0.71	43.32	0.1787	0.0898	0.4126	0.56	0.4368

Source: National Bureau of Statistics, 2007

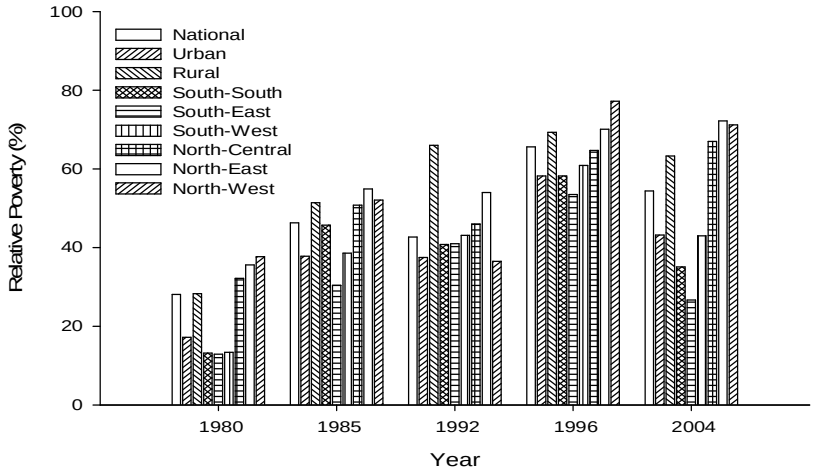


Figure 2: Relative Poverty Trend by Location and Zones

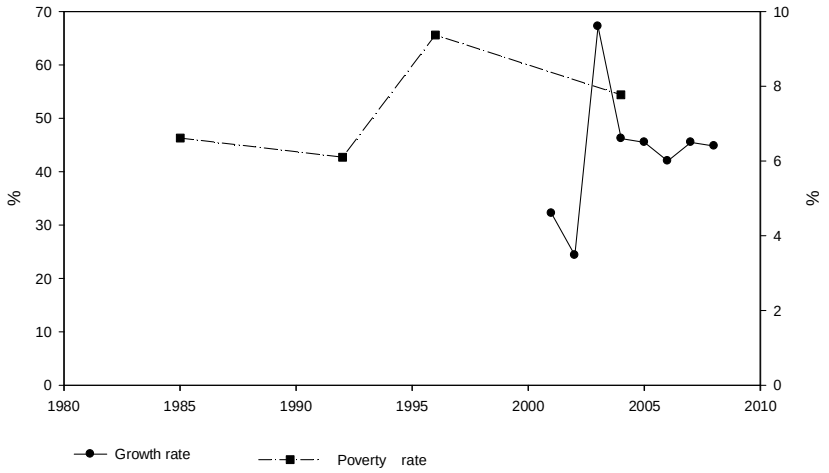


Fig.3 : Poverty Index – Growth rate

Figure 3&4 shows growth trend has been increasing but the benefit of growth accruing to the poor in terms of changes in income distribution is less. Hence,there is no relative change in inequality or a reduction in poverty incidence at zonal levels.

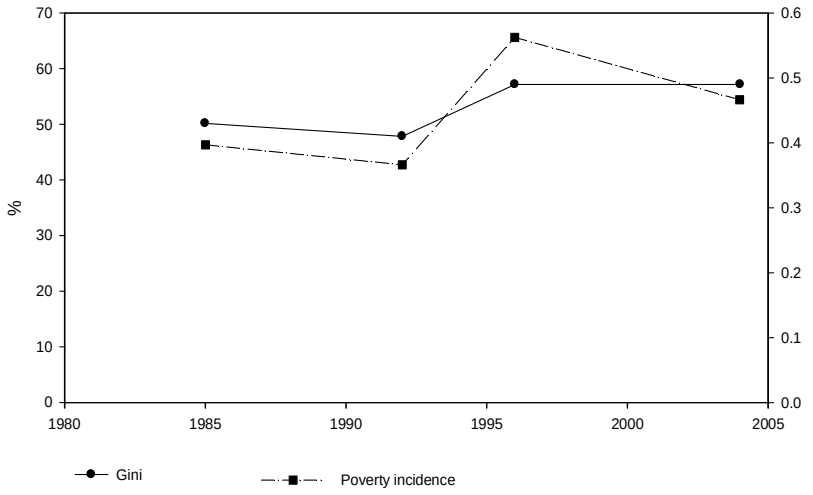


Fig.4 Poverty - Gini index

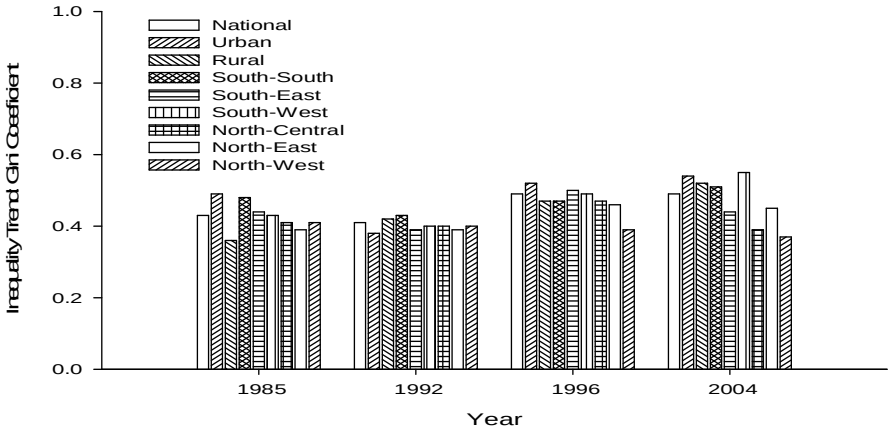


Fig. 5: Inequality Trend by Location and Zones

Decomposition of inequality into total per capital expenditure between and within urban, and rural in Table 12 indicates that approximately 96% of the inequality in Nigeria is accounted for within groups while about 4% of it is accounted for by differences in urban and rural location. The expenditure share of household with 2-9 persons was greater than that of 1 person household. The inequality in total expenditure for household with 10-19 members was the highest with 0- 455, compare to household with 20 and above members which was 0.312. The pattern of per capita expenditure (Table13) indicates that about 80% of inequality in the country's total per capital expenditure is accounted for within the groups while 20% of inequality is accounted for by the differences between the different household size.

Table 12:Inequality in Total Food Consumption Expenditure by Urban and Rural Areas

Variable	Gini Coefficient	Expenditure Share	Population Share
Nation	0.443		
Urban	0.443	0.316	0.243
Rural	0.443	0.684	0.757
Within group %	96.2		
Between group %	3.8		

Source: Computed from Nigerian poverty Assessment report 2007. NBS, in collaboration with World Bank.

Table 13: Inequality in Total Consumption Expenditure by Household Size

Variable	Gini Coefficient	Expenditure Share	Population Share
1. Person	0.387	0.238	0.115
2-4 Person	0.396	0.420	0.397
5-9 Person	0.392	0.302	0.421
10-19	0.455	0.039	0.066
2.0 +	0.312	0.0002	0.005
Within group	0.277		
% within group	80.06		
Between group	0.069		
% between group	19.94		

Source : NLSS 2004 Report

2.1.3 Trend of Growth 1980-2009

The growth rate of GDP in Nigeria has been positive and steady since 2002 to 2008 compared to what was obtained between 1999 -2002. The period between 2002- 2008 recorded rapid increase from 3.48% in 2002 to an average of 6.0 % to 2009. Between 1962-1966 , the GDP was average 7.6% per annum, while between 1970-1975, it grew at an average of 11.23%, the period between 1990- 1999 witnessed a fall to 2.0% as against a population growth rate of 3% (Phillip;2007). The observed growth rate is expected to have a significant structural change in socio- economic indicators of the Nigerian economy especially in per capita income. The per capita income compare to the pauperization of the people decline from $1000,00 in 1970 to less than US$300,00 in the 1990s (Phillip; 2007). Though, the per capita income has increased between 2002 – 2005 to US$678.00 its far less than what is obtained in Algeria (US$ 3,086) or in South Africa (US$ 5,000) and Singapore (US$ 30,000).

Table 14 : Nigeria GDP and Growth rate 2001-2008

Year	Total GDP at constant basic prices (₦-billion)	Growth rate (%)	Gross per capital income (US$)
2001	431.78	4.6	269.9
2002	451.71	3.48	368.5
2003	495.01	9.6	426.2
2004	527.58	6.6	466.6
2005	561.83	6.5	627.7
2006	595.82	6.0	639.4
2007	634.86	6.5	704.0
2008	674.89	6.4	831.9
2009	---	--	710.6

Source: Central Bank of Nig.(2009), Euromonitor International (2010) and World Consumer Lifestyles Data Book (2010)

For many decades, economic growth has been seen as synonymous with economic development because of the assumed functional relationship between the growth of the economic and growth of government activities and the trickle-down effect of such a relationship. However, the experience of many developing countries like Nigeria has shown clearly that economic growth is necessary but not a sufficient condition. With prevailing low level of per capita income and high poverty rate means the standard of living of the people has remain for the most part unchanged, economic and social choices available to individuals and society have been limited due to lack of growth in key sectors. Investment and public spending in key sectors like health and education have also been low. Empirically, many studies on Nigerian economy growth (Aigbokha;1996, Adedipe;2004, Elija et al 2007) show despite impressive growth rate, especially during oil boom, economic growth and economic development have been elusive, the country is worse off in terms of social services and the state of infrastructures. Phillip (2007), and Obioma et al (2004) opined that the state of the nation's stagnation is not surprising since the increase in growth rate is not as a result of a restructured of the economy but it is mainly associated with unprecedented and sustained long period of high crude oil prices between 1971-

1974, 1979-1982, 1991-1992, 2000-2003 and the recent one of 2007-2008 in which revenue and expenditure increased sharply while investment in the real sector of the economy remained low.

In table 15, there is consistently low investment in the real sector, manufacturing has continued to lost its share of GDP from 6% in 1985 to a decline of 4% since 2000 to 2007 as a result of infrastructural constraints like power and land transport. Growth of an economy can be redefine in term expanding access to health, education, job opportunities, reduction in poverty and unemployment rate, as well as changes in social structures. But within the context of Nigerian growing economy, economic development in some key aspect of human lives like improve basic human capabilities such as longevity, knowledge and income has not accompany it. This poor state has helped reduce productivity and competitiveness of Firms. Crude oil and agriculture have continued to dominate the economic activities since 2005 with an average of 90%, and 40% respectively (Table 15).

Table 15: Sectoral Composition of Gross Domestic Product 1995 – 2008 (%)

Year	Agriculture	Industry	Manufacturing	Oil Export	Services
1995	34	14	5	N/A	16
2000	36	15	4	98.7	17
2005	41	28	4	98.5	15
2006	42	26	4	98.2	16
2007	42	24	4	97.8	16
2008	N/A	N/A	N/A	N/A	N/A

Source: World Bank 2007,world development indicator (CD – ROM) as edited in the Nigerian Human Development Report 2008-2009

2.1.4 Trend of conflicts in Nigeria

Consequences of conflicts in whatever dimension can hamper economic progress. There are diverse conflicts of various dimension ranging from political, economical and social- cultural.

From 2000 to date, Nigeria has witnessed spate of ethno- religious conflicts resulting in destruction of lives and properties with many laudable development programmes becoming impossible to actualized, which in turn has exacerbated the problem of insecurity, increased poverty rate , increased unemployment rate at both states and national levels. Between 2000-2009 the number of ethno-religion crises were 49 in Northern Nigeria alone while number of industrial disputes and strikes Nationwide were 544 between 2004 – 2007 (Table 16 and 17). The social cost of some of these crises is huge in most cases, problems like low living standard, displaced persons, migration, creation of fragmented settlements without access to electricity, water, health facilities and education prevailed. Apart from ethno-religious conflict other social unrest are industrial disputes and strikes. (Table 19, states' per capita income and ranking).The spread and escalation of ethnic tension and conflicts is threatening the survival and progress at both zonal and state levels in Nigeria since most of these conflicts are located in urban centres. States like Kano, Kaduna, Plateau and Bauchi centres of recent conflicts have witnessed slow growth rates and deterioration of social- economic infrastructures of which the states have been ranked based on standard of living as 15th 16th 32nd and 34th (Table19). A crucial observation made by Akin (2003) suggested that apart from extensive destruction of lives and properties, Low economic activities, uncompleted programmed projects, inadequate infrastructures, low investment, increased unemployment, high infant mortality rates, deteriorating nutritional level, and insecurity are key indicators in some of the post conflict states in Nigeria. For example, the growing social, ethnic and religious conflicts in Kaduna state in the late 1990s has led to the state been polarized along political, ethnic, religious and economic lines in which the co-existence gap between Muslims and Christians has widen, a growing social inequality- the super-rich and the poor lead a parallel lives(Kazah 2005).

Table 16 : Selected major crises in some states in Northern Nigeria 2000 - 2009

Years	Number of Crises	Location
2000	8	Kaduna, Kwara(3),Gombe, Minna, Jigawa & Jos
2001	6	Ajara(Nassarawa), Jos, Kano, Tiv-Jukun, Gwantu &Vwang
2002	4	Awe(Nassarawa),Jos(3;fulani-irigwe,yelwa-shendam & wase)
2003	1	Edo-Kogi
2004	13	Adamawa(2) ,Jos(6), Benue(2)Yobe, Kano & Kaduna
2008-2009	9	Borno(2), Jos (4), Kano, Bauchi(2)
Total	**41**	

Source: Isawa (2005) and Arewa house achieves (2009)

Akin (2003) pointed out that conflicts in Nigeria in the last three decades are mostly presented as ethno-religious types, however, research findings have indicated that there are underlying economic and political causes. The exclusive competition for political power and manipulation of the poor by interest groups , resource control, and competition for the nation's wealth distribution are central. Some other causes of conflict have been advanced, such as political bitterness, religious intolerance, unemployment**,** greed, marginalization, injustice, land disputes, electoral malpractices and inconsistent national or state policies.

Table 17 : Number of indusrial disputes/ strikes in Nigeria (2004-2007)

Year	2004	2005	2006	2007
Category				
Total number of Disputes	36	149	189	170
Work stoppages	26	57	63	60
Workers lnvolved('000)	127.4	280.6	208.6	244.6
Man Days Lost (million)	2.7	4.3	7.8	6.0

Source : NBS Social Statistics (2006)

Table 18: Zonal Ranking by Population, Economic activity and welfare

	Popultion	**GDP**	**Per Capita Income**
South East	4	6	6
South-West	2	3	4
South-South	3	1	1
North-Central	6	4	2
North East	5	5	5
North- West	1	2	3

Source: NBS, Human Development Indicators, 2008

There is a high dispersion in GDP and in per capita income across the geo-political zones and the 36 states of the federation. At the zonal level, the best three performing economies in terms of per capita income were South- South (ranked 1st) followed by North–West and South-West (Table 18) , According to UNDP report, the top ten performers in per capita income include FCT ($10,208), Bayelsa ($5,388), Rivers ($5,210), Akwa Ibom ($3,813), Lagos ($2,554) and Delta ($2,325) while the low performing states were Taraba ($141), Kogi ($147), Anambra ($163), Bauchi ($166), Osun ($183) and Plateau ($194). Rivers had the largest economy with GDP estimated at N3,333,607.68million, followed by Lagos with GDP of ₦2,935,693.30million, Akwa Ibom ₦1,843,218.56 million, Bayelsa ₦1,212,867.01million and Delta N1,208,594.31 million. The smallest economies are those of Taraba ₦43,020.00million, Eboyi ₦57,656.38, Kogi ₦63,348.75million and Yobe ₦73,308.50million .Benue Kaduna, Borno, Plateau and Bauchi were ranked 11th, 15th, 32nd, 34th, largest economy.

Table 19: GDP & Per Capita Income by Zones and States in Nigeria 2007

States	GDP in Million Naira	GDP Per Capita in Million Naira	GDP Per Capita in Us $	States Ranked by GDP Per Capita In Us $
South East				
Abia	156,581.86	51,307.34	407.75	21
Anambra	91,536.69	20,527.44	163.14	35
Ebonyi	57,656.38	24,874.17	197.68	31
Enugu	131,168.00	38,713.55	307.67	26
Imo	205,609.17	51,881.69	412.32	19
Total	**642,552,10**	**37,400.72**	**297.20**	
SouthWest				
Ekiti	97,551.83	39,833.22	316.56	25
Lagos	2,935,593.30	321,493.52	2,544.98	5
Ogun	115,791.01	31,115.37	247.28	29
Ondo	762,093.19	212,444.07	1,688.34	7
Osun	79,271.30	23,036.04	183.07	33
Oyo	194,182.18	35,268.56	280.29	27
Total	**4,184,482.81**	**164,829.58**	**1,309.94**	

South South	1,843,218.56	479,790.93	3,813.01	4
Akwa Ibom	1,212,867.01	677,974.38	5,388.02	2
Bayelsa	321,901,19	76.073.71	604.58	17
Cross River	1,208,594.31	292,583.94	2,235.23	6
Delta	142,784.30	41,223.90	327.62	23
Edo	3,333,507.68	655,661.25	5,210.69	3
Rivers	**7,972,873.05**	**455,178.82**	**3,617.41**	
Total				
North Central				
Benue	792,405.51	180,494.83	1,434.43	11
Kogi	63,348.75	18,497.95	147.01	36
Kwara	99,490.24	40,292.50	320.21	24
Nasarawa	297,301.17	154349.72	1,226.65	12
Niger	820,194.99	212374.06	1,687.57	8
Plateau	82,165.65	24,482.70	194.57	32
FCT Abuja	761,583.40	1,284,535.97	10,208.50	1
Total	**2,916,489.71**	**238,932.39**	**1,898.85**	
North East				
Adamawa	88,296.94	26,340.90	209.34	30
Bauchi	95,798.53	20,990.51	166.82	34
Borno	269,473.62	66.629.39	529.52	18
Gombe	105,286.06	44,336.61	352.35	22
Taraba	43,020.00	17,839.95	141.78	37
Yobe	73,308.50	32,841.58	261.00	28
Total	**675,183.65**	**43,207.36**	**343.38**	
North West				
Jigawa	574,713.28	125,327.41	996.01	13
Kaduna	558,386.58	88,961.40	707.00	15
Kano	797,251.26	86,037.58	683.76	16
Katsina	748,767.07	125,110.08	994.28	14
Kebbi	211,057.04	63,984.23	508.50	19
Sokoto	716,514.16	187,358.92	1,488.98	10
Zamfara	657,406.94	179,466.63	1,585,01	9
Total	**4266096.33**	**688,887.33**	**6963.74**	

Source: NBS, Human Development Indicators,(2008);NHDR(2008/2009)andMuttaka(2010)

2.1.5 Observed Relationship between Poverty, Inequality, Growth and Conflict in Nigeria

Many case studies and simulations suggested that politics that do not account for issue of inequality are not likely to be successful in reducing poverty. The 2006 World Development Report suggest that socio-cultural, economic and political inequalities are highly correlated and form a significant part of the inequality trap" since reduction in one can be confounded by inequality in the other. This suggests that efforts to alleviate inequalities are likely to be more marginally productive if all three issues- Growth, Poverty and Inequality are addressed simultaneously. The Report identified some broad areas of unequal opportunities in most states that if address could reduce poverty and enhance Growth. The areas are access to political participation, market failures and investment opportunities, employment opportunity (creating employment), access to Infrastructure, access to health and education.

Given the nature and pattern of the trend analysis of poverty, growth, inequality and conflicts in Nigeria, a link can be established. In many empirical literature, Lopez; 2004, Francois 2003,2004, Ravallion, 1999 and 2004, have shown direct and indirect relationship between poverty and growth, growth and Inequality, Inequality and poverty respectively.

In Nigeria, Economic growth rate has been relatively high over decade but it has not translated into equitable distribution of wealth nor a reduction in poverty reduction despite intensive efforts of government in development agenda. The available data have shown that the existing nature of the relationship between economic growth and poverty reduction move in opposite direction (as growth improves, poverty indices increases while poverty incidence reduces). Secondly, the changes in poverty and inequality move in the same direction (as inequality deepened in Nigeria, the poverty situation keep on deteriorating) meaning poverty is associated with inequality. While the relationship between growth and inequality is positive,

such that as growth increases so also is inequality. The economic implication of the existing relationships between growth and inequality means some kind of trade- off has to be done between promoting growth while tolerating inequality, or reducing inequality while growth is ignored. The implication from poverty-growth relationship and poverty- inequality relationship show that to achieve poverty reduction at a sustainable level both growth and equity have to be promoted at the same time . Nigeria cannot achieve sustainable poverty-reducing growth without laying solid foundation for systemic interstates competitiveness, strong institutional infrastructures and peaceful environment. The binding constraint of conflicts in Nigeria is evidenced in slow growth rate and low standard of living in some states especially in Kaduna, Kano, Plateau and Nassarawa all in Northern Part of the country. Several explanations of the causes of these conflicts are similar but can be grouped into Three;

1 Historical legacies and inherited framework of colonial laws and institutions that have been designed to exploit local divisions of people in terms of arbitrary creation of regions, states and local government areas.

2 Internal politics and governance as decisive factor in employment, resource control, and wealth distribution. If there is lack of transparency and accountability in governance, inadequate checks and balances, non-adherence to the rules of law, absence of credible and peaceful means to change leadership, then political control becomes excessively important and the stakes dangerously high.

3 Economic Factor: some people benefit from conflicts and could have interest in promoting it. Poverty is both a cause and consequence of conflict. Where a large proportion of population is unemployed, in deep poverty, discriminated upon in the distribution of resources and social services and hopelessness pervades, the

opportunity cost of being involved in rebel movement agitating for a particular interest e.g the Niger-delta militias, is near zero.

The above three causes are aspects that have made growth in Nigeria very costly.

The geo-political zoning of Nigeria has given rise to regional political divide of core North and South, which have created regional identities that is used in political, social and economic games. This growing political, social, and economic game in mainstream Nigerian politics has called for the agitation of power shift and resource control, with variant of true federalism. Oil revenue Sharing currently dominates inter government fiscal relationship in Nigeria, there is increasing polarization, with oil producing states agitating for greater share of oil revenue while the poor states are dissatisfied with the transfer mechanism which exposed them to fluctuation in oil revenue during oil-wind falls period . The dependence on oil has helped to alter the country's revenue allocation formulae by facilitating a change in focus from revenue generation to revenue sharing. Consequently, the country has turned into a rentier state, where sharing of asset is not based on economic justification but on political control. Any Government faced with rebel threats like the Niger delta militias, unsolved and un-addressed grouses, inequality in financial assets, human assets, physical assets, social and political assets, compounded by weakening government institutions mostly build up horizontal tension among households, groups, communities or population and subsequently conflict. All these can drive government expenditures away from social and physical infrastructures to finance military force when conflict erupt.

2.2 Trend of Poverty, Inequality Growth and Conflicts in Kaduna

2.2.1 Trend of Poverty

Poverty incidence in Table20 shows Kaduna state poverty rate is decreasing, it decreased from 67.7 % in 1996 to 50.07 % in 2004, an achievement of a reduction of 17.6%. However,

with this reduction the proportion of extremely poor as percentage of the total population was estimated to be 11.87% and moderately poor as 59.94 %, giving a total of 71.81 % as poor and 28.19 % as non poor in 2004. Thus, at state level, more than two-third of the population are still poor (NBS, 2007) which shows even though, the rate is declining; the percentage of those in poverty is still very high. The human poverty index shows poverty is more pronounced in Kebbi, Katsina, jigawa, Kano than Kaduna state. The states with higher scores above North West zone average of (0.420) in 2004 were Kaduna, Sokoto and Zamfara .

2.2.2 Trend of Inequality

The prevalence of poverty incidence in Kaduna state has a link to the degree of Inequality. Evidences from Socio - Economic indicators in terms of access to public services like education, electricity, health, telephones (as components of Human Development Index) and employment opportunities in 1996, 2001 and 2004 showed high level of inequalities. Though, the level has decline between 1996 and 2004, the estimates are still on the high side. Estimated life expectancy rate for Kaduna state was 36.6 years in 1996, this improved to 47years in 2004 still lower than the National average of 50years. Adult literacy rate and educational attainment showed improvement from 30.8 % and 21.0 % in 1996, to 62.3% and 90.6% respectively in 2004 . Human development profile in North West zone using some selected benchmarks showed Kaduna state is faring better than Kano, Katsina and Sokoto (Table 21).

Kaduna the centre of recent horizontal crisis have inequality higher than regional averages, the value of Gini Coefficient index which is an indicator of income inequality in the State suggest that there is no homogenous entity in terms of the pattern of income distribution in the State. The values of the Gini coefficient was estimated in 2004 as 0.4226 indicating a high level of inequality, his value is a little above the estimate for the North West zone (0.3711) and

North central (0.3934). The nature and extent of inequality in the state is more evident in Gender inequality indicators like educational attainment, access to health, portable water and labour force participation. Kaduna State was ranked 20th with a value of 92.6% of Male to Female Primary School Enrolment, 84.7 as percentage of Male to Female Secondary Enrolment in 2004.

Table 20:Poverty Incidence by State (1996, 2004)

State	Year	
	1996	**2004**
Abia	56.2	22.27
Akwa-Ibom	65.5	71.78
Anambra	66.9	34.82
Bauchi	83.5	20.11
Bayelsa	44.3	86.29
Benue	64.2	19.98
Borno	66.9	55.33
Cross River	66.9	53.63
Delta	56.1	41.61
Ebonyi	51.0	45.35
Edo	56.1	43.33
Ekiti	71.6	33.09
Enugu	51.0	42.27
Gombe	83.5	31.12
Imo	56.2	77.01
Jigawa	71.0	27.39
Kaduna	67.7	50.24
Kano	71.0	61.29
Katsina	77.7	71.06
Kebbi	83.6	89.65
Kogi	75.5	88.55
Kwara	75.5	85.22
Lagos	53.0	63.58
Nassarawa	62.7	61.59
Niger	52.2	63.90
Ogun	69.9	31.75
Ondo	71.6	42.14
Osun	58.7	32.35
Oyo	58.7	24.08
Plateau	62.7	60.37
Rivers	44.3	29.09
Sokoto	83.9	76.81
Taraba	65.5	62.15
Yobe	66.9	83.25
Zamfara	83.9	80.93
FCT	53.0	43.32
All Nigeria	65.6	54.4

Source: National Bureau of Statistics 2006 Report

Table 21: Human Development Statistics in North West Zone of Nigeria(2004)

State	Adult literacy rate	Gross enrolment ratio	Education Index	Human development Index(value)	Human Poverty Index	Illiteracy rate	Life Expectancy at Birth(years)
Nigeria	**64.2**	**85.4**	**0.712**	**N/A**	**32.3**	**35.8**	**50**
Kaduna	62.3	90.6	0.612	0.488	34.3	37.7	47
Kano	57.5	61.4	0.450	0.436	43.0	42.5	51
Kebbi	48.6	40.5	0.278	0.377	50.2	51.4	51
Katsina	36.5	50.7	0.193	0.410	49.9	63.5	53
Jigawa	38.7	33.2	0.147	0.362	48.4	61.3	48
Sokoto	67.4	42.3	0.476	0.475	40.5	32.6	51
Zamfara	48.8	34.5	0.256	0.434	N/A	N/A	N/A

Source: Computed from Nigerian Human Development Report, 2008/2009

Table 22:Enrolment In Secondary School By Sex In Kaduna State 2001 – 2005

Year	**2001**		**2002**		**2003**		**2004**		**2005**	
Gender	Male	Female	Male	Female	Male	Female	Male	Female	Male	**Female**
Enrolment number	80,726	37,330	128,584	71,501	165,404	98,456	\	61,682	105,036	63,722

Source: NBS 2007 Report

Table 23: Trend in Gross Enrolment Ratio (GER), and Completion Rate in Primary Schools 1999-2004

Years	Actual Enrolment Class 1-6	Class 6 Enrolment	Percentage Completed
1998/1999	639195	89454	85
1999/2000	841569	118369	86
2000/2001	795573	65675	81
2001/2002	843634	76337	88
2002/2003	763747	70694	90
2003/2004	916496	84833	86

Number Of Secondary School/Classes 2001 – 2005

Year	2001	2002	2003	2004	2005
Number of Schools	171	228	336	235	330
Number of Classes	2,102	2,490	3,184	2,045	2,874

Source: NBS 2007 Report,and Ministry of Education , Kaduna State, 2005

The situation of the differences between Male and Female Enrolment into both primary and secondary school participation is very wide (Table 23). A gap of 43,396 was recorded in 2001, while it increases to 41,314. It is significant to note that the existing nature of inequalities in access to education by girls in the state has helped in creating the gap between this state and the best performing states in the same zone and other Geographical zones in the country. Even though, there is great improvement in enrolment rate, the existing gap between males and females have not been bridged. In 2004, adult literacy rate showed a 73.9% for male, and 50.5% for female, a difference of 23.4% . Gross enrolment ratio also showed a 106.3% for male while female was 73.6%, a difference of 32.7%.

Between1990-2004, there were over 135 private schools registered due to heightened demand for education by the various communities apart from 2,842 public primary and 284 secondary schools in the year 2004 showing a positive development .Despite this progress, the output in terms of quality of education, measured by teacher-student ratio and examination results are still worrisome. The table 24 provides useful information on the condition of classrooms and teachers at the primary school level. The available facilities are over stretched. For a sound and qualitative education, the schools must be provided with qualified and sufficient teachers. At present, in some local government areas like Giwa, and B/Gwari, the teacher-pupils ratio is 1.93 and 1:91 respectively (Table 26).

Table 24: Enrolment, Teachers and Number of Classrooms Between 2000- 2006

	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	Projection 2006	Projection 2007
Actual Enrolment	795573	843634	763747	916496	939408	962894	986966
Teachers Available	18824	17693	17693	201115	20618	21133	21662
Additional Teachers Needed	1065	3398	3388	2797	2867	2939	3012
Class in Good Condition	5866	6159	6143	6650	6816	6987	7161
Additional Classrooms Needed	14023	14932	12951	16262	16669	17089	17513

Source: Ministry Education Abuja and KASEED Policy report 2007(see projections**)**

Apart from the acute shortage of classrooms the table clearly shows the number of additional teachers required to match the growing enrolment. (KASEED Report.2007).

Table 25: Number of Secondary Schools and Enrolment in 1999 – 2004)

Year	No. of Schools	Enrolment rate		
		Male	Female	Total
1999	36	645	455	1,100
2000	51	3,538	2,645	6,183
2001	95	5,104	4,025	9,129
2002	102	5,597	4.416	10,013
2003	111	5,597	4,416	10,013
2004	120	11,346	8,654	20,000

Source: Ministry Education Abuja and KASEED Policy report 2007(see projections)

Table 26:Enrolment in Local Gov. Areas and No of Teachers in 2004

S/No	LGA	No. of Schools	Enrolment		Teachers	
			M	F	M	F
1.	B/Gwari	7	2520	394	46	1
2.	Chikun	15	9613	3131	265	93
3.	Giwa	12	4892	1503	109	17
4	Igabi	10	6638	1568	106	25
5.	Ikara	6	3424	461	81	5
6.	Jaba	10	6183	2368	193	24
7.	Jema'a	15	12482	2905	316	103
8.	Kachia	17	8805	2433	217	24
9.	Kaduna North	22	22829	6440	759	323
10.	Kaduna South	15	11668	6242	353	151
11.	Kagarko	12	8680	2049	105	21
12.	Kajuru	9	4975	1092	103	15
13.	Kaura	11	11084	2961	310	91
14.	Kauru	9	5251	931	96	6
15.	Kudan	3	1173	134	22	6
16.	Kubau	9	3745	1089	81	6
17.	Lere	16	7353	1327	193	18
18.	Makarfi	6	2096	222	34	3
19.	S/Gari	14	13607	5707	292	78
20.	Sanga	12	6328	1707	86	10
21.	Soba	6	3187	1311	94	8
22.	Z/Kataf	26	12144	1807	319	76
23	Zaria	16	12144	1807	319	76

Source: KASEED report, 2007

Access to health care services is inadequately provided by the state, available statistics (Table 27) show there are 133 doctors in the state and 56 in the private in 2004. Out of 133 medical doctors in the state service only eight are specialists/consultants, seven are dental surgeons and the remaining 118 are general medical practitioners. This number is inadequate when compared with the magnitude of health demands in the state. For instance, the statistics show that one medical doctor treated over 31,000 patients in 2004. The current population may outgrow this number of doctors and the situation of health delivery in the state may not attain its optimum.

Table 27: Health Personnel – Patient Ratio

Category	Health Personnel/Patient Ratio 2000	Health Personnel/Patient Ratio 2004
Medical Doctor	1:71,309	1:31,079
Nurses	1:4,789	1:2,826
Pharmacist	1:97,471	1:20,203
Laboratory Scientist	1:570,457	----

Source: Ministry of Health Kaduna, and KASEED Report 2007

Access to Safe water is another indicator of differences in welfare provision, Table 28 - 30 below shows the estimated population, water demand and capacities of water works. Estimate of water demand was put at 751mid and current service coverage represents 23% of the State's population in 2004.The highest demand were the urban and semi- urban areas with state coverage of 16.2% and 4.2% of the total (23%). The rural area coverage is just 3.04% of the total. With supply capacity of 380.80mid of water by water works, that is inadequate given that 540mid is needed to satisfy the water shortages of the estimated urban population. Thus, from the coverage distribution, when compare to the actual demand, the situation of adequate provision of safe water in Kaduna state is worrisome, as many of the households do not have other alternatives especially in the urban areas. This therefore suggested that, there is unequal distribution of water and more investment is required.

Table 28: Access to safe water by population in Kaduna State(2006)

Communities	State Population year 2004	% State Population	Actual Water Demand (Mid)	Actual Water Supply (Mid)	Population coverage	% Service Coverage	% State Coverage
Urban	3,145,837	51.32	540.25	171.00	995,720.23	31.65	16.24
Semi-Urban	1,287,300	21.00	159.83	31.93	257,460.00	20.00	4.20
Rural	1,696,863	27.68	50.91	5.60	186,654.93	11.00	3.04
Total	6,130,000	100	751	209	1,439,836	62.67	23.49

Source: Ministry of Water Resources Kaduna state 2006

Table 29: Water Demand and Population in Some LGAs (2004-2006)

Towns	Population	Demand (MLD)	Existing Water Works Capacity (MLD)
Kaduna	1,562,161	291	267
Zaria	1,131,308	198	60
Kafanchan	106,924	14	13.5
Birnin Gwari	34320	3.6	2.6
Saminaka	34,488	4.6	3.5
Ikara	73,107	7.68	7.68
Zonkwa	82,623	8.68	12.8
Kwoi	86,428	9.07	12.0
Kagoro	34,485	3.62	1.0
Total of Service Area	3,145,837	540.36	380.0

KASEED Report 2007

Table 30: Boreholes Spread in Kaduna Rural Areas

S/No	LGA	NO.	S/No	LGA	No
1	B/Gwari	91	12	Kubau	93
2	Chikun	106	14	Kudan	67
3	Giwa	83	15	Lere	116
4	Igabi	140	16	Makarfi	62
5	Ikara	84	17	S/Gari	50
6	Jaba	87	18	Sanga	60
7	Jema'a	67	19	Soba	122
8	Kachia	72	20	Z/Kataf	85
9	Kagarko	64	21	Zaria	65
10	Kajuru	60	22	Kaduna	5
11	Kaura	56			
12	Kauru	72			
				Total	1,667

Source: Ministry of Water Resources, 2005

2.2.3 Trend of Growth

The growth rate of the state GDP between 2004 to 2008 has remained above the growth rate of the Nigerian economy with 8.06% in 2004, 7.9% in 2005 and 7.1% in 2008 respectively .This performance is however, not reflected in per capital income of the state even though, data are not available, the per capita income is declining over time reflecting low standard of living for the populance. The pattern of high growth rate does not reflect that it is pro- poor growth ; an increasing economic growth with falling inequality and poverty levels. With per capita income as low as $707 in 2007 against $957.8 in 1993 reflects a deteriorating state of the economy.

Table 31 : National Gross Domestic Product (GDP) and Kaduna State GDP (Real and Rates)2002-2008

Year	2002	2003	2004	2005	2006	2007	2008
National GDP	433203.5	477533.0	527576.0	561931.4	595821.6	634251.1	674889.0
KSGDP	14880.6	15764.34	17036.3	18292.43	19744.72	21264.16	22790.60
KSGDP/ GDP %(Real)	3.435	3.301	3.229	3.255	3.313	3.352	3.376
Growth rate of KSGDP (Real)	N/A	5.938	8.068	7.373	7.939	7.695	7.178
National real GDP Growth rate	3.48	9.6	6.6	6.5	6.0	6.5	6.4

Source: Nigerian Human Development report 2008, Muttaka (2010)

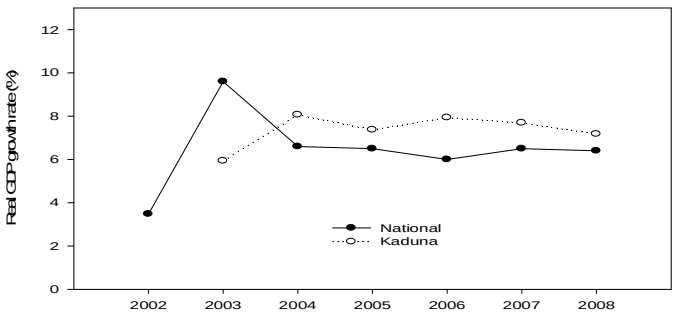


Fig.6, Real GDP Growth Rate from 2002 to 2008

Table 31 and Figure 6 show a positive relationship between the National GDP and Kaduna State GDP. The share of Kaduna's GDP as percentage to national GDP has remained relatively stable from 2002 to 2008. In real terms, Kaduna contribution on the average over the period is about 3.3 percent , this is higher than the expected average of 2.7 if all states and Abuja contribute equally (Muttaka; 2010) . The continuous stability experienced in overall growth since 2000-date has not translated low poverty incidence in the state or provide opportunities and abilities of people to advance their material well-being, this is evidentce in the per capita income (figure 7) recording a decline to $707.0 in 2004 from $957.8 in 1993, and $876.4 in 1996 respectively.

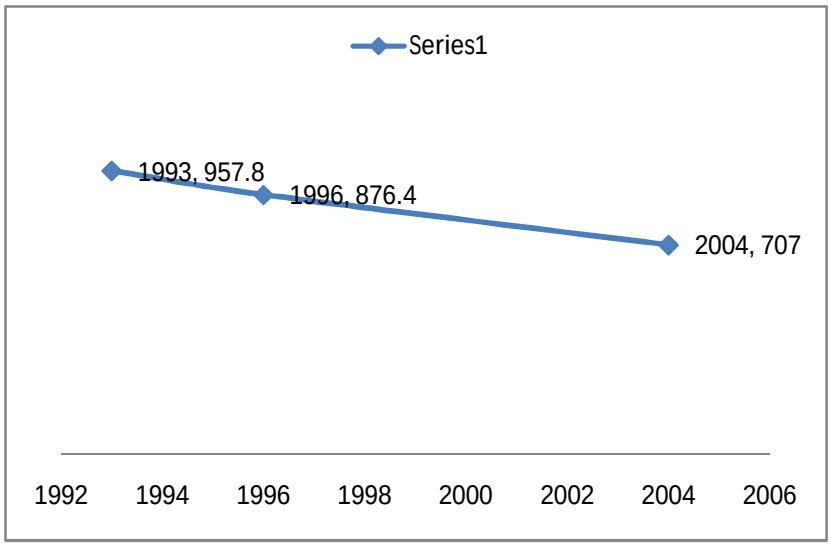


Figure 7 : Kaduna State per capita income(US$)

Employment is a key link between economic growth and income poverty reduction. The unemployment situation in Kaduna state is compounded by the economic depression in the manufacturing sector of the economy in which only private informal business sector had the largest under employed population of 58.10% this is followed by Private formal and government with about 36.4% and 5.3% respectively. The general unemployment rate in Nigeria and Kaduna State is very worrisome, with over 200,000 university students graduating each year without job opportunities (Soludo 2005). Unemployment statistics by zone show South South has over

average of 29.5%, South East has an average of 18.1%, South West has 8.5%, North East has 18.5%, North West has 14.2% and North Central has 18.5% .

One of the main reasons why people remain poor is when they are excluded from labour market. From the statistics on Table 33, the core north seems to have the highest averages, with states like Kaduna (8.1%), Kano(10.1%), Zamfara(19.1%) respectively (UNDP 2008/2009).

Table 32: Unemployment rate by Zones and States in Nigeri (2007)

Zones	North West	%	North East	%	North central	%	South West	%	South East	%	South South	%
States	Sokoto	12.3	Bauchi	20.5	Niger	4.2	Oyo	8.1	Imo	28.3	Rivers	66.4
	Kano	10.1	Yobe	24.4	Kwara	17.7	Osun	7.2	Enugu	14.1	C/River	32.8
	Katsina	10.9	Taraba	15.2	Nasarawa	11.8	Ondo	6.7	Abia	25.1	A/Ibom	18.0
	Jigawa	27.0	Ad.	21.5	Kogi	14.6	Ogun	3.6	Eboyi	7.9	Bayelsa	21.9
	Kaduna	8.7	Borno	12.5	Plateau	6.8	Ekiti	11.9	Anambra	14.9	Edo	14.8
	Zam.	19.1	Gombe	16.9	FCT	47.8	Lagos	13.7			Delta	22.9
	Av. 14.2		**Av.18.5**		**Av.15.8**		**Av. 8.5**		**Av.18.1**		**Av. 29.5**	

. Source: (UNDP 2008/2009)

South –South zone has the highest average of 29.5% among the zones and the states in the zone seems to have figures above the zone average were Rivers has about 66.4%, Cross River has 32.8% and Delta has 22.9% respectively.

Table 33: Percentage Distribution of the Under Employed Population by Employer in Kaduna State(2005)

Employer	**Government**	**Parastatal**	**Private formal**	**Private informal**	**Total**
%Underemployed	**5.30**	**0.40**	**36.40**	**58.10**	**100.00**

Table 34: Percentage Distribution Of The Under Employed Population By Employment Status in Kaduna State, 2005

Employment Status	**Regular employee**	**Casual Employee**	**Unpaid worker**	**Self employed**
Percentage	**7.70**	**2.50**	**2.40**	**87.40**

Source: 2006 NBS/EU- core welfare indicators Questionnaire survey, Abuja

A rise in growth rate without creating opportunities, strengthening the productive resources and capacity of the poor may not reduce poverty and inequality. When growth is pro-poor, it will have both positive distributional and poverty reducing effects since the relative income of the poor will change . An existence of poverty and inequality in an environment that has an average 8% growth rate (since 2005 to date) shows failure of public policies to properly articulate the need of the people and deliver services that meet such needs. Thus, the manifestations of social unrest witnessed in the 1990s in Kaduna state are social consequences of unemployment, high poverty rate and inequalities in all dimensions and these are still prevailing in the state.

2.2.4 Trend of Conflict

In many societies, persistent conflicts have undermined development, worsening poverty and increased level of under development. In the 1990s, Kaduna state was recognized as center of many ethno-religion conflicts in the north, this have had significant impact on increased percentage of the poor in the state, increased vulnerability and iinsecurity among core poor. However, between 2000- 2009, the state has only witnessed two, one in 2000 and another in 2004 (Table 28). Despite the peaceful years, major socio-economic indicators that characterized a post conflict society are prevelence ; the reallocation of settlement of displaced people, population explosion of areas not affected and overburden use of existing social infrastructure in such areas. Kaduna state has witnessed many horizontal crises in the past two decades and this is attributed to lack of social cohesion. One of the major effects of the numerous crises in the state is the dichotomy existing between Muslims and Christians in some parts of the Kaduna and its environs which has helped in dividing the state into “safe” and “unsafe” settlements. Integrating factors like inter-religious and inter-tribal marriages are being discouraged or relegated to the

background. Thus, religions sentiments are the most potent tools that are manipulated by mischief-makers (KASEED Report, 2006).

Kwanashie (2005) pointed out that there is a connection between poverty, underdevelopment and conflict in Northern Nigeria, and a major factor that enhanced and sustained it is the class character of the political elites. Thus, the nature and character of the economic structure of the states and their declining economic bases in terms of industries, weak capacities, low level of technology, low human development and poor management of resources have been identified as constraint to development resulting in persistent poverty and conflict.. Hence, there is existence of policy distortions in sound budget process and spending plans as well as the delivering of minimum standard in public Services in such societies (Bashir ;2005). The prevailing socio-economic set up of Kaduna state is a consequent of many of its crises, this set up is evidenced in Christians–Muslims divide, settlers – indigenes divide, and majority-minority tribal divide. These set of divides are used in economic and political games which has foster inequality in opportunities, employment, political appointments in public sphere, social services deliveries in most needed areas in the state and extent of poverty in some areas.

Makarfi (2005) stated that Kaduna has ethnic base inequality because ethnicity occupies more space in the social and political sphere and this trend has been intensified and made more complicated by unpopular policies and bad governance in the past and present, hence, Inter-group or intra-state conflicts are inevitable, this is because the state is made up of groups that are defined by ethnicity, religion, politics, class, which are heterogeneous with competing and conflicting interest and values. Ethno-religious conflicts and competition whatever is the cause, are logical and inevitable outcomes in a multi-ethnic society like Kaduna state. Ethnicity, religion, social equality, inequality, citizenship right are key issues in studying what trigger identity base conflicts in a state like Kaduna with over 40 ethnic groups and predominantly

Muslims and Christians population. Bad governance, coupled with majority and minority divide in which minority of the population are neglected, excluded and are made powerlessness, has intensified horizontal tension and the complexity and existing form of conflict in the state.

CHAPTER THREE
LITERATURE REVIEW

3.0 CONCEPTUAL AND THEORETICAL LITERATURE

3.1.1 Conceptual Issues: Inequality

Conceptually, the term inequality in economics refers to the disparity among individuals or group in the distribution of economic assets and income within a society. It is often used by economists to describe a society where there is absence of equality (fairness) in the distribution of economic and non economic well –being indicators. According to Birdcall (2005) inequality is a relative concept usually referred to money inequality – that is inequality in income, consumption, or wealth. In addition, disparity could be in terms of economic opportunities or outcomes often associated with individual or members of various social groups. Inequality in opportunities describes situations which do not give equal access to or benefit from education, employment, health-care, or social welfare to all persons. In general term, inequality if often defined as the proportion of, and the gaps between the rich and the poor, when it exist, it can contribute to poverty. In other words, inequality is different from poverty but related to it. Inequality is concern with variations in living standards across a whole population. By contrast poverty focuses only on those whose standard of living falls below an appropriate threshold level (such as a poverty line). This threshold may be set in absolute terms (based on an externally determined norm, such as calorie requirements) or in relative terms (for example a fraction of the overall average standard of living). Intuitively, relative poverty is more closely related to inequality in that what it means to be poor reflects prevailing living conditions in the whole population, but the degree of inequality will have implications for both conceptions of poverty (Andrew 2002).

Measuring inequality among individuals or groups usually compared the well-being and numbers of the rich with those of the poor. A nation's level of inequality depends on the social and economic structure of that country. A society with high level of inequality is described as a system in which wealth is concentrated in the hands of a few people (the bourgeoisie) with the majority of the people having none (Wikipedia Encyclopedia, 2005). However, a society with relatively high income inequality might be an equitable society if the observed inequalities are outcome of entire process in which some worked harder or took more economic risk with resultant greater economic gains than others

3.1.2 Vertical Inequality

Vertical inequality is inequality between rich and poor people in a society regardless of ethnic affiliation or other group characteristics of the population. Stewart (2000) defined vertical inequality as a measure that takes everyone in society from "top" to "bottom" and measures their income and consequent inequality. Such inequality is usually measured by the GINI or the THEIL coefficients.

The major distinction between vertical and horizontal inequality as cited in Alex Gboyega, et al. (2003) presented in terms of the referent agent/player indicators and dimensions. The individual is seen as the referent agent/player in vertical inequality, with wealth/income as the key indicators and inequality is measured typically from the poorest deciles or quintiles to the richest deciles or quintiles. Often individuals or members of various social groups suffer from discrimination, these individuals, or groups may suffer from inequality in income, asset, and other economic indicators.Thus, inequality is not necessarily related to income but it may depend on which level of analysis one chooses and what dimension of inequality one tries to measure (Stewart ; 2002).

3.1.3 Poverty

A range of definitions exist for poverty and these definitions are influenced by different disciplines and ideologies. In the absolutists' literature, povertly has been defined largely based on the concept of wealth, income flow and consumption. The literature defined it as a situation where a population or a section of the population is able to meet only its subsistence essentials of food, clothing and shelter in order to maintain minimum standard of living. According to some group of Economists (see Johnson, 1974, Aluko, 1975; Grusky and Kanbur 2006) poverty denote absence or lack of basic necessities of life including material wealth, flow of income and inability to sustain one. Under this condition, income is seen as insufficient to meet subsistence needs. Others like Ajakiye and Olomola (1999), Oladuni (1999), Englama, *et al* (1997) and Geoff *et al* (2009) have tried defining poverty beyond mere measurement of income and consumption but as a measure of purchasing power and a measure of physical health and education to indicate retrogression in human life. Based on this definition, poverty has been described as multi dimensional - a living condition in which an individual is faced with economic, social, political, cultural and environmental deprivation. Such deprivation implies not having enough to eat, a high rate of infant mortality, low life expectancy, low educational opportunities, poor water, inadequate health care, unfit housing and lack of active participation in the decision making. Vulnerability to poverty is therefore characterized by an inability to devise an appropriate coping or management strategy in times of crisis. Poverty may also involve social exclusion in either an economic dimension (exclusion from the labour market and opportunities to earn income) or a purely social dimension (exclusion from decision-making, social services, and access to community and family support). The Human Development Report Nigeria 1996

described the multiple social manifestation of poverty in form of prostitution ,exposure to risk, corruption, robbery, street life, increased unemployment, living in squalor, shanties, shackles, high infant mortality, acute malnutrition, short life expectancy, human degradation, living in overcrowded and often poorly ventilated homes e.t.c..This definition compliment the one given by Department of foreign and International Development (DFID) in 2001 in terms of capability deprivation in which failure to achieve basic capabilities by individuals may determine the kind of life the individual can live

. Thus, poverty definitions and measurements choice over the decades have reflected the purpose they are meant for. Hence, the defining characteristics of poverty indicators should have underlying conceptualization of well-being, be policy relevant and a direct measure of progress (Andrew; 2004).

3.2 Mainstream Thought: Relationship between Income Inequality, Poverty and Growth

Many economists in recent debates have tried to explain the complex interrelationship among growth, inequality and poverty which is termed the **Poverty- Growth- lnequality (PGI) triangle.** The triangle has posed a challenge to development strategies and policy makers due to its trade-off outcomes. One of the trade-offs is that policy on poverty reduction can be achieved through growth and / or improved distribution however, growth can lead to a decrease or increase in inequality. Hence, growth may not translate into poverty reduction. Nissanke (2009) added that the growth – inequality - poverty nexus is still contentious and controversial especially when linked with the globalization process. According to Nissanke (2009), the transmission mechanism through which globalization affect poverty and inequality are two channels- growth and distribution. These two channels interact dynamically over time to produce a growth-inequality-poverty triangular relationship **(from openess to growth, from openess to**

income distribution, from growth to income distribution and vice versa from growth to poverty, and from income distribution to poverty). Nissanke (2009) pointed out that the first channel which linked openness to growth, income distribution and poverty is still being debated because the positive openness – growth link has been found in some literature as neither automatically guaranteed nor universally observance. This link, according to Chen *et al* (2008) depends on the way and extent to which a country is integrated into the global economy. The second link; the openness- poverty through the growth effect is explained through the relationship between growth and inequality. The causal chain of the growth- inequality interrelationship is linked to income and wealth inequality to Growth **(the inequality – growth link)**.

