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EUROPEAN JOURNAL OF SOCIAL SCIENCES

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Business Undergraduate Personality Temperaments, Student Electronic Activity and Selected Demographic Characteristics on Course Achievement in an On-line University Learning Environment

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Abstract

The demand for online courses is expanding. In 2005, about 3.2 million (70.2%) students in the United States took at least one online course, an increase of 39 % from 2004. Worldwide, nearly 19 % of the population has been internet penetrated. Higher education institutions offer web-based courses without investigating if students are successful in this environment. The major purpose of this study was to examine the effects and interactions of undergraduate business students' personality learning style and electronic activity on course achievement in an electronic university environment. The secondary purpose of this research was to explore the relationship of gender, age, and ethnicity with personality learning style. Subjects were 106 undergraduates in six business web-based courses. Factorial analysis of variance was utilized to determine significant main effects and/or interactions of personality learning style, electronic activity, and achievement. ANOVA resulted with no significant main effects or interactions. Independent factors estimated marginal grade means of personality learning style and electronic activity on course achievement did show interaction, although not significant. Significant relationships (Pearson Chi-Square) resulted between personality learning style and ethnicity, and personality learning style and age group. No significant relationship was associated with personality learning style and gender.

Keywords: Learning styles, Personality preferences, Online courses, Higher education

Introduction

Delivering higher education electronically through web-based courses raises concerns for many faculty and administrators. Educators question if college students can learn as well in an electronic environment as they can in the traditional classroom. Addressing preferred learning styles of students in the world of online learning has not been investigated thoroughly (Whiteley, 2007), but fortunately there a growing body of research on personality type and the aspects of online learning. The online learning environment is more complex than the basic physical face-to-face learning environment, but it does not change the fundamental process of human learning and is a new space for teaching and learning (Ellis, 2006 as cited from Alexander & Boud, 2001). Integration between information and telecommunication technologies is promoting greater accessible learning environments, which has produced a demand for a web-based education (Musa & Wood, 2003).

Students participating in web-based courses have different cognitive learning styles and individual differences, which this investigation explores. The major purpose of this study was to examine the effects and interactions of undergraduate business students' personality learning style preferences and electronic activity on course achievement in an electronic university learning environment. The secondary purpose of this research was to explore the relationship of gender, age, and ethnicity with personality learning style preferences.

It is important to investigate student learning styles since, there has been an explosion in the utilization of electronic media since the internet became commercially available over ten years ago with 71% of the adults in the United States now accessing the world-wide-web (Pew Research Center, 2007). Seventy percent of these individuals have high speed internet. China had approximately 162,000,000 households accessing the internet during 2007, which comprised 12.3 % of the population compared to 1.7 % during 2000 (Internet World Stats, 2007 & Pew Research Center, 2007). The European Union's Internet usage penetration comprised about 56.6 % of the population, with the United Kingdom bearing 62.3 % of its population utilizing the internet (Internet World Stats, 2007).

Although, some educators have been slower to embrace the technology as an integral part of their educational delivery, web-based education is now worldwide. A few institutions have even abandoned their online spinoffs like rotten fish (Foster & Carnevale, 2007) while others have embraced the delivery of online higher education products. As a result, most web-based college courses are still in their infancy development stage, having been in existence five years or less. As institutions race to catch up, they are competing against one another not only for enrollments, but also to maintain the leading edge in course delivery. More than 1,100 colleges and universities in the United States were offering web-based courses a few years ago (Newman & Scurry, 2001) and the numbers are rising to over 2000 (Allen & Seaman, 2006). Distance education is continuing to grow; About 3.2 million students took at least one online course during the fall of 2005, which was an increase of 39 % from the previous year (Allen & Seaman, 2006; Carnevale, 2005; Foster & Carnevale, 2007). Many colleges and universities have adopted web-based instruction without investigating the pedagogy necessary to be successful in the endeavor. Experts expect electronic learning to transform the way learning occurs in most, if not all, college classrooms (Allen & Seaman 2006; Carnevale, D. 2005; Newman & Scurry, 2001), thus it is very important to understand how are virtual students learn and the differences/similarities between them on achievement. Learning style theory suggests that individuals have different ways of learning, and when teaching accommodates these cognitive preferences, student achievement is greater (Sonnenwald & Li 2003; Whitely, 2007).

Literature Review

Over the past 20 years, researchers have made significant progress in understanding human cognitive styles and personality. A recent, growing area of investigation has focused on and personality learning

styles preferences of students. Personality preferences are a combination of inherited disposition and environmental shaping (Keirse & Bates, 1998). Research has shown that personality learning styles preferences are both socially and culturally correlated (Sternberg, 1997), which indicates a framework open to some adaptation. Environmental factors include a cultural component with different cultures expressing different percentages of basic personality styles, and a rearing component that indicates personality styles are dramatically shaped at a very early age (Ouellette, 2001). Ethnicity, age, and gender have all been shown to impact personality and learning preferences in some studies, while others show no relationship (Gordon, 1996; Lu, Yu, & Liu, 2001; Shuler, 1999; Soucy 1996).

The nature of personality learning style preferences and how people learn are factors, which make adaptation a possibility. Dewey (1973) and Vygotsky, (Kozulin, 1990) both noted that what people experience is directly related to how people learn. It is through experience that students adapt to new learning stimuli in the environment, and gradually adjust as they recognize what is necessary for success. Many common examples of such adaptations in learning are readily in our culture, such adaptation to the utilization of video cameras, personal computers, and cell phones as they were introduced to society.

Basic differences in an individual's personality are the way people prefer to use their minds (Myers & Myers, 1980). Individual personality learning preferences, however, typically refer to a singular capability or preference that may enhance learning in some situations yet hinder it in others.

Many learning preference theories are based upon extensive research examining personality types that reflect a person's orientation either toward the inner world (introversion) or toward the external reality (extraversion). One of the most well known theories was developed by Carl Jung who proposed that personality is composed of three major dimensions: introversion versus extraversion, thinking versus feeling, and sensation versus intuition (Cloninger, 1996).

The fundamental attitude of the individual, according to Jung, is the inclination toward introversion or extraversion. Combining this fundamental attitude with the functions of thinking, feeling, sensation, and intuition, eight psychological types emerged. It is the differences in these psychological-types expressed by individuals as temperaments and characteristics that contribute to individual uniqueness.

Research on college student personality preferences and learning has shown that students majoring in different disciplines have different preferences, which have affected academic achievement (Melear, 1989; Raiszadeh 1997; Shuler, 1999; Skaug, 1999; Soucy, 1996; & Tribble, 1998). Some personality preferences are predominant in science and mathematics. For example, it has been found that students majoring in science are likely to be intuitive and introverted (Raiszadeh, 1997 & Skage, 1999). Melear (1989) found significant differences between biology and non-biology majors as well.

Personality preferences are also related to mode of course delivery. According to Tribble (1998), students enrolled in nontraditional education programs expressed an extraversion preference over the introversion preference.

Although we have long been aware that students learn differently from each other, we traditionally use one teaching method at colleges and universities, the lecture (Newman & Scurry, 2001). Students approach their work differently, depending on their psychological type (Cloninger, 1996). Effectiveness of student learning depends largely on the strategy employed by the individual. Students often fail to choose the strategies that are most effective for their own learning and often do not match a particular strategy to the learning task (McKeachie, 1994).

When a student's preference does not match an instructional method, they are at a disadvantage. Researchers have determined that when student and faculty learning preferences do match, the classroom experience yields enhanced learning (Dinham, 1996; Eble, 1988). Also, student achievement can be influenced by the personality preference of both the teacher and student (Elias & Steward 1991; Mark, Michael, & Levas 2003; Wicklein & Rojewski, 1995). In addition, preferences need to match the environmental setting (Sternberg, 1997), where environment the layout and design of the virtual

space may be important (Ellis, 2006). Finally, faculty performance benefits from an environment that matches their preference.

Although one or more preferences may excel in an electronic environment, others may actually hinder learning. Among the options for electronic delivery is the use of web-based courses, designed to deliver higher education to students in place of a traditional face-to-face class. Determining the web-based student's personality preference should help educators design an on-line curriculum that enhances learning. Faculty members are capable of tailoring teaching styles to meet student needs (Newman & Scurry, 2001).

Monitoring student learning styles over time can also reveal if students are adapting to the new learning environment. Those students that have preferences that are better suited for the electronic learning environment require no adaptations and may therefore be at an advantage, while those who are ill-suited must try to adapt and are at a disadvantage.

Significance of the Study

Delivering instruction through web-based courses is a current issue in higher education. Web-based courses have been created and added to numerous undergraduate programs with insufficient supporting research. Although researchers have made progress in understanding personality and learning styles, minimal research is available on the relationship between them and electronic activity rate, and student achievement in web-based courses. This study investigated the existence of student temperaments, characteristics in the form of personality preferences that contribute to achievement in web-based environments. Results of this research may aid administrators, faculty, students, and instructional designers in understanding and enhance electronic learning, and also stimulate further research.

Age, gender and ethnicity all have been found to have relationships with personality preferences and at times, no relationship. It is important to take notice of these characteristics especially since more women are attending college, and a growing number of students are over thirty years of age, work full time, and have families (Gorden 1996, Souny, 2001). It is important to examine the relationship between the student's personality learning style preference and characteristics that contribute to course achievement. Research has been conducted on personality learning style preferences of students in the traditional face-to-face learning environment, yet very little in the web-based environment. Determining the web-based student's personality learning style preference should help educators design an on-line curriculum that improves learning. Monitoring student learning styles over time can also reveal if students are adapting to the new learning environments.

Purpose

The primary purpose of this study was to determine the effects and interactions of university business students' personality learning style preference and electronic activity rates on student achievement in a web-based classroom environment. The secondary purpose was to determine the relationship between ethnicity and personality learning style preference, the relationship between age and personality learning preference style, and the relationship between gender and personality learning style preference.

Hypotheses

The following hypotheses were developed to guide this study:

- Ho1. There is no significant main effect of personality learning style preference, as measured by the Keirsey Temperament Sorter, on student achievement of undergraduate business students enrolled in a web-based course.
- Ho2. There is no significant main effect of student electronic activity rate on student achievement of undergraduate business students enrolled in a web-based course.

- Ho3. There is no significant interaction or interactions between personality learning style preference and electronic activity rate on student achievement in a group of undergraduate business students enrolled in a web-based course.
- Ho4. There is no significant relationship between personality learning style preference and ethnicity in a group of undergraduate business students enrolled in a web-based course.
- Ho5. There is no significant relationship between personality learning style preference and gender in a group of undergraduate business students enrolled in a web-based course.
- Ho6. There is no significant relationship between personality learning style preference and age in a group of undergraduate business students enrolled in a web-based course.

Methodology of the Study

This study was designed to determine whether there was a significant main effect and interaction between business students' personality learning style preferences, electronic activity rate (student activity courseware report tracking) on student achievement in web-based courses. Personality learning style preferences were measured utilizing the Keirsey Temperament Sorter (KTS) and student electronic activity rate was gathered through the Manage Course application provided with Web Course Tools (WebCT) web-based courseware. All web-based courses under investigation utilized WebCT courseware. A student data form was utilized to record the students' personality learning style preferences, electronic activity rates, and other individual characteristics that answered the hypotheses. Final semester grades were used as an indicator of course achievement.

Selection of Sample

Students enrolled in undergraduate web-based business courses at the University of Houston-Victoria were the sample for this study. There were 106 students (subjects) for this study. The web-based course offerings were as follows: Business Finance, Quantitative Management Science, Principles of Marketing, International Marketing, and Management Leadership. Each course had enrollments between 10 to 28 students.

Development of the Survey Instruments

Two instruments were utilized: The Keirsey Temperament Sorter (Keirsey, 2000), and a student data form. The Keirsey Temperament Sorter is widely utilized in psychological, business, and educational research (Cloninger, 1996; Keirsey, 2000). The Keirsey Temperament Sorter (KTS) was administered to determine the personality temperaments and characteristics for this research since it is based on the Jungian functions, and it is reliable, valid, and available electronically to faculty and students alike. The KTS consists of 70 items, each with 2 choices. After an individual submits the instrument electronically, the results are automatically reported to them. Students will receive a personality profile describing their temperament and personality characteristics.

Temperament refers to a set of inclinations humans have at birth, while character is a set of habits acquired through one's lifetime. Personality is the combination of these inherited and environmental attributes. The KTS identifies the temperaments/personality preferences of individuals utilizing the Jungian Functions which are as follows: E = Extraversion, I = Introversion, S = Sensation, N = Intuition, T = Thinking, F = Feeling, J = Judgment, and P = Perception. These functions form the four main temperaments with four variants totaling sixteen different personality preferences. Keirsey identifies four main temperaments and these are as follows: The Artisan, the Guardian, the Idealist, and the Rational. The Artisan (SP) tends to be optimistic, playful, sensual, unconventional, daring, impulsive, excitable, and adaptable. The four types of Artisan are composers (ISFP), crafters (ISTP), performers (ESFP), and promoters (ESTP). The Guardian (SJ) is inclined to be responsible, helpful, hardworking, sociable, loyal, stable, traditional, and law abiding. Included in the four types of

Guardian are inspectors (ISTJ), protectors (ISFJ), providers (ESFJ), and supervisors (ESTJ). The Idealist (NF) is categorized as enthusiastic, romantic, intuitive, kindhearted, intense, authentic, symbolic, and inspirational. The four types of Idealist are healers (INFP), counselors (INFJ), champions (ENFP), and teachers (ENFJ). The remaining temperament type is the Rational. (NT) which tends to be pragmatic, skeptical, analytical, independent, strong willed, logical, even-tempered, and curious. The four types of Rational are architects (INTP), field marshals (ENTJ), inventors (ENTP), and masterminds (INTJ).

The reliability coefficients of the KTS are between 0.54 and 0.86 (Kelly & Jugoviv, 2001; Quinn, Lewis, & Fischer, 1992). The KTS measures the same constructs as the Myers-Briggs Type Indicator which has also been proven to a valid indicator (Kelly & Jugoviv, 2001; Tucker & Gillespie, 1993).

In addition, student data form (SDF) requesting background information, similar to what many colleges request on admissions and satisfaction forms, was administered to collect ethnicity, age, and gender variables.

Collection of the Data

The researcher met with faculty to discuss the implications of the research and the instructions for disseminating the instruments to their students. The researcher wrote write brief instructions for students to be posted on the professor's course web-site. Students were each given instructions by the researcher and their respective professor for completing the web-based instruments and the informed consent forms for completion. Students were asked to complete the Keirsey Temperament Sorter and to record their personalities on the student data forms. After completing the student data forms, the students forwarded the forms to their respective professor. Each professor was asked to collect the data forms and to record the student's final grade and electronic activity (courseware student report tracking) onto the form at the end of semester. Electronic activity consists of all activity within an online course, such as accessing the homepage, tool page, content module page, items to be read, and bulletin board postings. The student data forms were forwarded to the researcher. Students' final grades were collected as a measure of student achievement. The instruments were administered during finals week and two weeks following the semester.

Treatment of the Data

Students' personality learning style preferences and data from the student data forms were compiled into the Statistical Package for Social Science (SPSS 10.0) for Windows. The primary purpose of this study was to examine the effects of two independent variables-- personality learning style preferences, and student electronic activity rate--on the dependent variable, student achievement.

Hypotheses 1 through 3 were tested utilizing a factorial analysis of variance (ANOVA) to determine whether there was a significant effect of personality learning style preference, student electronic activity rate, and/or a significant interaction on student achievement. Hypotheses 4 through 6 were tested utilizing a Pearson chi-square test for independence to determine if there is a relationship between learning style personality preference and ethnicity, gender, and age.

Limitations of the Study

This study is limited by the following factors:

1. Research was conducted at one university and during a ten-week semester.
2. Students enrolled in web-based courses may demonstrate a preference for the electronic learning environment through self-selection.
3. This study was confined to web-based business courses; data from this research may not be applicable to other college disciplines.

Results: Undergraduate Frequency Data

Of the 106 undergraduates surveyed (6 courses), 71 (76%) responded. Sixty-three of the 71 students (59% of the total) completed the Keirsey Temperament Sorter (KTS) and recorded their results on the Student Data Form (SDF). All percents have been rounded up unless otherwise noted.

The majority of students were over 23 years of age (approximately 87%) with 47 % of the students between 23 and 29 years of age. Sixty-three percent of the undergraduates surveyed were women. The majority of students were white-non-Hispanic (76 %) and the next largest ethnic group was Hispanic (11 %).

Sixty-two percent of the undergraduate students were Sensing-Judging (SJ personality learning style preference) followed by Intuition-Feeling (NF), which comprised 18 % of the undergraduates. Sensing-Perception (SP) had 11 % while Intuition-Thinking (NT) comprised less than 5 % of the undergraduates.

The majority of male and female students were the SJ personality learning style, 56% and 66 % respectively. SP's are the second highest personality learning style preference for both genders with 24 % female and 20 % male. Males each totaled 12 % in both the NT's and NF's personality learning style preferences. It was interesting to note that males had a higher percent NF's than females even though there were more female students in this study. Females comprised 3 % NF's and 8 % NTs'.

Crosstabulation of undergraduate age group and personality learning style preference revealed that 65 % of the students between the age of 23 and 29 were SJ's and 100 % of the students under age 22 were SJ's. No age group followed a similar pattern. Students over 40 years of age had the highest percentage of NT's at 33 %.

The majority (62%) of all the undergraduates were SJ's when personality learning style preference was crosstabbed with ethnicity, except Asian or Pacific Islander with 100 % NT.

Student majors were nearly equally distributed in Accounting (30%), General Business (27%), and Management (24%). Crosstabs revealed that the majority of these students in the above majors are SJ's and are as follows: Accounting, 56 %; General Business, 65 %; and Management, with 69 %. Sensing-Perception was the second highest learning preference (39 %) in Accounting and General Business (24 %). Intuition-Thinking (NT) comprised 25 % of the Management major. The most frequent Keirsey primary personality profile was ISTJ at 25.4 %, followed by ESFJ and ISFJ with each totaling 11 %, and the ESFP and ESTJ profiles each with 10 %. The primary Jungian functions of the students are as follows: Extraversion, 48 % and Introversion, 52 %; Sensing, 85 % and Intuition, 16 %; Feeling, 50 % and Thinking, 50 %; and Judging, 72 % and Perception, 28 %. Crosstabs on student final grade and personality learning style preferences revealed that most students achieved a grade of B or better in all personality learning style preferences. Ninety-seven percent of the undergraduates received a C or better (approximately, 48 %--A, 24 %--B, and 25 % --C).

Most students had either a medium electronic activity rate (42 %) or High electronic activity rate (39 %). Activity rates were divided into Low, Medium, and High categories due to the nature of required activity in each course. Crosstabs on student final grade and electronic activity rate revealed a greater percent of students with high and medium activity rates (54 and 47 % respectively) achieve higher grades—B or better. Crosstabs on personality learning style preference and electronic activity rates results are as follows: SP, 43% Medium activity, and 29 % in both Low and High activity; SJ, 49% High activity, 39 % Medium, and 13 % Low; NT, 67 % High activity, and 33 % Medium and zero Low; NF, 75 % Medium activity, 25 % Low, and zero High.

Results: Undergraduate Statistics Data

Hypotheses 1, 2, and 3 were tested with the Analysis of Variance Between-Subjects Factors Full Factorial Model (ANOVA) to determine the main effects and interactions of Personality Learning Style Preferences and Electronic Activity Rates on Course Achievement. Full factorial model contains all the factor main effects and all factor-by-factor interactions. Pearson Chi Squares were deployed on

Hypotheses 4, 5, and 6: Personality Learning Style Preference and Gender; Personality Learning Style Preference and Ethnicity; and Personality Learning Style Preference and Age Group.

Hypotheses

Hypotheses 1:

There is no significant main effect of personality learning style preference, as measured by the Keirsey Temperament Sorter, on student achievement of undergraduate business students enrolled in a web-based course.

Result:

Personality learning style preference was found to not have a significant effect on student achievement when tested with the Analysis of Variance as shown below in Table One. The null hypothesis was not rejected.

Table 1: Tests of Between-Subjects Effects Dependent Variable: FINAL GRADE

Source	Type III Sum of Squares	DF	Mean Square	F	SIG.
Model	630.211	10	63.021	67.086	.000
Effect: Personality Preference	1.639	3	.546	.582	.630
Effect: Student Electronic Activity	1.998	2	.999	1.063	.353
Interaction: Preference * Electronic Activity	2.223	4	.556	.592	.670
Error	49.789	53	.939		
Total	680.000	63			

- a. Computed using alpha =.05
- b. R Squared =.927 (Adjusted R Squared =.913)
- c. Type III model is the default and calculates the sums of squares of the effect in the design as the sums of squares adjusted for any other effects that do not contain it and orthogonal to any effects (if any) that contain it.

Table 2: Test of Homogeneity of Variances Levene's Test of Equality of Error Variances Dependent Variable: FINAL GRADE

F	DF1	DF2	SIG.
1.762	9	53	.098

- a. Tests the null hypothesis that the error variance of the dependent variable is equal across groups. If significant, equal variances are rejected. Not significant @.098.

Hypotheses 2:

There is no significant main effect of student electronic activity rate on student achievement of undergraduate business students enrolled in a web-based course.

Result:

Electronic activity rate was found not to have a significant effect on student achievement when tested for Analysis of Variance as shown on Table 1. The null hypothesis was not rejected.

