

# GLOBAL JOURNAL

OF HUMAN SOCIAL SCIENCE : C

## SOCIOLOGY, ECONOMICS & POLITICAL SCIENCE

DISCOVERING THOUGHTS AND INVENTING FUTURE

### HIGHLIGHTS

Consumer Buying behavior

An Econometric Modelling

Lower Social Classes

The Case of Cross River



Barack Obama

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## Mobile Telecommunication and Hiv Nexus in Nigeria. The Case of Cross River and Akwa Ibom States, Nigeria

By Dr. Abia, Raphel Pius, Dr. Ering, Simon & Dr. Enang, Ebingha Erena Odey  
*University of Calabar, Calabar*

**Abstract** - The advent of HIV/AIDS has brought severe health challenges to the population and has added to the problem of health care. More case loads are entering the hospitals as new cases of infected persons are reported. It is necessary to look at the salient risk factors which are often neglected and disregarded. The study was carried out in two urban and rural settings of Cross River and Akwa Ibom States of Nigeria. The population of the study was 500 respondents randomly sampled. The results indicated that, Global System of Mobil Telecommunication (GSM) facilitate networking of people within the population. The respondents agreed that this networking often resulted in illicit sexual behaviour which serves as a primary source of contracting HIV/AIDS. The strong opinion of the research is that, there is need to carryout education among the populace on a more positive use of GSM facility. The education are to be directed on youths within the population for behaviour modification on the use of GSM facility.

**Keywords** : *HIV/AIDS, Social networking, Global System of Mobile Telecommunication, Commercial sex workers.*

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# Mobile Telecommunication and Hiv Nexus in Nigeria. The Case of Cross River and Akwa Ibom States, Nigeria

Dr. Abia, Raphel Pius<sup>α</sup>, Dr. Ering, Simon<sup>ο</sup> & Dr. Enang, Ebingha Erena Odey<sup>ρ</sup>

**Abstract** - The advent of HIV/AIDS has brought severe health challenges to the population and has added to the problem of health care. More case loads are entering the hospitals as new cases of infected persons are reported. It is necessary to look at the salient risk factors which are often neglected and disregarded. The study was carried out in two urban and rural settings of Cross River and Akwa Ibom States of Nigeria. The population of the study was 500 respondents randomly sampled. The results indicated that, Global System of Mobile Telecommunication (GSM) facilitate networking of people within the population. The respondents agreed that this networking often resulted in illicit sexual behaviour which serves as a primary source of contracting HIV/AIDS. The strong opinion of the research is that, there is need to carryout education among the populace on a more positive use of GSM facility. The education are to be directed on youths within the population for behaviour modification on the use of GSM facility.

**Keywords** : HIV/AIDS, Social networking, Global System of Mobile Telecommunication, Commercial sex workers.

## I. INTRODUCTION

HIV/AIDS has come to be the most difficult health challenge since it was isolated among homosexuality in United States of America in 1981. It has turned out as the major setback to reproductive health both in developed as well as developing countries. The global figure of those infected by HIV/AIDS is 33.6million people [WHO, 2008]. It is now a major cause of morbidity and mortality across the globe, yet new infections are occurring.

The mortality rate is high to the extent that adults, youths and children are devastated by HIV/AIDS. By 1990, the prevalence rate was at 0.5 to 2.00%. Recent surveys in several countries show HIV seroprevalence rate of 5 to 20% among the urban adult population. In rural areas, though the prevalence rates are lower, they are already significant and on the increase especially as most cases of HIV/AIDS infections are not often reported.

The advent of Global System of Mobile telecommunication [GSM] has increased the web of networking of people, especially among socially active

segment of the population [15-49 years]. Communications are occurring across national and international borders. Before the advent of GSM, the prevalence rate of HIV was 0.5% of the population. With the advent of GSM facilities [though not noticed by the health sector], the prevalence rate of HIV rose to 3.5% in 2010. There is the imperativeness to establish the link between HIV/AIDS spread and the networking of people, occasioned by the advent of GSM episode.

In Nigeria, an overview of HIV/AIDS prevalence revealed that the South-South zone has a rate as high as 7.6%. The study areas of Cross River and Akwa Ibom States fall within the hot spots of this zone with the prevalence rate as high as 12.5% and 5.8% respectively [WHO, 2008]. With increasing years, productivity is bound to be affected by people suffering from the HIV and AIDS. The impact of HIV/AIDS is enormous warranting the study on other silent factors furthering the spread of the virus.

## II. OBJECTIVES OF THE STUDY

The major objective of this research is to contribute to the pool of knowledge by investigating the facts about HIV/AIDS. However, the specific objectives are as follows:

- To examine the extent to which modernization has affected the spread of the virus in our communities.
- To proffer solutions to ameliorate the spread of the pandemic. This will be of tremendous help not to policy planners but to implementers as well as the salient factor of GSM episode is facilitating networking of people.

## III. STATEMENT OF HYPOTHESES

The propositions which have given direction to this research are as follows:

- The raising use of GSM facility in Nigeria has increase dating and social networking in our society, thus, facilitating the spread of HIV/AIDS.
- The low level of socio economic status (low income, high poverty and low hygienic levels) is aggravating the spread of HIV/AIDS in our society.

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#### IV. EMPIRICAL REVIEW

##### a) *Spread and Progression of HIV infection*

The prevalence of HIV/AIDS is high in our society. This draws attention to the mode of spread of this deadly virus. HIV/AIDS could be contracted significantly from the underlisted sources, (sexual intercourse, blood product transfusion, contact and use of unsterilized syringes blades, knives, shaving sticks and all other sharp objects (Udoh 2000).

There is a common agreement among scholars that sexual intercourse remains the leading source for HIV/AIDS transmission – Udoh 2000, Abia, 2005. Dawin 2005, McSweeney 1991). These scholars have observed that 80 to 90% of HIV/AIDS infection is through sexual intercourse. McSweeney (1991) has described with precision how sexual intercourse aided the spread of HIV virus. According to the author, HIV/AIDS could be sexually transmitted from man to man (Homosexuality), from woman to man and from man to women. Thus, HIV falls within the category of sexually transmitted diseases (STDs). Tabifor (2000) had submitted that HIV is easily transmitted where there is any other form of sexually transmitted diseases like syphilis, cancrroids, herpes, Chlamydia and trichomonas. The viruses associated with these STDs create wounds and ulcerations on the genitals. Such wounds and ulcerations are avenues through which the virus can easily pass into the blood stream during sexual intercourse. Other sexual activities such as deep or wet kissing have been acknowledged to be a potential source of HIV/AIDS infection (WHO 1985). Daina (2002), Frumkin and Leonard (1997) have agreed that wet kissing (French kissing) is a potential source of HIV/AIDS infection, especially where copious amount of saliva is exchanged.

Homosexual men are much more likely to develop AIDS than others because the inner lining of the anus (mucus membrane) is much more fragile than that of the vagina. It is easily torn during male to male intercourse, giving ready entrance to the AIDS virus. Even the smallest invisible tear could be serious. In countries where there is much homosexuality, the male to female ratio of AIDS infection is usually 10 to 1, (McSweeney, 1991).

It is worth noting that as community urbanized, there is massive influx and efflux of itinerant, sexually active people to and fro. Orubuloye et al (1994) has documented the role of transportation in the spread of HIV/AIDS. This researcher found that, the highest level of HIV infections have been among commercial sex workers at major nodes of transport and commerce. Such cities as Lagos, Ibadan, Calabar, Enugu, Kano, Abuja, Maiduguri are connected with transport links, where most men especially those from the social class of drivers, take multiple sexual relationship for granted. Drivers fall within high risk occupation which helps relay

the disease from one point to the other through their multiple sexual relationships in major trade routes.

To compliment multiple sexual partners, is the very foundation of African system of marriage – polygamy – where a man marries as many wives as he can contract. Also, concubination is approved by most African society. It should be noted that poverty has weakened most family solidarity drawing women from their traditional role of housekeeping to economic frontier of being “the bread winner of their families”. This has exposed these women (most in polygamy) to illicit sexual relationship from men who are also their creditors. Orubuloye et al (1994) has collaborated that female adultery is common in most African society. It is believed that the young wives of old polygynous men are particularly likely to seek sexual solace elsewhere. In our urban areas, a distinct phenomenon exist among middle class, where girl-friends, mistresses and/or outside wives are maintained. These arrangements provide frontier for sexual networking even among those who have a settled marriage life.

The duration of these unions are often short, however, they may be hidden from their wives, who usually resent them as they drain the needed family resources (Abia 2005). The impact of extra-marital sexual relationship is significant in the spread of HIV and other STDs. The “outside wives” of the middle class are usually young, relatively well-educated women, able to communicate in English and is given to enjoying the good life.

In African societies, during post partum interval (usually 1 – 6 months, depending on the prevailing values) mothers as wives are usually not allowed to stay with their husband. It is assumed that husbands to these women will continue to have sex during this period when their wives are not available (Caldwell and Caldwell, 1977, 1988). Extra-marital relationship is still strong in Nigeria. Orubuloye et al (1994) has pointed out that in the 1974-1975, Nigeria family study of post partum sexual abstinence in Ibadan and rural areas, showed that many wives believed their husbands had multiple girlfriends or visited bar girls or commercial sex workers.

##### b) *Role of Commercial Sex Workers (prostitution)*

Prostitution is as old as man in Nigeria, Evans-Pritchard (1974:142) noticed that it has been institutionalized in Owerri as far back as 1926. Orubuloye et al (1994) has noted that with the increase and extension in the number of towns and cities, there is equally an expansion in the institutions especially with the “growing commercialization and changing customs” in recent years occasioned by modernization.

A survey conducted revealed that most of these commercial sex workers are young, half under 25 years of age and three quarters under 30 years. Orubuloye et al (1994) has stated further in analyzing their

characteristics that, Christians are disproportionately represented among them. In surveys done at Ibadan, Lagos, and Kaduna, seventy-five percent are Christians, with Moslems and traditional religion taking the remaining twenty-five percent.

The most agreed reason for engaging in commercial sex is to enhance the economy of the practitioner (Orubuloye et al 1994:113; Anarji and Fayorsey, (1999). It is reported in one of the leading publications "*Health Transition Series*", that typically a commercial sex worker reports about 30 clients a week at an average payment of about fifty Naira each episode. The amount has gone up over the years since inflation has also caught with the profession. They actually earn more than this because the majority report charging more for special services, night and weekend rounds. Their income is far beyond that of head of a government department (Orubuloye et al, 1994: 113).

Daina (2002:51) noted that though these women engage in this trade, like in most parts of the world, the imbalances in gender power make it difficult for many ladies and women in Africa to negotiate adequate protection from HIV during sexual encounters. Collaborating further, he stated that the situation is probably worst in most parts of Africa as social, cultural and economic factors play an important role in increasing vulnerability of the women folk to HIV infection. Traditionally, women are considered culturally inferior to their male counterparts; therefore they are not only poor but dependent on the men (whose promiscuity is not in doubt) even in paid sexual

activities. This has allowed women very little control over their reproductive and sexual activities.

## V. METHODOLOGY

The research adopted survey design method enabling data to be obtained from primary source [the respondents]. A set of 43 questions were developed as questionnaire to obtain quantitative data on the problem studied. The general demographic information were obtained. For the purpose of this study – socio-economic factors leading to the spread of the disease were obtained from the respondents.

The entire sampling size for the community survey was 500 respondents, drawn at the ratio of women to men [300:200] representing 60: 40 percent. This was deliberate because women are the most vulnerable group for the disease. Respondents were to be of reproductive age [16 years and above] and agreed to having a handset which is connected to any network services in Nigeria.

## VI. HISTORICAL PERSPECTIVE OF THE STUDY AREAS

This research was a study on social networking in the population via Global System of Mobil Telecommunication (GSM), a risk factor on the spread of HIV/AIDS in two urban and two rural communities of Cross River and Akwa Ibom States, Nigeria. The study communities are presented in Table I below:

*Table 1: Description of the study communities.*

S/n	State	Status		
		Urban	Rural	Total
A	Cross river state			
1	Calabar Municipality (Qua Clan)	1		1
2	Akpabuyo L.G.A. Ikot Ene		1	1
B	Akwa Ibom State			
1	Ikot Ekpene LGA Urban	1		1
2	Essien Udim LGA Ikpe Annang Clan		1	1
	Total	2	2	4

*Sources: Authors' Fieldwork (2003).*

### a) Cross River State

#### i. Calabar Municipality

Calabar municipality evolved from ancient city which falls within the "Old Efik kingdom". This is what Charles (1993) referred to as "Old Calabar dynasty". Calabar is the metropolis of Cross River State and the seat of the government of the state. It lies on longitude of 050, 200° East and latitude 040, 57° North of equator. Calabar is bounded in the North by the Republic of

Cameroun, on the West by the Cross River, on the East by the Qua and Akpoayofe Rivers. The southern border is by Calabar River on whose bank the city stands. As a matter of fact, Calabar is completely surrounded by water. This feature was noted as far back as 1847 by Rev. Hope Waddell (a prominent missionary and educationist) as, "the distinguishing feature of the Calabar county".



The population of Calabar Municipality is 183,681 people, out of which 93,584 were males and 90,589 were females (2006 census report). Calabar is a town that has witnessed modernization in its social and economic life. It has a seaport, airport and good network of roads for intra and intercity movement. It is the seat of tertiary health institution (University of Calabar Teaching Hospital –UCTH) as well as the University of Calabar, Calabar.

Distributive trade is flourishing with the sitting of major industries. Hospitality business is also flourishing with major hotels and Nite Clubs located in this area. Recreational facilities are bound, so the social life of the city is vibrant which earned it the nickname “Canaan city” – where it is perceived as the land flowing with milk and honey.

The geo-political entity of Calabar metropolis is a conglomeration of three ethnic groups namely: Efiks, Efuts and the Quas. For the purpose of this research, the Qua minor ethnic group is reviewed for this study; whose general inhabitants are Big Qua Town, Akim Qua Town and Ikot Ansa.

#### ii. *Akpabuyo Local Government Area – Rural*

Akpabuyo Local Government area is a rural local government in Cross River State. It is located within the latitude 4°30N and 7°N and longitude 8°E and 9°30 South East of Nigeria. The aggregate head count for this local government is 272,262 (males 141,602; Females 130,660 (NPC 2006 Census Report). Akpabuyo local government area is linked by one major road passing through, from Calabar to Iking at the border to the Republic of Cameroun. The population is mixed of Efik stock and immigrants from Oron, Ibibio and Annang ethnic origins of Akwa Ibom State. Ikot Ene community is the preferred rural community for this study. The choice of Ikot Ene is borne out of the fact that, it is a rural community with a hospital facility. It comprises of twenty-eight villages and has facilities for GSM communication. The economic life revolved around subsistent agriculture which include fishing.

The people of Ikot Ene community as well as Akpabuyo local government area are of Efik stock and share their culture with that of Old Calabar dynasty (Aye, 1976; Charles 1993, 1996). They are highly religious people, dominantly Christians (though of diverse sects). Traditional religious practitioners of Ekpe and Obon cults are not uncommon. The Ekpe fraternity as elsewhere in Efik clan plays a dominant influence in the social life of the people. It wields enormous influence even among Christians. It is still seen as the embodiment of the norms within the community.

#### b) *Akwa Ibom State*

##### i. *Ikot Ekpene Local Government*

Ikot Ekpene local government area attained the status of an administrative centre as far back as 1914, when it was a subdivision of the Old Eniong District in

Akamkpa Division during the colonial era. In 1951, it became the nucleus of local government administration in the then Eastern region. It is the oldest local government in Akwa Ibom State and is believed to be the traditional headquarters of Annang people.

It lies between latitudes 4°250 and 70 North longitudes 17.150 and 9.300 East. Bounded on the North and the West by Abia State, on the East by Ibibio speaking people. On the South by Abak local government area and the East by Essien Udim local government area.

The cosmology of the people is linked to the belief in the Supreme God – Abasi Ibom – which controls the affairs of the people. Christianity has a dominant influence on the majority of the people. It is the seat of the Roman Catholic Church. The economic life of the people of Ikot Ekpene rests on farming and handicrafts. Though these are done at the subsistent level, it has acquired commercial significance. Such handicraft in wood and metal products are common, together with the famous raffia products, which has earned Ikot Ekpene the name “raffia city”. Hospitality industries are also developing to cater for the need of the tourists. The local government host the State Polytechnic at Ikot Osurua and a Catholic Seminary. Ikot Ekpene local government area has facilities for GSM communications. The unit of study in Ikot Ekpene is Ikot Obong Edong community. The population of Ikot Ekpene local government area is 141,408 persons - male 71,738 and female 69,670 (CENSUS 2006 NPC)

##### ii. *Essien Udim Local Government – Rural*

Essien Udim by all standard is a rural community. Before the civil war, the portion described as Central Annang, with it full autonomy as a council was merged with Ikot Ekpene urban and Otoro County Council. Essien Udim was created out of this structure on May 3, 1989, deriving its name from the two units of Essien Annang and Udim. Essien Udim has a total of 135 villages, 10 wards, federal and state constituencies. The population of the local government as given by 2006 census report is 193,257; male 97,888 and female 95,369. Essien Udim local government area occupies a land mass situated within latitude 5:10. It is bounded by Abia State to the North and West, on the East by Ikot Ekpene and Ikono local government area while on the south, it bordered by Abak and Etim Ekpo local government areas.

Like in every part of Akwa Ibom the people of Essien Udim believed the supreme being Abasi-Ibom. The economic life of the people is on farming and the land habits the palm belt of the State. The unit of study in this research is Ikpe Annang. It has 14 villages and has a General Hospital situated within the community. It also has facility for GSM communication.

## VII. DATA PRESENTATION

*Table 2 :* Number and percentage distribution of respondents' opinion about GSM as furthering networking of people thereby facilitating dating and the spread of HIV/AIDS.

Study Area	Opinion about GSM		No	Total
	Increase frequency of dating (%)	Facilitates Networking of people for business (%)		
CRS 1	107(21.4)	11(2.2)	32(6.4)	150
CRS 2	38 (7.6)	26 (5.2)	36 (7.2)	100
AKS 1	110 (22)	9 (1.8)	31 (6.2)	150
AKS 2	66 (13.2)	2 (0.4)	32 (6.4)	100
<b>Total</b>	<b>321 (64.2)</b>	<b>48 (9.6)</b>	<b>131 (26.2)</b>	<b>500</b>

*Author's Fieldwork 2003.*

From **table 2:** presented shows that out of 369 respondents affirming (Yes) GSM through networking of people, while 64.2% upheld that it increases the frequency of dating. The number of respondents believing that GSM is facilitating networking of people for business purpose is 9.6%, 26.2% of the respondents affirmed negatively that GSM does not facilitate dating.

## VIII. DISCUSSION OF FINDINGS

### *a) GSM as a factor on the spread of HIV/AIDS virus*

Global system of mobile telecommunication has expanded the flow of information across the globe. It should be stated that GSM has not been directly linked with the spread of HIV/AIDS. It facilitates dating and networking of people in the society. From the study 64.2 per cent of the respondents agreed that, "GSM increases the frequencies of dating especial in our society where multiple sexual partners are common, Abia (2005). 9.6% of the respondents opined that, it facilitate networking of people for business purpose. Respondents stating, that GSM has not increased frequency of dating was only 26.2 per cent. There is a high level of promiscuity in recent years and this is to be further compounded with GSM communication which enables contact even at short notice. Before the advent of GSM, communication was through, land phone, and postage services which took days to reach its destination. As the GSM facility is expanding in Nigeria, so also is the virus. It increases networking of people and facilitate dating especially among people of reproductive age. The incidence of HIV/AIDS is bound to increase especially as more people are acquiring the GSM facility with its attendant networking of people. The advent of internet software phones compounded networking as amorous episode of raw sex are downloaded into phones. Some of these images are transferred from phone to phone as video clips, through Bluetooth. The ringing tones of some of these phones are very suggestive and place as strategies to induce the minds of callers either on men or women.

## IX. CONCLUSION

GSM has come to stay in Nigeria. 64.2% of the respondents in the study areas affirmed that GSM facility facilitates networking of people which often resulted in dating. From this study, interconnectivity of people has further expanded with the advent of GSM. The current prevalence rate of 3.5% is high as compared to the initial period of GSM where the seroprevalence rate was 0.5%.

GSM facility is a recent development in Nigeria. As many people are connected to it, so is the danger of abuse of the facility. This study has highlighted the need to carry out public education and campaign for behavior modification as to the use of GSM facility. This is very important, especially among the reproductive segment of our society, in schools, colleges and universities to avert the negative use of our phones.