In figure 8 poverty, inequality and growth interact with one another through a set of three- way links--; link between inequality and poverty, link between poverty and growth and link between inequality and growth. In the first instance, inequality and poverty are assumed to affect each other directly or indirectly through their link with growth, while the second link suggest how poverty can be influenced through the redistribution of income (Felix, 2002).Some of these links can be analysed using the diagram below ;

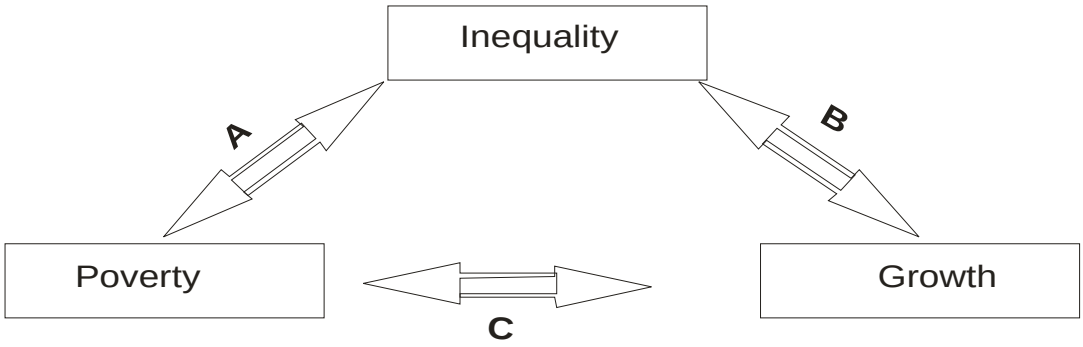


Figure 8. The Poverty, Inequality and Growth Relationship
Source: Felix 2002

Links (A, B and C in Figure 8) show the inter-relations. They show for instance that inequality can indirectly influence poverty as inequality affects growth (B) and growth can in turn influences poverty (C). Link (A) shows how inequality and poverty affect each other directly, while link (B) and (C) show how inequality and poverty interact indirectly through growth. These examples highlight that the distribution of income is important not only for making progress towards the income poverty and the headcount, but even more so when considering the depth and severity of poverty and its impact on growth (λFelix, 2002).

3.2.1 Relationship between Inequality and Growth.

Recent studies have explored the relationship between poverty, growth and inequality. Some reviewed the relative contribution of income growth and the distributional changes to change in poverty. For example Lopez (2004) focused on the growth – inequality relationship, others such as Ravallion (1997), Francois (2004), Chen and Ravallion (2008) and Nissanke (2009) paid attention to the potential impact that growth process has on inequality and yet, another group exemplified by Bourguignon, (2003) stressed the potential effect of inequality on growth. However, the conclusion drawn is that, high level of inequality contributes to high level of poverty in several ways;

First, for any given level of economic development or mean income, higher inequality implies higher poverty, since a smaller share of resources is obtained by those at the bottom of the distribution of income. Second, high initial inequality may result in lower subsequent growth and therefore, in less poverty reduction. In other words, in an economy where inequality is persistently low, the poor will tend to obtain a higher share of the gain from growth than in an economy in which inequality is high. The negative impact of inequality on growth may result from various factors. For example, access to credit and other resources may be concentrated in

the hands of privileged groups, thereby preventing the poor from investing. Thirdly, higher levels of inequality may reduce the benefit of growth for the poor because a higher initial inequality may lower the share of the poor benefit from growth. This is because if a single person has all the resources, then whatever the rate of growth, poverty will never be reduced through growth. Thus, the relative importance a country places on growth and inequality could depend on societal preferences, because certain societies have higher level of aversion to inequality, which makes it advisable for governments to concentrate on re-distribution policies. While others have a much higher tolerance to inequality which allows governments to focus on maximizing growth in the first stages of development and correct later on for distribution imbalances.

The relationship between inequality and economic growth has its origin in the work of Kuznets (1955), "Inverted – U hypothesis". Kuznets suggested that economic growth (a rise in average per capita income) can initially lead to a rise and then a fall in income inequality within a country. According to Kuznets (1955), in agricultural societies, distribution of income among those who live off the land is largely determined by the distribution of land and the primitive state of technology. Thus in the initial stages of industrial and commercial development, many workers move into more productive activities that take place in towns and cities, Kuznets observed that inequality is positively related in early levels of development and negatively related during later level of development. Two profound factors – wealth and urbanization are seen as main drive of inequality, hence, the level of urbanization in a country determines the extent and level of inequality. Kuznets pointed out that, owing to the intra-sector inequality between urban and rural labour, a country is likely to experience increasing inequality at early stage of urbanization but this inequality will decrease with further urbanization as the rural sector shrinks, since a large proportion of the population is working in the urban labour market (where the disparities in income are smaller). Kuznets argued further, that the

urbanization can lead to political changes that could further help to reduce inequality at that later stage of urbanization, i.e. as urban workers grow richer and more politically powerful, they press for regulations and social protections which eventually lead to equalization of both opportunity and income (as cited in Burtless, 2003). However, Kuznets identified that the only con-travailing effect is when the coalescing effect under which intra-sector inequality become less profound as the population consolidates in one sector, then, urbanization may result in inequality higher than rural sector inequality regardless of the coalescing.

With recent development and with much evidence, this hypothesis has been challenged by some economists like Deinniger and Squire (1996) and Gary Burtless (2003), who see it as a theory about economic development rather than of changes in income distribution. Additionally, Elbadawi (2005) pointed out that the hypothesis failed to develop impact of demography issues on distribution of income e.g changes in birth and death rates, access to infrastructures (health, education and road), family sizes, immigration and war. The author pointed out that these demographic issues are related to country wide trends of inequality and growth. However, the theory has stimulated many researches and more insight into the relationship between inequality and growth.

The central questions posed by almost all the recent studies is whether inequality is affected as a general rule by growth, or does lowering inequality promote or hinder economic growth, and how does the level of initial inequality affect the impact of growth on poverty reduction. Fig.9 depicts the channels through which income inequality can affect growth. However, it is crucial to point out that most of the economic literature on inequality discussed a general view with no much emphasis on vertical and horizontal dimensions except at the conceptual level. The analysis in this figure provides a comprehensive theoretical framework that synthesizes some of the hypotheses and the various causal mechanisms that have been suggested

to explain how inequality affects growth. The literature has three major strands, (1) High inequality lead to growth this is linked to the classical approach (Kaldor 1956, Galor; 2000, and Perroti, 1995. (2) That Higher inequality results in lower growth (Benhabib, 1991, Alesina & Perotti; 1993, Alesina & Perotti; 1994, Bertola; 1993, Persson & Tabellini 1991 etc). The 3rd strand is the channel in which greater equity leads to greater growth (Perroti, 1995).

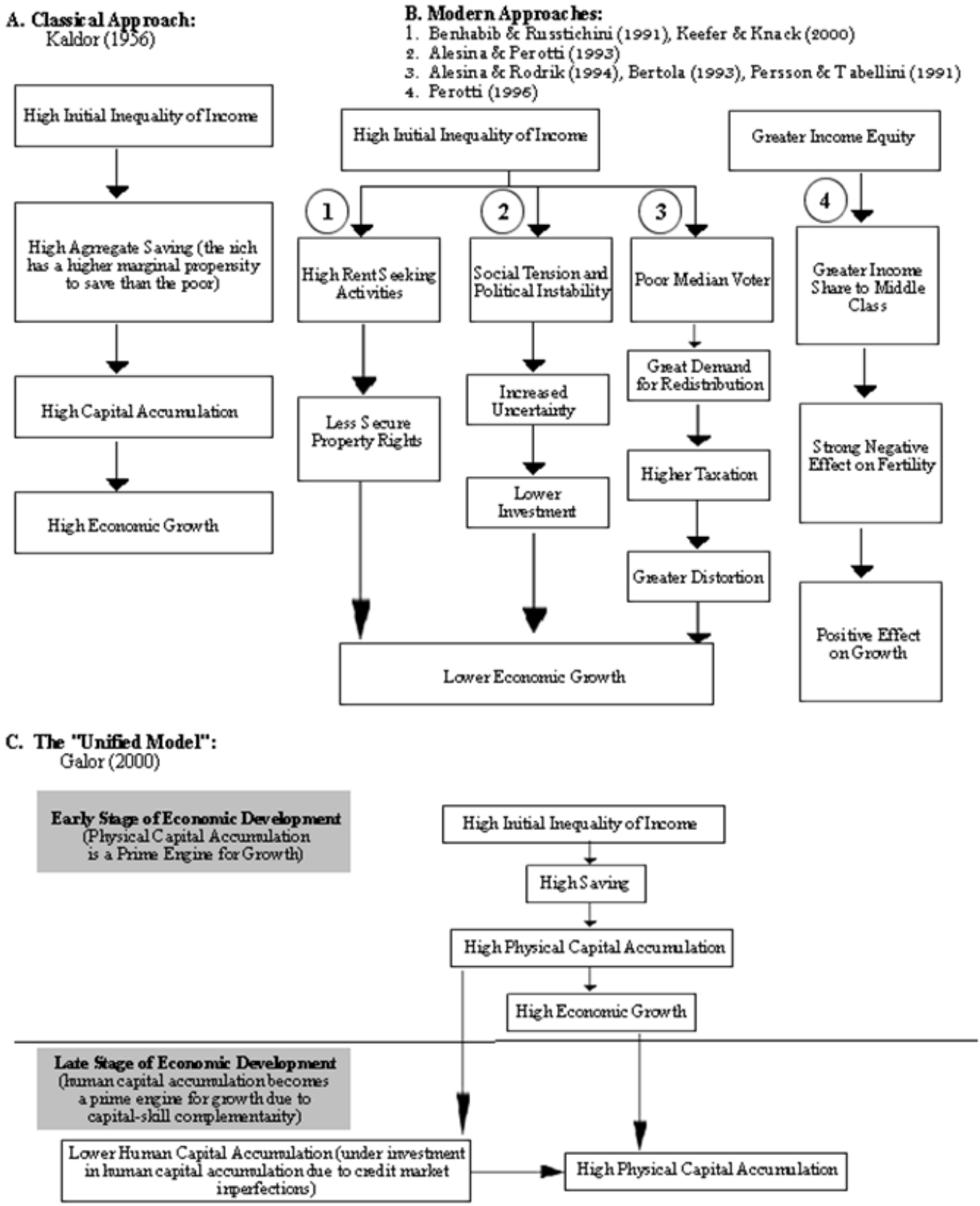


Figure 9: Theoretical Approaches (source: Thorbecke and Charumilind, 2002)

The various channels depicted in figure 9 analyzed in detail the theoretical literature. Panel A, reflects the classical view that prevailed until recently, that a higher presumed marginal propensity to save among the rich than among the poor, implies that a higher degree of initial income inequality will yield higher aggregate savings, capital accumulation and growth. In contrast, panel B, summarizes the mechanisms that have been proposed in recent literature in linking higher initial income inequality with lower growth and conversely, this has four main channels;

- The impact of income inequality in encouraging (unproductive) rent-seeking activities that reduce the security of property rights.
- Social tensions, and political instability can increase uncertainty and discourage investment and hence generate lower growth.
- High inequality is likely to be reflected in a relatively poor median, representative voter who will seek redistribution through taxation that, in turn will bring about further distortions in the economy.
- A more equal initial income distribution involves a greater income share accruing to the middle class that is likely to reduce fertility and population growth.

However, with all these conflicting approaches, Galor (2000) in panel C, made an attempt to reconcile the two views (classical and political economic views) in his "unified model" the essence of the modified model show that classical approach holds at low income levels but not at later stages of development.

1) The Classical Approach

Kaldor (1956) argues that more inequality favours capital accumulation because the rich have a higher marginal propensity to save than the poor, thereby resulting in rapid economic growth. In order words, the Kaldorian argument is that redistribution from rich to poor runs the risk of reducing the aggregate savings rate in an economy, thus, affecting growth. From this hypothesis two questions were raised; what is the relationship between income inequality and savings? and more particularly, the saving behaviour of the rich and the poor? Kaldor (1956) tries to explain

such behaviour using the subsistence consumption level and life cycle – saving hypothesis, bequests, and the Stone-Geary representative household's utility function which is in the form:

$$\mathbf{U\ (c) =}\ \frac{[(C - C^{*})^{(1-\theta)} - 1]}{1-\theta} \quad \text{---------- } \mathbf{1.0}$$

Where C = consumption level
$\theta > 0$ = the elasticity of consumption which is equal to the constant θ
$C^{*} \geq 0$ = represents the constant subsistence level of consumption

According to Kaldor, the inter-temporal elasticity of substitution in the utility function is assumed zero (0) when consumption is below the subsistence level of income, and is positive and increasing when it exceeds subsistence level of income. When this happens, it therefore implies that, the poor cannot afford to save because consumption smoothing cannot occur until subsistence is met. Like the subsistence level argument, the life cycle hypothesis claims that income inequality positively affects private saving rates. In this model, bequests from the previous generation will enable the current generation to save. In this regard, saving is concentrated among relatively few richer households who are accumulating savings in order to pass on their bequests to their sons and daughters for dynastic motive. This hypothesis is similar to the standard growth theories in which higher saving rates is assumed to promote investment and economic growth either temporarily in the transition to a new steady state (Solow model) or permanently (endogenous growth models). In the simple version of the post Keynesian model, control over the rate of investment implies control over the distribution of income. This simple version of the model can be traced back to Keynes's treatise which divided national income into total wage income and total profit. This classification recalls the world of classical economics of a two class structure society: workers and Capitalists.

Workers' income consists solely of the wages and salaries they receive for their labour services and which are entirely spent on personal consumption while for capitalists their income consists

solely of the profit obtained through their ownership of the means of production. In the classical model, profit is the only source of finance for capital expenditure. In the two class model, capitalists control the rate of investment; while the workers consume all their income (i.e. their marginal propensity to save is zero, while the marginal propensity to save of the capitalists is unity. The essential point in the simple version model is that one group received a wage determined by market forces, while the other receives the residual income of all the producing units in the system.

Following the classical assumption that the workers do all the consuming and the capitalists do all the investing and saving, it follows that a higher growth rate could result because of the increase in the rate of investment (capital accumulation). Once this happens, there is bound to be disparities in the distribution of income. Such that a higher ratio of profit to wages will lead to economic growth on one hand, while on the other hand, a lower growth rate could result from a lower ratio of profit to wages.

Thus, the classical view led to the conclusion that inequality was growth enhancing. This implies that a higher degree of initial income or wealth inequality will yield higher aggregate savings, capital accumulation and growth in a system on the presumption that higher marginal propensity to save prevailed among the rich relative to the poor , what is saved is invested (See Fig 9 , panel A).

2. Modern Approach (in the context of political economy)

Contrary to the classical and unified models, there was a shift in focus towards the opposite effect which was provided by political economy view that greater inequality can lead to a lower level of growth. The political economy literature brings out insightful indirect relationship between inequality and economic growth. This political economy literature links a country's

level of income inequality to the political measure taken to reduce inequality and social consequences that follows when income disparities grow unchecked. There are four lines of argument in the links between inequality and growth (Thorbecke and Charumilind; 2002).

The first argument is that a highly unequal distribution of income and wealth causes social tension and increases political instability. This in turn, raises the risk of the government repudiating contracts and threatening the security of property rights, thereby discouraging capital accumulation. More so, they emphasised that when the gap between the rich and poor widens, the rich presumably have a greater temptation to engage in rent – seeking or predatory activities at the expense of the poor, and this increases the number of people who engage in illegal activities posing a threat to properly rights thereby lowering economic growth (Behabib, et. al. 1991, Panel B, No1). Thus, poor countries may therefore fall into a vicious cycle of lower investment and reduced growth because they are more likely to be politically unstable (Alesina, 1993 and Perroti, 1996). On the contrary, political stability which is enhanced by the presence of a wealthy middle class has a positive effect on growth (See panel B No.4).

The second argument, panel B No3 (the medium voter Model) is linked to the work of Alesina and Rodrik 1994; Bertola 1993; Persson and Guildo 1994) this look at the fiscal channel which links income inequality and economic growth. This channel is based on the effects of inequality on the demand for fiscal redistribution; it explains an inverse relation between inequality and investment in physical capital. The argument here is that, the demand for fiscal redistribution financed by distortionary taxation may be higher in more unequal societies because of the level of government expenditure and taxation resulting from a voting process in which income is the main determinant of a voter's preferences. In other words, in an unequal society, the poor see large gain from high taxation on the rich. Therefore, the poorer the median voter in relation to the voter with average income, the higher the equilibrium tax rate. This, in turn leads

to an inefficient tax system, distorts economic decisions, discourages investment and consequently lowers growth. The central argument of this model is that it is possible for the negative effect of inequality on growth to arise even if there are no transfers in equilibrium. This is because; the rich may prevent redistribution policies through lobbying and buying of votes of legislators. However, it may require more of these activities to prevent redistribution of income through the political process.

Perotti (1995) finds that a greater income share of the middle class has a strong negative effect on fertility, and this, in turn has a significant and positive impact on growth (See panel B No.3). Similarly, using the same channel on the other hand, smaller income share to middle class has a strong positive effect on fertility which in turn lowers growth.

3. The Unified Model

This model is an extension of the classical and political economic hypothesis in which importance of physical capital and savings are seen as major factors in explaining inequality in the process of development. Galor (2000) argues that for a country in an early stage of development, inequality would promote growth because physical capital is scarce at this stage and its accumulation requires savings. Thus, with an increased share of the rich in the population, this would result in higher savings and rapid growth. On the other hand, at a later stage of development, the increased availability of physical capital raises the return on investment in human capital. The poor and the rich in this hypothesis are assumed to possess identical preferences, but their savings and investment behaviour differ because they face different institutional constraints such as credit markets. For these reasons, large sunk costs may preclude the poor from investing in education and entrepreneurial projects.

The credit constrained human capital accumulation hypothesis analyzes the effects of income inequality on education. The proposition is based on the notion that under imperfect information, moral hazard arose because a borrower knows more about the investment opportunity than a lender. Therefore, a lender absorbs all the risk after entering into a contract. From a borrower's side, a larger middle class mitigate the moral hazard problem because; it increases the number of potential investors who are able to offer collateral. From the creditor's side, a larger middle class enlarges the pool of loanable funds. Thus, it reduces the constraint on the credit market and therefore facilitates lending to the poor. The emphasis of the incorporation of imperfect credit market analysis in the above discussion is to show how redistribution from rich to the poor stimulates growth. The argument of credit market imperfection was earlier emphasized by Galor, *et. al.*, 1993, Agio *et a.l* 1997, and stressed again by Birdsell; 1999, 2001 and again by Francois; 2004. In this framework, redistribution toward borrowers would result in a favourable incentive effect and consequently positive effects on growth. But with credit market imperfections, - the poor who do not have the ability to provide collateral – may find their access to capital curtailed. Birdsall (2001) position on the market imperfection opined that there are borrowing constraints facing the poor in financing education and hence in accumulating human capital. The greater the degree of wealth and income inequality, the greater the number of people for which the constraints would be binding and therefore, the lower is the stock of human capital accumulated.

Credit constraint induces poor households to forgo human capital investment even if the investments offer very high rates of returns. With the poor not having access to capital, the poor will therefore find it difficult to invest in human capital. Thus, income inequality would then result in a poverty trap for the poor and this would lower growth. One major reason suggested for under-investment is that credit markets are imperfect, the poor possessing little or no collateral

(in the setting of most developing cities) are practically sealed off from the formal credit market. Poor households are constrained for cash and as they are unable to borrow, they have hard time sending or keeping their children in school. These stylized conditions leads to a vicious cycle where initial inequality and poverty result in under-investment in education among the poor which further exacerbate inequality. Birdsall (1999) stated that a household's demand for education is not only a function of household income and household access to borrowing; it is also a function of expected returns to the family from schooling, in the form of higher future income for educated children.

The credit market imperfection hypothesis is also linked with the work of Bertola (1994); Alesina and Rodrik (1994); Benabou (1995); Persson and Tabellini (1994). This hypothesis predicted that wide income disparities tend to coexist with under-investment in human capital that translates into lower long run – economic growth. The empirical evidence suggests that there is a high correlation between income and educational level, as well as between income and education inequalities (Erik, *et. al.* 2002). The justification for this is that lack of education leads directly to lower incomes and thus, lower aggregate savings and investment among the poor. Conversely, education raises incomes, and promotes growth because it helps to unleash the productive potential of the poor. While an overly skewed distribution of education tends to have a negative impact on per capita income in most countries. Lopez, Vinod *et al.* (1998) suggest that a greater equity in the distribution of educational opportunities enables the poor to capture a larger share of the benefits of economic growth, and in turn contributes to higher growth rate. In contrast, large-scale exclusion of the poor from educational opportunities results in lower economic growth and persistent income inequality.

However, the lapses in these views is that they did not say anything about how high inequality comes about historically in the first place, but they do suggest that a history of high inequality may persist indefinitely, carrying with it inefficiencies in production and slower growth.

Given the various scenarios on the relationships between growth-poverty-inequality, the debate is to understand how growth or poverty is intermediated through distribution of income. These relationships, allow us to draw important welfare implication or consequence from growth and its impact on poverty or inequality.

3.2.2 Relationship between Inequality and Poverty

Recent literature that explored the relationship between poverty and inequality include the works of Bhorat (2009), Wan (2008), Lopez, (2004), Francois, (2003 and 2004), Rasmus (2002), Bigsten, (2001) and Ravallion (1999). Some of these studies reviewed the relative contribution of income growth and the distributional changes to change in poverty. For example, Lopez (2004) focused on the growth – inequality relationship, others like Ravallion (1997), and Francois (2003 and 2004) paid attention to the potential impact of the growth process on inequality, the central questions posed in the literature are whether as a general rule growth is affected by inequality? Specifically, does lowering inequality promotes or hinders economic growth? How does inequality affect poverty reduction?

The answers to the above questions have remained unclear. However, two views seems dominant. The first is the view that growth is fundamental for poverty reduction. The second is that high initial inequality is a brake on poverty reduction. Rasmus (2002) observed that earlier works by Hanmer and Noschold (1999) and Dollar and Collier (2001) are based on a constant elasticity linking poverty reduction to the rate of growth while inequality was overlooked.

Rasmus (2002), argued that the growth versus redistribution dichotomy is false because it is uninformative to pose poverty changes into a growth and a distribution component while growth effect is itself a function of the degree of inequality. Rasmus (2002) suggested that the relationship between growth and poverty is non-constant because a given poverty measure depends on initial level of inequality and on the location of poverty line relative to mean income. Hence, growth and distribution are interconnected in numerous ways, the effectiveness with which growth translates into poverty reduction depends crucially on initial inequality, an unequal income distribution is a serious impediment to effective poverty alleviation. The work of Bigsten *et al.*(2001) provided a selective review of some of the recent literature dealing with the relationship between economic growth, income distribution and poverty. The paper discussed the effect of economic policies on three factors; per capital income, income distribution and poverty. The evidence – reviewed in Bigsten, *et al.* (2001) shows that countries that have been successful in terms of economic growth are also very likely to have been successful in reducing poverty. Thus, how strong a poverty reducing effect growth is, depends on what happens to income distribution. The authors however, pointed out that (1) there is no constant relationship between growth and changes in inequality, and (2), those countries that have combined rapid growth with improved income distribution have tendency of reducing poverty faster. In addition, policies aimed at equity had a negative side effect on growth, the poverty reduction impact would also be limited or even negative. Hence, there may be a conflict between short-term distributional measures and immediate poverty reduction on the one hand, and long-term growth – supporting measures and long – term poverty reduction, on the other. However, Bigsten *et al.* (2001) also noted that there may be a win-win situation where a policy for equity has a beneficial effect on growth which may build up assets of the poor and help increase the demand for those assets.

A central point of the result from this study is that without growth in per capital income, poverty may persist in poor countries and a government intent on poverty – reduction must create an environment that is conducive to growth. It is recommended that such pursue Microeconomic policy aimed at creating a well-functioning market, macroeconomic policy aimed at stability, investing in human capital via education and to createe a growth eenhancing social infrastructure.

In another attempt to clarify the debate about growth - inequality nexus, Francois (2004) pointed out that once it is accepted that the reduction of absolute income poverty is a meaningful developmental goal, then a direct link may be established between development, growth and income distribution .For example, poverty reduction in a given country and at a given point in time is fully determined by the rate of growth of the mean income of the population and the change in the distribution of income. Using a descriptive approach, he gave a simple arithmetic triangular linkage of poverty, inequality and growth.

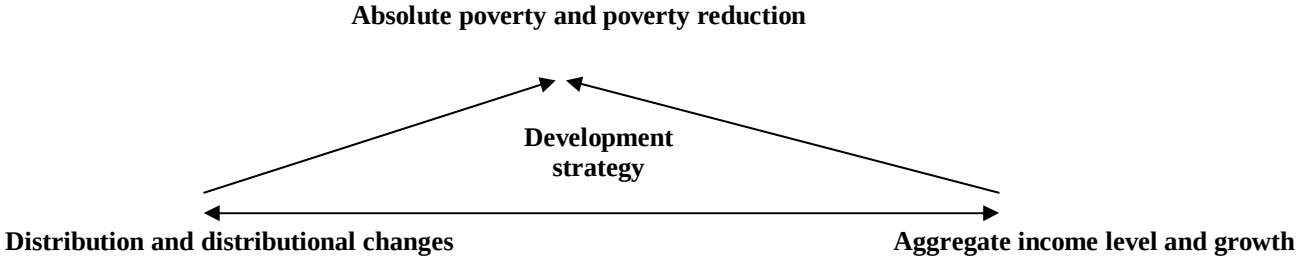


Fig. 10: The Poverty – Growth – Inequality Triangle (Source: Francois 2004)

Using figure.10, Francois (2004) emphasized that the real challenge to establishing a development strategy for reducing poverty lies in the interactions between distribution and growth and not in the relationship between poverty and growth on one hand and poverty and inequality on the other, which are essentially arithmetic. Francois (2004) explained that a change in the distribution of income can be decomposed into two effects. First, there is the effect of a proportional change in all income that leaves the distribution of relative income unchanged i.e.

"**a growth effect**" second, there is a change in the distribution of relative income which by definition is independent of the mean, - the "**distributional effect**". Hence **a change in poverty can be a function of growth, distribution, and the change in distribution**.

In simple functional relation;

$\Delta P = f(g, d \ \Delta d)$ ---------- 2.0

Where P = Poverty

D = distribution

G = growth rate of GDP

Francois (2004), expressed that both the growth and the inequality elasticities of poverty are increasing functions of the level of development and decreasing functions of the degree of relative income inequality. The functional relation shows that both growth and inequality changes play a major role in generating changes in poverty. However, this change will depend on the initial level of income and inequality. Though this effect may differ across countries, the empirical evidence provided by Francois to explain this relationship was a cross-country study he conducted which showed that growth had reducing effect on the poverty headcount by some 31% in Ethiopia between 1981 – 1995. Yet because of changes in distribution with less benefit accruing to the poor, growth contributed a 37% increase in poverty. This in turn led to a final effect of a net increase in poverty by 6% (see fig.11). In the case of Indonesia, the result is opposite: between 1996 and 1999, the distributional changes compensated for the adverse effect of growth on poverty.

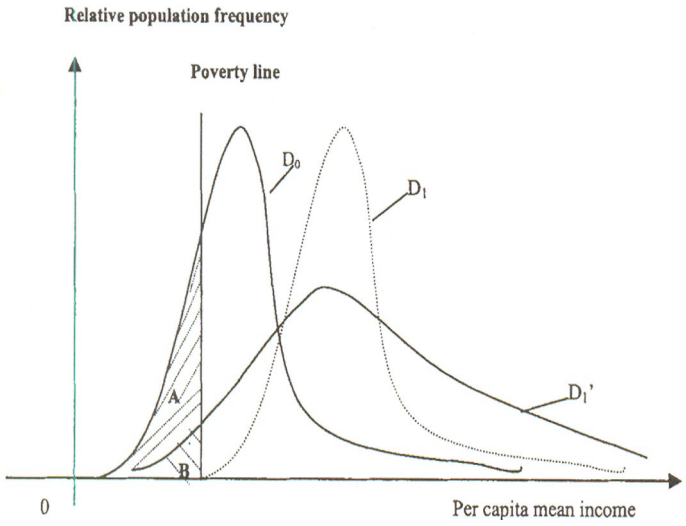


Fig.11: Decomposition of changes in distribution and poverty with growth and distributional effect.
(Source: Francois, 2004)

Francois (2004) concludes that at least for headcount poverty, assuming that income follows a log normal distribution may prove satisfactory. He finds that distributional changes are as much responsible for variation in poverty reduction across spells as the heterogeneity in growth rates itself. Francois (2004) pinpoints two channels as to how redistribution affects growth; a permanent redistribution of income reduces poverty instantaneously through what was identified as the distributional effect; but also redistribution contributes to a permanent increase in the growth elasticity of poverty reduction – therefore, accelerating the rate of poverty reduction for a given rate of growth.

In summary, the discussion so far presented the recent literature on the relationship between poverty, growth and inequality. Quiet a number of arguments explain why poverty can impede growth while some point to why some rate of economic growth might be less effective in reducing poverty. However, the conclusion drawn is that, high level of inequality contributes to high level of poverty in several ways and that inequality is harmful to growth and poverty. Hence, redistribution policy to manage high level of inequality is necessary to poverty reduction.

3.3 Socio – Economic causes of Vertical Inequality

Socio- economic causes of inequality could be direct or indirect depending on the nature and processes of the links between inequality, growth and poverty, and the extent of the processes that generate the links. By socio–economic causes we refer to factors that may lead to disparities between individuals either in income or in non income dimensions. These causes are often inter-related, non-linear, and complex. Acknowledged factors that impact economic inequality include the labor status, innate ability, education, race, gender, culture, wealth condensation, development patterns and personal preference for work, leisure and risk.

Some determinants and their outcomes depend on the extent to which people take up opportunities – economic opportunities in terms of wealth, asset, employments, market condition , Inheritance, differences in propensity to save, or social opportunities – access to basic services such as electricity, piped water, toilet , health, education, e.t.c.

There are many reasons for inequality within societies.The nature of government policies or spending in favour of a particular segment of the public also matters. For example, a change in redistribution of income in form of an increase in national income that goes to the poorest 20% could increase their total income which could have the same effect on the measure of the depth and severity of poverty and on growth. Thus the desirability of minimizing inequality therefore goes beyond its effect on reducing poverty.

Causes of inequality are also link to a number of other socio-economic and political issues which make the impact of overcoming this challenge far-reaching. Differences by sex is another significant factor as women sometimes are paid less than men in some occupation, women tend to be employed in lower- paid occupation than men and women do much less overtime than men (Slownman ; 2007).

James et al (2004) stressed that one major determinant of inequality is wealth. The distribution of wealth is closely associated with the social distinctions that stratify people, communities and nations into groups that dominate and those that are dominated. Difference in wealth accumulation by individual is significant, wealth iinequalities tend to persist over time. The distribution of wealth is highly unequal and that wealth is less equitably distributed than income. There are at least three reasons why the distribution of wealth is an important factor in explaining inequality. According to Felix (2002),First, ownership of financial wealth is a significant source of income: inequity in the distribution of wealth implies a corresponding inequity in the distribution of dividends, interest, rent and other income received by wealth owners. Secondly, wealth provides security: a wealthier household is better able to survive interruptions in income or expensive emergencies. Finally, wealth brings its owners political and economic power in several forms – although the exact nature of that power remains controversial. Similarly, Cornia (2004) emphasized that the determinants of inequality is linked to personal or inter-household inequalities in assets, earnings, wages, wealth, access to landholding, education, locations and the prevailing economic activities in such locations.

The two views suggested that the concentration of wealth plays an important role in the theoretical and empirical literature on sources of poverty and inequality. In a study conducted in China by Wan (2008) shows that fiscal transfers exert little or regressive effect on inequality when there is imbalance in social benefits especially among educated households, less educated, between the rich and the poor. In addition, gender discrimination in salary, employment and promotion, differences in physical capital accumulation, differences in endowment of households and the returns to these endowments are major factors in households' income divide. Other authors like Bourguignon and Morrison (1998), Julian *et al.* (1998), Adedoku *et al*. (2001) and Bhorat (2009) attached much importance to earnings/ wage income as a major determinant of

inequality. Bhorat (2009) emphasized the distributional consequences of growth to Labour market imperfection. According to Bhorat (2009) earnings inequalities are advert of skills – biased labour demand shift where domestic economies have witnessed a disproportionate increased in the demand for skilled relative to unskilled during the period of economic growth. Thus, there is a close relationship between trends in earnings inequality and overall household income inequality. Overall earnings inequality grows when real earnings rise for high-income workers, but fall for those at the bottom (Julian *et al.* 1998).

A number of factors usually contribute to rises in earnings inequality, among these are; a sustained slowdown in growth; change in technology that produces dualism between leading and lagging sectors; demographic changes; decline in entry level wages and labour shift from manufacturing into services, where there is a relatively low average and high variance of wages.

Other factors with considerable influence on a trend rise in earnings inequality include differences in household composition such that, the more the number of dependants in a household, the lower the income per member of that household. Household with more than two children could have much lower income than household with one child. A report by South Africa Human Development (SAHD) report in 2004 opined that pursuit of flexibility in different aspects of business operations (such as flexible specialization), the growing importance of part-time and other contingent workers, contracting out, and restructuring of full – time into part-time jobs is a significant factor contributing to existing inequality in Africa. In addition to this, unemployment in particular is also seen as a link factor in the gap between individual earnings. Thus, these causes are likely to increase inequality in the distribution of earnings.

In a general term, the drivers of vertical inequalities are many and can exert large impacts on the poverty if not well manage. Much emphasis from the reviewed literature is placed on individuals' wealth, asset, earnings, economic opportunities and unfavourable social benefits.

Wealth inequality existence implies inequality in the vulnerability of households when encountering economic or personal crises. It has been shown that modest personal wealth makes it possible to overcome the economic problems of temporary unemployment, illness or accident, while the absence of wealth allows small crises to develop into long-term losses. Steep wealth inequality therefore, contributes to persistent and rising income poverty and inequality. Furthermore, pervasive forms of wealth inequality can provide the real bedrock of the power of the rich to safeguard and enhance their economic and political interests. This is because business power (usually dominated by the rich) is magnified and reinforced by its political unity, at the detriment of the poor. Control of society's wealth has long been associated with unequal power relations between social classes. This, in turn, expresses itself in terms of an exploitative relationship that results in widening wage income and wealth inequalities as more and more wealth is amassed by the wealthy in the process of accumulation.

Cross country studies have shown that institutional role in wage determination is a significant factor in inequality. Ther stronger and the greater the efforts towards education and training, the more egalitarian the distribution of skills, dampening the effects of shifts in the supply of and Demand for labour. Other institutions, such as social insurance and income maintenance programmes, also affect wage distribution. These findings indicate that avoiding a trend increase in earnings inequality demands concerted interventions (e.g. institution building) that take into account macroeconomic issues (e.g. unemployment, inflation, growth), but go beyond achieving economic recovery and employment creation. For example, once employment potential expands, the extent to which a rise in earnings inequality can be avoided depends partially on whether the poor are able to benefit (through a reduction in underemployment and/or raising the earnings of labour) from rising employment opportunities. This, in turn, depends on the capabilities of the poor to integrate into the expanding sectors of the economy (Felix, 2002).

Based on some of these socio –economic causes, it become imperative for many Government to be concern about reducing inequality because of its relevance importance in the following:

•**Inequality matters for poverty**: For a given level of average income, education, land ownership etc., increased inequality of these characteristics will almost always imply higher levels of both absolute and relative deprivation in these dimensions.

•**Inequality matters for growth**: As acknowledged by White(2000) in World Bank 2001 Report) that there is increasing evidence that countries with high levels of inequality especially of assets may achieve lower economic growth rates on average, and in addition, a given rate and pattern of growth of household incomes will have a larger poverty reduction impact when these incomes are more equally distributed .

3.4 Horizontal Inequality, Poverty, Growth

3.4.1 Conceptual issues: Horizontal Inequality

Horizontal dimension of inequality is an alternative perspective of inequality which offers greater insight for understanding some related conditioned social relation across groups of individuals. Horizontal inequalities are seen as unequal treatment of groups defined by ethnicity, region, religion, culture, gender, age e.t.c . Groups inequalities could be in the form of socio-economic and political opportunities. The concept of horizontal inequality differ from vertical inequality because of the measures of inequality is over the range of groups and not individual. Horizontal inequalities are multi-dimensional. Stewart (2000) pointed out that normal space for measuring vertical inequality is a summary measure of the income which gives only a partial indicator and fails to capture other dimensions, while horizontal measures inequality between groups, where groups are defined by region, ethnic, class, and religion according to the most appropriate type of group identification in a particular society. In other words, unlike vertical

inequality, horizontal inequality is a systematic inequality between culturally formed groups, which also relates the concept to other classifications of groups i.e. gender, age cohorts, religion, location (rural, urban), e.t.c. Gboyega *et al.* (2003) presented horizontal inequality with groups as the referent agent/player, with indicators consisting of a set of factors that refer to circumstances of groups (culture, geography, economy, social, political, etc) and the measurement is horizontal (across groups). Thus, horizontal inequality generally can be conceived as inequality among groups, along a number of dimensions. The works of Stewart (1999;2000;2001.2005,2007) have shown the importance of studying horizontal dimension of inequality by pointing out that the presence of severed horizontal inequalities especially where consistence across dimensions and cross salient group identities have shown increased likelihood of horizontal tension and violent conflicts in a multi-ethnic society. Any system in which a group is discriminated against is likely to lead to less efficiency than in the absence of discrimination (Stewart *et al.* 2005). Thus, reducing Horizontal Inequalities is instrumental for achieving other economic objectives.

3.4.2 Causes of Horizontal Inequality

A report by World Bank in 2006 noted that ethnicity drives discrimination, conflicts, state formation, political alliance and economic choices in many sub-Saharan Africa countries. Hence, exclusion and ethnic discrimination play a significant role in Horizontal inequality in most African state. Similarly, Stewart (2004) noted that exclusion from political, social and economic institution is seen as part of a vicious cycle that lead to low capability levels, which in turn reduces the abilities of people to escape poverty, and horizontal inequality make up a significant proportion of such overall inequality. Exclusion result from various forms of active discrimination directed against certain people who share ethnicity, religion, or culture may be reinforced by discrimination on the basis of personal characteristics such as gender, age e.t.c.

which could determine wealth, poverty, access to resources as well as political power(Geoff et al 2009). The existence of different Genders, races and cultures within a society is also thought to contribute to inequality. The idea of the gender gaps tries to explain differences in income between genders. Culture and religion are thought to play a role in creating inequality by either encouraging or discouraging wealth-acquiring behavior, and by providing a basis for discrimination. In many countries individuals belonging to certain racial and ethnic minorities are more likely to be poor. Proposed causes include culture differences amongst different races, an educational achievement gaps, and racism.

Easterly and Lavine (1997) emphasized the impact of social exclusion in an ethnically diverse society which suffer from ethnic conflict. According to the authors, such ethnic conflict could limit the ability of a region to invest in public goods in which the poor could have benefitted from. Horizontal Inequality is often a significant factor behind crime, social unrest or violent conflict, and these are often important contributors to poverty in their own right. Inequalities even perceived ones – between clearly defined groups, for example according to ethnicity, maybe an important issue (Thorbecke *et al.* 2002). Stewart *et al.*(2007) opined that the dimension of horizontal inequalities depend on the nature and causes. In addition, other Determinants of Horizontal inequalities cited by Jed (2002), Horennsteins *et al.*(2004), Wan (2005),Stewart *et al.* (2005 and 2007), Birdsall (2005), Langer *et al* (2007), Oyekale *et al*. (2007), Stewart (2007), and Bhorat (2009) noted that promoting Ethnic differences and encouraging cultural stereotyping can generate social prejudices when other groups perceptions are influenced by their relative position. Hence, high tolerance for horizontal inequalities in a multicultural society where there is more entrenched cultural differences may generate strong salience group identities among members of deprived groups and create conducive environment

for violent conflict. Grievances among members of deprived groups in a situation of relative deprivation could last for generation to generations.

Eva (2008) and Bhorat (2009), Milo (2009) supporting pro- poor growth process emphasized that employment and differences in wages are the key link between economic growth and income poverty reduction, and one of the reason people or a group remain poor is because they are excluded from or adversely incorporated into labour market. Many poor people are under employed, work in low – return occupation or for salary that are too low to escape from poverty. Thus, a major cause of economic inequality within modern market economy is the determination of wages by the markets. Inequality is caused by the differences in the supply and demand for different types of work. Wages work in the same way as prices for any other good (i.e. supply and demand). The final results amongst these supply and demand interactions are a gradation of different wages representing income inequality within society and among groups. Milo (2009) Stress that apart from economic status, resources, one of the most important factor responsible for both income and inequality is households' wealth, and this has a disproportionate impact on household wellbeing. James *et al.* (2007) also established that there are very large inter-cuntry differences in the level of households' wealth and these differences which represent ownership of capital is also responsible in intra – state and within groups inequality. Other determinants of horizontal inequality are reflected in real assets, land and farm assets, financial assets.

Langer *et al.* (2007) outlining the socio-economic and political inequalities in Nigeria, stressed on the sharp developmental divide between the North and South regions, the ethno-religion divides as main factors. Thus, the existing nature and pattern of socio-economic disparities among regions can contribute to horizontal inequality.

3.4.3 Relationship between Horizontal Inequality and Conflict

The little literature that exists on the relationship between horizontal income inequality and conflict shows that as a society become more polarized with the poor, middle income and the rich, conflict is more likely to emerge. Gasparuni *et al.* (2006), finds that the combination of weaker institutions with higher polarization quickly translate into situation of social tension and conflict. According to the Authors, this link is complex because it includes both economics and non- economic variables, such as a society can be equal in economic terms but have tensions across ethnic or religion line. In contrast, a society that is polarized by income can exhibit social cohesion during times of war for example, but in general, weak social cohesion, social tension and conflict can undermine human development and slow down economic growth. Evaluating the link between inequality and conflict, Indranil and Ajit (2005) show distributional concerns can engender social conflict, and high levels of inequality may exhibit drastically different levels of conflict. Other studies such as Alesina and Perrotti (1996), Stewart (2001; 2005), Cramer (2003), World Bank (2003), point to Economic inequality in terms of wealth as an important cause of conflict.

Group inequality can be a source of violent conflict especially if they are easily mobilize as a result of grievances like the case of the Niger delta in Nigeria, or as a result of group discrimination, like the case of Dafur in Sudan .Violent conflicts as a result of horizontal inequalities in third World countries have a devastating impact which goes well beyond human suffering, but also the loss of human lives and the economic and infrastructural damages. They fundamentally undermine social structures and in particular the social institutions which are at the core of the social fabric (Massimo, 2003). This section, critically examine the nature of the links between Horizontal inequality, conflict and poverty. Many works have shed light on the dimension of this relationship (see Collier and Hoeffler 2000 and 2004, Fitzgerald et al 2001,

Stewart 1999 and 2007, Langer *et al* 2007). However, the relationship remains a problem, contradictory results dominate the empirical investigations: positive relationships, negative relationships, and no relationships have been found. (Woo; 2005, Stewart *et al.* 2006 and2007, and Langer *et al* ; 2007).

Area that have received attention in recent years in the literature in explaining the relationship concentrates on economic agenda in conflict is the debate on the greed versus grievance (Collier & Hoeffler, 2004) discuss several grievances (such as inequality, lack of political rights and ethnic divisions) as well as opportunities for forming a rebel organization (such as access to finance, natural resources and geographical factors like mountains and forests). Inequality is among the grievance factors largely dismissed by Collier & Hoeffler, as are various measures of ethnic composition. Similarly, Fearon & Laitin (2003) and Hegre, Gissinger & Gleditsch (2003) find no evidence for a significant relationship between income inequality and conflict. The 'greed-grievance' (or opportunity-frustration) debate merits further examination as the review of the literature did not draw some general conclusions on either grievance (or related measures of social grievance, such as inequality) or greed (and related focus on the financial viability of rebellion) in explaining the causes of civil war and violent conflict. These two explanations have been prevalent: the economic discontent theories, and the political opportunity theories. In their strict version the discontent - oriented theories maintain that horizontal inequality is the basis of all rebellion and that if economic inequality is high, then violent conflict will occur (Schock, 1996). Conversely, the political - oriented theories maintain that economic discontent is not central, they proposed that political resources and opportunities determine the extent of violent political conflict within nations. Despite these contrary views, there is general recognition of the fact that, in addition to their direct impacts, violent conflicts have major development costs. Stewart and FitzGerald (2001) summarized such costs as:

(a) *Productive capital* (plants, equipment and buildings land-mined are bombed).
(b) *Economic infrastructure*: transport and communication system, power, irrigation disrupted.
(c) *Social infrastructure*: schools, hospitals, clinics damaged.
(d) *Human capital*: death, migration especially of skilled, worsened nutrition and health of workforce.
(e) *Organizational capital*: government institutions, banks, agricultural extension, science and technology organization weakened.
(f) *Social capital*: destruction growing insecurity.

Massimo (2003) examined the nature of the links between conflict and poverty using three prepositions: first, considered whether conflict causes chronic poverty, the consensus around this statement is not a new trend he asserted, as the awareness of the costs of conflict is widespread. Conflict has a more severe impact than other external shocks because of the deliberate destruction of livelihoods. As conflicts become protracted, organized violence increasingly shapes the economy and is likely to lead to intergenerational exclusion and chronic poverty. However, he pointed out that further research is needed to better understand the types of conflict that are likely to lead to transient or chronic poverty. According to the author, the state may play a critical role in protecting its citizens from the various economic and social costs of conflict, mainly through the government's capacity in providing public entitlements; however, external intervention also plays an important role and may aggravate or mitigate conflict and chronic poverty.

The impacts of war vary according to the nature, duration and phase of the conflict and the background social and economic conditions. Chronic insecurity increases chronic poverty, but the consequences vary on the basis of a range of factors, including age, ethnicity, gender and region.(Massimo 2000) .

A second element as asserted by Massimo (2003) was on the extent to which poverty causes conflict. Massimo (2003) pointed out that there is much less consensus on the fact that poverty causes conflict, thus, the challenge is to understand how poverty may interact with other factors

in a given context so as to contribute to producing, and supporting the conditions for, violent conflict. In this respect it is important to examine the processes through which chronic poverty generates grievance leading to violent conflict. Chronic poverty by itself is unlikely to lead to conflict, because the chronically poor often lack political voice and organization. Stewart's work on multidimensional horizontal inequalities shows that inequality, social exclusion, group discrimination, group perception of their relatively economic status and poverty, particularly when they coincide with identity or regional boundaries, may contribute to growing grievances.

Stewart (1999, 2002 and 2007) stressed that where there are severe inequalities in resource access and outcomes between culturally defined groups, that can become a powerful mobilizing agent that can be exploited by political leaders. In other words, horizontal inequalities may lead to grievances that, in combination with other factors, may form the basis for group mobilization by conflict entrepreneurs, thus increasing a society's predisposition towards violent conflict. Chronic poverty may also be a significant factor in sustaining wars as violent crime and in which predation may become the only viable livelihood strategy for the chronically poor. Stewart, 1999 research suggests that the concept of horizontal inequalities is a more useful analytical tool than the conventional concept of vertical inequalities to explain conflict dynamics. Horizontal inequalities are the differences set among groups of population in their access to assets and basic services, on the basis of group discrimination traced along such boundaries as ethnicity, religion and the like, thereby increasing the economic and social vulnerability and exclusion of the marginalized groups. They account for dimensions of social exclusion that could not be captured by an analysis of the simple distribution of individuals of households with respect to their average income, that is the main measure of vertical inequality .According to Stewart (2000), group are often defined based on ethnic identity e.g. in central Africa while in Latin America they are largely a mixture of class and ethnic elements. Badru (1998), Arnim et al

(2007),and Geoff et al (2009) suggested that the ethnic affinities play more important role than class in Nigeria.

A third issue raised by Massimo concerns the role of resource wealth in causing conflict. This argument attributes more importance to greed rather grievance in explaining the causes of violent conflict. According to this approach, high value primary commodities such as diamonds and timber provide opportunities for rebel groups to finance their military activities. Rebels would generate a loud discourse of grievance just to hide their real economic motives. Civil wars are seen, to some extent, as the continuation of the economy through other means. A further risk factor is ethnic dominance, i.e. countries with a large majority and small minorities group have a greater propensity to violent conflict than ethnically diverse countries. Collier's discussion of ethnic dominance as a risk factor is quite consistent with Stewart's analysis of the role of horizontal inequalities, and their exploitation by conflict entrepreneurs, in fueling conflict, (Collier 2000). Thus, given the nature of the above arguments, horizontal inequalities have impact on well-being and social cohesion in some important ways.

3.5 Empirical Framework

3.5.1 Measurement of Vertical and Horizontal Inequality

The literature on inequality measures differentiates between two types of measures — the ***ethical*** measures, and the ***descriptive*** measures. Ethical measures are those that seek to relate inequality in a distribution to ***the loss in social welfare*** arising from the presence of inequality: examples of this approach are to be found in the work of, among others, Dalton (1920), Aigner and Heins (1967), Kolm (1969), Atkinson (1970), Blackorby *et al*, (1978). For specificity, describing the approach adopted by Atkinson (1970), illustrated that the social welfare function

(SWF) is of the utilitarian type, and that each person has an (identical) increasing and strictly concave utility function, so that, given any income vector **x**, the SWF is given by:

$W(\mathbf{x}) = \copyright i=1$, Thus, $n(\mathbf{x})U(xi)$ ---------- 3.0

where U(xi) defines the ith person's utility level. Of crucial significance for an ethical inequality index is the notion of an *equally distributed equivalent income*, Given an income vector **x**, the equivalent income (xede) is defined as that level of income such that, if it is equally distributed, then the resulting social welfare is exactly the same as that which obtains for the distribution **x**.

The second type of measures widely used is the *descriptive* measures of inequality which are essentially statistical measures of dispersion, not explicitly motivated by a desire to link inequality to the welfare losses arising from the former. The most commonly used descriptive indices are five;

the *Variance of Incomes* (V), the *Variance of Log Incomes* (VL), the *Squared Coefficient of Variation* (S), *Theil's* (1967) '*Entropy' Index* (T), and the *Gini Coefficient of lnequality* (G) . These are given in mathematical forms respectively as:

$$V(\mathbf{x}) = [1/n(\mathbf{x})]\copyright_i(x_i - \lceil(\mathbf{x}))_2 \text{ ---------- } 4.0$$

$$V_L(\mathbf{x}) = [1/n(\mathbf{x})]\copyright_i(\log x_i - \log\lceil(\mathbf{x}))_2 \text{ ---------- } 5.0$$

$$S(\mathbf{x}) = [1/n(\mathbf{x})]\copyright_i[(x_i - \lceil(\mathbf{x}))/\lceil(\mathbf{x})]_2 = V(\mathbf{x})/\lceil_2(\mathbf{x}) \text{ ----------} 6.0$$

$$T(\mathbf{x}) = [1/n(\mathbf{x})]\copyright_i(x_i/\lceil)\log(x_i/\lceil) \text{ ----------} 7.0$$

$$G(\mathbf{x}) = [n(\mathbf{x}) + 1]/[n(\mathbf{x})] - [2/\{n_2(\mathbf{x})\lceil(\mathbf{x})\}]\copyright_i[n(\mathbf{x}) + 1 - i]x_i \text{ ----------} 8.0$$

Note in (v): the individuals have been indexed in non-decreasing order of their incomes, namely $xi \ \delta \ xi+1$, $i = 1,\ldots,n-1$.

While the ethical approach to inequality measurement have problem, which have been discussed by Sen (1978). Sen pointed out those inequality indices must measure inequality, and not the loss in social welfare occasioned by inequality, conflating the two notions could do violence to the

independent descriptive role which an inequality index has. On the other hand, in the descriptive measures, all inequality indices should be good indicators, provide relevant information in the process of aggregation, be amenable to ease of interpretation. The variance of income **(V)** and the Variance of Log of income **(VL)** indices have two major problems which tend to disqualify them from further serious consideration. One violates Axiom of Scale Invariance **(SI)** and the other violates Axiom of Transfer sensitivity **(T)**. This implies that their inequality indices are not mean independent and should be invariant with respect to any uniforn scaling up or down of income distribution in addition to not being responsive to tansfer at the lower end of income distribution. Problem also arises with the 'canonical' version of the 'varlog' measure, where the mean income employed is the geometric mean instead of arithmetic mean (Subramanian, 2004). Thus, this effectively narrows down the field to the set of indices, Squared Coefficient of Variance **(S)**, Theil index **(T),** and Gini Coefficient **(G)**. A quick way of reviewing these three descriptive measures of inequality would be to consider them all together, and in relation to each other, in terms of the properties they satisfy . The key properties are:

a) The Piqou – Dalton Transfer Principle: (Dalton, 1920, Piqou, 1912). This axiom requires the inequality measure to rise (or at least not fall) in response to a mean-preserving spread such that an income transfer from a poorer person to a richer person should register as a rise (or at least not as a fall) in inequality; and an income transfer from a richer to a poorer person should register as a fall (or at least not as an increase) in inequality. For example, considering the vector **y** which is a transformation of the vector y obtained by a transfer δ (amount)from $\mathbf{y_j}$ to $\mathbf{y_i}$, where $\mathbf{y_i} > \mathbf{y_j}$ and $y_i + \delta_{yj} - \delta$, this transfer principle is satisfies if $\mathbf{I(y') \geq I(y)}$ (new income registered as an increase after a transfer)**.** The generalized entropy class and Gini coefficient satisfies the principle (Julie, 1999).
b) Income Scale Independence: This requires the inequality measure to be invariant to uniform proportional changes: if each individual's income changes by the same

proportion (say when there is a change in currency unit), the inequality should not change. Hence, for any scalar λ > **0, I (y) = I (**λ**y):** The generalized entropy class measures and the Gini coefficient also satisfy this test (Julie 1999).

c) Principle of Population (Dalton, 1920 as cited in Julie 1999). The population principle requires inequality measures to be invariant to replications of the population; merging two identical distributions should not alter inequality. For any **scalar** λ > **0, I (y [**λ**]), where y[**λ**]** is a concatenation of the **vector y,** λ **times** (Julie, 1999).

d) Anonymity: This axiom, which is sometimes referred to as symmetry, requires that the inequality measure be independent of any characteristic of individuals other than their income (or the welfare indicators whose distribution is being measured. Hence, it means for any permutation **y' of y, I (y) = I (y').**

e) Decomposability: This requires overall inequality to be related consistently to constituent parts of the distribution, such as population sub-groups, income sources, e.t.c. For example, if inequality is seen to rise amongst each sub-group of the population then we should expect inequality overall, to also increase.