Hypotheses 3:

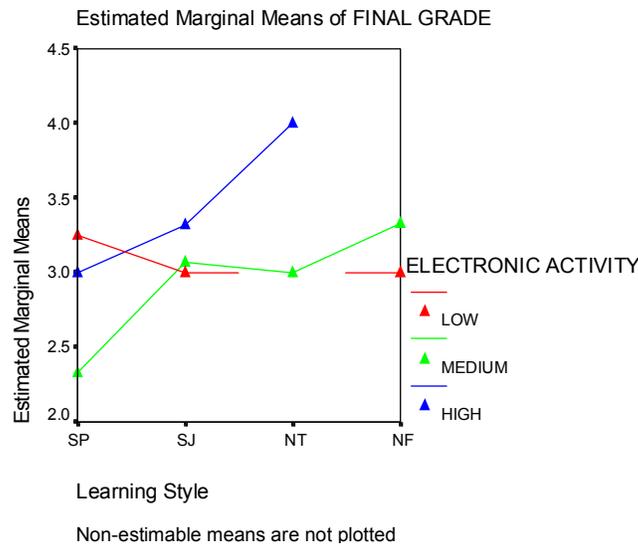
There is no significant interaction or interactions between personality learning style preference and electronic activity rate on student achievement in a group of undergraduate business students enrolled in a web-based course.

Result:

There was no significant interaction between personality learning style preference and electronic activity rate on student achievement as shown on Table 1. The null was not rejected. Figure 1 below

shows that personality learning style and student electronic activity did interact, but it was not significant.

Figure 1: Interaction of Personality Learning Style and Student Electronic Activity on Grade Means



The combined main effects of personality learning style preference and electronic activity rate on course achievement in the model was significant when tested utilizing Analysis of Variance Tests of Between subjects Effects (Table 1). Levene's test of equality--homogeneity was not rejected as shown on Table 2. Error variance of the dependent variable was considered satisfactory across the groups of student personality learning style preferences and electronic activity rate on student achievement and was not rejected. The electronic activity rate/final grade Levene statistic was lower than personality learning style preference/final grade, .124 and .387 respectively. The value of R squared was .927 and the adjusted R squared=.913 as shown on Table 1 above. The model explains approximately 92 % of the variation of the dependent variable. Descriptive data for hypotheses 1, 2, and 3 is shown on Table 3.

Undergraduate Statistics Hypotheses 1, 2 and 3:

Table 3: Descriptive Statistics Dependent Variable: FINAL GRADE

Personality Learning Style	Electronic Activity	Mean	STD. Deviation	N
SP	LOW	3.2500	.9574	4
	MEDIUM	2.3333	1.5055	6
	HIGH	3.0000	.8165	4
SJ	LOW	3.0000	1.0000	5
	MEDIUM	3.0667	.9612	15
	HIGH	3.3158	.8201	19
NT	MEDIUM	3.0000	1.4142	2
	HIGH	4.0000	.0000	4
NF	LOW	3.0000	.0000	1
	MEDIUM	3.3333	1.1547	3
Total	LOW	3.1000	.8756	10
	MEDIUM	2.9231	1.1286	26
	HIGH	3.3704	.7917	27
	Total	3.1429	.9648	63

Hypotheses 4:

There is no significant relationship between personality learning style preference and ethnicity in a group of undergraduate business students enrolled in a web-based course.

Result:

Although the Pearson Chi-Square was significant, there are too many cells with counts less than five to conclude that there was a significant relationship between personality learning style preference and ethnicity (Table 4). Descriptive data is shown on Table 5.

Table 4: ENTHICITY * Learning Style Crosstabulation Chi-Square Tests

	Value	DF	ASYMP. SIG. (2-SIDED)
Pearson Chi-Square	40.337	12	.000
Likelihood Ratio	28.741	12	.004
N of Valid Cases	63		

a. 18 cells (90.0%) have expected count less than 5. The minimum expected count is .13.

Table 5: Hypotheses 4: Crosstabulation Personality Learning Style and Ethnicity

Ethnicity	SP	SJ	NT	NF	Total
WHITE-NON HISPANIC	14	31	1	3	49
HISPANIC		5		1	6
BLACK-NON HISPANIC		2	1		3
AMERICAN INDIAN OR ALASKAN NATIVE		1	2		3
ASIAN OR PACIFIC ISLANDER			2		2
Total	14	39	6	4	63

Hypotheses 5:

There is no significant relationship between personality learning style preference and gender in a group of undergraduate business students enrolled in a web-based course.

Result:

Although the Pearson Chi-Square was not significant, there are too many cells with counts less than five to conclude that there was not a significant relationship between personality learning style preference and gender (Table 6). Descriptive data is shown on Table 7.

Table 6: GENDER * Learning Style Chi-Square Tests

	VALUE	DF	ASYMP. SIG. (2-SIDED)
Pearson Chi-Square	2.677	3	.444
Likelihood Ratio	2.649	3	.449
N of Valid Cases	63		

Table 7: Hypotheses 5: Crosstabs Personality Learning Style and Gender

GENDER	SP	SJ	NT	NF	TOTAL
Female	9	25	3	1	38
Male	5	14	3	3	25
Total	14	39	6	4	63

Hypotheses 6:

There is no significant relationship between personality learning style preference and age in a group of undergraduate business students enrolled in a web-based course.

Result:

Although the Pearson Chi-Square was significant, there are too many cells with counts less than five to conclude that there was a significant relationship between personality learning style preference and age (Table 8). Descriptive data is shown on Table 9.

Table 8: AGE GROUP * Learning Style Chi-Square Tests

	VALUE	DF	ASYMP. SIG. (2-SIDED)
Pearson Chi-Square	17.472	9	.042
Likelihood Ratio	19.698	9	.020
N of Valid Cases	63		

a. 12 cells (75.0%) have expected count less than 5. The minimum expected count is .51.

Table 9: Hypotheses 6: Crosstabs Personality Learning Style and Age Group

Age Group	SP	SJ	NT	NF	Total
18-22		8			8
23-29	5	19	3	2	29
30-39	7	8		2	17
40-49	2	4	3		9
Total	14	39	6	4	63

Conclusions

Although the results of this study revealed that the main effects and interactions of university business students’ personality learning style preferences and electronic activity rates on course achievement produced no significant effects or interactions, it is important to explore student achievement and cognitive preferences to help ensure effective learning environments. The results revealed that students with different levels of electronic activity can be successful. The relationship of personality learning style preferences with age, gender and ethnicity generated mixed significant results, which was consistent with the literature.

There were nearly an equal number of extraverts and introverts in the undergraduate population. The 18-22 years of age group comprised all SJ’s. Although fewer subjects in this age group were compared to the others, it was a notable result. Since learning style has been related to culture, research on personality learning style preference and its relationship to ethnicity and age could be investigated to study how individual’s learning style characteristics may change as they age and the relationship to culture. It would be interesting to determine if there are any relationships between personality learning style preferences and the other learning styles—visual, auditory, and the kinesthetic/tactile commonly utilized in educational settings. Few faculty revealed their personality learning style preferences in this study. Future research on faculty may include qualitative methods to encompass a more inclusive portrayal of college faculty personality learning style on student achievement.

Additional research is needed on a consistent long-term basis to determine student personality learning style relationships and factors in web-based learning environments, and its impact on student achievement. Examining the students, the faculty, and the electronic learning environment will help higher education institutions promote better teaching and instructional methods.

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Exploring Mentoring as a Tool for Career Advancement of Academics in Private Higher Education Institutions in Malaysia

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Abstract

Mentoring refers to a dyadic relationship in which a more experienced member of the organization with a less experienced individual. Mentoring provides supports as a mentor acts as a role model. Mentoring is important for organizational development as it implies workplace learning and leadership principles in career advancement. The functions of a mentor are to teach, coach, support and guide a protégé, to progress in career. This study explores roles of mentoring in career advancement of academics in private higher education institutions.

Keywords: Mentoring, career advancement, academic, and private institutions of higher learning.

The academic profession has been described by Perkin (1969) as the most important profession of the twentieth century. He argues that by the later part of the twentieth century, it is a time when the world is increasingly dominated by professional experts. Thus, university lecturers have become the educators and counselors of the other professions. In this view, it is universities, through their academic staff, which provide the expansion of new knowledge, the leading shoots of intellectual culture, and the institutionalization of innovation in arts, sciences and technology. The view perceives academics as the repository of current knowledge, disseminators of knowledge and creators of new knowledge, as well as being critics of conventional academic and epistemological wisdoms.

However, as professionals themselves, academics have their own disciplinary, occupational and material interests in relation to the institutions of learning in which they teach, research and work. These interests include freedom to teach and study their academic subjects without political or external interference; the right to share in making decisions in relation to the curriculum and research agenda; the right to participate in determining the conditions of life and work in the institutions where they are employed; security of tenure; and satisfactory terms and conditions of career.

This paper aims to explore concept of mentoring and its role to career advancement of academics. While numerous studies have been carried out to examine career advancement of academics in Malaysia (Leong and Sohail, 2003; Sohail, Jegatheesan and Nor Azlin, 2002; Maimunah and Roziah, 2006), however, none of them has focused on the role of mentoring for career advancement of academics particularly in the Private Higher Education Institutions (PHEIs). This study aims to fill in this knowledge gap by focusing on the role of mentoring in the career advancements of academics in Malaysian PHEIs.

The methodology of this study is using literature review of past research conducted on mentoring and its relation to career advancement. The article is organized in to several sections. First, it

starts with an overview of PHEIs in Malaysia. It is then followed by reviews on the meaning of mentoring and career advancement, types of mentoring and roles as well as outcomes of mentoring to career advancement. The paper then briefly concludes and suggests the significance of mentoring to career advancement of academics in PHEIs.

Private Higher Education Institutions

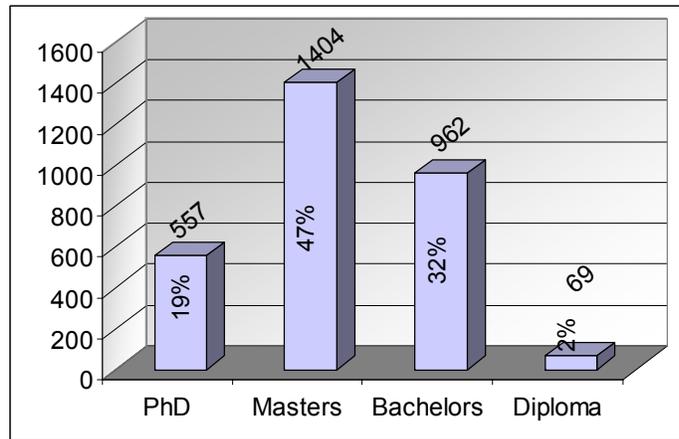
A market sensitive educational system has been evolving in Malaysia. Traditionally, public universities were responsible for providing undergraduate and post graduate studies. However, the demand for university places has outstripped the availability within the public university system and further considering other constraints as funding Hence, a policy has been made to allow for the development of PHEIs.

While private institutions have been in existence in Malaysia for the last twenty years, the government has been actively supporting them since 1995 to develop their own unique and innovative education career path. This has been necessitated due to the structural transformation of the economy, and the emphasis of the educational policy, which has been directed towards building a pool of well-educated and skilled professionals (Sohail, Jegatheesan and Nor Azlin, 2002).

Since the Asian economic crisis in 1997, Malaysia, as well as other countries in the region, has devised innovative ways to improve qualities in higher education. The strategy pursued for growth and development of education has been to encourage private sector to meet the needs of tertiary education resulting in a market sensitive educational system. Private institutions are since allowed to offer various types of courses. At the level of the bachelors' degree, they may offer courses leading to a degree under an inter-institutional collaborative arrangement with either a local or foreign university. Two major categories of arrangement has been envisaged – the split degree arrangement and the entire degree arrangement. Under the split degree arrangement, a part of the degree is undertaken at the private institutions and the final part of the program is completed at the foreign university – twinning programs, credit transfer and advanced standing programs are the modes of completion of the degree. The major arrangements, which allow for the entire degree to be completed at the private college, are the 3+0 foreign degree franchised program, external program, and the distance learning program (Sohail and Saeed, 2001).

With a focus on the development of PHEIs, there were nine private universities, two virtual universities and branch campuses of four foreign universities, as until 2006. While the private universities have been vested with the right to award their own degrees at all levels, the foreign universities award identical degree programs as at the host university. This will obviously mean that academic staff numbers must have increased. The total number of academics in PHEIs in Malaysia (MOHE 2003) is 2,992, with a breakdown of 557 of Ph.D holders, 1404 Masters, 962 Bachelors and 69 Diploma. (see Table 1)

Table 1: Number of Academics in Private Higher Education Institutions.



Source: Ministry of Higher Education, 2003

The Malaysian government has linked economic development with education and envisioned that the country will be a regional educational hub. To this end, the government established the National Accreditation Board (LAN) to regulate activities related to all aspects of education such as infrastructure, curriculum and human resources to increase the efficiency and standardized education, particularly in the private higher institutions (LAN, 1998).

The implication for academics will be a drive towards gaining competitive advantage over others by upgrading academic qualifications and to establish a culture of teaching, research and services. Evaluation of individual academics will take into account a service mix in the quest for high academic standards (Ismail and Murtedza, 1996).

The PHEIs owned by profit-driven enterprise have created a positive impact on the educational industry. However, profit driven providers of education have posed a number of problems related in developing academic staff in the higher level. Problems include the lack of training and development and an appropriate qualification level. Some private higher educational institutions hired staff with low level of qualification and less experience, and some are among the foreigners. The Ministry of Higher Education was taking steps to curb the rampant and blatant abuse of students' visas, where some foreign students used students' visas as a mean to gain employment while registered with unlicensed higher educational institutions (Ministry of Higher Education, 2003).

Career research continues to thrive. The majority of this research in recent years has focused on the changes in traditional career and uncertainty environment. Education professionals are now looking at meeting the demands of operating in a global arena. Indeed, Altbach (1996) comment that "as the world has become increasingly interdependent and national academic boundaries have been blurred, science and scholarship are becoming increasingly international". Further, contemporary career theory argues for broader understandings to encompass the multi-dimensionality of career including the challenges of internalization of higher education and the borderless career.

Literature review

Mentoring has its origins in Greek mythology with Athens, the Goddess of Wisdom. A man called herself has mentor, Athena became a substitute parent to Telemachus, and whose father, Odysseus was away during the Trojan War. Athena guided and nurtured the boy who would become the future king of Ithaca. Mentoring, traditionally viewed as an intense relationship between a younger adult and an older, more experienced adult who helps the younger individual learn (Kram, 1985). Hayes (2001) reviewed the mentoring literature across the disciplines of business, nursing, and education and defined mentoring as a process of building trust between two people, one is experienced and the other a newcomer.

The meaning of mentoring can be viewed from two dimensions. First, mentoring can be understood from traditional perspective and secondly from new career context. The significance of putting these perspectives is to show changes in its meaning over time.

Traditional perspective on mentoring

Fagenson (1989) noted that a traditional mentoring relationship is one in which a senior person working in the organization assists with the career advancement and professional development. Mentoring studies have provided insights into, individual-level factors that account for the cultivation of such relationships including locus of control, mentor race and gender role. In addition, the organization-level factors such as organizational culture, organizational structure, diversity, promotion, career satisfaction, and competences. Overall, these traditional concepts of mentoring had focused on a single or primary mentoring relationship.

Originally, a mentor referred to an influential individual with advanced experience and knowledge providing support and mobility to their protégé's careers (Fagenson, 1989; Noe, 1988). Daloz (1986) defined mentors as essentially those who guide and lead others along the journey of their lives. Caffarella (1992) asserted that mentoring involves an intense caring relationship in which persons with more experience work with less experienced persons to promote both professional and personal development. (p.38). Anderson (1993) defined mentoring as the process in which an individual has regular dialogue with, and receives advice from a more experienced member of the organization on a range of issues relating to the individual's job and career development. Ragins and Cotton (1999) noted that mentoring relationship is highly beneficial by providing career development aid and facilitating the protégé's advancement in the organization. These contribute to the protégé's personal growth and professional development.

Over the years, the importance of having mentor in career development have received ample attention (e.g., Godshalk and Sosik, 2003; Higgins, 2001; Lankau and Scandura, 2002; Scandura and Williams, 2001). For instance, employees with a mentor support have more promotions, higher incomes and more work satisfaction than employees without a mentor (Baugh and Scandura, 1999; Ragins et al., 2000; Whitney and Coestsier, 1993). However, it is increasingly acknowledged that having a mentoring relationship became important for employees seeking career advancement in both domestic and international management of various employment contexts. Hence, it is argued that mentoring, too, has a great impact on career advancement of academics.

Mentoring in the New Career Context

Career researchers have written extensively about the changes of the environment and the role of mentoring. This leads the definition and role of mentoring to have changed drastically in the new context. The changes can be viewed in four types. The first is employment contract between individuals and their employers. Recently, increasing pressure to respond to competitive conditions, ongoing customer demands, job security, globalization, and organizational restructuring of work have influences career performance of employees. Thus, role of mentoring in today's organizations have changed. Secondly, the changing nature of technology has also affected the forms and functions of individuals' career aspiration and expectation. The rapid pace of change in information technologies has increased the importance of knowledge workers. Today, worker is keen to learn and adapt to new methods through self-directed learning. Unlikely those days we need superior to advice, coach and teach the newcomers to the organizations.

Third, the changing nature of organizational structures affects sources from which individuals receive developmental assistant. As organizations expand internationally in a variety of structural arrangements such as joint ventures, licensing, outsourcing and virtual business, and employees will need to look beyond intra-organizational sources to others who can provide them with professional assistant. Finally, organizational membership has become increasingly diverse, particularly in terms of

race, nationality, and gender, which affect both the needs and resources available for developmental (Kram & Hall, 1996). This certainly has influence on career advancement and development of employees. This brief review of the literature on traditional view of mentoring and new career context suggests particular shifts in the definitions and nature of the mentoring relationships.

Types of Mentoring

The notion of a senior professional promoting the career of a newcomer has shaped the development of mentoring programs. Mentoring programs can be categorized into two types which is formal and informal mentoring relationships. Formal mentoring relationship usually developed through the assignment of members of the relationships by a third party (Murray, 1991). Informal mentors are motivated to enter the relationships by mutual identification and developmental needs. Perhaps formal mentors may enter them to meet organizational expectations. These programs vary in their length and structure such as informal mentoring is unstructured and usually last for many years (Kram, 1985). In contrast, formal mentoring are usually shorter duration e.g. less than a year and in a relationship both parties has signed contract. These programs resulted on helping the protégés achieve long term career goals, more satisfied with current job, socialize newcomers and provide on-the-job training. Also, other factors that determine mentoring relationships are amount of personal contact between mentor and protégé, influence exerted by mentor, gender and seniority of mentor and protégé, and goals to be achieved. Through satisfied mentoring relationship will eventually help better career goal and career advancement among academics.

The Role of Mentoring and Outcomes in Career Advancement

Before discussing the role of mentoring and outcomes of mentoring, it is necessary to briefly explain the meaning of career advancement. Career advancement refers to processes that one undergoes toward changes in performance, job position, promotion, better relationship with management in any organization. According to Apospori, Nikandrou and Panayotopoulou (2006), there are many determinants of career advancement including interpersonal and individual determinants, human capital and family. International determinants involve supportive relationships at work, such as mentors and peer network that facilitate advancement. Individual determinants include personality traits and other psychological factors that concern one's capacity for managing such as motivation, career aspiration and gender role orientation. Human capital determinants refer to personal investments in education and experience that enrich employees' value in the job market.

The academic career system has unique features, which has made it a different bureaucratic model of careers and which now makes it a kind of leading indicator of changes in the career system in other sectors (Baruch and Hall, 2004a). However, we can observe that recent boundaryless or protean career models represent a move towards the original view of academics as autonomous professionals (Baruch and Hall, 2004b). According to Altbach (1995), working within universities has changed dramatically, large changes in resource allocation took place, substantial and rapid decline in funding, an ongoing emphasis on more efficiency, and faculty members are increasingly pressured to be productive. So, to minimize work pressure, mentoring can be a good solution that can lead to greater career advancement.

Studies of mentoring in higher education indicated that support and sponsorship contributed to faculty vitality and career success (Henderson & Welch, 1993). In addition, the lack of pre-established mentorship and social network contributed to a maladaptive star in one's academic career (Boice, 1993). William and Blackburn (1998) studied faculty mentoring in eight nursing colleges and found that, mentoring types of role specific teaching, and encouragement were related to protégés research productivity. The notion of mentoring in academic has discussed the outcomes of career advancement, and personal development as an ideal mentoring relationship in academics from both the perspective of the mentor and protégés. Johnsrud (1991) proposed that the establishment of mentoring relationship in

keeping with these principles could enhance collaboration across the academic environment, and thus has the potential to contribute to both individual and organizational success.

Social Learning Theory that had been extended by Bandura (1976), argued that cognitive process involved in the observation then on the subsequent behaviors. Central to this theory is the separation of observation from the act of imitation. Bandura's observational learning is characterized by the concept of self-regulation. He contends that persons can regulate their own behavior to some extent by visualizing self-generated consequences. Thompson (1990) and St. Clair (1994) further argue that Social Learning Theory represents the theoretical foundations on mentoring in education. This learning theory, which combines elements from both behaviorist and cognitivist orientations, posits that people learn from observing others. The theory contributes to adult learning by highlighting the importance of social context and explicating the process of modeling and mentoring. According Gibson (2002), that early mentoring relationship is crucial to the overall development of the young adult. The author further supported the importance of mentoring in adult development in his longitudinal study of 95 male Harvard graduates. He found that the most successful men had been both protégés of a mentoring relationship and mentors to others as well.

In Erikson's stages of psychosocial development, mentoring was identified as part of the development stage of "generativist". In middle adulthood, resolving the tensions between generatively and self-absorption allows people to care for others. In this stage, individuals are begun to feel a need to provide support and guidance to the next generation (cited in Bee & Bjorklund, 2000). In the best of circumstances, the process of mentoring is mutually beneficial to both mentors and protégés in ways that include personal and career advancement. Mentors often find themselves professionally simulated, personally enriched and perhaps rejuvenated.