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## The Effect of Socio-Economic and Demographic Factors on Fertility Behaviour in Faisalabad (Pakistan)

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**Abstract** - Societies have different culture, norms, values, customs, beliefs and attitudes towards fertility. In less developed countries people find high fertility as a defensive measure which is due to the low income level and economic roles and productive contribution of children. The present study has been designed to identify the effects of socio-economic and demographic factors on fertility behaviour the universe for the present study comprised rural and urban areas of Faisalabad. A sample of 160 respondents was collected from rural and urban by using simple random method. A well designed Interview Schedule was prepared for the collection of data. Thus the collected data were analyzed by appropriate statistical techniques. It was found a majority of the respondents 99.4 percent agreed that Pakistan population is increasing, majority of the respondents 76.3 percent had viewed to create awareness for fertility behaviour and majority of the respondents 63.8 percent had no family planning centre in their area. It was concluded majority of the respondents 56.3 percent had viewed that family planning is necessary for maternal and child health.

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# The Effect of Socio-Economic and Demographic Factors on Fertility Behaviour in Faisalabad (Pakistan)

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**Abstract** - Societies have different culture, norms, values, customs, beliefs and attitudes towards fertility. In less developed countries people find high fertility as a defensive measure which is due to the low income level and economic roles and productive contribution of children. The present study has been designed to identify the effects of socio-economic and demographic factors on fertility behaviour the universe for the present study comprised rural and urban areas of Faisalabad. A sample of 160 respondents was collected from rural and urban by using simple random method. A well designed Interview Schedule was prepared for the collection of data. Thus the collected data were analyzed by appropriate statistical techniques. It was found a majority of the respondents 99.4 percent agreed that Pakistan population is increasing, majority of the respondents 76.3 percent had viewed to create awareness for fertility behaviour and majority of the respondents 63.8 percent had no family planning centre in their area. It was concluded majority of the respondents 56.3 percent had viewed that family planning is necessary for maternal and child health.

## 1. INTRODUCTION

The fertility level appears to be the outcome of various demographic, economic, social and cultural variables, such as “age at marriage”, “level of educational attainment” “Socio-economic status”, “mode of living”, “active participation in the work force”, “exposure to contraceptive information” and “effect of conservative religious practices”. Among these factors employment status, particularly married woman’s active participation in labour force contains many of build in variable that could influence her fertility level, though the researchers have not been able to establish which one in the cause and what are the effects (Chaudhry, 1986).

Whereas most of Asia has experienced considerable fertility decline in recent decades, a handful of countries, particularly in South and West Asia, stand out of their lack of significant fertility change. It is commonly argued that the subordinate status of women in these countries, and the weaker position of women relative to women in other Asian societies, are key to the explanation why the fertility transition has been delayed. Most of these countries have witnessed substantial

economic development, as the phenomenon is commonly measured; mortality has declined appreciably; and government policy favors curbing population growth. Pakistan is one of these countries. Despite substantial rises in per capita income in recent decades, and despite a 23-year-old population program aimed at reducing fertility, the annual rate of population growth is still on the order of 3 percent. Thus, Pakistan becomes an interesting case study for exploring the question, with particular attention to women’s status, of how fertility is determined and what factors are necessary to bring about fertility transition (Sattar *et al.*, 1988).

Fertility behavior in Pakistan, as anywhere else, is subject to socio-demographic conditions as well as religious and cultural traditions. Not only is the fertility decision of couples influenced by for wide range of factors such as education, the position of women and their participation in the work force, economic condition, urbanization, social security systems and so on, but it differs between husband and wife, and between urban and rural areas. The fast growth of population has several implications for our socio-economic developments. In spite of its operation in an unfavorable Socio-economic setting i.e. low literacy rate particularly female education, high infant mortality, low status of women, strong pro-fertility values etc; so far it has been able to achieve a break through in the reduction of fertility.

Socio-economic and cultural norms, value and belief systems of a society usually affect the attitude of the people. The norms are dominated by the values of the society and values are influenced by the beliefs of the people.

Different societies have different cultures and different cultures have different norms, values, customs beliefs, and different attitudes towards fertility. Socio-economic factors about fertility behaviour differ in rural Punjab according to the norms, beliefs and customs of a particular culture in Pakistan (Chaudhry, 1994).

A large number of socio-economic and cultural factors are at work at the micro and macro level of human society which influences human reproductive behaviour.

Some of the earlier studies conducted in India did not find any association between son preference

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and higher fertility. The first All India Family Planning Survey, for instance, found that the parity progression ratios of couples were not much affected by the sex of their living children. However, the survey did find that the desire for additional children was greatest among couples who had daughters only. In another study from Jordan, Bangladesh and India, (Repetto, 1972) observed that the fertility decisions of couples were not influenced by the desire to have sons. On the contrary, they were motivated by the economic advantages associated with having children, regardless of their sex. Repetto argued that couples who already have more sons may be more likely to want more children because of the perceived financial utility of sons, while couples with more daughters may be more likely to terminate childbearing sooner because of the economic liability of having several daughters. An alternate hypothesis advanced by McClelland (1979) to explain the positive association between the number of sons and fertility is that despite a strong preference for sons, couples with several daughters may not risk having an additional child because of the fear that the child may be another daughter.

## II. METHODOLOGY

The study was aimed to know the Effect of Socio-economic and Demographic Factors on Fertility Behaviour following objectives will be explored. The universe for the present study comprised rural and urban areas of Faisalabad. Using two stage simple random sampling techniques. In First stage a list of all union councils were prepared of district Faisalabad. Then selected the two union councils from urban area and two union councils from rural areas. Four union councils number in urban areas were UC # 263 – 211 and rural areas were UC # 156 – 249. At the second stage 40 respondents were selected randomly from each union council and got the total 160 respondents selected from four union councils. A well design interview schedule were prepared in the light of study objectives. The collected data will be analyzed by using descriptive and inferential statistics.

## III. RESULTS AND DISCUSSION

Distribution of the respondents regarding number of children.

No. of children	Frequency	Percentage
No child	12	7.5
1	11	6.9
2	18	11.3
3	30	18.8
4	46	28.8
5	22	13.8
6 and above	21	13.1
Total	160	100.0

Table 1 shows that 7.5 percent of respondents had no child, 6.9 percent of respondents had one child, 11.3 percent of respondents had two children, 18.8 percent of respondents had three children, 28.8 percent of respondents had four children, 13.8 percent of respondents had five children while 13.1 percent of respondents had 6 and above children

Distribution of the respondents regarding number of male children.

No. of male children	Frequency	Percentage
No	27	16.9
1	50	31.3
2	66	41.3
3	11	6.9
4	5	3.1
5 and above	1	.6
Total	160	100.0

Table 2 shows that 16.9 percent of respondents had no male child, 31.3 percent of respondents had one male child, while the respondents who had two three, four and five children were 41.3 percent, 6.9 percent, 3.1 percent and .6 percent respectively.

Distribution of the respondents regarding number of female children.

No. of female children	Frequency	Percentage
No	17	10.6
1	48	30.0
2	61	38.1
3	27	16.9
4	6	3.8
5 and above	1	.6
Total	160	100.0

Table 3 shows that 10.6 percent of respondents had not female child, 30.0 percent of respondents had one female child, 38.1 percent of respondents had two children, the respondents who had three, four and five children were 16.9 percent, 3.8 percent, and .6 percent respectively.

Distribution of the respondents regarding consult about physician for fertility problem.

Consult hysician	Frequency	Percentage
No problem	158	98.8
Yes	2	1.3
Total	160	100.0

Table 4 shows 1.3 percent of respondents consult any physician to meet the problem of infertility.

Distribution of the respondents regarding preferable ideal family size.

No. of children	Frequency	Percentage
1	14	8.8
2	104	65.0
3	35	21.9
4	7	4.4
Total	160	100.0

Table 5 shows that 65.0 percent of respondent's viewed that the best the ideal family size is to have two children, 21.9 percent respondents were viewed that the ideal family size three is to have three children.

Distribution of the respondents regarding further number of children.

Want more children	Frequency	Percentage
Yes	39	25.6
No	121	74.4
Total	160	100.0

Table 6 shows that 24.4 percent of respondents who want more number of children as compared to existed. while 75.6 percent of the respondents were not desiring any other children.

Distribution of the respondents regarding reason for desiring further child.

Cause	Frequency	Percentage
No want more child	121	74.4
Blessing of God	20	17.5
To carry on the family name	8	5.6
A feeling that children bring husband and wife close	2	1.3
Fear of death of children	2	1.3
Total	160	100.0

Table 7 indicates that the attitude of respondents about large family size, 74.4 percent of respondent didn't want more children. However 17.5 percent regarded it as a blessing of God, 5.6 percent reported that large family to carry on the social prestige and 1.3 percent reported that fear of death of children.

Distribution of the respondents regarding their son preference.

Son preference	Frequency	Percentage
Yes	158	98.7
No	2	1.3
Total	160	100.0

Table 8 indicate that 98.7 percent of respondents had desire to have son and 1.3 percent of respondents had not any desire for son.

Distribution of the respondents regarding reasons for son preference.

Cause	Frequency	Percentage
No preference	2	1.3
Son preference for carrying family linkage	16	10.0
Economic prosperity	60	37.5
Look after in old age	82	50.7
Any other	1	.6
Total	160	100.0

Table 9 shows that 10 percent regarded that son preference for carrying family linkage, 37.5 percent regarded that economic prosperity, 50.7 percent of respondents reported that male children will be responsible to look after in old age.

Distribution of the respondents with regard to Consideration as more children more earning.

Causes	Frequency	Percentage
Useful	41	25.6
More useful	73	45.6
Uncertain	46	28.8
Total	160	100.0

Table 10 indicates that 25.6 percent of respondents viewed that children are useful in future, while 45.6 percent of respondents reported that children would more useful in future and 28.0 percent viewed it depends whether they are favorable or unfavorable.

Distribution of the respondents regarding ideal Male age at marriage.

Ideal male age at marriage	Frequency	Percentage
less then 20	4	2.5
20-24	52	32.5
25 and above	104	65.0
Total	160	100.0

Table 11 shows that 65.0 percent of the respondents favored 25 years and above as an ideal male age at marriage, whereas 32.5 percent of the respondents favored 20 to 24 years as an ideal male age at marriage. Only 2.5 percent of the respondents were in favor of early male marriage (less than 20 years) of boys.

Distribution of the respondents regarding ideal Female age at marriage.

Ideal age of marriage	Frequency	Percentage
less than 20	15	9.4
20-24	139	86.9
Above 25	6	3.8
Total	160	100.0

Table 12 shows that 86.9 percent of the respondents favored 20 to 24 years and above as an ideal female age at marriage of girls, whereas 9.4 percent of the respondents favored early female marriage (less than 20 years). Only 3.8 percent of the respondents were in favor of female marriage at 25 years above.

#### IV. RECOMMENDATIONS

Increasing population has become the major problem of Pakistan. Its population is 151 million in 2005. The population is growing at around 1.96 percent per annum which is one of the highest growth rates not only in Asia but in the world also. At this rate of population of Pakistan will become 168 million in 2010 considering the present trend of Pakistan population growth the economy will hardly be able to sustain the fast growing population and it will not be possible to make significant improvement in the quality of life even under the most favorable rate of economic development. The present population trends are therefore a matter of deep concern. It is generally recognized that in order to achieve a high level of social and economic development in low per capita income and over populated countries, a reduction in fertility is considered essential. The ultimate aim of reducing fertility is to bring down the rate of population growth with out which economic development plan may be seriously affected, specially in countries where resources are limited since population growth and socio-economic development are highly interrelated, an innovative and realistic national population policy, integrated with the over all policies and programmes of social and economic development is highly valued.

There are some suggestions that might contribute to lower birth rate in rural and urban areas of Faisalabad.

1. Marriage either formal or consensual is a prerequisite for child bearing. The patterns of age at marriage are of special significance in a Muslim country like Pakistan where illegitimate births are negligible. Therefore through late marriage, fertility can be reduced to a great extent. For this purpose early marriages should be prohibited and specify the minimum marriageable age for the male to be 28 years and for the female it should be 24.
2. Without the expansion of education, nation as a whole can not make quick and proper progress in the world. It can not stand with the modern technological world. Therefore a minimum level of above middle schooling must be required for urban and rural masses in order to break through the vicious circle of our population.
3. Government of Pakistan needs to develop population planning programme into population development programme. It would contribute to income distribution by reducing the present disparity in family size among various income strata and would thus provide non-peculiar social benefits. It needs to aim for development rather than growth, for the enrichment of the quality of life for those who live below the poverty line or just above it needs to aim for a balance between the pre-dominantly economic and social sector.
4. Government of Pakistan needs to increase the level of awareness about fertility behaviour in rural areas because majority of the population living in rural areas and they have no awareness and even availability of population development programme. Family planning programmes should be started because the fertility level is very high in rural areas and Family planning programmes are also very rare.
5. The family planning services should be improved in terms of the level of their standard because the family planning programmes has failed because of their poor services. It is seen that people are satisfied with the family planning but they are not satisfied with the present family planning services, though they had well services but they had not fully trained staff who promote the family planning services in a better way. And finally there should be monitoring cells to check and observe the activities of the family planning services to meet the desired target.

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## Participatory Roles of Women in Quarrying Activities in Abeokuta Metropolis

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**Abstract** - Population increase coupled with the rise in demand for construction materials like granite and gravel have necessitated the continued growth of quarry activities in and around the Abeokuta Metropolis, southwestern, Nigeria. The results of the questionnaire survey carried out on the quarry workers in three selected quarry sites (abandoned colonial, AGI and Oba) revealed that over 70% of the entire working force were mainly women who work as casual labourers crushing or sorting stones in the quarries. The ages of the female quarry workers ranges between 10-60 years, with majority of them having little or no formal education. Many have spent between 10-20 years of their life in the quarries using primitive tools and being paid pittance, which is not comparable with the work done. They often work for about 12 hours daily crushing and average of 10 headpan of stone per day, which attracts about N10 per headpan. Majority of the women are from polygamous family which further push them into poverty as the wages received from the quarry work is not enough to take care of their needs. Polygamy exacerbates the impoverishment of women by limiting their access to financial resources. These women are at the risk of health problems such as severe chest and joint pains, headache, fever, catarrh and rheumatism which affect their productivity. There is a need for the empowerment of these women through education as a means of challenging patriarchal ideology of male domination especially in employment and wages.

**Keywords** : Abeokuta, Gender; Granite; Labour; Participatory; Quarry; Women.

**GJHSS-C Classification** : FOR Code: 169901



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# Participatory Roles of Women in Quarrying Activities in Abeokuta Metropolis

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**Abstract** - Population increase coupled with the rise in demand for construction materials like granite and gravel have necessitated the continued growth of quarry activities in and around the Abeokuta Metropolis, southwestern, Nigeria. The results of the questionnaire survey carried out on the quarry workers in three selected quarry sites (abandoned colonial, AGI and Oba) revealed that over 70% of the entire working force were mainly women who work as casual labourers crushing or sorting stones in the quarries. The ages of the female quarry workers ranges between 10-60 years, with majority of them having little or no formal education. Many have spent between 10-20 years of their life in the quarries using primitive tools and being paid pittance, which is not comparable with the work done. They often work for about 12 hours daily crushing and average of 10 headpan of stone per day, which attracts about N10 per headpan. Majority of the women are from polygamous family which further push them into poverty as the wages received from the quarry work is not enough to take care of their needs. Polygamy exacerbates the impoverishment of women by limiting their access to financial resources. These women are at the risk of health problems such as severe chest and joint pains, headache, fever, catarrh and rheumatism which affect their productivity. There is a need for the empowerment of these women through education as a means of challenging patriarchal ideology of male domination especially in employment and wages.

**Keywords** : Abeokuta, Gender; Granite; Labour; Participatory; Quarry; Women.

## I. INTRODUCTION

The quarry industry is vital to the economic and social well-being of every nation. Quarried materials are fundamental input into all major infrastructure and construction projects. Population increase and the need for construction materials have made it necessary for the exploitation and expansion of quarries in the area. Different authors have established the economic importance of the southwestern basement complex rocks of Nigeria (Elueze, 1981; Dada, 2006). In Ogun State of Nigeria, most quarry activities (blasting and crushing of rocks) are carried out in the rural areas where labourers (mostly poor and unskilled women and children) are engaged in hard labour that pays pittance and is often dangerous to their health. The women and in some cases underage children mostly from the neighbouring Benin Republic are used in the quarries,

often illegally and exploitative manner to do strenuous works, but are not well paid. This thus emphasized the ubiquitous discrimination and treatment of women in many facets of our socio-economic lives.

Significant anthropological and sociological researches have emerged on gender role in the environment, agriculture, employed labour and other human endeavours. The role of women on the sustenance of the environment and its resources cannot be over-emphasized even with the growing trends of globalization of the world's economies (Baden, *et al*, 1995; Boserup, 1989; Hemmati, 2004; Scott, 1988). The term gender plays a central role along with culture, age and socio-economic status in determining men and women's social status and access to resources (Hughes, 2004; Menjivar, 2000; Fisher, 2006). Women account for 70-80% of household food production in Sub-Saharan Africa, 65% in Asia, and 45% in Latin America and the Caribbean (IFPRI, 1995). Gender divisions constitute an aspect of the wider social division of labour that is rooted in the conditions of production and reproduction. This is further reinforced by the cultural, religious and ideological systems prevailing in a society (Chant, 1989, 1992; Ostergaard, 1992; Aderinto 2001; Larsson, 2001; Olurin, 2003; Adeola, *et al*, 2009). Women in particular are frequently excluded from decision making either in the household or community level through representative systems of community institutions and organizations. A gender gap in earnings persists across almost all employment categories, including informal wage employment and self-employment where women comprise the majority (ILO, 2007). In rural area, women often do not earn a wage, and in some other cases women earning a wage often earn less than men, leaving them more vulnerable to changes in their working environment caused by external phenomena (IUCN/WEDO 2007).

Increasing poverty among women has been linked directly to their unequal situation in the labour market, their treatment under social welfare systems and their status and power in the family. There is the erosion of the income earning capacity of women in both the formal and informal sectors, shrinking social services and safety nets. The 1995 UN Human Development Report, which had a particular focus on gender, indicated that no country treats its women as well as its men, and in almost all countries of the world women are over-represented among the unemployed and those

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living in absolute poverty. The objectives of the study are *i)* to examine the influence of selected socioeconomic characteristics of women and access to economic resources on their participation in quarry activities, *ii)* to identify the constraints militating against women participation in quarry activities, *iii)* to examine the problems encountered by the women working in the quarries and suggest possible solutions to ameliorate their sufferings. The study hypothesized that there is no significant relationship between selected socioeconomic characteristics of women, access to economic resources and the level of their participation in quarry operation/activities.

## II. CONCEPTUAL UNDERPINNINGS

### *a) Gender inequality (Patriarchal Value System)*

Ever since enthronement of the patriarchy structure, women have been oppressed, subjugated, neglected, discriminated against, marginalized and devalued in almost all societies of the world (Aina, 2003; Asiyanbola, 2005). Increasing discrimination against women in the society is traceable to the explanations provided in the theory of patriarchy (Aderinto, 2001; Asiyanbola, 2005; Lerner, 1986). This theory affords women little or no resource control or decision-making rights. Women's lives have been found not to be uniform but vary dramatically across contexts, history, and social categories and identities (Glenn, 2002). The participation of women in national level politics, measured in percentage terms is actually in decline (Commonwealth Current, 2000). Gender inequality under the law and violence against women are stark indicators of the low status accorded women in the societies everywhere (UNDP, 1995). The roles played by the women were generally less visible and attract less public recognition than the work men engage in. In education and employment, women have a lower status than men do. Women who constitute about half of the Nigerian population have remained educationally disadvantaged. Literacy rate in Nigeria rose from 59% in 2001 to 70 % in 2006 for male compared to that of the female which was from 41 % to 55 % for the corresponding years National Bureau of Statistics. (2006).