Table 35: Some descriptive inequality measures and their properties

Indices	Squared Coefficient of Variation (S)	Theil's Index (T)	Gini Index (G)
Axioms			
Symmetry	+	+	+
Normalization	+	+	+
Transfer	+	+	+
Continuity	+	+	+
Replication invariance	+	+	+
Scale invariance	+	+	+
Transfer sensitivity	-	+	_
Subgroup consistency	+	+	_
Decomposability	+	+	_
Ease of interpretation M L H	M	L	H

***Notes*: '+': fulfilment of a given property; '–': violation of the property; and 'H', 'M' and 'L' stand,respectively, for a score of 'high', 'medium' and 'low'.**
Source : Dutta and Mishra (2005)

The three inequality indices considered above have their respective merits and demerits. The Squared Coefficient of Variation **(S)** fails transfer sensitivity, unlike Theil's **(T)**, but it scores a little better with respect to ease of interpretation. Theil's index satisfies virtually all the

desirable properties of an inequality index, except that getting an immediate intuitive handle on it—in terms of perceiving a transparent connection between the notions of inequality and entropy—is not the easiest of things (Sen 1973).Gini is not transfer sensitive; and it also violates subgroup consistency (and therefore decomposability— see, among others, Cowell 1984). Where it does score high is in terms of its intuitive appeal; it lends itself to alternative, attractively neat interpretations. Thus, given the indices and axioms they must satisfy, ultimately, the choice of an inequality measure must be guided by our larger intent and purpose. If, for instance, we are simply interested in ranking distributions, Gini, by virtue of the ease with which its meaning can be intuited, is a useful measure to employ. On the other hand, if we are interested in qualitative or quantitative assessments of the contributions of different subgroups to overall inequality, then passing the test of subgroup consistency becomes important (Using the Theil Index and Squared Coefficient of Variance) which are among the class of inequality indices called Generalized Entropy Measures. The most general indices used by researchers based on the purpose for which they are meant for are discussed below;

1) Quintile Share

One straightforward but informative way of considering inequality is to consider the shares of those at different parts of the distribution, for example by dividing the population, ranked by the living standard measure, into quintile groups. For the case of income by definition these income shares increase with the quintile group, and how much they do so provides an informal indication of inequality. In 1997 a Bolivia survey shows a very high degree of inequality, with the richest quintile earning more than thirty times the amount earned by the poorest 20% (David E. Sahn et al 2004).. The OECD Development Assistance Committee uses the consumption share of the lowest quintile as one of its core indicators for measuring development progress.

2) **Lorenz Curves**

The Lorenz curve and the Gini Coeffient are analytical tools used to measure the degree of inequality and concentration. The Lorenz curve is obtain by plotting the cumulative percentage of income (0 – 100) earned by the poorest x% of the population for different values of x on the vertical axis against the horizontal axis where we have the cumulative percentage of the population (households) under study, in which people have been ranked from the poorest to the richest. The equality line is a 45^0 diagonal line which passes through the origin on the X, Y axies the further away an observed Lorenz curve is from X, Y axies, the more unequal is the distribution of income. The Lorenz curve is drawn through a large number of points corresponding to different values of x (typically for quite a large range of values). The Lorenz curve inevitably has a general shape, it joins the lower left and upper right corners of the diagram; it has a positive slope which increases (or does not decrease) as the cumulative proportion of the population increases. The further it lies from the 45 degree line the greater the extent of inequality. The 45 degree line is what the Lorenz curve would look like if the distribution was completely equal(so that the poorest 20% of the population earned 20% of the income, the poorest two-fifths 40% of the income and so on).

3) **The Gini Coefficient**

This procedure is the most commonly used by researchers; it was developed by Corrado Gini (1912). It represents the entire contribution of income. The Gini Coefficient is given as the area between the equality line (45^0) and the observed Lorenz curve expressed as a proportion of the area of the isosceles right triangle under the same line of equality. The Coefficients varies between 0 (reflecting perfect equality or low concentration) and 1 (indicating perfect inequality or high concentration). The Gini Coefficient give a more precise and quantifiable measure of inequality and also provide a solid understanding of the direction of concentration distribution of

income among groups in terms of income inequality. A relatively low Gini Coefficient reflects low level of income inequality between the rich and the poor, while a relatively high Gini Coefficient reflects high level of inequality. While the Lorenz curve represents a discernible visual picture of inequality and does not give a precise measure, the extent of inequality can be measured by the Gini coefficient, which usually is defined as the area between the Lorenz curve and the 45 degree line, divided by the total area under the 45 degree line. This inequality index (calculated in practice based on a formula) takes values between zero (perfect equality) and a maximum value of one (where one person earns all the income). It is probably the most widely quoted index of inequality.

Thus, the Gini coefficient is expressed as:

$$\mathbf{G} = \frac{A}{A+B} \quad \text{---------- 9.0}$$

Where; G = Gini Coefficient
A = Area between the line of perfect equality and Lorenz curve
B = Area underneath the Lorenz curve.

This Standard Gini Coefficient index measures twice the surface between the Lorenz curve, which maps the cumulative income share on the vertical axis against the distribution of the population on the horizontal axis and the line of equal distribution.

Given the area between the line of perfect equality and the Lorenz curve as A, and the area underneath the Lorenz curve as B. The general form of Gini coefficient where incomes are ordered ast $Y_1 \leq Y_2 \leq Y_3 \leq - - -- \leq Y_n$, the Gini Coefficient in 9.0 is computed as:

$$I_{gini}(Y) = \sum_{i=1}^{n} a_i(Y)Y_i \quad \text{and} \quad a_i(Y) = \frac{2}{n^2 \mu}\left(i - \frac{n+1}{2}\right) \text{ ---------- 9.1}$$

Where;
n= the number of observation
μ = the mean of the distribution
Y =the income of ith household
I = the corresponding rank of total income

This measure has the advantage of comparing every individual or group with every other. For example , for income (Y_1, Y_2 ….. Y_n) in a population whose mean is μ. The Gini is especially sensitive to the middle of the distribution. The aim of the Gini is to measure variance in individual performance, although, observation can be grouped according to achievement of interest, e.g income levels, or total wealth based on common characteristics i.e gender, religion, ethnicity and region. In other words this measure can be used once the population is grouped (decomposition). However the formular would then change to Group Gini,[GGINI] in contrast to the individual Gini measure used in vertical inequality as seen in equation 9.1 formula. When the Gini is decomposed, the formula is:

$$\mathbf{I_{gini}\ (Y) = \frac{2Cov(Y_i,\ i)}{\mu}} \text{ ----------9.2}$$

The variables are as defined above equation 9.1, where;
Cov = Covariance,
the i subscript = any ith income source of interest of the group.

While Lorenz curves and Gini coefficients are most commonly applied to measures of consumption, income and asset ownership, they can equally be applied to other variables that are continuous in nature. For example a Lorenz curve for educational attainment in Nigeria could provide information on seven levels of educational attainment: illiterate, and partial and complete attainment at each of primary, secondary and tertiary level. Estimating the number of years corresponding to each variable is the basis for plotting the Lorenz curve and estimating the Gini coefficient of educational attainment. These indices are equally applicable to analysing inequality between individuals of households at a global level or across populations crossing national borders. The only additional challenge this presents is the need to express all values (income, consumption, assets or whatever) in meaningful common values.

4] Coefficient of Variation [Cov] : In This measure, the variance is divided by the mean [equation 13.0).This measure attaches equal weight to distribution at different income level in vertical analysis. The **COV** can be used in measuring horizontal inequality. This involves squaring the deviation from the mean, thus, giving more weight to the extremes, which gave it an advantage of providing a descriptive tool of analysis if adopted in the group inequality measures. The adopted group measure is specified as **GCOV** in the measures specified below, the measure can be unweighted or weighted by the size of the population in each group. The value has no specific bench-mark, the smaller the value, the less the variation vis visa

5) The Generalized Entropy (GE) Class Measures

This procedure is three in number among which we have the **Theil Index.** This class of measures extends the analysis that the ordinary Gini coefficient provides. The advantages of this procedure over Gini coefficient are two. First,they can be decomposed into 'within' and 'between' group inequality. The within group index would explain how inequality can change within locality (rural – urban), while the between–group index will reveal how household characteristics such as occupation, education, level of current income of household can explain inequality.

The different entropy classes of measures are sensitive to different parts of the distribution unlike the Gini coefficient, which is mainly sensitive to the changes in the middle part of the distribution. The value for the GE ranges from 0 – 2.

The members of the Generalized Entropy (GE) class measures have the general formulae of

$$\textbf{GE } (\alpha) = \frac{1}{\alpha^2 - \alpha}\left[\frac{1}{n}\sum_{i=1}^{n}\left(\frac{y_i}{y}\right)^{\alpha} - 1\right] \quad \text{---------- 10.0}$$

n = is the number of individuals in the sample
y_i = income of individual i, i ε (1, 2, ….n).
$y = (1/n)\sum y_i$, the arithmetic mean income.
α = weight given to distances between income at different part of the distribution (it takes any real value).

The Generalized Entropy (GE) class of measures is easily decomposed into components. Cowell (1995, as cited in Julie (1999)) shows that any measure of income inequality **I (y)** that satisfies all the axioms above is a member of the Generalized Entropy (GE) class of the inequality measures. The Theil Index [see the specified measures below] is sensitive to the lower end of the distribution and it can be decompose into Within Group[WG] and Between Group[BG]. Decomposition is a standard technique for examining the contribution to inequality of a particular characteristic and can be used to assess income recipient characteristics and income package influences. For example, it can be used to assess the contribution to overall inequality of inequality within and between different subgroups of the population, i.e. within and between workers in agriculture, civil service, private sector or industrial sector or urban and rural sectors (Bourguignon 1979; Cowell, 1980).

It can also be decomposed according to income sources (since total income is the sum of sources of incomes) in order to identify which component contributes most to overall inequality. Decomposition can also be used to analyze changes in income inequality over time. (Julie;1999). The Theil Index is similar to the Gini coefficient as they both compare population share with the share of resources, although, the Theil compares each group with the mean [like the GCOV] while the Gini compares each group with every other group. Thus, the Group Theil Index [GTHEIL in the summarised specified measures below] is another alternative apart from the group gini in measuring group inequality

The parameter α in the GE class represents the weight given to distances between incomes at different parts of the income distribution and can take any real value. For lower value of α, GE is more sensitive to changes in the lower tail of the distribution, and for higher value GE is more sensitive to changes that affect the upper tail. The commonest values of α used are 0, 1, and 2. Thus, a value of $\alpha = 0$ gives more weight to distances between income in the lower tail,

$\alpha = 1$, applies equal weights across the distribution while a value of $\alpha = 2$ gives proportionally more weight to distances in the upper tail (Litchfield, 1999). The GE measure with parameters 0 and 1 represents two of Theil's measures of inequality (Theil 1967, as cited in Litchfield, 1999).

With GE (0) = $\frac{1}{n}\sum_{i=1}^{n}\log\frac{y}{y_i}$ ----------10..1

GE (1) = $\frac{1}{n}\sum_{i=1}^{n}\frac{y_i}{y}\log\frac{y_i}{y}$ --------- ----------10.2

GE (2) = $\frac{1}{2ny^2}\sum_{i=1}^{n}(y_i - y)^2$ ----------10.3

Note: That in the above equations;

n = Sample size for a given population
yi = The variable of interest (e.g. income, assets or total wealth etc)
y = Mean of the variable
Log = Logarithm

6) The Theil Index

This inequality index is widely used in empirical research because it has been developed with additional desirable properties not necessarily satisfied by the Gini coefficient or by quintile shares. Although it does not have an obvious intuitive explanation, it is quite widely used in analysis because it has the desirable property of decomposability .Taking the example of income inequality in a perfectly equal society for every individual, their share of total income will be equal to their share of the population. The Theil Index measures inequality by the extent to which an actual society deviates from this, and is based on computing for everyone the ratio of their income share to their population share. If individual i has an income yi, and there are N people in this society with total income in the society as Y, the Theil Index is computed according to the following formula:

$$T = \sum_{i=1}^{n} \frac{Yi}{Y} - Log\left(\frac{Y_i}{Y/N}\right)$$ ---------- 11.0

Where; Y = total income of society or population
N = number of households or individuals
Yi = income of individual i or group of individuals i share in the total population

The term in brackets is the ratio of the income share to the population share for individual i. A zero value of the index indicates perfect equality, with higher values of the index indicating greater inequality. If the population is divided into several groups such that everyone belongs to one and only one group (for example by education level), the property of decomposability is that the overall inequality can be expressed as a sum of two terms capturing within and between group inequality. The former indicates how much inequality is due to variations between individuals in each of these groups. The latter quantifies how much inequality is due to differences in the average incomes of each group, this can be valuable in identifying correlates of inequality.

Another way to characterize inequality is to divide the population into groups according to different criteria (either by economic activity, ethnicity , religion or location), identifying the relative importance of inequality within these groups and inequality between the groups (the latter as an element of horizontal inequality) the Theil Index above is most widely used due to its decomposability by subgroups, meaning loosely that it is possible to identify the relative importance in the total of inequality within the groups (for each of the groups) and inequality between the groups. This procedure is exactly comparable to the analysis of variance in statistics, and can be used to identify the importance of the factor used to define the groups in accounting for overall inequality. For instance, results of such a decomposition of income inequality by ethnic group was done in South Africa in 1991, measured by the Theil index

shows that the contribution of inequality between the groups to overall inequality is substantial, though there is also significant inequality within groups as well.

As earlier mentioned, not all inequality indices can be decomposed in this way , these and various other decomposition procedures can represent useful starting points in understanding the correlates of inequality, but are only a first step. Regression-based decomposition methods can be used to try to account more fully for the factors behind inequality, and other more detailed analysis of survey data can support this. But ultimately these methods need to be complemented by consideration of sectoral trends, policy factors and so on. Decomposition methods ultimately identify correlations, which suggests but does not necessarily imply causality. A greater understanding of the factors behind inequality is required, notably of the processes by which inequality comes about and persists. This needs to be based on broader concepts of inequality, and is likely to require both qualitative and quantitative approaches.

7) The Atkinson Class

This class of inequality measure was proposed by Atkinson (1970) as cited in Julie (1999). It has a weighting parameter ε (which measures aversion to inequality $0 < \varepsilon < \infty$). Its theoretical properties are similar to those of the extended Gini Coefficient and the Generalized Entropy class measures. The Atkinson class range from 0 – 1, with zero representing no inequality.

The Atkinson class is defined as:

$$\mathbf{A}\,\varepsilon = 1 - \left[\frac{1}{n}\sum_{i=1}^{n}\left(\frac{y_i}{y}\right)^{1-\varepsilon}\right]^{\frac{1}{1-\varepsilon}} \qquad \text{----------12.0}$$

8) Utility Based Indices:

This procedure include Dalton's and Atkinson's index. The Dalton's measure compares actual aggregate utility with the total level of utility if income were equally divided. Atkinson

criticized this procedure because it changes according to the linear transformation of the utility function While Atkinson's equally distributed equivalent measure varies according to the value assumed for inequality aversion which is to be derived from a social welfare Function [SWF]. However, both measures are explicitly normative measures, Stewart et al [2005]

9] The Esteban / Ray Polarization Index [Er, Equation B4]: This procedure [ER]is similar to a Group Gini weighted by population but include an index **1- α w**here $1< \alpha >1.6$ this implies that the higher the weight attached to the share of group population in the total population, the higher the value. Esteban and Ray pointed out that the index is not a measure of group inequality but of society polarization, Stewart at el [2005]. The common value of α is 1.5 and the point of α is to increase the weight given to a large groups so that the index rises as the population is distributed among fewer and more equally sized groups. It is therefore possible for two population to have the same value of index. Apart from this, another disadvantage of this procedure is that it is more suitable for demographic polarization of the groups and the extent of inequality among them. Secondly, it violates the Pigou – Dalton condition because increase demographic polarization can offset a given income transfer from a richer to a poorer group, Stewart et al [2005].

10] The Zhang / Kanbur Polarization Index,[Zk , Equation B5] : This is the ratio between group and within group using the Theil to measure the BG and BW.

11] The Odd Ratio:

This measure calculates the odds of individuals in a particular group falling into a particular category such as rich or poor, and then expressed the group differences as the ratio of these odds. Thus, the procedure is designed to measure the differences between two groups. Similarly, simple ratio can be use to calculate the proportion of the poor to the total population in each group.

The mathematical formulae of the various techniques of inequality measures used for Vertical Inequality measures over the years are; the Gini Coefficient and Lorenz curve. The measures for measuring horizontal inequalities have only received attention in recent times with the work of Stewart, (2001, 2002, 2004, 2005 and 2007), Langer *et al.* (2006; 2007) Handley (2009) and Milo(2009). Horizontal Inequality is more complex than vertical, but the measures adopted for vertical can be used with groups as reference (see Group measures below). The specified vertical measures are same as presented in the discussion on various measurement, for clearification,

A. Vertical Inequality measures

A1 $$COV = \frac{1}{y}\left(\frac{1}{n-1}\sum_{1}^{n} y_i - y)^2\right)^{\frac{1}{2}}$$ ---------- 13.0

A2 $$GINI = \frac{1}{2n^2 y}\sum_{i}^{n}\sum_{j}^{n} y_i - y_j$$ ----------14.0

A3 $$THEIL = \frac{1}{n}\sum_{i}^{n}\frac{y_i}{y}\log\left(\frac{y_i}{y}\right)$$ ----------15.0

Where **y** is the sample mean, $\mathbf{y_i}$ is the variable of interest e.g income level of individual **i** and **n** is the sample size.

Thus, the measurement choice over any one of the above measures of Inequality depend on the purpose, but in many instances, for descriptive purpose like the attempt made in this study, the Gini coefficient, the Theil index, the Coefficient of Variation are mostly adopted. Though, the Gini Coefficient and the Lorenz curve are now seen as conventional with new measure like the Polarization index, but they have been used extensively in Vertical inequality analysis to evaluate income based conceptualization of inequality with a more holistic approach to extent of disparity between individuals or group of individuals in the society. Their

measurement however, have been confirmed to economic variables – income consumption and asset, while horizontal measurement is not confirmed to few economic variables but has been extended to other aspect of economic resources which include social, and political entitlement. The specified vertical measure can be used as group measures when rewritten can be use in Horizontal analysis.

B. Horizontal Inequality measures

B1a Unweighted $$GCOV = \frac{1}{y}\left(\frac{1}{R-1}\sum_{r}^{R}(y_r - y)^2\right)^{\frac{1}{2}}$$ ---------- 16.0

B1b Weighted $$GCOV = \frac{1}{y}\left(\sum_{r}^{R}P_r(y_r - y)^2\right)^{\frac{1}{2}}$$ ----------17.0

B2 $$GGINI = \frac{1}{2y}\sum_{R}^{R}\sum_{s}^{S}p_r p_s y_r - y_s$$ ----------18.0

B3 GTHEIL= $$\sum_{r}^{R}p_r \frac{y_r}{y}\log\left(\frac{y_r}{y}\right)$$ ----------19.0

B4 ER(k,α) = $$k\sum_{r}^{R}\sum_{s}^{S}p_r^{1+\alpha}p_s y_r - y_s$$ k = $$\frac{1}{y}, \alpha = 1.5$$ ----------20.0

B5 ZK = BG/WG, WG= $$\sum_{r}^{R}\frac{Y_r}{Y}\left[\frac{1}{n_r}\sum_{i}^{n_r}\frac{y_{ir}}{y_r}\log\left(\frac{y_{ir}}{y_r}\right)\right],$$ BG = THEIL – WG ----------21.0

In equation 15- 21.0 measures horizontal inequality with;

$y_r = \frac{1}{n_r}\sum_{i}^{n_r}y_{ir}$ = group r mean value,

p_r = group r population share,

y_{ir}, = the level of income of the i^{th} member of group r,(this could be any variable of interest e.g income, asset, total wealth access education, health e.t.c)

Y_r = the total level of income of group r,

Y = the total level of income in the sample

3.6 Standard Techniques and Measurement of Variables of Interest

Inequality is typically viewed as different people having different degrees of something, often considered in terms of income or consumption but equally applicable to other dimensions of living standards that show a continuous pattern of variation, such as the level of education or the degree of malnutrition. The data to measure these types of variables is typically available from household surveys, as always it is important to be aware of the strengths and weaknesses of the data, an issue which applies to all dimensions. Measurement issues concerned both economic and non economic dimensions of well-being as emphasized by Stewart (2001,2005). The economic dimension which is mostly associated to income include per capita income, consumption expenditure, wealth, asset, earnings e.t.c. while the non income could be an assessment of expenditure on health, education, social infrastructure, (access to health, education, electricity) and Job opportunity. All these allow comparisons across individuals or group of individuals and the differences have both political and policy implication.

There have been many attempts to measure inequality, some of the methods and variables used are illustrated below;

Table 36: Some Empirical Studies With Type of Data and Tools Used in Analysis

Author(s)	Study Focus	Data Set	Variable(s)	Methodology/ Tools
Ramus(2002)	The growth elasticity of poverty	Cross country Households survey data of per capita expenditure	Per capita Expenditure	Regression, Poverty headcount and Poverty Gap measure, Gini Coefficient,,
Odedokun et al (2001)	Determinants of income distribution and inequality and its effects on Growth	Cross sectional Data for 35 country	Consumption Expenditure	Regression, Gini Coefficient, Coefficient of Variation and Quintile analysis
Jed Friedman(2003)	The link between growth, inequality and poverty at Regional level	Panel of Cross – National data of households consumption Survey(Indonesia)	Income/ consumption expenditure	Regression (OLS), Poverty headcount and poverty gap indices and percentile share
Gary Fields(2000)	Wage inequality of workers	Panel Data	Wages/ money income	Gini Coefficient and Quintile analysis
Birdsall(2005)	Money income inequality in the phase of Globalization	Cross- Country	Money income and asset	Gini Coefficient and Quintile Share
James et al (2007)	Estimating the level and distribution of Global household wealth	38 countries	Household Wealth	Gini Coefficient, Quintile Share
Oyekale et al (2007)	Income inequality and its sources in Nigeria	Living Standard survey of households(NBS Data;2003)	Employment income, Grants, formal credit, total income, non-farm income	Decomposition based on Gini Coefficient
Ki et al.(2002)	Non Monetay approach to Inequality in Senegal	Household survey (Senegal)	Education,Health Services and household Asset	Gini Coefficient, Enthropy indices
Stewar et al, (2005)W	Why Hoizontal Inequalities matters: Some measuement implications	3 Cross- country Census Data survey	Income/ consumption, Non Income(health, Education)	Correlation Matrix, Gini coefficient, Coefficient of Variation and Theil index.

Source: compiled by the Author

3.7 Determinants of Horizontal Inequality

Empirical studies on Horizontal Inequality is still an emerging field with limited theoretical and empirical works especially for African countries (Okojie and Shimeles; 2006). Thus, the subject matter from Africa perspective , is limited due to unavailable households data on key variables to execute such studies. Most recent horizontal inequality work started emerging with the work of Stewart(2001, 2002, 2005,and 2007). Studies like those of Bleaney and Nishiyama(2004), Bhorat *et al*. (2004), Kimalu *et al*,(2004), Anderson and Mckay (2004), Mustapha (2005), Davies *et al*.(2006) , Langer and Ukiwo (2007) , Oyekale *et al* (2007) and Wan (2008). Most of these studies have pointed out the key factors that determine horizontal inequalities in most state. Anderson and Mckay (2004) found that political economic factors like land to labour ratio, mineral to land ratio contributed around 50% of African's high inequality. Similarly, Milanovic (2003) pointed out that African high inequality is quite high in countries with high level of ethnic diversity, undemocratic and poor. Oyekale *et al*.(2007) and Stewart *et al*.(2007) found out other key variables like Income sources(wages, asset, wealth, government welfare packages), ethnicity, religion, gender, Geographical location(regional, urban-rural location), access to health, education (at all levels), access to public services (portable water, electricity), access to labour market coupled with recent financial reforms (making credit more unequal) are attributed to high inequalities.

Oyekale *et al*. (2007) in a study of Nigeria, revealed that, the major sources of income inequalities are income from employment, agriculture, non farm bussiness, remittances/ grants, and asset. The study result on contribution of income sources to over all inequality shows that income from employment is inequality increasing, hence, increasing income from employment would not reduce income inequality in Nigeria. Results of the study show income from paid employment in urban centres in Nigeria accounted for the largest share of total income with

41.06% and contributed 48.12% to total income inequality. With concentration value of 1.1720, this revealed that this income source is inequality increasing, while income sources from agriculture, remittances/grant, Formal credit, formal borrowing and informal transfers have the potential for reducing urban income inequality. Similarly, the analysis of incomes in rural areas by the study revealed that employment income is also a major source of income inequality, though, contributing 25.82% to total income, it accounted for about 34.70% of the total income inequality, thus, this result according to the authors revealed that increasing employment incomes from employment increases income inequality since the rich among them in the rural areas benefit more. However, agricultural income contributed 47.10% of total income and accounted to about 36 .91% ,the result shows that increasing incomes from agriculture income source would reduce inequality in rural areas. Though, income from remittances/grant, assets, informal borrowing, and informal transfer contributed less to total income, but they could reduce income inequality.

Analysis of indicators of education, health, access to public services confirmed the existence of rural-urban inequality, gender disparity, and regional differences.

Bhorat *et al* (2004) in a study in south Africa revealed that access to health care services have shown rural-urban and regional differences, access to health in terms of distance to health care clinics in Guateg province (15 minutes) show 46% of households were within 15minutes ofa clinic than in Limpopo with 23% of the households being within 15minutes, ,while Kwazulu-Natal has 21% of the households are within 15minutes. More evidence from the same study also show even HIV/AIDS prevalence show racial variation, e.g 12.9% among Africans, 6.2% amongwhite, 6.1% among coloured and only 1.6% among the Indians. These differences reflect differential access to basic health care services (Bhorat *et al*.2004).

Kimalu *et al.* (2004) showed that there were urban- rural inequalities in access to portable water in kenya with over 50% of the urban population and less than 13% of the rural population having access to piped water. Similarly in Senegal, Ki *et al*. (2004) showed that 81.3% of urban households had access to portable water in contrast with only 32.2% of rural households. Access to piped water seems to be higher in Dakar, with about 90.8%.

In many African countries, evidence from empirical studies have shown that the nature and extent of inequality is determined by political, economic, social, and cultural factors, whether measured in monetary (income/consumption) or non – monetary (access to health, education) dimensions, and it appeared to be significantly higher among groups. Thus, as the number of groups in society increases, Group inequalities also increases and group inequalities stemmed from discrimination can affect happiness, efficiency and political stability (Stewart *et al*. 2005).

3.8 Surveys of Horizontal Inequality: Case Studies in Nigeria

There have been many attempts to measure poverty in Nigerian but no efforts have been made to measure horizontal inequalities despites various crises that resulted to loss of lives and properties in many states as an outcome of group discrimination in political, social or economic resources. Most of the existing empirical studies on Nigeria are those done by Centre for Research on Inequality, Human Security and Ethnicity(CRISE), Department of International Development, University of Oxford. Poverty and Public Policy Group from the Oversea Development Institute (ODI)London.

Among these studies, Handley et al. (2007) study on Poverty and Poverty reduction in Nigeria and Tanzania – Country case study found that Nigeria is ethnically and religiously diverse and that poor governance and conflict are key drivers of poverty. Handley (2007) pointed

out that conflicts in Nigeria are related to religion and ethnic differences with around 200 ethnic groups speaking over 500 indigenous languages and practicing two religions – Islam and Christianity (World Bank, 2007). In addition, Birdsall (2005) reported that Nigeria is highly an unequal society with the richest 10% owning over 40% of the nation's wealth while the poorest 10% owned only 1.6% . According to Birdsall (2005), the inequality in North – South divide is even more pronounced with the North disadvantaged by ecology and climate, poor infrastructure, weak integrated market and poor link to Global economy. The nature and extent of Inequality in Nigeria was further explored by Mustapha (2005), Langer and Ukoha (2007) and Stewart *et al (*2007). Langer and Ukoha (2007) in a study to see how people see their own identities and their perception of the extent of domination by state Institution, found that religion, ethnicity and gender are the most salient identities in Nigeria, and these have significant impact in public sphere in terms of chances of getting government jobs, government contracts and Housing, political appointment and getting educational opportunities e.t.c. From the results of the study, Perceived impact of ethnicity and religion is assumed to play a role in all the study locations where majority of the respondents attached relative importance to their ethno-regional, linguistic origin and religion background. Easterly and Lavine (1997) pointed out that ethnically diverse society suffer from ethnic conflict, and ethnic conflict can limit the ability of a region to invest in public goods, as a result, this in turn may impact on the ability of the poor to benefit from over all growth process especially if the poor households are facing social exclusion.

The work of Oyekale *et al* (2007) in Nigeria show that government transfer had a high Coefficient concentration in all the Geo-political zone that increases income inequality(North west= 1.3230; North east =1.0164; North central = 1.4422; South West =1.2225; South- South = 1.2745; and South East= 1.2568). Handley et al (2007) revealed that local factors like exclusion from political, social and economic institution is a part of a vicious cycle which may reduce the

ability of people to escape poverty and inequality. Regional differences as show by Oyekale et al (2007) can have a long time effect especially if these differences are encourage by the government spending. Woo(2005) examining the role of polarization on macroeconomic stability, reported that polarization between socio-economic groups may impact an evolution of fiscal instability especially when politicians disagreed on the composition of government funds that each could have an incentive to overexploit the common pool of resources, with a negative effect on the whole. Bandyopadhya (2004) also noted that if the way income is distributed and how this distribution changes across states is biased this may reflect socio- ethnic and political differences, and if this happens, it will contribute significantly to a **"twin-peak"** phenomenon where the lower income state or individual converge to form one pole while the other wealthier state or individual form another. Birdsall (2005) emphasized that when inequality co-exist with weak government and fragile social structure it could interact with Institutional deficiencies to create a vicious cycle of economic and political decline. Evidence from many of the study on horizontal inequalities have shown that there is existence of inequality in both economic and non- economic variables across states and , regions, and this may undermine government policies towards investment and growth.

3.9 Relationship between Vertical and Horizontal Inequality

Vertical and horizontal inequality are inter connected this is because tackling the position of a group is likely to improve the position of individual. Group are social construct bound by culture, economic and political differentials, treating a group differently by denial or privilege , its members become more self conscious about their common bonds and interest. Hence, whatever affect an individual in terms of welfare and happiness can also affect other members of the group. Thus, intral-group distribution is of interest as well as inter –group, being a group member lead to different treatment by other (via discrimination), in the case of positive

treatment, group privilege can enhance the importance of a group membership and constitute a significant aspect of their identity, hence, group achievement contributes directly to members well-being. While in the case of a negative treatment, a group may be deeply affected by relative impoverishment which encompasses many of the four dimensions – socio-economic, political and culture over and above the position of the individual Stewart *et al* (2005).

Horizontal inequalities are seen as components of Vertical inequalities this is because vertical inequality in any society is decomposed into two elements – between group inequality and within group inequality, where horizontal inequality forms a big component of vertical inequality, reducing vertical inequality may be difficult without reducing horizontal inequality (Stewart *et al* 2007). In a previous study by Birdsall and London (1997) pointed out that it will be difficult to achieve the poverty reduction goal without tackling vertical inequality, but where horizontal inequalities are strong, it may be difficult to achieve poverty reduction without explicitly addressing group inequality. As noted by Stewart *et al*(2005), that the correlation between Horizontal inequality and vertical inequality is less clear, but the reason for group inequality is that it may not be possible to improve the position of individual without tackling the position of a group, thus, reducing horizontal inequality may be an instrument for the achievement of other objectives.

3.10 Implications of Literature Review for the Study

From the theoretical literature, analysts have reached no consensus on the nature of the relationships between growth and inequality, nor does the empirical evidence suggest that inequality has any consistent effects on economy growth. However, the observation made from the empirical evidence across countries suggests that the initial country conditions are significant in specifying the type of relationships that could exist between growth – inequality – poverty. It has been suggested that growth can have a reducing impact on poverty if the changes in

distribution resulting from growth benefit accrue to the poor more than the rich, this would reduce poverty. But if the change in distribution has less benefit accruing to the poor, this will increase poverty. Thus, the key point in the literature emphasized that a development strategy to reduce poverty lies in the interaction between distribution and growth, but once there is existence of inequalities in a given country at a given time, achieving this objective will be difficult. Existing studies have shown that the elasticity of growth reducing poverty is low and not constant, hence concentrating on growth without targeting inequality is not a good policy option.

Inequality has been defined as disparities in economic and non economic resources which can be evaluated vertically or horizontally. The former focuses on income/ consumption disparity among individual households, while the later focus on disparities among group of individuals characterized by common bound e.g culture, age, gender, region, religion e.tc. The concept of horizontal inequality has been used in recent literature as a useful analytical tool to set differences among group of population in their access to asset, wealth, earnings, basic services and job opportunities. Horizontal analysis traced group discrimination along the boundaries of ethnicity religion, gender e.t.c so that economic and social vulnerability and exclusion of marginalized groups can be accounted for, unlike the simple income distribution analysis captured in vertical dimension. Knowledge about the nature of horizontal inequalities and their major sources is essential background for designing policies to reduce inequality. A society where there are serious drivers of horizontal inequality can generate inefficiency and instability especially if the society is conflict pro.

The standard techniques for measuring both vertical and horizontal inequalities has been discussed, these include conventional measures like the Gini coefficient, the Lorenz curve, Theil index, Coefficient of Variation e.tc. Though, measures for horizontal inequality have only

received attention recently, Stewart (2005) suggested the vertical measures can be re-specified to capture group measurement specification (see equation16-21). The choice of measurement to adopt depend on the kind of analysis one choose to do, however, variables of interest in most vertical dimension studies were specifically of incomes, while in horizontal, they are both on income and non-income (wealth, asset, access to health, education, sanitation, access to employment, access to land e.t.c).

Given the direction of discussion and arguments in the literature reviewed, a foundamental unit of consideration in this work is to assess inequality in both vertical and horizontal domain within income and non income dimension of well-being e.g earnings, wealth, asset, access to education, health, infrastructures, employment and other basic needs . In this study, we choose to follow Stewart (2005 and 2007) to adopt the vertical measures and group specified horizontal measures for analysis while acknowledging other tools to complement these tools.

CHAPTER FOUR

4.0 RESEARCH METHODOLOGY

4.1 Conceptual and Theoretical Framework

4.1.1 The Conceptual

In most studies, measurement of inequality is based primarily on two main classes of resources: economic and non economic resources. It is also conceptualized to have two dimension; Vertical and horizontal. The vertical dimension requires focus on the aggregate measure of inequality--that is income levels (asset, wages, wealth) across individuals. The horizontal dimension requires focus on the welfare of individuals within a group (characterized by gender, ethnicity, religion, location, age e.t.c).This perspective was defined as a multi-dimensional just like poverty to include the basic needs approach, the capability approach, the human development approach and many more. The multi-dimension definition compliment the income based concept of inequality which involved both economic and non-economic variables such as income/ expenditure, asset, wealth, availability of opportunity, access to employment, basic services e.t.c. This is because while people are concerned about their income, expenditure or assets, they are also concerned with their employment, health inequality, education inequality, housing inequality and so on, these are other sharp dimension of inequalities that could aid policy makers in Planning. Hence the much more extensive multi-dimensional space is more preferred. The possibility exist that the two dimensions of inequalities are inter-related, thus, policies aimed at controlling vertical may not be effective without controlling horizontal inequality .The multi-dimensional measure

may convey more information that would enhance achievement of vertical if they exist side by side.

In this study, the conceptualization of inequality is in terms of disparities across individuals and group of individuals in all aspect of economic and non economic resources that affect well-being .This concept is multi- dimensional, it is not only focusing on income or consumption but equally applicable to other dimension of living standard that show a continuous pattern of variation in socio-economic deprivations and opportunities, the availability and quality of public goods e.g education and health e.t.c. The reason for this choice is to explore the nature and extent of inequality among and between groups and how this impact on their well-being. This concept would ensure the use of the vertical measure to analyze individuals irrespective of group affiliation. The horizontal aspect characterized by gender, ethnicity, religion and location would provide more information on how the individual fare within groups.

The two dimensions of inequality are significant in Kaduna state in the sense that it is a multi-diverse society with a mixture of class, ethnic elements and religion affinities. These marked affinities play a role in generating conditions for inequalities in political, social and economic resources. In addition, it is significant to measure the pattern and extent of horizontal inequality so as to generate policy implication particularly in a post- conflict state like Kaduna where horizontal inequalities are large across dimensions and across salient group identities. The knowledge may generate public policies that would reintegrate combatants, reconstruct basic infrastructure and address issues like unemployment, poverty and other causes of social unrest and conflict.

4.1.2 Theoretical Framework

In the 1990s, a resurgence of work on inequality reconfirmed the classical view that distribution is not only a final outcome but also a determinant of economic growth (Birdsal at al, 1995). Evidence predominantly suggest that inequality is bad for growth - such that lower inequality can create faster growth, and a country on high growth path can experience slow growth and slow poverty reduction if inequality is high. The World Bank Development report of 2006, stressed that the adverse effects of an unequal opportunities are damaging for development because economic, political and social inequalities often reproduce themselves across generations _ a phenomenon known as the "inequality Trap". This statement highlight that reducing inequality in income and even in non-income is important not only for making progress towards the income – poverty MDGs target, but for promoting a level playing field in which all members of society have similar chances to become socially active, politically influential, and economically productive.

The Point of entry in this study is to establish that there is an existence of vertical and horizontal inequalities in Kaduna State and the channels through which these have been established are the prevailing trends in growth and poverty. The nature of this relationship showed growth has been positive but the trend in poverty incidence is not decreasing, this means that the distributional benefit as a result of growth is not accruing more to the poor. Hence, there is unequal distribution of resources and this can generate discontent among deprived individuals or groups.

Thus, the theoretical framework in this study focus on horizontal key elements of gender, religion, ethnicity, and location; urban / rural (see figure 12 below) as major determinants of these inequalities. Evidence provided by Gboyega e*t al*. (2004) show a number of underlying

proximate forces engendering poverty and inequality in Nigeria, these include the demographic characteristics of the population in terms of ethno-religion, life expectancy, access to education, electricity, water and poverty. The authors also pointed out that the political and institutional circumstances have a strong political, economic and social impact on horizontal inequality.

Similarly, recent work by Okojie *et al* (2006) point to highly skewed wealth distribution, extremely large earning inequality, and weak access to basic services as other factors that have aided the extent and nature of inequality in Nigeria. Within the context of the reviewed literature on the determinants of inequality, money income in terms of wages and salaries, assets, wealth, are seen as major factors (see Bhorat;2009, Birdsall; 2005, Oyakele et al.2007) while others like Stewart *et al.* (2002, 2005, 2007), linked it to gender, religion, region and ethnicity. Each of these as stressed by the authors in whatever dimension has significant impact on economic stability, growth and for poverty reduction in any country and the impact either direct or indirect has socio- economic consequences which could constrain individuals or group of individuals access to some basic opportunities in life. The extent that we may be concerned with these impacts may differ across societies and groups, and the purpose for assessment. For example, Queral et al (2005) suggested that horizontal inequality is one component of growth lowering impact than vertical inequality especially in ethnic diverse society. Others like Gurr;1993, and Østby; 2003, have provided more evidence that group inequality (horizontal) is associated with conflict.

With the prevailing situations, the theoretical framework looked at religion, ethnicity and gender as the most salient identities in group discrimination in a heterogeneous state like Kaduna. The nature and extent of horizontal inequality in Kaduna state is group identification in terms of **ethno-religious divide, majority-minority divide, indigenes-settlers divide, and**

North-South divide. These categorizations have served as main drivers and perpetuators of social tension and violence conflicts witnessed by the state over time.

The composition of Kaduna North and Kaduna South is ethnically heterogeneous ,the largest ethnic group are the Hausa/ Fulani predominantly Muslims and are mostly concentrated in the Northern part of the state, while the second largest ethnic group is Southern Kadunas (indigenes), followed by the Ibos and Yorubas, these are minority groups mostly found in the southern part of the state and are predominantly Christians, though, among these groups, the Southern Kaduna indigenes formed the majority. The fragmented settlement divide is a negative impact which resulted from the various ethno-religion conflicts witnessed by the state. It gave rise to reallocation of people to areas where their religion affiliation is predominance thus, providing sense of security.

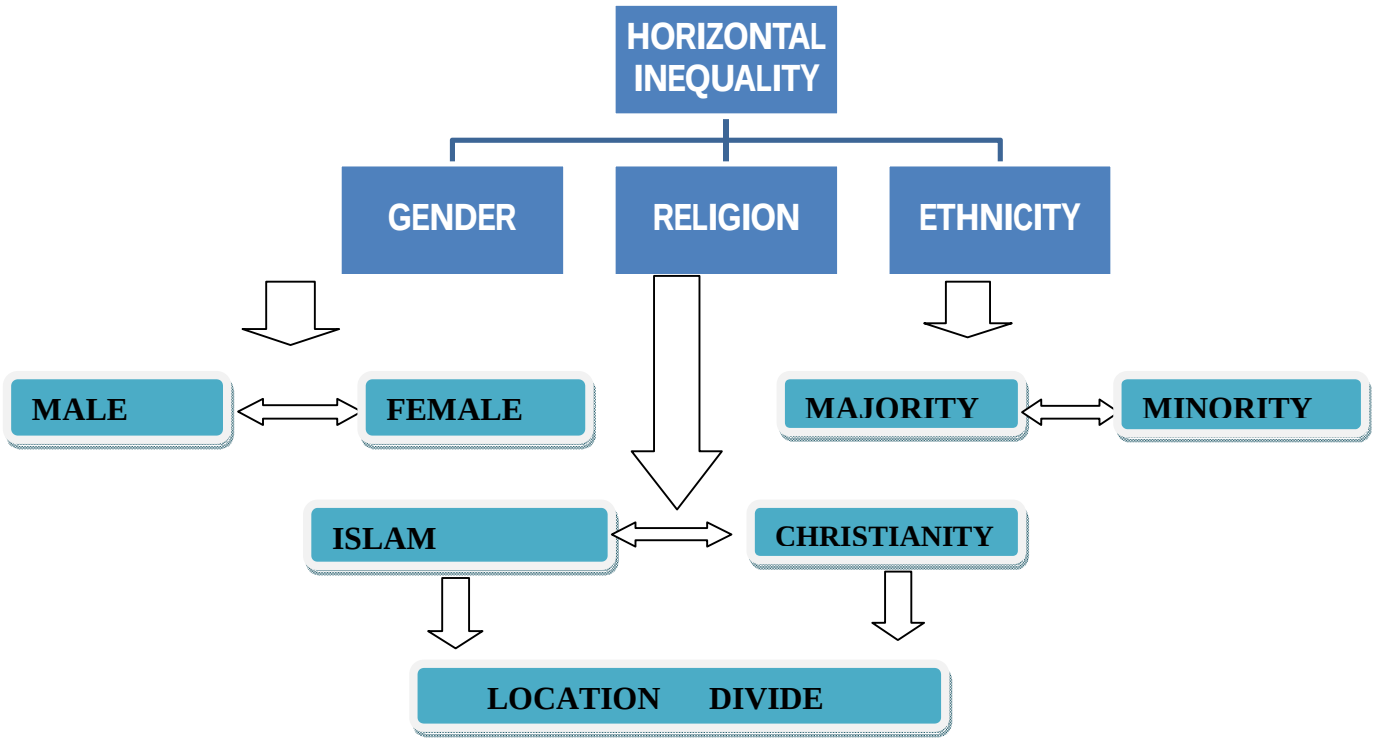


Fig 12: The Theoretical Framework; the Main Points of Divides in Nigeria and Kaduna State

In the above diagram (fig.12), the four dimensions of divides are significant factors in group formation, and group perception of how others are favoured or discriminated against. Hence, group ethno- religion demography and geography are perceived factors that laid down group discrimination in socio-economic and political games that generate social tension and horizontal conflicts in in Kaduna state.

4.2 EMPIRICAL FRAMEWORK OF THE STUDY

4.2.1 Measures of Inequality: Tools Adopted

This study used the three descriptive measures (**Gini Index, Theil Index, and Coefficient of Variation**), these three are most preferred by many economists that have worked in this area of research (Majumdar and Subramanian ;2001, and Stewart; 2007). These measures are best in describing the extent of between group inequality and testing for impact of horizontal inequality on outcomes- e.g growth and conflict . The **Gini Coefficient** of income distribution represents the entire contribution of income source to inequality, while **Theil Index a**s a member of the the Generalized Entropy (GE) class of measures, adopted from the work of David E Sahn and David C. Stifel (2004), Erik Thorbecke and Chututong Charamilind (2002), Stewart et al (2005) , sheds light on how the various income sources and population sub-groups contribute to income inequality. It can be use to examine the 'within' versus 'between' group inequality. Decomposition of the Theil index by income sources was employed in the study to analyze income inequalities from different income sources so that we may be able to identify which income source is inequality increasing or decreasing. This procedure has been adopted by Oyekale et al (2007) as factor decomposition approach to income inequality in Nigeria and the result were remarkable. The third measure is the **Coefficient of Variation [COV] ,** both the weighted and the un-weighted procedure were employed as specified earlier. The Coefficient of

variation is a descriptive measure of dispersion, the smaller the value, the less the dispersion and the greater the value, the wider the dispersion. This measurement procedure gave us a good descriptive information in explaining the extent of variability of variables of interest. The summary specification of the sets of measures adopted are specified :

A. Vertical Inequality

A1 $$COV = \frac{1}{y}\left(\frac{1}{n-1}\sum_{1}^{n} y_i - y)^2\right)^{\frac{1}{2}}$$ ---------- 23.0

A2 $$GINI = \frac{1}{2n^2 y}\sum_{i}^{n}\sum_{j}^{n} y_i - y_j$$ ----------24.0

A3 $$THEIL = \frac{1}{n}\sum_{i}^{n}\frac{y_i}{y}\log\left(\frac{y_i}{y}\right)$$ ----------25.0

Where **y** is the sample mean, $\mathbf{y_i}$ is the level of income of individual **i** and **n** is the sample size.

B. Horizontal Inequality

B1a Unweighted $$GCOV = \frac{1}{y}\left(\frac{1}{R-1}\sum_{r}^{R}(y_r - y)^2\right)^{\frac{1}{2}}$$ ----------26.0

B1b Weighted $$GCOV = \frac{1}{y}\left(\sum_{r}^{R} P_r(y_r - y)^2\right)^{\frac{1}{2}}$$ ---------- 27.0

B2 $$GGINI = \frac{1}{2y}\sum_{R}^{R}\sum_{s}^{S} p_r p_s y_r - y_s$$ ----------28.0

B3 GTHEIL= $$\sum_{r}^{R} p_r \frac{y_r}{y}\log\left(\frac{y_r}{y}\right)$$ ----------29.0

Where $\mathbf{y_r} = \mathbf{1/n_r}\sum_{i}^{nr} \boldsymbol{y\,ir}$ = group **r** mean value, **Pr** = group **r** population share, $\mathbf{y_{ir}}$ = the level of income of the I[th] member of group **r,** $\mathbf{y_r}$ = total income level of group **r,** **y** = level of income in the sample

Decomposing equation 25 and 29 would give equation 30.0, this was used to show percentage contribution of a given income source to total inequality. Since total income is usually made up of more than one source, and it will be useful to express a given income source and evaluate the extent of its inequality and its dependence on a given factor source.

$$\mathbf{I} = \sum_f S_f \quad \text{---------- 30 .0}$$

Where $S_f = \frac{\mu_f}{\mu}$ = **f**th factor income share of overall inequality or absolute contribution of factor **f** to overall inequality,

I = the relative concentration coefficient of the fth source in overall inequality

From expression ---factor income source **f** provides a dis-equalizing effect if $\mathbf{S_f > 1}$, and an equalizing effect if $\mathbf{S_f < 1}$. Thus, the value of $\mathbf{S_f}$ depends on income share from source **f,** It should be noted however, that a large value of S_f suggests that factor **f** is an important source of total inequality (if $\sum_f S_f$ **= 1 or greater than 1)**

The above measure was also adopted to examine the nature and extent of inequality in the chosen Local Government Areas – Giwa, Kaduna North and Kaduna South, the decomposition by population sub – group of 'within' region and income source contributions to inequality within the location were examined.

4.2.2 Other Tools Of Analysis

For the purpose of in-depth analysis and for the achievement of some other objectives of the study, percentiles and quintiles analysis were done to compliment result from the measures of inequality. The following poverty measures which were derived from the class of poverty indices as adopted by Luc Christiansen al et (2002), e. g poverty line, Headcount ratio (incidence of poverty/ poverty gap), severity index, and the Sen index were also used. These measures aid the classification of the various groups (the poor, the extremely poor and the rich that were used for analysis.)

a) Poverty Line Determination: Income Poverty

In order to achieve objective three, the study made used of a common relative poverty line for all the sampled households in the case study area. The poverty line was used to determine the magnitude, intensity and severity of poverty level among the households. Given the absence of an official poverty line in Nigeria, the study adopted the established World Bank and the Federal Office of Statistics Poverty measure for statistical and analytical purpose. A two- third mean per capita households expenditure was used for a relative poverty line ;

$$\left(\tfrac{2}{3} \times \sum \boldsymbol{Y/N} \right). \text{---------- ----------} 31.0$$

Where ∑Y = Total income received as a unit of a population
N = Size (number) of households.
$\sum \boldsymbol{Y/N}$ = Mean income of unit of the population

Establishing the poverty line helped set income levels of the households to generate other poverty indices, a general formula for poverty measures used was expressed as ;

$$P\,\boldsymbol{\alpha} = \frac{1}{n} \quad \sum_{i=1}^{q} \left(\frac{z - y_i}{z} \right)^{\alpha} \qquad \boldsymbol{\alpha \geq 0} \text{ ----------} \mathbf{32.0}$$

Where n = the total population
q = the number of poor people
y = the income of individual i
z = the poverty line
α = poverty aversion parameter (the larger is α, the greater the weight placed on the very poor

b) Head-count measure (incidence of poverty); this measures the proportion of the population that are poor, it is specified as a fraction of the income-receiving units which are below the poverty line in relation to the entire population e.g

$$\mathbf{Po} = \frac{N_q}{n} \quad \text{----------} \mathbf{33.0}$$

Where **Nq = the number of poor**
n = the total population

for clearer understanding, the head-count can be rewrite as a specified part of the general poverty measure ;

Po = $\frac{1}{n} \sum I(y_i < z)$ ----------33.1

Here , l(.) is an indication function that takes a value of one if the expression in the bracket is true or zero otherwise. Thus, if income / expenditure (y_i) is less than the poverty line (z), than I (.) = 1 and a household is counted as being poor.

c) Poverty Severity Index squared poverty gap) : the formula for this measure is given as:

P2 = $\frac{1}{n} \sum_{i=1}^{n} \left(\frac{G_i}{z} \right)^2$ **----------34.0**

Where Gi = (z – y) . l (y_i < z) = poverty gap(z) less actual income (y_i) for poor individuals.