Mentoring researchers are begun to recognize that there is variation in the satisfaction level (Ragins & Scandura, 1999). It is critical to understand how the full range of mentoring relationships affects career and job attitudes in the workplace. Protégés with highly satisfying mentors may display positive work attitudes and this situation leads to better performance, but there may be few differences between non-protégés and protégés with marginally satisfying or dissatisfying mentors lead to poor performance.

A study by Noe (1988) pointed the determinants of successful assigned formal mentoring relationships. This study consists of 43 mentors and 139 protégés engaged in a formal mentoring program designed to promote the personal and career advancement of educators. He found that protégés reported receiving beneficial psychosocial outcomes. He suggested that mentoring relationships provide both career advancement and psychosocial functions. These relationships were characterized by high levels of commitment on the part of both mentors and protégés and were perceived to have a higher impact on the individual's personal development. Noe also noted that the potent influence on the success of mentoring relationships such as individual's level of self-efficacy. The purpose of mentoring is to promote the newcomer's career advancement, personal development and education. The outcomes of the mentoring process are accomplished goals, role fulfillment and self-efficacy. Therefore, mentoring is a process that can encourage self-efficacy that enable one to take on a new role successfully and become a fully committed professional.

Mentoring researchers have supported with empirical evidence on the role of mentoring to career advancement. Many countries have adapted the mentoring as a tool for career advancement. In Japan, the mentoring relationships have been incorporated in the culture. Japanese culture which enriched with values and morale has accepted mentoring relationship as part of the working culture. Mentoring which emphasizes high value placed on continuity, obligation and duty between individual, the notion of respect for elders and the concept of seniors protecting juniors from failure. These indicate that mentoring have been accepted more than a tool in Japan since it is already embedded in their culture.

In the United States, mentoring has been the focus of much research and discussion over the past decade. Ragins et al.'s (2000) study about the effect of mentoring and career attitudes it was found

that mentoring relationships significantly related with individuals satisfactions and positive attitudes towards workplace. The results of the study are in congruent with Levinson et al.' (1978) theory that mentoring is not simple and it is important for continuous work effectiveness.

In Australia, there is a great interest in mentoring. Mentoring programs are implemented in all types of organizations, from manufacturing to banking and finance, government agencies, non-profits such as the Red Cross and Salvation Army and small businesses (MacGregor, 2000). These programs reflect the importance and acceptance of mentoring over many sectors. The important finding from this study is mentoring as learning and development strategy, where an experienced co-worker uses guided learning to assist a less experienced worker in learning new skills and improving work performance. This has created conducive learning environment among senior and junior worker in the organizations.

Outcomes from mentoring relationships can be classified into two broad categories. The first category is objective career outcomes such as promotion and compensation (Dreher & Ash, 1990). The second category consists of subjective career outcomes. This is more affective and less tangible signs of career success such as career satisfaction, career commitment, job satisfaction and turnover intention (Noe, 1988). However, they are some studies noted the correlations between subjective and objective career success are typically low or moderate (Judge, Boudreau, and Bretz, 1994). This shows that career advancement is closely related with subjective outcomes of mentoring relationship.

A critical role of HRD is to support initiatives that foster employee productivity so as to contribute to organizational performance. McDonald and Hite (1998) identified the role of mentoring as a key HRD initiative and stated that the HRD function might well be considered a natural place for the development of mentoring initiatives due to role of HRD in fostering career development aligned with the need of the organization. This role clearly justifies mentoring and career advancement have strong contribution to overall organization performance.

Conclusion and Implication for Practice

This review clearly indicates that mentoring as an important tool for career advancement among employees including the academics. From the professional perspective, the discussion tries to establish the roles and outcomes of mentoring that eventually leads to positive individual career and organizational outcomes. From a personal perspective, it is reflected upon the relationships one has experienced, both as a mentor and a protégé.

Another implication is about connection between mentoring relationships and career advancement among academics. Studies have come to a conclusion that there is a strong connection between mentoring and career advancement. Mentoring relationship has led toward a higher satisfactory, trust, self-efficacy, and achievement of career goals. Therefore, these have led to better performance and encouraged individuals for higher commitment to the organizational developmental.

The study provides insights into definition, types of mentoring program, and roles as well as outcomes of mentoring. These insights could be applied in the context of academia. The discussion also points to the complexity of mentoring. This is due to its multidisciplinary that integrates areas such as workplace learning, communication, socialization, motivation, organizational culture and career advancement. Therefore, mentoring program should be considered in human resource development and management in PHEIs due to the dynamism in their structures, missions and visions in the development of higher education.

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Socio-Demographic Characteristics of Intercultural Marriage: A Study of a Multi-Ethnic Community in Malaysia

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Abstract

Due to increased levels of social contact and loosening of traditional social norms between peoples from different races and religious backgrounds in South East Asia, there has been a rise in the prevalence of intercultural marriages over the past fifty years (Hassan & Benjamin, 1973; Djamour, 1965; Kuo & Hassan, 1976). Despite the cultural diversity in Malaysia, systematic research on intercultural marriage, specifically concentrating on intercultural marriages among the Malay Bumiputras (natives), Chinese, Indians and Other Bumiputras and their socio-demographic characteristics, are still lacking. This study thus explored the socio-demographic characteristics of intercultural marriages among Malay, Chinese, Indian and Other Bumiptura mixed-married couples from Malaysia. Based on data from 357 mixed-married couples, significant differences were found between husbands' and wives' personal characteristics, namely religion-of-origin, current age, age-at-marriage, and personal income. Results from Cramer's V test of association further showed a significant association between the husband-wife ethnic background and their religion-of-origin, indicating that intercultural marriages in Malaysia also tend to be inter-religious marriages. Findings provide support for the theory of homogeneity and structural theory. The paper discusses the impact of ethnic and religious factors on variations in socio-demographic characteristics between intercultural couples.

Introduction

The emergence of a growing population of mixed ethnicities has shed light on the fact that intercultural marriage is gradually becoming accepted by many Asian societies. Historically, the phenomenon of intercultural marriage in South East Asia was first reported in the 1960s (Hassan & Benjamin, 1973; Djamour, 1965; Kuo & Hassan, 1976). Due to the diverse cultural mix in Malaysia in particular, people from Malay Bumiputra, Chinese, Indian and Other Bumiputra backgrounds have experienced increased social contact, which has, as a result, spurred a variety of cross-socialization practices, including marriage.

The Population and Housing Census 2000 (Department of Statistics Malaysia, 2001) reported that Malaysia's population comprised 65.1% Bumiputras, 26.0% Chinese, 7.7% Indians and 1.2% others. Islam was the most widely reported religion (60.4%), followed by Buddhism (19.2%), Christianity (9.1%), Hinduism (6.3%) and Confucianism/Taoism/other traditional Chinese religions

(2.6%). The Muslim Malay Bumiputras, Muslim and Christian Bumiputras, Buddhist and Christian Chinese, and Hindu and Christian Indians each have their own unique customs, religions and cultural beliefs. Nevertheless, they live in the same neighborhoods, work together, and interact with each other in various social, economic, and cultural contexts. Scholars researching the family have observed that such multicultural contexts promote people to look beyond their own cultural groups for marriage, which is supported by studies indicating that intercultural marriage is occurring in growing numbers within the multi-ethnic society of Malaysia (Edmonds, 1968; Sanusi, 1981).

The history of intercultural marriage in Malaysia can be traced back to the Malaccan Empire in the 15th century. It is recorded in the Malay Annals, which document the history of the Malay Peninsula (now known as Peninsular Malaysia), that the first Chinese-Malay Bumiputra intercultural marriage reported in Malaya was between Princess Hang Li-Poh of China and King Mansor Syah (1458-1477) of Malacca. From this union, the Baba and Nyonya culture came about, referring to the descendants of the intercultural marriage who adopted many Malay customs and spoke fluent Malay (Tan, 1993), yet socially identified as Chinese (Edmonds, 1968).

Over the years, intercultural marriage in Malaysia became a more prevalent phenomenon. Sanusi (1981), who studied inter-ethnic marriages in Malacca, revealed that intercultural marriages were recorded among all the ethnic groups (i.e. Malay Bumiputra, Chinese, Indian and Portuguese) and found them to be more prevalent when compared to previous generations. In addition, intercultural marriage among Malaysians occurred regardless of ethnic background and religious orientation, the most frequently recorded being Indian-Malay Bumiputras and Malay Bumiputras-Chinese.

This intercultural phenomenon subsequently raises the question, “Who are the individuals that engage in intercultural marriage?” In homogeneous marriages, Benoktratis (1993) suggested that mate selection is linked to common social characteristics such as ethnicity, race, religion, education attainment and leisure interests. However, arguments have been drawn identifying patterns of spouse selection among intercultural couples that go beyond social characteristics alone. In such cases, common interests and experiences may emerge as the most important factors that draw individuals together from different ethnic groups. In other words, people do not mate randomly; marriages are often influenced by some homogeneous factors (Lewis, Yancey & Bletzer, 1997). Thus, it can be argued that while individuals in intercultural marriages may be different in a variety of ways, they must share some key similarities/common factors that bond them together. It is here that several questions can be posed. For example, do all intercultural couples have different social characteristics? Could there be a general pattern of social characteristics capable of describing married individuals from different ethnic backgrounds?

The subsequent literature review explores these and other queries from the perspective of previous research findings on the socio-demographic characteristics of intercultural marriages from studies conducted in the United States, United Kingdom and South East Asia.

Literature Review

Despite the cultural diversity in Malaysia, systematic research on intercultural marriage, specifically concentrating on intercultural marriages among the Malay Bumiputras, Chinese, Indians and Other Bumiputras and their socio-demographic characteristics, are still inadequate. In addition, related research is dated and may not be accurate or relevant in describing the current phenomenon of intercultural marriage among Malaysia’s multiethnic community. Such limitations in the published literature on intercultural marriages among the Malaysian community must be acknowledged. Thus, the research literature reviewed is mainly comprised of samples from the United States and European countries.

Socio-Demographic Characteristics and Intercultural Marriage

In an earlier study conducted in the state of Malacca, Malaysia, it was documented that intercultural marriages were found among all the major ethnic groups, though in disproportionate frequency (Sanusi, 1981). The most frequently reported intercultural marriages were among Indians and Malays, followed by Malays and Chinese. An interesting finding from Sanusi's study is that the rate of intercultural marriage among the Muslims was not much different in comparison to the rate among Non-Muslims. Sanusi's (1981) explanation was that the religious factor alone may not be able to predict intercultural marriage; thus, additional factors such as educational background, residential area, workplace, occupation, language and social status should be taken into consideration when researching intercultural marriage in Malaysia. Accordingly, subsequent research on intercultural marriage has suggested socio-demographic factors, represented in this study by personal and family characteristics, to be related to the incidence of intercultural marriage. Supporting literature can be found in studies conducted in South East Asia (Kuo & Hassan, 1976; Hassan & Benjamin, 1973), across the United States (Whyte, 1990; Surra, 1990; Romano, 2001) and the United Kingdom (Kannan, 1972; Khatib-Chahidi, Hill & Paton, 1998).

In an earlier study by Kuo and Hassan (1976) on intercultural marriages among Malays, Chinese and Indians in Singapore, it was found that intercultural marriages featured a certain pattern of socio-demographic characteristics. In their study, intercultural marriages were more likely to be inter-religious as well with couples reporting previous marital history, being older in age and from lower or higher occupational groups when compared with other homogeneous marriages. In addition, more recent studies on intercultural marriage conducted in the US also reported similar findings. These studies revealed that individuals from different backgrounds who married tended to be educated (Qian, 1999 for Whites, Africans, Hispanics and Asian Americans; Tzeng, 2000 for Asian Canadians), among the professional-middle class or working class (Whyte, 1990), older in age (Surra, 1990; Romano, 2001 for intermarried couples in the US) and from families with previous intercultural marriages (Cottrell, 1990 for Indian/Western couples in the US). In brief, certain patterns of socio-demographic characteristics could be identified among the individuals involved in intercultural marriages.

In examining the factors that motivate and promote intercultural marriage, there is evidence that intercultural marriages can be promoted by chance, availability and life experience (Khatib-Chahidi et al., 1998; Spickard, 1989 based on a US sample; Kannan, 1972 for intermarried couples in the UK) and social similarities (Lewis, Yancey & Bletzer, 1997 for black/white couples). For interracial marriages, mate selection emphasizes spousal compatibility, specifically in regard to educational background (Qian, 1999), socio-economic status (Fu & Heaton, 2000) and interests (Lewis et al., 1997). This may imply that individuals who choose to marry a partner of different ethnic background may be reacting to perceived social similarities and availability. Again, most of the research on personal characteristics and motivational factors were conducted using Western samples, which may not be entirely compatible with Asian populations.

Intercultural marriage has also been found to be influenced by the particular ethnic groups involved. Different ethnic groups may exhibit different variations in involvement with intercultural marriage. Hassan and Benjamin (1973), who studied the extent to which members of various ethnic groups (e.g. Chinese, Malays, Indians and Europeans) 'marry out' in Singapore, provided evidential support for the existence of variations in intercultural marriage among different ethnic groups. Findings suggested that these variations are more influenced by ethnicity and religious factors than by social class and education level.

Djamour's (1965) and Silcock's (1963) studies provide support for the significant role of religion in determining intercultural marriages, specifically the role of Islam in Malaysia and Singapore. According to Edmonds (1968) and Hassan and Benjamin (1973), ethnicity, custom and religious boundaries were considered vital indicators for intercultural marriage among Malay, Chinese and Indian families in both Malaysia and Singapore, indicating a strong connection with traditional values and ideals. In the Asian community, the influential roles of ethnicity and religion on the family,

specifically on the continuation of traditional ideals and cultural norms, tend to dictate the extent to which members marry outside of their ethnic community. In contrast, studies comparing black/white interracial and other intercultural marriages have found that what motivates individuals to 'marry out' may not always be related to ethnic factors (Lewis et al., 1997; Khatib-Chahidi et al., 1998).

In general, the research literature has pointed out that individuals who go against societal norms and venture into intercultural marriages are characterized by certain socio-demographic characteristics. In addition, previous studies on intercultural marriage have indicated that intermarrying can be facilitated by perceived social similarities in regard to personal and sociological factors (i.e. socio-economic status, similar interests, chance and availability). Inconsistent results were reported on the role of ethnicity and religion in intercultural marriage, which implies that the role of ethnicity and religion may be dependant on the cultural or ethnic context within a given society.

Although the current literature is useful in guiding research on intercultural marriage by capturing a range of findings that describe certain socio-economic characteristics of intermarried couples, it may fail to acknowledge the full extent of the differences in regard to the cultural context. Most of the findings aimed at examining the phenomenon of intercultural marriage in a specific cultural context (e.g. black/white marriage, white/Hispanic/Asian American marriage or the United Kingdom sample) and may not be applicable in describing the intercultural phenomenon among Malay Bumiputras, Chinese, Indians and Other Bumiputras in Malaysia. The authors acknowledge these limitations; subsequently, caution must be taken when applying the current study's findings to samples from different cultures.

Theoretical Concept

Social scientists have offered a handful of theories for understanding intercultural marriage. These theories have attempted to explain why people marry across cultural backgrounds. The present study utilizes two complementary theoretical perspectives in order to explain the socio-demographic characteristics of Malaysian intercultural marriages: the Theory of Homogeneity and Structural Theory.

The Theory of Homogeneity stresses that persons tend to marry those either with a similar family and social background or, increasingly, with a similar socioeconomic status. This theory also refers to the mate selection process, where one chooses a mate with similar social characteristics such as ethnicity, race, religion, educational attainment, age, social class, personal interest, occupation and entertainment interests, as homogeneous mate selection. Empirical evidence supports the theory that similarity of attitudes or values is one of the most important positive determinants of attraction and mate selection. Classical studies by Brewer (1968, as cited by Blau, 1977) found that perceived similarity was one of several factors determining liking. In order of importance, the factors were: 1) perceived similarity; 2) physical distance between tribes; and 3) perceived educational and economic advancement. Thus, the study proposed that couples intermarry for the same reasons that intra-married couples do, namely, because of similarities in socio-demographic characteristics. In other words, intercultural couples, who venture out of their own ethnic group for partners, when they meet and discover similar interests, may fall in love and marry.

Structural theory is useful in articulating why individuals may become involved in intercultural relationships. According to the structural approach, intercultural marriages are more frequent when the community structure sanctions such unions. The theory posits that personal and demographic characteristics (i.e. socio-economic, education, occupation and residence) and mutual attraction contribute to the initiation, development and maintenance of intercultural marriages (Kouri & Lasswell, 1993). For example, lack of kinship controls in urban environments make personal characteristics more likely to be valued than categorical traits such as race, ethnic background, religion or social class (Kvaraceus, 1969).

Kouri and Lasswell (1993) found that a majority of intermarried couples are attracted to similar values and interests or an overall compatibility, while a small proportion of interviewees reported physical attraction to be the primary contributing factor of mate selection. These findings have lent support to the principle of structural theory in describing and explaining the phenomenon of intercultural marriage. It is interesting to note that Structural Theory is in accordance with the proposition of the Theory of Homogeneity for the mate selection process among intra-married couples. This has further affirmed that intercultural marriages can be facilitated by the same factors as intra-cultural marriages.

Another structuralist explanation of intercultural marriage is that as such marriages increase, society becomes desensitized to what had previously been considered socially unacceptable to most of the population (Kouri & Lasswell, 1993). In a multiethnic community, a more liberal political and sociological atmosphere tends to increase acceptance of intercultural marriage among community members. Facilitated propinquity and familiarity (e.g. desegregation of neighborhoods, schools and the workplace) between members from different ethnic groups also reduce social distance and play an important role in the incidence of intercultural marriage (Spickard, 1989).

As noted, both theories are compatible with the articulation of intercultural marriage based on American samples. Regarding the methodological concerns, the implications of these two theories on Asian samples may give us a different or even contradictory result when extricating intercultural marriage from a different cultural context. It is critical to guard against alternative explanations and cultural bias when utilizing these theories to interpret research findings on intercultural marriage in different cultural contexts.

The Current Study

Previous studies that have focused on intercultural marriages have exclusively dealt with marriages among American or European couples, while neglecting the Asian community, including Malaysia. To generalize findings from these studies may be inaccurate in explaining intercultural marriage nurtured under different social, historical and political contexts. For example, the usual issues of discrimination, prejudice and stereotyping leveled at ethnic minorities and intermarried couples are presumed to be challenges for intermarried couples and their children (Tizard & Phoenix, 1993 as cited by Rosenblatt, Karis & Powell, 1995). In contrast, though Malaysia is a multiethnic community the issue of racial prejudice is not very prominent. Thus, scrutiny and attention given to intermarried couples in Malaysia may be motivated by factors other than those examined in the research literature.

It is apparent that the somewhat dated and small volume of current research examining intercultural marriages and their socio-demographic characteristics has failed to provide a clear picture of the phenomenon and nature of intercultural marriage among the Malaysian community. Thus, the purpose of the present study is to examine the socio-demographic characteristics of intercultural couples with Malay, Chinese, Native and Indian ethnic backgrounds. More specifically, the study endeavored to determine if similarities in socio-demographic characteristics, represented by personal and family characteristics, are more important than differences between couples of intercultural marriages. The following research questions were used to guide the data collection and analysis: a) Do husbands and wives of intercultural marriages have similar or different socio-demographic characteristics? b) How do intercultural couples differ in their personal and family characteristics? c) Do family experiences contribute to intercultural marriages? d) Do intercultural marriages equate with inter-religious marriages?

Methods

Participants

The research on which the current study is based recruited 512 intermarried individuals comprised of 56.6% Bumiputras (including Natives and Malays), 23.2% Chinese, 15.4% Indians and 4.8% other ethnics from five zones in Peninsular and East Malaysia. This ethnic distribution is similar to the national ethnic distribution in Malaysia, which implies a similarity between the sample and the population. Participants were recruited through a database provided by the Department of National Unity (DNU), Malaysia, since there are no official published statistics on the proportion and pattern of intercultural marriage in Malaysia. The main objective of the research was to develop a profile of intercultural families in Malaysia and to propose guidelines for intercultural marriage towards national unity. While benefiting from that research, the raw data for the present research is a subset of data extracted from the abovementioned nationwide study.

Participants for the present study included 357 individuals with partners from different ethnic backgrounds, namely Malay Bumiputras (n=171), Chinese (n=76), Indian (n=44) and Other Bumiputras (n=69) (i.e. the four main ethnic groups in Malaysia). The criteria for inclusion in the present analysis were: both husbands and wives resided in Malaysia; they originated from Malay Bumiputra, Chinese, Indian or Other Bumiputra ethnicities; they had at least one child, and only one of the spouses (husband or wife) was included in the study sample. The distribution of selected ethnic backgrounds was as follows: 149 Malay-Chinese couples, 129 Malay-Other Bumiputra couples and 79 Malay-Indian couples.

Procedures

A set of standardized and bilingual (printed in Malay and English) questionnaires were used for data collection. All respondents were interviewed individually by trained enumerators in their homes. The enumerators were recruited through advertisements placed within the university campus; all the enumerators were recently graduated university students. A special training session was also arranged to familiarize enumerators with the questionnaires and the interviewing techniques. A series of questions was used to collect information on the husbands' and wives' personal characteristics, as well as their family characteristics. The interviewing procedure took from 60 to 90 minutes for each individual respondent.

Measures

In accordance with the proposed research questions, variables for the present study were selected from the existing data set. Variables for the socio-demographic characteristics were then divided into personal and family characteristics. The variables for personal characteristics were collected for both the husbands and wives. These included ethnicity, religion-of-origin, religion after marriage, age, age at marriage, level of education, personal income, previous marital history and family history of intercultural marriage. Variables describing the family characteristics of the intercultural families included period of acquaintance, marriage duration, number of children and family's income per month. In addition, the families included were grouped into different husband-wife ethnic combinations: Malay-Chinese (MC), Chinese-Malay (CM), Malay-Other Bumiputra (MA), Other Bumiputra-Malay (AM), Malay-Indian (MI) and Indian-Malay (IM). The six husband-wife combinations served the purpose of comparing the variations of intercultural marriage among different ethnic groups.