### *b) Quality of female labour*

The quality of labour can be understood through the human capital approach. It was Adam Smith (1776) who developed the concept of human capital as the acquired and useful abilities of the inhabitants or members of society. The acquisition of such talents, through education, study, or apprenticeship, always costs a real expense, which is a fixed capital and realized in his person. Adam Smith saw human capital as skills, dexterity (physical, intellectual, psychological, etc.), and judgment. Becker (1964) however defines

human capital similar to physical means of production, e.g., factories and machines: one can invest in human capital (via education, training, medical treatment) and one's outputs depend partly on the rate of return on the human capital one owns. Human capital is substitutable, but not transferable like land, labour, or fixed capital. It refers to work experience and education, in which work experience is measured by years of full-time work experience and formal education is accounted for in years (Hersch, 1991; World Bank, 1995; Jacobsen, 1998). The concept of labour quality has been developed continuously to reflect socioeconomic changes. For example, Galenson and Pyatt (1966) stipulated that the quality of labour was measured by education, health, housing, and social security. There are some criteria suggested by the World Bank in various issues of World Development Indicators to assess labor quality, such as educational system and human resource training; the availability of labourers as well as administrative managers who are of high quality and level of education; and proficiency in English, technique, and advanced technology. Ward (1997) argues however that in the new forms of production organization, labour quality goes beyond educational attainment and technical skills alone. It incorporates seven major factors to compile the quality of labour index: education, training, labour productivity, changes in the structure of the labour force, safety and health, work ethic and industrial relations, and labour-management models and the quality of the workers' livelihood.

## III. GENDER ROLE IN INFORMAL ECONOMY

Women are at the heart of development as they control most of the non-monetary economy including subsistence, agriculture, bearing children, domestic labour (Jeminiwa, 1995) and also in the community economy (trading, wage labour, employment, etc). They are pivotal to the developmental programmes of many African countries because they play diversified roles in growth. Women entrepreneurs may play the role of wives, daughters, mothers and economy drivers (Fig. 1). According to the Economic Commission for Africa (ECA 1991), next to the agricultural sector, the informal sector is the largest employer of women in most African countries. There were an estimated 16 million women in sub-Saharan Africa engaged in the sector in 1990 (ILO, 1990). Although the representation of women in the informal sector is higher than that of men (Berger and Byvinie 1989), the participation of women is underestimated. Economic reforms and macroeconomic policy, particularly in today's world of deregulated financial and labour markets impacted differently on women and men due to their unequal position within the

society and the formal economy. Increasingly people including women earn their living from informal wage labour or self-employment (ILO 1990a; 1990b). For

most women, labour-based, income-generating activities are the most important source of income, particularly for poorer ones.

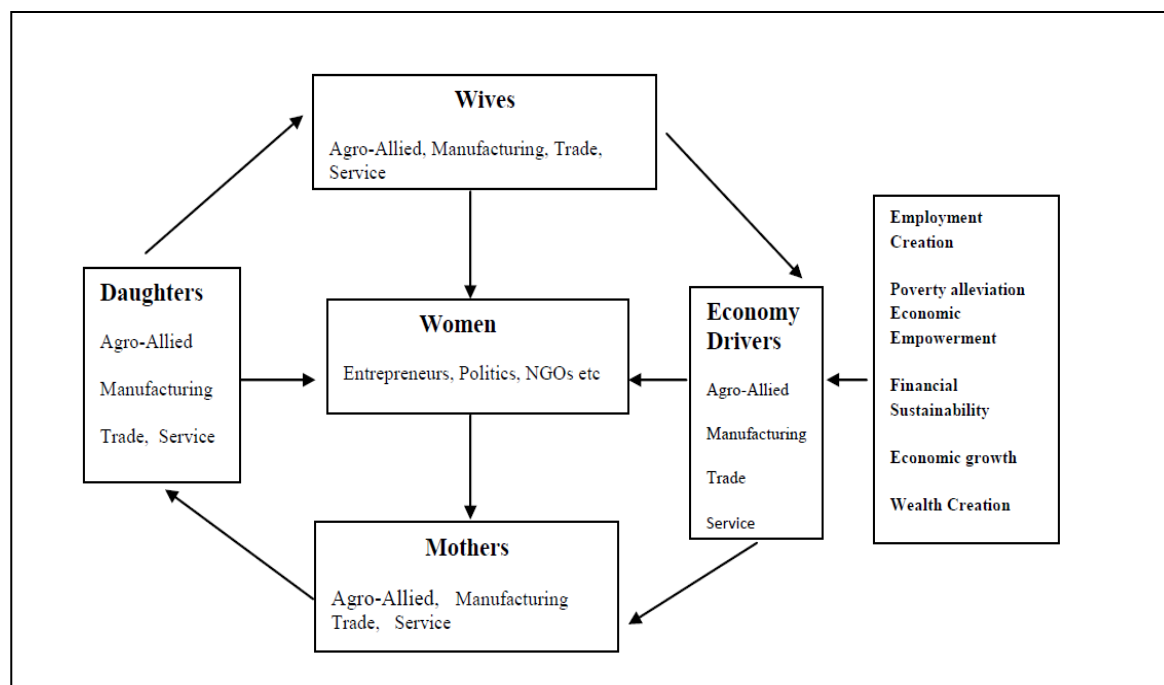


Figure 1 : The Multi-facets Roles of Women. Sources: Nigeria Gender Statistics Digest. Ministry of Women Affairs (2006); APRM (2008).

#### IV. MATERIAL AND METHODOLOGY

##### a) Study Area

The study area is located between (latitude 7° 9' and 7° 14' north) and (longitude 3° 26' and 3° 40' east) in the humid tropical region of Nigeria. The study quarry sites include selected sites like the abandon Quarry at Adigbe and AGI Quarry in Abeokuta North and Abeokuta South Local Government Areas (LGAs) and the Oba Quarry in Odeda LGA of Ogun State, Nigeria (Fig. 2). At the time of the last national census in 2006, the study area had a population of about 561,056 inhabitants comprising 261,481 males and 291,575 females. The breakdown by local government area of the male and female population is shown below in Table 3.

Table 3: Population Distribution by Gender in the Study Areas

LGA	Population	Males	Females
Abeokuta North	201339	96872	104457
Abeokuta South	250278	118346	131932
Odeda	109449	54263	55186
<b>Total</b>	<b>561056</b>	<b>261481</b>	<b>291575</b>

Source : (National Population Commission) 2006 National Census

The study sites fall within the basement complex geological setting of south western Nigeria characterized by the rocks of the Pre-Cambrian age which are made essentially up of the older rocks which are differentiated into Biotite Granite Gneiss, Migmatites Biotite Gneiss, Biotite – Muscovite Granite, Hornblende Granite, and Schist (Kehinde-Phillips, 1992). They are composed primarily of banded gneiss in which hornblende-biotite rich bands alternate with quartz-oligoclase rich feldspar bands (Jones and Hockey, 1964). All these rocks constitute good aggregates and have been found to be very suitable for quarrying and construction purposes (NEST, 1991). Quarries serve as sources of employment to various people within and outside the area (Oguntoke and Yussuf, 2008). Major environmental impacts of the quarries include ground vibration, air shock, flying rock and dust from blasting operations (Chen and Huang 2001; Spathis 2006). The gender biases observed in other aspects of life (be it social, economic, education etc.) can also be observed in the quarries. The activities at the quarries is very patriarchal in nature and is hostile to women and children, however, the pervading poverty among the rural dwellers mostly made up of women, positioned them for easy exploitation and discrimination. Women are engaged in the most demeaning and least paying jobs in the quarries. Major quarrying companies in the area as identified by the Federal Geological Survey



Department (FGSD) includes: AGI, Guffanti Nigeria Plc, Associated Granite Industries, Fijabi Adebo Holdings, Obasanjo Holdings (Oba), P.W Nigeria Ltd, Veritas Mining Ltd, Bormadek Quarries, Equations Nigeria Ltd, Chinese Quarry, Green palm Quarry, Kassagrand Quarry, and Multiverse Quarry (Oguntoke et al., 2009).

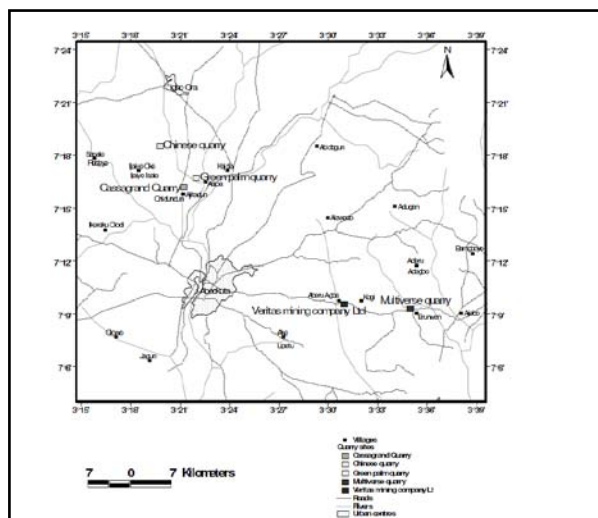


Figure 2 : Location of the Selected Quarries in Abeokuta.

### b) Sampling Methods

Three methodological tools were employed in this study, which include:

- A focus-group discussions with women quarry workers in the selected quarry sites where open-ended questions were used to elicit information on issues relating to their roles in quarry activities and the impacts on their lives. The answers to these questions were used to improve the usefulness of the quantitative data. The group discussions were also recorded on tape for future analysis.
- Personal interviews using structured and semi-structured questions were conducted with women who engaged in the quarry activities. All questionnaires were pretested.
- Finally, we reviewed the literature on the role of women quarry workers in quarry activities in the study area. This is to provide us with the conceptual context for the analysis of the data collected through the survey and also to generate a testable hypothesis for the study.

### c) Sampling procedure and sample size

The surveys dealt with working conditions and activities as well as gender distinctions in quarrying activities and incomes, with particular focus on role of the women. The instrument used for data collection is structured questionnaire. Information were collected on the socio-economic characteristics of respondents, quarry activities engaged in, as well as level of access to economic resources. A purposive sampling method was

then used in the selection of the 3 quarries (i.e. the Colonial Quarry, AGI Quarry and Oba Quarry) where the structured questionnaires were administered. 120 questionnaires (i.e. 40 questionnaires in each of the selected quarries) were administered. The questionnaire consists of both open-ended and close-ended questions. The questionnaire was divided into two parts: a quantitative section and a qualitative section. The quantitative section includes questions related to family size, family setting (monogamy or polygamy), no of working hour per day, remuneration/wage per day, age, level of education, transportation costs etc. The qualitative section includes questions aimed at identifying subjective perceptions of: i) reasons for engaging in the quarry work, ii) assessment of the quarry job by the women and iii) emotional condition of the women quarry workers, iv) husbands knowledge of the job.

### d) Analysis of Data

The result of this study was subjected to frequency, percentage distribution, regression analysis was used to determine the relationship between the variable identified in this study.

## V. RESULTS AND DISCUSSION

The results of the field assessment of the quarry activities in the studied quarry sites indicated that 40 % of the quarry workers were female (adult, adolescent, and girls). The ages of the female quarry workers range from 5 to 60 years and above with the highest percentage falling within the age range of 21 – 45 years (Table 1). In abandoned quarry sites, there is increased number of external workers than in actives quarries as evident in the study area. These women experience a form of deprived or marginalized status in terms of wages and working conditions. Majority (60 %) of the women quarry workers had no formal education while about 29 % had either primary or secondary education. Only 1% claimed to have tertiary education (Table 4). Low literacy levels also speak for the abject poverty of the women in the quarry sector, which in turn shows their vulnerability to remain in exploitative forms of labour like quarrying. The lack of formal education among the women quarry workers also reflects their inaccessibility to skilled employment often dominated by men. The World Bank (1995) has observed that a great disparity exist between men and women entrepreneurs in Africa especially in terms of literacy rate, earned income and other economic activities. Women adult illiteracy rate is higher than that of men in most African countries e.g. Angola, Benin, Nigeria, and others (UNDP, 2005).

The estimated earned incomes for women are however, far lower than that of men. This is also reflected in this study of women quarry workers in



Abeokuta Metropolis. High percentage (90%) of the women engaged in the quarry works are not the owner of the quarry but just employees (mostly casual workers), while the ownership of the quarry sites belongs to few minority of the women (10%) who determined the wages or remuneration of the workers. It was also gathered from the study that majority of the women (80%) on average, work for about 10 hours daily, while the exceptionally energetic ones (15%) work for about 12 hours daily. The remaining 5 %, which are mostly those of the age of 60 and above often work for maximum of 6 hours daily due to the stress involved in the work which their age and health cannot cope with. The UNDP Gender-Related Development Index and Gender Inequality in Economic Activity in selected African countries shows that except for countries like Kenya, Madagascar, and Tunisia,

It was also observed from the study that the quarry work seem to be seasonal to some of the rural women as they also shift between occupations according to seasons. They are engaged in some other informal wages labour like hawking goods, land clearing and farm works to make ends meet. This gives the quarry owners the ample opportunity not to provide minimum wages or permanent labour in the quarries, thus '*casualising*' the women quarry workers with no formal form of agitation for improve working conditions. The characteristics of most casuals indicate that this form of employment has more to do with limited choices available to the women and their low skills. Employers use casualisation of labour force as an effective way of reducing cost and maximizing profits and de-unionizing the work force. Gender inequalities are present in many ways in the labour market. Costa and Silva (2008) stressed that two relevant indicators of these inequalities are the ratio between female and male participation in the paid workforce and the ratio between female and male hourly wages. These indicators according to them reflect the fact that women face barriers to enter the labour market and, when they find a job; their earnings are lower than those of men. Women's wages on the other hand are viewed as complementary rather than primary, which explains women's willingness to work for a lower wage. This according to ILO (1970, 1976), helps to explain why women's wages often remain barely above 50 percent of male wages in cases where women's productivity is as high, if not higher, than men's.

The wages received by the women in the quarry for crushing the rocks is very ridiculous. The number of head pan of granite crushed daily determines the wages received by the women quarry workers. A head pan which, normally takes about one to two hours to crush attract a wage of ten naira (#10). Majority of the women (21- 45years old) crushes about 10 head pan each day giving them about One Hundred Naira (N100) wage. The energetic children, sick, the pregnant, and those of

60 year old and above can only make between forty naira (N40) and sixty naira (N60) daily. Quite a few end up crushing 14 head pans daily (thus making about N140). The 8 % of the women that makes N250 daily are those engaged in the sorting and clearing of the quarry project sites of rubbles. There are many cases in which employers prefer women over men: examples include tea plantations, textile manufacturing firms, and labor-intensive industries operating in many areas of the Third World (Elson and Pearson, 1981; ILO, 1970). The preference for women as the primary labour force in these industries reflected the existence of a gender wage gap, even for more educated workers. This phenomenon has been dubbed 'the comparative advantage of women's disadvantage' (Kabeer, 2003, 2007). It is however not clear that increased access to paid work by women will translate into improvements in family well-being if women's increased workloads in the market are not accompanied by a commensurate increase in men's share of unpaid domestic labour.

It has been argued in the analysis of gender in the labour markets that it is more difficult for women than men to escape poverty through paid work and higher incomes (Kabeer, 2008). Women and girls worldwide especially in developing countries like Nigeria face various constraints related to social norms and values that govern the gender division of labour in production and reproduction. Some regions have stricter constraints than others, curtailing women's mobility in the public domain and confining them to the domestic domain and reproductive responsibilities. These constraints mean that women face greater difficulties than men in translating their labour into paid work. Gender differentials in pay and working conditions partly reflect these gender differentials in capital and capabilities. Further investigations revealed that majority (98%) of the women quarry workers are trapped in the polygamy system of marriage, with over 60% of them claiming to have a large (about  $\geq 10$  people) family size. This is an interesting discovery in this study and the phenomenon can be attributed to the patriarchal value system which gives the men supremacy over the worker and allow them to marry many wives without making adequate provisions to take care of them. Polygamy also tends to perpetuate women's low social and economic status by forcing women to share valuable resources with their husbands, other wives and children. Financial dependence created from a lack of resources can pressurize women into entering polygamous marriages (CEDAW, 1994). Polygamy exacerbates the impoverishment of women by limiting their access to financial resources during the marriage and upon divorce or death of the husband.

In the discussion of the economics of polygamy in traditional Africa, Benería and Sen (1981); Boserup (1970); Elson and Pearson (1981) argued that polygamy made it possible for a man to control more land and

labor, because each wife was assigned a plot of land to cultivate, consequently pointing to an economic basis for polygamy and the bride price. These women mostly uneducated and unskilled are left on their own in abject poverty and have to fend for themselves and children by any available means they can find. About 30 % of the women agreed that they often find succour in the quarry jobs purposely to sustain themselves, while the remaining about 70% said that they need the money saved or generated from the quarry jobs to get enough capital to set up a better and less strenuous job. Ironically, however, many of these women never leave the quarry jobs or able to gather enough money to start another profitable business because the wages received for the strenuous job done is quite little and not even enough to sustain the women for the daily. It is even below the one dollar per day prescribed by the UN as earning per daily to rise above the poverty level.

The women are '*caged*' somehow in this job since their expectations are not met and getting out seemly look like a tall dream. They do not have retirement age and no benefit on leaving the job which they often leave with terminal illness which make them unfit for any other kind of labour compared to their male counterparts who are more job mobile. When these women leave the quarries, they have no pension or providence fund given by their employers as they as casual workers. Most of them are often heavily indebted by the time they stop working in the quarry due to repeated illness, medical expenses, unpaid holiday allowances, and other domestic expenses which overshoot their incomes which is too insufficient compared to their expenditure. In order to pay up debts or meet up with their expenses, they most often introduce their children to the quarry to also work as a casual labourer, thus promoting child labour that is frowned at by world organizations. The vicious cycle of poverty thus continue in the family and by extension in the community as many families are involved in the quarry activities.

*Table 4 :* Distribution of women quarry workers by their socio-economic characteristics.

Variables	Categories	Frequency	%
Age (years)	5-10	5	4
	11-20	24	20
	21-45	79	66
	46-60	6	5
	> 60	6	5
Marital Status	Single	18	15
	Married	71	59
	Divorced	12	10
	Widowed	19	16
Family Setting	Polygamous	116	97
	Monogamous	4	3
Household size	Small	18	15
	Medium	30	25
	Large	72	60
Level of Education	No formal education	72	60
	Adult literacy	6	5
	Primary education	30	25
	Secondary education	11	9
	Tertiary education	1	1
No of working hrs/day	6	6	5
	10	96	80
	12	18	15
Wages Received/day	₦ 40	48	40
	₦100	62	52
	> ₦ 250	10	8
Stability of Income	Very Stable	2	2
	Stable	6	5
	Average	12	10
	Unstable	78	65
	Very Unstable	22	18
Feeling about the Job	Very Satisfied	5	4
	Satisfied	18	15
	Average	9	8
	Unsatisfied	66	55
	Very Unsatisfied	22	18
Reason for the job	Do not have skill or training	36	30
	Lack of Capital	34	28
	Low Income	16	13
	Being a woman	10	8
	Have to take care of family/or children	24	20
Years of working in quarry	0-10	7	6
	11-20	38	32
	20-31	53	44
	31 and above	22	18

The poor quality of labour being experienced by the female quarry workers is due to a number of factors, such as lack of opportunity to receive adequate basic education, limited access to appropriate training, physical constraints, barriers within the family, and communes and workplaces that deprive women of chances to improve their skills and incentives to work. These unskilled women enter the labour market such as working in the quarries and they earn less than men and

are often subjected to greater risk of losing such jobs more than the men.

Low skills and discrimination have placed female workers in the most exploitative or lowest value-added sectors of the economy. The quality of female labour force is quite low like many other developing nations. For instance in a South East Asia country like Viet Nam, statistics on employment distribution data show that around 70%–80% of women work in the

informal sector of the economy; 60% are in the agriculture sector; and 20% are in non-agriculture sectors, which are mostly affiliated with micro production and service units (Linh, 2008).

It must be noted in addition that most of the women quarry workers (60%) are involved in their present job without the knowledge of their husbands. Some of these women claimed that they work in the quarry within the hours of outing of their husband from home. The 35% that claimed the knowledge of their husbands in their involvement in the quarry work confirmed non-approval of the job due to lack of care for the children when they are doing their jobs at the quarry. The small children are often left at home without proper care and when taken to the quarry sites are exposed to a lot of danger like dust, noise, accidents from blasted rocks etc. The quarries do not provide facilities for nursing mothers to keep their children like crèches or any attendants to look after them. However, since the husband cannot provide fund for their upkeep, these women are forced to go against their husbands and find work where they can get some money to take care of their children. The quarry work is indeed a hard job. It involves simple tools like curved iron blade with handle and a portable hammer (Fig. 1e and f). Crushing is done manually using these tools. All the women (100%) that engaged in the crushing activities in the quarries use these tools. Assessment of the quarry activities by the women directly involved indicated that almost all the workers (98%) affirmed that the work is tedious. A very high percentage (93%) of the women worker refused to recommend the work for their gender colleagues that are currently not involved in the activities. The 5% that recommended it do so because of misery and lack of hope in the job.