4.3 Sources of Data

The study made used of both primary and secondary sources of data. The primary data were collected through survey, using questionnaire and interview methods. The survey was conducted across different income groups, Occupational groups, and sectoral ---- such as, government employees (state, local and federal), self employed, financial sector (Bankers, Brokers, e.t.c.), manufacturing, (small, medium and large scale), Rural / Urban etc.

The secondary data were collected from journals, magazines, C.B.N. Statistical Bulletin, C.B.N. publications, publications from the National Bureau of Statistics (NBS) , Human Development Reports Nigeria , and other related literature. These data were used to compliment the primary

sources in order to facilitate quantitative, qualitative and descriptive analysis of the subject matter.

4.4 The Study Area

Kaduna state lies between latitude 090 02' N 110 32' N and between longitudes 960 15'E and 080 60' E 060, with land mass of 45,567 square kilometers . It was ranked 3rd position with estimated population of 6,066,562 in 2006 census. Population by gender showed males as 3,112,028 and females as 2,954,534 estimatelly. The state has about 23 Local Government Areas namely; **Birni-Gwari, Chikun, Giwa, Igabi, Ikara, Jaba, Jema'a, Kachia, Kaduna South, Kaduna North, Kagarko, Kajuru, Kaura, Kauru, Kubau, Kudan Lere, Makarfi, Sabon Gari, Sanga, Soba, Zangon Kataf and Zaria (**See fig 13 below)**.**

Kaduna state is mostly populated by **Hausa, Gbagyi, Kataf and Bajjuu** ethnic communities. Other groups include **Fulani, Atyap (Kataf), Jaba, Koro, Kaninkon, Chawai, Attakar, Gure, Ikulu, Kurama, Kagoma, Ninzam and Kahugu.** The total number of emirates is 3, with 32 Chiefdoms and 345 districts.

The selected case study locations used for the survey are Giwa, Kaduna North and Kaduna South LGAs respectively (see map for the locations). The population size of Giwa with land size of 2,146 km^2 was estimated as 286,427, among which we have 144,218 males and 142,209 females. Kaduna south (61 km^2) has 402,390 number of population with about 210,486 as males and 191,904 as males. Kaduna North (75km^2) has a total population of 357,694 with about 186,263 males and 171,431 females (2006 census). The choice of these three Local Government Areas is based on their ethnic and religion groups concentration. In addition, Kaduna North and Kaduna South are post conflict areas in which a study like this would help address important causes of conflict.

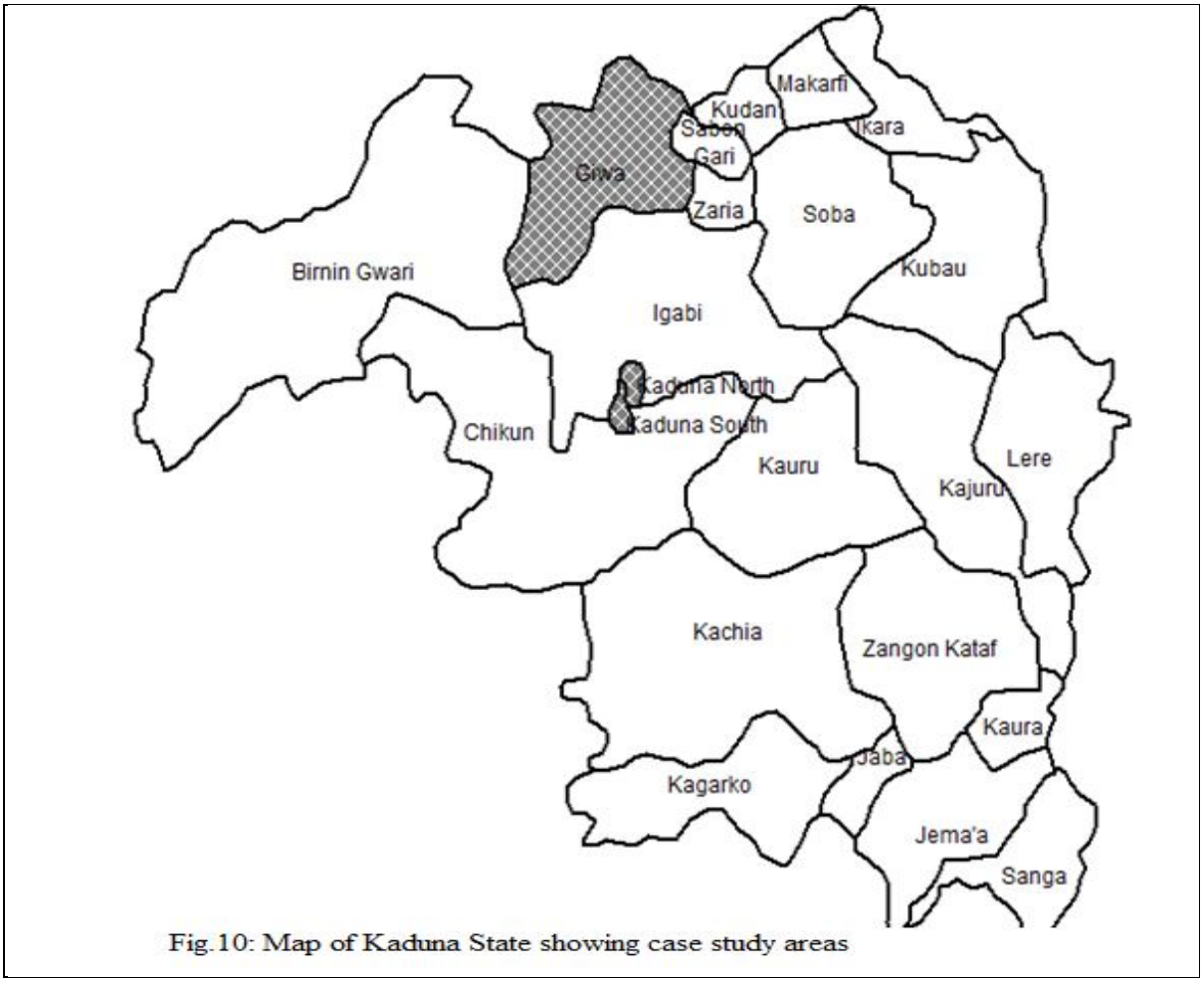


Fig.10: Map of Kaduna State showing case study areas

The Kaduna state has witnessed many political violence since the recent democratic era (1999 – date) because of the ethnic and religion diversity. Kaduna state replicates Nigerian's multi – cultural, multi – ethnic and multi – religious diversities at state levels. The state serves as a good representation of the economy of Nigeria at large since it has experienced widespread conflicts which were mostly rooted in poverty, inequality in addition to the massive rate of unemployment instanced by economic reforms embarked upon by the federal government to tackle persistent economic crisis. These factors have collectively heightened social tension and make people more pliable for manipulation by a few individuals.

The state population structure shows that majority of the citizenry live more in urban, and semi urban towns like Zaria, Kafanchan, Kagoro, Zonkwa, Birnin Gwari, Makarfi, and Zangon Kataf. 22% of the population are infant aged between 0-5 years and children aged 6-11 years constitutes 18%, the age distributions of the state suggests that only 10% of males and 8% of females live up to their 44th birthdays and only 1% of the total population scales to 75 years. These figures suggest women, infants and children as most vulnerable group in the state (UNICEF 2003, National Planning Commission 2005) .

Table 37: Distribution of Population in Kaduna State by Local Government Council, 2006 Census

S/N	Local Government Area	Total population	Males	Females
1	Birni-Gwari	252363	128330	124033
2	Giwa	286427	144218	142209
3	Sabon-Gari	286871	149004	137867
4	Kudan	138992	70951	68041
5	Makarfi	146259	74601	71658
6	Ikara	193926	96886	97060
7	Kubau	282045	142642	139403
8	Soba	293270	148605	144665
9	Zaria	408198	214057	194141
10	Igabi	430229	219269	210960
11	Kaduna North	357694	186263	171431
12	Kaduna South	402390	210486	191904
13	Chikun	368250	186874	181376
14	Kajuru	110868	55712	55156
15	Kauru	170008	86397	83611
16	Lere	331161	167392	163769
17	Zango-Kataf	316370	160646	155724
18	Kachia	244274	124655	119619
19	Kagarko	240943	127457	113486
20	Jaba	155377	80283	75094
21	Jema'a	278735	145667	133068
22	Kaura	222579	115369	107210
23	Sanga	149333	76284	73049
	Total	**6,066562**	**3,112048**	**2,954534**

Source: National Population Commission, Abuja (2007)

4.5 Research Design

4.5.1 Sampling Technique and Sample size

The sampling technique was a three Multi-stage system in which clusters were identified in five wards in each Local Government Area. The first stage involved the selection of 60 clusters housing units from 15wards in the three local government areas (called enumeration areas, for the administration of questionnaires). Each identified cluster was then stratified based on common characteristics of vertical and horizontal elements. The reason for this, is because the key target of the research is towards gender, ethnicity, location (urban / rural) and income levels. This method of selection ensured that the data on each of the key elements were easily collected. The stratified sampling technique aided in the identification of clusters on occupational groups, income groups e.t.c in the selected LGAs. The second stage envolved a random selection of 20 housing units from the selected enumeration areas in each of the local government area. Each one housing unit was made up of 20 number of households. Thus, the number of Households from the 20housing units in one LGA were 400, given a total of 1,200 from the 60. This procedure was used so as to cover large population. The third stage envolved a random selection of 10 households from each of the 20 housing units in each LGA, thus given us a total of 200 households. The total sum from the three Local Government Areas add up to 600 households. For example, 20 housing unit clusters in 5wards were identified in Kaduna North, and in each 1unit, 10 questionnaires were administered to 10 respondents, this summed up to 200 respondents interviewed.This procedure of selection and administration of questionnaires were applied to the other two local government areas to get the total number of 600 questionnaires from 60 clustered housing units in 15 wards.

4.5.2 The Research Instrument

The major instrument used in the collection of data is the questionnaire. The questionnaire was stuctured to collect information on both monetary and non-monetary aspect of economic well-being as a basis for analysing results and testing hypotheses. It contained five sections (A- E), most of the questions were open-ended. The questions were structured to answer demographic information about the respondents, nutritional status, households budget, environment and the last section was on access to health and education(see appendix 6)

4.5.3 Tools of Analysis

The study made use of both descriptive and qualitative mode of analysis. The qualitative analysis involved the use of inequality measures of both vertical and horizontal inequalities (see specification in equation 11 and 12). The set of measures formally devised to measure vertical inequality were adopted for the group (horizontal inequality) analysis. The main measures adopted are the Gini Coefficient, the Coefficient of variation, and the Theil Index**.** The choice for the adoption of the sets of measurement followed from the work of Stewart et al 2005. However, there are other measures, but these three choice helped achieve both the descriptive and impact outcomes objectives of the study. Other tools like the quintiles and deciles were used to analyze the nature and extent of income and non income inequalities; income / expenditure inequality, assets inequality, education inequalities and inequalities in health e.t.c. s with specific consideration on the four key elements (gender, ethnicity, religion and location).

4.6 Variables Considered in Measurement and Analysis

Income Inequality : Three types of incomes were identified in this study, these are the income of individuals from wages / salary per annum, assets per annum, (this takes into account shares

value, dividends, land / building value e.t.c) and total income (this third form, takes wages/ salary of individual per annum plus remittance from other members of the household). The measures took the prevailing estimated money values of Households as at the time of the survey. These variables were analyzed to capture the vertical and horizontal dimensions of inequality across the key elements of gender, religion, ethnicity and location. Categorizing the income into the three different sources provided more descriptive and evaluative information on how each source contributes to inequality.

Non – Income: The variables considered in this aspect are household accessibilities to education, health care, infrastructures and social amenities. These variables helped in providing more information on whether there is equal accessibility of these variables in the study area. The tools of analysis were descriptive in nature e.g the use of tables, frequencies, pie charts, and bar charts. The reason for adopting different tools of analysis here is because most of the responses on the variables under consideration might not be quantifiable.

4.7 Hypothesis

The hypotheses to be tested are in three categories;

Hypothesis (1) : Vertical inequality is caused by disparities in earnings income, asset and total income sources.

Hypothesis (2) : Horizontal inequality is caused by gender, ethnic, religion and location disparity in earnings, asset, Total income, access to health, education, and job opportunities.

Hypothesis (3) : There is an existence of vertical and horizontal inequality in income and non-income resources in Kaduna state and that the vertical and horizontal inequalities are independent

CHAPTER 5
RESULTS AND DISCUSSION

5.0 Introduction

The presentation and discussion of the collected data is divided into two sections: section one consists of the descriptive statistical of socio–economic characteristics of the respondents, the second section contains the presentation and discussion of the results on inequality measures adopted for both vertical and horizontal income and non–income, and established poverty line determination. The data used for the study analysis were collected in a survey conducted in 2008 among 600 households, the response rate was 100% with all the 600 administered questionnaires returned. However, some problems were encountered during the survey, given the nature of the variables of interest; - income from wages and salaries, assets and wealth, many of the households do not keep records of their exact estimate especially of asset and wealth. The major source of incomes were earnings(wages and salaries) in the case study area and the estimates given by the respondents were post- tax estimates. In addition, many of the respondents were not able to provide accurate information on income from remittances and dividends. Hence, the estimated levels of income could have a significant impact on estimated values of our measures of inequality.

5.1 Socio–Economic Characteristics of the Respondents

Result of the descriptive analysis on key socio-economic variables was presented in two part; demography characteristics in terms of gender, age, job type, religion, educational level, and ethnicity. The second part; economic characteristics which include analysis of patterns of income sources, income levels, access to health care e.tc. These were presented and discussed below.

5.1.1 Demographic Characteristics of Respondents

On religion, about 51.0% of the respondents were Christians, 46.3% were Muslims and 0.8% practiced traditional religions, while 2.3% did not indicate their religious beliefs. Majority of the respondents (65.7%) were male (see Table 38 a, b & c) and the percentage of male-headed households is higher (83.3%) than female-headed households (15.5%). Result on marital status

Table 38 :Distribution of Respondents according to Gender, Gender of head of household and Marital Status

A)	Gender of Head of household By Location						Total	
LGA/Location	No Response Freq	%	Male Freq.	%	Female Freq.	%	Freq.	%
Giwa	2	(1.0)	170	(85.0)	28	(14.0)	200	(100.0)
Kaduna North	2	(1.0)	165	(82.5)	33	(16.5)	200	(100.0)
Kaduna South	3	(1.5)	165	(82.5)	32	(16.0)	200	(100.0)
Total	7	(1.2)	500	(83.3)	93	(15.5)	600	(100.0)

B)	Gender by Location						Total	
LGA/Location	No Response Freq	%	Male Freq.	%	Female Freq.	%	Freq.	%
Giwa	1	(.5)	137	(68.5)	62	(31.0)	200	(100.0)
Kaduna North	0	(0)	131	(65.5)	69	(34.5)	200	(100.0)
Kaduna South	0	(0)	126	(63.0)	74	(37.0)	200	(100.0)
Total	1	(.2)	394	(65.7)	205	(34.2)	600	(100.0)

C)		Marital Status by Location								Total	
LGA/Location	No res.	Married Freq	%	Divoiced Freq.	%	Widowed Freq.	%	Single	%	Freq.	%
Giwa	1 (0.2)	126	(21.0)	14	(2.3)	13	(2.2)	46	(7.7)	200	(100.0)
Kaduna North	0	118	(19.7)	6	(1.0)	13	(2.2)	63	(10.5)	200	(100.0)
Kaduna South	0	124	(20.7)	8	(1.3)	26	(4.3)	42	(7.0)	200	(100.0)
Total	1 (0.2)	368	(61.3)	28	(4.7)	52	(8.7)	151	(25.2)	600	(100.0)

Showed 61.3% as married, 25.2% as single while 8.7 and 4.7 as widowed and divoiced. Percentage within location showed high married respondents in all the three locations. The ethnic composition showed Hausa are the largest in all the locations (18.2%, 13% and 4.3% in Giwa, Kaduna North and Kaduna South respectively) ,followed by Southern Kadunas, other northerners and Yoruba(see table 39 below)

Table 39 : Distribution of respondents according to Tribe by Location

Location	**Tribes**							
	No response	**Hausa/Fulani**	**Yoruba**	**Igbo**	**Southern Kaduna**	**Other North**	**Other South**	**Total**
Giwa	6 (1.0)	109 (18.2)	22 (3.7)	14 (2.3)	23 (3.8)	24 (4.0)	2 (0.3)	200 (33.3)
Kaduna North	6 (1.0)	78 (13.0)	25 (4.2)	11 (1.8)	47 (7.8)	28 (4.7)	5 (0.8)	200 (33.3)
Kaduna South	2 (0.3)	26 (4.3)	23 (3.8)	11 (1.8)	91 (15.2)	45 (7.5)	2 (0.3)	200 (33.3)
Total	**14 (2.3)**	**213 (35.5)**	**70 (11.7)**	**36 (6.0)**	**161(26.8)**	**95 (16.2)**	**9 (1.5)**	**600 (100)**

Note: the values in parathesis are percentages

Literacy and educational levels of the respondents is presented in figure 14. 51.0% of the respondents were able to read and write in Hausa/ English, 31.2% could read and write in English only, 4.8% in Hausa only, 2.8% in Ajami / Arabic and 8% in either Yoruba or Ibo. The proportion that could not read and write at all were 9.3%. This finding is not surprising because 27.5% of the respondents had first degree, 12.7% had post graduate degree, 24.0% had post secondary sub-degree education, and 18.7% had secondary school certificate or technical/ grade two certificates (see figure 14).

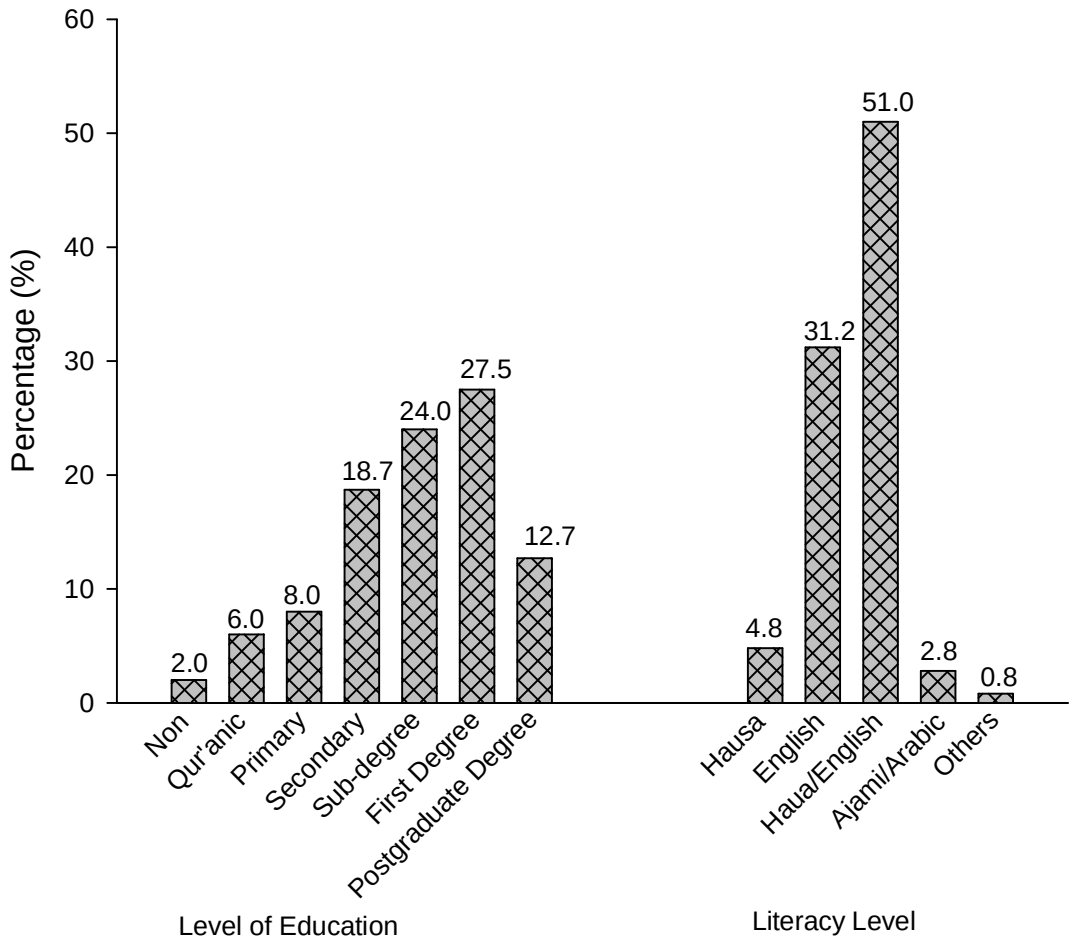


Figure 14: Educational and Literacy level of the respondents

5.1.2 Economic Characteristics of Respondents

The major income sources are earnings from wages and salaries (73.8%), assets (5.3%) and remittances (11.7%) as shown in Table 40. Decomposition by location also showed wages/ salaries as the major source of income with 25.7%, 25.5% and 22.7% in Kaduna South, Giwa and Kaduna North respectively (Table 41). Source of income from relations showed same percentage for Kaduna North and Kaduna South (3%), while Giwa has 5%.

Table 40: Distribution of respondents according to major source of income

Response	Frequency	Percent	Cumulative Percent
No response	55	9.2	9.2
Wages/salary	443	73.8	83.0
Assets	32	5.3	88.3
Relations /Remittances	70	11.7	100.0
Total	**600**	**100.0**	

Source: Field work Report, 2008

Table 41 Decomposition of sources of income by Location

	Location / LGA						Total	
Source of income	Giwa Freq	%	Kaduna North Freq.	%	Kaduna South Freq.	%	Freq.	%
No response	6	(1.0)	32	(5.3)	17	(2.8)	55	(9.2)
Wages	153	(25.5)	136	(22.7)	154	(25.7)	443	(73.8)
Asset	11	(1.8)	13	(2.2)	8	(3.5)	32	(5.3)
Relations	30	(5.0)	19	(3.2)	21	(3.5)	70	(11.5)
Total	**200**	**(33.3)**	**200**	**(33.3)**	**200**	**(33.3)**	**600**	**(100)**

Source : Field work report, 2008

5.2.3 Distribution of respondents based on estimated income from Wages/ Salaries

The distribution of respondents by estimated monthly income from wages and salaries show that about 7.5% earned ₦1,000, 26.2% earned between ₦1,000 – ₦10,000 17.5% earned between ₦30,000 – ₦50,000, 6.13% earned ₦50,000, while 6.83% earned between ₦100,000 – ₦200,000 (Table 42a). The major observation on this result is that very few of the respondents earned up to one million in a month. For example, those earning ₦500, 000 were only 0.167% same as those earning ₦750, 000, ₦1, 000 000, ₦ 2,000,000 and ₦3, 000,000 respectively. Thus, most of the respondents do not earn beyond ₦30, 000 – ₦50, 000 and between N100, 000 – ₦200, 000 monthly. The distribution results of annual wage income (**Table 42b)** show similar pattern to monthly income (Table 42a), such that the majority of the respondents (30.18%)

earned ₦120,000 annually, 9.16% earned between ₦400,000 – ₦500,000 while 19.56% earned ₦600,000. However, the percentage of those earning between ₦1million -- ₦ 2 million is very significant, about 13.33%. From the analysis so far, the pattern of income distribution among the respondents show a very unequal distribution.

Table 42a: Distribution of respondents based on estimated income from wages per month

Response	Frequency	Percent	Cumulative Percent
No Response	63	10.5	10.5
< ₦ 20,000	161	26.8	37.3
₦ 20,001 - ₦ 40,000	174	29.0	66.3
₦ 40,001 - ₦ 60,000	86	14.3	80.7
₦ 60,001 - ₦ 80,000	41	6.8	87.5
₦ 80,001 - ₦ 100,000	30	5.0	92.5
> ₦ 100,000	45	7.5	100.0
Total	600	100.0	

Incomes in all the categories show males earned higher than females and the percentages based on various income sources showed male dominance in each category. For example, in the wage income categories those earning between ₦3, 600 – ₦10, 000 per annum were 6.3% male respondents while the female respondents were 4.2%. Those earning up to ₦180, 000 per annum were 2.6% males while Females respondents were 1.2%. The category of those earning ₦200, 000 - -₦250, 000 were 8.0% respondents with male respondents of 4.8% and female respondents of 3.2%. The patterns of the distribution for other categories were similar showing male respondents in earnings greater than female respondents (Table 42b and 42c). Estimated percentage of annual wage income ranged from ₦1, 000 – ₦ 3 million and above in table 42c. It is significant to note that in all the income sources, the distribution of wages and salaries has the highest disparity gaps between one category of income earners and another. Table 42b shows about 3.3% of the respondents are earning between ₦1,000 – ₦ 50,000 annually. Those earning between ₦100, 000 – ₦150,000 were 12.2%, while those earning between ₦200,000 –

₦250,000. However, about 15.1% and 20.6% earn between ₦350, 000 – ₦ 500,000, and ₦500,000 – ₦1,000,000 and above annually respectively.

Many factors could be associated with these differences, according to Mckay (2004) , this can be partly attributed to factors like skills, job- opportunities and status , education, health e.t.c The job status distribution of the respondents showed that about 64% were fully employed, while 18.6% were partly employed. Only 10.28% of the respondents were self employed and did not have government job. The significance of the finding here is that it complements the findings in sources of income from wages and salaries of respondents below. The job status of the respondents was reflected in their sources of income (see appendix G) and the distribution of this income source shows both monthly and annual horizontal inequality among the various group earners.

Table 42b: Distribution of respondents according to annual wages by Gender

Estimated Annual Income from wages (₦)	**No Response**	**Male**		**Female**		**Total**	
		Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
No Response	0	38 (9.7)	6.3	25 (12.2)	4.2	63	10.5
1,000 – 50,000	0	11 (2.8)	1.8	9 (4.4)	1.5	20	3.3
50,001 – 100,000	0	31 (7.9)	5.2	17 (8.3)	2.8	48	8.0
100,001 – 150,000	0	48 (12.2)	8.0	25 (12.2)	4.2	73	12.2
150,001 – 200,000	0	22 (5.6)	3.7	11(5.4)	1.8	33	5.5
200,001 – 250,000	0	29 (7.4)	4.8	19 (9.3)	3.2	48	8.0
250,001 – 300,000	0	25 (6.4)	4.2	10 (4.9)	1.7	35	5.8
300,001 – 350,000	0	6 (1.5)	1.0	4 (2.0)	0.7	10	1.7
350,001 – 400,000	0	26 (6.6)	4.3	10 (4.9)	1.7	36	6.0
400,001 – 450,000	0	13 (3.3)	2.2	7 (3.4)	1.2	20	3.3
450,001 – 500,000	0	22 (5.6)	3.7	13 (6.3)	2.2	35	5.8
500,001 - 800,000	0	51 (12.9)	8.5	26 (12.7)	4.3	77	12.8
800,001 – 1,100,000	1	32 (8.1)	5.3	14 (6.8)	2.3	47	7.8
1,100,00 –3,000,000	0	31(7.9)	5.2	7 (3.4)	1.2	38	6.3
>3,000,000	0	9(2.3)	1.5	8 (3.9)	1.3	17	2.8
Total	**1**	**394 (100)**	**65.7**	**205 (100)**	**34.2**	**600**	**100**

Note : the figures in parathesis are percentage shares within group.

Table42c: Distribution of Respondents according to wages per annum (range)

Income ranges		Frequency	Percent	Cumulative Percent
Valid	No Response	63	10.5	10.5
	₦1,000 - ₦ 50,000	20	3.3	13.8
	₦ 50,000 - ₦ 100,000	48	8.0	21.8
	₦ 100,001 - ₦ 150,000	73	12.2	34.0
	₦ 150,001 - ₦ 200,000	33	5.5	39.5
	₦ 200,001 - ₦ 250,000	48	8.0	47.5
	₦ 250,001 - ₦ 300,000	35	5.8	53.3
	₦ 300,001 - ₦ 350,000	10	1.7	55.0
	₦ 350,001 - ₦ 400,000	36	6.0	61.0
	₦ 400,001 - ₦ 450,000	20	3.3	64.3
	₦ 450,001 - ₦ 500,000	35	5.8	70.2
	₦ 500,000 - ₦ 800,000	77	12.8	83.0
	₦ 800,001 - ₦ 1,100,000	47	7.8	90.8
	₦1,100,001 – ₦ 3,000,000	38	6.3	97.2
	₦3,000,000 – ₦ above	17	2.8	100.0
	Total	600	100.0	

Source: Field work Report, 2008

5.2.4 Distribution of Respondents based on come from Wages per annum by Location

i) Giwa:

The distribution of wages per annum shows lower income ranged from ₦1,000 – ₦50,000 with about 6% of respondents . 11.0% of the 200 selected in this location earn between ₦200,000 - ₦ 250, 000 annually, while 15% of them earn between ₦100,000 - ₦150,000 annually, while only 8% of the respondents earn between ₦350.000 – ₦400,000 annually. On the higher income side, 3% of the respondents were earning between ₦1million - ₦3million, 2.3% were earning between ₦800,000 – ₦1million,while 3.2%) were earning between ₦500,000 – ₦8,000.

Table 43: Distribution 0f Respondents according to wages per annum (range); Location decomposition as percentage of total

Estimate of Income from wages per annum (range)	LGA / Location						
	Giwa		Kaduna North		Kaduna South		Total	
No Response	4	(0.7)	51	(8.5)	8	(1.3)	63	(10.5)
1,000 - 50,000	12	(2.0)	5	(0.8)	3	(0.5)	20	(3.3)
50,000 - 100,000	16	(2.7)	15	(2.5)	17	(2.8)	48	(8.0)
100,001 - 150,000	30	(5.0)	19	(3.2)	24	(4.0)	73	(12.2)
150,001 - 200,000	12	(2.0)	10	(1.7)	11	(1.8)	33	(5.5)
200,001 - 250,000	23	(3.8)	10	(1.7)	15	(2.5)	48	(8.0)
250,001 - 300,000	12	(2.0)	5	(0.8)	18	(3.0)	35	(5.8)
300,001 - 350,000	7	(1.2)	0	.0	3	(0.5)	10	(1.7)
350,001 - 400,000	16	(2.7)	8	(1.3)	12	(2.0)	36	(6.0)
400,001 - 450,000	12	(2.0)	2	(0.3)	6	(1.0)	20	(3.3)
450,001 - 500,000	17	(2.8)	9	(1.5)	9	(1.5	35	(5.8)
500,000 - 800,000	19	(3.2)	23	(3.8)	35	(5.8)	77	(12.8)
800,001 - 1,100,000	14	(2.3)	13	(2.2)	20	(3.3)	47	(7.8)
1,100,001 - 3,000,000	6	(1.0)	19	(3.2)	13	(2.2)	38	(6.8)
3,000,000 - 300,000,000	0		11	(1.8)	6	(1.0)	17	(2.8)
Total	**200**	**(33.3)**	**200**	**(33.3)**	**200**	**(33.3)**	**600**	**(100)**

Source: field work report, 2008
(percentages in brackets are within group share)

ii) Kaduna North:

The distribution of respondents based on annual wage income on this location shows that about 2.2% 0f the respondent out of the 200 sampled size were earning between ₦500,000 – ₦800,000 per annum, while 2.8% were earning between ₦450,000 – ₦500,000, 3.2% earn between ₦100,000 – ₦150,000 , only 8.5% were earning as low as ₦1,000 – ₦50,000 per annum. The highest wage income earners (5.0%) earned between ₦1,000,000 – ₦3,000,000 per annum.

iii) Kaduna South:

The result from this location is impressive as only 1.3% of the respondents did not indicate their response on this income, unlike in Kaduna North in which 8.5% indicated no response . The low wage income earners were those earning between ₦ 50,000 – ₦100,000 (2.5%) and those earning between ₦100,000 – ₦150,000 per annum are 4.0% respectively. The percentage of the respondents earning between ₦500,000 – ₦800,000 were 5.8% while 3.3%) were earning between ₦800,000 – ₦1million. For those earning up to ₦1million – ₦ 3million were 3.2%.

Thus, the general observed pattern of wage income earnings per annum in the three local government areas shows the higher income earning group (12.8%) were those earning between ₦500,000 – ₦ 800,000 per annum, this was followed by those earning between ₦100,,000 – ₦150,000 per annual (12.2%) and those earning between ₦50,000 – ₦100,000 and ₦200,000 – ₦250,000 with 8% each, while those earning between 1million and above are 9.2%. The group with lower income, majority of the respondents in all the three location fall within the income group of those earning between ₦100,000 - ₦200,000 annually. Giwa has the highest percentage of this group with 5.0%, then Kaduna north with 4.0% and Kaduna South with 3.2%. The group with higher income range were 12.8%, earning between ₦500,000 - ₦800,000 per annum were Kaduna South with 5.8%, follow by Kaduna North with 3.8% and then Giwa with 3.2% respectively .

5.2.5 Distribution of respondents according to wages per annum (range) by Gender

Looking at the results in table 44 and 45 of wage income by gender and Religion dimensions, the lower income group were only 3.3% of the respondents receiving between ₦1,000 – ₦50, 000 per annum, out of which 1.5% were females and 1.8% were males. In

addition, among this group, 1.3% are Christians and 1.9% are Muslims. The second income group receiving income range between ₦ 100,000 – ₦150,000 were 12.2%, out of which 8% of them were males while 4.2% were Females. Those earning between ₦200, 000 – ₦250,000, were 8% of the respondents with 4.8% of them males, and 3.2% of them as females . Decomposition into religion affiliation show 2.7% were Christians and 4.3% were Muslims.

The highest wage income groups were those earning between ₦500, 000 – ₦800,000 (12.8%),of which of 8.5% of them were males and 4.3% were females. By Religion decomposition about 8.2% of them are Christians while the remaining 4.7% are Muslims.

Table 44: Distribution of respondents according to wages per annum (range) by Gender

	Gender			
Estimate of Income from wages per annum (range)	**No Response**	**Male**	**Female**	**Total**
No Response	0	38 (6.3)	25 (4.2)	63 (10.5)
₦1,000 - ₦ 50,000	0	11 (1.8)	9 (1.5)	20 (3.3)
₦ 50,000 - ₦ 100,000	0	31 (5.2)	17 (2.8)	48 (8.0)
₦ 100,001 - ₦ 150,000	0	48 (8.0)	25 (4.2)	73 (12.2)
₦ 150,001 - ₦ 200,000	0	22 (3.7)	11 (1.8)	33 (5.5)
₦ 200,001 - ₦ 250,000	0	29 (4.8)	19 (3.2)	48 (8.0)
₦ 250,001 - ₦ 300,000	0	25 (4.2)	10 (1.7)	35 (5.8)
₦ 300,001 - ₦ 350,000	0	6 (1.0)	4 (0.7)	10 (1.7)
₦ 350,001 - ₦ 400,000	0	26 (4.3)	10 (1.7)	36 (6.0)
₦ 400,001 - ₦ 450,000	0	13 (2.2)	7 (1.2)	20 (3.3)
₦ 450,001 - ₦ 500,000	0	22 (3.7)	13 (2.2)	35 (5.80
₦ 500,000 - ₦ 800,000	0	51 (8.5)	26 (4.3)	77 (12.8)
₦ 800,001 - ₦ 1,100,000	1(0.2)	32 (5.3)	14 (2.3)	47 (7.8)
₦ 1,100,001 - ₦ 3,000,000	0	31 (5.2)	7 (1.2)	38 (6.3)
>₦3,000,000	0	9 (1.5)	8 (1.3)	17 (2.8)
Total	1(**0.2**)	**394 (65.7)**	**205 (34.2)**	**600 (100)**

(**figures in brackets are within group percentages**)
Source: field work report , 2008

The general observation made on all categories of wage income earners revealed that 65.7% are males while 34.2% are females. Decomposition by religion shows 51% are christians, while 46.3% are Muslims. It is significant to note that in all wage income categories the males out-numbered the females, for example, those earning between income range of ₦100,001 –

₦150,000, ₦200,001 -- ₦250,000 . Thus, the number of females in the various income level are lower than males.

Table 45 : Distribution of Respondents according to wages per annum (range) Religion

	Religion									
Estimate of Income from wages per annum (range)	No Response		Christian		Muslim		Traditional		Total	
No Response	4	(0.6))	23	(3.8)	36	(6.0)	0		63	(10.5)
₦1,000 - ₦ 50,000	0	0	8	(1.3)	12	(2.0)	0		20	(3.3)
₦ 50,000 - ₦ 100,000	1	(0.2)	21	(3.5)	26	(4.3)	0		48	(8.0)
₦ 100,001 - ₦ 150,000	2	(0.3)	32	(5.3)	38	(6.3)	1	(0.2)	73	(12.2)
₦ 150,001 - ₦ 200,000	0		15	(2.5)	18	(3.0)	0		33	(5.5)
₦ 200,001 - ₦ 250,000	0		22	(3.7)	26	(4.3)	0		48	(8.0)
₦ 250,001 - ₦ 300,000	0		25	(4.7)	10	(1.7)	0		35	(5.8)
₦ 300,001 - ₦ 350,000	0		7	(1.2)	3	(0.5)	0		10	(1.7)
₦ 350,001 - ₦ 400,000	0		22	(3.7)	14	(2.3)	0		36	(6.0)
₦ 400,001 - ₦ 450,000	0		13	(2.2)	7	(1.2)	0		20	(3.3)
₦ 450,001 - ₦ 500,000	3	(0.5)	17	(2.6)	15	(2.5)	0		35	(5.8)
₦ 500,000 - ₦ 800,000	2	(0.3)	49	(8.2)	25	(4.7)	1	(0.2)	77	(12.8)
₦ 800,001 - ₦ 1,100,000	1	(0.2)	26	(4.2)	20	(3.3)	0		47	(7.8)
₦ 1,100,001 - ₦ 3,000,000	1	(0.2)	18	(3.0)	19	(3.2)	0		38	(6.3)
>₦ 3,000,000	0		8	(1.3)	9	(1.5)	0		17	(2.8)
Total	14	(2.3)	306	(51.0	278	(46.3)	2	(0.3)	600	(100)

(figures in brackets are within group percentages)
Source: field work Report, 2008

Decomposition of annual wages by religion shows however, the number to vary i.e, for those income group earning between ₦50,000 to -₦100,000 the distribution is 3.5% Christians and 4.3% muslims. For income group of ₦200,000 – ₦250,000 the distribution is 3.7% and 4.3%. For those in the range between ₦ 250,000 – ₦300,000 , the distribution is 4.7% and 1.7% respectively for Christians and muslims. While for those earning between ₦800,000 – ₦1million, the distribution is 4.2% for Christians and 3.2% Muslims. Thus, majority (6.3% muslims and 5.3%Christians) are the respondents earning between ₦ 100,000 – ₦150,000 annually.

The key findings in the two tables shows that majority of the respondents are low wage earners ranging from ₦ 100.000 – ₦ 250,000 per annum , the lowest earners were those

receiving between ₦1,000 – ₦ 50,000 per annum. Among the highest paid(12.8%) , Christians dominant, while muslims dominant amongst the low income earners. However, overall, females earned lower wages and are few in all wage levels categories.

5.2.6 Distribution Of Respondents according to Income from Other Sources (Assets)

Distribution of respondents according to income from other sources (Assets) in Table 46 shows that about 19.5% of the respondents generated between ₦10,000 – ₦60,000 income through either shares, dividend, interest on deposit, landed properties annually .While 9.5% generated between ₦100,000 – ₦150,000 annually, while 8.5% generated as much as ₦300,000 – ₦600,000 annually. Those generating ₦600, 000 and above were 5.5% of the total distribution. The pattern of the distribution is shown in figure 15.

Table 46: Distribution of respondents based on Income from other sources (i.e. shares, dividend interest on deposit, landed properties) per annum

Income range	Frequency	Percent	Cumulative Percent
No Response	269	44.8	44.8
₦ 10,000 - ₦ 40,000	60	10.0	54.8
₦ 40,001 - ₦ 60,000	57	9.5	64.3
₦ 60,001 - ₦ 100,000	23	3.8	68.2
₦ 100,00 -₦ 150,000	57	9.5	77.7
₦ 150,001 -₦ 200,000	17	2.8	80.5
₦ 200,001 - ₦ 250,000	24	4.0	84.5
₦ 250,001 -₦ 300,000	9	1.5	86.0
₦ 300,001 - ₦ 600,000	51	8.5	94.5
>₦ 600,001	33	5.5	100.0
Total	600	100.0	

Source: Field Work Report, 2008

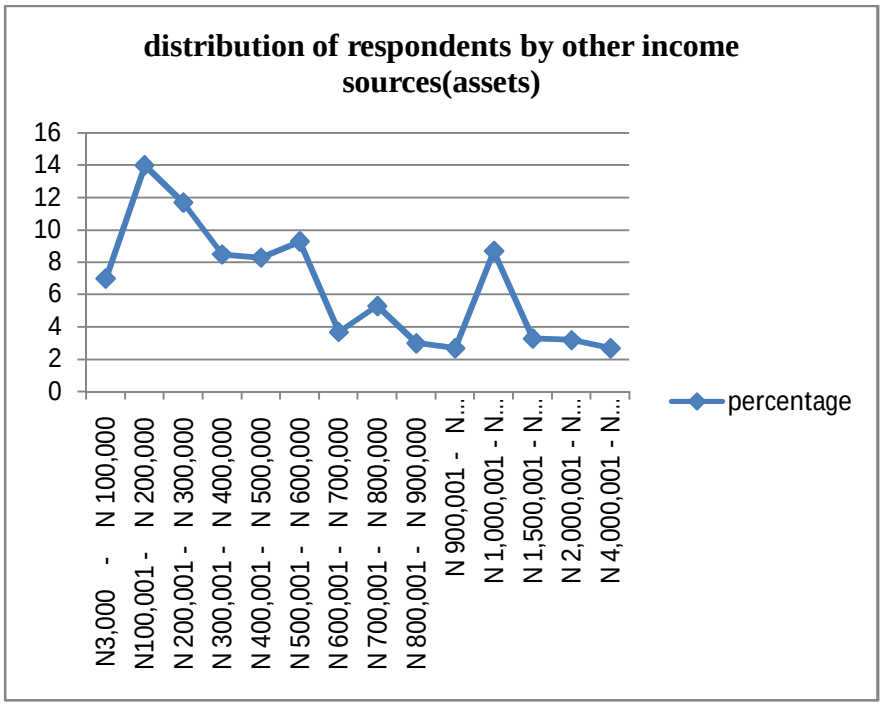


Fig.15

Decomposition of annual asset by location (Table 47) showed the highest asset holders in Giwa were those owning between ₦100,001- ₦150,000 (4.8%), followed by those owning between ₦10,000 – ₦40,000(3.8%). In Kaduna North, the highest percentage (2.5%) were those owning between ₦600,001 – ₦6,000,000, followed by those with N40,001 –₦60,000 and those with ₦100,001- ₦150,000 (2.2%) respectively. In Kaduna South, the highest asset income range were those owning between ₦3001,000 – ₦600,000 (4.5%) , this was followed by those with asset income range of N10,000 – ₦ 40,000 (4.3%).

Table 47: Decomposition of Respondents annual Asset by Location

Annual Asset:Ranges)	Location/ LGA							
	Giwa		**Kaduna North**		**Kaduna South**		**Total**	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
00	81	13.5	118	19.7	70	11.7	269	44.7
₦ 10,000 - ₦ 40,000	23	3.8	11	1.8	26	4.3	60	10.0
₦ 40,001 - ₦ 60,000	21	3.5	13	2.2	23	3.8	57	9.5
₦ 60,001 - ₦ 100,000	3	0.5	4	0.7	16	2.7	23	3.8
₦ 100,001 - ₦ 150,000	29	4.8	13	2.2	15	2.5	57	9.5
₦ 150,001 – ₦ 200,000	5	0.8	6	1.0	6	1.0	17	2.8
₦ 200,001 – ₦ 250,000	13	2.2	4	0.7	7	1.2	24	4.0
₦ 250,001 – ₦ 300,000	4	0.7	4	0.7	1	0.2	9	1.5
₦ 300,001 - ₦ 600,000	12	2.0	12	2.0	27	4.5	51	8.5
₦ 600,001 - ₦ 6000,000	9	1.5	15	2.5	9	1.5	33	5.5
Total	**200**	**33.3**	**200**	**33.3**	**200**	**33.3**	**600**	**100**

5.3 Distribution of Respondents Based on Total income Per Annum

The findings on the total income source in table 48 below revealed 17.5% of the respondents were having between ₦100, 000 – ₦200,000 annually, while 13.8% have between ₦200,000 – ₦300,000 annually. For those having between ₦500, 000 to ₦800,000, the percentage is 12.8%. However, for those having a total income of ₦1million and above, the percentage is .9.6%. From observation, there is wide disparity of frequency distribution between one income group to another, as there was relatively small percentage of individual in the higher income groups (see appendix H). This result indicates high level of total income inequality in the case study area. For example, those having between ₦300,001 – ₦350,000 (1.7%); ₦200,000 – ₦400,000 (15.5%) . Thus, majority(12.2%) of the respondents at lower total income range earn between ₦100,001 – ₦150,000 annually,while at higher total income range, majority(12.8%) are earning between ₦500,000 – ₦ 800,000 annually.

Table 48: Distribution 0f Respondents according to Total income (range); Location decomposition as percentage of total

Estimate of Total Income per annum (range in ₦)	LGA/Location						
	Giwa	%	Kaduna North	%	Kaduna South	%	Total
No Response	4 (2.0)	0.7	51 (25.5)	8.5	8 (4.0)	1.3	63 (10.5)
1,000 - 50,000	12 (6.0)	2.0	5 (2.5)	0.8	3 (1.5)	0.5	20 (3.3)
50,000 - 100,000	16 (8.0)	2.7	15 (7.5)	2.5	17 (8.5)	2.8	48 (8.0)
100,001 - 150,000	30 (15.0)	5.0	19 (9.5)	3.2	24 (12.0)	4.0	73 (12.2)
150,001 - 200,000	12 (6.0)	2.0	10 (5.0)	1.7	11 (5.5)	1.8	33 (5.5)
200,001 - 250,000	23 (11.5)	3.8	10 (5.0)	1.7	15 (7.5)	2.5	48 (8.0)
250,001 - 300,000	12 (6.0)	2.0	5 (2.5)	0.8	18 (9.0)	3.0	35 (5.8)
300,001 - 350,000	7 (3.5)	1.2	0 .0	0	3 (1.5)	0.5	10 (1.7)
350,001 - 400,000	16 (8.0)	2.7	8 (4.0)	1.3	12 (6.0)	2.0	36 (6.0)
400,001 - 450,000	12 (6.0)	2.0	2 (1.0)	0.3	6 (3.0)	1.0	20 (3.3)
450,001 - 500,000	17 (8.5)	2.8	9 (4.5)	1.5	9 (4.5)	1.5	35 (5.8)
500,000 - 800,000	19 (9.5)	3.2	23 (11.5)	3.8	35 (17.5)	5.8	77 (12.8)
800,001 - 1,100,000	14 (7.0)	2.3	13 (6.5)	2.2	20 (10.0)	3.3	47 (7.8)
1,100,001 - 3,000,000	6 (3.0)	1.0	19 (9.5)	3.2	13 (6.5)	2.2	38 (6.8)
>3,000,000	0		11 (5.5)	1.8	6 (3.0)	1.o	17 (2.8)
Total	**200 (100)**	**33.3**	**200 (100)**	**33.3**	**200 (100)**	**33.3**	**600 (100)**

Percentages in brackets are within group share
Source: field work report, 2008

5.3.1 Distribution of Total Income according to Location

i) Giwa

With a sample size of 200, about 5.0% of the respondents were having between ₦100, 001 – ₦150,000 , while 3.8% were having total income between ₦200,001 – ₦250,000 respectively. The lowest income range were 2.0% having between ₦,1000 – ₦50,000 annually. Those with total income as high as ₦500, 000 to ₦800, 000 were 3.2%., those having ₦800,001- ₦1,100,000 from this location were 2.3%, and those having ₦1million and above were only 1% of the respondents. From the result, an estimate of 13% of the respondents as percentage of total sample size in this location have between ₦50 , 000 – ₦ 150,000 per annum and the gap between this group and those in total income range of ₦1million and above (3%) is

quite wide, for example, the lowest total income range was from ₦3,000 – ₦50,000, and the highest was from ₦350,000 – ₦800,000 and above, (see Table 48 and appendix for the vertical presentation of all statistical distribution)

ii) Kaduna North.

The total income groups in this location with high percentage are those having between ₦100, 001 – ₦150 000 per annum (3.2%) of the respondents, followed by those having between ₦500,000 – ₦800,000 about 3.8% while 3.2% of the respondents were having between ₦1000, 001 – ₦3000,000million. The lowest total income group (those having ₦1,000 – ₦50,000) were 0.8% of the respondents in this location.

iii) Kaduna South

The group with the highest percentage total income were those having between ₦ 500,000 – ₦800,000 per annum (5.8%), followed by those having between ₦100,001 – ₦150,000 and those with total income range of ₦800,001 – ₦1,000,000 per annum that is 3.2%. The percentage of the lowest total income were those having between ₦1,000 – ₦50,000 per annum (1.5%) of the respondents.

A general observation of the groups in the various total income ranges show that majority of the respondents(12.2%) at lower total income level were those having an income range of ₦100,000 – ₦150,000, with giwa having 5.0%, Kaduna North and Kaduna South having 3.2% and 5.8% respectively. At higher total income level 12.8% of the respondents were having an income range between ₦500,000- ₦800,000, with giwa having only 2.8%, Kaduna North 3.8% and Kaduna South 5.8% respectively. Those having ₦ 3,000,000 and above were 2.8% respondents, with Kaduna North and Kaduna South having 1.8% and 1.0% each and none in Giwa.

Given the nature of total income distribution among the various income ranges, this income source showed an unevely total income inequality. The dispersion is even wider at gender religion and at ethnic levels (see Table 49, 50 and appendices 5,6 and 7).

Table 49 : Distribution of Respondents according Total Income by Religion

Annual Total Income (₦)	**No Response**	**Christians**		**Muslims**		**Total**	
		Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
00	4 (.7)	23 (7.3)	3.8	36 (12.9)	6.0	63	10.5
1,000 – 50,000	0	08 (2.6)	1.3	12(4.3)	2.0	20	3.3
50,001 – 100,000	1 (.2)	21 (6.9)	3.5	26 (9.4)	4.3	48	8.0
100,001 – 150,000	2 (.3)	32 (10.5)	5.3	38 (13.7)	6.3	73	12.2
150,001 – 200,000	0	15 (4.9)	2.5	18(6.5)	3.0	33	5.5
200,001 – 250,000	0	22 (7.2)	3.7	26 (9.4)	4.3	48	8.0
250,001 – 300,000	0	25 (8.2)	4.2	10 (3.6)	1.7	35	5.8
300,001 – 350,000	0	07(2.3)	1.2	3(1.1)	0.5	10	1.7
350,001 – 400,000	0	22 (7.2)	3.7	14 (5.0)	2.3	36	6.0
400,001 – 450,000	0	13 (4.2)	2.2	7 (2.5)	1.2	20	3.3
450,001 – 500,000	3 (.5)	17 (5.6)	2.8	15 (5.4)	2.5	35	5.8
500,001 - 800,000	2 (.3)	49 (16.0)	8.2	25 (9.0)	4.2	77	12.8
800,001 – 1,100,000	1 (.2)	26 (8.5)	4.3	20 (7.2)	3.3	47	7.8
1,100,00 –3,000,000	1 (.2)	18(5.2)	3.0	19(6.8)	3.2	38	6.3
>3,000,000	0	08(2.6)	1.3	9 (3.2)	1.5	17	2.8
Total	**14 (6.8)**	**306 (100)**	**51.0**	**278 (100)**	**46.3**	**600**	**100**

Note : the figures in parathesis are percentage shares within group
Source: Field work Report, 2008

Table 50: Distribution of respondents according to total income per annum (range) by Gender

	Gender			
Estimate of Total Income per annum (ranges)	**No Response**	**Male**	**Female**	**Total**
No Response	0	38 (6.3)	25 (4.2)	63 (10.5)
₦1,000 - ₦ 50,000	0	11 (1.8)	9 (1.5)	20 (3.3)
₦ 50,000 - ₦ 100,000	0	31 (5.2)	17 (2.8)	48 (8.0)
₦ 100,001 - ₦ 150,000	0	48 (8.0)	25 (4.2)	73 (12.2)
₦ 150,001 - ₦ 200,000	0	22 (3.7)	11 (1.8)	33 (5.5)
₦ 200,001 - ₦ 250,000	0	29 (4.8)	19 (3.2)	48 (8.0)
₦ 250,001 - ₦ 300,000	0	25 (4.2)	10 (1.7)	35 (5.8)
₦ 300,001 - ₦ 350,000	0	6 (1.0)	4 (0.7)	10 (1.7)
₦ 350,001 - ₦ 400,000	0	26 (4.3)	10 (1.7)	36 (6.0)
₦ 400,001 - ₦ 450,000	0	13 (2.2)	7 (1.2)	20 (3.3)
₦ 450,001 - ₦ 500,000	0	22 (3.7)	13 (2.2)	35 (5.80
₦ 500,000 - ₦ 800,000	0	51 (8.5)	26 (4.3)	77 (12.8)
₦ 800,001 - ₦ 1,100,000	1(0.2)	32 (5.3)	14 (2.3)	47 (7.8)
₦ 1,100,001 - ₦ 3,000,000	0	31 (5.2)	7 (1.2)	38 (6.3)
>₦3,000,000	0	9 (1.5)	8 (1.3)	17 (2.8)
Total	1(**0.2**)	**394 (65.7)**	**205 (34.2)**	**600 (100)**

(**figures in brackets are within group percentages**)
Source: field work report , 2008

5.4 Distribution based on Access to Socio-economics Infrastructures

5.4.1 Distribution of respondents according to Access to Health Care Services

The response on access to health care services in terms of hospital consultations revealed that about 87.8% of the respondents visited hospitals, 2.2% visited dispensaries while 0.8% visited traditional healers (Table 51). A large proportion of the respondents did not indicate the number of visitations to the hospitals per month. However, for those who responded (48.2%), number of the visitations per month was between one to five times for 48.2% while 10.6% stated 6 and above number of times. In spite of the high number of hospital consultations, many of the respondents (about 84.0%) pay their hospital bills themselves, spending between ₦2000 - ₦5, 000 on each visitation monthly, while only 7.2% of the respondents indicated that their employers paid their medical bills. The result of this finding revealed that even though the

respondents have access to health care services, they still paid their medical bills. The implication of the result depend on the amount of consultation fees (too high or too low)and this could affect the reduction or increase in number of visitations, burden on income of low income earners.