Analysis

Descriptive statistics were initially used to explore and discuss the overall marginal frequency distributions of each variable included in the study. From there, inferential statistics, namely, paired t-

test and analysis of variance (ANOVA) were computed to test the hypotheses of the study. The paired t-test was used to compare the personal characteristics of the husbands and wives in each intercultural marriage. ANOVA was used to compare the mean differences of the dependent and independent variables between the intercultural couples. In addition, Bonferonni post-hoc analysis was conducted to determine the specific differences between the couples. Cramer's V was used to determine the association between the religion-of-origin and ethnicity of the couples.

Results

Socio-Demographic Characteristics

The mean ages for the husbands and wives were 42.1 and 37.4, respectively. As for the mean ages-at-marriage, the couples were reported to have married in their twenties, i.e. 27.8 years old for husbands and 23.2 for wives. It was found that the reported age at marriage was lower in comparison with the average age at marriage reported in the 2000 Malaysia Housing and Population Census ($x_{\text{husband}} = 28.6$, $x_{\text{wife}} = 25.1$). The majority of wives (59.3%) in the study were homemakers and engaged only in part-time work such as farming, tailoring, tutoring and conducting religious lessons for supplementary income. As expected, wives' personal income ($x=1127.0$, $SD=1158.1$) was less than husbands' personal income ($x=1540.40$, $SD=1382.4$). As for pair-wise comparisons, personal income for full-time working husbands and wives was 1521.9 ($SD=1314.9$) and 1233.6 ($SD=1200.1$), respectively. The couples had similar educational backgrounds, with an average of seven years formal education for both.

As for ethnicity, 54.6% of the husbands were Malay Bumiputras, 19.3% Chinese, 15.7% Indian and 10.4% Other Bumiputras. The ethnicity distribution for wives was 45.4% Malay Bumiputras, 22.4% Chinese, 6.4% Indian and 25.8% Other Bumiputras. The majority of the marriages were between Malay Bumiputras and Chinese (M-C=22.4%; C-M=19.3%), followed by Malay Bumiputras and Natives (M-N=25.8%; N-M=10.4%) and Malay Bumiputras and Indians (M-I=6.4%; I-M=15.7%). Sixty-four percent of the husbands reported Islam as their religion-of-origin, while the remainder reported Buddhism (16.8%), Hinduism (8.1%), Christianity (8.1%) and other religions (2.9%). As for the wives, the majority was Muslim (49.6%); other religions included Buddhism (17.1%), Hinduism (2.8%), Christianity (19.3%), Pagan (5.8%) and other traditional religions (5.1%). However, the religious distribution between husband and wife following marriage produced a different pattern. The majority of husbands and wives converted to Islam, i.e. 97.2% and 96.1%, respectively. The percentage distribution clearly indicates that Malay Bumiputra - Islam-based intermarriage accounted for an overwhelming proportion of intercultural marriage in the study. Structurally, this is not surprising since Malay Bumiputras are the majority ethnic group in Malaysia.

In addition, a small proportion of the intercultural couples, 15 husbands and 14 wives, reported previous marital history. Interestingly, 43% of the participating individuals also reported that they had family members or close relatives who were intermarried, indicating family history/exposure to the culture of marriage beyond ethnic boundaries.

The families in the study were predominantly of middle class status with a mean combined income of RM2000 per month ($SD=1808.30$). Thirty-three percent of the families had combined incomes of more than RM2000 per month. Overall, on average the couples had been married for 15 years, with an average of three children. It was indicated that the couples, on average, had also known each other for almost 2 years (20 months) before deciding to marry.

Mean Differences for Husband-Wife Personal Characteristics

Paired t-test results showed that the husbands and wives in the study had different personal background characteristics. These included their current age $\{t(df=356) = 15.91, p \leq .001\}$, age-at-marriage $\{t(df=356) = 15.47, p \leq .001\}$ and personal income $\{t(df=163) = 487.70, p \leq .001\}$ (see Table 1). On

average, husbands were older, married at a later age and earned a higher personal income as compared to their wives. On the other hand, the results showed that intercultural couples tend to have similar educational backgrounds with no prior marriage history.

Table 1: Mean Differences for Personal Characteristics of Husbands and Wives from Intercultural Marriages from Malaysia

Variables	Mean		Mean differences	t-value	Df	Sig
	Husband	Wife				
Current age (years)	42.10	37.40	4.67	15.91	356	.00***
Age at marriage (years)	27.80	23.20	4.64	15.47	353	.00***
Years of education (years)	7.64	7.33	0.30	1.92	353	.06
Personal income (RM)	1540.4	1127.10	487.70	5.10	163	.00***
Previous marital record (1,0) ¹	0.004	0.003	0.001	0.19	356	.85

Note. p ≤ .01**, p ≤ .001***
¹ = Previously married, 0= No previous marriages

Differences within Intercultural Marriages

As for intercultural group differences, ANOVA revealed that intercultural couples from different ethnic backgrounds significantly differed in socio-demographic characteristics (see Table 2). The variables represented personal characteristics including the couple's age { F_{Wife} (df=5, 351) = 3.43, $p \leq .01$; $F_{Husband}$ (df=5, 351) = 3.39, $p \leq .01$ }, years of education { F_{Wife} (df=5, 351) = 3.54, $p \leq .01$; $F_{Husband}$ (df=5, 351) = 2.34, $p \leq .05$ } and husband's age at marriage { F (df=5, 348) = 2.73, $p = \leq .01$ }. In addition, intercultural families significantly differed in their family characteristics, such as period of acquaintance { F (df=5, 351) = 4.12, $p \leq .001$ } and marriage duration { F (df=5, 350) = 3.52, $p \leq .001$ } (see Table 2).

Post-hoc tests were computed to further determine the specific group differences for variables with significant overall F values. Consistent with the descriptive analysis, couples from Malay-Chinese (M-C) intercultural marriages were found to be significantly older as compared to other ethnicities (mean differences: $CM_{Wife\ Age} = 3.89$, $p \leq .05$; $MA_{Wife\ Age} = 3.72$, $p \leq .05$; $MA_{Husband\ Age} = 4.03$, $p \leq .05$; $AM_{Husband\ Age} = 6.16$, $p \leq .01$). As for educational background, it was noted that Other Bumiputra wives (M-N) tended to be less educated as compared to Malay (C-M=-2.19, $p \leq .05$) and Indian (M-I=-2.98, $p \leq .05$) wives in other intercultural marriages.

Table 2: Analysis of Variance for Socio-Demographic Characteristics of Intercultural Families from Different Ethnic Backgrounds in Malaysia

Variables	All categories (N=357)		
	Df	F-value	Sig.
Personal characteristics			
Current age (Wife)	5, 351	3.43	.005**
Current age (Husband)	5, 351	3.39	.005**
Age at marriage (Wife)	5, 348	0.49	.787
Age at marriage (Husband)	5, 348	2.73	.020*
Years of education (Wife)	5, 351	3.54	.004**
Years of education (Husband)	5, 351	2.34	.041*
Personal income (Wife)	5, 163	0.54	.744
Personal income (Husband)	5, 344	1.38	.232
Family characteristics			
Family monthly income	5, 350	1.22	.298
No. of children	5, 348	0.82	.536
Period of Acquaintance (months)	5, 351	4.12	.001***
Marriage duration	5, 350	4.21	.001***

Note: Husband-wife ethnic categories = MC, CM, MA, AM, MI, IM

Results also showed that couples in Malay–Other Bumiputras (M-N) marriages were more likely to be younger, less educated and have a shorter acquaintance period as compared to couples in Chinese and Malay Bumiputra marriages (Wife’s age_{MA-MC} = -3.72, p ≤ .05; Husband’s age_{MA-MC} = -4.03, p ≤ .05; Wife’s education_{MA-CM} = -2.98, p ≤ .05; Acquaintance period_{MA-MC} = -13.81, p ≤ .001; Acquaintance period_{MA-CM} = -10.65, p ≤ .05). The results also revealed that couples in C-M marriages had significantly shorter marriage durations than those in I-M (mean differences = -4.49, p ≤ .05) and M-C (mean differences = -4.97, p ≤ .001) marriages.

A large proportion (82.8%) of the intercultural marriages in the study comprised couples with different religions-of-origin before they married (see Table 3). Couples in Malay Bumiputra and Chinese marriages reported the highest percentage (more than 90%) of difference in religion. Results from Cramer’s V were used to describe the association between a couple’s ethnic background and religion-of-origin (Table 3). It was found that there was a significant association between the husband-wife ethnic background and the religion-of-origin (Cramer’s V = 0.36, p ≤ .001). The results indicate that the intercultural marriages in the study also tended to be inter-religious marriages.

Table 3: Associations of Husband-Wife Ethnic Background and Religion-of-Origin for Intercultural Marriages in Malaysia

Husband-Wife ethnic background	Religion-of-origin, n (%)		Total, N (%)
	Same	Different	
Malay Bumiputras -Chinese (MC)	6 (7.5)	74 (92.5)	80 (100)
Chinese-Malay Bumiputras (CM)	6 (8.7)	63 (91.3)	69 (100)
Malay Bumiputras –Other Bumiputras (MA)	8 (8.7)	84 (91.3)	92 (100)
Other Bumiputras -Malay Bumiputras (AM)	26 (29.7)	11 (70.3)	37 (100)
Malay Bumiputras -Indian (MI)	24 (46.9)	32 (57.1)	56 (100)
Indian-Malay Bumiputras (IM)	6 (26.1)	17 (73.9)	23 (100)
Total	61 (11.2)	296 (82.8)	357 (100)
			Cramer’s V = 0.36 ***

Note: p ≤ .001***

The non-parametric statistic, Cramer’s V, revealed a statistically significant association between religious conversion and couple’s ethnic background for both husbands (Cramer’s V=0.77, p ≤ .001) and wives (Cramer’s V=0.74, p ≤ .001) (see Table 4). In other words, a couple’s ethnic background was found to be related to religious conversion before and after the couples married. Specifically, the results revealed that husbands and wives from ethnic groups other than Malay such as Chinese, Indian and Other Bumiputra have a stronger tendency to convert to another religion after they marry.

Table 4: Associations of Husband-Wife Ethnic Background and Conversion of Religion Following Marriage Among Intercultural Married Couples from Malaysia

Husband-Wife ethnic background	Conversion of religion after marriage, n (%)			
	Wife		Husband	
	Yes	No	Yes	No
Malay Bumiputras -Chinese (MC)	73 (91.3)	7 (8.7)	5 (6.3)	75 (93.7)
Malay Bumiputras-Other Bumiputra (MA)	86 (93.5)	6 (6.5)	49 (4.3)	88 (95.7)
Malay Bumiputras-Indian (MI)	14 (60.9)	9 (39.1)	2 (8.7)	21 (91.3)
Chinese-Malay Bumiputras (CM)	8 (11.6)	61 (80.4)	61 (88.4)	8 (11.6)
Other Bumiputras-Malay Bumiputras (AM)	6 (16.2)	31 (83.8)	28 (75.7)	9 (24.3)
Indian-Malay Bumiputras (IM)	8 (14.3)	48 (85.7)	33 (58.9)	23 (41.1)
Total	195 (54.6)	162 (45.4)	133 (37.3)	224 (62.7)
		Cramer’s V = 0.77 ***	Cramer’s V = 0.74 ***	

Note: p ≤ .001***; Conversion of religion refers to religion before and after intercultural marriage.

Discussion and Conclusion

The purpose of the paper was to explore variations in the socio-demographic characteristics of intercultural marriages in Malaysia. Specifically, the paper discussed the impact of social context, cultural preferences and religion on variations in socio-demographical characteristics. The majority of intercultural marriages in the study were between the major ethnic groups in Malaysia, namely Malay, Chinese, Indian and Natives. The findings were found to be similar to previous research findings in South East Asia (Sanusi, 1981; Hassan & Benjamin, 1973; Hassan, 1971), proposing that intercultural marriage in Malaysia is more common among the major ethnic groups.

The structuralist approach of intercultural marriage stresses that social acceptance of intercultural marriages is due to socially-accepted interracial contact in social settings. Findings in the current study revealed that almost half of the married individuals had at least one or more close family members who had intermarried, lending support to the exposure and acceptance of interracial contact. One interpretation of this finding is that individuals who are exposed to marriage beyond the ethnic group when they are still young, may be more open to the idea of intercultural marriage later in life. On the other hand, the early family experience of biculturalism may have influenced their decision to go against the societal norm of racial endogamy. This finding is consistent with Cottrell's (1990) study of intercultural marriages among Indian and Western couples in the United States, which noted that individuals who engaged in intercultural marriage came from families with previous intercultural marriages. Another possible explanation is that as intercultural marriage increases, society becomes more desensitized to what has been previously socially unacceptable among most of the general population (Kouri & Lasswell, 1993).

Findings from the study also provide support for the Theory of Homogeneity, namely that persons tend to marry others with similar social characteristics. Intercultural couples in the study were found to have similar educational backgrounds and previous marital records, consistent with the Theory of Homogeneity, which notes that similar educational attainment and marital history play a role in the mate selection process. The findings are also in accordance with other intercultural marriage studies from different settings such as those among Whites, African-Americans, Hispanics and Asian Americans (Qian, 1999); and Black-White intermarried couples (Kouri & Lasswell, 1993). The findings tend to suggest that educational homogeneity is of greater importance than social origin homogeneity, such as race and class, in marriage selection.

Intercultural marriage, therefore, as with intra-cultural marriage, would appear to emphasize spousal compatibility in education when ethnic background becomes less important. It could be argued that educational attainment serves as a more accurate indicator for intercultural marriages as such a factor does not vary over time in the same way as personal income and occupational status. A couple's occupational status may be different at the time of their meeting and after they get married. For example, a woman might take the option of becoming a homemaker following marriage. This explanation is supported by the data, indicating that most of the wives in intercultural marriages were full-time home-makers at the time of the study.

On the other hand, significant differences were found in husband-wife personal characteristics such as current age, age-at-marriage, personal income and religion before marrying. The nature of the data may provide a plausible explanation for these findings. In addition, one should be cautious of the cultural biases that might have contributed to different findings in comparison to the reviewed research. Husbands in the study were generally older and married later in comparison to their wives. Traditional family and cultural norms among Asian communities expect husbands to bear the primary responsibility of taking care of the wife and family. Thus, it is common among Asian couples for husbands to be older. Bounded by social norms, a husband is typically the main financial provider for the family; thus, it is expected for men to marry at a later age after they have achieved a financial stature capable of supporting a family. On the other hand, the current study's findings of significant differences in husband-wife personal incomes may be explained by the fact that a large proportion of

the wives were homemakers with earnings from part-time jobs only. The possibility that intercultural marriages are facilitated by equal incomes of spouses was not supported by the current study data.

In comparison to study findings from American samples (Tzeng, 2000; Qian, 1999; Lewis et al., 1997), it was suggested that social similarities such as similar educational background may override ethnic and cultural differences among intercultural couples. According to Tzeng (2000), educational attainment may positively affect one's probability of intercultural marriage. From the structuralist point of view, intention to engage in a cross-cultural relationship may also be encouraged by other factors such as familial and life experiences (Cottrell, 1990; Kannan, 1972), chance and the opportunity to meet people from other ethnic backgrounds such as the workplace, school, university, community or neighborhood (Yancey, 2002; Khatib-Chahidi et al., 1998). This may also imply that those who inter-marry may not be influenced by ethnic factors when they choose their spouse from a different ethnic group, and that their motivations are those factors that appear typical to most intra-ethnic couples.

Structural theory is useful in describing the phenomenon of intercultural marriage among the multicultural community in Malaysia. Structural theory suggests that increasing social interaction among individuals from different ethnic backgrounds in modern society promotes intergroup relations which, in turn, foster intermarriage (Beau, Becker & Fitzpatrick, 1984). If applied to the context of intercultural marriages in Malaysia, the cultural pluralism that stresses the acceptance of various ethnicities within the Malaysian community has shortened the social distances between persons from different ethnic backgrounds and has even led to an indirect facilitation of marriage across cultural boundaries. In general, social, economic and political environment changes provide some evidence that the society has become more open and tolerant to racial and cultural heterogeneity (Spickard, 1989). In relation to the Malaysian cultural context, pluralism has defined the existing social, economic and political environment. The desegregated multicultural community in Malaysia (i.e. school, university, workplace and neighborhood) has increased social propinquity across many areas of social life, thereby providing evidence of decreasing social distances between different ethnic groups. Thus, it can be argued that intercultural marriages in a multicultural setting will continue to rise as physical and social barriers between peoples diminish, and the traditional approaches to mate selection will be replaced by individual choice (Sung, 1990, as cited by Tzeng, 2000).

As expected, findings from the current study indicate variations in the socio-demographic characteristics among intercultural couples, including age, age-at-marriage, educational attainment, period of acquaintance and marriage duration. These findings suggest that variations among intermarried individuals may be caused by ethnic differences in socio-demographic characteristics, e.g. of Malay Bumiputras, Chinese, Indians and Other Bumiputras. These socio-demographic differences may also reflect the role of traditional norms and cultural preferences in creating variations among intercultural couples. For example, the traditional ideas about the 'ideal' marriage, parental concern and opposition to marrying out of one's ethnic group may cause couples from different ethnicities to delay their marriage (Hassan & Benjamin, 1973; Kannan, 1972). This may lead to a longer period of acquaintance and an older age before marriage in certain groups of mixed-marriage couples. For example, Malay-Chinese intercultural marriage is assumed to be the most controversial and conflicting with regard to religion, ethnic identity and cultural traditions. Both ethnic groups have very strong family traditions and kinship ties, and it is extremely important for the members of each group to preserve and pass on their cultural heritage from one generation to the next. Marrying into a different ethnic group tends to lead to strong opposition from family members and a longer courting period before marriage.

Cultural preference draws certain groups closer together if they share similar cultural values and practices and, thus, intermarriage is more frequent between groups with similar racial and cultural backgrounds (Fu & Heaton, 2000). When more than two groups are involved, there might be a gradient of perceived closeness among the diverse groups. For intercultural marriage between Other Bumiputras and Malay Bumiputras, for example, the similarities and common features, e.g. religion and physical

appearances (Leete, 1991) may buffer opposition and negative reactions from the families-of-origin; thus mixed-marriages between the two ethnic groups might be more acceptable for their family members. This helps to create a shorter courting period before marriage, as well as allowing marriage at a younger age compared with other intermarrying couples. In intercultural marriages, the significant difference in educational attainment among each partner may be caused by ethnic group expectations in regard to educational attainment. In addition, Hassan and Benjamin (1973) have provided evidence that variations in the socio-demographic characteristics of intercultural marriages may be influenced by ethnic and religious factors.

Intercultural marriages in the study were found to be highest among the Malay Bumiputras, who are Muslim, and the Chinese, who are mostly Buddhists. This indicates that these intercultural couples also vary in their religion. This finding somewhat contradicts previous work carried out on intercultural marriage in South East Asia (Edmonds, 1968; Kuo & Hassan, 1976). However, Lewis et al. (1997) and Khatib-Chahidi et al. (1998)'s findings on Black/White marriages and intermarried couples in the United States and the United Kingdom, respectively, indicated that marriage across ethnicities/cultural divides involved different religions.

As for the role of religion in intercultural marriages, data from the current study revealed that intermarried couples each professed a different religion-of-origin such as Islam, Christianity, Buddhism, Hinduism and other traditional religions. This phenomenon was expected among the participants because all intercultural marriages reported were between Malay Bumiputras, Chinese, Indians and Other Bumiputras - the majority of whom profess different religions (Malaysian Census, 2000). Results showed the ethnic background of the couples to be highly associated with their religions-of-origin. It can therefore be argued that intercultural marriage in Malaysia almost always equates with inter-religious marriage. This implies that ethnicity and religion work hand-in-hand in explaining the phenomenon of intercultural marriage in Malaysia.

Malaysia comprises a multi-ethnic and multi-religious society; people are free to choose, practice and profess any custom, religion and cultural norm that they wish within certain identified limits. Findings showed that intercultural couples, specifically individuals from Chinese, Indian and Other Bumiputra backgrounds have stronger tendencies to convert to other religions after marrying. This can be explained by religion and marriage law in Malaysia, as all Malays are Muslim by legal definition. If one of the spouses in an intercultural marriage in Malaysia is Muslim, therefore, the other non-Muslim spouse is expected to convert to Islam in order to legalize the marriage, as marriage between a Muslim and a Non-Muslim is forbidden under the Islamic Family Law Act of 1984 (Ahmad, 1997). This has created the phenomenon of non-Muslim individuals who are engaged to Malay Bumiputras converting to Islam when they decide to marry. As religion in Malaysia has close connections with customs and cultural practices, especially among the Malay Bumiputras, conversion to Islam tends to result in conformity to the Malay Bumiputra-Islamic cultural practices within the newly formed intercultural families.

The study concludes that the intercultural marriages under study had dissimilar socio-demographic characteristics but, interestingly, were found compatible in terms of educational attainment. In general, the fact that the couples in the study had been exposed to intercultural marriages within their families might have contributed to their own intercultural marriages. As for ethnic group comparisons, the findings indicate the existence of variations in socio-demographic characteristics among individuals from the various ethnic groups. This suggests the influence of ethnicity factors on the background characteristics of intercultural marriages. Broadly speaking, the intercultural marriages in the study tended to be inter-religious marriages, involving couples from Islam, Buddhism, Hinduism and other traditional religions.