For effective performance at the quarry and as a measure of relief to the daily fatigue, the quarry women workers go on medication. About 40% embraces the use of modern medicine, 35% orthodox medicine and the remaining 25% favours both in order to keep the work going for the sustainability of life. Life in the quarry can be filled with emotion especially at the sighting of workers most of who are young, energetic but haggard sometimes with sores, tough and battered skins or even very old, frail and fragile. 80% of the women workers confirmed their unhappiness about what has gradually turned to be a life job to some of them. 15% (mostly the aged ones among) expressed their displeasure for the job with sorrow and tears draining down from their faces. The only 5% that claimed that they are happy with the job perhaps did so signify their retirement to fate. The unpleasant emotion of the women quarry workers was highly demonstrated by a large number of respondents (80%) who are reluctant to answer the question and refusal to pose for no face appearance picture. However, those that

complied did so on persuasion and with financial inducement.

## VI. POLICY IMPLICATIONS AND CONCLUSIONS

Looking at the context of the result of this study one may argue theoretically and conclude that the quality of female labor in the quarry sites low. This is caused by a number of factors pertinent to working in such in poor and remote areas. Among such factors are the limited affordability of education and training of these women because of extreme poverty; poor infrastructure, including poor educational and health care facilities; and the prevailing social and cultural customs of the indigenous communities that are often biased against women. Because these women are poor with little or no formal education, mostly unskilled and having unsettled life, labour quality is less of a concern for the employers and local authorities. The low level of literacy, inaccessibility of skilled employment, negligence and insensitivity of the family heads to the yearnings (and aspirations of family members etc.) are some of the driving forces why most women picked up the job. Involvement of a girl child in the quarry activities is a ground for serious concern. Low-wage service sectors such as in the quarry sites are primarily composed of women and this has very different impacts upon income inequality as compared with skilled labour mostly dominated by men. In the quarries, the women are primarily engaged in menial and tedious works which do not require any skill. These women have limited access to critical resources like education, land, technology, and credit; hence, they are often excluded from employment in the formal sector. Although women's measured labour force participation has been increasing in many regions around the world, a process sometimes described as 'the feminization of labour', women are still concentrated in lower quality, more precarious forms of paid work; household vulnerability is increasing (Chant, 2007). Access to paid employment does not always translate into control over a portion of the household's income. This type of labour force segmentation reduces women's earning potential. With lower expected earnings, investment in female education is frequently neglected. The disadvantages faced by women in the labour market have negative economic consequences for the society as a whole.

It was observed that women were negatively impacted upon for example in illiteracy rate, in labour force participation rate, and in income (Amali 2007; Graham-Brown, 1991). Educating the women gives a better chance to control their lives, to earn money, to be better mothers and to have improved relationship with their spouses. Feminists have therefore advanced the issue of empowerment of women through education as

a means of challenging patriarchal ideology of male domination and women subordination, transforming the structures and institutions (laws, social practices, political processes etc.) that perpetuate gender discrimination and social inequity as well as equal opportunity for women at all levels in all spheres of human endeavour. There is the need for a better understanding of gender differences because it has a bearing on family harmony and on wellbeing in many dimensions. The elimination of the various barriers women face would result in an increase in their earnings and consequently an increase in the income of the households. It might also result in the economic empowerment of women, economic growth and the reduction of poverty and inequality. Therefore, reducing gender inequalities implies benefits not only for women but also for men, children and the elderly, and for the poor as well as the rich. Similarly there is the need for strong policy intervention (e.g., through awareness-raising programs by civil society organizations and local authorities) to help women overcome their chronic acceptance low quality and lowly paying job especially in these quarries and become interested in participating in some basic economic activities such as petty trading and craft-making to increase their income. In view of the fact that basic education plays an important role, in the longer run and for a larger scale of development, policies and programs should look at linking basic education and vocational training to high-skill enhancement of rural women. In addition, the quality of working conditions and/or job security needs to be improved. Working illegally or without an employment contract and social insurance in the informal sector makes women vulnerable to exploitation, especially when individual employees do not have bargaining power with their employers. A good working environment is a supportive factor for the development of female labour capital because it creates a sense of security (i.e., free from fear of being exploited and of losing their job); therefore, promoting a desire to invest in human capital development (e.g., education and training) for long-term interests.

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## Role of Brand Characteristics and its Impact on Consumer Buying Behavior A Comparative Study of Middle and Lower Social Classes for Mobiles Handset Purchase

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**Abstract** - Social classes can affect the behavior of consumers towards the product or services with respect to the features of product like brand image, price and quality of services. Consumer buying behavior is highly dependent on two variables income and brand characteristics. Sometimes consumers are not willing to buy a product or avail a service but for his/her status symbol the buying behavior of that consumer gets affected, here the social status retention shows the impact of brand characteristics on different social classes buying behavior. Globally there are three main classes i.e. Upper, Middle and Lower classes. Each class of people have different behavior, attitude, preferences, interest, standard of living and income power, these are the variations that segments the individuals personality into distinct classes which are mentioned above. This study analyzed that how brand characteristics like brand image, price and quality can affect the buying behavior of middle and lower social classes for cell phone purchase.

**Keywords** : Consumer buying behavior, Social Classes, Brand image, Price, Quality and Cell phones purchases.

**GJHSS-C Classification** : FOR Code: 160305



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**Abstract** - Social classes can affect the behavior of consumers towards the product or services with respect to the features of product like brand image, price and quality of services. Consumer buying behavior is highly dependent on two variables income and brand characteristics. Sometimes consumers are not willing to buy a product or avail a service but for his/her status symbol the buying behavior of that consumer gets affected, here the social status retention shows the impact of brand characteristics on different social classes buying behavior. Globally there are three main classes i.e. Upper, Middle and Lower classes. Each class of people have different behavior, attitude, preferences, interest, standard of living and income power, these are the variations that segments the individuals personality into distinct classes which are mentioned above. This study analyzed that how brand characteristics like brand image, price and quality can affect the buying behavior of middle and lower social classes for cell phone purchase.

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### I. INTRODUCTION

The concept of social classes was introduced into the marketing subject in 1950s according to marketing scholars, the concept of social classes is considered as the main factor for consumer buying behavior, the scientists have analyzed from a general market survey that the change in buying behavior of consumers is due to social classes there is a quite relation in the market behavior and social classes both are influencing by other factors of social life, social classes is the more important factor influencing buying behavior but along with it brand characteristics also influence different social classes buying behavior Williams, TG.(2002).

According to Gerard J et al (1990) throughout the world there are three types of social classes. These are Upper, Middle and Lower social class. Each and every class has its own characteristics regarding for the purchase of products. Their attitude, brand preferences, interest, personality, income power and standard of living vary from class to class. Its not

necessary that for each and every item the buying behavior will be different may it be same but it depends upon situation and time.

According to Loudon & Della Britta (1993) they have presented their theories about the Consumer Behavior: Concepts and Applications. The people of upper group consume goods in an organized way more than the lower status. They are more knowledgeable as they collect information about the goods (such as organic food, car, furniture, soap, electronic products etc). They buy product more selective and wide ranging.

According to Loudon & Della Britta (1993) people belonging to middle level of income they buy product regarding to their income power they demand for low prices product as they have low level of income. They think rationally and best buy for the money to which they indicate shopkeepers to patronize discount houses.

According to Loudon & Della Britta (1993) lower group buys products largely on impulse. This tendency results in the necessity to rely heavily on credit. These people can be poor credit risks because of their lower income status. This often forces them pattern of dealing with local merchants who offers tailor made credit terms.

According to Sujana Mita (1985) factors like price and quality service creates motivation. But how this motivation created in different social classes and how they take their purchase decision in their buying process is important to find. But one thing is sure that this motivation is different in different social classes. According to Shahzad Khan (2011) there is a significant relationship between price and consumer buying behavior.

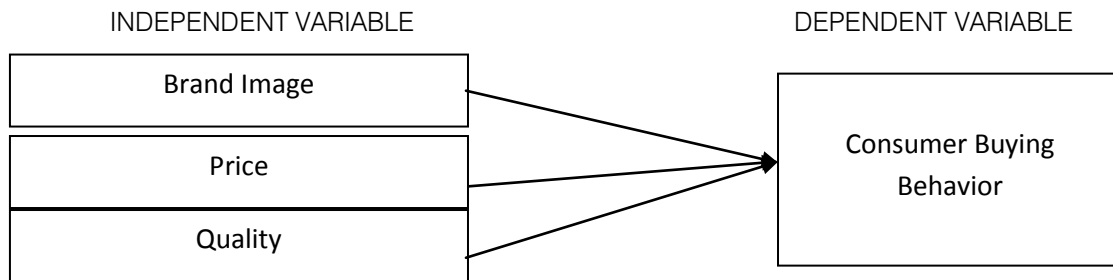
Owais Mufti et al (2011), explains in his study the basics of rationality and discussed that a person is known to be rational; if he is capable of drawing logical inferences, overpowering emotions and utilizing normal mental process of weighing pros and cons of an action-choice-decision (ACD). According to Park (1992) the brand characteristics like brand image, price. But the motivation of different individual is different because of income and different social classes. Quality is the factor for purchase in behavior small wood (1979).

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#### Theoretical Frame work of the study

In this study consumer buying behavior is dependent upon three independent factors. These three factors are brand image, price and quality. All these

factors are independent. But it is important to find which factor has greater impact on consumer buying behavior in middle and lower class.



### **Theoretical Framework of the Study**

It is obvious that each and every social class affected by different variables and their purchase decision varies on brand characteristics. For the purpose it is taken under consideration the buying behavior of lower and middle classes for mobile purchase.

## II. METHODOLOGY

Comparative Analysis refers to the analysis of different factors affecting each other and relation between them. In this case it is the comparative analysis of consumer buying behavior and its dependency on brand characteristics.

Data had been collected through Questioners, to find which brand characteristics has more impact on consumer buying behavior in each target class. For the purpose of analysis a sample of 100 is taken. Among 100 respondents 50 belongs to middle social class and 50 belong to lower social class. The total number of responded contacted were 100. The response rate of the respondents was 100%. On the basis of the response of respondent's correlation and regression analysis is conducted for each class.

## III. RELIABILITY

In order to measure the reliability of the scale a correlation coefficient was used in this study. Before reliability, a pilot study is also conducted for the conformity of errors in research instruments. After distributing 100 questionnaires 50 in each class the Cronbach's Alpha for variables is calculated. The following result in table 1 shows the reliability of brand characteristics and consumer buying behavior for middle and lower social classes.

*Table 1* : Reliability of the Scale of the study.

S.No	Variable	Middle Class	Lower Class
		Cronbach's Alpha	Cronbach's Alpha
1	Consumer Buying Behavior	0.711	0.880
2	Brand Image	0.891	0.733
3	Price	0.853	0.741
4	Quality	0.761	0.891

The scale of the research questionnaire was well established but reliability was calculated for conformity and for final analysis of the study.

#### IV. CORRELATION ANALYSIS

To check the presence of relationship amongst the explanatory variables and explore the strength of

associations between the variables, different guidelines have been suggested by statistician and they classify the strength of association between variables.

*Table 2* : Correlation Analysis for Variables of the study.

S.No	Dependent variable	Independent variable	Middle Class		Lower Class	
			R	R <sup>2</sup>	R	R <sup>2</sup>
1	Consumer Buying Behavior	Brand Image	.672	.451	.321	.103
2	Consumer Buying Behavior	Price	.821	.674	.912	.831
3	Consumer Buying Behavior	Quality	.732	.535	.618	.381

As shown in table 2, there is a strong association between Consumer Buying Behavior and brand image in middle class with correlation coefficient ( $r = .672$ ). While the same brand image has a correlation coefficient ( $r = .321$ ) which mean that lower class has a weaker relation in their purchase decision of considering the brand image.

Survey demonstrate that there is a strong relation ship between middle class consumer Buying Behavior and price with correlation coefficient ( $r = .821$ ). while on the other hand this relation is more strong in comparison of middle class, lower class has more dependency on price with correlation coefficient ( $r = .912$ ) which mean lower class give more weightage to price in their buying behavior.

In case of middle class the correlation coefficient for quality is ( $r = .732$ ). While in case lower class the correlation coefficient is ( $r = .618$ ). which

mean that both middle and lower class consider the factor of quality but this consideration is more dominant in middle social class.

Hypotheses of the study and Regression Equations

An overview of the hypotheses related to the relationship transactional, relational and turnover intention the following hypothesis has been generated.

**H.1.** Middle and lower social class buying behavior is dependent upon brand image.

**H.2.** Price has an impact on middle and lower social class buying behavior.

**H.3.** Quality of the product can affect middle and lower Social class buying behavior

Table 3 below explains overall significance of the all three variables of the study along with summary statistics.

*Table 3 :* Regression Results for Variables of the study.

Middle Social Class								
S.No	Dependent variable	Independent variable	Adjusted R <sup>2</sup>	F	B	Standard error	T	P-value
1	Consumer Buying Behavior	Brand Image	.431	421.101	.764	.013	29.113	0.000
2	Consumer Buying Behavior	Price	.614	861.115	.981	.028	24.839	0.000
3	Consumer Buying Behavior	Quality	.495	432.101	.743	.017	22.101	0.000

Table 3 shows that the overall model is highly significant (P= 0.000) for middle social class. The overall model is significant which means that there is a significant relationship exist between brand image and consumer buying behavior with (t-statistic = 29.113 and P-value= 0.000) which means that brand image has a significant impact on buying behavior of middle class buying behavior.

Price is the second independent variable of the study. Results show in case of middle social class there is a significant relationship between price and consumer buying behavior with (t-statistic = 24.839 and

P-value= 0.000). The third variable of the study is quality of the product. In case of middle class there is a significant relationship between quality and consumer buying behavior with (t-statistic = 22.101 and P-value= 0.000).

Table 4 below shows that the overall model is highly significant (P= 0.000) for lower social class. There is a significant relationship exist between brand image and consumer buying behavior with (t-statistic = 21.031 and P-value= 0.000) for the lower class which means that brand image has a significant impact on buying behavior of middle class buying behavior.

*Table 4 :* Regression Results for Variables of the study.

Lower Social Class								
S.No	Dependent variable	Independent variable	Adjusted R <sup>2</sup>	F	B	Standard error	T	P-value
1	Consumer Buying Behavior	Brand Image	.100	314.109	.663	.015	21.031	0.000
2	Consumer Buying Behavior	Price	.817	679.117	.980	.026	29.441	0.000
3	Consumer Buying Behavior	Quality	.373	341.104	.764	.014	32.301	0.000

Price is the second independent variable of the study. Results show in case of lower social class there is a significant relationship between price and consumer buying behavior with (t-statistic = 29.441 and P-value= 0.000). The third variable of the study is quality of the product. In case of lower class there is a significant relationship between quality and consumer buying behavior with (t-statistic = 32.301 and P-value= 0.000).

## V. CONCLUSION

As result show that for both middle and lower class the model is highly significant. The findings from analysis part of the study show that consumer buying behavior is dependent upon brand characteristics both in middle and lower social classes. Study show that in both lower and middle social classes the respondents consider price as a primary factor in cell phone



purchases and then consider quality and brand image. But lower class has more tendency towards the price in their purchase decision in comparison of middle class. While in comparison of lower class middle class has greater tendency towards quality and brand image in cell phone purchases.

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## An Econometric Modelling of Absorptive Capacity, Credit Market Development and Economic Development in Nigeria

By Audu Nathan Pelesai  
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**Abstract** - This paper empirically examines the relationship between absorptive capacity, credit market development and economic development in Nigeria. Recent theoretical works show the significance of absorptive capacity and credit market development to economic growth. In this study, the perceived relationship between absorptive capacity, credit market development and economic growth is estimated econometrically using the Ordinary Least Square Estimation Method (OLSEM). The result showed that there is a substantial positive effect of the selected macroeconomic variables on economic growth in Nigeria. The Granger causality test showed that absorptive capacity, human capacity development, lending rate, savings, gross domestic investment and gross domestic product indicates an evidence of causality from the selected macroeconomic variables (ABC, HCD, LR, SAV and GDI) to economic growth/development.

**Keywords** : *Economic growth, credit market, economic development, absorptive capacity, and microeconomic policy.*

**GJHSS-C Classification** : *JEL : C19, C22, C59, E44*



*Strictly as per the compliance and regulations of:*



# An Econometric Modelling of Absorptive Capacity, Credit Market Development and Economic Development in Nigeria

Audu Nathan Pelesai

**Abstract** - This paper empirically examines the relationship between absorptive capacity, credit market development and economic development in Nigeria. Recent theoretical works show the significance of absorptive capacity and credit market development to economic growth. In this study, the perceived relationship between absorptive capacity, credit market development and economic growth is estimated econometrically using the Ordinary Least Square Estimation Method (OLSEM). The result showed that there is a substantial positive effect of the selected macroeconomic variables on economic growth in Nigeria. The Granger causality test showed that absorptive capacity, human capacity development, lending rate, savings, gross domestic investment and gross domestic product indicates an evidence of causality from the selected macroeconomic variables (ABC, HCD, LR, SAV and GDI) to economic growth/development.

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## I. INTRODUCTION

Credit market is a provider of funds such as granting of loans by creditors/lenders to the borrowers/debtors where the debtors do not reimburse the lenders immediately. Nigeria's commercial banks represent almost 90% of the financial system assets and approximately two-third of the total credit extended to the private sector. However, Nigeria displays a significantly lower share of bank loans to GDP than that of countries like Indonesia and South Africa that Nigeria is likely to be compared with (Hacker, 2008). The high rate of money supply to GDP (financial deepening) suggests that availability of finance is not problem rather, the inefficient absorptive capacity of the private sector to utilize the fund. Existing evidence however suggests that various factors may be responsible for the above problem. The factors include fund mobilization/aggregate savings, high banks lending rate, inflationary expectation, institutional factors, inappropriate sectorial policies, level of economic activities, the structure and efficiency of the financial system among others.

A major concern however is that growth rate registered in most African countries including Nigeria

does not march the quantum of export earnings they receive. Nigeria particularly earned enormous revenue from crude petroleum export during oil boom years (mid 70's and 2000's) which caused significant increase in the public sector spending without particularly leading to economic growth. For example in 1970's, gross domestic investment as a percentage of GDP was 16.8% in 1974. This later rose to 31.4% but drastically declined to 9.5% and 8.9% in 1984 and 1985 respectively (Audu, 2010 and CBN, 2010). There is always the problem of capital market not being able to channel its resources to core growth activities (private sector); or to utilize lessons from the past experience with past failures in the country's development history. Despite basic reforms which have encouraged the development of the credit market, the absorptive capacity of the market has not been investigated. Hence, economic growth through credit market development remains in a state of dilemma. This therefore calls for an understanding of the relationship between credit market, absorptive capacity and economic growth. Therefore, this paper will provide insight into some possible policy options on the transmission mechanism between credit market, absorptive capacity and economic growth in Nigeria. This study will also recommend measures that will aid in obtaining the macroeconomic objective of economic growth through credit market development in Nigeria.

Over the years, various policies and strategies have been adopted by the government which has ensured continuous growth of the credit market. These strategies and policies include; the Nigerian Enterprise Promotion decree of 1972 which was amended in 1977 as Indigenization decree, Guided Deregulation of 1994, the National Economic Empowerment Development Strategies of 1999 and the Bank Consolidation of 2004 among others (Duru, 2010 and Babatunde, 2007). While progress in the literature of credit market, absorptive capacity and economic growth has been quite substantial, literature on the specific roles of credit market, absorptive capacity in the process of economic growth in Nigeria is still quite scanty; mostly limited to testing causal relationships between selected credit market and absorptive capacities variables and economic growth; many aspects of this matter remain to

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be explored. This paper tries to fill that gap, by using causality tests as well as estimating an economic growth model to empirically examine the relationship between credit market, absorptive capacity and economic growth in Nigeria. The main aim of the paper is to examine the relationship between credit market development, absorptive capacity and economic growth in Nigeria. The paper is divided five sections. Section 1 is the introduction, while section 2 deals with theoretical and empirical issues. In section 3, the structure of the Nigerian credit market and absorptive capacity, while section 4, methodology and results are discussed. Section 5 contains some concluding remarks.

#### *a) Theoretical and Empirical Issues*

Both theoretical and empirical evidence suggest that a strong credit market promotes economic growth. Seven decades ago, Schumpeter (1934) stressed the role of the banking sector as a financier of productive investments and thus as an accelerator of economic growth. Babantunde (2007) suggests that financial sector might affect economic growth in the sense that it increases the productivity of investments, reduces transaction costs and affects savings. Duru (2010), Oluitan (2009), Onwioduokit (2007) and Babatunde (2007) have all constructed theoretical models wherein efficient financial markets improve the quality of investments and enhance economic growth.