5.4.2 : Distribution of respondents according to children accessibility to education

Access to education is considered one of the major causes of income inequality (Felix, 2002) pointed out that the number of years invested in education could help determine the future standard of living of an individual through type of job secured and income earning. Table 53 shows children accessibility to education, about 94.7% of the respondents indicated that their children are in school while only 6.3% indicated none. Among those whose children are in school, majority of them are in private schools (64%) while those who indicated their children to be in public schools are 33.7%. Government provision of education in the state is quite inadequate or considered ineffective in service delivery due to inadequate funding of the public ones and lower standard in terms of ratio of teacher to pupils in class, poorly paid teachers and not well supervised to ensured quality when compared to private schools.

Table 51 Distribution of respondents according to Health Care Accessibility

a)Type of health care services	Frequency	Percent	Cumulative Percent
No Response	23	3.8	3.8
♦ Modern health care	527	87.8	91.7
♦ dispensary health care	13	2.2	93.8
♦ Faith-healing	5	0.8	94.7
♦ Modern and traditional healthcare	27	4.5	99.2
♦ Modern health care and faith- healing	4	0.7	99.8
♦ Modern, traditional and faith-healing healthcare	1	0.2	100.0
Total	**600**	**100.0**	
b)Number of Times of visitation			

No response	247	41.2	41.2
1-5	289	48.2	89.3
6-10	26	4.3	93.7
10 and above	38	6.3	100.0
Total	600	100.0	
c)Source of Payment of bills			
No response	24	4.0	4.0
None	29	4.8	8.8
Employer	43	7.2	16.0
Self	504	84.0	100.0
Total	600	100.0	
d) Distribution based on affordability of health service bill	Frequency	percent	Cum. Percentage
No response	60	10.0	10.0
Yes	425	70.8	80.8
No	115	19.2	100.0
Total	600	100.0	
e)Distance to Health care facility			
No response	25	4.2	4.2
Less than 1km	210	35.0	39.2
1km – 2km	157	26.2	65.3
3km - 4km	117	19.5	84.8
Over 4 km	91	15.2	100.0
Total	600	100.0	
F)Amount spent on consultation per month range			
No Response	285	47.5	47.5
< ₦2,000	159	26.5	74.0
₦2,000 – ₦ 4,000	83	13.8	87.8
₦ 4,001 – ₦ 6,000	33	5.5	93.3
₦ 6,001 – ₦ 8000	5	.8	94.2
₦ 8,001 – ₦ 10,00	18	3.0	97.2
>₦ 10,000	17	2.8	100.0
Total	600	100.0	
g) Annual expenditures on health services			
<₦15,000	384	64.0	64.0
₦ 15,000 – ₦ 30,000	103	17.2	81.2
₦ 30,001 – ₦ 45,000	44	7.3	88.5
₦ 30,001 – ₦ 45,000	18	3.0	91.5
₦ 45,001 – ₦ 60,000	24	4.0	95.5
₦ 60,001 – ₦ 75,000	6	1.0	96.5
>₦ 75,000	21	3.5	100.0
Total	600	100.0	

Source: Field survey Report, 2008

Table 52 : Distribution of Respondents based on Children accessibility to education

Questions and Response	Frequency	Percentage
Are your children in school		
No response	0	0
Yes	568	94.7
No	32	6.3
Total	**600**	**100**
Are they in Private or Public School		
No response	12	2.0
Private	386	64.3
Public	202	33.7
Total	**600**	**100**
Distance to school		
No response	0	0
1km -5km	105	17.5
5km -10km	201	33.5
20km -30km	106	17.7
50km -100km	92	15.3
500km and above	96	16.0
Total	**600**	**100**

Source: Field work report, 2008

5.4.3: Distribution of Respondents according to Food expenditures per month

Expenditure on food is determined by many factors such as income level of head of household, type of Job, Nutritional needs of the family, Family size, and most importantly, the Marginal propensity to consume. These factors help to explain the differences in Food expenditure or consumption expenditure between the poor and the rich and the Inequality gap between different social classes. Theoretically, the marginal propensity to consume is said to be very high among the poor than the rich even though, their income level is small. For example, for those spending less than ₦20,000 per month as observed, many of them earned between ₦3,600 – ₦10, 000 per months, while,majority of the respondents are those spending between ₦20,000 –

₦40,000 and those earning between ₦50,000 – ₦100,000 per month(see appendices). Thus, consumption expenditure is relatively positive with level of income (Sloman, 2007).

Table 53 Shows sampled households estimated expenditure on food per month in the case study area. The result revealed that majority (78.3%) of the household spend between ₦10, 000 – ₦50,000 per month on food(that is on the average, about ₦30,000). While about 10.5% of the respondents spend less than ₦10, 000 per month, and only 2.8% spend as much as ₦50,000 to ₦ 100,000 per month on food,that is an average of ₦75,000 per month (see appendices)

Table 53: Distribution of respondents according to food expenditure per month.

Expenditure Ranges	Frequency	Percent
No Response	1	.2
Less than - ₦ 10,000	63	10.5
₦ 10,000 - ₦ 50,000	470	78.3
₦ 50,001 - ₦ 100,000	17	2.8
₦ 100,001 - ₦ 200,000	6	1.0
₦ 600,001 - ₦ 800,000	5	.8
₦ 1,000,001 - ₦ 1,200,000	1	.2
₦ 1,600,001 - ₦ 2,000,000	1	.2
- ₦ Above 2,000,000	2	.3
Not applicable	34	5.7
Total	600	100.0

Source: field work report,2008

5.4.4 Distribution of Respondents based on expenditure per month on education

Expenditure on education show 69.0% of the respondents spend between ₦10,000 – ₦50,000 per month on education either on themselves or on members of the family. 9.7% spend less than ₦10, 000 while 3.7% spend between ₦50, 000 – ₦100,000 monthly on education. Observation of gender access to education using the descriptive statistic shows, that 5.6% male headed Households and 4.0% of female headed Households spend less than ₦10,000 monthly

on education, while about 47.3% male headed household, and 21.5% female households spend between ₦50,000 – ₦100,000 monthly, that is about ₦75,000 on the average.

Table 54 : Distribution Of Household expenditure per month on education (Range)

Expenditure Ranges	Frequency	Percent	Cumulative Percent
Less than ₦ 10,000	58	9.7	9.7
₦ 10,000- ₦ 50,000	414	69.0	78.7
₦ 50,001- ₦ 100,000	22	3.7	82.3
₦ 100,001- ₦ 200,000	6	1.0	83.3
₦ 200,001- ₦ 400,000	1	.2	83.5
₦ 400,001- ₦ 600,000	3	.5	84.0
₦ 600,001- ₦ 800,000	6	1.0	85.0
₦ 1,200,001- ₦ 1,400,000	2	.3	85.3
₦ 1,400,001- ₦ 1,600,000	1	.2	85.5
₦ Above 2,000,000	2	.3	85.8
Not applicable	85	14.2	100.0
Total	600	100.0	

Source: field work report,2008

The general observation as revealed by the result on education expenditure shows there is existence of both vertical and horizontal inequalities in educational expenditure among the respondents though a significant portion of them (69.0%) spend an average of ₦30,000 monthly compared to those who spend less than ₦10,000 (9.7%)

5.4.5 Distribution of Respondents based on Expenditure on Health care Services

The result on this section, shows that about 47.5% of the respondents spent less than ₦2,000 monthly on Healthcare services, while about 26.5% spend between ₦2,000 – ₦4000 on such services monthly and 5.5% of the respondents spend as much as ₦ 4,000 to ₦6,000 per month. Household who spent as much as ₦8, 000 and above were 5.8%(see appendices for actual expenditure on health monthly and annually). Health consultation based on gender, shows about 5.6% and 4.0% male and female headed households spend less than ₦1, ,000 per month,

while 47.3% and 21.5% of both male and female headed households spend on average between ₦30,000 to ₦75,000 monthly.This result also show an unequal expenditure on health care services between individuals and among group of individuals by gender and income level categorisation. The pattern is similar in per annum expenditures (table 56), generally, from the annual expenditure,64% spend less than ₦ 15,000 while17.2% spent between ₦15,000 – ₦30,000.

Table 55 : Distribution of Respondents according to Expenditure on Health care Services per month.

Health expenditure	Frequency	Percent	Cumulative Percent
No Response	285	47.5	47.5
< ₦ 2,000	159	26.5	74.0
₦ 2,000 – ₦ 4,000	83	13.8	87.8
₦ 4,001 – ₦ 6,000	33	5.5	93.3
₦ 6,001 – ₦ 8000	5	.8	94.2
₦ 8,001 – ₦ 10,00	18	3.0	97.2
> ₦ 10,000	17	2.8	100.0
Total	600	100.0	

Source: field work report,2008

Table 56: Distribution of respondents based on annual expenditures on health services(range)

Health Expenditure	**Frequency**	**Percent**	**Cumulative Percent**
<₦15,000	384	64.0	64.0
₦ 15,000 – ₦ 30,000	103	17.2	81.2
₦ 30,001 – ₦ 45,000	44	7.3	88.5
₦ 30,001 – ₦ 45,000	18	3.0	91.5
₦ 45,001 – ₦ 60,000	24	4.0	95.5
₦ 60,001 – ₦ 75,000	6	1.0	96.5
> ₦ 75,000	21	3.5	100.0
Total	600	100.0	

Source: Field report 2008

5.5 Presentation and Discussion of Vertical and Horizontal Inequality Measures Results

This section provides the results of the inequality measures adopted for the study, the results allowed us to have more insight into earnings, asset and total income distribution in the three Local Government Areas in Kaduna state. Every instance from the case study location provided an economic implication guide for policy makers.

5.5.1 Vertical Income Inequality Result

The vertical income analysis takes general measure of inequality of all income earners irrespective of Location, religion, ethnicity and gender. Estimated Gini indices for all the income sources, (Table 57) show high percentage of inequality with 80% in asset, 87% in total income (wages plus remittances from other member of the family) and 88% degree in wages /salaries. The values of the Theil indices varies across the income sources, for wages/salaries,it was 3.2291, while for asset, it was 1.4163 and 3.1728 in total income. In all the measure indices wages and salaries(earnings) income was unambiguously more unequally distributed than asset and barely than total income . In the Theil results (factor's contribution to inequality) asset contribution was lower (1.4163) compared to wages and salaries (3.2291) and total income (3.1728) .The coefficient of variation showed high variability in all the three income sources **(the smaller the value the less the variability and the higher the value the more the variability).** Though, greater variation is in the distribution of wages than total income. While asset is less compared to total income and wages. Thus,wages/salaries income sources is more unevenly distributed and a major source of vertical inequality.

Table 57 : Estimated Vertical inequality results

Income source	Gini Index	Theil Index	Coefficient Of Variation.
Wages/ Salaries Inequalities	0. 88520	3. 2291	9.1118
Asset Inequalities	**0 . 8021**	**1.4163**	**2.6514**
Total Income Inequalities	**0 . 8790**	**3.1728**	**8.9266**

Source: Field Work Report. 2008

NOTE : a) The Gini index takes a value from 0 - 1, its 0 if the distribution is completely equal and it is 1 at maximum inequality.A high value ranged from 0.6 – 0.8 while a low value ranged from 0.3 – 0.4.

b) The Theil index : The Index ranges between 0 – 2, but it can take higher values indicating higher inequalities. When Theil is > 1, an income source increases overall inequality, and if Theil is < 1, its decreases Inequality. For example;
is 0 for an inequality represented by a 50:50 distribution (the distribution is completely equal),
is 0.5 for an inequality represented by a 74:26 distribution,
is 1 for an inequality represented by a 82:18 distribution
is 2 for an inequality represented by a 92:8 distribution and
is 4 for an inequality represented by a 98:2 distribution.

5.6 Horizontal Income Inequality Results

Table 58 : Estimated Result Of Total income Inequalities by Religion, Ethnicity Gender And Location decomposition

Key Element	Gini Index	Theil Index	Coefficient Of Variation
1. Religion			
i. Christian	0. 8098	2.6366	8.2203
ii. Muslim	0. 9080	3.2966	8.7140
iii. Traditional	-------	--------	---------
2. Ethnic Group			
Hausa/fulani	0. 6186	0.8835	2.2363
Yoruba	0.5739	0.5955	1.2924
Igbo	0. 9240	2.5749	4.1 365
South kaduna	0.8972	3.2968	9.0087
Others north	0. 9050	3.3108	7.8813
Other south	0.3320	0.1819	0.6319
3. Gender			
Male	0. 8719	3.2176	9.6757
Female	0. 8880	3.0848	7.8225
4. Location			
Giwa	0. 4472	0. 3419	0. 9066
Kaduna south	0. 9262	3.1859	6.8360
Kaduna north	0. 8130	2.3130	6.6803

Source: field report 2008

5.6.1 Total Income Inequality by Location, Religion, Gender and Ethnicity

This income source was defined by sum of all income consisting of annual wages / salaries and income remitted to Head of households by Household members. Remittances are major sources of income disparity among households especially when family sizes, occupational status of children and spouse within households are considered as factors in determining income level.

Total income Gini inequality estimates for all the four elements; gender, religion, ethnicity and location ranged from 0.4404 – 0.9240. Result on locations shows Giwa has a Gini index of 0.4472, Kaduna South has 0.9262 and 0.8130 for Kaduna North. In gender and ethnicity, the Gini values ranged 0.8880 (female) and 0.8719 (male). Ethnicity Gini values ranged from a low of 0.3320 – 0.9240. In religion, it shows 0.8098 for christians and 0.9080 for muslims. The Theil indices ranged from a value of 0.3419 to a high of 3.3138, while Coefficients of Variation ranged from a low of 0.6319 to a high of 9.6757. The implication of all the indices especially Gini and Theil indices showed that, the extent and degree of inequality by location is higher in Kaduna South with 92%, this was followed by Kaduna North with 82 % and then Giwa with 44%. Generally, regional Gini coefficent is lower in rural areas since real income is also lower (Davies, 1993). Hence, the combination of low mean income and low Inequality implies higher poverty in rural area. The Theil indices indicated that total income source is a decreasing factor of inequality by location for Giwa but an increasing inequality factor for Kaduna South and Kaduna North, and the variability between the two locations is the same. In the case of gender, religion and ethnicity, total income is Increasing factor for both male group and female group, among muslim group, Other North, Southern Kadunas and Igbo. In the case of Hausa/

fulani group, Yoruba and Other South ethnic groups, total income source is a decreasing factor of inequality. The Values of the Coefficient of Variation further confirmed the extent of group disparities.

5.6.2 Total Income Inequality and Job Status

The extent and pattern of existing inequality in employment opportunity in Nigeria can be associated with the pattern and nature of earnings distribution in Nigeria. According to NBS report of 2006, the largest employer of labour is agriculture and public administration while manufacturing sector is the least. From the evidence provided in table 59 below shows the dominance of self- employed over regular employee and casual employee. Many self- employed are mostly entrepreneurs, traders, private practitioners with high income returns when compare to regular employees on fixed salaries or the casual employees whose income is mostly beyond subsistence level. Thus, wide disparity in income level of individual or groups of individual is a significant factor in inequality measures.

Table 59: Estimated Result of Total Income Inequality By Job Status

Job Status	Gini	Theil Index	Coefficient Of Variation
Fully employed	0. 8812	3.3034	9.5521
Partly employed	0. 7391	1.3039	2.6727
Trainee	0. 5377	0.4999	1.0830
Self employed (medium business)	0. 5345	0.5173	1.2149
Others (unemploy, casual)	0. 9206	2.5695	3.9942
Self employed (Small Business)	0.4992	0.4145	0.9676

Source: Field work Report, 2008

The Gini Index estimates in Table 59 showed the values ranged from a low of 0.4992 to a high of 0.9206 indicating there is high income disparity among groups in all the categorised jobs above. Gini index for fully employed (civil servants of both state and federal) was estimated as 0.8812, revealing the degree of total income inequality of 88%, a value far greatest than Gini index for partly employed (i.e those employed by government but have other businesses) of 0.7391 (73%), those of trainees was 0.5377 (53%) and self employed (medium Business) with a value of 0.5345 (53%). With prevailing Theil indices ranging from a low of 0.4145 and a high of 3.3034, indicated this income source is inequality increasing for fully –employed group, others and partly employed. While it is a decreasing income source for trainees and self employed (both medium and small). The values of Coefficients of Variation show high disparity among fully employed group than the rest of the group. This finding reconfirmed the finding on wage income inequality as main source of inequality.

5.6.3 Annual Wage Income Inequality by Religion, Ethnicity, Gender And Location

Wage income Gini inequality estimates for all the key elements – gender, religion, ethnicity and location ranged from 0.3333 – 0.9445. For example, results on location showed Giwa has a Gini index of 0.4532, Kaduna South has 0.9445 and 0.5766 for Kaduna North. By implication, wages are more unevenly distributed in Kaduna south(94% degree of inequality) and more evenly distributed in Giwa (only 45% degree of inequality) compared to the other two locations.

Table 60 : Estimated Result for Annual Wages Inequalities by Religion, Ethnicity, Gender and Location

Key Element	**Gini lndex**	**Theil lndex**	**Coefficient Of Variation**
1.Religion			
Christian	0. 5904	0.7601	1. 9528
Muslim.	0. 9368	3. 3574	7. 3940
Traditional	0. 3333	0 .2425	0. 9438
2. Ethnic group			
Hausa/fulani	0. 7875	2. 2409	6. 8973
Yoruba	0. 5215	0. 4881	1. 1725
Igbo	0. 9434	3. 1669	5. 6207
Souther- kaduna	0. 9292	3. 3979	7. 5138
Others north	0. 7317	1. 2529	2. 5600
Other south	0. 3869	0. 4161	0. 7740
3. Gender	0. 8894	3. 2863	9. 0686
Male	0. 8750	3. 0608	8. 9596
Female			
4. Location			
Giwa	0. 4532	0. 3552	0. 9320
Kaduna North	0. 5766	0. 6939	1. 7823
Kaduna Souh	0. 9445	3. 1531	6. 3262

Source: Field work Report, 2008

In gender and ethnicity , the Gini values for gender ranged from a high of 0.8894 – 0.8750 for male and female groups, for southern Kadunas as an ethnic group, the Gini Index was 0.9292 (92%), Igbo has 0.934 (93%), Hausa/ Fulani was 0.7875 (79%) and other north has 0.7173 (72%). Religion shows 0. 5904 (59%) for Christians and 0.9368 (93%) for Muslims. The Theil indices ranged from a value of 0.2435 to a high of 3.3979, while Coefficients of Variation ranged from a low of 0.7740 to a high of 9.0686. The implication of all the indices values especially for Gini showed that, the extent and degree of inequality by location, Kaduna South has higher degree with 0.9445 (94%), this was followed by Kaduna North with 0.5766 (57 %) and then Giwa with 0.4532 (45%). Thus, this result reconfirmed the findings of NBS in 2004 that the

degree of wage inequality is lower in rural area (like giwa) than in urban centres (like Kaduna South and Kaduna North). The Theil indices indicated that wage income source is a decreasing factor of inequality by location for Giwa and Kaduna North but an increasing inequality factor for Kaduna South.

In the case of gender, religion and ethnicity, wage income is an increasing factor for both male and female groups, among muslim group, Hausa/ fulani group, Igbo and Southern Kadunas. In the case of Yoruba, and other North ethnic groups, wage income source is a decreasing factor of inequality. The Values of the Coefficients of Variation further confirmed the extent of groups disparities.

Table 61: Estimated Result of Wages Income Inequality by Job Status

Job Status	Gini	Theil Index	Coefficient Of Variation
Fully employed	0.8911	3.1079	7.6488
Partly employed	0.5373	0.5195	1.1763
Trainee	0.5780	0.6208	1.2448
Self employed (medium business)	0.7471	1.4395	3.1947
Others (unemploy)	0.5134	0.5475	1.3764
Self employed (Small Business)	0.5367	0.5023	1.1193

Source: Field work Report, 2008

5.6.4 Estimates of Wage Income Inequaality by Job Status

In Table 61, wage income Gini indices showed the degree of inequality is higher in fully employed and in self employed medium scale business groups. Theil indices showed that this income source by job status was mostly a decreasing factor among self employed small scale

businesses,partly employed, trainees and others but an increasing factor for fully employed and barely for self employed medium businesses.

5.6.5 Estimates of Other Sources of Income (Asset) Inequality by Gender, Location, Ethnicity and Religion

Gender Inequality estimates by other sources (Asset) show a Gini index for males as 0.8000 while for females as 0.8050 with theil value of 1.4098 and 1.4307. Result for other sources of income inequality by location, Shows Giwa, Kaduna South, and Kaduna North Gini index values were 0.7409 (74%) ,0.8678 (87%), and 0.7556 (76%) respectively. These values indicated that the extent and degree of asset inequality was higher in Kaduna South then follow by Kaduna North. Unlike, the result in total income and wages analysis, there is high degree of inequality in asset in Giwa. The theil indices for the 3 location were 1.1064, 1.7945, and 1.1856 respectively. The values are almost the same, though with Kaduna South slightly higher. The values of Theil indices indicated same Increases pattern of Asset inequality distribution even though this income source (income from Rent, Shares, dividend, bonds, landed properties and so on) was not much as total income and wages.

Asset Inequalities measure by Gini indices show high degree of inequality among the five ethnic groups with a high value of 0. 7653 - 0. 8546. The Hausa / Fulani Group Gini was estimated 0.7717 (77%), while for Yoruba group it was 0.8290 (82%), Igbo has 0.7652, (76%), Southern Kadunas with a value of 0.7881 (79%) and Other North estimated value was 0.8545 (85%). Among the ethnic groups, Other North and Yoruba have the highest degree of asset Inequality but the disparity within each ethnic group is less compared to wages and total wealth distributions, the Theil values are slightly greater than one which show that this income source is inequality increasing for all the key elements but the values of the Coefficients of variation show the disparity of within this groups were not wide except for the Yoruba ethnic group

(GCov = 3.6085), Other Northerners group (GCov = 3.4842) and Kaduna North Local Government Location = 3.1194 (see table 62). Estimated values of Group Gini and Theil indices by Religion decomposition show Group Gini of 0.7782 (78%) for the Christians and 0.8183 (82% for the Muslims, while in both groups, the Theil indices are slightly greater than one, with the christian group estimate of 1.3260 and 1.4762 for the Muslim group. Thus, the results indicated that there is high level of asset inequality in both religion though, the degree is higher for the Muslim group but this income source is an inequality increasing factor

Table 62: Estimated Result of Asset Inequalities Based on Religion, Ethnicity, Gender and Location

Key Elements	**Gini Index**	Theil index	**Coefficient Of Variation**
1.Religion			
Christian	0. 7782	1.3260	2. 6176
Muslim	0. 8183	1.4762	2. 5797
Traditional	0. 5000	0 . 6931	1. 4142
2. Ethnic group			
Hausa/fulani	0. 7717	1. 2799	2. 4184
Yoruba	0. 8290	1. 7567	3. 6085
Igbo	0. 7653	1. 1678	1. 8212
Southern kaduna	0. 7880	1. 2731	2. 0457
Others north	0. 8546	1. 8295	3. 4842
Other south	0. 7761	1. 2546	2. 0471
3. Gender			
Male	0. 8000	1. 4099	2. 6686
Female	0. 8058	1. 4307	2. 6049
4. Location			
Giwa	0.7406	1. 1064	1. 9743
Kaduna south	0. 7559	1. 1856	2. 2085
Kaduna north	0. 8678	1. 7945	3. 1194

Source: field work report, 2008

5.7 Distributional Decile and Quintile Groups Results

5.7.1 Deciles/ Quintile Analysis of Total Income Inequality

This analysis provides a detailed breakdown of total income size distribution by deciles (the household were shared into 10 equal groups). The table 63 shows total tincome owned by various deciles groups. For example, the total income owned by bottom 20% of the population was 0.30% of the total income, while the top 10% owned as much as 83% of the total income. The bottom 40% owned only about 2.24% compared to the top 20% of the population who owned as much as 88% of the total income (owning up to 1.2 million and above annually).

Comparing the total income owned by bottom 20% which was 0.30% with second top 10% (5.26%) , this percentage is far greater than the total income owned by bottom 40% and 50% of the population 2.24% and 3.37% respectively. Using the Kutznet ratio (to measure income distribution between high and low income groups, the ratio of top 20% to bottom 40% as derived from table 63 shows a value of 0.0251 estimate, indicating a greater inequality between the very rich (top 20%) and the very poor(bottom 40%). Using the Kutznet ratio as an indicator of inequality, the lower the ratio, the greater the inequality while the higher the ratio, the lower the inequality.

Mathematically, calculating the ratio of top 20% to bottom 40% we got:

$$\frac{\textbf{88\% share (frequency of those having ₦ 1.2million and above)}}{\textbf{2.24\% share (frequency of those having ₦108,000 to ₦240,000}} = \textbf{0.02517}$$

Table 63 : Distributional summary statistics of Total Income by 10 decile groups

decile group	decile	% of median	Share %	L(p), %	GL(p)
1	12000.00	3.63	0.00	0.00	56.67
2	108000.00	32.63	0.30	0.30	6114.33
3	170000.00	51.36	0.70	1.01	20272.05
4	240000.00	72.51	1.23	2.24	45061.39
5	330000.00	99.70	1.13	3.37	67856.38
6	440000.00	132.93	1.85	5.22	105154.72
7	580000.00	175.23	2.47	7.69	154884.72
8	800000.00	241.69	3.32	11.01	221736.39
9	1.20e+06	362.54	5.26	16.27	327622.72
10			83.73	100.00	2.01e+06

Share% = percentile group share of total income
L(p)=cumulative group share; GL(p)=L(p)*mean(total income)

From this result, total income disparities exist between the top 20% population share and the bottom 40% population share, with 10% poorest individual owning nothing (as computed) annually, and the top 10% richest individual owning between ₦1.2 million and above per annum (i.e owning as high as 83% of the total income). In addition, bottom 40% owned only 2.24% of the total income, a very low share when compared to what was been owned by the 3rd top 10% (3.32%)

Table 63b Distributional summary statistics of total income 5 quintile groups

Quantile group	Quantile	% of median	Share, %	L(p), %	GL(p)
1	108000.00	32.63	0.30	0.30	6114.33
2	240000.00	72.51	1.93	2.24	45061.39
3	440000.00	132.93	2.99	5.22	105154.72
4	800000.00	241.69	5.79	11.01	221736.39
5			88.99	100.00	2.01e+06

Share % = quintile group share of total income
L(p)=cumulative group share; GL(p)=L(p)*mean(Total Income)

5.7.2 Access To Food

Table 64 and 65 show Households Expenditure size distribution grouped into five equal- sized groups or quintiles from the poorest 20% of households up to the richest 20% . The distributional summary of monthly expenditure on food by households on table 64 shows the percentage share of the poorest 20% as 3.97%, while the percentage share of the richest 20 percent as 51.70% respectively. The poorest 40 percent, by contrast, have 19.22% share percentage of the total monthly expenditure on food while the richest 40 percent share percentage was 68.46%. The results from the two groups share percentages (taking the poorest and richest 40 percent) means the richest 40 percent spend about 3.5 times what the poorest 40 percent spend monthly on food.

Table 64: Distributional Statistics of Monthly Food Expenditure by 5 Quintile Groups of Households in Kaduna State, 2008

Quintile groups	Quintile	% of median	Share, %	L(p), %	GL(p)
1	5000.00	50.00	3.97	3.97	666.08
2	10000.00	100.00	15.25	19.22	3224.42
3	15000.00	150.00	12.32	31.54	5290.75
4	26000.00	260.00	16.76	48.30	8102.42
5			51.70	100.00	16776.42

NOTE ;Share % = quintile group share of total food expenditure
L(p) = cumulative group share;
GL(p) = L(p)*mean(monthly food expenditure)

Table 65: Distributional of Annual Food Expenditure by 5 Quintile Groups of Households in Kaduna State, 2008

Quintile groups	Quintile	% of median	Share, %	L(p), %	GL(p)
1	40000.00	33.33	0.72	0.72	1215.67
2	96000.00	80.00	9.23	9.95	16718.00
3	132000.00	110.00	12.49	22.44	37697.34
4	240000.00	200.00	23.13	45.57	76555.66
5			54.43	100.00	167980.33

Source: Field work report,2008

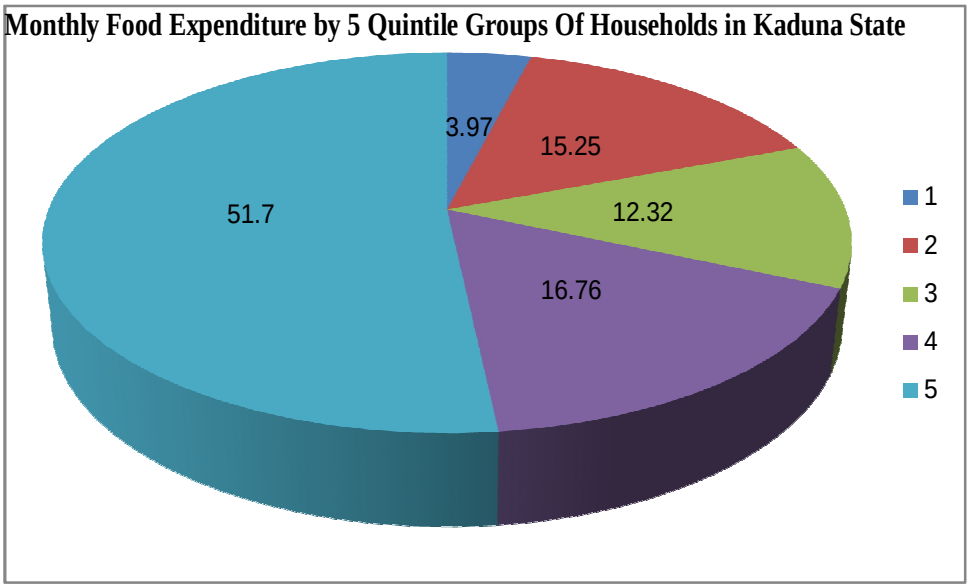


Fig.16

Using the ratios of the shares in expenditure in measuring disparity in income expenditure on food, the bottom 40 percent of the population was compared to top 20percent of the population and the ratio was 0.4, this value indicated greater inequality (the lower the ratio, the greater the inequality while the greater the ratio, the less the inequality). Similarly, the annual income expenditure on food shows an existence of expenditure inequality with the poorest 20 percent of the households share of expenditure as 0.72% while the richest 20 percent share was 54.43%. Thus, the top 20 percent of the households spend 75times what the bottom 20percent spend on food annually. The ratio of the top 205 to bottom 40% of households shows there is greater inequality in annual food expenditure among households in the study area (with a value of 0.1828 approximately 0.2). The monthly and annual food expenditure results above confirmed the findings of the Federal Office of statistics survey result (1992-1993) which reported that the Non-poor households spend between 3.6 – 4.5 times as much on food daily than the poor.

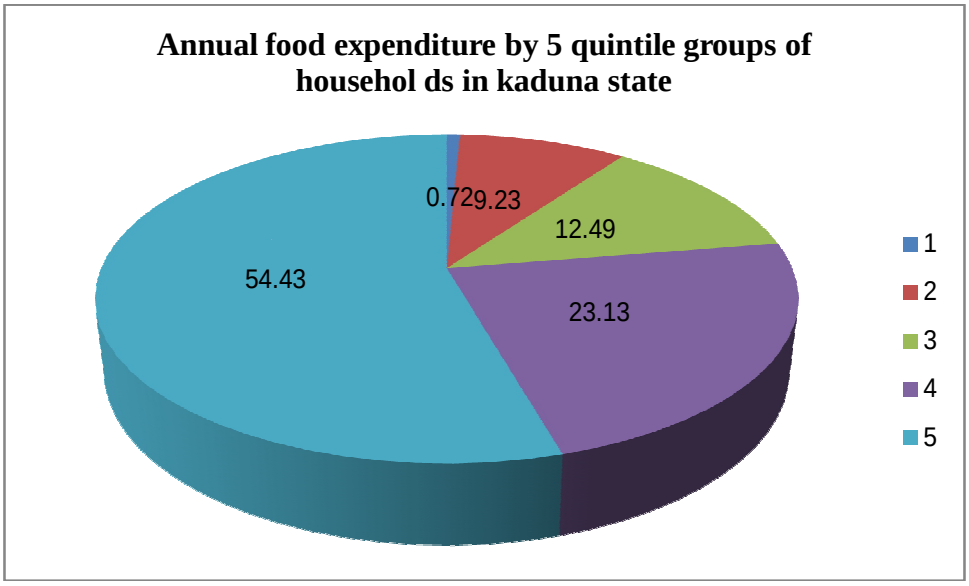


Fig 17

5.7.3 Access to Health

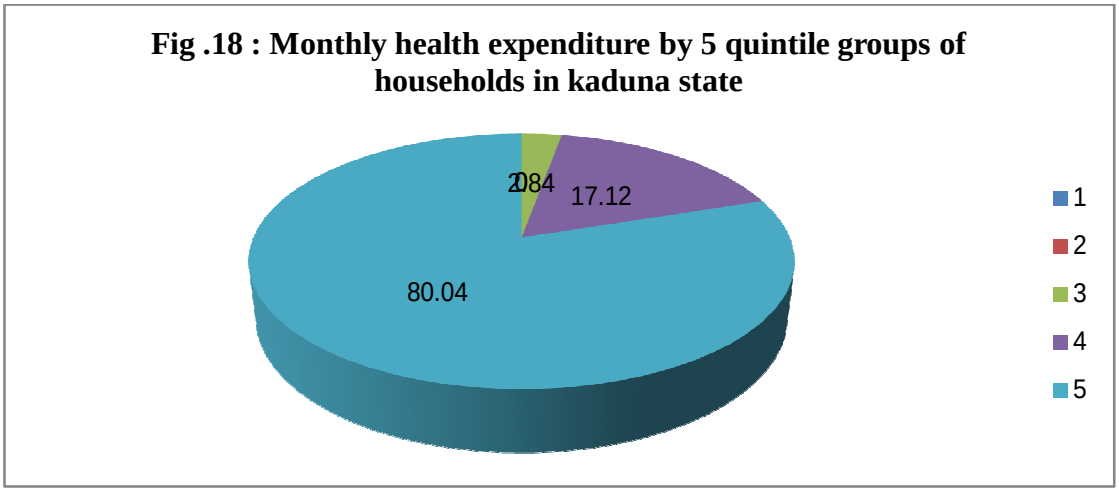
In the table 76 below, access to health care services by the quintile groups only show the distribution of the middle 20%, the first top 20% and the second top 20% respectively. By the result, the bottom 40% (the poorest) of the households, have no share percentage in monthly health expenditure. However, the top richest 20% of the households share was 80.04%, while the second richest 20% share was 17.12%. Taking the ratio between the top 20 and second top 2o% in the absence of the bottom 40% (poorest) shows health expenditure inequality of 0.2138. Thus, the expenditure gap even among the rich class is wide, showing the first top 20% households spending 4.7times what the second top 20% spent on health care services. The second top 20% households also spent 28 times what the middle 20% Households spent on health care services. The results inaddition, show the top 40% of the Population spent about 34 times what the middle income group spent on health care services.Taking the ratio of the middle 20% and top 20%, the

value was 0.03548, a value far less than the previous values , but indicating a slightly inequality in health care monthly expenditure.

Table 66 :Distributional statistics of Monthly Health Expenditure by 5 Quintile Groups of Households in Kaduna State, 2008

Quintile group	Quintile	% of median	Share, %	L(p), %	GL(p)
1	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00
3	600.00	300.00	2.84	2.84	49.87
4	2000.00	1000.00	17.12	19.96	350.03
5			80.04	100.00	1753.53

Source: Fieldwork report,2008



5.8 Established Proverty Line Determination Result

The World Bank and the Federal office of statistics in 2006 established both relative and absolute poverty lines for Nigeria to determine the percentage of people who fall below and above them. Two – thirds mean per capita household income expenditure was used for relative poverty line and a one-thirds mean per capita income expenditure was used for absolute poverty line respectively.

For an in-depth analysis of the percentage of sampled respondents who fall below and above the poverty line, the common relative poverty line was adopted as specified in methodology. This measure aided in the classification of the respondents into various groups of the poor, the extremely poor and the rich.The categorisation in each of the case study Local Government was based on the per capita mean obtained by dividing households' income by number of dependents (size of households). For example, in Giwa not all the 200 respondents provided information on Asset, there were 118 respondents, thus, each established poverty line was determined by the income level of respondents, and the given per capita income was specifically used for the location as bench- mark for categorization.

5.8.1 Established Proverty Line ; Vertical Result

Table 67 shows a 90.3% response rate of the sampled 600 respondents to total income, while Asset has 53.8% response rate and wages and salaries (earnings) has 89.5% . Thus, the various mean per capita household income expenditure estimated were achieved by dividing the total money income from each income source by the number of respondents.

The results of the relative poverty lines for all the three sources of income considered for the study (wages and salaries, assets and total income) show the relative mean per capita household income expenditure for wages and salaries (earnings) as **₦ 306,226.000** while for other sources of income (Assets) and total income, the relative mean per capita household income expenditure were estimated at **₦ 39,565,160** and **₦310,072** respectively. These figures were the established relative poverty lines used for the classification of the respondents in the case study locations. The highest established relative poverty line among the three income sources is the relative mean per capita income of total income.

With a relative mean income per capita of **₦ 310,072.000** for total income, this estimate revealed the number of those below it as 234 respondents that is **43.17%** of the respondents fell below this poverty line while 56.88% are above the relative poverty line. The established relative poverty line for earnings and Asset were **₦306**,**226.00** and **₦ 39,800.00** respectively, given these estimates, 47.49%, 17.52% fell below the poverty line in earnings and asset income sources respectively.

Table 67: Established Vertical Poverty Line Using Two -Thirds Mean Per Capita Household Income Expenditure.

Poverty Line	Total income	Asset	Earnings
Mean income per capita	**₦ 310,072**	**₦ 39,800**	**₦ 306,226.**
Number below poverty line	234	58	255
% below the poverty line (poor)	43.17	17.52	47.49
Number above poverty line	308	273	282
% above poverty line (rich)	56.88	82.48	52.51
Total number of respondents	542	331	537
Total money income	**₦ 1,207,884,633**	**₦98,565,160**	**₦ 1,178,205,633**

Source: Computed from the field work data set,2008

A general observation made from the results above show that the three established relative poverty lines all indicated high percentages for the rich and very low for the poor, though, comparing the mean capita values were high except for asset however, the percentages of the rich show the extent and degree of disparities between the very rich and the very poor in the case study area .These results complement the previous findings in the frequency distribution

of respondents of various income ranges showing widening gaps from one income level to another.

5.8.2 Established Relative Poverty Line; Horizontal Result (by Location)

Giwa

The results of the relative poverty lines for this location were based on the number of respondents and the estimated sum of incomes from the various income sources. A relative poverty line of **₦ 46,799** mean per capita income expenditure was established for wages/salary income source, **₦ 26, 829** for asset income source and **₦ 50,304** for total income source in Giwa. The established relative poverty lines estimates show that 94.39%, 93.87% and 87.39 % were above the poverty line for earnings, total income and asset respectively (see table 58). The respondents that fell below the established poverty line in Earnings source were 5%, 12.6% in Assets and 6% in total income. In all the three income sources, Asset has the higher percentage of the poor(12.6%) while earnings has a larger percentage of the rich (94%). The nature of the poverty lines in this location were relatively smaller than the one obtained at aggregate level, though a rural area, a low relative mean income is usually associated with low real income and hence high poverty. The mean per capita in all the incomes were low, even then, the percentage of the rich were still very high.

Kaduna South

In table 68 below, the percentages of the very rich in all the income sources were very high 91.19%, 80%, 94% in total income, asset and earnings respectively. The percentages of the poor were 20%, 10.42% and 8.8% in asset, earnings and total income respectively. The relative mean per capita households income expenditure of **₦ 102,025** was established for earnings, **₦ 40,610 and ₦ 112,167** were the established bench-marks incomes for asset and total income

annually. Total income has the highest relative mean per capita income with less percentage of the poor (8.81%) The mean per capita for asset in this location is low considering it is an urban centres but with relatively poor people, however, these values could have been affected the number of responses e.g 192, out of 200 for earnings, 193 out of 200 for total income, and 130 out of 200 for Asset (Table 68).

Table 68:Established Relative Poverty Line for Locations by Income Sources (Horizontal)

POVERTY LINE : Giwa	**Earnings**	**Assets**	**Total income**
Mean per capita income expenditure	**₦ 46,799.00**	**₦ 26,829.00**	**₦ 50,304**
Number below poverty line	11	15	12
% below poverty line	5.61	12.16	6
Number above poverty line	185	104	184
% above poverty line	94.39	87.39	93.87
Total number of respondents	196	119	196
Total money income expenditure	**₦ 72,866,600**	**₦ 25,756, 200**	**₦78, 322,600**

.

POVERTY LINE :Kaduna South	**Earnings**	**Asset**	**Total income**
Mean per capita income expenditure	**₦ 102,025.00**	**₦ 40,610.00**	**₦ 112,163.00**
Number below poverty line	20	26	17
% below poverty line (poor)	10.42	20	8.81
Number above poverty line	172	104	176
% above poverty line (rich)	89.58	80	91.19
Total number of respondents	192	130	193
Total money income expenditure	**₦ 124,266.000**	**₦ 34,294,960**	**₦ 137,456,000**

POVERTY LINE : Kaduna North	**Earnings**	**Asset**	**Total income**
Mean per capita income expenditure	**₦ 914,753.00**	**₦ 57,313.00**	**₦ 891,380**
Number below poverty line	114	17	116
% below poverty line (poor)	76.51	20.73	75.82
Number above poverty line	35	65	37
% above poverty line (rich)	23.49	79.27	24.18
Total number of respondents	149	82	153
Total money income expenditure	**₦ 981,073,033**	**₦ 38, 514,000**	**₦ 992,106,033**

Source: Computed from the field work data set, 2008

Kaduna North

In this location,the mean per capital households income expenditure of earnings was as high as the mean per capital households income expenditure in total income. The percentages of poor using the **₦ 914,753.00** for earnings and **₦ 891,380** for total income as bench- mark for categorization, show 76.51% of the respondents as poor by earning and 75.82% poor by total income. The percentages of the rich were relatively low in earnings and total income but relatively high (79.3%) in asset income in this location. Kaduna North is a relatively rich urban centre (metropolitan) with a lot of economic activities taking place compare to Giwa and Kaduna South. Previous findings on this location showed there was a wider income inequality gap (see previous frequency distribution based on location of all the three income sources and the total money income estimates). Hence, the established poverty line in this location is quite high despite low response rate to estimated income sources compared to Kaduna South.

5.8.3 Established Poverty Line: Poorest Of The Poor

The analysis above only identified two classes; the poor and the rich, to determine the category of the extremely poor (the poorest among the poor), we used the already existing poor class and their sum total money income to established another relative mean per capita households expenditure income. Thus, the analysis below (Table 69 and 70) revealed the percentages of the poorest among the poor.

Table 69 below provides the vertical results of the extremely poor, it shows only 4% are extremely poor by wage income (earnings) source with a new mean per capita income of **₦ 22,244** while 96% are above. The Assets income mean was established at ₦ **3,162**, with this, none of the respondents fell below it, the minimum income level was ₦ 10,000 and the maximum for this group was ₦37,162. The mean income for total income source was established at **₦22,528** The percentage below it was 4% of the respondence while 96% were above it..

Table 69:Established Poverty Line For Poorest among the Poor: Vertical Analysis

	Wages	Asset	Total income
Mean income expenditure	**₦ 22,244**	**₦ 3,162**	**₦ 22,528**
Number below poverty line	245	58	225
% below poverty line (Poor)	47.5%	17.52	96%
Number Extremely below poverty line	10	------	9
% Extremely below poverty line	4%	-------	4%
Total Number of Respondents	255*	58*	234*
Total Money Income	**₦ 40,172,633**	**₦ 1,370,920**	**₦38,116,833**

Note; * = previous number of the poor
Source: Field Work Report, 2008

5.9. Established Poverty Line: Horizontal Results

In Table 70, Giwa has no estimates of extremely poor in all the sources of income, most of the respondents that fell below the previous established poverty line earned above the new poverty line for the extremely poor. The relative mean were all very low compared to the minimum and maximum income of the poor in this location. With a relative mean per capita of ₦ 2,351 for earnings, ₦ 2,353 for asset and ₦ 3,112 for total income, these were low, many of the poor were earning above the established mean. For example the minimum earning income among the supposed extremely poor was ₦ 4,800 and the maximum was ₦ 38,000. Asset has minimum of ₦ 12,000 and maximum of ₦ 24,000, total income has a minimum of ₦ 12,000 and a miximum of ₦ 48,000. Hence, there was nobody among the poor that is earning the established means or below. Giwa and Kaduna South as locations have no extremely poor groups. The respondents are wealthy enough to earn above the established means.

Kaduna North has the highest percentage of the poor but with a new mean per capita to identify the extremely poor, earnings and total income has 6% each while asset has none of this

group as many of the respondents (the poor) were having asset income above the established asset mean of ₦ 4,251 (minimum income among the group was ₦ 10,000 and the maximum was ₦ 54,000). Kaduna South poor group were having minimum income of ₦ 12,000 (asset), ₦ 22,000 (total income) and ₦ 12,000 in earnings, while the maximums were ₦ 96,000, ₦ 110,000, and ₦ 40,000 in earnings, total income and asset respectively. Thus, all the poor were having income above the means.

Table 70 :Poverty Line for the Poorest of the Poor by locations

GIWA	Earnings	Asset	Total income
Mean income expenditure	**₦ 2,351**	**₦ 2,353**	**₦ 3,112.00**
Number below poverty line	11	15	12
% below poverty line (Poor)	6%	12.16	6%
Number of Extremely BPL	-----	-----	----
% of Extremely BPL	------	------	----
Total Number of Respondents	11*	15*	12*
Total Money Income	**₦ 250,400**	**₦ 293,000**	**₦ 317,400**

KADUNA NORTH	Earnings	Asset	Total income
Mean income expenditure	**₦ 49,181**	**₦ 4,251**	**₦ 49,229**
Number below poverty line	107	17	108
% below poverty line	93.86	20.73	93.10
Number of Extremely BPL	7	-----	8
% of Extremely BPL	6.14	-----	6.9
Total Number of Respondents	114*	82*	116*
Total Money Income	**₦39,173,033**	**₦ 491,000**	**₦40,504,033**

KADUNA SOUTH	Earnings	Asset	Total Income
Mean income expenditure	**₦11,652**	**₦ 4,086**	**₦14,110**
Number below poverty line	20	26	17
% below poverty line	10.42	20	8.81
Number of extremely BPL	----	----	-----
% of Extremely BPL	----	----	-----
Total Number of Respondents	20*	26*	17*
Total Money Income	**₦1,258,400**	**₦661,920**	**₦ 1,206,400**

Note: *= Previous number of estimated poor. BPL = Below Poverty Line
Source: Field Work Report, 2008

Kaduna North poverty lines values were quite high compare to Kaduna South and Giwa, thus, some respondents classified as poor (**the rich among the poor, those above the poverty line**) and extremely poor(**the poorest among the poor, those below the poverty line**) in Kaduna North could fall into the classified rich class in the other two locations (Kaduna South and Giwa) based on location established poverty line. Hence, the established relative mean per capita income in each location depends on sum of estimated income, family sizes and number of respondents in the location.

From the discussion so far, the relative poverty line established for each income source either low or high has a significant effect on growth and standard of living. The established mean values for each of the location have given more insight into the nature and extent of income gaps between the poor and the rich. Though, the various established poverty lines from the various income sources could have been affected by the total number of respondents, however, looking at environmenntal factors like the nature of the business environment, real money incomes and the extent to which the respondents are exposed to income generating activities in each of the location could have been additional contributing factors. Like wise, the outcomes could have been affected by respondents' over or under estimation of incomes from earnings and Asset (see appendices 2, 3 and 4). Many of the estimated annual income values were relatively small when compared to either the federal government established minimum wage per month o**f ₦7,500** or state average minimum wage of **₦ 5,500**. Federal established minimum wage of ₦7,500 if sum-up would have given an estimated annual income of **₦90,000** (tax included) while state minimum annual wage would sum up to **₦ 66,000,** as observed from the collected data some of the respondents' estimated income in all the three income sources were far below these values. However, the given estimates were used for the analysis in order to have the exact number of sampled size.Thus, all estimated values analyzed were based purely on responses of the respondents.

CHAPTER SIX

6.0 SUMMARY, CONCLUSION AND RECOMMENDATION

6.1 Summary

This dissertation has assessed the nature, pattern and extent of income and non-income inequality in Kaduna state. It has examined both the general form of inequalities (vertical) and across group of individuals (horizontal). Within the context of the stated research questions and objectives, various measures of vertical and horizontal inequalities were used- Gini Index, Theil Index, Coefficient of Variation,Quintile shares and Poverty line. The results from the various analyses have provided an implicit empirical evidence of the nature, pattern and extent of both vertical and horizontal inequalities in Kaduna state. The dissertation major finding from hypothesis testing varified there is an existence of both vertical and horizontal inequalities in the state, the results revealed that earnings (wages and salaries), assets and total income are major determinants of vertical inequality while horizontal inequality are determined by earnings, asset, total income, type of job, access to health and education.The nature, pattern and extent of horizontal inequality varies across the key elements of gender, religion, ethnicity and location.

Some other key findings of the study are highlighted below;

The major source of income was Wages /Salaries in all the locations and the distribution was more unevenly in Kaduna South than in Giwa and Kaduna North. Wage distribution shows majority of the respondents irrespective of religion, gender and tribe were earning between **₦100, 000 to ₦ 150,000,** while at high income level, only 12.8% of the respondents were earning between **₦500, 000 to ₦800,000** annually. In terms of asset distribution, at lower income level, 10% have between **₦10, 000 to ₦ 40,000** annually, while those having between **₦40, 000 to ₦ 100,000** were 13.3%. Asset distribution at higher income level shows majority were having between **₦300,000 to ₦ 600,000** annually.Total income distribution was unequally

distributed in all the locations , majority of the respondents were having between **₦ 100,000 to ₦150, 000** per annum. Total income distribution at higher level, shows majority were having between **₦ 500,000 - ₦800,000** per year, with Kaduna south having the highest percentage (5.8%) followed by Kaduna north with 3.8% and Giwa (2,8%).