The literature review presented earlier included study findings from different cultural contexts than that of Malaysia. Caution must be taken, therefore, in generalizing results from the present study to other populations. The findings from the present study need to be explained within the cultural context of the researched populations. In the present study, relationships between religion, ethnicity

and socio-demographic characteristics among intercultural couples were not conclusive and may differ in other contexts (e.g. individuals with higher socio-economic status, ethnic groups with shorter social distances, families living in more desegregated communities). Future research should explore potential variations in these associations in different family types and situations.

As the research on intercultural marriage continues to grow, it is critical that one is aware of the culture-sensitive issues when comparing the available literature and theories with current findings. It is a mistake to assume that similar results would be expected from the study of a different cultural background. Only through a more comprehensive understanding of this process will researchers and practitioners be able to understand the phenomenon and development of the marriage institution across ethnic boundaries.

The present findings have important implications for future research on intercultural marriage, as well as for programs designed to encourage intercultural couples to assume a more active role in promoting effective family development. To encourage involvement and to understand the different ways in which intercultural couples are involved, researchers and practitioners must begin by exploring a wide variety of factors that may influence cross-cultural marriage. This investigation is a step toward bridging the gap between intercultural marriage and multiethnic communities, by examining patterns of socio-demographic characteristics for both intercultural husbands and wives. The understanding and exploration of intercultural marriage in different socio-cultural contexts can lead to future research and family development programs that would be most beneficial to future generations of mixed populations.

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Conscience and Social Acceptability among the Ibani in Niger Delta, Nigeria

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Abstract

The paper examines the notion of conscience in the enthronement of morality among the Ibani. It argues that social Institutions such as traditional education, family and the community alone are inadequate in the evolution and transformation of the moral man. It posits that the acceptance and self-knowledge of the Almightyness of the Divine Creator (DC) an all embracing power transforms the individual as the Spark of God (SG) enables the conscience discern moral decision.

Introduction

Mie nye (character) among the Ibani is the essence of a person's being. The Ibani are the group of immigrants from the central Delta who today are found in the present Bonny and Opobo Kingdoms close to the Atlantic. The Kingdoms thrived on the Palm Oil trade in the sixteenth and Nineteenth centuries, where they were affected by Ibo cultural influences.¹ The Ibani is one of the culture groups inhabiting the Niger Delta, of Nigeria. An area that is a bedrock of crisis on account of the under development, environmental degradation, oil pollution and total neglect by oil prospecting companies. Recently, the Niger Delta has become the Centre of hostage taking and kidnapping for ransom.² Among the Ibani a person with *mie nye* (character) is one with qualities and behaviour that conform with accepted practices as distinct from those that are bad. *ibi miénye* is good character such as hospitality, respect, generosity, protection of women, opposition to violence, opposition to selfishness, opposition to vandalization, regard for hard work and honour, chastity before marriage and condemnation of homosexuals etc.

When one is said to have *ibi mieye* (good character) it means the individual displays qualities or have some attributes which conform with his/her being adjudged to be good as distinct from those that are bad. Indeed *mie nye* (character) is the very essence that makes life joyful. It give acceptability, good wishes and prayers. It is what differentiates a human being from an animal. But what determines *mie nye* (character)? Is it possible for *mie nye* (character) to act independently? *mie nye* (character) is determined by conscience – a thought process, which provides a moral guide for our conduct³. Conscience therefore guides man to make informed independent moral decision. Conscience is a mode of consciousness or thoughts about ones own value or dis-value⁴. Conscience is the Centre of self-assessment, self-criticism and self-appraisal. Among the Ibani, conscience possesses a distinctive

¹ The *Ibani* are located in two large city-states in the Niger Delta, close to the Atlantic. The Kingdoms thrived on the Palm Oil trade in the 16th and 19th centuries. See also Jones M. Jaja and Kingdom Orji (2006) Impact of Colonial Rule on the Pre-colonial Ndoki Economy 1840 – 1960 in *Journal of Nigerian Languages and Culture – Jonlac* No. 10. Vol. 1

² It is estimated that in 2006 alone more than 150 expatriates had been kidnapped and released after payment of unspecified amount, running into millions of Naira.

³ Locke, J. (1979) *An Essay concerning Human Understanding*, the Clarendon press, Oxford.

⁴ Childless, J.F. (1979) *Appeal to conscience*. Ethics

critical/evaluative character often employed in assessment and critical value judgement. The conscience guides one in deliberations of what is good or bad actions and beliefs.

Consciences not only make for individual choice, but promotes good relations among people. For instance, when one maltreats another, he is asked how it would be like if he/she was at the receiving end. This is an expression of the saying “do unto others as you would wish them to do unto you – the golden rule.” This is a clear expression of the role of conscience in promoting good neighbourliness, good relations and happiness among people.

Among the Ibani, culture and tradition also account for the cultivation of conscience. Culture refer to the whole social practice giving meaning that accompanies all social actions and makes it socially meaningful and not mere biologically based reflex or personal habit⁵. The meaning, dimension is a matter of everyday practices and comes up more explicitly when one is faced with difficult situations like injustice, suffering, dilemma or anomaly. The cultural dimension of social practice is often undefined that it leaves room for quite a number of possible interpretations. Patterns of action are susceptible to change⁶ in the course of further actions, they are not fixed. For example bribery or graft may change along with the changes of its forms in practice and its growing complexity thereby changing its meaning. New Practice brings with it additional alterations and unexpected twists to pre-established meanings. It is therefore difficult to control the meaning of a particular belief or value.

On the other hand, tradition implies specific way of coping with the diversities that have emerged in the course of history. It is something invented, not stumbled upon or received. It is a product of human decision in a significant sense⁷. The material that are handed down⁸ and over to one time and place from some other time and place are always much more numerous than those labelled “tradition”. Tradition is often a selection from the wide array of material; often a matter of human attribution. Such selection must be informed by need and must fit in without requiring a total change of already existing way of life⁹. According to Curtin,

If new political features are copied, we can expect to find a local development that needed the support of symbols, roles or structural elements to bolster its own authority.

But the basis for that authority must have been there all along, and it must have roots in the local society – its economy, its social structure, its religion its value system¹⁰.

Even on going customary forms of action and belief do not constitute tradition until they are marked as such and assigned a normative status. What materials is designated “tradition” is a matter of human judgement, which is based on a contestable claim for their centrality or importance in the life of a group. It is important to note that traditional education inculcates values of society into children born into the society and is believed to be an important agent of moral upbringing. It is however necessary to point out that it is not all the norms inculcated into a people are used in the guidance of their conduct. Whereas some are imbibed, others may change with time and circumstances or may not even be used at all. This is so in view of the evolutionary nature of our moral ideas. For instance a persons moral principle today may be a completely different thing the next day. An indication that the values from the socializing agents such as tradition, can change in view of the dynamic nature of morality.

⁵ Gudsdorf G.P. (1980) *Anthropology*. The New Encyclopaedia Britannica vol. 1. Chicago: Cambridge University Press

⁶ McCall, D.F. (1969) *Africa in Time Perspective*. New York, Oxford University Press.

⁷ See Eric Hobsbawn and Terence Ranger (ed.) (1983) *The Invention of Tradition*. Cambridge University Press.

⁸ See Carr, E.H. (1968). Argues that history begins with the handing down of tradition, and tradition means the carrying of the habits and lessons of the past into the future. This means, the records of the past are kept for the benefits of future generations.

⁹ Most scholars now agree that each culture represents an original development, conditioned by its social and geographical environment. Each culture is also conditioned by the manner in which it uses and enriches the materials that comes to it from outside (through diffusion).

¹⁰ Curtin, P. et al (1978) *African History*, London, Longman.

The family is another factor that instills the development of conscience among the Ibani. The Ibani family is composed of not only the nucleus or immediate family, but also the extended family¹¹. This close family unit because of the structure of life in the community brings them together more often. The family becomes an important agent of socialization. In these formative years of the child, the family plays a crucial role in the development of moral consciousness. Through social interaction, habits, norms, customs prevailing in the society are imbibed and the moral attitude of society begin to develop.

Despite the fact that moral values are rooted in society, not all value systems became imbibed by individuals. This is known as selective acquisition of values. Values change according to circumstance, age or evolutionary trends. This re-enforces the dynamic nature of morality. An individual that develops conscience is said to have *kukubie*, which gives social acceptability in society. A person with good character is said to be well trained or from a good home - *furo tuo*. The concept *ibi mienye* (good character) refer to one who aspires to enable others achieve their life aspirations, but knows the social requirement of society at any given circumstance. This is one whose moral or ethical sense is not only high it has not been changed by the dynamic nature of society.

However, the *furo tuo* (well bred or son of the soil) concept is receiving serious knocks from the twin actions of modernity and westernization¹². The quest for socio-economic achievement and individualism has gradually eroded the *furo tuo* concept. Although the conscience still remain an important factor in moulding the individual into a true *furo tuo*. As the conscience is developed the social institution gradually takes shape, since the family also constitute part of society's social institutions which formulates moral beliefs that guide the conduct of every body in the society¹³.

Individual and Morality

Individuals must be guided by the interest of others in any social relations. Among the Ibani, individuals made efforts to cultivate good relations. People willingly sacrifice their freedom for the common good. They must ensure that their beliefs, actions and judgement are such that could be seen and adjudged good or bad. Moral judgement is important for the individual despite the fact that society play important role in its existence¹⁴. It would be erroneous to view morality as entirely social in foundation. No doubt society enthrone the apparatus for its existence, and systematically implants in everyone in the society its moral codes¹⁵.

Having said that, the thorny question now is what is the source/origin of morality? The notion of morality having a societal source lack the explanation of what makes morality reasonable, what gives it its notion of value, or what gives it its quality of goodness. The point being made is that the origin of morality may be independent of the reason that morality has some value – short of questioning its source, it is reasonable to conclude that society's sense of solidarity and preservation is based on some social factors adequately harnessed by the collective conscience of the people¹⁶.

¹¹ The extended family system has collapsed as far back as the 1970. Western education, Christianity and the need for paid employment have totally disrupted the family system.

¹² See Ade – Ajayi, J.F. (1965) *Christian Missions in Nigeria, 1841 – 1891*. Longman. See also Ayandele, E.A. (1966) *The missionary impact on Modern Nigeria 1842 – 1914*, London; Anene, J.C.(1966) *Southern Nigeria in Transition, 1885 – 1906*, Cambridge.

¹³ Among the Yoruba ancestors exist as Guardian of Domestic Morality and Preserver of Sound Family Tradition. See Idowu, B.E. (1962) *Olodumare God in Yoruba belief*. Longman Group Ltd.

¹⁴ Abimbola, W (ed.) 1975 *Yoruba Oral Traditions Ife*: Department of African Languages and Literature.

¹⁵ See Jaja, J.M. (1995) *Opobo: A Cultural History 1870 – 1980* unpublished Ph.D. Dissertation, University of Port Harcourt, Nigeria.

¹⁶ Barth, F. (1969) *Ethnic Groups and Boundaries Boston*; Little Brown.

Social Grouping and Conscience

Social grouping and cultural boundaries give qualitative demarcation or identity. Members do virtually every thing everyone in other societies do, whether in education economic, familial or political functions. Social groups function as an association rather than as a separate entity. And they mostly incorporate many elements borrowed from others in the “wider” society and mould them to their own needs. Moreover, social groups are usually not separated by a natural break in social interaction simply because they have to interact with one another. In this connection conscience is but a matter of allegiance to certain standards or moral orientations and not isolation.

Besides no social group has a monopoly of what is right and proper or the various elements that make up its way of life; these elements cross social boundaries and are applied by particular groups in one way or another. For any social group, therefore, the standards of judgement for determining the meaning and plausibility of moral attitude are those internal to the practices themselves. More over, becoming or cultivating conscience is something akin to primary socialization¹⁷. Learning to listen to your conscience is like learning a second language. One learns a second language in the same way one learns the first, by an intensive association with a close-knit group of people who already speak it, and conscience like languages can be understood only in its terms¹⁸. To know the meaning of conscience among a group for example, would be meaningless outside; rather to look at the use of the term within a social group would be more meaningful¹⁹. The way the term features in stories, beliefs and behaviour of a group is all that matters²⁰.

Conscience is not an individual affair, it is cultivated in everybody through certain social institutions. Through these institutions, moral norms, rules of conduct, standards of evaluation and the mechanism for the control of human behaviour are implanted in everybody. Through this process, everyone becomes aware of what conscience is in Ibani society. Indeed during the process of development and regulation of human behaviour, there is the evolution of a sense of shared moral beliefs. Conscience regulates the behaviour of members of the society without recourse to coercion. In other words, creating an enabling environment where individuals can effectively develop their conscience becomes the social responsibility of all²¹. Good conscience leads to the practice of virtue, the right conduct in life and manners, the science of improving the temper and making the heart better. But good character can only strive in an atmosphere devoid of negative social relations.

Religion and Conscience

In present day Ibani and indeed the world over, there exist a growing revival of religion. This is a blessing, as it tends to bring about harmony in the attitude of man to his fellow man. The acceptance of Jesus Christ is an attempt to re-align the heart of people to God. The Bible becomes their guide in their daily activities. This change which some see as a painful spiritual process, is one of the forces that had helped shape and evolve the Ibani culture. Believing in God and His essence is a Universal concept. God is Divine, and the truth is that once this Divine Energy (DE) of Divine Christ (DC) an all embracing power comes into the human body the earnestness and passion to live and be in the spirit of the Divine Energy is the first sign of transformation and acceptance of His will. Once that spirit of Christ that raises the consciousness or awareness to a higher level, - that is the level of the spirit is

¹⁷ Wiredu, K. (1992) “The Moral Foundation of an African Culture in Wiredu and Gyekwe (ed.).

¹⁸ McIntyre, A (1988) “A Second first language in *whose justice*”? *Which Rationality?* Notre Dame: University of Notre Dame Press.

¹⁹ Jaja, J.M.(1996) The Cultural Historian and the role of inculcation of Nigerian Culture in School Children in *JOTASE – Journal of Technical and Science Education*. Vol. 1 and 2.

²⁰ Akin Wowo, A.A (1990) “Contributions to the Sociology of Knowledge from an African Oral Poetry. See also Afolabi Ojo (1966) *Yoruba Culture*. University of Ife and University of London Press Ltd.

²¹ Nwigwe, B.E. (1994), *Ideological links Between Christianity and Greek Philosophy*. Port Harcourt. Hercon Press Ltd. See also Eboh, M.P. (1993) *Introduction to Philosophy and Philosophizing*. Claretian Institute of Philosophy, Maryland, Nelcede, Owerri.

attained, one sees things differently. It is only when one lives in the spirit, that the spirit – the spark of God (SG) takes control of the conscience – the inner voice (IV), defeating and reducing the material development (MD) or ego, leading to a moral and acceptable life in society.

The conscience comes alive once the truth is revealed. Rosmini – Serbati has it that truth is reduced to system by organizing single truths among themselves, showing the intimate links that unite one to the other²². Truth St. Augustine says must be avidly accepted wherever it may be found. God is truth²³. He is the Divine Energy whose manifestation is the infinite universe and whose super consciousness permeates all there is with ever increasing clarity of the mystery of Christ, which affects the whole course of human history²⁴. God is a universal value. Perhaps, a more effective way of driving home the point being made here, is to state that this enormous consciousness (conscience) is the only way to make man live a moral life, since in Genesis (6:5-6) “God saw that the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was only evil continually”²⁵. In other words, the conscience is to guide man to live ethical life, to what is good or bad. It is innate, the inner attribute of God to direct man to himself because God is good. Any man who behaves wickedly and shamelessly is said to have no conscience. Therefore, conscience is the ultimate moral authority.

Conclusion

Conscience is precisely what constitutes this task. Traditional education, family, communities are not the ultimate source of morality but rather God working through the conscience. Religion has its role to play. It made man discover himself, develop his conscience, making him a better citizen of the society and the world. The knowledge of God has transformed the people to a higher level of super consciousness of the Divine spirit (DS), where the conscience directs, dampens and controls our ego so that the higher self (HS) will prevail subjugating the material development (MD) at all times. The Spirit guides one constantly in the determination of the rightness and appropriateness of our decisions and actions. Living in the spirit is tantamount to being a co-creator in active form. Because being in the spirit makes one operate in the level of God and see things from God's perspective.

²² Rosmini – Serbati (1977) *Dizionario Filosofico*, a cura D, Giulio Banafede, Fiamma Serafica di Palermo.

²³ St. Augustine, *The Confessions* Book 1, 1

²⁴ Flannery A (ed.) (1977) *Vatican Council II: The Conciliar and Post Conciliar Documents*, Costello Publishing Company New York.

²⁵ *Bible*, The.

Cultural Dynamics and Globalization in Multi-Ethnic Nigeria

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Introduction: *Nation State and Cultural Plurality*

The Nation State pattern adopted by Britain in Nigeria has exerted a powerful influence upon Nigeria's attempt to build nation out of the multi ethnic populations that have been arbitrarily carved out. In Nigeria the European ideal of a nation state has led to the search for a single language and culture leading to the increased recognition given to three major languages – Hausa, Yoruba and Igbo, thus creating uncertainties about the future roles of other cultural forms that do not fit the chosen dominant pattern.

These formally “submerged” nations are now claiming their cultural rights and searching for an escape route from cultural suffocation within the confines of the mono-cultural nation state. Through the breaking down of national territories, the forces of globalism have created conditions for the renaissance of local cultures and ethnic identity.

The Nigerian Nation is facing the pressure of economic, cultural and political globalization. The paradox has unleashed forces that appear to herald the convergence of cultures through the homogeneous effect of mass media and information technology explosion while at the same time contributing to conditions that create opportunities for cultural resistance to such trends by firmly entrenched local cultures.

These cultures, which were assumed docile or dormant, are proving their extraordinary resilience by voicing demands for cultural and political autonomy from the nation state. Such local demands which originate mainly from old historical/regional minorities or submerged nation states have been influenced by forces of economic globalization.

In fact the extent of transformation by a global economic system and a variety of other trans-national processes is still unfolding. Sassen (2000) has shown that the states regulatory role and its autonomy have been weakened through the privatization of public sector activities and economic deregulation. This results in the virtual privatization of governance functions affecting such state regulations over policy and its implementations.

Nigeria's Cultural Plurality an Ideal

There is little doubt in the minds of some nationalists that the Nigerian experiment has been disastrous. Basically, because the cultural heterogeneous ethnic groups had not benefited economically as the larger ethnic groups in spite of the fact that the huge resources that propel the nation stem from their land. It had of recent led to crisis and conflict.

Conflicts arising from long-term subjugation of national/ethnic groups in the Niger Delta and some groups in the North are deemed to have led to an alarming crisis situation.

In this ethnically pluralistic setting where the resources of the nation had not been fairly or equitably shared for the development of the society, it provides a fragmentation alternative. The Biafran incident readily comes to mind whereby each national entity seeks a separate and independent state hood.

The focus of these fragmentation alternatives is usually a vain, and fruitless search for a mono-cultural, mono-national and mono lingual state, - a most doubtful and culturally limiting ideal,

practically impossible to achieve and which the current globalize momentum makes both economically and practically irrational and impossible.

It must be emphasized that Nigerian multi-cultural, pluralist dilemma is facing many countries of the world as each of them is moulding historically, demographically and economically in a different way and carries the load of its own unique traditions.

Nigeria, though Federal is “oppressive” of smaller cultural identities and is currently seeking ways of settling its internal pluralistic dilemmas through the national political reform conference. This process of finding a constitutional framework between the cultural rights of the state is a great challenge because of the dissatisfaction of a greater part of the smaller ethnic minorities over political marginalization, economic deprivation and exploitation.

To achieve stability, the Nigerian nation need to ensure that regionally and cultural ethnic groups or identities feel secure within it. They must be convinced that the discrimination, exploitation, dominance and even persecution of the past are not an option which dominant groups, Hausa, Yoruba, Igbò would wish to repeat in future.

Although the middle belt can be said to have benefited from their association with the Hausa dominated North, their present attempt to carve out their separate identity despite the reasonably “satisfactory” economic and cultural association show how past wrongs still weigh too deeply on the emotions for the past to be forgotten.

The solution to pluralist dilemmas is not to be found in the fragmentation of multi-ethnic states into even smaller and less viable nation states but in politically and culturally, stable cohesive societies that recognize and accept their pluralist makeup through constructing multi-cultural nation states that respect cultural and linguistic diversity within a wider regional community.

It is clear that a nation-state in the form in which it was conceived originally, that is a mono-national entity equipped with all the centralizing powers of sovereignty is a thing of the past.

Globalization and Third World Development

Most Third World Countries especially those in Africa operate pre-industrial economies. With the abundance of arable land and raw materials, including the highly priced natural resources – crude oil, coal and hydro-electricity, the continent is the most enviable part of the planet. Paradoxically, these countries have not been able to take advantage of their natural endowments. That is, they have failed to evolve societies that could meet locally their basic developmental needs. What exist in the living conditions of African countries are all the indices of impoverishment. The World Bank notes that the worlds population is approximately 6 billion, almost half 2.8 billion live in poverty, on less than 2 dollars a day. World Bank 2001/2002. Of these, 1.2 billion or about 20% live in extreme poverty, i.e. on less than 1 dollar a day. In developed countries, one out of one hundred children die before the age of 5. On the other hand the 20 richest countries have a per capita income 30 times higher than that of the world’s 20 poorest countries and the gap continues to widen.