Also, a number of studies investigate the link between finance and growth empirically. Hondroyannis and Lolos (2005) work provides evidence that the development of finance accelerate economic growth. Güryay and Tüzel (2007) in their study observed a strong positive relationship between financial development and economic growth. Babatunde (2007) researched financial sector development and economic growth in Nigeria and concluded that financial indicators are robustly correlated with economic growth. What is more interesting to financial economists is the role of market institutions regarding the definition of property rights by market institution, because a complex set of institution must be created to ensure that abuses are appropriately punished (Green, 2004). Similarly, the weakness of institutions in developing countries is well identified by Aron, (2002) when he opined that institutions in some less developing countries (LDCs) are weak because such rules are simply absent, suboptimal or poorly enforced when the costs of monitoring and enforcement, transaction costs may be to high when property right or the rule of law are reliable. It is in this vain that Stiglitz, (1998) held that the creation of effective institution and the rules that govern economic transactions lie at the heart of a successful transition. Institutional studies in settings of transitional and developing economies have gained more attention in the recent past.

In Nigeria, few studies have been focused in this direction. Ajakaiye, (2002) examines the impact of banking sector credits to the private sector on real investment from 1981 – 1995 in Nigeria. He analyzed the impact of real banking sector credit to the economy on real private consumption expenditure as a way to ascertain the implications of the relatively low personal credit as a proportion of total banking sector credits before and after the reforms in Nigeria. Starting with investment expenditure, the study postulated that real investment expenditure would increase if there is an increase in real bank credit to the economy. While Adebisi (2005) assessed the relationship between stock market indicators and economic growth in Nigeria using cointegration approach. His finding reveals that capital market development variables (size and liquidity) are statistically significant in explaining economic activity. To Ariyo and Adelagan (2005) in their study observed that the commissioning of electronic business in the Nigeria stock market in mid 2003 has made it possible for investor to access the 'central security clearing system's database' from the internet to monitor movements in their stock accounts. According to them, this online real time monitoring opportunity of investors' accounts has enhanced transparency in 'Stock Exchange Market in Nigeria'. The duo also held that that the "trade alert information system" launched in 2005 constitute a recent development in the Nigerian Capital Market. This alert system conveys a text message on mobile phones to alert stockholders of any transaction in their stock within 2hours. To these scholars, this mechanism mitigates unethical practices and promotes transparency in the Nigerian Capital market.

#### *b) Credit market development and absorptive capacity*

For financial integration to translate into faster growth, the process would have to be in synch with measures designed to strengthen countries' absorptive capacity, such as further trade liberalization and development/strengthening of the financial sector. In addition, growth in many Asian countries tends to be driven by external rather than domestic demand, which means many seem to share a common exposure to the same type of demand shocks. Hence, regional financial integration may not reduce volatility if countries' business cycles tend to be synchronized. This suggests countries may find it beneficial to support policies that reduce the correlation between regional outputs and financial markets. The most important among those, in our view, is the need to move to more domestic-driven growth. This would need to include foreign exchange policies that do not distort the allocation of resources between tradable and non-tradable sectors. In addition, domestic private sector development could play an important role. The process could also be jump-started by large-scale investments in the non-tradable sector: in



many countries, the need for better education, health and infrastructure – which is required to move to middle or upper-income status – remains unmet. These expenditures need not be publicly funded or supplied by the public sector. Rather, what may be required is a change in regulatory structure to support greater private sector supply of infrastructure and traditionally public services. Risk management is an important part of financial integration. With financial integration, risk management will acquire a regional perspective on top of the home dimension (Dominique, 2005; Ndebbio, 2004).

As noted by Wesley and Levinthal (1990), the development of absorptive capacity and in turn, innovative performance is history-or path- dependent and argued how lack of investment in an area of expertise early on many foreclose the future development of a technical capability in the area. In order words, efficient utilization of credit market resources encourages research and development which brings about increase in output, hence, economic growth. Mishra et al (2009) suggested that most innovation result from borrowing rather than invention. The ability to exploit external knowledge is thus a critical component of innovative capabilities. It is argued that the ability to evaluate and utilize outside knowledge is largely a function of the level of prior related knowledge. This knowledge confers the ability to recognize the value of new information, assimilate it and apply it to commercial ends. This ability constitutes what is called a firm's 'absorptive capacity'. Abernathy (1978) and Rosenberg et al (1988) have noted that through direct involvement in manufacturing, a firm is better able to recognize and exploit new information relevant to a particular product market. Absorptive capacity of a firm is influenced by the responsiveness of research and development (R & D) activity to learning incentives as an indication to the empirical importance. The empirical challenge then is to understand the impact of the characteristics of learning environment on R&D spending.

According to Wesley and Levinthal (1990), empirical analysis of R & D investment suggests that firms are in fact sensitive to the characteristics of the learning environment in which they operate. Thus, absorptive capacity appears to be part of firm's decision calculus in allocating resources for innovative activity. Despite these findings, because absorptive capacity is intangible and its benefits are indirect, one can have little confidence that the approval level to say nothing of the optimal level of investment in absorptive capacity is reached. Increase in private sector investment is inevitable for an economy to develop its absorptive capacity.

This view is corroborated by Shahnoushi et al, (2008) in a study on causality between financial

development and economic growth in Iran using time series data for the period 1996-2004. He argued that credit market development should be treated as the most important dimension of economic development, as it leads to not just financial investment, but also investment in social and economical substructure and investment in human resources, as it enables increases in the skills and experts level of the work force.

## II. METHODOLOGY AND RESULTS

From the literature reviewed, we ascertain that there exist a relationship between credit market development, absorptive capacity and economic growth but the extent and the direction of the relationship were not obtained. In order to examine the causality relationship in Nigeria we employ the standard Granger causality test, cointegration and the error correction mechanism. According to Gujarati and Porter (2009), Granger causality test, cointegration and the error correction mechanism explains if it is economic growth that causes credit market development or absorptive capacity that causes economic growth.

Most empirical literature on the subject considers cross country regression to examine the growth effects of financial market development. It is also essential to study individual country evidence for the purpose of policy formulation. In this regard, and following the reviewed studies, this paper identifies several indicators of credit market development and absorptive capacity such as gross domestic investment (GDI), savings (SAV), lending rate (LR) and human capital development (HCD) as the most appropriate variables for this study as they have been used widely as a prime indicator of credit market development and absorptive capacity as the data for these variables are reasonably available. The credit market development, absorptive capacity variables as used in most recent studies is adopted. However, the current study included gross domestic product (GDP) spread as an additional variable for explaining economic growth. In this paper, the relationship between credit market development, absorptive capacity and economic growth is measured by adopting the modified model of Shahnoushi et al, 2008. This is an improved model of Onwioduokit (2007) and the modified model of Odedokun (1996) but the variant of Onwioduokit (2007) and Odedokun (1996) is specified in the equation as follows:

$$\log(ABC) = \partial_0 + \partial_1 \log(GDI) + \partial_2 \log(SAV) + \partial_3 \log(HCD) + \partial_4 \log(GDP) + \partial_5 LR + \psi$$

*The expected signs of the coefficient a priori are:  $\partial_1 > 0$ ;  $\partial_5 < 0$ ;  $\partial_2 > 0$ ;  $\partial_3 > 0$ ;  $\partial_4 > 0$*

*Where ABC = Absorptive capacity (measured by total credit to the economy), GDP= real GDP (proxy for economic growth), GDI = Gross domestic investment, LR = lending rate, HCD = Human capital development, SAV = Savings,  $\psi$  =stochastic error term.*

The results of the Ng and Perron (2001) modified unit root test is presented in Table 1. Four of the variables under scrutiny namely absorptive capacity (ABC), gross domestic product (GDP), lending rate (LR) and human capital development (HCD) are I (1) process, which means that they are stationary at first difference. Savings (SAV) and gross domestic investment (GDI) are I (0) process, implying that they are stationary at levels. The purpose of testing the stationarity properties of the variables in bounds approach to co-integration is because the (ARDL) bounds testing approach is applicable only in the presence of I (1) and I (0) variables or a mixture of both. This means that the assumption of bounds testing will collapse in the presence of I (2) variables (Pesaran et al 2001). The Ng and Perron (2001) modified unit root results presented in Table 1, implies that the bounds testing approach is applicable in this study, as all the variables are a mixture of I (1) or I (0).

The next task of the paper having established the order of integration of variables included in the model is to estimate for long run relationship, whose result is presented in Table 4. The purpose is to establish the long run relationship among the variables. Following Pesaran et al (2001), since the time series are annual, the paper adopt 2 as the maximum order of the lags in the ARDL and the estimated long-run equation, and three cointegrating relationship exists among the variables at both the trace and max-eigen statistics ( 2 and 1 cointegrating relationship at 5% levels) among the variables included in the model, we then proceed to estimate the over-parameterized and parsimonious error correction model in Table 6 and 7 respectively for the period 1970 – 2010. Also, the descriptive statistics in Table 2, shows that absorptive capacity (ABC), gross domestic investment (GDI), gross domestic product (GDP), human capital development (HCD), lending rate (LR) and savings (SAV) averaged 10.90, 11.39, 12.69, 8.07, 17.75 and 10.73 with a standard deviation of 2.87, 3.21, 2.42, 2.40, 7.31 as well as 2.99 respectively while variables ranges between 5.86 – 15.13, 7.21 – 17.54, 8.56 – 16.25 for ABC, GDI and GDP respectively. It also varies from a minimum of 5.07%, 6.00% and 5.83% to a maximum of 11.89%, 36.09% and 17.38% respectively for HCD, LR and SAV. The correlation matrix in Table 3, reveals that a positive correlation exists among all the variables; some with a high correlation and some with low correlation. For example, there is a very high positive correlation between ABC and GDP (98%), while the correlation between GDI and LR, between HCD and LR as well as between LR and SAV is relatively low (57.4%, 68.1% and 69.8% respectively). The Granger causality tests in Tables 5 shows that there exists a bi-directional causality between ABC and GDP as well as HCD and ABC while a uni-directional causality exist between LR and ABC; SAV and ABC; HCD and GDI; GDI and SAV;

GDP and HCD; LR and GDP and well as between HCD and LR while the stability tests of the model which shows that the model is relatively are presented in Figure 1, 2 and 3 respectively.

Following the estimation of the long run coefficients, the paper proceeds to estimate the error correction model. The paper adopts the general to specific approach to arrive at the parsimonious estimate by eliminating the jointly insignificant variables. The error correction term shows the speed of adjustment to restore equilibrium in the dynamic model. In particular, the ECM coefficients show how quickly or slowly the variables converge to equilibrium and the ECM coefficient is expected to have a negative sign. As observed by Gujarati, (2004) a highly significant error correction term is a strong confirmation of the existence of a stable long run relationship. The result of the error correction model indicates that the error correction term ECM(-1) is well specified and the diagnostic statistics are good. The ECM (-1) variable has the correct a priori sign and is statistically significant. The speed of adjustment of 0.089 shows a high level of convergence. In particular, about 8.9 per cent of disequilibrium or deviation from long run growth rate of GDP in the previous period is corrected in the current year. The Durbin Watson (DW) statistics value of 2.92 shows the absence of first order serial autocorrelation in the model while the F-statistics of 34.63 shows that the entire model is statistically significant. The value of adjusted  $R^2$  of 0.854 indicates a good fit. In particular, the model explains about 85.4 per cent of total variations of the dependent variable around its mean.

The paper conducted stability test of the long run and short run coefficients using the cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMQ). As observed by Bahmani-Oskooee (2001), the stability of the regression coefficients is evaluated by stability tests and stability tests can show whether or not the regression equation is stable over time. This stability test is appropriate in time series data, especially when one is uncertain when change might have taken place. The null hypothesis is that the coefficient vector is the same in every period. CUSUM and CUSUMQ statistics are plotted against the critical bound of 5 per cent significance. As noted by Bahmani-Oskooee and Wing NG (2002), if the plot of these statistics remains within the critical bound of 5 per cent significance level, the null hypothesis, which states that all coefficients in the error correction model are stable, cannot be rejected. The results of these tests strongly suggest that the model is fairly well specified and robust for policy analysis (Udah, 2011).

The result based on Table 7 reveals that the first lag of absorptive capacity has a positive impact on current absorptive capacity. This implies that absorptive capacity is determined by the total credit to the

economy. A priori the absorptive capacity variable agrees with theoretical predictions, and it was statistically significant at levels. The paper argues that absorptive capacity promote economic growth and development. The interaction of ABC with GDP enters with a positive sign and is statistically significant. This strongly suggests that GDP have a positive impact on economic growth and development but only within certain threshold of ABC performance. Lending rate coefficient has the correct a priori sign and is statistically significant at levels. This means that to accelerate the pace of growth and economic development, the country needs to ignite a simultaneous decrease in lending rate on loans as well as an increase on interest rate on saving on bank deposits. Similarly, gross domestic investment did not conform to a priori expectation but it is statistically significant. This means that if GDI is increased by a percent, absorptive capacity (ABC) will decline by 75.2%. This can be attributed to the high lending rate on borrowing in the country thus its negative impact on absorptive capacity of the economy.

Gross domestic product exerts a very significant positive influence on absorptive capacity thus suggesting that GDP impact on economic growth and development through ABC is very high therefore, government at all levels should implement policies that would bolster absorptive capacity in the country. It was also found that the coefficient of training and retraining as well as technology represented by human capacity development is positive as well as statistically significant in determining the level of ABC. In addition, savings was found to be significant and positive. The implication of this is that a one per cent increase in savings in Nigeria will lead to 48.3 percent increase in rate of absorptive capacity as well as economic growth and development.

### III. CONCLUSION

This paper has attempted to identify the key determinants of credit market development, absorptive capacity and economic growth in Nigeria, by adopting the economic analysis technique. This was done by modelling credit market development, absorptive capacity and economic growth and testing for the stability model. The paper used data from 1970 to 2010. In the empirical analysis, Johansen maximum likelihood cointegration procedure was employed, to show that there is a long –run relationship between credit market development, absorptive capacity and economic growth/development and its economic determinants. The stability of the model validates that the economic determinants significantly impact on credit market development, absorptive capacity economic growth for the Nigerian economy, indicating that government macroeconomic policies are greatly promoting credit availability as well as training and retraining (Udah, 2011; Audu, 2010; Mundell, 1963).

The parsimonious error correction results reveal that all the variables used in the study except gross domestic investment conforms to our economic a priori expectation. This notwithstanding, all the variables were highly significant. The findings strongly show that for credit market development, absorptive capacity to bolster the pace of economic development/growth in Nigeria, it requires other supportive factors such as gross domestic product, lending rate, savings and human capital development. The government at all levels should endeavour to increase investment in education and infrastructural development as these are the key movers (drivers) of economic development/growth in any country. According to Sanusi, (2004) the design of macroeconomic policy should be the main goal for the promotion of domestic savings, domestic investment, domestic price as well as exchange rate stability as a precondition for the achievement of sustainable economic growth and development in Nigeria. His view shows credence to this paper which held that the selected macroeconomic variables are strong drivers of economic growth and development. The current view therefore, is macroeconomic policies should be growth-centred, with full employment as the ultimate objective. In response to that view, this paper attempt to project a policy framework that will prioritize and improve growth hence near or full employment while maintaining stable lending rate, growth in domestic savings and human capacity development among others. This policy framework adapted the Mundellian principle of effective market classification.

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Table 1: Ng - Perron (2001) modified unit root tests.

Variables	MZa	MZt	MSB	MPT
ABC	-19.2589	-3.09361	0.16063	1.30619
GDP	-20.5255	-3.17834	0.15485	1.28194
LR	-41.0385	-4.52967	0.11038	0.59740
HCD	-20.7716	-3.22016	0.15503	1.18840
GDI	-32.4945	-3.65646	0.11253	1.82996
SAV	-18.0415	-60.9258	3.37698	3375.81
ECM(-1)	-18.3139	-3.00578	0.16413	1.41098
<i>Critical</i>				
Values	-13.8000	-2.58000	0.17400	1.78000
1%	-8.10000	-1.98000	0.23300	3.17000
5%	-5.70000	-1.62000	0.27500	4.45000
10%				



*Table 2 :* Descriptive Statistics.

	LOG(ABC)	LOG(GDI)	LOG(GDP)	LOG(HCD)	LR	LOG(SAV)
Mean	10.90227	11.39019	12.69197	8.068191	17.74561	10.73004
Median	10.41532	10.32963	12.51322	7.424344	19.20000	10.29726
Maximum	15.13547	17.53971	16.25009	11.88602	36.09000	17.38021
Minimum	5.862210	7.210080	8.556625	5.068275	6.000000	5.833640
Std. Dev.	2.865301	3.212653	2.421669	2.400884	7.310937	2.998043
Skewness	-0.084710	0.713943	-0.058497	0.298358	0.366192	0.307709
Kurtosis	1.742829	2.207591	1.555064	1.551912	2.383716	2.398487
Probability	0.252963	0.102503	0.166118	0.123034	0.457224	0.531231
Observations	41	41	41	41	41	41

*Table 3 :* Correlation matrix.

	LOG(ABC)	LOG(GDI)	LOG(GDP)	LOG(HCD)	LR	LOG(SAV)
LOG(ABC)	1.000000					
LOG(GDI)	0.928176	1.000000				
LOG(GDP)	0.985979	0.916638	1.000000			
LOG(HCD)	0.970253	0.955670	0.970722	1.000000		
LR	0.716386	0.573683	0.754430	0.680623	1.000000	
LOG(SAV)	0.967045	0.942705	0.949446	0.945318	0.697897	1.000000

*Table 4 :* Johansen Cointegration test.

Date: 11/13/11 Time: 10:44

Sample(adjusted): 1973 2010

Included observations: 38 after adjusting endpoints

Trend assumption: Linear deterministic trend

Series: LOG(ABC) LOG(GDI) LOG(GDP) LOG(HCD) LR LOG(SAV)

Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test

Hypothesized	Trace	5 Percent	1 Percent
No. of CE(s)	Eigenvalue	Statistic	Critical Value
None **	0.711170	122.4432	94.15
At most 1 *	0.537053	75.25035	68.52
At most 2	0.409085	45.98496	47.21
At most 3	0.305918	25.99377	29.68
At most 4	0.243515	12.11752	15.41
At most 5	0.039027	1.512747	3.76

*\*(\*\*) denotes rejection of the hypothesis at the 5% (1%) level*

Trace test indicates 2 cointegrating equations at the 5% and 1 cointegrating equation at the 1% level

Hypothesized	Max-Eigen	5 Percent	1 Percent
No. of CE(s)	Eigenvalue	Statistic	Critical Value
None **	0.711170	47.19286	39.37
At most 1	0.537053	29.26540	33.46
At most 2	0.409085	19.99118	27.07
At most 3	0.305918	13.87625	20.97
At most 4	0.243515	10.60477	14.07
At most 5	0.039027	1.512747	3.76

*\*(\*\*) denotes rejection of the hypothesis at the 5% (1%) level*

Max-eigenvalue test indicates 1 cointegrating equation(s) at both 5% and 1% levels

*Table 5 :* Granger causality test.

Pairwise Granger Causality Tests

Date: 11/13/11 Time: 10:52

Sample: 1970 2010

Lags: 2

Null Hypothesis:	F-Statistic	Probability
LOG(GDI) does not Granger Cause LOG(ABC)	Accept	0.86275
LOG(ABC) does not Granger Cause LOG(GDI)	Accept	0.25231
LOG(GDP) does not Granger Cause LOG(ABC)	Reject	0.01338
LOG(ABC) does not Granger Cause LOG(GDP)	Reject	0.06145
LOG(HCD) does not Granger Cause LOG(ABC)	Reject	0.04932
LOG(ABC) does not Granger Cause LOG(HCD)	Reject	0.10033
LR does not Granger Cause LOG(ABC)	Reject	0.03174
LOG(ABC) does not Granger Cause LR	Accept	0.43745
LOG(SAV) does not Granger Cause LOG(ABC)	Reject	0.07861
LOG(ABC) does not Granger Cause LOG(SAV)	Accept	0.73455
LOG(GDP) does not Granger Cause LOG(GDI)	Accept	0.12006
LOG(GDI) does not Granger Cause LOG(GDP)	Accept	0.31887
LOG(HCD) does not Granger Cause LOG(GDI)	Reject	0.01098
LOG(GDI) does not Granger Cause LOG(HCD)	Accept	0.94591
LR does not Granger Cause LOG(GDI)	Accept	0.22659
LOG(GDI) does not Granger Cause LR	Accept	0.57652
LOG(SAV) does not Granger Cause LOG(GDI)	Accept	0.51940
LOG(GDI) does not Granger Cause LOG(SAV)	Reject	0.02680
LOG(HCD) does not Granger Cause LOG(GDP)	Accept	0.95840
LOG(GDP) does not Granger Cause LOG(HCD)	Reject	0.00398
LR does not Granger Cause LOG(GDP)	Reject	0.00563
LOG(GDP) does not Granger Cause LR	Accept	0.33668
LOG(SAV) does not Granger Cause LOG(GDP)	Accept	0.83933
LOG(GDP) does not Granger Cause LOG(SAV)	Accept	0.95921
LR does not Granger Cause LOG(HCD)	Accept	0.11826
LOG(HCD) does not Granger Cause LR	Reject	0.04667
LOG(SAV) does not Granger Cause LOG(HCD)	Accept	0.15325
LOG(HCD) does not Granger Cause LOG(SAV)	Accept	0.24258
LOG(SAV) does not Granger Cause LR	Accept	0.40352
LR does not Granger Cause LOG(SAV)	Accept	0.78447

$F_{critical} = 2.45$

*Table 6 :* The over-parameterized estimation result.