The result of the adopted inequality measures revealed high degree of vertical inequality with 88% degree in wage income, 88% in total income and 80% in asset. Horizontal income inequality result by gender, religion, and ethnicity and by location based on total income source revealed high inequality among the Muslims group than the Christians group, and nearly same degree in gender (88% and 87%). Total income inequality by ethnicity revealed higher degree among the Igbo, other Northerners group, and Southern Kadunas. Estimate of total income inequality by location shows higher degree of inequality in Kaduna South than Giwa and Kaduna North. Total income by types of job showed higher degree among fully and partly employed than amoung self employed (both small and medium scale businesses)

Wage income inequality by religion and Gender revealed high inequality degree among the Muslims group than the Christians group and same extent among the gender (89% among males and 88% among females group). Wage income inequality by location shows an existence of very high degree in Kaduna South (94%), 57% in Kaduna North and 45% in Giwa. Thus,wages are more unevenly distributed in Kaduna south and evenly distributed in Giwa (only 45% degree of inequality) compared to the other two locations.

In asset inequality by location Kaduna North has higher degree of 87%, followed by Kaduna South (76%) and Giwa with74% respectively. In all the four key elements, there is high degree of inequality of almost 80%. This income source is inequality increasing for all the key elements except for gender. Total income is an increasing factor in Kaduna South and Kaduna North but a

decreasing factor in Giwa. By gender, religion and ethnicity, total income is an increasing factor for muslims group, other North, southern kadunas and Igbo while it is a decreasing factor among Hausa group, Yoruba, and other south ethnic groups.

Key findings on access to food, education and health care show 78.3% of the respondents spent between ₦10, 000 to ₦50, 000 monthly on food and 69% spent same amount on education per month. Weekly expenditure on health care services shows 47.5% spent between ₦2, 000 to ₦5, 000 i.e. an average of ₦3, 500 per week, even though 87% of the respondents have access to modern health care services, 73% of them still have to pay their medical bill. With inadequate provision of health care services couple with food expenditure, additional expenses on health care services could have a significant impact on level of income.

Results of annual food expenditure by ethnicity show less degree of inequality among Southern Kadunas (36%), Other Northerners (38%), and other Southerners (32%) andYoruba (34%) . By gender, the extent of inequality by food expenditure was also low with 46% in male group and 49% in the female group, same degree was observed in the two religion with 45% in Christians group and 49% in Muslims group.

The established relative poverty line in the three sources of income revealed high percentages of the poor(those below poverty line) in both the vertical and horizontal dimensions. From the horizontal results even though the established mean income for each of the location were different, the location with the highest percentage of those below the poverty line in total income were 75% in Kaduna North while Giwa and Kaduna South have less than 10%

6. 2 Conclusion

Within the context of the stated research questions and objectives, the study has revealed that both vertical and horizontal inequalities exist in the case study area, and the degree and extent of

horizontal inequality dimension varies across the key elements of gender, religion, ethnicity and location. Two major observations were made, firstly, while improved income reforms are taking place nationally in the past few years, there is prevailing wide gaps in earnings rate, total income and assets. Hence, with the prevailing unequal income distribution, generating changes in poverty reduction would be impossible to achieve. This is because, for any given level of mean income or development, higher inequality implies higher poverty and lower standard of living. Secondly, when an income source is an inequality increasing factor like wages /salaries and total income, this implies that any effort made by government to improve distribution through that income source will only benefit the better-off and not the poor except if the poor or the deprived groups were specifically targeted. Information on groups disparities have been identified and provided by this study, it will be of significant advantage for Kaduna state government to use this information in the design of anti poverty and inequality reducing strategic.The real challenges to establish a development strategy for poverty and inequality reduction in Kaduna state and in Nigeria as a whole, lies in the interactions between changes in income distribution, growth and those who benefit from such changes.

Conclusively, evidence from both vertical and horizontal Inequality estimates and hypotheses testing (see appendix 1) have showed that vertical and horizontal inequalities exist in Kaduna state and they are multi-dimensional in nature and are determined by the differences in wages/salaries, total income and Asset. Hence, the chances of a successful reduction of poverty level and inequality among individuals and group of individuals in Kaduna state can be limited by the existence of inequalities in these dimensions.

6.3 Recommendations

With the established nature, and extent of vertical and horizontal income and non income inequality in Kaduna State, the following location specific and general recommendations were made;

Giwa : With high inequality in total income and asset, government needs to provide group targeting programs to encourage asset holding e.g land acquisition to boost economic activity that are related to agricultural activity in an agrarian society like giwa. Provision of infrastructure like roads will enable easy accessibility and market source for farm produce in this location. In addition provision of credit facilities would encourage establishment of agricultural related cottage industries that would provide non- farm employment for both skilled and unskilled which will enhance income status.

Kaduna South : the degree of inequality is similar to Giwa though an urban centre, reducing inequality and poverty would require provision of basic infrastructure like energy, portable water, capital project,creation of awareness on existing capacity development programmes like SMEs, Microfinance, corporative society is significant. This would encourage strategic innovations and improvement in exploiting existing opportunities and less dependence on government jobs

Kaduna North: The degree of inequality is high for all the income sources. Evidence from the study showed the gap between the rich and the poor is very wide, hence, targeting the disadvantage individuals and group of individual through credit markets would encourage investment in human capital that would improve capabilities, and abilities to explore prevailing economic opportunities e.g. high skilled employment which will result in high income status. Adequate provision of basic socio-economic infrastructure would lessen the burden of searching for high cost alternatives by the less privileged group.

General Recommendation

1) Government should address both vertical and horizontal dimensions of inequality and poverty in Kaduna state by **introducing group targeting in its public expenditure programmes.** When policies are implimented on behalf of a disadvantaged majority, this may generate feelings of inclusion and first- rate citizenship. However, horizontal corrective policies are easier to introduce in an area in which the socio-economically deprived groups are in the majority.

2) **Government should adopt structural redistribution policy;** There is need for Government to pursue tax policy that is more progressive in nature . This would help in bridging the income gap between the rich and the poor by means of income transfer from the top 10% to those at the bottom.

3) Government should encourage asset acquisition through state policy on housing, land holding and credit facilities.

4) Government should expand access to basic services to reduce the burden on low income earners. Greater access to available free or subsidized essential services especially water, energy and housing would be a complementary measure to solve some of the financial constraints on poor households. Lack of access to affordable services has led to poverty trap which further constrained the ability of households to generate a livelihood. Withdrawal of the state from the provision of basic services could increase income inequality as more poor people will be less likely to take advantage of the opportunity growth present. Adequate provision of health care facility, water, housing, energy would help lessen expenditure burden of the low income group.

5) Government should introduce Policy reform on entry level wages and incentive system to encourage labour shift from services to manufacturing sector. This is because earnings have been shown by many studies to be related to productivity growth and manufacturing employment. Such that the greater the productivity and more manufacturing jobs, the more equal earnings is created.

6) **Reversed minimum wage:** There is need for the minimum wage to be review, the present one has only been modest in reducing inequality

BIBLIOGRAPHY

African Development Bank (2006)" African Development Review: Aid, Debt Relief and Development in Africa " ADB, Tunis.

African Development Bank (2007) "African Development Review: Natural Resources for Sustainable Development" in Africa,

Aigbokhan, B.E. (2000) "Determinants of Regional Poverty in Nigeria: Development Policy Centre, Ibadan, Working Paper No. 22 (March).

Aigbokhan, B.E. (2005) "Economic Reforms and Poverty Reduction in Nigeria" Nigerian Journal of Economic and Social Studies 47, 3 (November) 349 - 364

Aigbokhan, B.E (2008) **"Growth, Inequality and Poverty in Nigeria"**Discussion Paper No.3, Prepared for United Nations Economic Commission for Africa (UNECA) Addis Ababa, Ethiopia

Alan, J. A. and Kevin A. Hassett (1999) "A New Measure of Horizontal Equity. A paper presented in Workshop at AEI.

Alesina, A and Rodrik, D (1994) " Distributive Politics and E onomic Growth" Quarterly Journal of Economics, 109 (2): 465-90

Alesina, A. And S. Oetler, N. Roubini, and P. Swagel (1996) "Political Instability and Economic Growth" Journal of Economic Growth 1:189-211

Alesina, A and R. Perotti, (1996) " Income Distribution, Political Instability and Investment" European Economic Review 40, 1203-28

Alfred S Eichner, and J A Kregel (1995) " An Essay on Post- Keynesian Theory : A New Paradigm in Economics" Journall of Economic Literature Vol….. pg 1293 – 1313.

Ali A. A.G and Elbadwi.I, (1991) " Inequality and the dynamics of poverty and growth" Mimeo,AERC Nairobi, Kenya.

Ali, A.A. G (1996) "Structural Adjustment Programme and Poverty in Sub –Sahara African 1985-1995" Dakar, CODESRIA.

Ali, A.A. G. (1998) "Dealing with Poverty and Income Distribution: Issues in Developing Countries: Cross Regional Experiences" Journal of African Economics, Vol. 7, Supp. 2. Pg. 77 – 116.

Ali, A.A. G. (2005) "Growth, Poverty and Institutions: Is there a missing link?" Seminar Paper

Presented at AERC Senior Policy Seminar Vii, Cape Town, South Africa, 22nd-24th, 2005

Altman, D. (2003) 'Efficiency And Equity (In the Same Breath)', *New York Times*, 20 April.

Anderson, E and Bird, K (2006) " The Impact of Inequality on Economic Growth: Theory, Evidence and Relevance to Kenya" A study Commissioned by SIDA, Oversesas Development Institute (ODI/RAPP, Rich and Poor Project) London,

Andrew, S (2004) " Economic Well-being and Non-economic Well-being: A Review of the Meaning and Measurement of Poverty" United Nations University, WIDER Publication, Research paper No 2004/30

Annan Kofi (1999) "Peace and Development – one struggle; two fronts: An Address to the World Bank Staff. Washington D.C. 19th Oct. http://www.un.org/news/press/doc/1999/019.sgsm.7187.doc.htm

Aron J., and J. Muellbauer (2004). 'Revised Estimates of Personal Sector Wealth for South Africa', *CSAE WPS* 2004-24.

Aron, J., J. Muellbauer, and J. Prinsloo (2006). 'Estimating the Balance Sheet of the Personal Sector in an Emerging Market Country, South Africa 1970-2005', *WIDER Research Paper* 2006/99, UNU-WIDER: Helsinki.

Ashwani.S.(1983) "Development and Distribution: A Critique of the Cross-Country U-Hypothesis" Journal of Development Economics, December 1983, 13 (3), pp. 367-82. Will Growth be enough? Development Policy Review 18, 11-36.

Atkinson A. (1999) "Is Rising Income Inequality Inevitable? A Critique of the Transatlantic Consensus. A paper presented in the 1999 WIDER Annual Lecture, Oslo.

Atkinson, A.B. (1970) "On the Measurement of Inequality". Journal of Economic Theory. No. 2, Vol. 3, Pg. 244 – 263.

Atkinson, A.B. 1970, "On the Measurement of Inequality "Journal of Economic Theory, Vol. 2, Pg. 244 – 63.

Atkinson, A.B. (2006). 'Concentration among the Rich', *WIDER Research Paper* 2006/151, UNU-WIDER: Helsinki.

Awoyemi, T.T and Adeoti, A.I(2004) " The Decomposition of Income Inequality by Income sources of Income: The Rural Nigerian Experience" African Journal of Economic Policy 111:1-16

Bandyopadhyay, S. (2004) 'Twin Peaks: Distribution Dynamics of Economic Growth across Indian States', in A. Shorrocks and R. van der Hoeven (eds), *Growth, Inequality and Poverty: Prospects for Pro-Poor Growth*. Oxford: Oxford University Press.

Barro, R.J. (2000) "Inequality and growth in a panel of countries", Journal of Economic Growth pp. 5-32

Benabou. R (1996) ,"Inequality and Growth" Discussion Paper No. 1450. Centre for Economic Policy Research, London.

Benabou, R (2000) "Unequal Societies: Income Distribution and the Social Contract" American Economic Review, Vol 90 (1), pg 96 – 129.

Benhabib, J. And Rustichini, A. (1996)" Social Conflict and Growth" Journal of Growth, Vol.1 No 1, page 129-46

Berdal, R. Maths Maths and David M. Malone (eds) (2000) Greed and Grievance: Economics Agenda in civil wars, Lynne Rienner Publishers inc London

Bhorat Haroon (2009) " Growth, Employment Creation and Poverty Reduction: An overview of Evidence and Possible Application to Africa" Paper presented by the Director, Development Policy Research Unit, University of Cape Town, South Africa

Bigsten Arne , and Jorgen Levin (2001) Growth, Income and Distribution, and Poverty: A Review" Paper for WIDER Development Conference on Growth and Poverty, Helsink 25 – 26 May, 2001.

Bigsten A and A Shimeles (2003) "Prospects for pro-poor growth in Africa" Unpublished paper presented in Conference on Inequality Poverty and Human Well-Being at the United Nation University , World Institute for Development and Economic Research (Wider). Helskinki, May, 2003

Birdsall, N. Ross D., and Sabot R (1995) "Inequality and Growth Reconsidered: Lessons from East Asia". World Bank , Economic Review. Issue 9, Page 477 – 508.

Birdsall, N and Londino, J.L (1997) "Asset Inequality Matters: An Assessment of the World Bank Approach to Poverty Reduction" The American Economic Review, Papers and Proceedings 87:32-37

Birdsall, N., Graham, C. & Pettinato, S. (2000) 'Stuck In The Tunnel: Is Globalization Muddling The Middle Class?', Working Paper 14. Center on Social and Economic Dynamics.

Birdsall .N (2005) Rising Inequality in the New Global Economy. WIDER Annual Lecture Published in WIDER Angle No. 2/2005.

Birdsall, N (2005) The World is not Flat:Inequality and Injustice in our Global Economy" WIDER Annual Lecture 9, UNU, World Institute for Development Economics Research (UNU-WIDER)

Birdsall, N. (2007) "Do no harm: Aid, weak institutions and the missing middle in Africa" Development Policy Review 25 (5):575-598.

Birdsall, N. and J. L. Londoño (1997). "Asset Inequality Matters: An Assessment of the World Bank's Approach to Poverty Reduction" *American Economic Review Papers and Proceeding*, 87 (2): 32-7.

Bird, K (2005) "Poverty, Inequality and Growth in Nigeria: An Introductory Overview" Overseas Development Institute, London

Bird, K and Busse, S (2006) " Pro – Poor Policy: An Overview " A Study Commissioned as part of ODI/16 backstopping Mandate to SDL's Social Development Department.

Blackorby, C and D. Donardson (1980)" Ethical Indices for the Measurement of Poverty" Econometrica, 48(4): 1053-60

Blackorby, C (1978) " Measures of Relative Equality and their Meanings in terms of Social Welfare" Journal of Economic Theory" 18(1):59-80

Brandoline,A.L. Cannari, G. D'Allession, and Facelle,I (2004)" Household Wealth Distribution in Italy in the 1990s" Term di Discussione 530, Bank of Italy, Rome

Burtless. G (2002) "Has Widening Inequality Promoted or Retarded U.S Growth". The Brookings Institution, Washington, DC Internet Copy.

Burtless .G (2003),"Has Widening Inequality Promoted or Retarded US Growth". The Brookings Institution , Washington D.C.

Burtless .G. and Christopher Jencks (2003) American Inequality and its Consequences Working Paper No. 339, Maxwell School of Citizenship and Public Affaires, Syracuse University, Syracuse, New York .Page 13244 – 10020.

Canagaraja, S, D Mazumbar at el (1998), "The structure and determinants of inequality and poverty in Ghana" A Report submitted to World Bank poverty Reduction and Social Development Division.

Canagarajah S. and T Saji (2001) "Poverty in a wealthy economy: The case of Nigeria"

Journal of African economies Vol 10 (N02) 143-147.

Chakravarty, S.R. (1985), "Normative Indices for the Measurement of Horizontal Inequality" in Journal of Quantitative Economics, Vol. 1, No. 1, Pg. 81 – 89.

Chandrasekhar,C.P and Jayati Ghosh (2006) " Microeconomic Policy, Inequalityi and Poverty Reduction in India and China" The IDEAs Working Paper Series,Paper No 05/2006 www.networkideas.org

Charaborty A (2001), "The Concept and Measurement of Group Inequality" Centre for Development Studies, Working Paper No. 315. Centre for Development Studies, Thiruvananthapuram.

Chen , Shaohua and Ravallion, Martin (2001)" How did the world's Poorest fare in the 1990s?" Journal of Review of Income and Wealth, 47(3), Page 283-300

Chen, S, and Ravallion, M (2008) " The Developing World is Poorer than We thought, but not less successful in the fight against Poverty" World Bank Policy Research working Paper No 4708, World Bank, Washington D.C

Christiansen, L, L.Demery and S. Paternostro (2003) " Macro and Micro Perspectives of Growth and Poverty in Africa" World Bank Economic Review,17(3): 317- 47

Collier, P (2000) "Economic Cans of Civil conflict and their implications for policy" policy research on the economics of civil war, crime and violence, the World Bank Washington D.C (http://www.World Bank.Org/Research/conflict.htm)

Collier P, and Anke H (2000), "On the incidence of Civil war in Africa". The World Bank Washington D.C (http://www.World Bank.Org/Research/conflict.htm).

Collier, P and Anke Hoeffler, (2001) "Greed and Grievance in civil war" the World Bank Washington D.C (http://www.World Bank.Org/Research/conflict.htm)

Collier, P. (2007) "Africa's Economic Growth: Opportunities and Constraints", African Development Review 19, 1 (April) 6-25.

Conwell, F.A. 1985 "Measures of Distributional Change: An Automatic Approach" Review of Economic Studies, Vol. 52, Pg. 135 – 51

Could A, J. S Hentschel and Q. T wodon (2002) "Poverty Measurement and analysis" in J Wingman (ed) A source book for poverty reduction strategies, Washington DC World Bank

Cornia, G. A. (2003). 'The Impact of Liberalisation and Globalisation onIncome Inequality in Developing and Transitional Economies'. CESIFOWorking Paper 843. Munich: Center for Economic Studies.

Cramer C. (2003) ,"Does Inequality cause conflict". Journal of International Development, Vol. 15, page 397 – 412.

Cramer, C. (2002) "Homo Economicus Goes to War". Methodological Individualism, Rational Choice, and the Political Economy of War" .World Development, Vol. 30, No. 11, Page 184 – 1865.

Dallina D and Gatti R (1999) "Gender inequality income and growth are good times good for women?" Working paper series No 1, the World Bank Washington D.C

Dalton, H. (1920) "The Measurement of the Inequality of Incomes" Economic Journal Vol. 30, Page 348 – 361. As cited in Stewart et al. 2005. Does Historical Inequality Matters: Some Implication for Measurement Working Paper No. 19, for CRISE, Queen Elizabeth House, U.K.

Dalton, H. 1920, "The Measurement of the Inequality of Income" Economic Journal, Vol. 30; 348 – 61.

Davies, J.B., Sandström,S. Shorrocks, A. and Wolff, E.N. (2007). 'The World Distribution of Household Wealth', in J.B. Davies (ed.) *Personal Wealth from a Global Perspective*, (2007) Oxford University Press: Oxford.

Davies, J.B., S. Sandström, A. Shorrocks, and E.N. Wolff (2007). 'The World Distribution of Household Wealth', in J.B. Davies (ed.) *Personal Wealth from a Global Perspective*, WIDER, Research Paper No. 2007/77

Department For International Development (2004). What is pro-poor growth and what do we need to know? Pro-Poor Growth Briefing Note 1, February.

David E. Sahn and David C. Stifel (2004) Urban and Rural Inequality in Living Standard in Africa. Research Paper No. 2004/4 World Institute for Development Economics Research, United Nations University.

Dercon S. (2001) "Economic Reform, Growth, and Redistribution Components of Changes in poverty measures: A Case study of African Economies" Oxford University.

Duclos J (2000) Comments on "The Dynamics of Poverty inequality and economic well-being: African economic growth in comparative perspective" Journal of African economics Vol 9 P9 79-82.

Easterly, W. And Levine, R (1997) " Africa's Growth Strategy: Policies and Ethnic Divisions" Quarterly journal of Economics, 112(4): 1203-50

Easterly, W. (2002). 'What did Structural Adjustment Adjust? The Association of Policies and Growth with Repeated IMF and World Bank Adjustment Loans'. CGD Working Paper 11. Washington, DC: Center for Global Development.

Easterly, W. (2004). 'Channels from Globalization to Inequality: Productivity World versus Factor World', in S. M. Collins and C. Graham (eds), *Brookings Trade Forum 2004. Globalization, Poverty, and Inequality*. Washington, DC: Brookings Institution Press.

ECA (2003) "Poverty mapping for selected African countries Addis Ababa: ECA

Elbadawi Ibrahim and Gary milante (2005) " Growth, Income inequality and poverty in Africa" paper presented at the AERC senior policy seminar vii, cape town, South African, 22-24 March 2005.

ESPD (2004) "The challenges and prospects of achieving MDGs in Africa "Mimeo,

Epaulard, A (2003) "Growth, income inequality and poverty reduction in Namibia" in poverty income inequality and economic development in Namibia, Windhoek: Bank of Namibia

Erik Thorbecke and Chutatong Charumilind (2002) "Economic Inequality and its Socio-Economic Impact" Journal of World Development ,Vol. 30, No. 9, Pg. 147 – 1495. www. Elsevier.com/locate/worlddev

Esteban, J. and Ray D(1994). On the Measurement of Polarization: Econometrical Issues. No. 64, Vol. 4, Pg. 819 – 851.

Fakiyesi .O.M (2001) " Encouraging Growth to Reduce Poverty in Nigeria". Journal of Economic and Financial Review, Central Bank of Nigeria vol.5

Fearon, James and Laitin, David (2003) Ethnicity, Insurgency and Civil Wars" AmericialPolitical Science Review 97: 75-90

Federal Government of Nigeria, FGN (2004) Nigeria: National Economic Empowerment And Development Strategy – NEEDS, National Planning Commission, Abuja.

Ferreira, L. M (1996) "Poverty and inequality during structural adjustment in rural Tanzania" policy Research working paper Bo 164, Washington D. C, World Bank

Ferreira, F.H.G. (1999) "Inequality and Economic Performance: A Brief Overview on Theories of Growth and Distribution". World Bank Working Paper. Washington D.C. World Bank.

Fire Glenn Baugh (2003) "The New Geography of Global Income Inequality". Cambridge M.A: Harvard University Press.

Fitzgerald V.(2008) " Economic Development and Fluctuation in Earnings Inequality in the Very Long Run: The Evidence from Latin America (1900-2000)"Journal of International Development, 20(8):1028-1048

Forbes Online: www.forbes.com/lists/2003/02/06/billionaire.html

Forsythe Nancy and Roberto Patricio Korzeniewicz (2000) Gender Inequalities and Economics Growth : A Longitudinal Evaluation. University of Maryland at College Park, (Internet Copy).

Francois, B (1979) "Decomposable Income Inequality Measure" Econometrical, Vol. 47,: Pg. 901 – 20

Francois, B and Christian Marrison (1998) "Inequality and Development: The role of Dualism". Journal of Development Economic, vol. 57 issue 2, page 233 – 257.

Francois, B (2004) " The Poverty Growth – Inequality Triangle" A Paper Presented at the Indian Council for Research on International Economic Relation, held at New Delhi on February 4th 2004 (internet publication).

Frank, E (1998)" Household Strategies and Rural Livelihood Diversification" Journal of Development Studies

Friedman, J. (2003) " A Regional Analysis of Poverty, Inequality and Growth in Indonesia; 1984-1999" Discussion Paper No 2003/57 United Nations University Publication.

Fuentes, R (2005) "Poverty, Pro-poor Growth and Simulated inequality reduction"

Galbraith, J.K (2004)"Tracking the Rise of Inequality in China and Russia". In WIDER Angle, No. 2 /2004. A Publication of the World Institute for Development and Economics Research, United Nations University, Helsinki.

Galor, O.and J. Zeira, (1993) " Income distribution and Macroeconomics" Review of Economic Studies, Vol 6, page 35-52

Garba, P.K (1999) ,"Gender Employment and Income Gaps in Nigeria". Nigerian Journal

of Economic and Social Studies Vol. 3, No. 1, Pg. 125 – 158.

Garba, P.K (2005) "Regional and Gender Dimensions of Poverty in Sub-Saharan Africa an Implications for Poverty Reduction Strategy" Paper presented at the AERC Senior Policy Seminar vii, Cape Town, South African, 22nd-24th, March 2005.

Garba , A.G. (2004) " ASUU and NEEDS: Preliminary Observation." Paper Presented at ASUU meeting A.B.U., Zaria.

Gasparini, L. Horenstein, M. Molina, E. & Olivieri, S. (2006) 'Economic Polarisation in Latin America and the Caribbean: What do Household Surveys Tell Us?' Working Paper No 38. CEDLAS.

Gboyega, A. , Olawale .A. and Garba .A. G. (2004) "Nature of Horizontal Inequality in Nigeria." Final Research Report submitted to CRISE, Queen Elizabeth House, Oxford University, Oxford.

Gini, C. 1912. Variabilita e mutabilita, Bologna as cited in Julie (1999).

Goodhand, Jonattan (2001), "Violent Conflict poverty and chronic poverty" Chronic Poverty Research Centre (CPRC) Working paper No 6.

Gordon Anderson (2009) " Polarization of the Poor: Multivariate Relative Poverty Measurement" SANS Frontiers, www.Wiley interscience

Gottschalk, P. and T. M. Smeeding (1999) "Empirical Evidence on Income Inequality in Industrialized Countries" Luxemburg Income Study,Working Paper No.154. Luxemburg.

Gudrun Østby (2004) "Do Horizontal Inequalities Matter for Civil Conflict? "A Paper presented at the International Peace Research Institute, Oslo, Norway.

Gunnar Myrdary (in Meier, G and Seers, O. (edd) 1998, Pioneers in Development New York, Oxford University Press.

Grusky, D. and Kanbur, R. (2006) "Introduction: The conceptual Foundations of Poverty and Inequality Measurement" in D. Grusky and R. Kanbur (eds.), Poverty and Inequality Stanford: Stanford University Press.

Handley, G. Higgins, K. Sharma, B. Bird,K and Cammack .D (2009) "Poverty and Poverty Reduction in Sub-Saharan Africa: An Overview of Key Issues" Working Paper No 229, Publication of Overseas Development Institute (ODI).www.Odi.Org.uk

Handley, G. Higgins, K. Sharma, B.(2007) "Poverty and Poverty reduction in Nigeria and Tanzania: Country case studies"In Handley, G. Higgins, K. Sharma, B. Bird,K and Cammack .D (2009) "Poverty and Poverty Reduction in Sub-Saharan Africa: An Overview of Key Issues" Working Paper No 229, Publication of Overseas Development Institute(ODI).www.Odi.Org.uk

Harris, John R and Michael P. Todaro (1970) Migration, Unemployment and Development : A two Sector Analysis. American Economic Review, pg 126 –142. http://en.wikipedia.org/wiki/Inequality.

Hanmer L and Noscholo F (2000) Attending the international Development Target:

Horenstein, M. & Olivieri, S. (2004) 'Income Polarisation in Argentina: Pure Income Polarisation, Theory and Applications', *Economica L*(1-2):39-66.

Hunter .W.R (2001) , " The Rising Inequality of World Income Distribution " In Finance and Development, A Quarterly Magazine of the IMF. Vol 38, No.4 http://www.imf org/external/pubs/ff/fandal/2001/12/wade.htm.

Human Development Report(Various Years), Office Occasional Papers, UNDP New York.

Hyeok Jeong, (March 2005) "Assessment of Relationship between Growth and Inequality: Micro Evidence from Thailand" IEPR Working Paper 05.20, Institute Of Economic Policy Research,University Of Southern California Http://Www.Usc.Edu/Iepr

http://www.gsdrc.org(2006) "Violent Conflict" University of Birmingham gsdrc.org

http://utip.gov.utexas. Edu/web/working paper.utip-14. p df "the theil inequality Index.

Indranil Dutta and Ajit Mishra (2006) "Corruption, Poverty Traps and Credit Market Imperfection"WIDER Angle No 2/2006 A Publication of United Nations University,

Isah, S. Isah, M and Williams, T (2010) "Gender Budgeting as a Tool for solving Gender Inequality in Nigeria" A paper presented at the National Conference on Engendering Policy for attaiment of the Millennium Development Goals in Nigeria, Held at Centre for Human Resource and Gender Services, Asaba, Delta State

Islam, R (2004)" The nexus of Economic Growth, Employment and Poverty Reduction: An Empirical Analysis" Recovery and Reconstruction Office, International Labour Office, Geneva.

James B. Davies, Susanna Sandstrom, Anthony Shorrocks and Edward N.Wolff (2007) "Estimating the Level and Distribution of Global Household Wealth" Research Paper No 2007/ 77 UNU- WIDER Publication.

Jean – Yves Duclos (1995), "Research Performance, Relative Deprivation and Generalized Gini Indices of horizontal Inequality" A paper For Social Sciences and Humanities Research Council, Canada, Quebec.

Jeff Edwards and Anya Mcguirk (2004) "Kuznets Coweball: Missing the Regional Strike Zone, a comment on, Jih Y. Chang and Rati (2000) Level of Development, Rate of Economic Growth and Income Inequality in Journal of Economic Development and Cultural Change Vol. 48, No. 4

Jenkins,C and ThomasC (2000) "The changing nature of inequity in South Africa" UNU/WIDER publication

Kabeer N (2003), "Institutionalizing Gender equity Goals in the Policy process in Gender main stream in poverty eradication and the MDGS" A hand book for policy-makers and others stakeholders , Commonwealth secretariat/IDRC/CIDA. London PP 197-232.

Kaldor, N (1956) " Alternative Theories of Distribution" Review of Economics Studies, 23(2): 83-100

Kaldor, N (1961) "Capital Accumulation and Economic Growth" In Liutz .F.A and Hague.D.C (eds) " The Theory of Capital" New York, St Martin's Press.

Kanbur, R. and Zhang, X (1999) "Which Regional Inequality? The Evolution of Rural – Urban and Inland – Coastal Inequality in China from 1983 – 1995. In Journal for Comparative Economics. Vol. 27, Page 686 – 701.

Kaushik Basu (2004) Globalization, Poverty, and Inequality: What is the Relationship? What can be done? Published in WIDER Angle No. 2/2004 by World Economic Development Research, United Nations University, Helsinki, Finland.

Keefer, P. & Knack, S. (2002) 'Polarization, Politics and Property Rights: Links Between Inequality and Growth', *Public Choice* 111(1-2): 127-54.

Kraay, A (2003) " When is growth Pro-poor? Evidence from a panel of countries "

World Bank Policy Research working paper no 3225, March 2004.

Kimahi, P. K. , N.N. Nafula, D.K. Manda, A. Bedi, G. Mwabu, and M. Kimeyi(2004) " A Review of the Health Sector in Kenya" Working Paper No11, KIPPRA Working Paper Series, Nairobi

Knowls S (2001) "Inequality and economic growth: The empirical relationship Reconsidered in the light of comparable Data" InWider publication, Helsinki

Kolm S.Ch (1969) " The Optimum Production of Social Justice" In J. Margolis and H. Guilton (eds) Public Economics, London, Macmillan

Kuznets, S (1955) " Economic Growth and Income Inequality" American Economic Review, 1955, 1-28

Langer Arnim, Mustapha .A.R and Stewart, F (2007) " Horzontal inequality in Nigeria, Ghana and Cote d'lvoire: Issues and Policies" CRISE Working Paper No 45, U.K. www.crise.ox.ac.uk

Langer Arnim and Ukoha Ukiwo(2007)" Ethnicity, Religion and the State in Ghana and Nigeria: Perceptions from the Street" CRISE Working Paper No 34, U.K. www.crise.ox.ac.uk

Lerman, R. and Yitzhaki, S (1985) " Income Inequality effects by Income Source: A New Approach and Application to the United State" The Review of Economics and Statistics 1:151-156

Litchfield .J.A. (1999) "Inequality: Methods and Tools". Text for the World Bank Poverty Net Website: http://www.worldbank.org/poverty

Lopez J H (2004) Pro-growth , Pro-poor ; Is there a trade off?" World Bank Policy Research working paper No 3378, August.

Lorenz, M.O (1905) " Methods for Measuring Concentration Of Wealth" Journal of American Statistical Association 9: 209-19

Ludi, E and Bird Kate (2008) "Supporting Pro-Poor Growth Processes: Implication for Donors" Briefing Paper No 34 , Publication of Overseas Development Institute (ODI).www.Odi.Org.uk

Luiz de Mello and Erwin R. Tiongson (2003) "Income Inequality and Redistributive Government Spending". IMF Working paper, (wp/03/14) Fiscal Affairs Dept, International Monetary Fund.

Machiko Nissanke and Erik Thorbecke (2004) "The Impact of Globalization on the

World's Poor – Channels and Policy Debate. In wider Angle,World Institute for Development Economics Research. No. 2/2004. Pg. 10 – 13.

Martin, Prowse (2007) "The poverty and inequality debate in the UK: Thoughts on terminology and approaches" ODI (Overseas Development Institute)

Martin Ravallion and Gauran Datt (1999) "when is growth pro-poor? Evidence from Diverse Experence of India State" InWider Angle, no 1/2004. World Institute for Development Research.

Martin Tabi Jean – Yves Duclos(1995) Linear Inequality Measures and the Redistribution of Income" Journal of Development Studies.

Massimo Tommasoli (2003) "Inequality vulnerability to violent conflict and Aid incentives for peace "A preliminary Draft for Development Co-operation Directorate OECD, paris

Mckay Andrew (2002) "Inequality briefing Defining and measuring inequality" Overseas Development Institute and University of Nothing ham Briefing paper No 1 (1 of 3)

McKay Andrew (2004) "Wealth and Inequality: Issues from Recent Work on Inequality in Middle Income Countries". Being a Paper presented in Researching Wellbeing Workshop, Hanse Institute. Point/McKay-Hansefiles/v3document.htm

Mckay Andrew (2004)"Inequality" Internet source; www. Odi . org. UK

Meltzer, A . H and S. F Richard (1981)" A Rational Theory of the Size of Government". Journal of Political Economy, vol. 89, pg 914- 929.

Michael Bleaney and Akira Nishiyama (2004) Economic Growth, Income Distribution and Poverty. Times-Series and Cross Country Evidence from the C.F.A. Zone countries of Sub-Saharan Africa. United Nations University, World Institute for Development Economics Research Paper No. 2004/3/

Michael Bleaney and Akura Nishiyama (2004) Economic Growth, Income Distribution and Poverty; Time- Series and Cross – Country Evidence from the C.F.A – Zone Countries of Sub- Sahara African" Research paper no. 2004/3 World Institution for Development Economics Research (WIDER) www. Wider.unu.edu.

Milanovic 2001 as cited in Eric Theorbeike and Chutatong Charumilind 2002 " Economic Inequality and its Socio- Economic Impact" In World Development Studies Vol.30, No.9, pg 1477 – 1495. http:// www.worldbank.org/research /growth/ddersqu.htm.

Milanovic, B. (2002). 'True World Income Distribution, 1988 and 1993: First Calculation Based on Household Surveys Alone', *Economic Journal* 112: 51-92.

Milanovic, B (2003) ,"Is Inequality in Africa really different?" World Bank Policy Research Working Papers No.3169

Milanovic B (2004) " Is Inequality in Africa really different?" World Bank Policy Research working paper No 3169 Nov.2004.

Milanovic, B. (2005). *Worlds Apart, Measuring International and Global Inequality* Princeton University Press: Princeton NJ and Oxford.

Milanovic, B. (2005) " Worlds Apart, Measuring International and Global Inequality" Princeton Iniversity Press: Princeton NJ and Oxford

Milo, V (2009)" Growth without Development: Looking Beyond Inequality" Brief paper No 47 Overseas Development Institute(ODI)

Mustapha, A.R.(2006). " Ethnic structure, inequality and governance of the public sector in Nigeria" In Bangura.Y (ed) Ethnic Inequality and Public Sector Governance, UNRISD, Palgrave Macmilla, Basingstoke

Mwangi, S.K (2005) "Institution of Governance, Power Diffusion and Pro-Poor Growth Policies" Paper presented at the AERC Senior Policy Seminar vii, Cape Town, South African, 22nd-24th, March 2005.

Nafziger, E Wayne, Frances Stewart and Raimo (2003) " War, Hunger and Displacement: the origin of Humanitarian emergencies" Vol 1, & 2 Queen Elizabeth House Series in Development Studies, UNU/WIDER Studies in Development Economics, Oxford.

National Planning Commission (2005) Annual Human Development Report (Nigeria).

Nissanke, M (2009)" Linking Economic Growth to Poverty Reduction Under Globalization: A Case for Harnessing Globalization for the Poor in Sub-Sahara Africa" A paper prepared for AERC Project workshop on Understanding Links between Growth and Poverty Reduction in Africa

Noschold Felix (2002) "why inequality matters for poverty" Poverty and public policy groups, Overseas Development Institute, 111 Westiminst Bridge Road, Overseas London Briefing paper No 2 (1, 2, and 3).

Nwafor, M, O Kanayo and A Adenikiju (2004) "The Impacts if trade liberalization of poverty

in Nigeria: Micro-simulation in a CGE model" A proposal submitted to the Poverty and Economic Policy (PEP) Research Network.

Odedoku, M.O and J.L Round (2001) " Determinants of Income Inequality and its Effects on Economic Growth : Evidence from African Countries" A Conference Paper for WIDER on Growth and Poverty. Uni-wider, Helsinki 25th – 26th May 2001.

Okojie C: and A Shumeles (2006) "inequality in sub-Sahara African; A Synthesis of recent research on the levels, trends, effects and determinants of inequality in its different dimensions" Overseas Development Institute, London.

Okojie, C. E,E; J. C Anyanwu, F. O Ogwumike, and B Alayade (2001) "Poverty in Nigeria an analysis of gender issues, assess to social services and the labour market, final Report Submitted to AERC.

Okun, A.M. (1975) "Equality and Efficiency: The Big Tradeoff. Washington D.C. The Brookings Institutions.

Okun Arthur (1975) As cited In Burthless.G and Christopher Jencks (2003) Luxembourg Income Study, Working Paper Series.

Ostby, G. (2003) ,"Horizontal Inequality and Civil War, Throndheim" Norwegian University of Science and Technology.

Oyekale,A.S. Duclos, J.Y. Araar, A. Adeoti,I.A.and Oyekale,T.O (2007) " Income inequality and Its Sources in Nigeria: A Factor Component Approach Decomposition" In The Nigerian Journal of Economic and Social Studies, Vol 49, No3 page363-378

Pazos M., I Rabadán et al, (1995) "La desigualdad horizontal en el impuesto sobre la renta de las personas físicas" *Revista de Economía Aplicada*, 9, pp 5-20.

Persson, T. And G . Tabellini (1994) " Is inequality harmful for Growth? Theory and Evidence" American Economic Review, 84:600-621

Perotti, R (1993) " Political Equilibrium, Income Distribution and Growth" Review of Economic Studies 604:755-76

Peters Timmer and Ashley. S.Timmer (2004) " Reflection on the Launching of three Books about Poverty, Inequality and Economic Growth" In Wider Angle No 1/2004. World Development Economics Research, United Nations University

Plotnick, Robert (1981) ,"A Measure of Horizontal Inequality". The Review of

Economics and Statistics Vol. LXII, No. 2, Pg. 283 – 288.

PRSP Briefing Note 6 (2003) "National Poverty Reduction Strategies (PRSPs in Conflict Affected Countries of Africa" World Bank.

Ravallion M. (1997) " Can High Inequality Developing Countries Escape Absolute Poverty? as Published in Economics Letters Issue No. 56: pg 15 – 57.

Rawls, J. (1971), *A Theory of Justice*. Cambridge, MA: Harvard University Press

Richard H. Adams, Jr. (2001) Non-Farm Income, Inequality and Poverty in Rural Egypt and Jordan, Policy Research Working Paper (2572) World Bank.

Richard Jolly (1999) ,"Global Inequality" in WIDER Angle No. 2/1999. United Nations University's Publication, World Institute for Development Economics Research. www.wider.unu.edu.

Richard Jolly (2005) ,"Global Inequality in Historical Perspective". Published in WIDER Angle , No. 2/2005.

Robinson Sherman(1976) ".A Note on the U Hypothesis Relating Income Inequality and Economic Development". American Economic Review, June 1976, 66 (3), pp. 437- 440.

Rothschild, M. and J. Stiglitz (1973) "Some Further Results on the Measurement of Inequality" *Journal of Economic Theory*, 6(2): 188-204.

Sahn D and D. C Stifel (2003), "Urban –rural inequality in living standard in Africa" in Journal of African Economies Vol 12 (4) 564-597.

Sala-I-Martin X (2002) "The World Distribution of income: estimated from individual Income distributions" working paper 8933, Cambridge MA NBER

Sarah, Collinson (2003) **"**Power, Livelihoods and Conflict: Case Studies in Political Economy Analysis for Humanitarian Action" Humanitarian Policy Group (HPG)Report 13 ODI

Sen, A (1993) Inequality and Poverty in Malaysia: Measurement and Decomposition New York, Oxford University Press

Shimeles, A (2004) "Consumption variability risk and poverty in Ethiopia" Mimeo, Department of Economics ,University of Gotherburg Sweden.

Shorrocks, A. F.(1980) "The Class of Additively Decomposable Inequality Measures" Econometrica, April1980, 48 (3), pp. 613-625.

Shorrocks Anthony (2004) " Inequality and Welfare Evaluation of Heterogeneous Income Distribution" World Institute for Development Economic Research (WIDER), Research paper No. 2004/1/. www. Wider . unu.edu/publication@wider.unic.edu.

Shujie Yao (2000), "Economic Development and Poverty Reduction in China over 60 years of Reform" University of Portsmouth.

Silverman, Bernard W (1986) "Density Estimation for Statistics and Data Analysis." Boca Raton: Chapman &Hall/CRC, 1986.

Soludo.C.C (2006) "Law,Institution and Nigeria's Quest to Join the First World Economy" Being a lecture delivered in honour of the retired- justice of the Supreme Court of Nigeria, Justice Kayode Eso, at the Obafemi Awolowo University, Ile-Ife,25th July

Soludo.C.C (2006) " Can Nigeria be the China of Africa?" Being a lecture delivered at the founders' day of the University of Benin City, Nigeria. Nov.23rd

Soulth Africa Human development Report (2004) "poverty and Inequality" Chapter 4

Sumner Andrew (2004) " Economic Well-being and Non-economic Well-being: A Review of the Meaning and Measurement of Poverty" Research Paper No 2004/ 30. A publication of United Nations University, World Institute for Development Economic Research,WIDER.

Stewart, F. Humphreys, F and Lea N (1997) "Civil Conflicts in Developing Countries Of the last quarters of century an empirical overview of economic and social consequences" Oxford Development Studies (25) 1:11-4

Stewart, F. (2000) "Crisis Prevention: Tackling Horizontal Inequalities". Oxford Development Studies No. 28 Vol. 3.

Stewart, F. (2000) ,Horizontal Inequality: Neglected Dimension of Development". Helsinki, WIDER Annual Development Lecture.

Stewart, F. (2001) ,"The Perils of Neglecting Horizontal Inequality. A Paper presented in the WIDER 2001 Annual Lecture 17 – 18 August in Helsinki, Finland. Published in WIDER Angle, No. 2/2001.

Stewart Frances, Graham Brown and Luca Manicini (2005) "Why Horizontal Inequalities Matter: Some Implications for Measurement. CRISE Working Paper No. 19 – Publication of Centre for Research on Inequality, Human Security and Ethnicity, Queen Elizabeth House, UK. http://www.crise.ox.ac.uk/

Subramanian, S. (2002), "Counting the Poor: An Elementary Difficulty in the Measurement of Poverty " *Economics and Philosophy*, 18(2): 277-85.

Subramanian, S., and D. Jayaraj (2006). 'The Distribution of Household Wealth in India', *WIDER Research Paper* 2006/116, UNU-WIDER: Helsinki.

Tanzani Policy Research Working Paper, No 164, Washington D.C, World Bank.

The Research of the University of Texas: "Inequality Projects" http:/utp.gov.utexes.edu

Theil, H (1967) Economics and Information Theory, Amsterdam: North - Holland

Thorbecke, E and Charumilind , C .(2002) "Economic Inequality and its Socio-Economic impact" World Development, 30 (9): 1477-95

Thorbecke, E and Nissanke, M (2008) " Globalization and the Poor in Asia: Can Shared Growth be Sustained? Africa Development Review, United Nations University, WIDER Special Issues, 20(1)

Thomas. V. Wang, Y. and Fan, X (2000) Measuring Education Inequality: Giwa Coefficient of Education. World Bank.

Timmer, C. P. (2006). 'A Historical Perspective on Pro-Poor Growth in Indonesia', in Grimm, M. Klasen,S and McKay, A (eds), *Determinants of Pro Poor Growth: Analytical Issues and Findings from Case Studies*. Basingstoke: Palgrave Macmillan.

Toney Killick (2002) "Responding to Inequality" Published in Inequality Briefing Paper No. 3.

Turton, D. (1997). "War and ethnicity: global connections and local violence in North East Africa, and Former Yugoslavia." Oxford Development Studies **25**: 77-94.

United Nations University (2005) " Development Agendas and Insights: 20years UNU- WIDER Research

United Nations Research Institute for Social Development(2010) " Combating Poverty and Inequality: Structural Change, Social Policy and Politics" United Nations publication, July 2010, Switzerland www.unrisd.org

UNDP Human Development Report (2000) (on the indices)

UNDP (2000) , Human Development Report

Usman Shamsudden (2000), "The IMF, The World Bank and Economic Policies in Nigeria. A paper delivered at a public lecture organized by the Nigerian Economics Students Association (NESA), ABU, Zaria.

Van der Berg S and H Bhorat (1999) "The present as a legacy of the past: The labour market inequality and poverty in South Africa" DPRU working paper No 01/29, Cape town, DPRV

Wan .G (2005) "Rising Inequality in Post Reform China" in WIDER ANGLE No. 2 /2005 a publication of World Institute for Development and Economics Research, in United Nations University Publication,

White ,H and E Anderson (2000) "Growth Versus redistribution: does the pattern of growth matter" Mimeo, institute of Development Studies, University of Sussex.

White, H and Anderson, E (2001) " Growth Versus Distribution: Does the Pattern of Growth Matter? In Development Policy Review, 19(3): page 267-289

Wolfson, M. (1997) "Divergent Inequalities: Theory and Empirical Results" *Review of Income and Wealth* 43(4): 401-21.

Woo, J. (2005) "Social polarization, fiscal instability and growth" *European Economic Review* 49: 1451-77

World Bank www.worldbank.org/poverty/inequal/methods/measure.htm

World Development Indicators 2004; 2005;2006, World Bank. www.worldbank.org/dataonpoverty

Wysiwyg://1/file:/A/Povertyanalysis_measuringinequality.htm "Poverty Analysis – Measuring inequality".

World Development Report (WDR 2006)" Equity and Development" New York Oxford University Press.

www.World Bank. Org /Poverty /Inequal/methods/ Measure: htm " Inequality indices and decomposition"

World Bank (1993) World Development Report

World Bank (1994) World Development Report Oxford Univ.pres

World Bank (1996) "Nigeria, Poverty in the Midst of Plenty: The Challenge of Growth With Inclusion" World Bank Poverty Assessment Report No 14733-UNI

World Bank (2000) World Development Report

World Bank (2001) World Development Report

World Bank (2001) Attaking poverty: World Development Report 2000/2001, New York, Oxford University Press

World Bank (2005) "Equity and Development," World Development Report 2006, World Bank Washington.

World Bank (2005) "Global Poverty Monitoring: Sub Saharan Africa. http://www.worldbank.org/poverty/strategies/gender.htm

World Bank (2005) "Poverty in Sub-Saharan Africa: Issues and Recommendations". African Region at http://www.worldbank.org/afr/findings/english/find73.htm.

World Bank (2006), World Development Report, 2005 "Equity and Development" New york, Oxford University press.

World Bank (2006) World Development Indicators 2006.

World Bank (2006) 'Beyond the Numbers: Understanding the Institutions for Monitoring Poverty ReductionStrategies" http://siteresources.worldbank.org/INTPAME/Resources/383220115340345074 1/0821364847.pdf

World Bank (2007) "Minding the Gaps: Integrating Poverty Reduction Strategies and Budgets for Domestic Accountability." http://siteresources.worldbank.org/INTPRS1/Resources/383606- 1106667815039 /MindingTheGaps4-9.pdf

World Bank (2007) "World Development Report 2008: Agriculture and Development" http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTWDRS/EXTWDR2008/0,,menuPK:2795178~pagePK:64167702~piPK:64167676~theSitePK:2795143,00.html.