Third world countries must industrialize to open the floodgates to series of amenities that would provide a better meaning for existence. Globalization therefore provides such an opportunity. Foreign Direct investment would provide rapid economic development through the injection of massive capital, expertise and technology, which unfortunately are lacking in third world countries. The opening of economies of third world countries to the developed world have the advantage of making third world countries more active in the international trade and absorb more capital in the form of direct investment from developing countries. Some of the specific benefits include; capital inflow, which adds to the domestic supply of savings thereby generating new investments. With such for example in Nigeria, Nigeria’s balance of payment would breath a sign of relief. When gross profits from such investments are re-invested, taxes would be collected by government, leading to higher revenue. Nigeria would in addition, benefit from the level of technological transfer. New skills and knowledge would be imparted to local employee through training and development. Industries that would be the outcome of direct

investments would provide employment opportunities to the recipient state. (Temple, 1999; Mabogunje, A.L., 1980)

These corporations have also been known to provide essential amenities especially to host communities such as health care, scholarships and other issues that are directly relevant to the common people. Thus, the need for FDI cannot be overemphasized. No country has ever achieved economic success in isolation. With the intensification of integration, some underdeveloped countries managed to reduce development gap between them and the industrialized countries. Temple 1999. There are the spectacular achievement's of the "Asian tigers": Hong Kong, South Korea, Tai-wan and Singapore followed more recently by China and other Asian countries. World Bank 1998-1999.

The number of people who live in poverty, i.e below 1 dollar per day decreased from 420 to 280 million in the past decade. However, this is not exactly the case in African countries, with an even lower GNP in the sub-Saharan African countries. World Bank 2000/2001. Throughout the period, Latin and Central American countries showed lower developmental rate than industrialized countries. Therefore, closing developmental gap would be impossible without the benefits that come from participating in the international division of labour, supplementing domestic savings with foreign capital inflow and above all, improving technology and organization through direct investment.

Globalization therefore provides developing countries with the only chance to reduce and eliminate developmental disparities. It was this disparity in development that informed Pope John Paul II's call on politicians and economic elites to show solidarity with the poor by bringing about a fundamental change in their situation. It must however be pointed out that although liberalization is extremely profitable, it is also risky in terms of financial and currency crisis especially to countries inadequately prepared for the liberalization of capital. Rogoff 1999. This particularly applies to countries with underdeveloped capital markets, a weak institutional structure in the banking and financial sectors, unstable macro economic policies. Systems promoting openness in their domestic economies and freedom of international transactions undoubtedly, bring greater economic benefits than systems which isolate their economies and restrict the international movement of capital. Obsfeld 1999, Sachs 1988.

Cultural Globalization

The benefits that arise from globalization spur development in general. The disappearance of space as a significant factor means not only increased opportunity for the movement of goods, capital, money but also information, ideas, television images and individuals. International interdependence increases as certain cultural patterns and behaviour are disseminated, moulding mass culture all over the world. Regardless of geographical location, people are clothed in a similar way; in T-shirts, jeans and tennis shoes. Billions watch the world cup, Wimbledon and French opens, other major leagues or major American soap operas simultaneously.

People know faces of major film stars, musicians more than faces of politicians and personalities in their own country. There is no doubting the fact that globalization is an ever-growing phenomenon which today is inevitable. Nigeria seems to have caught a large dose of the "global epidemic". One appreciates the positive aspects of borrowing but when it becomes persuasive and unilateral there is cause for worry. For instance, the kind of information and programmes radiating from the Nigerian television, western ideas, lifestyles and values, have intoxicated the Nigerian youth and indeed young Africans. This is clearly evident in the one-sided flow of globalization. Its present nature makes it impossible for African countries to counter the cultural penetration or the negative pictures painted by the western media.

Basically, there is nothing wrong in emulating but every emulation must be critically reflected upon and structures and policies put in place to check the negative impact of unhindered erosion of Nigerians cherished cultural values and tradition. The point must be made that every culture group is

unique with different ideologies. These differences must be appreciated and encouraged to strive, therein lay the beauty of human diversity.

The negative impact of globalization has also been witnessed in Nigeria's human capital. The immense brain drain of the best and brightest into the developed countries has robbed the nation of the services of the very citizens who could have contributed most to human resource development of the country. This immigration abroad could also be explained by lack of employment and the reluctance of the Nigerian nation to recognize and utilize such talents.

The onus therefore is on the leadership of the Nigeria nation. Globalization is deterritorialization, and this refers to a "reconfiguration of geography" so that social space is not defined through distance and borders, the rise of international organizations. Nigeria must diversify its economy if it must reduce the negative impact of globalization, and oil explorations on the environment. It must also ensure that agricultural development does not affect the environment negatively.

One good thing going for Nigeria is its market – its population. Nigeria must strive to build companies that could provide services to the country and to other African nations. That would boost the African economy and nourish relationships with other Africa nations. The South African example through the MTN a major cellular phone provider in Nigeria should be a challenge to Nigeria. Within a few months of its operation in Nigeria, it generated over 350 million pounds in business.

Nigeria must take advantage of the newest partnership for Africa – NEPAD. The New Partnership for Africa's Development (NEPAD) is a program developed by African leaders and spearheaded by President Obasanjo and President Mbeki of South Africa. It seeks to restore stability, peace and security and to promote good governance and leadership. Moreover, NEPAD wishes to provide a catalyst for the resumption of sustainable development, reduce power and unemployment, consolidate democratic gain and reconfigure the global financial structure. The partnership seeks to gain political consensus on reforms; to essentially speak with one clear African voice that stands against creditors, development partners and international financial institutions. This Day, December 13, 2001.

Although its ambition is a tall one with an uncertain future, its success, however marginal would encourage future partnership and speak volumes about the strength of African indigenous initiative.

Conclusion

The globalization process no doubt will continue to intensify as technology continues to change. Globalization is the result of technological progress which today, unites people making space disappear as a factor that separates people from one another. It was human intellect that drove technological progress, leading people to make choices that are beneficial for them personally, and for society generally. That is why the processes that are currently integrating the world will continue, despite the setbacks that occur now and then. In reality, the world is more interconnected now than at any other time in human history.

But globalization cannot totally erase cultural plurality in nation states like Nigeria. However, it would ensure more tolerance and stability as cultural groups attempt to forge economic and cultural associations that respect political linguistic and cultural plurality.

Liberalization has increased particularly in the developing world and internationalization is certainly increasing. International trade and interdependence are trademarks of globalization, and countries like Nigeria cannot escape from or wish it away. Nigeria must put policies in place and be prepared and ready to cooperate with other countries experiencing negative impacts of globalization to change the dynamics of the process for the benefits of its citizens.

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Interdisciplinary Methods for the Writing of African History: A Reappraisal

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Introduction

Before the 1950s and early 1960s historians did not feel any compulsion to adopt the theories and methods of other disciplines for the interpretation of the African past. They seemed to have believed that history as a method can provide all the answers required for the reconstruction of the past. This feeling was largely wrong.

Not surprisingly, historians from the mid sixties and the early 1970s began to look for alternative or complementary methods from sister disciplines to supplement their attempt to understand the past. Before we go into examining these alternative methods we must state why historians felt the need to adopt interdisciplinary techniques for the analysis of human affairs.

The Need for Interdisciplinary Techniques

There were many reasons for adopting interdisciplinary dimensions to the study of African history.

- 1) First was the fact that a large chunk of the African past was still unwritten and there was the need to resort to disciplines whose methodologies were pre-historic by nature.
- 2) Second was the fact that Oral Traditions, which have ameliorated the problem of inadequate written materials, (Vansina 1973; Alagoa 1971) are problematic in many ways (Murdock 1959: 43)
 - (a) Often they do not go back more than a few thousand years into the past
 - (b) They are sometimes distorted due to the use of such traditions as charters for legitimizing the past and present circumstances of ruling dynasties and
 - (c) They do not provide adequate chronologies for determining periodization or different stages in the development of human activities.
- 3) Thirdly, the available written texts have their own problems.
 - (a) The indigenous texts such as the Vrai or the Insibidi are too esoteric to be meaningful to the historian not familiar with the religious or graphical symbols associated with them.
 - (b) The foreign texts, apart from being too recent, are sometimes too biased because they were written by Arab and European Imperialists who used them to justify their political activities in Africa.

By and large, interdisciplinary perspectives were adopted because of the need to circumvent the problems associated with oral and written sources or the necessity to check and cross-check their validity so as to provide a more convincing basis for interpreting the past.

Types of Interdisciplinary Methods

There are different methods used by historians to supplement information gathered from written and oral sources. These include, among others, linguistic techniques archeological techniques, biological techniques and techniques from social anthropology. All these techniques have been used in various ways for the study of West African History. But how? Let us answer this question first with an examination of the usefulness of linguistics to the study of history.

Linguistic Data and History

First we shall try to ask two questions (1) What contribution can the systematic study of language make to the study of West African History. (2) What type of linguistic data is relevant to the study of West African History?

For an answer to the first question we shall first take note of an important proverb amongst the Wolof and the Fulfulde. According to the folklore of these two groups “speech is what gives shape to the past”. What this implies is that the study of the past will be shapeless without speech. And who says this is not true given the fact that all other sources for the working of history derive their inspiration from the spoken word.

There are four basic ways Linguistic data can contribute to the study of history.

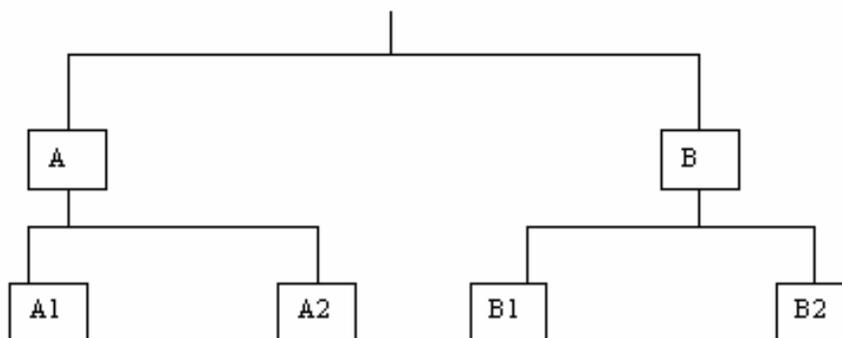
- (1) Linguistics provides information about the common origins of people who may, today, be living separate lives in different localities.
- (2) It provides information about time lapsed since the separation of once – united language or peoples
- (3) It aids the location of the trust homelands from which people having a common origin dispersed to other locations.
- (4) It provides information about continuities and changes in the environment or in culture.

Tracing Common Origins

The linguistic technique used to trace or determine the common origins of people is based on certain generalizations derived from the study of Indo-European languages. (Greenberg 1963b) These generalizations deal with how population dispersal affect languages in time and space. Language dispersals and differentiation.

Let us assume that there once existed a single population. A group of individuals originally belonging to this population migrate to two different locations. With time this dispersal will lead to increasing difficulties of communication amongst the dispersed groups. We can represent the process diagrammatically.

Figure 1



The two groups A and B that dispersed from a common stem Y will start by speaking the original language spoken by Y population. But before long, each group witnesses changes in their vocabulary, pronunciation and grammar. After about one or two centuries group A will understand group B but with much difficulty. When this happens, two dialects of would have been created. After

about 10 or more centuries these dialects A and B become fully grown languages. Their various speakers would no longer understand themselves. Thus what originally was one single language is now differentiated into two languages – A and B.

The original language from which A and B were differentiated is usually called the Proto language while the new languages are called Daughter Languages.

It is possible that much later, as a result of further dispersal of people from amongst A and B speakers, new dialects would be created. These dialects A1, A2 and B1 and B2 may still be mutually intelligible during the initial periods of the split. Speakers of A1 may understand speakers of A2 and speakers of B1 may understand speakers of B2. But with time communication difficulties will increase. The tell-tale residual similarities will reduce. But generally there will be more similarities and fewer differences between speakers of A1 and A2 or B1 and B2. Conversely, speakers of A1 will find it more difficult to understand speakers of B2 and vice versa.

But how can a historian use this process of language dispersal and differentiation to trace common origins? Firstly, a modicum of similarities in the vocabulary, pronunciation and grammar of the speakers of different dialects or languages would suggest the likelihood of common origins from a proto language. Secondly, where the similarities are close, then it can further be inferred that the languages in question are offshoots of the same primary section of the original population (i.e. A1 and A2).

Pitfalls in Using Language Dispersal and Differentiation for Determining Common Origins

The method of determining homelands mentioned above has been recognized for a hundred or more years now. But it is only in the last thirty or so years that linguistics have drawn our attention to the pitfalls associated with it. Among these pitfalls include:-

- (1) The facts that it may be simplistic to assume that all similarities between languages are genetic i.e. due to common origin. There are two other possible explanations of similarity between languages.
 - (a) Accident
 - (b) Borrowing

It is important to carefully determine what similarities are due to accidents, borrowings and common origins if the historian must avoid the danger of associating similarities to common origins when in fact they are a product of accidents or borrowings.

Grammatical similarities can be a product of both accidental resemblance and borrowings. This is very unlike vocabulary or lexical similarities. Thus we can discount the possibility of accidental similarities with respect to vocabularies. But what about borrowing? Linguists have argued that only one type of vocabulary are much more susceptible to borrowing, i.e. the Non-basic vocabulary. These are different from the Basic core vocabulary which are less prone to borrowing.

By basic vocabulary we mean words depicting Universal aspects of human experience. They are used to represent things, processes and activities common to all geographical areas and cultures. Examples are words that stand for water, sun, sky, air or words that represent aspects of the human body such as head, eye, hand, leg etc.

By Non-Basic Vocabulary we mean words used to represent non-universal aspects of human experience, or things, processes and activities unique to certain environments or cultures. Examples include Kings, sea, rivers, mountain, snow.

The assumption is that because the basic vocabulary refers to universal unchanging aspects of human experience, there is no need for speakers of a given language to change it or borrow from speakers of another language. It remains static with non-basic vocabulary the situation is different. People who migrate from their homeland into another come into contact with new experiences. The tendency is for them to borrow the words used to represent these new experiences in their new locality. This is very unlike a situation where they meet an experience which they are already familiar with or

which is universal. The likelihood is for them to use the original word in their proto language to depict this universal unchanging experience.

It is because of this that linguists have asserted that basic core vocabulary is more reliable for analyzing similarities and differences between languages with a view to determining common origins. What must linguists do is to compare 100 or 200 basic words in two or more languages whose origins is a focus of study. They compute the percentage of similarities and differences in these languages. Where the comparison shows nil or small percentages this is seen as an indication that the languages concerned are not of common origin. A relatively small but not too small percentage of similarities is seen as an indication that the languages are of a very remote common origin, while a large percentage would indicate a more recent common origin.

This process of comparing the words or lexicons of two or more languages with a view to determining the degree of their similarities and differences or whether they are of a common origin is known as Lexicostatistics.

The Problem with Lexicostatistics

- (1) Similarities can be a product of Accidents.
- (2) They can be a product of Borrowing.

The phenomenon called language shift depicts the process by which a language is borrowed. Language shift occurs when a group adopts the language of another. E.g. The Fulani adopted the language of the Hausa groups they conquered. Note also Ijo group amongst the Yorubas of Ondo State; or the Edo – speakers found in the midst of kalabari people on the eastern fringes of the Delta.

Whenever language shift occurs, the speakers who adopt the languages of others retain an adulterated version of their original language for purposes of worship.

The Contribution of Linguistics to the Study of Origins in West Africa

- (1) Linguistic evidence was instrumental to determining the origin of the Ijo peoples. Between the 1920s and the 1960s people generally believed that the Ijos came from Benin. Some historians even accepted this argument.

However, through a comparison of the Basic words in Ijo and Edo languages, it was found that the similarities between the two languages are too small to warrant any conclusive assertion that the speakers of these languages are of a common origin. Comparisons between Ijo – Yoruba and Ijo – Igbo have shown the same degree of similarity. In fact, Edo, Yoruba and Igbo are far closer to one another than Ijo. And it is based on this result that linguists have suggested that if at all Ijo is related to any of these languages, it must have been differentiated from the proto language before the Edo, Yoruba and Igbo languages became distinct languages.

- (2) Linguistic evidence was also significant in determining the origin of the Yoruba people. Popular writings from the 1920s to the present suggest that the Yorubas originated from Egypt or from Arabia. However, with the help of linguistic techniques we are now aware that;
 - (a) There is virtually little or no similarity in the basic core vocabulary of Yoruba and Ancient Egyptian or between Yoruba and Arabic.
 - (b) There is rather a very high degree of similarity between Yoruba and Igala
 - (c) There is a fairly high degree of similarity in the basic vocabulary between Yoruba, Edo, Igbo, Idoma, Igbira and Nupe.

From these three results we can conclude that the origin of the Yorubas i.e. not in Egypt or in the Middle East, but rather within the vicinity of the languages that are similar to the Yoruba language. This vicinity is in Southern and South Central Nigeria.

- (3) Linguistic evidence has also been used to refute the tradition that the Fulani people originated from Arabia. There is virtually zero similarity between Fulfulde and Arabic. On the contrary Fulfulde is closely related to Wolof and Serer both of which belong to the

West Atlantic language family which is a branch of Niger – Kordofanian. Thus the Fulani people should trace their origin to the Senegal valley rather than to the Middle East.

- (4) Finally, linguistics has also provided us a better understanding of Bantu migrations. The early generation of historians saw no connection between the Bantu speaking peoples of central and South Africa and those of West Africa. A comparison of their languages has however shown that they originated from a common place located in the Cross – River and Middle belt areas.

Dating the Separation of Groups

We noted earlier that the historian's methodology requires the dating of past events. Sometimes this is not strictly possible because of the limitations of written and oral sources.

However, linguistics can serve as an aid in this respect. Linguistics can provide us with both relative and absolute dates. Relative dating in linguistics is derived from the earlier stated assumption that the longer the time lapsed between the separation of two or more languages from proto-language, the fewer the similarities between the present day versions of these languages. This assumption provides only relative time periods. It does not give us any definite dates.

Absolute Dating, on the contrary is an attempt to provide definite dates for the separation of once united languages. For long linguists were unable to provide an absolute dating technique for determining the definite time lapse between the differentiation of languages. This inability continued long after the Archaeologists acquired the Radio Carbon technique.

The Problem was however relatively solved with the invention of an absolute dating technique called Glottochronology. Morris Swadesh who first used it to study Indo – European languages, invented Glottochronology. Now what is glottochronology all about?

Glottochronology attempts to measure the degree of differentiation between two or more related languages with a view to determining the relative length of time since the initial separation of these languages. Swadesh (1966) this historical linguistic technique operates on four basic assumptions.

- (a) That the basic – core vocabulary of 100 or 50 words are much less subject to change.
- (b) That the rate at which a given language retained its basic words is relatively stable and constant through time. Thus if a language has 100 basic core words, after about 1000 years it should retain 90% of this list. In other words, if the language originally had 100 basic words, after the first millenium of its separation from a proto-language it should have 90 basic core words left. At the end of the second millenium it should retain 90% of the 90 items with which it started the second millenium, i.e. 81 words. By the end of the third millenium it should retain 90% of the 81 words with which it started the second millenium and so on.
- (c) That the rate of loss of the basic core vocabulary is the same for all languages, whether they are Indo-European or not. This rate ranges from 13.6 percent to 25.6 percent every one thousand years.
- (d) That if the proportion of cognates within the basic core vocabulary is found for the two languages compared the time they separated from a common parent language can be computed. In other words, since we know that about 13.6% of the basic core vocabulary is lost every one thousand years, we can find out the time both languages separated from the proto-language by calculating the percentage or number of basic core words that is lost during every one thousand year period. Thus if both languages have lost only 13.6 percent of their basic words we can conclude that they separated from their proto-language a thousand years ago. And if both languages have lost about 27.2 of their basic core words, we can assume that they separated about 2,000 years ago.

The actual formular used by glottochronologists to determine the time lapsed in the separation of languages is more complex than we have presented above. This formular is something like this:-

$$T = \frac{\log C}{2 \log r}$$

t stands for the time lapsed, log C for percentage of basic words common to the language compared and r for individual rate of retention of basic words.

The Limitations of Glottochronology

Although glottochronology provides several promises for the historical linguist, it has limitations. These limitations have made the technique very controversial. For the purpose of clarity, we shall examine the limitations contained in each of the four basic assumptions of glottochronology.

- (1) There is not much to quarrel with in the first assumption that the basic core vocabulary is much less subject to change. What, however, is not absolutely true about this assumption is that Basic Core VOCABULARY IS universal or that there is a clear dichotomy between basic and non-basic vocabulary. For instance, words like green, yellow and cloud which appear as basic items in the works of lexicostatisticians are not available in the form of single word glosses in certain African languages. There are no single word glosses for green, and yellow in Yoruba. Similarly, the Badagry dialect of Egun has no single word glosses for “Cloud”, “because”, “if”. What this implies is that each language has its own peculiar structure and semantic patterns which may not strictly speaking, be amenable to the rigid assumptions on which the definition of basic and non-basic words are based.
- (2) There is an even more serious problem associated with the second and third assumptions. The rate of loss for languages that have been written cannot be the same for languages that have not been written. It is possible that the rate at which different languages retained items in their basic list is neither the same nor stable or constant through time. This possibility has led several linguists to suggest different conflicting rates of loss ranging from 13.6% to 25.6% Swadesh suggest a loss/retention rate of 25%/75% while Hattori suggests 15%/85% respectively. (Swadesh, 1966b).

<u>Languages/Peoples</u>	<u>Swadesh's length of Divergence</u>	<u>Hattori's length of Divergence</u>
Yoruba – Igala	2000 years	3000 years
Tiv – Zulu	2,500 years	3500 years
Yoruba – Edo	3,200 years	4000 years
Yoruba – Igbo	4,000 years	6,000 years
Niger – Congo Dispersal	6,000 years	10,000 years

The 13.6 or 25.6% rate of loss per 1000 years may not apply in all cases. Lucumi, a dialect of Yoruba spoken by former slaves in Cuba today retains about 50% of its basic core cognates. If we use the 13.6% or 25.6% rate of loss of basic core items as a means of determining when it separated from Yoruba, we shall arrive at a date of between 5000 to 15,000 years ago. This of course is not true because lucumi separated from Yoruba only about some 500 years ago, during the slave trade.