Dependent Variable: LOG(ABC)  
Method: Least Squares  
Date: 06/03/12 Time: 11:32  
Sample(adjusted): 1972 2010  
Included observations: 39 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(ABC(-1))	0.404731	0.167990	2.409251	0.0234
C	-0.112046	0.955042	-0.117321	0.9075
LOG(GDI)	-0.381203	0.178831	-2.131638	0.0835
LOG(GDI(-1))	-0.009444	0.201073	-0.046966	0.9629
LOG(GDP)	-0.063424	0.279486	-0.226930	0.8223
LOG(GDP(-1))	0.599800	0.249534	2.403680	0.0254
LOG(HCD)	0.674094	0.232839	2.895108	0.0329
LOG(HCD(-1))	0.168263	0.242763	0.693115	0.4944
LOG(SAV)	0.418275	0.127503	3.280511	0.0098
LOG(SAV(-1))	0.000820	0.118906	0.006898	0.9945
LR	-0.013045	0.019844	-0.657352	0.5167
LR(-1)	0.142722	0.021666	6.290638	0.0000
ECM(-1)	-0.028004	0.022688	-1.234318	0.2281
R-squared	0.908435	Mean dependent var	11.15159	
Adjusted R-squared	0.873097	S.D. dependent var	2.707858	
S.E. of regression	0.352051	Akaike info criterion	1.011119	
Sum squared resid	3.222432	Schwarz criterion	1.565639	
Log likelihood	-6.716811	F-statistic	185.1790	
Durbin-Watson stat	1.796579	Prob(F-statistic)	0.000000	

*Table 7 :* Parsimonious Result.

Dependent Variable: LOG(ABC)  
Method: Least Squares  
Date: 06/03/12 Time: 11:57  
Sample(adjusted): 1972 2010  
Included observations: 39 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(ABC(-1))	0.444905	0.141430	3.145760	0.0036
C	-0.255425	0.716203	-0.356637	0.7238
LOG(GDI)	-0.752442	0.084794	-8.873765	0.0000
LOG(GDP(-1))	0.805845	0.169081	4.766032	0.0001
LOG(HCD)	0.261395	0.060118	4.348032	0.0007
LOG(SAV)	0.482744	0.127176	3.795873	0.0024
LR(-1)	-0.032994	0.016661	-1.980305	0.0566
ECM(-1)	-0.089796	0.017472	-5.139420	0.0000
R-squared	0.897376	Mean dependent var	11.15159	
Adjusted R-squared	0.854525	S.D. dependent var	2.707858	
S.E. of regression	0.336849	Akaike info criterion	-0.842317	
Sum squared resid	3.517482	Schwarz criterion	-1.183561	
Log likelihood	-8.425187	F-statistic	34.63774	
Durbin-Watson stat	2.929486	Prob(F-statistic)	0.000000	

Figure 1 : Recursive residuals.

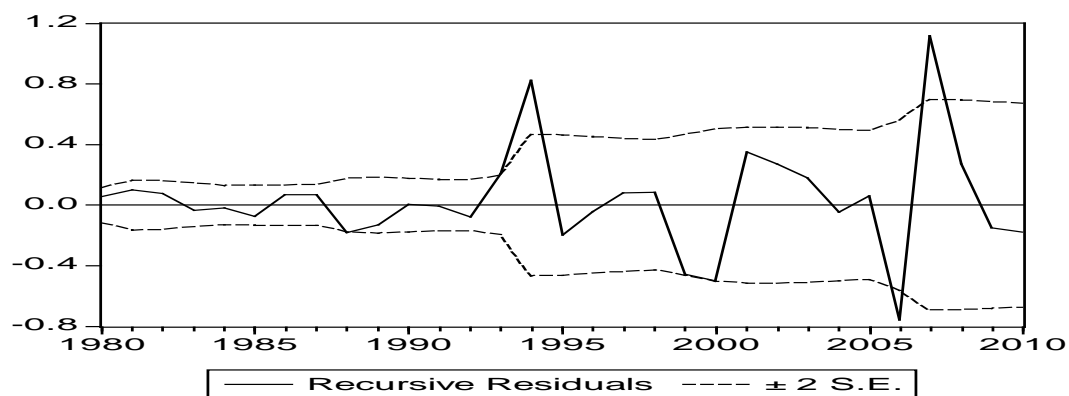


Figure 2 : CUSUM test.

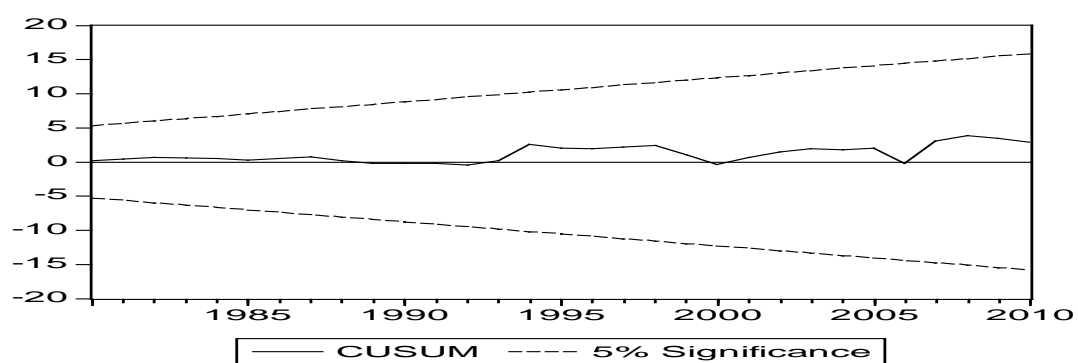
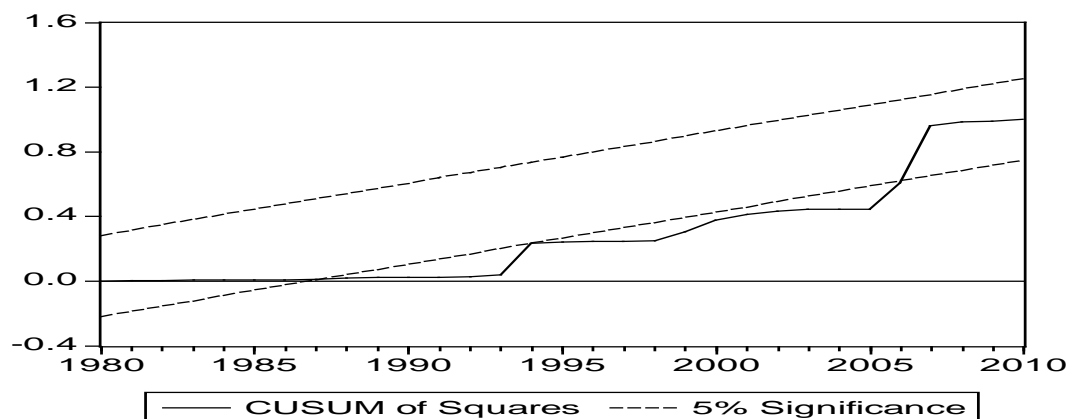


Figure 3 : CUSUM of squares test.



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## Microfinance, Poverty and Youth Unemployment of Nigeria: A Review

By Mazharul H. Kazi & John E. Leonard

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**Abstract** - This paper acknowledges that poverty is a curse, not only for the individual who is poor, but for remainder of the community, nation and global society at large. Poverty is the violation of the basic norm of our civilization. Yet poverty persists and it is evident globally. In reality, unemployment is thought to be the basic cause of Poverty. The severity of poverty is clearly evident in underdeveloped countries; while it is often disguised in most developed nations. The measure of poverty is misleading too; as it hardly reflects true nature. Poverty may arise either from simple or very complex reasons. In Nigeria the poverty and chronic youth unemployment are both apparent. This paper examines if Nigerian microfinance programs are being effective in curbing the extent of unemployment and severe poverty from Nigeria. Accordingly, this paper investigates the Grameen bank's microfinance model developed by the Nobel Laureate Dr. Yunus of Bangladesh for comparison.

**GJHSS-C Classification :** FOR Code : 140102



*Strictly as per the compliance and regulations of:*



# Microfinance, Poverty and Youth Unemployment of Nigeria: A Review

Mazharul H. Kazi<sup>1</sup> & John E. Leonard<sup>2</sup>

**Abstract** - This paper acknowledges that poverty is a curse, not only for the individual who is poor, but for remainder of the community, nation and global society at large. Poverty is the violation of the basic norm of our civilization. Yet poverty persists and it is evident globally. In reality, unemployment is thought to be the basic cause of Poverty. The severity of poverty is clearly evident in underdeveloped countries; while it is often disguised in most developed nations. The measure of poverty is misleading too; as it hardly reflects true nature. Poverty may arise either from simple or very complex reasons. In Nigeria the poverty and chronic youth unemployment are both apparent. This paper examines if Nigerian microfinance programs are being effective in curbing the extent of unemployment and severe poverty from Nigeria. Accordingly, this paper investigates the Grameen bank's microfinance model developed by the Nobel Laureate Dr. Yunus of Bangladesh for comparison. The findings of the paper suggest that although Nigeria has recognized the potentials of microfinance and accordingly implemented a sizable number of programs, there is hardly any impact on curbing its poverty and unemployment. It is also observed that the Grameen approach of microfinance programs in Bangladesh seems to be the most effective model in addressing poverty and unemployment problems; which is lacking in the Nigerian microfinance programs. In effect, this paper suggests that Nigerian microfinance approach is flawed; which needs to be rectified by adopting the Grameen model.

## I. INTRODUCTION

Poverty and unemployment issues have been the subject of discussions for many centuries. Often poverty is described as the enemy of mankind and it is thought to be the gross violation of our civilization. The history of mankind demonstrates that poverty is nothing but a curse, not only for the individual who is poor, but for remainder of the community, nation and global society at large. It compels people to think that famine, misery and deprivation are natural course of life; and the poor people are not entitled for living a better lives. In the seminal work on Poverty and Famines, Nobel Laureate Professor Amartya Sen evaluated the causation of starvation and famines and proposed the 'entitlement approach' as an alternative method for understanding poverty (Sen, 1983).

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In his another book entitled *Development as Freedom*, Amartya Sen (1999) explains how in a world of unprecedented increase in overall opulence millions of people living in the Third World are still lacks freedom. Even if poor people are not technically slaves, they are denied elementary freedoms and remain imprisoned in one way or another by economic poverty, social deprivation, political tyranny or cultural authoritarianism (Sen, 1999). By incorporating individual freedom as a social commitment into his analysis Amartya Sen allows economics once again, as it did during the time of Adam Smith, to address the social basis of individual well-being and freedom. Accordingly, the main purpose of economic development and growth is to spread freedom and its endless 'charms' to those un-free global citizens who are currently living in poverty.

Although the nature and extent of poverty varies from one nation to another, ordinary people generally think that the lack of opportunity to work and earn sufficient income to maintain a decent livelihood is the main cause of poverty. The World Bank (2003) reported that the major causes of poverty vary across countries around the globe. Although the measure and causes of poverty are misleading as they hardly reflect true natures, poverty may arise either from simple or very complex reasons. The simple and common cause of poverty is thought to be acute unemployment; while it may originate from negative wealth effect, unexpected inflation, hyperinflation, low productivity, natural calamity, civil war, political unrests, and so on.

The nature of the problems of Africa in general, and Nigeria in particular, is paradoxical. Although Africa is very rich continent in terms of resources, the poverty level of its nations is very acute. Africa today is known to have substantial reserves of natural resources. Some argue that Africa holds 99% of the world's chrome reserves, 85% of the world's platinum reserves, 70% of the world's tantalite reserves, 68% of the world's cobalt reserves, 54% of the world's gold reserves, and very substantial world's oil reserves. Thus, it is clearly understandable that the richness of resources in Africa does not have any impact in curbing its poverty that persists for generations. Even the worst is the case in Nigeria, one may argue.

Nigeria has the most of Africa's natural resources including proven oil and gas reserves. Currently Nigeria has 10th largest proven oil & gas

reserves in the world; while within OPEC it is in the 6th position in terms of reserves and daily production (NAPIMS). Nigerian oil and gas exports accounts for more than 98% of export earnings and about 83% of federal government revenue, as well as this alone generates more than 40% of its GDP; also It provides 95% of foreign exchange earnings, and about 65% of government budgetary revenues (Wikipedia). Additionally, Nigerian average GDP growth is consistently between 5-8%. Despite the positive macroeconomic indicators of Nigeria, more than 70% of its population lives under poverty line of \$2 a day. This may be corroborated from the views of the Statistician General of the Federation Dr. Yemi Kale; who recently told reporters at a press conference in Abuja, that despite the Nigeria's economy is projected to continue growing, poverty is likely to get worse as the gap between the rich and the poor continues to widen. In his view, the poverty rate in Nigeria might have risen to 71.5%, 61.9%, and 62.8% using the relative, absolute and \$1 a day measures respectively. Dr. Kale also said, "It remains a paradox ... that despite the fact that the Nigerian economy is growing, the proportion of Nigerians living in poverty is increasing every year". (Nigerian Tribune, 2012).

In Nigeria the poverty and chronic youth unemployment are both clearly evident. Nigeria is the most populous country in Africa, with about 160 millions of population. Its national unemployment rate is around 24%, while the unemployment rate within the age group 15-24 years is around 40%; and that of age group 25-44 years is about 25%; meaning that effectively about 75% of total unemployed population are within age group of 15-44 years. Since youth unemployment is very severe in Nigeria, this alone causing a threat and huge challenges to the nation. The severity of Nigeria's youth unemployment dictates that all available resources be effectively mobilized. Although here are many policies and programs in place to boost up desired economic growth and development, yet the overall condition seems very gloomy unless all avenues can be explored and appropriate measures are taken sooner than later.

In addressing the problem of poverty in general and youth unemployment in particular, there are many methods currently available in the global stage. One such committed method is the microfinance based on the structure of social business environment. Other approaches might include evolving local development planning, adaptation of welfare economic system for equitable distribution of wealth and income among all citizens of a nation, restructuring the property rights toward enhanced productivity and efficiency, enhancing international trade, pursuing effective fiscal and monetary policies, microeconomic reforms, pushing competitive market oriented business environment, and so on. As investigating all potential approaches are

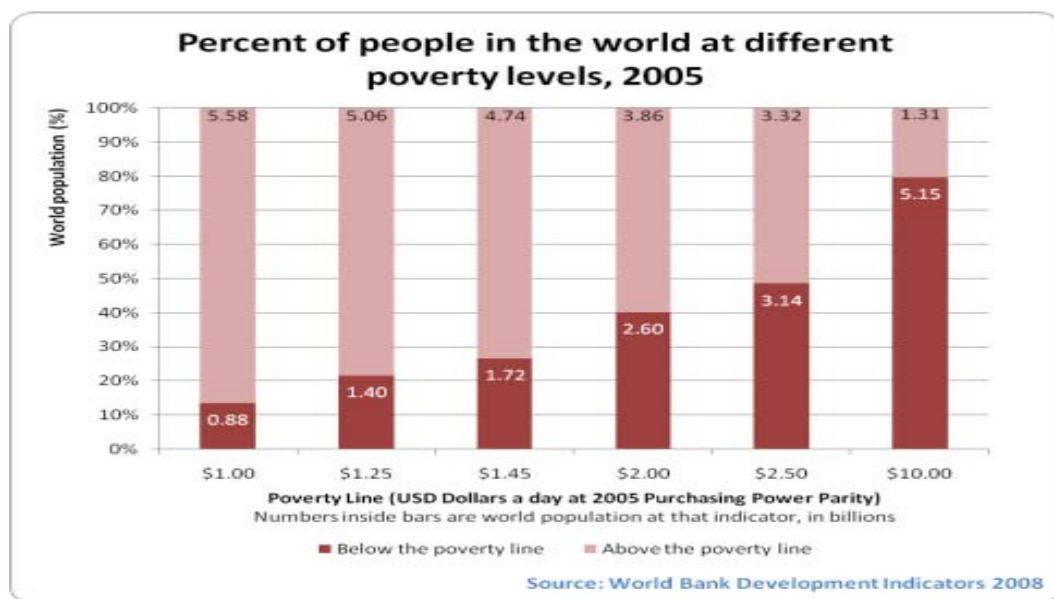
seriously big task and beyond the scope of this paper, this paper only examines whether microfinance can help reduce the extent of youth unemployment and eradicate the poverty from Nigeria within a reasonable time frame. In doing so, this paper also investigates all types of microfinance programs including that of Grameen Bank pioneered by the Nobel Laureate Dr. Yunus of Bangladesh.

The structure of this paper follows: Section 2 examines the relationship of poverty and unemployment in global stage; Section 3 investigates onto the growth theory and the approach of microfinance in addressing poverty; Section 4 investigates the microfinance programs of Bangladesh including Grameen Bank; Section 5 explores the prevailing Nigerian microfinance programs; while Section 6 concludes the paper with some recommendations for future researches.

## II. POVERTY & UNEMPLOYMENT

Unfortunately, the poverty has become the commonfeature for the majority of the world's population. The notion of poverty varies from one country to another. Generally, the richer a country is, the higher is its national poverty line. For comparisons, in 1985 the World Bank set a poverty line of \$1 a day per person at purchasing power parity (PPP). According to this measure around 30% of world populations are living below poverty line. In other words, around 1.3 billion of global populations earn less than \$1 a day; while another 2 billion are only a little better off. Furthermore, almost 50% of the world population — over 3 billion — live on less than \$2.50 a day; while 80% of world population live below \$10 a day (World Bank, 2008). Shaha (2012) reported that the GDP of 41 poor countries is less than the wealth of the world's 7 richest people; 1 billion people entered the 21st century unable to read a book or sign their names; less than one per cent of what the world spent every year on weapons was needed to put every child into school by the year 2000 and yet it didn't happen; 1 in 2 children (1 billion) live in poverty; 640 million live without adequate shelter; 400 million have no access to safe water; 270 million have no access to health services; 10.6 million die before they reach the age of 5, which is around 30,000 children per day. Findings of World Bank is depicted in Figure 01.

Figure 1.



There are various reasons that explain why people are being poor. Economists have long argued that people are poor because of a low level of savings. Their argument is deeply rooted in the concept of vicious cycle of poverty; which holds the view that low productivity leads to low income, low income leads to low savings, and low savings leads to low investment and low investment to low productivity. Other commentators thought that the state of prolonged poverty stick with its distinctive patten called the vicious cycle of poverty or development trap. Often, the cycle of poverty is defined as the 'set of factors or events by which poverty, once started, is likely to continue unless there is outside intervention' (Hutchinson Encyclopedia). More specifically, this is because when poor people have lack of resources necessary to get out of poverty, such as financial capital, education, or connections. In other words, poverty-stricken individuals are deprived of their descent livelihood as a result of their poverty, which in turn force them to stay in the poverty throughout their lives. This cycle can also be viewed as a pattern of behaviors and situations which cannot easily be changed (Valentine, 1968).