World Bank (2007) 'Africa – Regional Brief." http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/0,,menuPK:258651~pagePK:146732~piPK:64003010~theSitePK:258644,00.html

APPENDICES

Appendix 1 :HYPOTHESIS TEST RESULTS

Hypothesis 1 Test Statistics

Included observations: 600

Method	df	Value	Probability
Anova F-statistic	(2, 1797)	3.093688	0.0456

Analysis of Variance

Source of Variation	df	Sum of Sq.	Mean Sq.
Between	2	1.33E+15	6.66E+14
Within	1797	3.87E+17	2.15E+14
Total	1799	3.88E+17	2.16E+14

Category Statistics

Variable	Count	Mean	Std. Dev.	Std. Err. of Mean
EARNINGS	600	1963676.	17959960	733212.3
TOTALINCOME	600	2013141.	17970668	733649.4
ASSET	600	164275.3	435560.4	17781.68
All	1800	1380364.	14687837	346195.6

Hypothesis 2 Test Statistics(Vertical)

Vertical test	Earnings	Total Income	Locatn.	Gender	Religion	Ed.Level	Job.Status
Chi-Square(a,b,c,d,e,f)	2387.000	2507.970	.000	386.310	540.800	334.320	866.800
df	144	242	2	2	3	7	5
Asymp. Sig.	.000	.000	1.000	.000	.000	.000	.000

Hypothesis 2 Test Statistics by Location

Giwa	Earnings	TotalIncome	Gender	Religion	Ed.Level	Job.Status
Chi-Square(a,b,c,d,e,f)	330.370	254.300	139.210	213.240	117.920	171.580
df	70	109	2	3	7	5
Asymp. Sig.	.000	.000	.000	.000	.000	.000

Kaduna North	Earnings	Total Income	Gender	Religion	Ed.Level	Job.Status
Chi-Square(a,b,c,d,e,f,g)	996.250	1076.800	19.220	70.990	167.440	344.680
df	74	95	1	2	7	5
Asymp. Sig.	.000	.000	.000	.000	.000	.000

Kaduna South	Earnings	TotalIncome	Gender	Religion	Ed.Level	Job.Status
Chi-Square(a,b,c,d,e,f ,g)	253.590	188.120	13.520	263.880	123.200	383.320
df	66	123	1	3	7	5
Asymp. Sig.	.000	.000	.000	.000	.000	.000

Note : All variables were tested at 95%

Appendix 2

Frequencies ofActual Estimate of Income of wages per annum

Income ranges		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	63	10.5	10.5	10.5
	3600.00	1	.2	.2	10.7
	12000.00	7	1.2	1.2	11.8
	15000.00	1	.2	.2	12.0
	18000.00	1	.2	.2	12.2
	24000.00	2	.3	.3	12.5
	31000.00	1	.2	.2	12.7
	36000.00	6	1.0	1.0	13.7
	44800.00	1	.2	.2	13.8

45000.00	2	.3	.3	14.2
48000.00	5	.8	.8	15.0
50000.00	1	.2	.2	15.2
60000.00	16	2.7	2.7	17.8
64000.00	1	.2	.2	18.0
72000.00	1	.2	.2	18.2
74400.00	1	.2	.2	18.3
75000.00	1	.2	.2	18.5
80000.00	1	.2	.2	18.7
84000.00	4	.7	.7	19.3
89000.00	1	.2	.2	19.5
90000.00	1	.2	.2	19.7
96000.00	6	1.0	1.0	20.7
100000.00	6	1.0	1.0	21.7
100800.00	1	.2	.2	21.8
108000.00	3	.5	.5	22.3
110400.00	1	.2	.2	22.5
120000.00	39	6.5	6.5	29.0
130000.00	3	.5	.5	29.5
140000.00	6	1.0	1.0	30.5
144000.00	15	2.5	2.5	33.0
145000.00	1	.2	.2	33.2
148000.00	1	.2	.2	33.3
150000.00	1	.2	.2	33.5
154000.00	1	.2	.2	33.7
159233.00	1	.2	.2	33.8
162000.00	1	.2	.2	34.0
168000.00	1	.2	.2	34.2
170000.00	4	.7	.7	34.8
180000.00	23	3.8	3.8	38.7
185000.00	1	.2	.2	38.8
189600.00	1	.2	.2	39.0
192000.00	1	.2	.2	39.2
200000.00	3	.5	.5	39.7
204000.00	2	.3	.3	40.0
210000.00	3	.5	.5	40.5
216000.00	5	.8	.8	41.3
220800.00	1	.2	.2	41.5
225000.00	1	.2	.2	41.7
228000.00	1	.2	.2	41.8
240000.00	33	5.5	5.5	47.3
260000.00	1	.2	.2	47.5
264000.00	1	.2	.2	47.7
270000.00	3	.5	.5	48.2
273000.00	1	.2	.2	48.3
276000.00	2	.3	.3	48.7
280000.00	1	.2	.2	48.8
290000.00	1	.2	.2	49.0

297000.00	1	.2	.2	49.2
300000.00	23	3.8	3.8	53.0
312000.00	2	.3	.3	53.3
324000.00	3	.5	.5	53.8
336000.00	2	.3	.3	54.2
348000.00	3	.5	.5	54.7
360000.00	32	5.3	5.3	60.0
364000.00	1	.2	.2	60.2
372000.00	1	.2	.2	60.3
384000.00	2	.3	.3	60.7
408000.00	2	.3	.3	61.0
420000.00	11	1.8	1.8	62.8
432000.00	1	.2	.2	63.0
440000.00	1	.2	.2	63.2
444000.00	2	.3	.3	63.5
450000.00	1	.2	.2	63.7
456000.00	4	.7	.7	64.3
480000.00	30	5.0	5.0	69.3
497000.00	1	.2	.2	69.5
500000.00	2	.3	.3	69.8
504000.00	1	.2	.2	70.0
516000.00	1	.2	.2	70.2
528000.00	3	.5	.5	70.7
540000.00	8	1.3	1.3	72.0
564000.00	1	.2	.2	72.2
576000.00	1	.2	.2	72.3
588000.00	1	.2	.2	72.5
600000.00	27	4.5	4.5	77.0
624000.00	2	.3	.3	77.3
660000.00	3	.5	.5	77.8
666000.00	1	.2	.2	78.0
672000.00	1	.2	.2	78.2
696000.00	1	.2	.2	78.3
700000.00	1	.2	.2	78.5
720000.00	17	2.8	2.8	81.3
744000.00	1	.2	.2	81.5
750000.00	1	.2	.2	81.7
780000.00	5	.8	.8	82.5
800000.00	1	.2	.2	82.7
804000.00	1	.2	.2	82.8
840000.00	16	2.7	2.7	85.5
860000.00	1	.2	.2	85.7
864000.00	1	.2	.2	85.8
900000.00	1	.2	.2	86.0
912000.00	1	.2	.2	86.2
920000.00	1	.2	.2	86.3
960000.00	11	1.8	1.8	88.2
984000.00	1	.2	.2	88.3

1000000.00	1	.2	.2	88.5
1020000.00	3	.5	.5	89.0
1032000.00	1	.2	.2	89.2
1042000.00	1	.2	.2	89.3
1044000.00	1	.2	.2	89.5
1080000.00	4	.7	.7	90.2
1140000.00	2	.3	.3	90.5
1200000.00	10	1.7	1.7	92.2
1224000.00	1	.2	.2	92.3
1320000.00	2	.3	.3	92.7
1400000.00	1	.2	.2	92.8
1440000.00	4	.7	.7	93.5
1460000.00	1	.2	.2	93.7
1500000.00	1	.2	.2	93.8
1560000.00	1	.2	.2	94.0
1564000.00	1	.2	.2	94.2
1600000.00	1	.2	.2	94.3
1680000.00	1	.2	.2	94.5
1800000.00	6	1.0	1.0	95.5
1888000.00	1	.2	.2	95.7
2000000.00	1	.2	.2	95.8
2040000.00	2	.3	.3	96.2
2100000.00	1	.2	.2	96.3
2400000.00	2	.3	.3	96.7
3000000.00	2	.3	.3	97.0
3240000.00	1	.2	.2	97.2
3600000.00	3	.5	.5	97.7
3820000.00	1	.2	.2	97.8
4080000.00	1	.2	.2	98.0
4200000.00	1	.2	.2	98.2
6000000.00	1	.2	.2	98.3
6720000.00	1	.2	.2	98.5
9600000.00	1	.2	.2	98.7
12000000.00	2	.3	.3	99.0
12144000.00	1	.2	.2	99.2
14400000.00	1	.2	.2	99.3
120000000.00	1	.2	.2	99.5
180000000.00	1	.2	.2	99.7
240000000.00	1	.2	.2	99.8
300000000.00	1	.2	.2	100.0
Total	600	100.0	100.0	

Appendix 3

Frequency Distribution of Actual Estimate of Income of other sources(Asset) i.e. shares, dividend interest on deposit, landed properties per annum of Households

Income ranges	Frequency	Percent	Valid Percent	Cumulative Percent
.00	269	44.8	44.8	44.8

10000.00	1	.2	.2	45.0
12000.00	12	2.0	2.0	47.0
12600.00	1	.2	.2	47.2
17000.00	1	.2	.2	47.3
18000.00	2	.3	.3	47.7
20000.00	5	.8	.8	48.5
21600.00	1	.2	.2	48.7
24000.00	17	2.8	2.8	51.5
29400.00	1	.2	.2	51.7
30000.00	3	.5	.5	52.2
32400.00	1	.2	.2	52.3
36000.00	12	2.0	2.0	54.3
37920.00	1	.2	.2	54.5
40000.00	2	.3	.3	54.8
42000.00	2	.3	.3	55.2
45000.00	1	.2	.2	55.3
48000.00	6	1.0	1.0	56.3
48600.00	1	.2	.2	56.5
49200.00	1	.2	.2	56.7
50000.00	5	.8	.8	57.5
54000.00	1	.2	.2	57.7
57600.00	1	.2	.2	57.8
60000.00	39	6.5	6.5	64.3
65000.00	1	.2	.2	64.5
66000.00	1	.2	.2	64.7
70080.00	1	.2	.2	64.8
72000.00	2	.3	.3	65.2
80000.00	1	.2	.2	65.3
84000.00	5	.8	.8	66.2
90000.00	3	.5	.5	66.7
96000.00	3	.5	.5	67.2
98400.00	1	.2	.2	67.3
100000.00	5	.8	.8	68.2
114360.00	1	.2	.2	68.3
120000.00	45	7.5	7.5	75.8
138000.00	1	.2	.2	76.0
144000.00	9	1.5	1.5	77.5
156000.00	1	.2	.2	77.7
180000.00	17	2.8	2.8	80.5
204000.00	1	.2	.2	80.7
210000.00	1	.2	.2	80.8
240000.00	21	3.5	3.5	84.3
250000.00	1	.2	.2	84.5
276000.00	1	.2	.2	84.7
300000.00	8	1.3	1.3	86.0
324000.00	1	.2	.2	86.2
360000.00	15	2.5	2.5	88.7
420000.00	8	1.3	1.3	90.0

456000.00	1	.2	.2	90.2
480000.00	5	.8	.8	91.0
500000.00	2	.3	.3	91.3
540000.00	3	.5	.5	91.8
564000.00	1	.2	.2	92.0
600000.00	15	2.5	2.5	94.5
720000.00	8	1.3	1.3	95.8
900000.00	3	.5	.5	96.3
960000.00	4	.7	.7	97.0
1000000.00	2	.3	.3	97.3
1008000.00	1	.2	.2	97.5
1080000.00	2	.3	.3	97.8
1200000.00	3	.5	.5	98.3
1320000.00	1	.2	.2	98.5
1800000.00	1	.2	.2	98.7
2160000.00	1	.2	.2	98.8
2400000.00	2	.3	.3	99.2
2760000.00	1	.2	.2	99.3
2820000.00	1	.2	.2	99.5
3000000.00	1	.2	.2	99.7
3500000.00	1	.2	.2	99.8
6000000.00	1	.2	.2	100.0
Total	600	100.0	100.0	

Appendix4: Total Income:Wages.Plus Remittances to Head of Household; Actual Values per Annum

₦ in '000	Frequency	Percent	Cumulative Percent
.00	58	9.7	9.7
10000.00	1	.2	9.8
12000.00	2	.3	10.2
13600.00	1	.2	10.3
15000.00	1	.2	10.5
18000.00	1	.2	10.7
22000.00	3	.5	11.2
24000.00	1	.2	11.3
32000.00	1	.2	11.5
36000.00	4	.7	12.2
40000.00	1	.2	12.3
44000.00	1	.2	12.5
44800.00	1	.2	12.7
45000.00	1	.2	12.8
46000.00	1	.2	13.0
47000.00	1	.2	13.2
48000.00	3	.5	13.7
59000.00	1	.2	13.8

60000.00	13	2.2	16.0
63000.00	2	.3	16.3
64000.00	1	.2	16.5
65000.00	1	.2	16.7
70000.00	1	.2	16.8
71000.00	1	.2	17.0
72000.00	1	.2	17.2
74400.00	1	.2	17.3
84000.00	3	.5	17.8
87000.00	1	.2	18.0
89000.00	1	.2	18.2
94000.00	1	.2	18.3
96000.00	2	.3	18.7
100000.00	5	.8	19.5
100800.00	1	.2	19.7
107000.00	1	.2	19.8
108000.00	1	.2	20.0
110000.00	1	.2	20.2
115000.00	1	.2	20.3
116400.00	1	.2	20.5
118000.00	1	.2	20.7
120000.00	17	2.8	23.5
122000.00	1	.2	23.7
128000.00	1	.2	23.8
130000.00	2	.3	24.2
132000.00	1	.2	24.3
140000.00	5	.8	25.2
143000.00	1	.2	25.3
144000.00	7	1.2	26.5
145000.00	1	.2	26.7
146000.00	1	.2	26.8
148000.00	1	.2	27.0
150000.00	5	.8	27.8
154000.00	1	.2	28.0
159233.00	1	.2	28.2
160000.00	2	.3	28.5
161000.00	1	.2	28.7
164000.00	1	.2	28.8
165000.00	1	.2	29.0
170000.00	7	1.2	30.2
178000.00	1	.2	30.3
180000.00	17	2.8	33.2
185000.00	2	.3	33.5
186000.00	2	.3	33.8
189000.00	1	.2	34.0
189600.00	1	.2	34.2
190000.00	5	.8	35.0
192000.00	1	.2	35.2

200000.00	4	.7	35.8
204000.00	3	.5	36.3
210000.00	1	.2	36.5
216000.00	3	.5	37.0
218000.00	1	.2	37.2
220000.00	1	.2	37.3
222000.00	1	.2	37.5
225000.00	1	.2	37.7
228000.00	1	.2	37.8
230000.00	1	.2	38.0
240000.00	24	4.0	42.0
243000.00	1	.2	42.2
244000.00	1	.2	42.3
245000.00	2	.3	42.7
250000.00	4	.7	43.3
251000.00	1	.2	43.5
254000.00	1	.2	43.7
260000.00	1	.2	43.8
264000.00	1	.2	44.0
266000.00	1	.2	44.2
270000.00	3	.5	44.7
271000.00	1	.2	44.8
273000.00	1	.2	45.0
274000.00	1	.2	45.2
275000.00	1	.2	45.3
276000.00	1	.2	45.5
279000.00	1	.2	45.7
280000.00	2	.3	46.0
285000.00	1	.2	46.2
290000.00	1	.2	46.3
300000.00	12	2.0	48.3
305000.00	1	.2	48.5
310000.00	1	.2	48.7
315000.00	1	.2	48.8
320000.00	1	.2	49.0
324000.00	3	.5	49.5
330000.00	3	.5	50.0
332000.00	1	.2	50.2
336000.00	2	.3	50.5
340000.00	1	.2	50.7
348000.00	4	.7	51.3
350000.00	5	.8	52.2
360000.00	25	4.2	56.3
364000.00	1	.2	56.5
366000.00	1	.2	56.7
370000.00	1	.2	56.8
375000.00	1	.2	57.0
380000.00	2	.3	57.3

384000.00	1	.2	57.5
396000.00	1	.2	57.7
397000.00	1	.2	57.8
400000.00	2	.3	58.2
408000.00	2	.3	58.5
420000.00	4	.7	59.2
432000.00	1	.2	59.3
433000.00	1	.2	59.5
440000.00	3	.5	60.0
444000.00	1	.2	60.2
447000.00	1	.2	60.3
450000.00	3	.5	60.8
456000.00	2	.3	61.2
459000.00	1	.2	61.3
466000.00	1	.2	61.5
476000.00	1	.2	61.7
480000.00	24	4.0	65.7
490000.00	1	.2	65.8
496000.00	1	.2	66.0
497000.00	1	.2	66.2
500000.00	1	.2	66.3
504000.00	2	.3	66.7
506000.00	1	.2	66.8
510000.00	2	.3	67.2
520000.00	2	.3	67.5
528000.00	2	.3	67.8
530000.00	2	.3	68.2
537000.00	1	.2	68.3
540000.00	4	.7	69.0
542000.00	1	.2	69.2
564000.00	1	.2	69.3
568000.00	1	.2	69.5
570000.00	2	.3	69.8
580000.00	1	.2	70.0
596000.00	1	.2	70.2
600000.00	19	3.2	73.3
605000.00	1	.2	73.5
610000.00	1	.2	73.7
612000.00	1	.2	73.8
624000.00	1	.2	74.0
635000.00	1	.2	74.2
646000.00	1	.2	74.3
653000.00	1	.2	74.5
656000.00	1	.2	74.7
660000.00	4	.7	75.3
666000.00	1	.2	75.5
672000.00	1	.2	75.7
690000.00	1	.2	75.8

700000.00	1	.2	76.0
720000.00	14	2.3	78.3
730000.00	1	.2	78.5
736000.00	1	.2	78.7
740000.00	1	.2	78.8
744000.00	1	.2	79.0
750000.00	1	.2	79.2
774000.00	1	.2	79.3
780000.00	2	.3	79.7
792000.00	1	.2	79.8
800000.00	1	.2	80.0
804000.00	1	.2	80.2
810000.00	1	.2	80.3
820800.00	1	.2	80.5
825000.00	1	.2	80.7
830000.00	2	.3	81.0
840000.00	12	2.0	83.0
842000.00	1	.2	83.2
850000.00	1	.2	83.3
860000.00	2	.3	83.7
864000.00	1	.2	83.8
870000.00	2	.3	84.2
876000.00	1	.2	84.3
900000.00	2	.3	84.7
912000.00	1	.2	84.8
920000.00	2	.3	85.2
960000.00	9	1.5	86.7
984000.00	1	.2	86.8
986000.00	1	.2	87.0
990000.00	1	.2	87.2
1000000.00	2	.3	87.5
1010000.00	2	.3	87.8
1020000.00	2	.3	88.2
1032000.00	1	.2	88.3
1042000.00	1	.2	88.5
1044000.00	1	.2	88.7
1050000.00	1	.2	88.8
1080000.00	1	.2	89.0
1120000.00	1	.2	89.2
1140000.00	2	.3	89.5
1180000.00	1	.2	89.7
1200000.00	8	1.3	91.0
1210000.00	1	.2	91.2
1250000.00	1	.2	91.3
1320000.00	4	.7	92.0
1380000.00	1	.2	92.2
1440000.00	3	.5	92.7
1460000.00	1	.2	92.8

1475000.00	1	.2	93.0
1500000.00	1	.2	93.2
1540000.00	1	.2	93.3
1564000.00	1	.2	93.5
1600000.00	1	.2	93.7
1640000.00	1	.2	93.8
1720000.00	1	.2	94.0
1800000.00	6	1.0	95.0
2000000.00	1	.2	95.2
2040000.00	1	.2	95.3
2058000.00	1	.2	95.5
2100000.00	2	.3	95.8
2190000.00	1	.2	96.0
2400000.00	1	.2	96.2
2470000.00	1	.2	96.3
3000000.00	2	.3	96.7
3240000.00	1	.2	96.8
3600000.00	3	.5	97.3
3710000.00	1	.2	97.5
3820000.00	1	.2	97.7
4080000.00	1	.2	97.8
4200000.00	1	.2	98.0
6000000.00	1	.2	98.2
6720000.00	1	.2	98.3
7800000.00	1	.2	98.5
9600000.00	1	.2	98.7
12000000.00	2	.3	99.0
12144000.00	1	.2	99.2
14400000.00	1	.2	99.3
120000000.00	1	.2	99.5
180700000.00	1	.2	99.7
240000000.00	1	.2	99.8
300000000.00	1	.2	100.0
Total	600	100.0	

Appendix 5

SURVEY DATA OF HOUSEHOLDS AND INCOME SOURCES

S/N	Wage Income	Asset	Total Income	HHS
1	140000	12000	140000	5
2	1032000	240000	1032000	5
3	168000	48000	178000	5

4	84000	0	84000	10
5	270000	0	285000	4
6	185000	0	185000	2
7	144000	144000	144000	2
8	1042000	0	1042000	7
9	297000	120000	397000	3
10	420000	720000	1120000	2
11	180000	180000	180000	4
12	600000	0	600000	6
13	120000	0	120000	9
14	140000	60000	140000	4
15	480000	144000	480000	5
16	480000	60000	510000	3
17	216000	36000	216000	9
18	120000	240000	120000	5
19	225000	0	275000	3
20	960000	600000	1000000	1
21	100000	100000	100000	4
22	497000	180000	497000	3
23	228000	24000	228000	5
24	840000	0	840000	7
25	240000	120000	240000	1
26	420000	120000	420000	3
27	720000	0	720000	2
28	408000	300000	408000	9
29	300000	0	350000	6
30	348000	0	348000	7
31	240000	120000	240000	7
32	36000	0	36000	1
33	240000	0	240000	7
34	864000	0	876000	9
35	280000	50000	280000	4
36	240000	1200000	240000	5
37	480000	240000	480000	5
38	100000	120000	130000	1
39	860000	50000	860000	3

40	800000	300000	800000	10
41	420000	0	420000	5
42	720000	0	720000	5
43	200000	0	225000	1
44	120000	0	240000	2
45	696000	0	736000	2
46	312000	0	792000	4
47	624000	0	624000	1
48	324000	0	324000	2
49	140000	0	140000	4
50	600000	60000	600000	5
51	840000	480000	870000	5
52	1800000	0	1800000	10
53	666000	0	666000	7
54	444000	24000	459000	3
55	348000	180000	348000	4
56	240000	120000	240000	7
57	120000	120000	120000	5
58	130000	36000	186000	5
59	360000	500000	360000	2
60	528000	0	528000	8
61	0	0	0	8
62	324000	120000	324000	7
63	120000	12000	170000	8
64	240000	240000	240000	3
65	60000	120000	60000	3
66	216000	36000	216000	5
67	60000	0	60000	5
68	408000	0	408000	7
69	348000	72000	348000	4
70	1440000	0	1440000	3
71	72000	60000	72000	10
72	31000	120000	271000	6
73	444000	0	444000	8
74	912000	0	912000	6
75	600000	120000	600000	5

76	528000	0	568000	4
77	528000	0	528000	4
78	144000	0	144000	4
79	60000	600000	60000	4
80	450000	0	450000	5
81	84000	0	94000	4
82	240000	0	240000	4
83	480000	0	480000	10
84	840000	24000	840000	8
85	480000	0	480000	5
86	456000	120000	466000	4
87	12000	120000	22000	7
88	1224000	0	1320000	3
89	264000	12000	264000	4
90	290000	240000	290000	4
91	140000	0	140000	3
92	15000	180000	15000	8
93	480000	0	480000	4
94	170000	36000	170000	5
95	360000	0	360000	4
96	600000	0	600000	2
97	360000	0	360000	2
98	0	0	0	10
99	300000	180000	300000	9
100	0	0	0	10
101	24000	24000	24000	5
102	120000	0	120000	1
103	75000	0	87000	5
104	170000	60000	170000	7
105	600000	144000	600000	3
106	360000	276000	360000	9
107	2400000	720000	2470000	8
108	120000	480000	170000	9
109	170000	60000	170000	2
110	720000	120000	1320000	4
111	540000	240000	542000	7

112	480000	0	480000	9
113	500000	48000	500000	4
114	48000	24000	48000	3
115	0	20000	0	4
116	12000	50000	22000	7
117	270000	480000	270000	9
118	960000	0	1010000	4
119	960000	360000	990000	5
120	120000	0	120000	5
121	276000	2400000	279000	7
122	1800000	60000	1800000	6
123	300000	120000	300000	4
124	540000	250000	540000	6
125	36000	36000	36000	9
126	144000	60000	161000	6
127	60000	0	63000	7
128	384000	17000	384000	9
129	120000	0	122000	3
130	240000	60000	250000	5
131	480000	120000	720000	2
132	144000	144000	244000	5
133	180000	0	200000	5
134	840000	720000	840000	5
135	240000	0	240000	1
136	480000	0	490000	10
137	108000	0	118000	5
138	120000	600000	120000	4
139	456000	204000	456000	7
140	480000	50000	480000	10
141	480000	600000	580000	4
142	480000	60000	520000	4
143	360000	60000	380000	6
144	720000	720000	720000	2
145	60000	0	180000	5
146	120000	24000	160000	6
147	60000	36000	60000	5

148	110400	0	116400	10
149	600000	120000	605000	7
150	240000	0	243000	8
151	100000	120000	100000	7
152	360000	240000	360000	8
153	44800	20000	44800	7
154	100800	0	100800	7
155	240000	12000	240000	6
156	180000	0	180000	9
157	120000	0	120000	3
158	360000	0	360000	3
159	120000	960000	180000	5
160	240000	20000	240000	3
161	240000	120000	250000	2
162	120000	0	150000	3
163	300000	180000	305000	3
164	12000	60000	12000	5
165	180000	360000	180000	4
166	100000	0	100000	4
167	240000	120000	240000	9
168	360000	0	360000	7
169	48000	240000	48000	3
170	480000	49200	480000	5
171	130000	24000	132000	7
172	360000	0	360000	4
173	3600	0	13600	9
174	180000	0	180000	1
175	1200000	0	1200000	7
176	240000	360000	270000	8
177	120000	0	240000	8
178	420000	120000	530000	6
179	180000	0	190000	6
180	960000	120000	960000	4
181	240000	0	240000	1
182	144000	0	144000	9
183	336000	84000	336000	6

184	360000	240000	360000	10
185	360000	720000	360000	6
186	720000	60000	850000	7
187	360000	240000	660000	4
188	240000	720000	840000	3
189	480000	120000	480000	8
190	240000	36000	280000	10
191	120000	0	143000	4
192	420000	0	450000	3
193	360000	240000	420000	1
194	24000	600000	44000	7
195	360000	60000	370000	9
196	480000	0	504000	9
197	60000	0	60000	9
198	240000	144000	240000	6
199	960000	300000	960000	3
200	360000	40000	360000	10
201	144000	0	144000	10
202	4200000	144000	4200000	3
203	159233	600000	159233	6
204	48000	0	48000	5
205	600000	156000	600000	2
206	9600000	2820000	9600000	7
207	145000	0	145000	4
208	3000000	0	3000000	8
209	1044000	0	1044000	6
210	154000	0	204000	6
211	780000	0	825000	5
212	1800000	6000000	7800000	6
213	240000	240000	240000	4
214	1888000	180000	2058000	9
215	1560000	30000	1720000	3
216	900000	42000	986000	3
217	840000	0	840000	1
218	720000	120000	720000	8
219	576000	180000	596000	3

220	780000	60000	830000	4
221	540000	300000	540000	6
222	0	1080000	40000	10
223	3240000	0	3240000	8
224	750000	0	750000	4
225	600000	48000	600000	5
226	0	564000	71000	5
227	0	540000	0	8
228	140000	0	190000	10
229	200000	0	200000	1
230	0	138000	70000	2
231	300000	0	350000	2
232	1200000	360000	1800000	9
233	1564000	420000	1564000	3
234	420000	0	480000	2
235	1600000	210000	1600000	5
236	0	960000	0	5
237	456000	1200000	456000	9
238	516000	120000	537000	5
239	120000	0	120000	7
240	140000	360000	150000	4
241	144000	120000	189000	3
242	204000	0	254000	7
243	372000	60000	396000	2
244	600000	300000	600000	4
245	216000	180000	266000	9
246	273000	0	273000	3
247	204000	0	204000	3
248	300000	0	300000	4
249	0	0	0	3
250	64000	300000	64000	7
251	600000	600000	600000	7
252	96000	48000	146000	2
253	540000	1008000	540000	3
254	360000	120000	380000	10
255	360000	0	375000	5

256	588000	120000	653000	9
257	220800	0	820800	6
258	420000	144000	476000	8
259	360000	20000	360000	4
260	840000	180000	840000	5
261	840000	960000	840000	2
262	2100000	0	2100000	3
263	6720000	0	6720000	6
264	14400000	360000	14400000	6
265	804000	2760000	804000	3
266	192000	32400	192000	5
267	2040000	324000	2040000	5
268	18000	0	18000	5
269	0	540000	0	4
270	0	0	0	10
271	3.00E+08	0	3.00E+08	10
272	1140000	0	1140000	3
273	0	0	0	5
274	0	0	0	5
275	0	0	0	2
276	0	0	0	3
277	0	0	0	5
278	150000	0	150000	6
279	0	600000	0	6
280	0	0	0	3
281	0	0	0	3
282	1320000	0	1320000	5
283	1.80E+08	0	1.80E+08	6
284	0	0	0	3
285	0	0	0	4
286	60000	0	60000	2
287	0	0	0	4
288	0	0	0	6
289	0	0	0	9
290	0	0	0	6
291	0	0	0	9

292	0	0	0	4
293	360000	900000	360000	6
294	0	0	0	3
295	0	0	0	7
296	0	0	0	6
297	0	0	0	4
298	0	0	0	1
299	0	0	0	8
300	0	0	0	2
301	0	0	0	3
302	0	0	0	9
303	0	0	0	2
304	0	0	0	5
305	0	0	0	5
306	0	0	0	5
307	0	0	0	8
308	0	0	0	7
309	0	0	0	11
310	0	0	0	5
311	480000	0	480000	5
312	0	0	0	9
313	0	144000	0	4
314	0	0	0	5
315	0	0	0	4
316	0	0	0	2
317	100000	0	100000	5
318	120000	60000	570000	4
319	180000	10000	185000	4
320	216000	0	216000	6
321	180000	0	180000	5
322	2000000	3000000	2000000	9
323	0	120000	10000	10
324	120000	54000	180000	2
325	89000	18000	89000	2
326	1140000	240000	1140000	10
327	300000	45000	400000	8

328	840000	100000	840000	8
329	84000	0	84000	8
330	120000	12000	270000	10
331	120000	12000	300000	7
332	480000	60000	510000	10
333	180000	60000	180000	10
334	36000	12000	186000	5
335	180000	0	190000	12
336	120000	0	120000	10
337	180000	0	180000	5
338	600000	120000	600000	8
339	60000	120000	60000	4
340	480000	0	480000	5
341	960000	240000	960000	3
342	720000	21600	720000	5
343	120000	65000	120000	4
344	100000	0	150000	5
345	1.20E+08	0	1.20E+08	3
346	96000	0	96000	4
347	12000000	0	12000000	5
348	1440000	0	1440000	1
349	144000	0	144000	3
350	144000	120000	144000	4
351	480000	60000	480000	3
352	12000000	180000	12000000	4
353	60000	0	60000	1
354	120000	0	120000	1
355	660000	0	660000	6
356	600000	500000	900000	6
357	12000	0	32000	1
358	240000	12000	240000	3
359	120000	60000	120000	5
360	50000	900000	60000	6
361	12000	24000	12000	6
362	600000	0	600000	2
363	720000	0	720000	1

364	840000	0	840000	1
365	60000	0	60000	10
366	0	0	0	3
367	240000	0	240000	3
368	1200000	0	1200000	3
369	0	0	0	4
370	148000	0	148000	10
371	36000	0	36000	4
372	480000	0	480000	1
373	480000	0	480000	2
374	840000	100000	840000	6
375	3600000	2160000	3600000	4
376	2040000	720000	2190000	3
377	2.40E+08	50000	2.40E+08	3
378	1800000	300000	1800000	6
379	600000	66000	730000	6
380	0	0	0	1
381	0	0	0	1
382	360000	0	360000	5
383	200000	0	200000	1
384	480000	0	480000	1
385	180000	0	180000	1
386	672000	0	672000	4
387	744000	0	744000	1
388	1320000	0	1320000	6
389	360000	0	360000	1
390	1800000	1000000	1800000	5
391	480000	0	480000	1
392	300000	0	300000	1
393	180000	0	180000	2
394	360000	0	360000	1
395	600000	0	600000	3
396	180000	0	180000	4
397	1200000	1200000	1200000	7
398	600000	0	600000	1
399	984000	0	984000	1

400	36000	0	36000	6
401	300000	90000	330000	4
402	80000	240000	115000	4
403	120000	60000	230000	5
404	144000	120000	274000	3
405	180000	84000	180000	2
406	48000	36000	59000	3
407	144000	600000	245000	5
408	600000	0	612000	4
409	120000	60000	120000	6
410	45000	48000	45000	2
411	240000	60000	320000	4
412	96000	600000	107000	2
413	180000	96000	190000	4
414	144000	60000	154000	5
415	60000	36000	63000	1
416	120000	120000	170000	4
417	0	0	0	2
418	240000	29400	350000	3
419	210000	60000	245000	4
420	144000	96000	204000	9
421	130000	96000	180000	3
422	96000	60000	506000	5
423	60000	60000	65000	3
424	456000	37920	646000	4
425	120000	24000	240000	5
426	96000	36000	496000	6
427	600000	48600	900000	5
428	240000	180000	251000	5
429	600000	540000	610000	2
430	240000	300000	250000	3
431	300000	900000	315000	3
432	840000	1800000	1640000	9
433	420000	180000	480000	2
434	420000	24000	433000	6
435	336000	84000	336000	7

436	189600	114360	189600	8
437	260000	0	260000	6
438	180000	360000	180000	2
439	360000	240000	1010000	4
440	600000	420000	635000	3
441	48000	30000	60000	5
442	1200000	60000	1200000	2
443	60000	24000	60000	2
444	60000	60000	60000	4
445	144000	84000	144000	2
446	360000	60000	360000	3
447	180000	180000	330000	3
448	180000	120000	180000	4
449	1200000	720000	1200000	5
450	2400000	240000	2400000	6
451	170000	0	170000	4
452	1200000	600000	1200000	3
453	480000	48000	480000	5
454	480000	0	480000	4
455	720000	360000	720000	5
456	1200000	420000	1200000	3
457	960000	600000	960000	3
458	920000	1080000	920000	5
459	0	0	0	4
460	1020000	0	1050000	5
461	1500000	0	1500000	5
462	4080000	960000	4080000	5
463	3820000	1320000	3820000	5
464	0	0	0	9
465	600000	180000	600000	10
466	364000	0	364000	4
467	6000000	2400000	6000000	6
468	3600000	360000	3600000	7
469	840000	480000	840000	9
470	960000	360000	960000	5
471	300000	60000	300000	3

472	720000	180000	720000	5
473	240000	0	240000	5
474	440000	0	440000	5
475	840000	0	840000	5
476	432000	0	432000	4
477	1400000	12000	1475000	4
478	360000	12000	360000	3
479	144000	0	164000	3
480	276000	0	276000	3
481	324000	0	324000	2
482	504000	0	504000	2
483	0	0	0	5
484	1080000	0	1210000	3
485	108000	30000	108000	6
486	120000	0	120000	6
487	1460000	0	1460000	5
488	1440000	40000	1540000	4
489	960000	20000	960000	7
490	0	0	0	3
491	1080000	12000	1180000	4
492	840000	120000	870000	3
493	1020000	0	1020000	4
494	1080000	0	1380000	1
495	1680000	90000	2100000	5
496	600000	0	600000	8
497	96000	60000	96000	2
498	540000	0	540000	4
499	600000	0	600000	2
500	312000	0	332000	4
501	240000	0	240000	4
502	0	0	0	4
503	720000	12000	720000	6
504	480000	0	480000	3
505	0	24000	100000	5
506	240000	0	440000	6
507	480000	0	480000	5

508	720000	0	720000	3
509	240000	144000	240000	4
510	360000	120000	360000	6
511	480000	0	480000	3
512	360000	0	360000	3
513	300000	0	300000	4
514	300000	0	300000	4
515	720000	0	720000	1
516	700000	0	700000	5
517	780000	36000	780000	5
518	1020000	480000	1020000	5
519	540000	0	570000	6
520	1080000	80000	1080000	5
521	300000	0	300000	6
522	720000	0	720000	5
523	600000	0	660000	5
524	1000000	0	1000000	5
525	600000	0	600000	2
526	960000	0	960000	5
527	624000	0	774000	4
528	480000	0	480000	7
529	360000	0	360000	5
530	600000	0	600000	6
531	720000	0	740000	3
532	0	0	0	3
533	360000	0	360000	5
534	3600000	120000	3600000	4
535	720000	0	720000	3
536	210000	3500000	3710000	4
537	90000	24000	130000	6
538	84000	24000	84000	3
539	300000	0	348000	4
540	12000	24000	22000	3
541	540000	60000	600000	4
542	540000	70080	690000	4
543	660000	120000	660000	3

544	240000	24000	240000	3
545	300000	60000	300000	2
546	300000	42000	400000	10
547	108000	240000	128000	4
548	270000	60000	330000	3
549	300000	456000	450000	3
550	780000	360000	830000	4
551	600000	100000	656000	7
552	3000000	420000	3000000	4
553	420000	90000	440000	4
554	120000	240000	120000	3
555	120000	12600	140000	6
556	240000	60000	360000	3
557	300000	360000	350000	2
558	300000	120000	310000	2
559	300000	120000	300000	4
560	120000	24000	160000	2
561	162000	420000	222000	4
562	180000	240000	250000	6
563	180000	0	240000	10
564	840000	600000	842000	5
565	1200000	420000	1250000	8
566	660000	60000	810000	5
567	12000	60000	47000	5
568	240000	0	340000	3
569	60000	0	110000	2
570	45000	72000	447000	5
571	840000	420000	960000	10
572	300000	120000	350000	3
573	120000	0	220000	3
574	300000	120000	300000	4
575	360000	120000	860000	6
576	500000	98400	520000	3
577	120000	84000	165000	3
578	210000	57600	210000	3
579	480000	360000	530000	2

580	384000	600000	864000	7
581	120000	0	120000	1
582	1440000	1000000	1440000	4
583	1200000	100000	1200000	5
584	1800000	0	1800000	8
585	780000	0	780000	1
586	360000	0	360000	1
587	420000	36000	420000	3
588	960000	0	960000	6
589	360000	0	360000	1
590	74400	0	74400	6
591	120000	180000	120000	8
592	12144000	0	12144000	1
593	564000	0	564000	1
594	720000	600000	920000	6
595	216000	360000	366000	2
596	120000	240000	200000	5
597	180000	120000	218000	3
598	36000	18000	46000	3
599	180000	360000	190000	2
600	120000	420000	150000	2

Note : No 1 – 200 =Giwa, 200 – 400 = Kaduna North ,and 400- 600 = Kaduna Sourth. HHS = House holds size

Appendix 6 :Distribution of respondents by Job Status as percentage of Annual Total income

Estimated Annual Total Income (₦)	No Response		Fully Employed		Partly employed		Trainee		Unemploy		Others		Total
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.
No Response	12	(2.0)	20 (5.4)	3.3	7 (10.9)	1.2	8 (24.2)	1.3	14 (21.2)	2.3	2 (5.7)	0.3	**63 (10.5)**
1,000 – 50,000	3	(0.5)	09 (2.5)	1.5	3 (4.7)	0.5	0	0	3 (4.5)	0.5	2 (5.7)	0.3	**20 (3.3)**
50,001 – 100,000	2	(0.3)	22 (6.0)	3.7	8 (12.5)	1.3	6 (18.2)	1.0	6 (9.1)	1.0	4 (11.4)	0.7	**48 (8.8)**
100,001 – 150,000	5	(0.8)	34 (9.3)	5.7	13 (20.5)	2.2	2 (6.1)	0.3	9 (13.6)	1.5	10 (28.6)	1.7	**73 (12.2)**
150,001 – 200,000	0		22 (6.0)	3.7	5 (7.8)	0.8	4 (12.1)	0.7	2 (3.0)	0.3	0	0	**33 (5.5)**
200,001 – 250,000	3	(0.5)	21 (5.7)	3.5	7 (10.7)	1.2	5 (15.2)	0.8	8 (12.1)	1.3	4 (11.4)	0.4	**48 (8.0)**
250,001 – 300,000	1	(0.2)	23 (6.3)	3.8	2 (3.1)	0.3	2 (6.1)	0.3	7 (10.6)	1.2	0	0	**35 (5.8)**
300,001 – 350,000	0		09 (2.5)	1.5	0	0	0	0	0	0	1 (2.9)	0.2	**10 (1.7)**
350,001 – 400,000	0		20 (5.4)	3.3	7 (10.9)	1.2	2 (6.1)	0.3	4 (6.1)	0.7	3 (8.6)	0.5	**36 (6.0)**
400,001 – 450,000	0		14 (3.8)	2.3	3 (4.7)	0.5	1 (3.0)	0.2	1 (1.5)	0.2	1 (2.9)	0.2	**20 (3.3)**
450,001 – 500,000	2	(0.3)	27 (7.4)	4.5	1 (1.6)	0.2	0	0	4 (6.1)	0.7	1 (2.9)	0.2	**35 (5.8)**
500,001 - 800,000	0		63 (17.2)	10.5	4 (6.3)	0.7	1 (3.0)	0.2	5 (7.5)	0.8	4 (11.4)	0.7	**77 (12.8)**
800,001 – 1,100,000	3	(0.5)	38 (10.4)	6.3	3 (4.7)	0.5	2 (6.1)	0.3	0	0	1 (2.9)	0.2	**47 (7.8)**
1,100,00 –3,000,000	3	(0.5)	31 (8.4)	5.2	1 (1.6)	0.2	0	0	1 (1.5)	0.2	2 (5.7)	0.3	**38 (6.3)**
>3,000,000	1	(0.2)	14 (3.8)	2.3	0	0	0	0	2 (3.0)	0.3	0	0	**17(2.8)**
Total	**35 (5.8)**		**367 (100)**	**61.2**	**64 (100)**	**10.7**	**33 (100)**	**5.5**	**66 (100)**	**11.0**	**35(100)**	**5.5**	**600 (100)**

Appendix 7 : Total income By Tribe

Estimated Annual Total Income (₦)	No Response	Hausa/fulani		Yoruba		Igbo		Southern Kaduna		Other North		Other south		Total
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.
No Response	1 (.2)	30 (14.1)	5.0	6 (8.6)	1.0	4 (11.1)	.7	10(9.3)	1.7	9 (9.3)	1.5	3 (33.2)	.5	**63 (10.5)**
1,000 – 50,000	0	09 (4.2)	1.5	2 (2.9)	.3	1(2.8)	.2	5 (3.1)	.8	3 (3.1)	.5	0	0	**20 (3.3)**
50,001 – 100,000	0	19 (8.9)	3.2	6 (8.6)	1.0	1 (2.8)	.2	13(8.1)	2.2	7 (7.2)	1.2	2 (22.2)	.3	**48 (8.8)**
100,001 – 150,000	2 (.3)	29 (13.6)	4.8	4 (5.7)	.7	6 (16.7)	1.0	23(14.3)	3.8	7 (7.2)	1.2	2 (22.2)	.3	**73 (12.2)**
150,001 – 200,000	3 (.5)	09 (4.2)	1.2	3 (4.3)	.5	1 (2.8)	.2	10(6.2)	1.7	7 (7.2)	1.2	0	0	**33 (5.5)**
200,001 – 250,000	2 (.3)	21 (9.9)	3.5	4 (5.7)	.7	2 (5.6)	.3	9(5.6)	1.5	10(10.3)	1.7	0	0	**48 (8.0)**
250,001 – 300,000	0	06 (2.8)	1.0	5 (7.1)	.8	0	0	15(9.3	2.5	8 (8.2)	1.3	0	0	**35 (5.8)**
300,001 – 350,000	1 (.2)	02(.9)	.2	0	0	0	0	4(2.5)	.7	4 (4.1)	.7	0	0	**10 (1.7)**
350,001 – 400,000	0	15 (7.0)	2.5	1 (1.4)	.2	5 (13.9)	.8	9(5.6)	1.5	5 (5.2)	.8	0	0	**36 (6.0)**
400,001 – 450,000	0	06 (2.8)	1.0	2 (2.9)	.3	1 (2.8)	.2	6(3.7)	1.0	4 (4.1)	.7	1(11.1)	.2	**20 (3.3)**
450,001 – 500,000	2 (.3)	11 (5.2)	1.8	8 (11.4)	1.3	2 (5.6)	.3	7(4.3)	1.2	6 (6.2)	1.0	1 (11.1)	.2	**35 (5.8)**
500,001 - 800,000	1 (.2)	18 (8.5)	3.0	11(15.7)	1.8	6 (16.7)	1/0	26(16.1)	4.3	14(14.2)	2.3	0	0	**77 (12.8)**
800,001 – 1,100,000	1 (.2)	17 (8.0)	2.8	9 (12.9)	1.5	2 (5.6)	.3	11(6.8)	1.8	7 (7.2)	1.2	0	0	**47 (7.8)**
1,100,00 –3,000,000	0	16(7.2)	2.7	7 (10.0)	1.2	3(8.3)	.5	7(4.3)	1.2	4 (4.1)	.7	0	0	**38 (6.3)**
>3,000,000	0	05(2.3)	. 8	2 (2.9)	.3	2 (5.6)	.3	6(3.7)	1.0	2 (2.1)	2.3	0	0	**17(2.8)**
Total	**14 (6.8)**	**213 (100)**	**35.5**	**70(100)**	**11.7**	**36 (100)**	**6.0**	**161(100)**	**26.8**	**97(100)**	**16.2**	**9 (100)**	**1.5**	**600 (100)**

Note : the figures in parathesis are percentage shares within group

Appendix 8 : Total income By Tribe

Estimated Annual Total Income (₦)	No Response	Hausa/fulani		Yoruba		Igbo		Southern Kaduna		Other North		Other south		Total
		Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.
No Response	1 (.2)	30 (14.1)	5.0	6 (8.6)	1.0	4 (11.1)	.7	10(9.3)	1.7	9 (9.3)	1.5	3 (33.2)	.5	**63 (10.5)**
1,000 – 50,000	0	09 (4.2)	1.5	2 (2.9)	.3	1(2.8)	.2	5 (3.1)	.8	3 (3.1)	.5	0	0	**20 (3.3)**
50,001 – 100,000	0	19 (8.9)	3.2	6 (8.6)	1.0	1 (2.8)	.2	13(8.1)	2.2	7 (7.2)	1.2	2 (22.2)	.3	**48 (8.8)**
100,001 – 150,000	2 (.3)	29 (13.6)	4.8	4 (5.7)	.7	6 (16.7)	1.0	23(14.3)	3.8	7 (7.2)	1.2	2 (22.2)	.3	**73 (12.2)**
150,001 – 200,000	3 (.5)	09 (4.2)	1.2	3 (4.3)	.5	1 (2.8)	.2	10(6.2)	1.7	7 (7.2)	1.2	0	0	**33 (5.5)**
200,001 – 250,000	2 (.3)	21 (9.9)	3.5	4 (5.7)	.7	2 (5.6)	.3	9(5.6)	1.5	10(10.3)	1.7	0	0	**48 (8.0)**
250,001 – 300,000	0	06 (2.8)	1.0	5 (7.1)	.8	0	0	15(9.3	2.5	8 (8.2)	1.3	0	0	**35 (5.8)**
300,001 – 350,000	1 (.2)	02(.9)	.2	0	0	0	0	4(2.5)	.7	4 (4.1)	.7	0	0	**10 (1.7)**
350,001 – 400,000	0	15 (7.0)	2.5	1 (1.4)	.2	5 (13.9)	.8	9(5.6)	1.5	5 (5.2)	.8	0	0	**36 (6.0)**
400,001 – 450,000	0	06 (2.8)	1.0	2 (2.9)	.3	1 (2.8)	.2	6(3.7)	1.0	4 (4.1)	.7	1(11.1)	.2	**20 (3.3)**
450,001 – 500,000	2 (.3)	11 (5.2)	1.8	8 (11.4)	1.3	2 (5.6)	.3	7(4.3)	1.2	6 (6.2)	1.0	1 (11.1)	.2	**35 (5.8)**
500,001 - 800,000	1 (.2)	18 (8.5)	3.0	11(15.7)	1.8	6 (16.7)	1/0	26(16.1)	4.3	14(14.2)	2.3	0	0	**77 (12.8)**
800,001 – 1,100,000	1 (.2)	17 (8.0)	2.8	9 (12.9)	1.5	2 (5.6)	.3	11(6.8)	1.8	7 (7.2)	1.2	0	0	**47 (7.8)**
1,100,00 –3,000,000	0	16(7.2)	2.7	7 (10.0)	1.2	3(8.3)	.5	7(4.3)	1.2	4 (4.1)	.7	0	0	**38 (6.3)**
>3,000,000	0	05(2.3)	. 8	2 (2.9)	.3	2 (5.6)	.3	6(3.7)	1.0	2 (2.1)	2.3	0	0	**17(2.8)**
Total	**14 (6.8)**	**213 (100)**	**35.5**	**70(100)**	**11.7**	**36 (100)**	**6.0**	**161(100)**	**26.8**	**97(100)**	**16.2**	**9 (100)**	**1.5**	**600 (100)**

Note : the figures in parathesis are percentage shares within group

Appendix 9 :Distribution of respondents by Job Status as percentage of Annual Total income

Estimated Annual Total Income (₦)	No Response		Fully Employed		Partly employed		Trainee		Unemploy		Others		Total
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.
No Response	12	(2.0)	20	(5.4)	3.3	7 (10.9)	1.2	8 (24.2)	1.3	14 (21.2)	2.3	2 (5.7)	0.3	**63 (10.5)**
1,000 – 50,000	3	(0.5)	09	(2.5)	1.5	3 (4.7)	0.5	0	0	3 (4.5)	0.5	2 (5.7)	0.3	**20 (3.3)**
50,001 – 100,000	2	(0.3)	22	(6.0)	3.7	8 (12.5)	1.3	6 (18.2)	1.0	6 (9.1)	1.0	4 (11.4)	0.7	**48 (8.8)**
100,001 – 150,000	5	(0.8)	34	(9.3)	5.7	13 (20.5)	2.2	2 (6.1)	0.3	9 (13.6)	1.5	10 (28.6)	1.7	**73 (12.2)**
150,001 – 200,000	0		22	(6.0)	3.7	5 (7.8)	0.8	4 (12.1)	0.7	2 (3.0)	0.3	0	0	**33 (5.5)**
200,001 – 250,000	3	(0.5)	21	(5.7)	3.5	7 (10.7)	1.2	5 (15.2)	0.8	8 (12.1)	1.3	4 (11.4)	0.4	**48 (8.0)**
250,001 – 300,000	1	(0.2)	23	(6.3)	3.8	2 (3.1)	0.3	2 (6.1)	0.3	7 (10.6)	1.2	0	0	**35 (5.8)**
300,001 – 350,000	0		09	(2.5)	1.5	0	0	0	0	0	0	1 (2.9)	0.2	**10 (1.7)**
350,001 – 400,000	0		20	(5.4)	3.3	7 (10.9)	1.2	2 (6.1)	0.3	4 (6.1)	0.7	3 (8.6)	0.5	**36 (6.0)**
400,001 – 450,000	0		14	(3.8)	2.3	3 (4.7)	0.5	1 (3.0)	0.2	1 (1.5)	0.2	1 (2.9)	0.2	**20 (3.3)**
450,001 – 500,000	2	(0.3)	27	(7.4)	4.5	1 (1.6)	0.2	0	0	4 (6.1)	0.7	1 (2.9)	0.2	**35 (5.8)**
500,001 - 800,000	0		63	(17.2)	10.5	4 (6.3)	0.7	1 (3.0)	0.2	5 (7.5)	0.8	4 (11.4)	0.7	**77 (12.8)**
800,001 – 1,100,000	3	(0.5)	38	(10.4)	6.3	3 (4.7)	0.5	2 (6.1)	0.3	0	0	1 (2.9)	0.2	**47 (7.8)**
1,100,00 –3,000,000	3	(0.5)	31	(8.4)	5.2	1 (1.6)	0.2	0	0	1 (1.5)	0.2	2 (5.7)	0.3	**38 (6.3)**
>3,000,000	1	(0.2)	14	(3.8)	2.3	0	0	0	0	2 (3.0)	0.3	0	0	**17(2.8)**
Total	**35 (5.8)**		**367 (100)**		**61.2**	**64 (100)**	**10.7**	**33 (100)**	**5.5**	**66 (100)**	**11.0**	**35(100)**	**5.5**	**600 (100)**

Appendix 10 :Estimate of Income from Wages per annum (range) by Type of Job

Wages/ Salaries (₦) Ranges		**Type of Job**										
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	Total
No Response	Frequency	17	6	7	2	2	8	1	5	8	7	63
	% within Income	27.0%	9.5%	11.1 %	3.2%	3.2%	12.7%	1.6%	7.9%	12.7%	11.1%	100.0%
	% within Type of Job	29.8%	13.3 %	5.6%	3.7%	6.1%	8.4%	9.1%	13.5%	10.3%	10.9%	10.5%
	% of Total	**2.8%**	**1.0%**	**1.2%**	**.3%**	**.3%**	**1.3%**	**.2%**	**.8%**	**1.3%**	**1.2%**	**10.5%**
1,000 - 50,000	Frequency	2	3	5	1	1	3	0	1	2	2	20
	% within Income	10.0%	15.0 %	25.0 %	5.0%	5.0%	15.0%	.0%	5.0%	10.0%	10.0%	100.0%
	% within Type of Job	3.5%	6.7%	4.0%	1.9%	3.0%	3.2%	.0%	2.7%	2.6%	3.1%	3.3%
	% of Total	**.3%**	**.5%**	**.8%**	**.2%**	**.2%**	**.5%**	**.0%**	**.2%**	**.3%**	**.3%**	3.3%
50,000 - 100,000	Frequency	4	4	6	5	3	6	0	2	11	7	48
	% within Income	8.3%	8.3%	12.5 %	10.4%	6.3%	12.5%	.0%	4.2%	22.9%	14.6%	100.0%
	% within Type of Job	7.0%	8.9%	4.8%	9.3%	9.1%	6.3%	.0%	5.4%	14.1%	10.9%	8.0%
	% of Total	**.7%**	**.7%**	**1.0%**	**.8%**	**.5%**	**1.0%**	**.0%**	**.3%**	**1.8%**	**1.2%**	8.0%
100,001 - 150,000	Frequency	6	7	11	8	0	7	0	6	16	12	73
	% within Income	8.2%	9.6%	15.1 %	11.0%	.0%	9.6%	.0%	8.2%	21.9%	16.4%	100.0%

	% withinType of Job	10.5%	15.6 %	8.7%	14.8%	.0%	7.4%	.0%	16.2%	20.5%	18.8%	12.2%
	% of Total	**1.0%**	**1.2%**	**1.8%**	**1.3%**	**.0%**	**1.2%**	**.0%**	**1.0%**	**2.7%**	**2.0%**	**12.2%**
150,001 - 200,000	Frequency	3	3	3	4	2	7	1	2	6	2	33
	% within Income	9.1%	9.1%	9.1%	12.1%	6.1%	21.2%	3.0%	6.1%	18.2%	6.1%	100.0%
	% within Type of Job	5.3%	6.7%	2.4%	7.4%	6.1%	7.4%	9.1%	5.4%	7.7%	3.1%	5.5%
	% of Total	**.5%**	**.5%**	**.5%**	**.7%**	**.3%**	**1.2%**	**.2%**	**.3%**	**1.0%**	**.3%**	**5.5%**
200,001 - 250,000	Frequency	5	4	9	3	2	4	2	5	6	8	48
	% within Income	10.4%	8.3%	18.8 %	6.3%	4.2%	8.3%	4.2%	10.4%	12.5%	16.7%	100.0%
	% within Type of Job	8.8%	8.9%	7.1%	5.6%	6.1%	4.2%	18.2 %	13.5%	7.7%	12.5%	8.0%
	% of Total	**.8%**	**.7%**	**1.5%**	**.5%**	**.3%**	**.7%**	**.3%**	**.8%**	**1.0%**	**1.3%**	**8.0%**
250,001 - 300,000	Frequency	3	0	6	5	4	8	0	2	3	4	35
	% within Income	8.6%	.0%	17.1 %	14.3%	11.4 %	22.9%	.0%	5.7%	8.6%	11.4%	100.0%
	% within Type of Job	5.3%	.0%	4.8%	9.3%	12.1 %	8.4%	.0%	5.4%	3.8%	6.3%	5.8%
	% of Total	**.5%**	**.0%**	**1.0%**	**.8%**	**.7%**	**1.3%**	**.0%**	**.3%**	**.5%**	**.7%**	**5.8%**
300,001 - 350,000	Frequency	0	1	6	0	2	0	0	0	1	0	10
	% within Income	.0%	10.0 %	60.0 %	.0%	20.0 %	.0%	.0%	.0%	10.0%	.0%	100.0%
	% within Type of Job	.0%	2.2%	4.8%	.0%	6.1%	.0%	.0%	.0%	1.3%	.0%	1.7%