These problems have led linguists to suggest conflicting rates of loss and retention of basic – core words. Swadesh, the man who invented glottochronology has suggested a loss/retention rate of 25/75% while Hattori has suggested 15/85% respectively.

Based on these differences both linguists have computed different dates for the separation of some African Languages from their Proto – Language. Swadesh's computation show relatively short time periods of divergence, while those of Hattori show long periods.

Irrespective of the large differences between the dates suggested by Swadesh and Hattori for the separation of African Languages from their proto-language, glottochronology is still a useful instrument of African history. Before the invention of the method, historians generally believed that the major dispersals or migrations on the continent happened not too long ago. Glottochronology now shows that these migrations occurred at a much longer time.

Linguistics as an Instrument for Locating Homelands

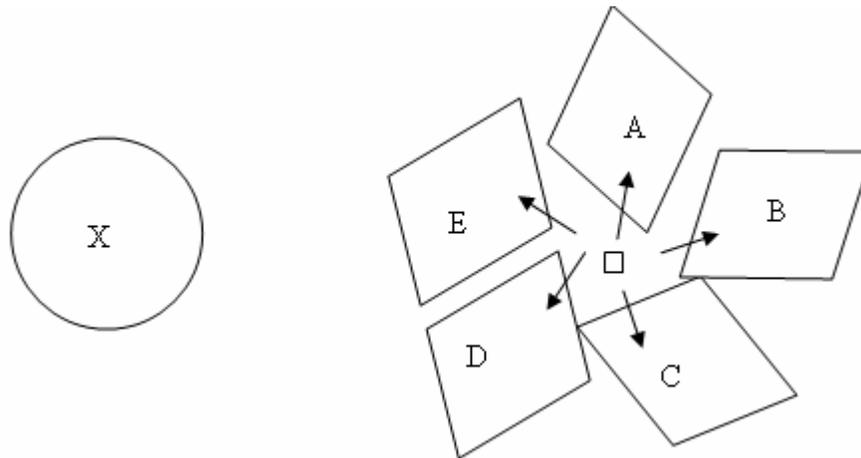
After determining the common origins of languages or groups, and estimating the time depth in the separation of these groups, the linguist can also locate the actual homeland from which they dispersed. The method he adopts is still related to generalizations based on population dispersal and language differentiation in time and space. More specifically, it is based on patterns in the spatial arrangement or distribution of languages.

There are basically three geographical patterns in the distribution of languages from which historians can draw inferences as to the location of language homelands.

The first inference can be drawn from a circular pattern in the distribution of languages. This circular pattern is usually the commonest pattern of population dispersal and language distribution. Where a people speaking a language is under land or food pressure, the tendency is for them to move outwards in search of better alternatives. If the supplies of land and food resources were good all round the perimeter of their original homeland different migrants would tend to move outwards in all directions. With time these different migrants will come to speak different dialects or even languages of the proto – language. When this happens, a circular cluster of languages or language blocks will come into existence. First, each block will have roughly the same degree of relationship to all others. Secondly, each will also have the same degree of internal diversity.

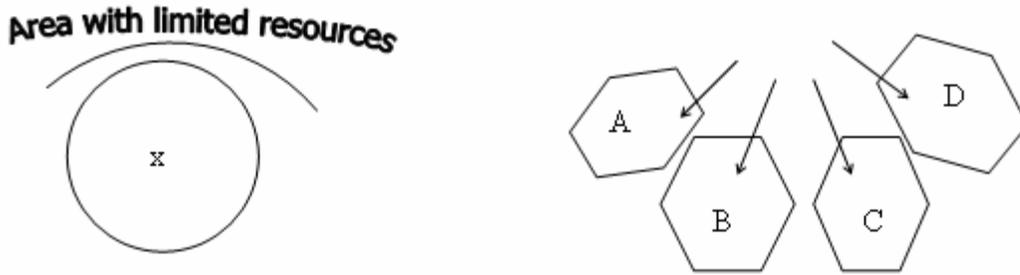
A circular pattern in the distribution of languages with the same degree of relationship to each other, and the same degree of internal diversity, is often evidence of dispersal from a common homeland located at the centre of the cluster.

Figure 2: Dispersal of languages in all directions in conditions of good all – round availability of land and food resources.



The second inference can be drawn from a fanlike arrangement of wedge – shaped blocks. Where a people speaking a language are under land or food pressure, but these resources are not in abundant supply along some parts of the original perimeter, the tendency is for them to avoid this area when migrating in search of better alternatives. If land and food supply is good along one half of the perimeter, the migrants will tend to spread out in a half – circle on the good side. This will eventually lead to a geographical pattern of languages distributed in a fanlike arrangement of wedge – shaped blocks. The boundaries between the various blocks of languages will converge on the area that was formerly the homeland.

Figure 3: Dispersal of languages in half – circle where one half of the perimeter has limited resources.



The significant point to note is that where we find (a) a high degree of linguistic diversity and (b) the existence of most of the main branches of the language family, we can conclude that we are in the old territory. Conversely, where we find (a) a low degree of linguistic diversity and (b) the presence of either a single main branch of the language or a small sub-unit of the main branch, we can conclude that we are in the new territory. The exact homeland can be found at the point where most of the main branches of the language family converge.

Figure 4: Linguists have used the three assumptions or generalizations mentioned above to locate the homeland of several African language families.



(1) The Afro – Asiatic Homeland

The language families known as Chadic, Berber, Ancient Egyptian, Semitic, Omotic and Cushitic belong to a single language – family called the Afro-Asiatic. (Fleming 1969).

- (a) This language block is roughly arranged in a circular cluster, whose centre lies to the northeastern section of the Sahara Desert.
- (b) Each language group roughly has the same degree of internal diversity as the others. This confirms the archeological speculations that as a result of the dessication of the Sahara populations dispersed northwards, westwards, southwards and eastwards.

(2) Niger – Kordofanian homeland

The West African region is largely made up of the Niger – Kordofanian language family. The block of course excludes the 100 or 50 languages classified as Afro-Asiatic and the Songhai and Kanuri languages which belong to the Nile –Saharan group. The Niger – Kordofanian family is composed of three large blocks called the Mande, Niger – Congo and Kordofanian. Niger – Congo occupies the eastern section of West Africa, Mande the Western section and Kordofanian the area to the south west of Sudan. The present geographical location of these three language blocks forms a fanlike structure, which suggests that their homeland is at the south-western Sahara where the boundaries of each group converge. The Mande group does not have the same degree of internal diversity as the Niger – Congo and Kordofanian. But Niger-Congo and Kordofanian have the same degree of diversity. (Dalby 1965). A combination of this fact and the fan-shaped arrangement of the three language blocks suggests that they belong to the same main language family. Besides, the unfavourable ecological situation north of

the homeland, and the possibility of only moving southwards explains the fan-shaped nature of the dispersal to the area of southwestern Sahara.

(3) The Yoruboid – Akokoid Homeland

The Yoruboid – Akokoid language family belongs to the Niger – Congo block of the Niger – Kordofanian. It is composed of two branches. The first comprises Yoruba, Itsekiri and Igala, the second the various Akoko languages spoken where the boundaries Ondo, Edo and Kwara states converge. Historians formerly believed that speakers of these various languages dispersed from Ile Ife. But this conclusion is not supported by linguistic evidence. The south-west, where Ife is located, has (a) a low degree of linguistic diversity and (b) only one sub-branch (i.e. Yoruba) of the two main branches of Yoruboid – Akokoid family can be found here. On the contrary, at the North-East, located between the boundaries of ondo, Edo and Kogi, we have (a) a high degree of linguistic diversity and representatives of the main branches of the Yoruboid – Akokoid group – i.e. Yoruba, Itsekiri, Igala and Akoko. (Crowther 1852).

From this evidence linguists have concluded that the North-East of the area represents the old homeland of the Yoruboid – Akokoid language family, while the south-west represents the new territory. Ile Ife may not after all be the centre from which various Yoruba groups dispersed to their present location.

(4) Bantu - Homeland

The same argument made for the Yoruboid – Akokoid block can be made in determining the homeland of the Bantu languages which belong to the Plateau/Bendi/Bantoid group which in turn belong to the east – south – central – Niger Congo – i.e. (ESC'NC). Now, two areas contend as authentic homelands of the Bantu speakers – the main stem of the African continent and the present central and southern Nigeria. A close examination of these two areas suggests that the Bantu homeland is in the latter area because it possesses a high degree of linguistic diversity and contains most of the languages classified as the Plateau/Bendi/Bantoid groups and its bigger unit of ESCNC (Hodge 1968). Conversely, the main stem of the African continent has only one main branch of ESCNC i.e. Plateau/Bendi/Bantoid.

Linguistics and Material Culture

Linguistic techniques do not only provide the historian information restricted to migrations, common origins and chronologies. These techniques can also be used to determine the nature of past and present environments and the material culture of their communities or even the quality of life.

While basic – core vocabulary is more useful for determining the genetic relationship between languages, both basic and non-basic words are equally useful in analyzing the material culture of the speakers of any given language.

Since history is concerned with changes in the attitude or life-styles of human societies, historical linguists are also interested in the reconstruction of such changes. The “Words – and – Things” Method is the basic means of reconstructing material culture in the past. This method is similar to the earlier mentioned technique of lexicostatistics.

The first step in adopting the Words – and – Things method is to find out the language – family to which a group of languages belong. This of course can only be done effectively with the aid of basic – core vocabulary. The second step is to separate the non-basic vocabulary of these languages into two groups:

- (1) Those that are genetic or a product of a period before the dispersal of groups speaking these languages;
- (2) Those that are a product of recent borrowing.

Languages that belong to the same language family will have similar words for describing experiences known to them before the dispersal. While a particular language belonging to a family may tend to borrow words – depict new experiences not common to languages to which it is related.

Incidence of borrowing abounds in many languages. Englishmen had to borrow the word “Typhoon” from the Chinese to describe the violent wind they encountered on their journeys in far-eastern seas. Several African groups have had to borrow English words depicting technologies or processes that were alien to their cultures. For example, “motor”, telephone, fridge and other English words can be found in several African languages in one form or the other.

The “words – and – things” method has been used to reconstruct material culture in West Africa in two ways. First, it has been used to provide information on the ancestral environment and culture of people in the past. Second, it has also been used to show changes in these material cultures which are products of borrowing.

Mccall (1964) has attempted to reconstruct the environment, technology and culture of the Proto-Bantu population. According to him,

“The ... Bantu speakers lived in an ecological setting in which the elephant and *Antelope*, the *baobad* and *Palm*, and the *Grey Parrot* were to be found. Apparently in an open forest. They cultivated these cereals, millet, sorghum and rice and they also grew (Bambara) groundnuts, beans, melons, pumpkins and bananas. They had cattle, sheep, goats, chickens and a dog. They used iron, hoes, knives, spears, bows and canoes. They wore clothes, put salt in their food, and drank beer. They used cowrie shells, whether as decoration or currency we cannot say, but it suggests trade in either case. They were governed by Chiefs and ministered to by diviners”.

Greenberg (1971) has also attempted to show how speakers of Hausa borrowed cultural items from their kanuri neighbours. Before his study, historians, based on evidence from the *Kano Chronicle*, tended to suggest that early influences on the Hausa States were mainly from the Mali Empire. They had argued that Islam, writing and certain political institutions in Hausaland originated from Mali – Greenberg’s comparative study of Kanuri and Hausa however, suggests that the Hausa word for writing (Rubutu) reading (*Karatu*), market (*Kasuwa*) fortified wall (Garu), gun (*Bindiga*) and saddle (*Sirrdi*) were borrowed from the Kanuri. The same is also true for such words as *Ciroma*, and *Yanima* which depict political titles.

Summary and Conclusion

It is now crystal clear that interdisciplinary techniques are indispensable for the writing of African history. The poverty of relying only on one or two methods (i.e. written and recently oral sources) has reached a disturbing situation because of the enormous historical information/data in the continent, left untapped. Our historical approach has uncovered inertia on the part of historians on the new methods for reconstructing and analyzing human affairs. We are aware that before the 1960s the goal of African historians had been nationalistic, that is an attempt to correct the negative account of European scholars and expose the achievements of Africans in notion building and statecraft (Jaja, 2005b).

In reconstructing the monumental distortions of European scholars, it became obvious that the blatant and overt prejudice may be based on ignorance, informed by their inability to utilize various other sources rich in history of these traditional societies. There is no doubt that the interdisciplinary methods identified above increasingly subjected European accounts into scrutiny, their activities became unfashionable subjects for research as a means of monitoring European and African reactions. But more importantly interdisciplinary methods had helped Africans discover themselves more, their homeland, their language and material culture.

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Nigerian Women, Maternal Politics and Political Participation: A Historical Overview

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Abstract

Gender issues has become an increasing area of interest in contemporary Nigerian social relations. Developing nations have come to the realization of the political significance of the gender question. Documentary evidence exists detailing the extent women have been deprived, neglected, exploited and oppressed, it is not the intention of this paper to recount this here, but rather to note that in the light of this neglect, it is not surprising that in spite of their numerical strength, little impact has been recorded in the area of politics. This paper posits that the role of Nigerian women, their interest, opportunities and attempts to break barriers militating against their effective participation in politics, notwithstanding efforts should be directed more to maternal politics.

Introduction

The transformation in information technology is a blessing for the Nigerian woman as the wind of change blowing across the globe resulted in Western Culture and influence metamorphosing all spheres of her life. The declaration of 1980s as a decade for women promoted the zeal to correct ills and to terminate discriminatory practices against women in all spheres of life. The United Nation declared 1975 as the international women's year. The period 1976 – 1985 was dedicated for women, with major conferences held in Mexico (1975), Copenhagen (1980) Kenya (1985) Beijing and China (1995) to address women issues. No doubt these conferences were quite instrumental to the radical transformation being witnessed in the Nigerian scene. A steady all be it slow transformation informed by education, social interaction, cross cultural marriages civilization and religion. Today, the Nigerian woman having been significantly broadened have come a long way and excelled in almost every field of human endeavour in spite of cultural barriers to keep her down. Women preciously seen as agents of procreation through education and hard work have taken up greater responsibilities, penetrating professions culturally tagged exclusively for men. The Nigerian scenerio today present an interesting experience of the change or changed role of women as either workers, professionals, business women or politician or even as drug traffickers, armed robbers and militants. Cultural tolerance has brought about a change, which has opened up avenues for participation in activities hitherto exclusively men dominated.

Culturally Defined Sex Roles

The Nigerian is not totally different from other societies around the world when it comes to gender specific roles. This is based on cultural convention, which assigns different roles to different people

based on sex. It must be emphasized that sex roles vary from one cultural society to the other depending on the customs and traditions, as well as biological differences. Let us examine this contention briefly. The biological explanations rest on the constitutional make-up of women regarding genetic factors (Gray 1981), hormonal factors and brain lateralization (Sermon 1979) suggesting that their deficits in women make them naturally ill-equipped to pursue career in certain fields. Manthroe (1982) Cohen (1983) and Birke (1986) have argued that the constitutions of females have no direct bearing on their ability. In reality, any “innate differences vary more between individuals than between sexes” (Moulton 1979).

Psychologically, the variable of personality, interest, attitude and self concept also play important roles in stimulating or inhibiting interest in career such as politics. Women start off with lesser interest in politics than men. This could be traced to the intensity of their experience. They are denied opportunity to develop attributes that promote qualities such as oppressiveness, detachment and remoteness from concern. Moreover, women have low self-concept about their abilities in politics. They see themselves as being unable to excell in this field. After all, success expectation within a framework can serve as motivator for participation in a career field (Ehinder 1986; Jacobowitz 1983).

From creation, women have been stereotyped and pigeon – holed to play secondary role. In the Nigerian society, social tradition centred, this around domestic pre-occupation, child-bearing, and contributing to her family budget (Jaja 2007: 11), appreciation and unreserved fidelity to husbands as stipulated in the Holy Scripture "for the woman which had an husband is bound by the law to her husband so long as he liveth" (Romans 7 vs. 2-3), again marriage is honourable in all, and the bed undefiled, (Hebrew 13 vs. 4).

Similarly, Western tradition indicates that women were over-protected and consequently became completely dependent on their menfolk. Women thus became the weaker sex with physical fragility and emotional imbalance deserving total protection from their male counterparts. No wonder therefore that womanhood according to Uchendu (1983) “placed women as merely the property of their husbands”. Largely because of this, they have not been able to free themselves and realize their full potentials. The result of this is that women have remained disadvantaged in several fields of human endeavors, most especially in leadership positions in politics and active political participation.

Conceptual Issues

It is important for us to begin this exercise with a firm grasp of the relevant terms since they have been subjected to various interpretations. It is not however our intention to delve into these various interpretation, but only those germane to this exercise.

Women by simple definition means an adult feminine human specie. Different people have defined a woman as a womb, the ovary, the second sex, a helpmate and weaker vessel, bone of my bones and flesh of my flesh. Perhaps these ascription do not give us the correct view of a woman. Scientists and society have defined the concept of a woman in different ways over the years. Aristotle conceived of woman as “afflicted with natural defectiveness”, while St. Thomas Aquinas identifies a woman as “imperfect man, an accidental being” (Simone de Beauvoir 1972: 16) Demeji (1999) conceives of woman’s nature as “mysterious” and “tremendously” complex. It is important to points out that the choice is that of a woman and not her anatomy, physiology or nature as conceived by scholars.

Another concept that needs to be conceptualized here is maternal politics. Maternal politics refers to political movements rooted in women’s defense of their roles as mothers and protectors of their children. These are not the radical ferminist critique of motherhood as an oppressive institution, but movements, which give motherhood and family responsibilities a high priority. Their maternal roles should be the driving force behind public political action. Maternal politics therefore is a term used to describe a widespread feature of women’s political activity. (Wells 1998).

Politics is defined as systematic allocation of power. Harold Lasswell's famous definition of Politics as he who gets what, when and how? Emphasizes the allocation of resources. Chamber's twentieth century dictionary defines politics as "the art or science of government, the management of a political party, political affairs or opinions". Politics is everywhere since it essentially involves power – sharing, opinion management, policy formulation and implementation and overall management of human beings. However, when politics get sour it results in war. That explains the definition - Politics is war without bloodshed while war is politics with bloodshed. In other words where politics or politicking cannot continue or where disagreements cannot be resolved war sets in to remove the obstacle to politics. When the obstacle is removed, that is, when one party is defeated politics continues. In reality, politics is an inevitable part of human existence.

On the other hand, the word "participation" can be likened to having a share in some activities such as enterprise or politics. It also connotes involvement and carrying out investigations to come to a historical conclusion.

Women Participation in Politics Before 1900

The purpose here is to explore how this participation has been subjected to changes. A historical approach albeit briefly would be adopted here. Nigerian women had access to political participation through a complex and sophisticated process. In acephalous states like the Igbo, Tiv and Izon, even in monarchical ones like Yoruba, Benin and the Hausa/Fulani, women were reported to be active in politics. As Afigbo (1980) noted:

In Pre-colonial days no state law imputing certain disabilities on women existed in Africa and the society was equitarian. African, including Nigerian women, was thus powerful in economic and socio-political sectors of the pre-colonial and colonial eras. They accumulated fabulous riches from genuine commerce and slave and ruled vast kingdoms.

Women's political power varies from society to society. In some societies, women shared equal, complimentary or subordinate authority. For instance in Opobo Kingdom in the Niger Delta, women's access to political participation was exemplified by the Queen Osunju who was one of the earliest women who held sway over men, satisfied requirements for installation as a war-canoes Chief except for the state dinner. Her contemporary Queen Kampa ruled both men and women in her plantation resort at Ozu kampa (Jaja 2003). These examples contradict Smith (1969) view that women did not in most cases aspire for and handled leadership roles. One would however state that the development was not widespread in the period under review. In pre-colonial period, accounts abound of *Egbe Iyalode*, *Out Umuada* or *Umuokpu* and several other women groups that played important roles in the societies. There is however, a controversy on the position of the *Umuada* institution looking at their roles. For example if there is a disagreement among various levels of authority, the institution is invited. Their decision on most cases is taken as final, but in Igboland, the position of women is almost secondary (Jaja and Aba-Erondu 2000: 55). Female public officers included *Iya-Kekere* and *Iyaba*. *Iya Kekere* was in charge of king's treasury and paraphernalia of state. She was also the feudal head of the *Asseyin*, *Oluwo* and the *Baale* of Ogbomosho. *Iyaba* controlled both men and women in the palace. The point being made here is that the number of women in such positions is minimal compared to their numerical strength. Therefore some form of discrimination existed. What was the colonial situation like?

Women Participation in Politics Before 1960

With the inauguration of colonial rule, African potentials lost virtually all authority and power they wielded and the people lost their freedom. It was the colonial authority that decided how the people were governed and the measure of power and authority enjoyed by those who govern. Moreover, the economic resources were reordered to satisfy colonial purpose. It was indeed part of this agenda that led to the introduction of taxation and the celebrated demonstration of women known as the "women

war of 1929” against the oppressive policy. While women of the colonizing nation accepted taxation as part of gender equality, their Nigerian counterparts in Igbo land felt differently. They took up arms against “obnoxious taxation”. In the words of Mba (1992: 78):

Another crucial issue was that of taxation. Taxation was introduced into the eastern province in 1927, at a time of economic instability. By 1929, the women had begun to feel the pinch of this new measure because of the interdependent nature of the village economy. Many women were having to pay tax for their husbands, sons and male relations. It was however the belief that women were to be taxed which transformed the various isolated anti-taxation protests by men and women into a massive far-reaching protest movement by women.

Although the threat of taxation was the immediate cause of the revolt, women were actually fighting against the massive erosion of their political power. The diversity that characterized this revolt is evidence of Igbo women solidarity in defending their economic, political and cultural identity. The riots were a testimony to the political influence, political vigour of women and more importantly their capacity to mobilize.