Poverty and inequality are real issues around the globe. Often it is thought that the main source of causing poverty is the widespread corruption, both in public and private sectors. Corruption is the cause as well as effect of poverty. It takes place at all levels, from local to national governments, civil society, judiciary and law enforcement authorities, large and small businesses enterprises, military and other services and so on. Again excessive profit motives and greed of corporations and businesses also contributes intensifying the poverty level. Again, the poverty might originate from the global and regional ill political motivation inflicting through war,

ethnic clinging, revolutions, etc. Evidently, under the globalization, most nations' economic decisions, policies, and practices are influenced, driven, or formulated by the rich and powerful people, e.g., leaders of rich countries, multinational corporations, influential institutions and lobbyist. Often in the face of such undue influences, the governments of poor nations and their people are powerless. As a result, in the global context, a few get wealthy while the majority struggle. Historically, most of the world's poor live in South Asia, East Asia, and Africa. Countries in which more than half the population live below the international poverty line include Nigeria, Guatemala, Guinea-Bissau, India, Kenya, Lesotho, Madagascar, Nepal, Niger, Senegal, and Zambia (Shaha, 2012).

Poverty as a concept has been defined and explicated from a mixture of viewpoints. One might understand poverty as the absence or lack of basic entitlements. Their entitlements include economic, political, and socio-cultural. Poverty emerges from the lack or absence of financial and physical necessities of creating a suitable environment for sustainable living standard and from the disparities and inequalities in access to, control of, and benefits from economic, social and political resources (Okoroafor & Nwadiaro, 2011).

Poverty has multifarious root causes ranging from cultural disposition to social phenomena. Jones (1986) explained that many causes of it are associated with the socio-political and economic sectors of a society and not necessarily with the people. He argued that the nation of non-government intervention in the economic structure or a laissez-faire approach in terms of job creation for the unemployed has not generated the expected outcomes.



The World Bank (1996), in its analysis of the root causes of poverty, presented following enumeration of the causes of poverty:

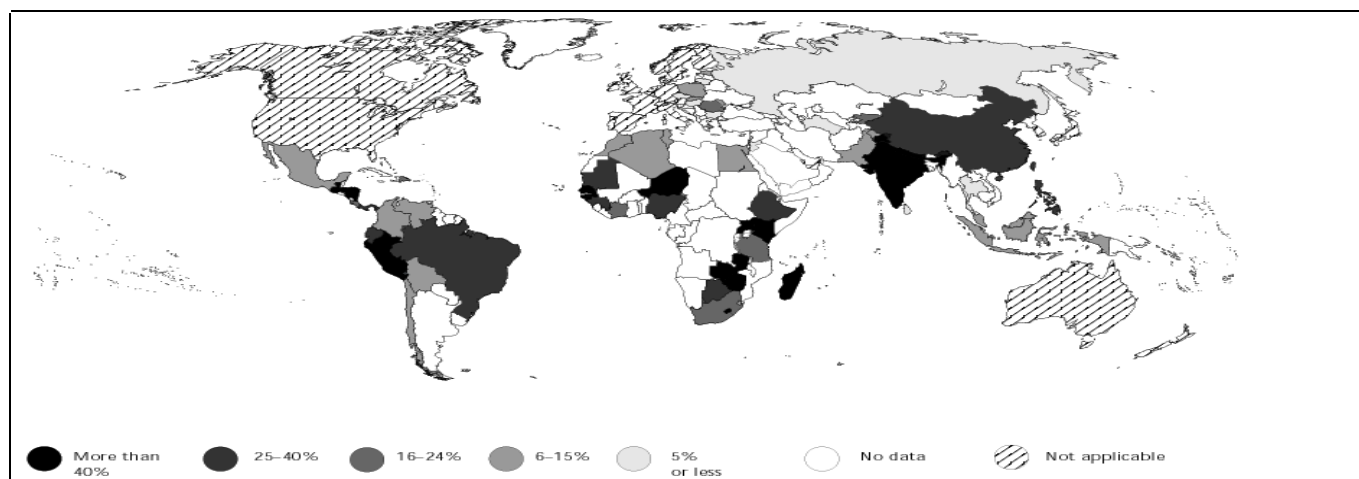
- a) Inadequate access to employment opportunities (i.e., unemployment);
- b) Inadequate physical assets, such as land and capital, and minimal access by the poor to credit, even on a small scale;
- c) Inadequate access to markets where the poor can sell goods and services;
- d) Inadequate access to the means of supporting rural development in poor regions;
- e) Low endowment of human capital;
- f) Destruction of natural resources leading to environmental degradation and reduced productivity;
- g) Inadequate access to assistance for those living at the margin and those victimized by transitory poverty;
- h) Lack of participation, failure to draw the poor into the design of development program.

Although unemployment is just one of many causes of poverty, yet unemployment contributes to poverty. This is because high unemployment has direct relationship with the poverty in any measure. Prolonged unemployment and poverty moves in the same direction

without appropriate social welfare and security policies in place. As most underdeveloped countries do not have social welfare and unemployment benefit programs, the end product of prolonged unemployment in such countries contribute towards poverty. Accordingly, high level of prolonged unemployment is as bad as poverty and corruption, which warrants immediate attention; as policies and programs of both public and private sectors that help curb unemployment would ultimately help reduce poverty.

However, in macroeconomics, unemployment is understood from many angles as there are various types and dimensions of unemployment. The definition of unemployment also varies from contemporary measures. Disguised or hidden unemployment figures are not recorded in most cases. The causes of unemployment are understood and explained using demand-supply model in macroeconomics text books. Appropriate policy measures are carried out routinely by most nations to check and balance their short-term policy effects and long-term goals. Yet, the poverty and unemployment problems clearly evidential in one or other form around the globe from the Map 01, as many nations especially developing countries have been encountering poverty for many generations.

Map 1 : Geography of World Poverty (less than \$1 a day).



Source: World Bank (2008)

### III. GROWTH THEORY & MICROFINANCE

Recently the literature on traditional growth and pro-poor growth theories experienced resurgence in macroeconomics (Akanbi & Du Toit, 2008). Traditional growth theory comprises of many neoclassical growth models including that of Solow (1956). The implications of the neoclassical growth models are seen from both short-run and long-run viewpoints; although the growth model of Solow (1956) focuses primarily on the long-run

economic growth issues. Unlike the long-run, the short-run policy measures like the tax cuts affect the full-employment level of output. The economy converges to the new equilibrium level of output by accumulating more capital, which is determined by the proportion of output that is not consumed but is used to create more capital via savings and also the rate at which the level of capital stock depreciate; all of which are assumed to be exogenous and constant. This implies that in



neoclassical theory, the long-run growth rate depends on exogenous variables; higher the savings rate, higher the rate of economic growth achieved (Domar, 1957).

However, in response to series of criticisms with the assumptions of constant returns to scale made in the neoclassical theory, the new type of growth theory evolved during 1980s. The new growth theory assumes an increasing returns to scale and sees growth as being generated by variables that are determined within the model. Thus, technological progress and human capital are now seen as endogenous variables unlike the neoclassical model that assumed these to be exogenous. According to new growth theory the long-term growth do not depend on exogenous factors and this model gives room for policies that tend to affect savings and investment. This is commonly known as endogenous growth theory and becomes popular in national economic planning and policy making. Yet, an accelerated economic growth always may not necessarily be sustainable and translated into an accelerated economic development as one would like to see the effects of growth as an improvement to the welfare of a nation's majority of population. In other words, the growth of a country should have a positive impact on its poverty level and overall social welfare. Accordingly, Aghion & Howitt (1997) emphasized on other phenomena that interact with growth, such as inequality, unemployment, capital accumulation, education, and so on.

Accordingly, the growth-poverty relationship can be viewed from two perspectives: *traditional* viewpoint and *poverty trap* viewpoint. The traditional view of development sees a country's characteristics, institutions and its policies as a major determinant of its pattern of growth and if these constraints are not favorable to growth, poverty level will rise. It assumes these as exogenous, meaning that they are not been determined within the system. While, the poverty trap view sees poverty as a major setback to growth. Their growth model with increasing returns to scale will tend towards different equilibrium depending on their initial positions. Thus, countries that are poor will remain poor and those that are rich will remain rich! The explanation why poor nations may not be able to perform well as the rich economies and why the benefits of even good national policies fail to reach poor people are all embedded in the poverty trap models (Azariadis & Stachurski, 2005; World Bank, 2006).

In search of alternative method to address both growth and poverty, during mid 1970s, a revolutionary concept evolved that has a vision to break the vicious cycle of poverty in a poor country, Bangladesh. This unique approach pioneered by Nobel Laureate Dr.

Yunus has potential to eradicate poverty from the world is known as Microfinance – provision of small-scale loans to the poor – and more recently provision of a range of the poor's financial service requirements, including credit, savings, insurance, and remittance management. This concept is embedded on the viewpoint of social business within the capitalistic structure. This recognizes that extreme form of capitalism that only embraces profit maximizing businesses are unfair; as they hardly care for the welfare and benefits of poor people. This method considers poor people as social beings and upholds their rights to have adequate access to credit and establish their livelihoods with dignity. Accordingly, to fight against poverty Dr. Yunus states: "*The poor themselves can create a poverty-free world ... all we have to do is to free them from the chains that we have put around them.*"

Dr. Yunus in his book '*Creating World Without Poverty*' indicated that the explicit goal of a social business and hence microfinance is to solve a social problem, by addressing the social need and providing social benefit. The major difference between solely profit-maximizing business and social business is that the principle of profit-maximization is replaced by the principle of social benefit. Social business is not a charity, so its products and services are not free. Professor Yunus approved two types of social business. Type I: The business that is exclusively focuses on providing social benefits. Type II: The business that is allowed to make profit but it is solely owned by the poor so that ultimate benefit comes to poor in the form of distribution of profits and dividends.

If financial liquidity problems are seen as a central reason for poverty, as perceived by Yunus, the microfinance organization will more or less confine its role to the provision of credit, called the 'credit minimalist approach', where it evaluates the success in terms of financial indicators of outreach and repayment. On the other hand, if poverty is viewed as a result of a more complex process, involving liquidity problems as well as other factors, the microfinance organization's objectives will tend to incorporate the provision of a larger range of financial, economic, social and organizational interventions called the 'credit plus' approach. The immediate goal in this case is generally not service provision in itself, but rather the provision of services that will have a positive and observable impact on poverty (Copestake, 1995).

Evidentially, most microfinance programs of developed world target off-farm small and microenterprises (SMEs). In the developing world, microfinance service is provided through the credit-focused peer-monitoring model targeted at poor women as proposed by the Grameen Bank of Bangladesh. Yet, microfinance programs of various countries of Asia, Africa and the Americas, adapted some very different

approaches to financial service provision than the Grameen model. Microfinance service providers, often known as microfinance institutions (MFIs), are usually non-governmental organizations (NGOs). However, there are a number of government-sponsored MFIs, as well as statutory banks involved in micro-lending, and institutions that act as intermediaries between banks and borrowers (Copestake, 1995).

#### IV. MICROFINANCE PROGRAMS OF BANGLADESH & GRAMEEN BANK

Hulme & Moore (2006) affirmed the success of microfinance programs in Bangladesh by saying that, *"Stop a man or woman on the street of any city in the developed world, and ask... if they can name a development policy that work. .... there is a very strong chance they will say microcredit, and tell you that they have heard it works wonders in Bangladesh"*. This is because, in Bangladesh, microfinance becomes a successful method for addressing poverty. It is now very difficult to find an effective poverty reduction strategy that does not include microfinance as an element of national development. The microfinance industry now has global outreach, with more than 92 million clients reported in developing countries (Hulme & Moore, 2006).

Following independence in 1971, Bangladesh has experienced bouts of democracy and rule by two military regimes as well as a caretaker government, led by military-backed technocrats. While progress has been made in improving the voter registry system, separating the judicial and executive branches of government, and reducing corruption, further political reforms are yet to be ensured for smooth democratic process and economic development (IFC & KfW, 2009).

Based on their degree of regulations, the financial system of Bangladesh is comprised of three broad fragmented sectors: Formal Sector, Semi-Formal Sector, and Informal Sector. The formal sector includes all regulated institutions like Banks, Non-Bank Financial Institutions (NBFI), Insurance Companies, Capital Market Intermediaries like Brokerage Houses, Merchant Banks etc.; Micro Finance Institutions (MFIs). While the semi formal sector includes those institutions which are regulated otherwise and do not fall under the jurisdiction of Central Bank, Insurance Authority, Securities and Exchange Commission or any other enacted financial regulator. This sector is mainly represented by Specialized Financial Institutions like House Building Finance Corporation (HBFC), Palli Karma Sahayak Foundation (PKSF), Samabay Bank, Grameen Bank, Non-Governmental Organizations (NGOs) and discrete government programs. On the contrary, the informal sector includes private intermediaries that are completely unregulated (BB, 2012).

The formal financial sector of Bangladesh consists of the central bank known as Bangladesh

Bank, government-owned 4 commercial banks and 5 specialized (development) banks, 47 domestic private commercial banks, 9 foreign-owned commercial banks, and 31 non-bank financial institutions (NBFIs). Additionally, 599 microcredit organizations are licensed by the Microcredit Regulatory Authority (MRA); while Grameen Bank is out of the jurisdiction of MRA as it is treated as a specialized institution within semiformal sector. However, Bangladesh has the highest microfinance penetration rate in the world; as around 20 percent of Bangladeshis have a microfinance loan (BB, 2012).

Microcredit programs in Bangladesh is implemented by NGOs, Grameen Bank, state-owned commercial banks, private commercial banks, and specialized programs of some ministries of Bangladesh government. The Microcredit Regulatory Authority (MRA), established in August 2006, received applications from more than 5000 private institutions (NGO-MFIs) for formal licenses, but only 599 were approved by 2011. In recent years, the donor driven NGOs are trying to become more dependent on local funds. In terms of the number of borrowers served, MRA categorizes the size of MFIs institutions into five major types: very large, large, medium, small and very small. Excluding Grameen Bank, there are only two very large MFIs as per MRA categories who are serving over four million borrowers each.

Above 90 percent of MFIs and Grameen Bank clients in Bangladesh are women. The group-based lending methodologies prevail. A range of NGO-MFIs, Grameen bank, government programs, nationalized commercial banks, and private commercial banks are the providers of microfinance. The four main players of MFI in Bangladesh are Grameen Bank, BRAC, ASA, and Proshika. The annual growth rate in the microfinance sector in Bangladesh is 23 - 25 percent (IFC & KfW, 2009). According to a 2007 World Bank study, financial penetration in Bangladesh is adequate for its current level of development. While this level of development refers only to the formal financial sector, the use of formal financial sector services is higher in Bangladesh than in comparable low-income countries.

There is substantial evidence that Grameen Bank's poverty alleviation strategy through its credit operations have produced a positive impact on the lives of the poor in terms of higher income and empowerment of the poor rural women. Grameen Bank's operations had direct impacts on rural credit market, capital accumulation by the rural poor, income and employment generation, poverty alleviation, family size and empowerment of the poverty stricken rural poor, particularly the women from the landless households. Grameen Bank reversed conventional banking practice and created a system based on mutual trust, accountability, participation and creativity. They provide credit to the poorest of the poor in rural

Bangladesh, without any collateral. As of August 2009, Grameen Bank had 7.94 million borrowers, 97 percent of whom are women, and repayment rate is more than 97%. With 2,559 branches, Grameen Bank services 84,652 villages, covering nearly 100 percent of the total villages in Bangladesh.

Grameen Bank has now become the ideal model of true microfinance banking pioneered by the Bangladeshi Nobel Laureate Dr. Muhammad Yunus. Five cents a day innovative programs for reaching the destitute with interest free Microcredit loans and other instruments were the exciting experience of Grameen Bank. The Grameen Bank evolved in stages based on visionary and missionary works of Dr. Yunus towards solving a social problem, poverty. As the rural landless and poor people remain outside the orbit of the traditional banking system, Dr. Muhammad Yunus, Professor of Economics launched an action-research project at a tiny village called 'Jobra' near his affiliated university in 1976. The objectives of the project were to extend the banking facilities to the poor men and women; to eliminate the exploitation of the moneylenders; to create opportunities for self-employment for the vast unutilized and underutilized manpower resource; to bring the disadvantaged people within the folds of some organizational format which they can understand and operate, and can find socio-political and economic strength in it through mutual support; and to reverse the age-old vicious circle of poverty. Based on the success of Jobra project, in 1979, with the financial support of Bangladesh Bank (Central Bank) and other nationalized commercial banks the program was extended to Tangail - a district nearby the capital city of Dhaka. Later the activities of the program extended further to several other districts in the country. In October 1983 the project was transformed into Grameen Bank by a government ordinance. The Bangladesh government provided 60% of the initial paid up share capital, while 40% held by the poor borrowers of the bank. The borrowers' share was increased to 75% through subscriptions in July 1986. Accordingly, Grameen bank is owned and controlled by its poor borrowers. The organizational structure follows: (i) The Chief Executive Officer (Managing Director); (ii) The Board of Directors (the highest policy making body, consists of 13 members of whom 9 are elected from among the borrowers shareholders); (iii) Four tiers of administrative set-up (branch office, area office, zonal office and head office); and (iv) Grassroots Structure (Centers and Groups of borrowers).

Grassroots organizational structure of Grameen credit program is an integral part. Supported by the participatory decision making and management process, the Grameen centers represent collective strength through strong group solidarity. The group solidarity represents motivations and enhances the

Capacity of the Poor to Bear New Risks. In view of the vulnerabilities of its targeted clientele, Grameen has carefully built into its innovative credit delivery safety features. This system acts like a shock absorber, enabling the Grameen members to better cope with natural as well as man-made disasters. Without them the credit delivery system would not have functioned at all on a regular and continuing basis. Some of these features of the credit delivery system are: (a) There is an exclusive focus on the poorest of the poor; (b) Borrowers are organized into small homogeneous groups; (c) Special loan conditions which are particularly suitable for the poor; (d) Simultaneous undertaking of a social development agenda addressing basic needs of the clientele; (e) Design and development of organization and management systems capable of delivering program resources to targeted clientele; and (f) Expansion of loan portfolio to meet diverse development needs of the poor.

Additionally, Grameen Bank has implemented simple action plans that can be illustrated by the following principles:

- i. Start with the problem rather than the solution: a credit system must be based on a survey of the social background rather than on a pre-established banking technique.
- ii. Adopt a progressive attitude: development is a long-term process which depends on the aspirations and commitment of the economic operators.
- iii. Make sure that the credit system serves the poor, and not vice-versa: credit officers visit the villages, enabling them to get to know the borrowers.
- iv. Establish priorities for action vis-a-vis to the target population: serve the most poverty-stricken people needing investment resources, who have no access to credit.
- v. At the beginning, restrict credit to income-generating production operations, freely selected by the borrower. Make it possible for the borrower to be able to repay the loan.
- vi. Lean on solidarity groups: small informal groups consisting of co-opted members coming from the same background and trusting each other.
- vii. Associate savings with credit without it being necessarily a prerequisite.
- viii. Combine close monitoring of borrowers with procedures which are simple and standardized as possible.
- ix. Do everything possible to ensure the system's financial balance.
- x. Invest in human resources: training leaders will provide them with real development ethics based on rigor, creativity, understanding and respect for the rural environment.

Also, every year Grameen Bank evaluates their work by checking whether the socio-economic situation of its members is improving. To this effect, Grameen Bank evaluates poverty level of the borrowers using 10 indicators. A member is considered to have moved out of poverty if her family fulfills the following criteria:

- i. The family lives in a house worth at least Tk. 25,000 (twenty five thousand) or a house with a tin roof, and each member of the family is able to sleep on bed instead of on the floor.
- ii. Family members drink pure water of tube-wells, boiled water or water purified by using alum, arsenic-free, purifying tablets or pitcher filters.
- iii. All children in the family over six years of age are all going to school or finished primary school.
- iv. Minimum weekly loan installment of the borrower is Tk. 200 or more.
- v. Family uses sanitary latrine.
- vi. Family members have adequate clothing for everyday use, warm clothing for winter, such as shawls, sweaters, blankets, etc, and mosquito-nets to protect themselves from mosquitoes.
- vii. Family has sources of additional income, such as vegetable garden, fruit-bearing trees, etc, so that they are able to fall back on these sources of income when they need additional money.
- viii. The borrower maintains an average annual balance of Tk. 5,000 in her savings accounts.
- ix. Family experiences no difficulty in having three square meals a day throughout the year, i. e. no member of the family goes hungry any time of the year.
- x. Family can take care of the health. If any member of the family falls ill, family can afford to take all necessary steps to seek adequate healthcare.

On the other hand, Grameen Bank enumerated some fundamental decision points for its borrowers. Accordingly, borrowers of Grameen Bank take oaths to carry out 16 decisions as under:

- i. We shall follow and advance the four principles of Grameen Bank --- Discipline, Unity, Courage and Hard work – in all walks of our lives.
- ii. Prosperity we shall bring to our families.
- iii. We shall not live in dilapidated houses. We shall repair our houses and work towards constructing new houses at the earliest.
- iv. We shall grow vegetables all the year round. We shall eat plenty of them and sell the surplus.
- v. During the plantation seasons, we shall plant as many seedlings as possible.
- vi. We shall plan to keep our families small. We shall minimize our expenditures. We shall look after our health.
- vii. We shall educate our children and ensure that they can earn to pay for their education.