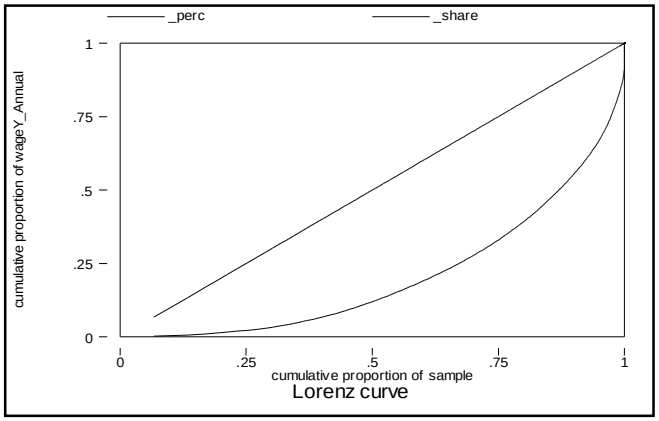
	% of Total	**.0%**	**.2%**	**1.0%**	**.0%**	**.3%**	**.0%**	**.0%**	**.0%**	**.2%**	**.0%**	**1.7%**
350,001 - 400,000	Frequency	1	3	7	7	2	4	1	2	5	4	36
	% within Income	2.8%	8.3%	19.4 %	19.4%	5.6%	11.1%	2.8%	5.6%	13.9%	11.1%	100.0%
	% within Type of Job	1.8%	6.7%	5.6%	13.0%	6.1%	4.2%	9.1%	5.4%	6.4%	6.3%	6.0%
	% of Total	**.2%**	**.5%**	**1.2%**	**1.2%**	**.3%**	**.7%**	**.2%**	**.3%**	**.8%**	**.7%**	6.0%
400,001 - 450,000	Frequency	1	0	10	1	1	3	1	1	1	1	20
	% within Income	5.0%	.0%	50.0 %	5.0%	5.0%	15.0%	5.0%	5.0%	5.0%	5.0%	100.0%
	% within Type of Job	1.8%	.0%	7.9%	1.9%	3.0%	3.2%	9.1%	2.7%	1.3%	1.6%	3.3%
	% of Total	**.2%**	**.0%**	**1.7%**	**.2%**	**.2%**	**.5%**	**.2%**	**.2%**	**.2%**	**.2%**	**3.3%**
450,001 - 500,000	Frequency	3	5	6	6	1	6	1	1	4	2	35
	% within Income	8.6%	14.3 %	17.1 %	17.1%	2.9%	17.1%	2.9%	2.9%	11.4%	5.7%	100.0%
	% within Type of Job	5.3%	11.1 %	4.8%	11.1%	3.0%	6.3%	9.1%	2.7%	5.1%	3.1%	5.8%
	% of Total	**.5%**	**.8%**	**1.0%**	**1.0%**	**.2%**	**1.0%**	**.2%**	**.2%**	**.7%**	**.3%**	**5.8%**
500,000 - 800,000	Frequency	1	4	19	8	6	19	1	4	7	8	77
	% within Income	1.3%	5.2%	24.7 %	10.4%	7.8%	24.7%	1.3%	5.2%	9.1%	10.4%	100.0%
	% within Type of Job	1.8%	8.9%	15.1 %	14.8%	18.2 %	20.0%	9.1%	10.8%	9.0%	12.5%	12.8%
	% of Total	**.2%**	**.7%**	**3.2%**	**1.3%**	**1.0%**	**3.2%**	**.2%**	**.7%**	**1.2%**	**1.3%**	**12.8%**

800,001 - 1,100,000	Frequency	5	2	17	1	1	9	2	3	4	3	47
	% within f Income	10.6%	4.3%	36.2 %	2.1%	2.1%	19.1%	4.3%	6.4%	8.5%	6.4%	100.0%
	% within Type of Job	8.8%	4.4%	13.5 %	1.9%	3.0%	9.5%	18.2 %	8.1%	5.1%	4.7%	7.8%
	% of Total	**.8%**	**.3%**	**2.8%**	**.2%**	**.2%**	**1.5%**	**.3%**	**.5%**	**.7%**	**.5%**	**7.8%**
1,100,001 - 3,000,000	Frequency	4	2	11	2	4	5	1	2	4	3	38
	% within Income	10.5%	5.3%	28.9 %	5.3%	10.5 %	13.2%	2.6%	5.3%	10.5%	7.9%	100.0%
	% within Type of Job	7.0%	4.4%	8.7%	3.7%	12.1 %	5.3%	9.1%	5.4%	5.1%	4.7%	6.3%
	% of Total	**.7%**	**.3%**	**1.8%**	**.3%**	**.7%**	**.8%**	**.2%**	**.3%**	**.7%**	**.5%**	**6.3%**
>3,000,000	Frequency	2	1	3	1	2	6	0	1	0	1	17
	% within Income	11.8%	5.9%	17.6 %	5.9%	11.8 %	35.3%	.0%	5.9%	.0%	5.9%	100.0%
	% within Type of Job	3.5%	2.2%	2.4%	1.9%	6.1%	6.3%	.0%	2.7%	.0%	1.6%	2.8%
	% of Total	**.3%**	**.2%**	**.5%**	**.2%**	**.3%**	**1.0%**	**.0%**	**.2%**	**.0%**	**.2%**	**2.8%**
Total	**Frequency**	**57**	**45**	**126**	**54**	**33**	**95**	**11**	**37**	**78**	**64**	**600**
	% within Income	**9.5%**	**7.5%**	**21.0 %**	**9.0%**	**5.5%**	**15.8%**	**1.8%**	**6.2%**	**13.0%**	**10.7%**	**100.0%**

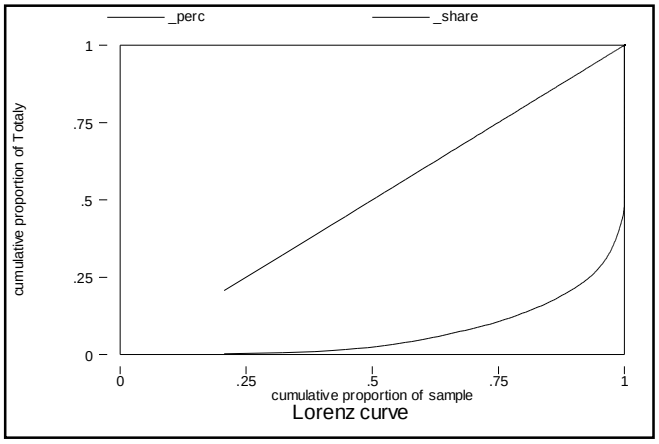
Source: Field work report, 2008

Appendix 11

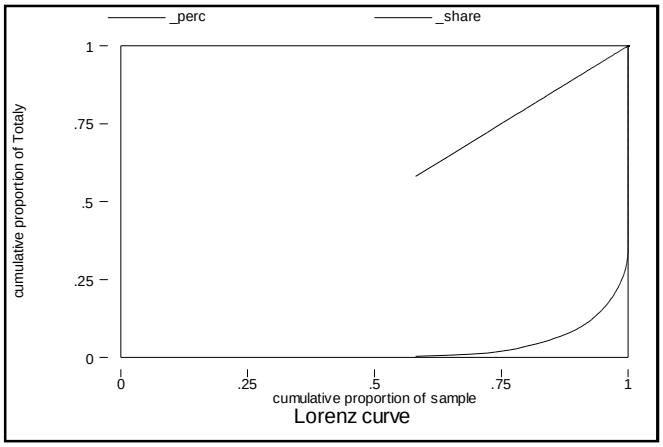
Lorenz Curves of Various Degrees of Inequalities



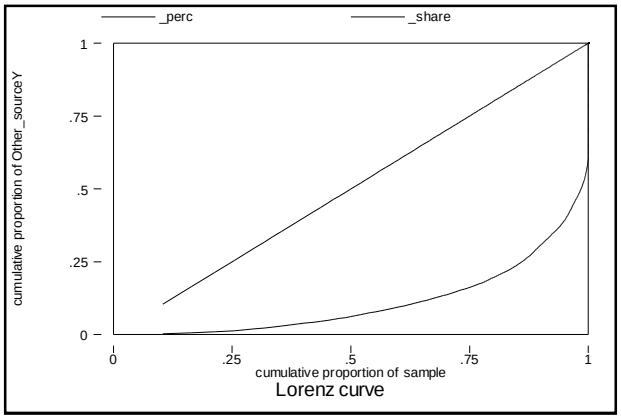
Inequality for Religion: inequality measures of Annual wage income
if religion= **Christian(**Gini coefficient = 0.59041615)



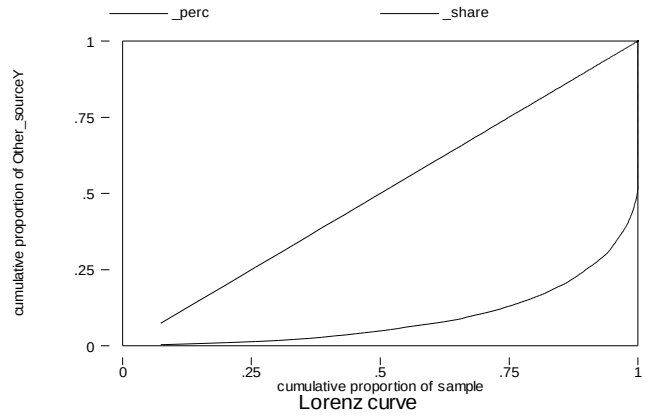
Inequality measures of Total income if Religion = Christian (Gini coefficient = 0.85742767)



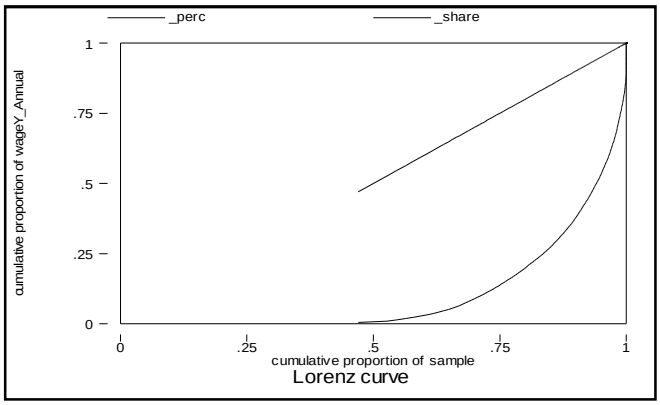
Inequality measure of Total income if Religion = Muslim
(Gini coefficient =0.94592746)



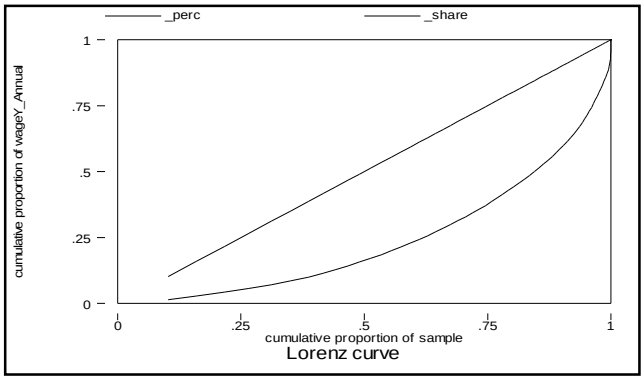
Inequality measures of Other income source (Asset) if Religion = Christian
(Gini coefficient = 0.77822653)



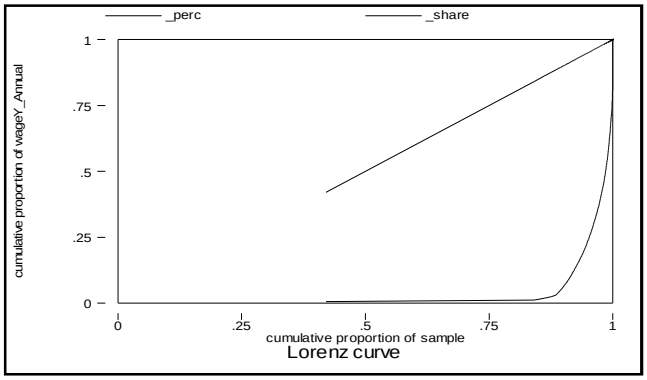
Inequality measure of Other income sources (assets) if Religion = Muslim
(Gini coefficient = 0.81833487)



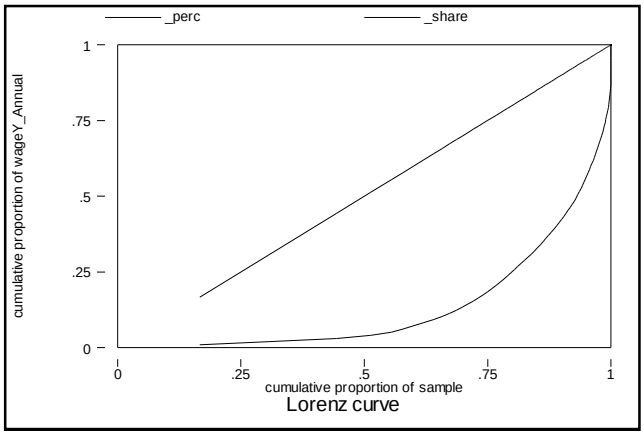
Inequality measure of _Annual wages if Ethnicity == Hausa Fulani
(Gini coefficient = 0.7875293)



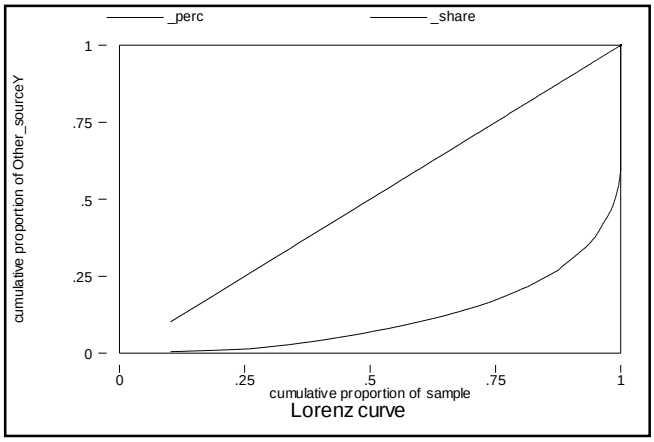
Inequality measures of Annual wage income if Ethnicity = Yoruba (Gini coefficient = 0.52152821)



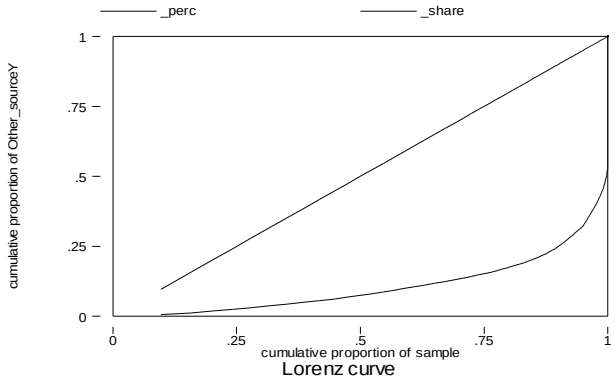
Inequality measures of Annual wage income if Ethnicity = southern Kaduna (Gini coefficient = 0.92924335)



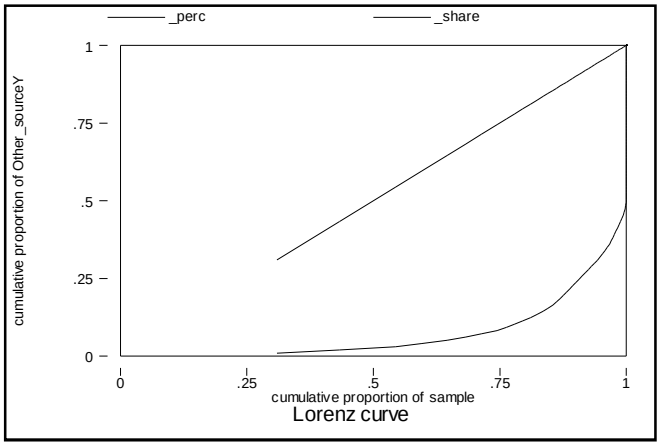
Inequality measures of Annual wage income if Ethnicity = other North (Gini coefficient = 0.73166834)



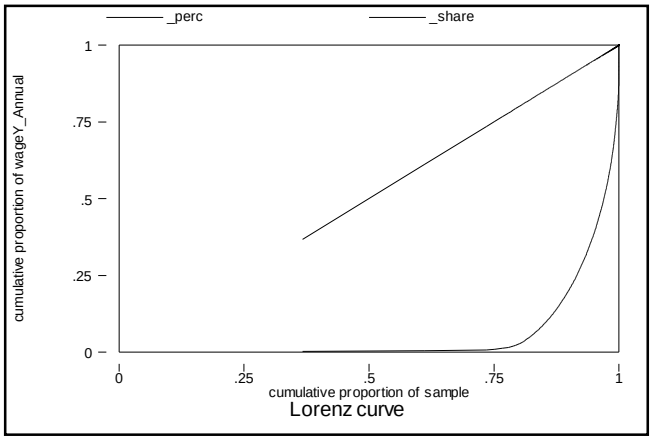
Inequality measures of Other income source(Asset) if Ethnicity = Hausa Fulani
(Gini coefficient = 0.7717245)



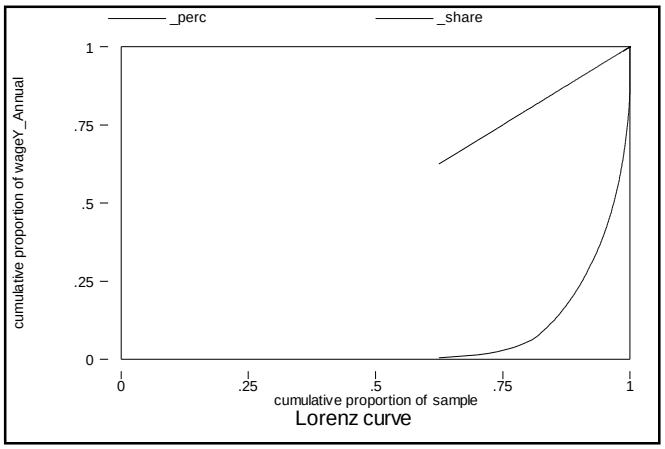
Inequality measure of Other Income Source (Asset) if Ethnicity = South Kaduna
(Gini coefficient = 0.7881549)



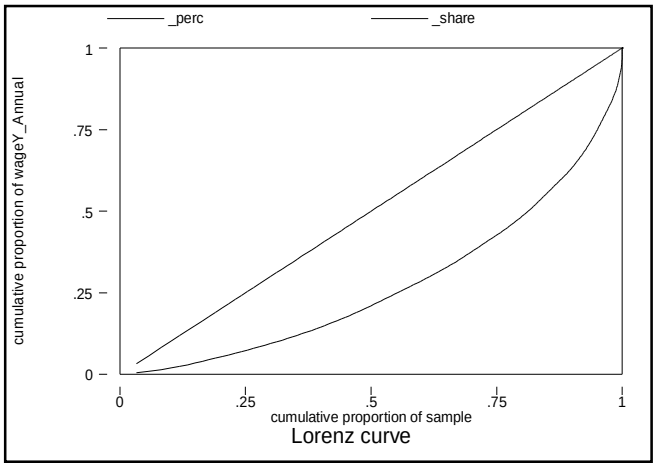
Inequality measures of Other income source (Asset) if Ethnicity = Northern Kaduna
(Gini coefficient = 0.85455211)



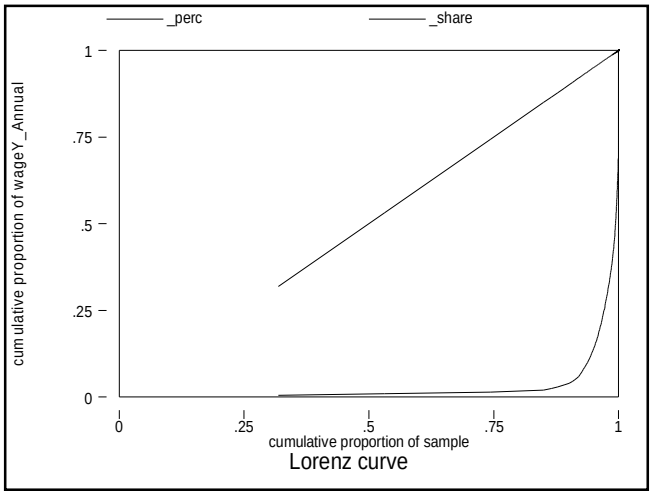
Inequality measure of Annual wage income if gender = male (Gini coefficient = 0.88904939)



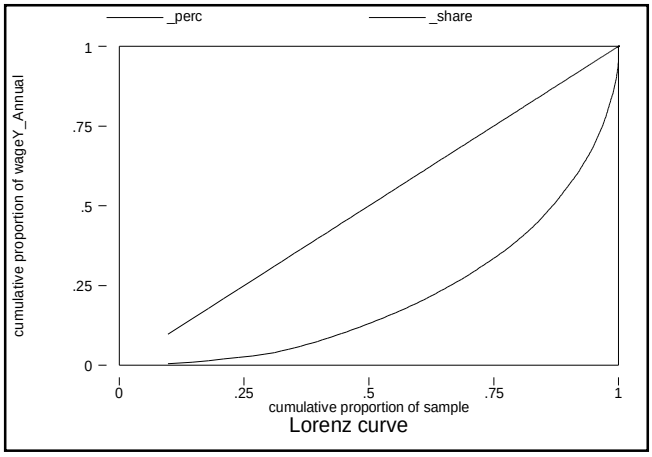
Inequality measure of Annual wage income if gender =female (Gini coefficient = 0.87497483)



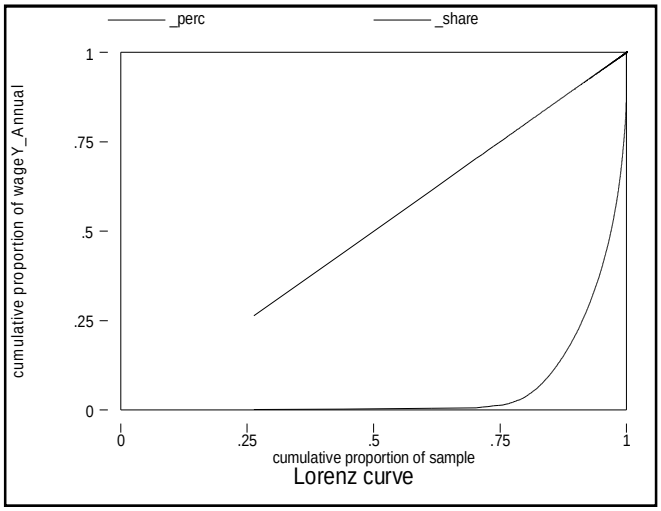
Inequality measure of Annual wage income if location = Giwa (Gini coefficient = 0.60929718)



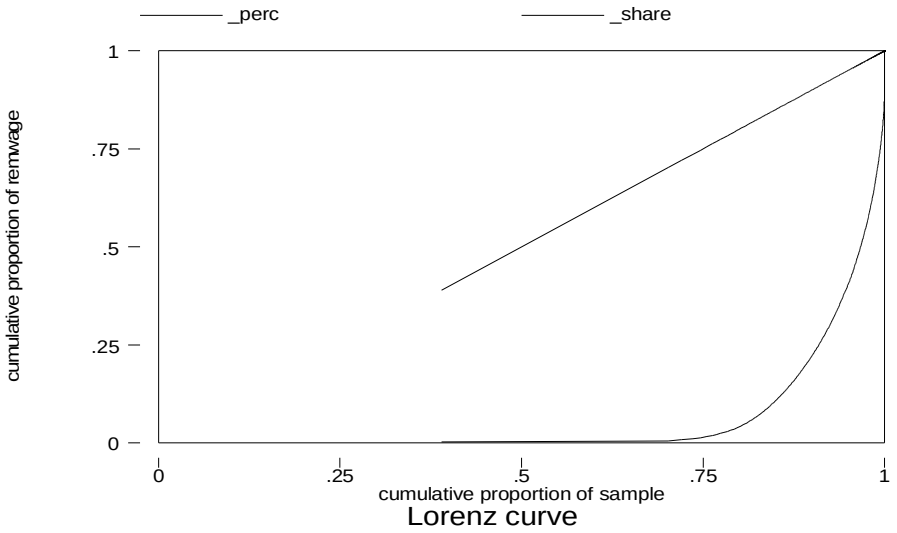
Inequality measures of Annual wage income if location = Kaduna North (Gini coefficient = 0.94451043)



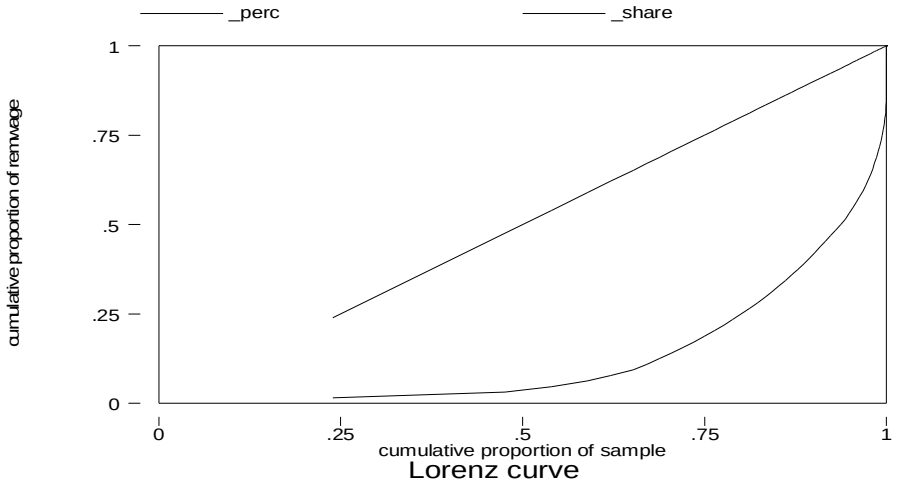
Inequality measure of Annual wage income if location = Kaduna South (Gini coefficient = 0.57655169)



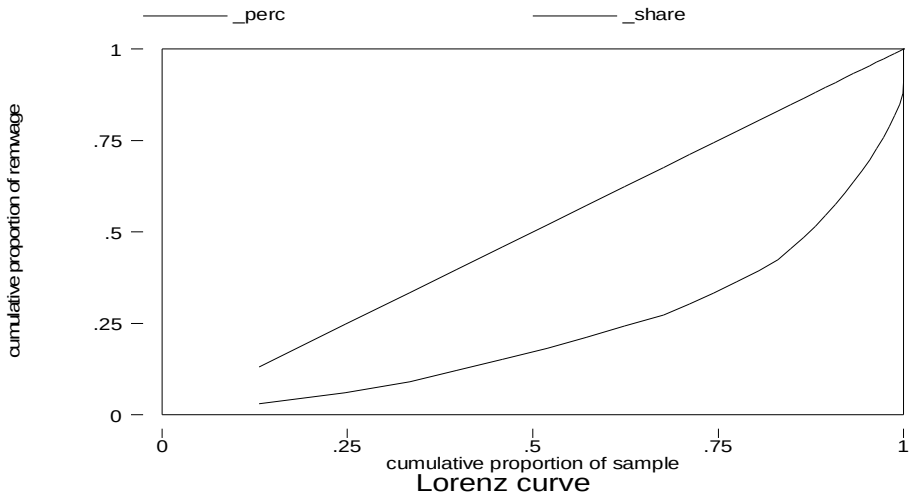
VerticalInequality measure of Annual wage income for all location (Gini coefficient = 0.88520328)



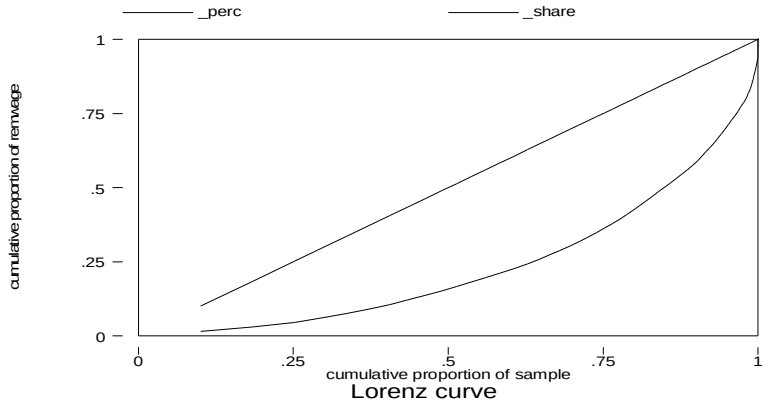
Inequality measures of Total income by Job Status if(Fully employed), Gini= 0.8812



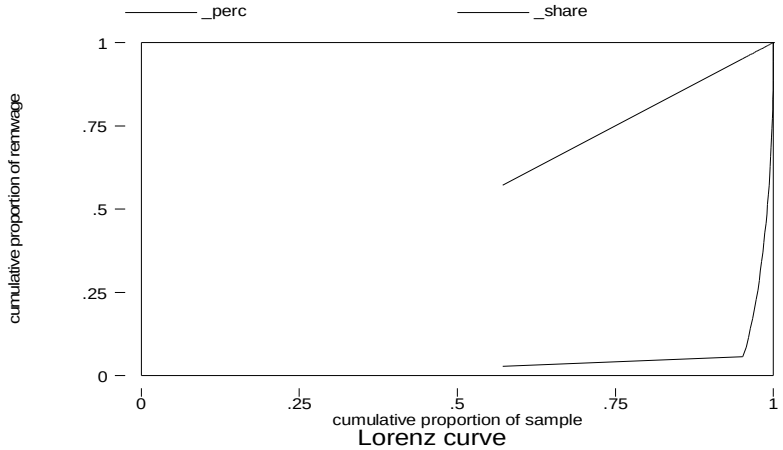
Inequality measures of Total income by Job Status if (partly employed), Gini= 0.73914752



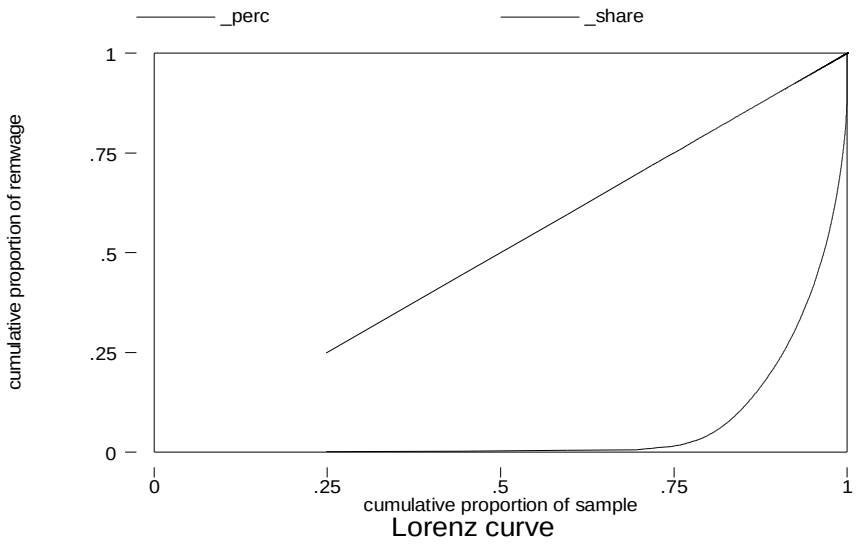
Inequality measures of Total income by Job Status if (Trainee), Gini= 0.5377



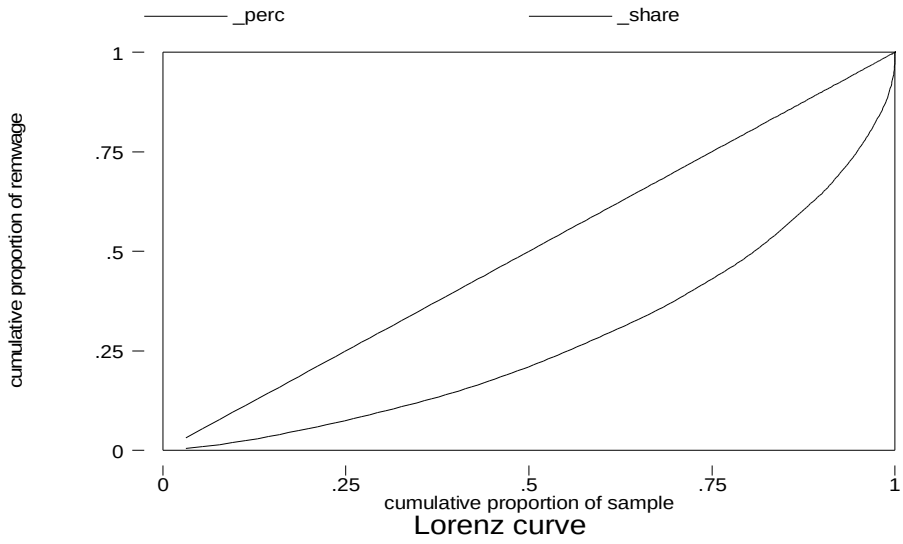
Inequality measures of Total income by Job Status if (Self employed medium scale), Gini= 0.5345



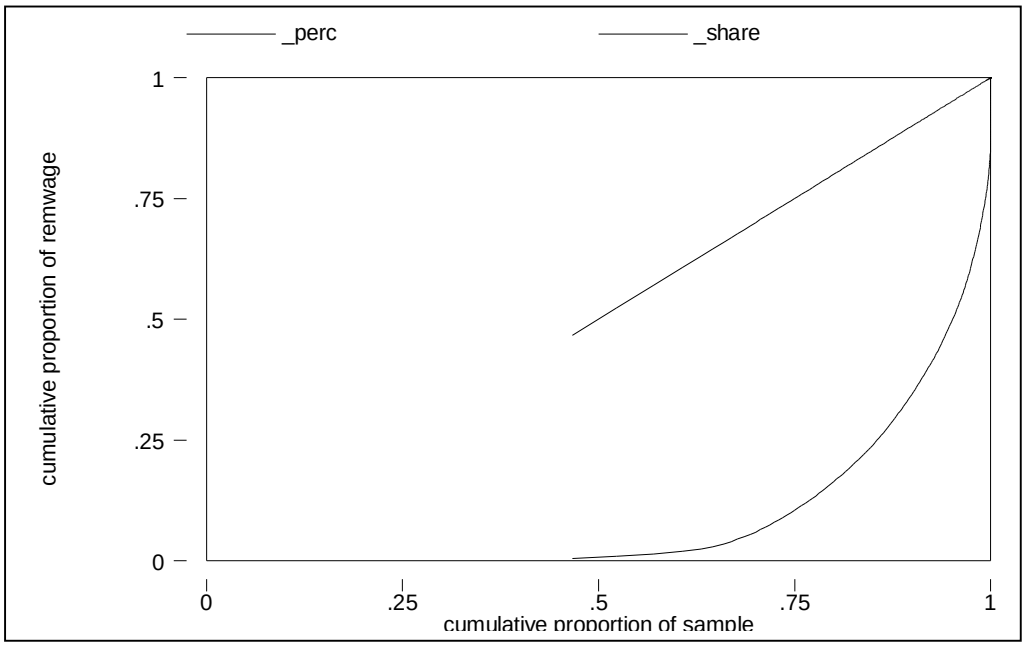
Inequality measures of Total income by Job Status if others, Gini= 0.9206



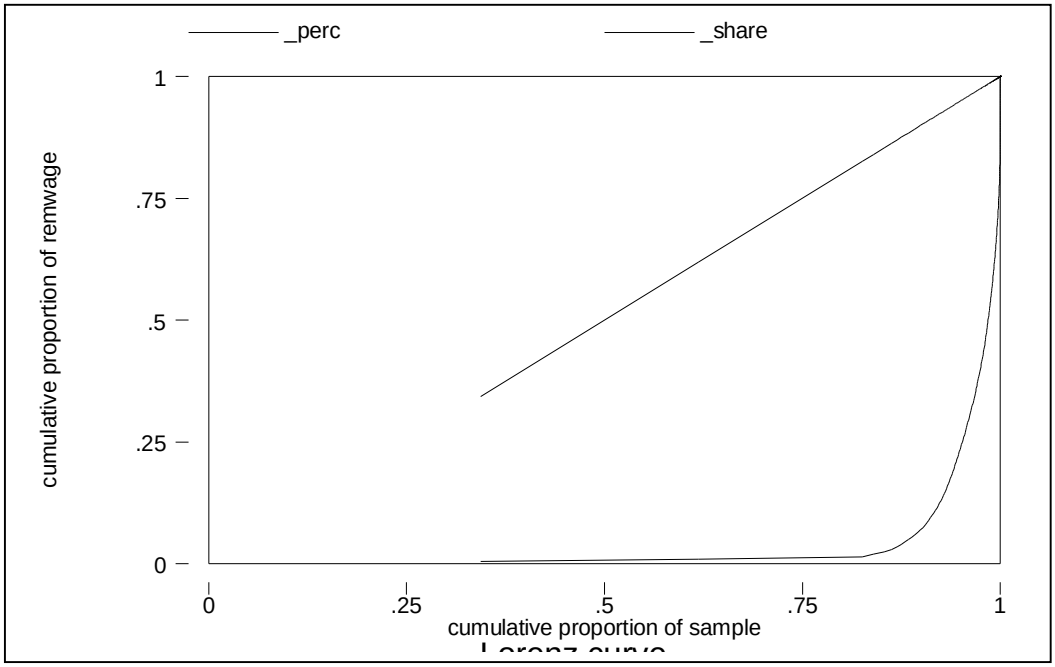
Vertical inequality measures of Total income where Gini= 0.8790



Horizontal measure of inequality of Total income by location if Giwa, Gini= 0.4472



Inequality measures of total income if Kaduna North, Gini Coefficient = 0.8130



Inequality measures of total income if Kaduna south,Gini Coefficient = 0.9262

Appendix 12: QUESTIONNAIRE

SECTION A :DEMOGRAPHIC INFORMATION OF RESPONDENTS

1. Gender of Respondent
   i. Male ( )
   ii. Female ( )
2. Head of Household
   i. Male ( )
   ii. Female ( )
3. Location of resident : Rural ( ) Urban ( )
4. Age_____
5. Martial Status of Respondent
   a. Married ( )
   b. Divorced ( )
   c. Widowed ( )
   d. Single ( )
   e. Others(specify) ( )

6 .Number of People in the household
   i) 1 – 3 ( )
   ii) 4 – 6 ( )
   iii) 7 – 10 ( )
   iv) 10 and above ( )

7 Number of Children ----------
   i) 1 – 3 ( )
   ii) 4 – 6 ( )
   iii) 7 – 10 ( )
   iv) 10 and above ( )

8 Number of Dependants----------
   i) 1 – 3 ( )
   ii) 4 – 6 ( )
   iii) 7 – 10 ( )
   iv) 10 and above ( )

9 Religion
   i) Christian ( )
   ii) Muslim ( )
   iii) Traditional ( )
   iv) Others (specify) ( )

10 Educational Level
   i) No Formal Education ( )
   ii Koranic Education ( )
   iii) Primary Education ( )

iv) Secondary School/GradeII/Technical ( )
v) Post Secondary School ( )
vi) First Degree ( )
vii) Post Graduate Degree ( )
viii) Others(specify) ( )

11 Can you read and write? Yes ( ) No ( )

12 If yes, in what form ?

a) Hausa ( ) b) English ( ) c) Hausa / English ( ) d) others specify ( )

13 What tribe are You ? ----------

14 From which state ? ----------

15 Present job status

i) Fully Employed ( )
ii) Partly Employed ( )
iii) Trainee ( )
iv) Unemployed ( )
v) Others (specify) ----------

16 Type of Job

i) Agriculture ( )
ii) Administration ( )
iii) technician/Mechanic ( )
iv) Manufacturing and processing ( )
v) Services and related activities ( )
vi) Production and Transport ( )
vii) Sales and related activities ( )
viii) Lecturing /Teaching ( )
ix) Business / Trading ( )
x) Others (specify)----------

17 Please provide information in respect of each person living with you in this household using variable 1 -8 below:

S/No	Relation ship	Gender	Age	Educational level	Job	Illness in the past 30 days	Type of Illness	Literacy
1								
2								
3								
4								
5								
6								
7								
8								

18 Which of these did you have in last 30 months?

i) Malaria ( )
ii) Diarrhea ( )
iii) Typhoid ( )
iv) Cold ( )

v) Others (specify) ----------

vi) Not sick

19 Which of these did any of your children have in the last 30 days?

i) Malaria ( )
ii) Diarrhea ( )
iii) Typhoid ( )
iv) Cold ( )
v) Others (specify) ----------
vi) Not sick ( )

20 Which of these did any of your dependants have in the last 30 days?

i) Malaria ( )
ii) Diarrhea ( )
iii) Typhoid ( )
iv) Cold ( )
v) Others (specify)----------
vi) Not sick ( )

SECTION B :NUTRITIONAL STATUS OF RESPONDENT

21 How many meals do you have in a typical day? _____

22 How much do spend on food ? [a] per month ? _____
[b] per annum_____

23 How often do you eat meat?

i) Daily ( )
ii) Weekly ( )
iii) Festivals only ( )
iv) None ( )
v) Monthly ( )

24 How often do you eat fish?

i) Daily ( )
ii) Weekly ( )
iii) festival only ( )
iv) none ( )
v) monthly ( )

25 How often do you take milk?

i) Daily ( )
ii) weekly ( )
iii) festivals only ( )
iv) none ( )
v) monthly ( )

26 How often do you take beans?

i) Daily ( )
ii) weekly ( )
iii) festivals only ( )
iv) none ( )
v) monthly ( )

27 How often do you take eggs?

i) Daily ( )
ii) Weekly ( )
iii) festivals only ( )
iv) none ( )
v) monthly ( )

28 Which diet makes up your staple meal? .....
29 How much is the average cost of your meals ……
30 How many times will you like your family to eat everyday? ……
31 How do you intend to improve the feeding conditions of our family?
…….
32 How can you rate the nutritional status of your family and neighbours?.....

(a) Below average ( ) (b) Average ( ) (c) Above Average ( )

SECTION C : HOUSE HOLD BUDGET

33 What is your Source of income ; (a) wages / salaries ( ) (b) assets (c) others specify---
34 Estimate of Income from wages (a) per month ----------,(b) Per annum ----------

(i) 10,000 – 50,000 (ii) 50,000-100,000 (iii) 100,000 and above

35 Estimate of Income from other sources i.e shares, dividend, interest on deposit, landed properties (a) per month ---------- (b) per annum ----------

(i) 10,000 – 50,000 (ii) 50,000-100,000 (iii) 100,000 and above

36 Remittances to head of household from children and other relations per annum ----------

(i) 10,000 – 50,000 (ii) 50,000-100,000 (iii) 100,000 – 300,000

Iv 400, 000 – 500,000 (v) 600,000 – 700,000 (vi) 800,000 and above

37 Income of other members of the Household (use the table below for 4 members)

S/No	Wage	Income from other sources
1		
2		
3		
4		

38 Remittances to other members of household

I	10,000 – 50,000	( )	V11	600,001-800,000	( )
11	50,000-100,000	( )	V111	800,000-1,000,000	( )
111	100,001-200,000	( )	1X	1,000,001-1,200,000	( )
1V	200,0001-400,000	( )	X	1,200,001-1,400,000	( )

V	400,001-600,000	( )	X1	1,400,001-1,600,000	( )
VI	600,001-800,000	( )	X11	1,600,001-2,000,000	( )
			X111	Above 2,000,000	( )

39 Household expenditure per month on food

I	10,000 – 50,000	( )	V11	600,001-800,000	( )
11	50,000-100,000	( )	V111	800,000-1,000,000	( )
111	100,001-200,000	( )	1X	1,000,001-1,200,000	( )
1V	200,0001-400,000	( )	X	1,200,001-1,400,000	( )
V	400,001-600,000	( )	X1	1,400,001-1,600,000	( )
VI	600,001-800,000	( )	X11	1,600,001-2,000,000	( )
			X111	Above 2,000,000	( )

40 Household expenditure per month on rent

I	10,000 – 50,000	( )	V11	600,001-800,000	( )
11	50,000-100,000	( )	V111	800,000-1,000,000	( )
111	100,001-200,000	( )	1X	1,000,001-1,200,000	( )
1V	200,0001-400,000	( )	X	1,200,001-1,400,000	( )
V	400,001-600,000	( )	X1	1,400,001-1,600,000	( )
VI	600,001-800,000	( )	X11	1,600,001-2,000,000	( )
			X111	Above 2,000,000	( )

41 Household expenditure per month on education

I	10,000 – 50,000	( )	V11	600,001-800,000	( )
11	50,000-100,000	( )	V111	800,000-1,000,000	( )
111	100,001-200,000	( )	1X	1,000,001-1,200,000	( )
1V	200,0001-400,000	( )	X	1,200,001-1,400,000	( )
V	400,001-600,000	( )	X1	1,400,001-1,600,000	( )
VI	600,001-800,000	( )	X11	1,600,001-2,000,000	( )
			X111	Above 2,000,000	( )

42 Household expenditure per month on transport

I	10,000 – 50,000	( )	V11	600,001-800,000	( )
11	50,000-100,000	( )	V111	800,000-1,000,000	( )
111	100,001-200,000	( )	1X	1,000,001-1,200,000	( )
1V	200,0001-400,000	( )	X	1,200,001-1,400,000	( )
V	400,001-600,000	( )	X1	1,400,001-1,600,000	( )
VI	600,001-800,000	( )	X11	1,600,001-2,000,000	( )
			X111	Above 2,000,000	( )

43 Household expenditure per month on energy

I	10,000 – 50,000	( )	V11	600,001-800,000	( )
11	50,000-100,000	( )	V111	800,000-1,000,000	( )
111	100,001-200,000	( )	1X	1,000,001-1,200,000	( )
1V	200,0001-400,000	( )	X	1,200,001-1,400,000	( )
V	400,001-600,000	( )	X1	1,400,001-1,600,000	( )
VI	600,001-800,000	( )	X11	1,600,001-2,000,000	( )
			X111	Above 2,000,000	( )

44 Any other household expenditure (specify)

I	10,000 – 50,000	( )	V11	600,001-800,000	( )
11	50,000-100,000	( )	V111	800,000-1,000,000	( )
111	100,001-200,000	( )	1X	1,000,001-1,200,000	( )
1V	200,0001-400,000	( )	X	1,200,001-1,400,000	( )
V	400,001-600,000	( )	X1	1,400,001-1,600,000	( )
VI	600,001-800,000	( )	X11	1,600,001-2,000,000	( )
			X111	Above 2,000,000	( )

45 Access to credit for income – generating activity

i) Bank ( )
ii) cooperative Society ( )
iii) Esusu ( )
iv) Relatives ( )
v) Friends ( )
vi) None ( )

46 Access to credit in time of emergency (e.g. illness)

i) Bank ( )
ii) Cooperative Society ( )
iii) Esusu ( )
iv) Relatives ( )
v) Friends ( )
vi) None ( )

47 Adequate of Credit Facilities in Community

i) Adequate ( )
ii) Not so adequate ( )
iii) Inadequate ( )

SECTION D : ENVIRONMENT

48 Type of dwelling

i) Single rooms ( )
ii) Flats ( )
iii) Duplex ( )
iv) Whole building ( )
v) Others (specify) ( )

49 Type of building wall

i) Mud ( )
ii) Burnt brick ( )
iii) Cement brick ( )
iv) Other (specify) ( )

50 Type of building roof

i) Thatched roof ( )
ii) Galvanised iron sheets ( )
iii) Asbestos ( )

51 Type of building floor

i) Mud ( )
ii) Cement ( )

iii) Tile ( )
iv) Terrasso ( )

52 Wall plastered?
i) Yes ( )
ii) No ( )

53 Number of living rooms in housing units :
i) 1 – 2 , (ii) 3- 4 , (iii) 4-5 , (iv) 6 and above

54 Number of rooms occupied by your housing :
i) 1 – 2 , (ii) 3- 4 , (iii) 4-5 , (iv) 6 and above

55 Ownership of housing unit
i) Extended family
ii) Individual owner-occupier
iii) Government
iv) Rented
v) Owner-occupier but partly rented out
vi) Others (specify)

56 Monthly rent (₦) for housing unit

(i) 10,000 – 50,000 (ii) 50,000-100,000 (iii) 100,000 – 300,000
Iv 400, 000 – 500,000 (v) 600,000 – 700,000 (vi) 800,000 and above

57 Major source of water for drinking and cooking
i) Pipe-borne (in housing connection)
ii) Pipe-borne (communual)
iii) Borehole
iv) Well
v) Stream/Pond/River
vi) Others (specify)

58 Distance to source of water
i) In-dwelling
ii) Within 500M
iii) 500m – 1KM
iv) more than 1KM

59 Access to electricity supply
i) Yes
ii) No

60 Type of fuel used in cooking
i) Electricity
ii) Gas
iii) Kerosene
iv) Wood
v) Others (specify)

61 Type of lighting used
i) Electricity
ii) Traditional oil lamp
iii) Kerosene Lantern
iv) Kerosene tin lamp

v) Other (specify)

62 Type of refuse disposal used
- i) Household dustbin collected by government agency
- ii) Household dustbin collected by private agency
- iii) Disposal within compound
- iv) Refuse heap on public ground
- v) Others (specify)

63 Toilet facilities
- i) Covered pit
- ii) Pail
- iii) Uncovered pit
- iv) Water closet
- v) Toilet on water
- vi) Bush/Dung hill

64 Ownership of radio
- i) Yes
- ii) No

65 Ownership of Gas Cooker
- i) Yes
- ii) No

66 Ownership of Refrigerator
- i) Yes
- ii) No

67 Ownership of fan (ceiling or standing)
- i) Yes
- ii) No

68 Ownership of television set
- i) Yes
- ii) No

69 Ownership of Video
- i) Yes
- ii) No

70 Ownership of Satellite dish or its equivalent
- i) Yes
- ii) No

71 Ownership of stove (kerosene or gas)
- i) Yes
- ii) No

72 Do you like your house ? i Yes ( ) ii. No ( )

73 Are you Capable of Maintaining the house? (i) Yes ( ) (ii) No ( )

74 What do you think can be done so that your housing conditions can be improved?
……
……
……..

75 Comment freely on the housing conditions around your areas? ……...

SECTION E : ACCESS TO HEALTH CARE

76 Do you sougth the service of health care ? i) Yes ( ) ii) No ( )

77 Which of the services ?
i) consultation at the hospital ( ) (ii) consultation at dispensaries ( )

78 How many times do you make a visit to the above per week ?
i) 1 – 5, ( ) ii) 6 – 10 ( ) iii) 10 and above ( )

79 How much do you spend on each of the above ? Per month ------- per annum ----

80 Who pays for your. Hospital bills?

i) None ( ) ii) Employer (ii) iii) Self ( )

81 Are the hospital bills affordable? (i) Yes ( ) ii) No ( )

82 Distance to the nearest health care source
i) Less than 1 KM
ii) I KM – 2 KM
iii) 3 KM -4 KM
iv) Over 4 KM

83 Type of health care
i) Modern health care
ii) Traditional health care
iii) Faith-healing
iv) Other(specify)

84 Comment freely on your family and neighbours' attitude towards hospital treatment and visits

……
……

SECTION F: ACCESS TO EDUCATION

85 Are your children in school?
i) Yes
ii) No

86 Are they in public or Private School?

87 What is the estimated distance to school
ii) 1km – 5km
iii) 6km -10km
iv) 10km -20km
v) 30km and above

88 Comment freely on your neighbours attitude towards childrens' education

---