- viii. We shall always keep our children and the environment clean.
- ix. We shall build and use pit-latrines.
- x. We shall drink water from tube wells. If it is not available, we shall boil water or use alum.
- xi. We shall not take any dowry at our sons' wedding; neither shall we give any dowry at our daughters' wedding. We shall keep our centre free from the curse of dowry. We shall not practice child marriage.
- xii. We shall not inflict any injustice on anyone, neither shall we allow anyone to do so.
- xiii. We shall collectively undertake bigger investments for higher incomes.
- xiv. We shall always be ready to help each other. If anyone is in difficulty, we shall all help him or her.
- xv. If we come to know of any breach of discipline in any centre, we shall all go there and help restore discipline.
- xvi. We shall take part in all social activities collectively.

Currently, Grameen Families Organizations consist of Grameen Bank, Grameen Communications, Grameen Trust, Grameen Fund, Grameen Telecom, GrameenCybernet Ltd., Grameen Shakti/Energy, Grameen Phone, GrameenShikkha/Education, Grameen Knitwear Limited, Grameen Solutions, Grameen ByabosaBikash, GrameenKalyan, Grameen America, GrameenCréditAgricole Foundation, etc.

Inspired by the work of Grameen Bank in Bangladesh, Grameen Foundation was created to help accelerate the impact of microfinance on the world's poorest people, especially women. Grameen Foundation is a nonprofit organization that shares the ideas of 2006 Nobel Peace Laureate Muhammad Yunus. It is founded in 1997 to help microfinance practitioners and spread the Grameen philosophy worldwide. It is headquartered in Washington, DC with an office in Seattle, Washington. Although Grameen Foundation and Grameen Bank are independent organizations, they maintain an enduring relationship. Grameen Foundation's mission is to enable the poor, especially the poorest, to create a world without poverty. It is helping to fight against poverty in Sub Saharan Africa, Asia, Middle East/North Africa, and the America. Grameen Foundation collaborates with local organizations and allies and seeks to further the Grameen Bank legacy and objectives by supporting microfinance institutions and poverty-fighting organizations that embody its vision and values on a global scale (Grameen Foundation, 2012).



## V. MICROFINANCE PROGRAMS OF NIGERIA

Nigeria is a major oil exporting country within the region. Nigeria discovered oil in 1956 and began to export in 1958. Nigeria ranks 4<sup>th</sup> amongst OPEP producing countries and oil has been the dominant factor in Nigeria's economy for more than 50 years; accounting for one third of the GDP, more than 90 percent of the exports and 80% of government revenues. Evidently, the role played by the oil sector in the Nigerian production function cannot be undermined. Total oil production as a share of GDP has been on a rising trend since 1970. Given the comparative advantage that Nigeria has in oil production, it is expected to translate into a significant improvement in the productive capacity that will eventually reduce the high level of poverty over the long run period (World Bank). World Development Indicators of World Bank reveals that there has been a sustained increase in the trend of both the GDP and poverty since 1970; indicating the presence of serious socio-economic constraints impeding a long-term pro-poor growth in the country. Poverty remains a huge challenge despite the rising growth in the country's gross domestic product.

Additionally, Okafor (2011) highlighted the problem of chronic youth unemployment in Nigeria and attempted to identify the main causes linking the explanation of youth unemployment in Nigeria on neo-liberalism that created economic and social dislocations. He argues that many anti-social activities are evident among the unemployed and jobless youths posing real danger to the stability of democracy in Nigeria. Every year thousands of graduates are entering into the job market, but there are not enough jobs available. Nigerian streets are inundated with youth hawkers who otherwise would have involved in gainful employment. The self employed youths are also in trouble owing to poor infrastructure. In conclusion, he suggests that addressing the problem of youth unemployment must involve all the stakeholders.

To address poverty and acute unemployment, Nigeria has been exploring various approaches including microfinance. Accordingly, in December 2005, the Central Bank of Nigeria (CBN) introduced a microfinance policy framework to provide the access of small-entrepreneurs and low income households to financial services. This was done by recognizing that no comprehensive growth can be achieved without providing access of the vast segment of the national population to factors of production, especially financial services (NCB, 2011). Also, the NCB recognizes the existence of informal institutions and aims for mainstreaming those into the national financial system, and seeks to harmonize operating standards and provide a strategic platform for the evolution of

microfinance institutions. Accordingly, Nigerian microfinance services refer to loans, deposits, insurance, fund transfer and other ancillary non-financial products targeted at low-income clients. The Nigerian microfinance product features are: smallness of loans and savings, absence or reduced emphasis on collateral, and simplicity of finance operations. Now, there are **869** licensed microfinance institutions in Nigeria (NCB, 2012).

However, according to Anyanwu (2004), the interest rates in the microfinance institutions are much higher ranging from 32-48%, than the prevailing rates in the banks. Money lenders at informal sector charge interest rates of 100% or more. Mejeha & Nwachukwu (2008) also confirmed that clients of Nigerian MFI are complaining about very high interest rates that are being charged. The high interest rates might be interpreted from two angles: First, given the fact that people borrowing at this rate indicate that they are industrious and productive; Second, the objective of microfinance to combat poverty might be defeated since the clients have to repay back double of what they have received at all cost. Another problem is that most of microfinance funding now going to the commercial sector instead of the more vital economic activities of the rural areas where the service is needed most. Besides, about 90% of Nigeria's businesses are considered microenterprises and these farm or non-farm activities serve as the main income source for the majority of the labor force.

In September 2011, Nobel Laureate Professor Yunus in his keynote address delivered at the First Bank Impact conference series in Nigeria, indicated that there are fundamental flaws with microfinance programs of Nigeria. He also implicitly hinted that Nigeria is not pursuing the correct form of microfinance banking (Komolafe, 2011). According to Dr. Yunus, Nigerian microfinance banking flaws are:

- a) This is not designed for the poorest of the poor members of community. Rather it is for traders, suppliers and importers and this explains the cut throat interest rates Nigerian MFBs charge.
- b) Because it is for commerce, microfinance banks in Nigeria are predominately in the cities and urban area, a sharp contrast to the rural based nature of the first microfinance bank.
- c) Nigerian microfinance banks insist on collateral and they don't lend to start a new business. While true microfinance dismiss completely the idea of collateral.
- d) Microfinance banking supposed to be predominantly women focused. In Nigeria this is not the case.
- e) Nigerian microfinance banks are owned by the rich hence as the regulation required minimum capital base of N20 million for licensing. While true



microfinance bank should be owned by the poor who are also its customers.

- f) Nigerian microfinance banks are allowed to charge any interest rate (even up to 100%). But, in the Grameen Bank concept, the interest rate is capped at 10 per cent margin between the cost of funds and interest rate ranging from 5% to 20 % simple rates. The Grameen Bank's highest interest rate which is for income yielding activities is 20 % and for housing loan it is 8.0 %. For its education loan, given to children of the poor, the interest rate is 5.0 % and they don't start paying until they graduate from school and start working.

- g) In Nigeria, microfinance banks branches have spacious, tastily furnished offices. While in Grameen bank, there are no fleshy branch offices; as true microfinance bank should believethat people should not go to banks, rather banks should go to people.

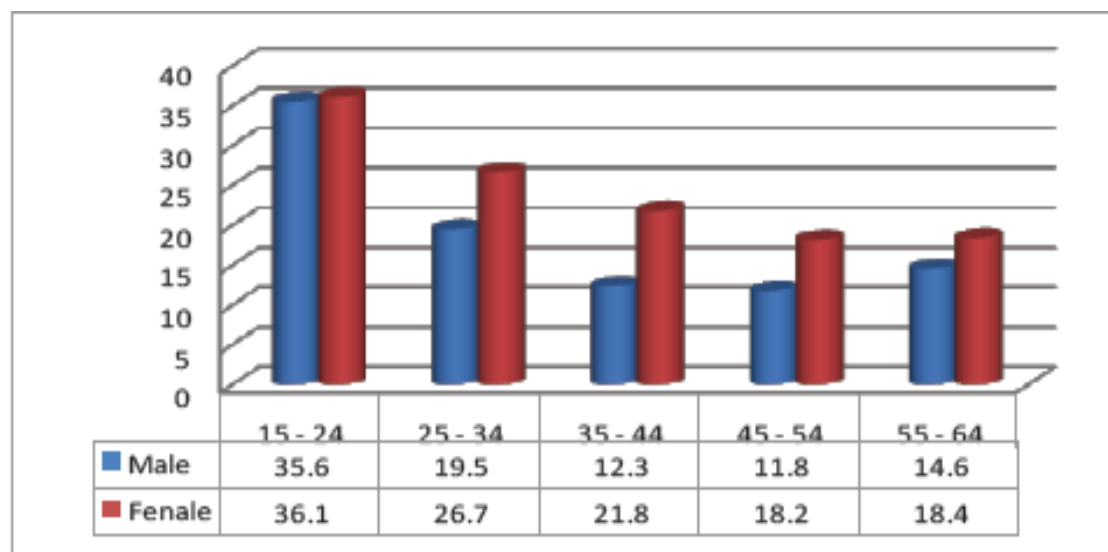
The unemployment and hence poverty level of Nigeria still remain very high despite the microfinance activities of the vast number of licensed MFIs. The Nigerian unemployment rate by age group, gender and location are depicted in Table 01 and Chart 01.

*Table 1 : Nigerian Unemployment Rate by Gender, Location, and Age Group.*

Age Group	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-24	32.2	30.9	31.5	36.7	38.0	37.3	35.6	36.1	35.9
25-34	16.4	19.0	17.8	21.2	31.0	26.5	19.5	26.7	23.3
35-44	8.5	13.8	11.0	14.5	26.8	20.3	12.3	21.8	16.8
45-54	8.6	11.7	10.0	13.5	22.4	17.1	11.8	18.2	14.4
55-64	10.6	13.1	11.6	16.5	21.9	18.3	14.6	18.4	16.0
National	13.3	17.1	15.2	19.9	29.2	24.2	17.7	24.9	21.1

Source: National Bureau of Statistics, Nigeria: National Manpower Stock and Employment Survey, 2010

*Chart 1 : Nigerian Unemployment Rate (%) by Age Group.*



Source: National Bureau of Statistics, Nigeria: National Manpower Stock and Employment Survey, 2010

However, despite the lacking of adequate data set, an attempt has been made to empirically verify the effects of Nigerian microfinance, poverty and growth on youth unemployment. A modest data set is gathered from various sources that include the World Bank, UNDP, General Household Survey Report and the Nigerian Statistical Fact Sheet for only 17 years from 1995 to 2011, and provided in Annexure 01. Accordingly, we have the youth unemployment for the 15-24 years age bracket, and poverty from UNDP, General Household Survey and estimations; Growth from the

World Bank, and Microfinance funds from the MiX (Microfinance Information Exchange, 2010) and estimates. The relationship of our four variables is presented in Eq. 01.

$$YUE = f(MICROF, POV, GROW) \quad 1$$

where, YUE is the Nigerian youth unemployment rate, MICROF is credit provided by microfinance institutions, POV refers to Nigerian poverty level, and GROW is GDP growth rate of Nigeria. While, our constructed model provided in Eq. 02.

$$Y_i = \alpha + \sum \beta_i x_i + \varepsilon_i \quad 2$$

The estimation of the model is performed using the econometrics software, Eviews7. We estimated our model at both level and logged values. Outcomes are provided in Table 03 and Table 04.

**Table 3 :** Dependent Variable: YUE (Y<sub>i</sub>); Model:  $Y_i = \alpha + \sum \beta_i x_i + \varepsilon_i$ ; Method: Least Squares; Observations: 17.

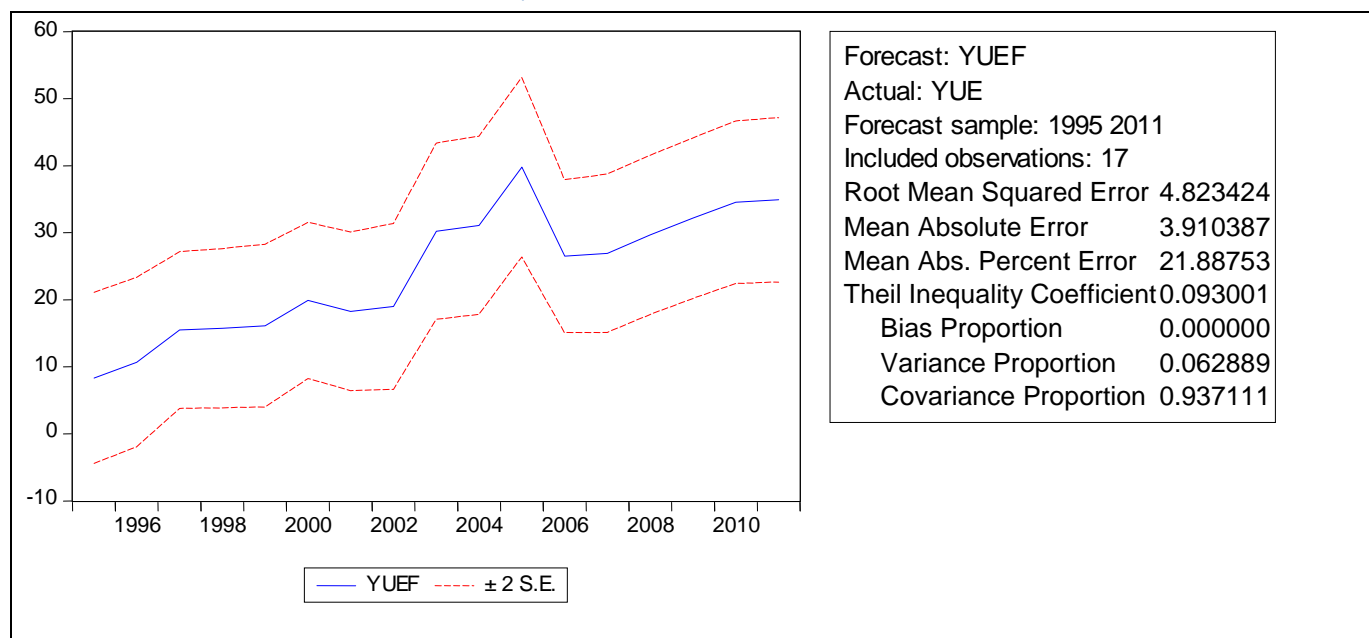
Variables (X)	Coefficient	Std. Error	t-Statistic	Prob.
Constant ( $\alpha$ )	36.10779	9.858545	3.662588	0.0029
MICROF	0.783397	0.168673	4.644476	0.0005
POV	-0.450292	0.169139	-2.662255	0.0196
GDPG	0.785065	0.589612	1.331495	0.2059
R-squared	0.777331	Mean dependent var		24.07647
Adjusted R-squared	0.725945	S.D. dependent var		10.53634
S.E. of regression	5.515796	Akaike info criterion		6.455433
Sum squared resid	395.5121	Schwarz criterion		6.651483
Log likelihood	-50.87118	Hannan-Quinn criter.		6.474921
F-statistic	15.12751	Durbin-Watson stat		1.385983
Prob(F-statistic)	0.000157			

**Table 4 :** Dependent Variable: LYUE (Y<sub>i</sub>); Model:  $Y_i = \alpha + \sum \beta_i x_i + \varepsilon_i$ ; Method: Least Squares; Observations: 17.

Variables (X <sub>i</sub> )	Coefficient	Std. Error	t-Statistic	Prob.
Constant ( $\alpha$ )	6.613857	2.068659	3.197172	0.0070
LMICROF	0.387276	0.109580	3.534192	0.0037
LPOV	-1.106791	0.520843	-2.124999	0.0533
LGDPG	0.121653	0.178440	0.681758	0.5074
R-squared	0.690776	Mean dependent var		3.057736
Adjusted R-squared	0.619416	S.D. dependent var		0.558451
S.E. of regression	0.344517	Akaike info criterion		0.908975
Sum squared resid	1.542992	Schwarz criterion		1.105025
Log likelihood	-3.726290	Hannan-Quinn criter.		0.928463
F-statistic	9.680218	Durbin-Watson stat		1.558266
Prob(F-statistic)	0.001264			

The result clearly evidence that Dr. Yunus is right, that the nature of Nigerian microfinance is contrary to that espoused in Bangladesh. An expansion of gross loans by microfinance institutions leads to higher youth unemployment as loans are provided to the wrong persons. This is alsowitnessed from the Graph 01.

Graph 1 : YUFF = Forecasted YUE.



While, a rise in poverty leads to a fall in youth unemployment, perhaps due to the discouragement of futile job search. On the other hand, GDP growth negatively impacts the youth unemployment; thus providing a possible path to reducing this problem through applying the correct model of microfinance pioneered by the Nobel Laureate Dr. Muhammad Yunus. Of course a longer data set would be more conclusive, but constraints of data and time do not permit the construction of the ideal econometric estimation.

## VI. CONCLUSIONS

From a Nigerian perspective tools which should assist in alleviating poverty and youth unemployment are being mis-applied. We find this both in theory and in our modest effort at empirical verification. Microfinance loans are increasing in the nation, but they are provided to the wrong people. Thus that which should reduce youth unemployment in fact increases it. We may see the textbook phenomenon of the "discouraged worker" as greater poverty leads to less official youth unemployment. However, the interests in applying Microfinance as a policy measure to eliminate poverty from Nigeria appear to be a good sign. Only, the correct model needs to be adopted in Nigerian microfinance programs. This paper identifies that the correct model is the Grameen Bank model of Nobel Laureate Dr. Muhammad Yunus.

Clearly the paper would be strengthened further by the use of a longer data set. Neither the authors nor their assistants could find data going back to 1960 at the time of Nigerian independence and continuing forward to 2011. The authors even tried more

sophisticated model namely, vector autoregressive estimation and Granger Causality, but no great results were found due to lack of required data. Construction of a longer data set might permit the use of more arcane tools that might better suit the topic.

Suggestions for further research include the use of the model for other African nations as well as the use of different, perhaps more sophisticated tools. A comparison-contrast with Bangladesh looked interesting in theory and other researchers may have the wherewithal to carry out such a research agenda. Microfinance has wrought major improvements when properly applied, but usurious interest rates and loans to the rich indicate a noteworthy scope for failure which can be studied.

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Annexure 1 : DATA SET.

Obs (Year)	YUE (%)	MICROF (Million Naira)	POV (%)	GDPG (%)
1995	6.7	1.7	69	2.5
1996	13.2	1.7	66.9	4.3
1997	7.4	2	54	2.7
1998	12.6	2.3	52.5	1.9
1999	12.8	3	51.5	1.1
2000	15.9	3.2	51	5.4
2001	29.3	1.7	48	3.1
2002	27.5	3	46	1.6
2003	32.1	8	45	10.3
2004	28.9	8.5	44.4	10.6
2005	34.2	28	50	5.4
2006	25.9	16	60	6.2
2007	25.9	22	70	6.5
2008	26	26	70	6
2009	35	28.2	70	7
2010	35.9	30.42	70	7.8
2011	40	32.55	71	6.7

Source: World Bank; UNDP; MiX; NBS; CBN; Misc. & Estimates.



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- (h) Brief Acknowledgements.
- (i) References in the proper form.

Authors should very cautiously consider the preparation of papers to ensure that they communicate efficiently. Papers are much more likely to be accepted, if they are cautiously designed and laid out, contain few or no errors, are summarizing, and be conventional to the approach and instructions. They will in addition, be published with much less delays than those that require much technical and editorial correction.



The Editorial Board reserves the right to make literary corrections and to make suggestions to improve brevity.

It is vital, that authors take care in submitting a manuscript that is written in simple language and adheres to published guidelines.

## Format

*Language: The language of publication is UK English. Authors, for whom English is a second language, must have their manuscript efficiently edited by an English-speaking person before submission to make sure that, the English is of high excellence. It is preferable, that manuscripts should be professionally edited.*

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### Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

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Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art. A few tips for deciding as strategically as possible about keyword search:



- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

*Acknowledgements: Please make these as concise as possible.*

## References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

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#### Content

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Grades			
	A-B	C-D	E-F
<b>Abstract</b>	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form  Above 200 words	No specific data with ambiguous information  Above 250 words
<b>Introduction</b>	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<b>Methods and Procedures</b>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<b>Result</b>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<b>Discussion</b>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<b>References</b>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring



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