In the west taxes also became a source of conflict as women opposed colonial policies detrimental to their economic interest. Yoruba women became more and more impatient with the ill-treatment to make them pay which they endured but also with the fact that despite the obligations imposed on them they lacked the right to vote or be represented. It was this situation that Mrs. Funmilayo Kuti exploited, mobilized a “modern” political action demanding for the right to vote and representation from 1946. Under her direction, the Abeokuta Women Union (AWU) became a formidable pressure group which launched a protest campaign against taxation with the slogan “no taxation without representation”. Mrs F. Kuti galvanized the people without the use of force. It was not until January 3, 1949 that government succumbed to their pressure, abolished taxation for women, women became represented for the first time in council and the Alake abdicated. The Abeokuta Women Union became pressure groups safeguarding the interest of Egba women. It must be pointed out that what the Igbo women won through the use of violence, the Egba women achieved by virtue of their organizational cohesion and determination. However, women still lacked commensurate numerical representation in leadership positions in politics. The report of the Fourth World Conference on Women Platform for Action; Beijing, China, 4th – 5th September 1995 captures this correctly when it declares:

“Throughout their entire lifecycle, women’s daily existence and aspirations are restricted by discriminatory attitudes, unjust social and economic structures and lack of resources in most countries. This prevents their full and equal participation in national and international life”

As we noted earlier, societal discrimination of women exists as a result of biological differentiation of the sexes. In reality, the entire human race is involved and is more applicable to the female sex. The point must be made that even if one joins a secret society or moves up the social ladder, or becomes assimilated to another culture, one cannot escape from one’s sex and cannot escape sexual discrimination. Let us examine the situation in the post 1960 period.

Women Participation in Politics After 1960

In 1960, the United Nations in an attempt to incorporate women world-wide adopted resolution 34/180—the Elimination of Discrimination against women (Okopoma 2006: 31). Mr. Kurth Waldneim, former United Nation Secretary emphasized the importance of the declaration of the Decade for women and concluded that the equalization of right of women with men has become a matter of vital necessity if the world is to solve the worsening problems of poverty and ignorance. Helgedotter (1980) defines “true equality” as “not just equal rights but equal possibilities to enjoy those rights”. This means equal possibilities on choice for men and women as regards education, occupation and way of life. Hence discrimination in education, employment and politics is becoming a thing of the past.

In contemporary Nigeria, the factor of education has been responsible for change in women's political, social, and economic as well as cultural roles in the society. Education according to Gimba (1996);

“Is the process by which society through schools, colleges, universities and other social institutions, deliberately transmits its cultural heritage (its accumulated knowledge, value and skills) from one generation to another in order to foster continuously the well-being of human kind and guarantee its survival against the unpredictable, at times hostile and destructive elements and forces of men and of nature”.

The need to improve women's access to education, health, political and economic power has captured Uchendus (1993: 64, quoted in Okoroma 2006: 35) attention thus:

Men cannot claim exclusive right to shape the future of our world. It is time for them to accept the challenge and share with women in decision-making process. It is high time to acknowledge that the denial of women's rights and opportunities is at the root of our developmental problems and socio-economic ills... The most underdeveloped of all human resources are women.

It is no wonder therefore, that various women organization emerged especially between the period 1979 when the military left power and 1999 when the fourth republic took off, advocating for participation. Such associations included Nigerian Army Officers Wives Association (NAOWA), Nigerian Airforce Officers Wives Association (NAFOWA), National Association of Women Journal (NAOWJ) and Women in Nigeria (WIN). They advocated the need to be seen and heard and the expression of the decade became "what a man can do, a woman can do better" of all the organizations that emerged Women in Nigeria (WIN) was the most vocal in the struggle for social and political equality with men.

Led by WIN, the women at the political Bureau not only demanded the role of women in politics, but the gender dimension of virtually everything. The women invoked the United Nations Declaration of Human Rights, demanding the right to mobilize for legal and constitutional rights in the family, work place and society; to compete for the highest offices in the country, struggle for a fair share of the socio-economic and political order, and finally the reservation of 50% of seats at local state and Federal levels of government.

These demands bore fruits in the Fourth Republic. The registered political parties, the Peoples Democratic Party (PDP), The All Nigerian People's Party (ANPP) and the Alliance for Democracy (AD) saw a large number of women some who contested and won on the platform of the parties at the three tiers of government. The result was that women were elected into the Local Government Councils, the State Houses of Assembly, the Senate and the House of Representatives. This was in addition to their appointments as Ministers, Special Advisers, Commissioners, Chairpersons and members of governing board of public enterprise etc. Indeed in the history of independent Nigeria, women had never had it so good. However, this is a far – cry from what is expected judging on their numerical strength. They are grossly under-represented. Therefore, if the impact of women in the political spectrum of the Nigerian society is to be felt, women must mobilize themselves, for the men folk are neither ready to relinquish the privileges already enjoyed nor change this status quo abruptly. The instrument for such mobilization is not just women education but material politics. How can this be achieved? What are the challenges?

Maternal Politics the Challenge for the Nigerian Women In the 21st Century

Women should brace up for the challenges ahead if they desire to balance the present political leadership structure in Nigeria which is tilted towards men. Women should initiate more activities and programmes that will increase the awareness of women not just to promote equality between men and women but to acknowledge their fellow women's role in national politics and in international development efforts generally.

“Motherism” or maternal politics though relatively unknown as a concept in this part of the world is a good point to begin, because as a movement it has that commonality which relates to motherhood – a significant thread that applies to women. Nigerian women could mobilize using mother – centred terminology to articulate their grievances. The advantage of using “Motherism” as platform for political participation is as follows:

- (a) Motherism or maternal politics is boundless. The concept attracts members from across traditional social divisions and class boundaries, due to the universal emotive appeal of their cause.
- (b) Women are brought into the public sphere in an unusual way, for a particular place and time. As they take part in demonstration and other types of collective action their conventional roles as homemakers are temporarily abandoned.
- (c) They successfully challenge government policies on the moral ground that their capacity to function as good mothers are jeopardized.

If such an activist platform were to be achieved, it would be difficult to relegate women to the background. Because every aspirant would appear before this women organization to sell “his or her” manifesto. But economic strangulation of women is one of the things setting the women back. This activist movement is not to be initiated by the poorest of the poor. There must be empathy, the women should also not be too ethnic or too jealous of each other. They must co-operate.

As has been observed there are no institutional barriers to active participation of women in any human endeavour in the 21st century. The only inhibitions may probably be lack of **will power** funds and physical energy.

There are however greater challenges that had affected the few women who had ventured into and participated in socio economic and political endeavours. This is the high rate of divorce and single parenthood – a practice which was not only unheard of, but regarded as an abomination in most African societies, due to their greater exposure and improved economics base, some women come to feel they can conveniently discard their God – given roles as wives and mothers without any serious consequences. Vices such as prostitution child abandonment and delinquencies can largely be linked with the consequences of women participation. Details of which are outside the scope of this paper. But are indeed serious challenges to women in politics in the 21st century. Unfortunately, such strong sentiments when evoked will not desire to actively involve women in politics in Nigeria.

Conclusion

This paper has attempted to examine women participation in Nigeria politic. It demonstrated that from being powerless women they have gradually taken their place in decision making in the wider society. Although the emergent colonial system gave men greater opportunity to the detriment of women; constitutionally and theoretically women remained equal to men but in reality women are still regarded as men’s appendages.

The last decade of the 20th century and the first decade of the 21st century have witnessed tremendous activism in the demand for women full participation in decision – making process and access to power. In recent times women are increasingly becoming politically active as their potentials are gradually being felt across the country. However, compared to their numerical strength, Nigerian women have not made much progress in participation in politics. This paper advocates the development of a maternally – rooted political movement that would fight not for their own personal rights as women, but for their custodial rights as Mothers. Since concepts of the sanctity of motherhood are so deeply entrenched in the social fabric of most societies. This strategy often proves effective where other attempts to generate social change fails. So potent had been the traditional discourse on motherhood that husbands, families and government officials often acknowledge and respect the heart – rending claims of mothers, giving mothers an unusual amount of political space in which to organize. Although the fear exist that various vices associated with political power and economic empowerment such as social indiscipline through extra – marital affairs, single parenthood, divorce and selfish desire

to boost their ego would pull women down, destroying whole attempt. Active participation of women in politics and governance is not only desirable but also necessary as no society can achieve success without the active participation of women.

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Women and Community Development: Opobo and Elele – Alimini Examples in Rivers State, Nigeria

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Abstract

The famous philosopher Aristotle in his book Politics stated that men were more intelligent and superior to women; that it was the natural function of the men to rule while women were to be subordinates. This view became the philosophical foundation for a male chauvinistic society that has wrought tremendous damage to the developmental potentials of women. However, in recent times, there is a growing realization that women constitute a positive engine of development and progress in any given society. This paper therefore argues that community development will be incomplete if women are completely excluded from participating in community developmental process. It examines the extent of women involvement in community development using formal women groups as developmental vehicle. The study used Opobo Kingdom and Elele - Alimini in Rivers State as case studies.

Introduction

Development is a process, a movement towards a condition that some of the world's nations are supposed to have attained. Accordingly, the term "development" essentially constitutes a division between rich nations and poor nations.

Development is the act or process of developing, expansion or growth. Development has been seen as closely related in meaning to growth. In reality growth connotes development, development equally implies some form of growth which is difficult to measure except through the use of indices of growth. It is obvious that development is one of the most frequently used and yet one of the least adequately understood.

The term "development" must be referred to organisms. Generally it is a change in the character of an organism by which it acquires new qualities making possible an enhanced mastery of its environment. For society, it is clearer for Marxists. For them social development is a change of forces and relations of production, resulting in a new and more productive mode of production, social formation or stage in existence of a mode of production or social formation. The new form is equipped with new novelties in technology, organization, goods and social control, giving society or its ruler's new powers. (Mabogunje 1977: 11).

Although generally by "development" people tend to mean "economic development", social development embraces economic, political, cultural and ideological aspects. Again, it is the Marxist that make the matter clearer, because no mode of production or social function exist without political,

cultural and ideological concomitants that come into existence with and are peculiar to it (Ozo – Eson and Ukiwo 2001: 25).

Udo Etuk (1998: 41) on the other hand sees “development” as a neutral concept with respect to its connotations. He argues that development is used today especially in political and economic discourses to mean a change from a less desirable to a more desirable condition, characterized by economic productivity, high standard of living, technological advancement stable political order, the presence of basic human needs such as food, water, clothing and shelter and a high literacy and educational level. Ucheaga (1999: 102) emphasized that full-fledged development can only be realized through free and composite participation of males and females. That is from its humanity and humanness. In other words from the point of general welfare of human beings. How does all this relate to community development? This we shall now turn to.

Conceptualizing Community Development

The concept of community development is germane to the understanding of this effort. The ordinary conceptions of a community refer to a group of people living in a geographic location having common origin and customs and are considered as a whole (Akpovire 1966: 84). The community is conceptualized as a solidarity institution, with primary interaction and as institutionally distinct groups. Those spheres or institutions of the society whose functions are to produce solidarity define community as solidarity institution. Such institutions could include the family, ethnic groupings, voluntary organizations and residential groups. Community as primary interaction is defined not only on institutional context but also on the nature of interaction. Therefore, community may refer to interpersonal interaction characterized by informal relationships. An institutionally distinct community may be looked at as a group of people that share a range of economic, social and political institutions on the basis of their belonging to some familiar social category.

It is therefore safe to infer that the most basic criteria or elements that define a community are common tie, solidarity, which exist in both rural and urban areas. However, while rural communities are simple with face to face contact that of urban areas are complex and multidimensional. It is possible to assume that communities are just groups of people living together. It is important however, to note that while all communities are societies, not all societies are communities (Marcia 1974).

These basic elements of communities, that is common ties and solidarity are often instrumental to the success of community projects and programmes. These elements engender communal or people participation in all facets of community development projects. This explains why community development approach to socio-economic development has increasingly become something of a vogue in Third World countries since after World War II (Jaja 2001: 84).

The concept of community development according to Jaja (2001: 84) was defined as far back as 1948, at the Cambridge Summer Conference on African Administration as:

“a movement designed to promote better living for the whole community with the active participation and if possible on the initiative of the community, but if this initiative is not forthcoming spontaneously, by the use of techniques for arousing and stimulating it in order to secure its active and enthusiastic response to the movement”.

Christian Missionaries adopted community development approach (by way of self-help efforts) to encourage different communities to build and maintain schools and health institutions. The colonial district officers adopted the same methods to encourage communities to build roads and bridges. After independence, many African political leaders were quick to seize the opportunities which were present by community self help activities. Many African governments established community development divisions in their different ministerial organizations in order to give support to community development efforts by different communities.

Community development gained international recognition that the United Nations in 1956 defined it as;

“The process by which the efforts of the people themselves are united with those of governmental authorities to improve the economic, social and cultural conditions of communities, to integrate these communities into the life of the nation and to enable them to contribute fully to national process” (Jaja 2001: 85).

That is, community development consists of participation by the people themselves in efforts to improve their level of living and the provision of technical and social services in ways that encourage initiative and self help. Community development moreover, serves a political purpose by setting up an atmosphere in which government and the people can co-operate and achieve development.

Often community development activities are aimed at promoting, sustaining, supporting and maintaining community action. Such actions cover a wide range of issues such as housing, information acquisition and dissemination, provision of social services such as water, road etc, establishing and sustaining financial institutions and many other projects. As is to be expected in most communities, the project embarked upon by any community at any given time is a function of so many factors, the most important being the severity of the deprivation of the absence of that service to the community. That explains why Jaja pointed out that community development can be viewed as a process, a movement, a method and as a programme of human action (Jaja 2001: 87).

Women form the bulk of our rural populace and they are intimate with the home and the environment and therefore in a better position to articulate the most pressing needs of the community. Men have significantly interfered in the developmental goals of the women with severe consequences for the welfare of the womenfolk. The result of this was the formation of women groups aimed at executing of developmental objectives without the domineering intervention of men. A number of such organizations had been established in the past. They include the Nigerian women’s Union (1949); the women’s movement Ibadan (1952) Federation of Nigeria women societies (1953) and the National Council of Women’s Societies (1959); the International Democratic Federation (1974). Better Life for Rural Women (1987); National Women’s Commission (1990) etc (Agbola 1996: 127).

It must be pointed out that the ultimate goal of women groups are to emancipate their families from the grip of poverty, disease, ignorance and servitude (Oruche 2004: 10), develop their societies and have equal access to all available opportunities as the men. Let us examine how these were pursued in Opobo kingdom and Elele Alimini both in Rivers State.

The Context of the Study

This study of women and community development is based on the case studies of Opobo Kingdom and Elele-Alimini. Opobo is in the Opobo/Nkoro local government area with a population of 51,000 by the 1991 census figure while Elele-Alimini is in the Emuoha Local Government Area with a population of 12,000 (National Population Commission 1991: 38). Opobo Kingdom has fourteen major settlements while Elele–Alimini has ten wards and thirty-eight farmsteads. Both communities are essentially semi rural with Fishing and Agriculture as the main occupation of the inhabitants.

Opobo is a coastal zone area with marked limitation in farmland and severe infrastructure deficiency on fishing gear. It is evident that manufacturing (46%) and processing (42%) thrive on imported raw materials. A distinct feature of coastlands, which attracts a lot of human attention and vandalism, is the presence of beaches. Of note are the near – shore, foreshore and backshore zones. As a result of constant action by waves and tides, erosion and deposition are continuous phenomena, which ensure the dynamic changes, which occur almost daily at the beach sites.

Elele – Alimini is of a generally high elevations interrupted by small valleys. Most of the area lies between 275 and 614 metres above sea level with the highest point somewhere in the central area, which runs towards Ndele town. Intense cultivation of cassava and yam has turned most parts of the usual rainforest into a manageable forest. Elele – Alimini is supplied with electricity unlike Opobo. But both communities have no potable water. The road conditions in Elele – Alimini are generally bad and this might have informed the shortages of commercial vehicles and thus the high cost of transportation.

Rather motto-bikes and bicycles are the major sources of transportation. Community facilities such as civic centres, town halls post offices etc. which are the statutory responsibility of different tiers of government have been constructed through communal efforts. Both areas however have a number of primary and secondary schools.

Methodology

Data were obtained from structured questionnaires about socio-economic characteristics, purpose, finance and achievements of organizations. To ensure complete coverage of our study area, the two communities were divided into five zones as follows:

Zone	A!	Opobo Town
Zone	B!	Kalaibama and Opukalama
Zone	C!	Queens town and Kalama
Zone	D!	Omokpiriku and Mgbuayim
Zone	E!	Omuse and Omeneta

Five major settlements constituted the zones. Five out of these zones (the biggest settlements in each zone and in which most women are concentrated) were chosen for this study and these were Opobo town, Kalaibama, Queens town, Mgbuayim and Omuse zones.

A total of 500 questionnaires were administered on households selected randomly. The first adult woman above the age of eighteen and literate was served with questionnaire. Eventually 480 questionnaires were retrieved from all the districts.

A total of 66 organizations which were social, religious, economic or trade union were noted, based on the nature of projects undertaken or service rendered. These were supplemented with interviews with members of the community.

Findings

The findings are categorized into two. The first show various attributes and deductible differences from the questionnaire, while the second analyzes the nature of community development by women in these two communities.

Women Status in the Past

For women the past had been inglorious. They were neglected, discriminated against and inferiorized. They were to be seen but not heard and this has been a cause of concern throughout history. In the past the Nigerian woman is docile, passive and accepts her position, as Gods will. Thus regardless of education hardly believes in her self and others to influence her own destiny. This is despite their overwhelming numerical strength, in a male – dominated society. A woman's intellectual attainment was of little consequence. In the words of Samuel Johnson

“a man is in general better pleased when he has a good dinner upon his table, than when his wife talks Greek”
(in Landis 1974: 156).

What women do and the importance attached to them are so under – valued, under – scored, unrecognized, unrecorded and sometimes unappreciated by their chauvinistic male counterparts who are by nature domineering. In reality women had penetrated virtually all places and all aspects of human endeavour, but very little attention had been focused on this group and their contributions (Jaja 1996: 64). Generally, those of their husbands or male counterparts usually subsume their achievements and contributions.

Women are aware of their well-defined social and political functions within society in addition to their revered roles of wife and mother (Udoywomen and Ozumba 2004: 91). Her duties included

cooking, feeding the family members and keeping the family tidy and contributing to her family budget. Women as agents and creators of history can also be discerned from the work they perform in agriculture, in the formal sector, in their homes and even in others homes, all of which have shifted into historical purview even though its significance remains under studied (Jaja 1996: 64). All over the world, they have come to realize that as a gender, they are marginalized. This feeling of inferiority and oppression is assuming a greater dimension as more women attempt to place themselves in proper historical perspective, as they assert themselves in community development.

Women in Community Development

From our findings from the field the types of organizations can be categorized into traditional, religious, social clubs, trade unions and economic organizations. Available evidence shows that most of these groups were small with membership of between 10 and 40. In Opobo Kingdom 40 women groups were identified while in Elele – Alimini 26. Of these 56% have membership of between 10 and 40, 28% between 41 and 70 while 16% have a membership of 100 and above in Opobo. In Elele – Alimini, the distribution is 46%, 33% and 21%. Serious minded organizations made efforts to formalize their activities to gain government recognition and assistance from government agencies. One sure way of getting such recognition is by registering with the appropriate authorities in the area. Surprisingly 65% of these women groups did not register with the authorities. Similarly, many of them have no written constitutions another indicator by which the seriousness of the organization is determined.

One possible reason most (80%) of the women organizations fund their development projects through individual contributions was their lack of constitutions making it difficult for government or its agencies to assist. Despite the funding of projects themselves, these organizations did not restrict the use of such projects to members alone. Such projects are for the whole community although the choice of projects and location is often the exclusive preserve of members based on decision of their officials. However most organizations were anxious to access financial and technical assistance from government and its agencies.

Women Potentials in Community Development

The willingness, enthusiasm and ability of women to actively participate in community development in the two communities are unparalleled, but were conditioned by socio- economic factors. These economic factors severely limit the effectiveness of women contribution in community development.

Our findings show that most of the surveyed (371 out of the 480 respondents or 72%) were married, while 30.2% and 43.1% were between the ages of 29 – 42 and 43 – 55 respectively. Many of these women are within the economically active age bracket and consequently could materially and otherwise contribute to the development of their groups and by extension to the community development.

The educational characteristics and occupational background affected their income profile and therefore the kind of projects initiated in the community. In Opobo for instance women solely built the post office, a wing of primary school, pasonate of St. Paul's Church, the Co-operative centre, bridges, waiting halls, donation of books and trophies to schools. In Elele – Alimini most of the women 70% were without formal education, 10.5% had primary education, 13.7% secondary and 5.7% had post secondary education. Without formal educational certificate, a pre-requisite for formal employment and higher paying private sector jobs, better jobs continue to elude them. It is not surprising therefore that in Opobo 20.5% of the women were into fishing and fish related occupation, 35.7% were traders, 10.1% were civil servants, 9.10% were artisans and 24.6% were a motley collection of occupations such as contractors, students evangelists etc.

Similarly in Elele – Alimini the occupational distribution is not remarkably different as our findings showed. 46.7% of the women were farmers, 34.5% were traders, 7.1% were civil servants, 7.1% artisans and 4.6% in other occupations.

The import of this is that the level intensity and effectiveness of women effective contribution to community development process may be severely hampered by education.

Conclusion

An examination of various projects undertaken by the women reflects the mix types of organizations in the two communities. Moreover, they demonstrate the zeal of women to break through the cycle of poverty by their commitment to self-help through membership of women organizations. However, none of the projects seem to identify and address the fundamental problems militating against women and therefore of their organizations which is the educational development of women.

The women made themselves relevant to their various communities by fulfilling their social and religious obligations, but forgot themselves. There was no project devoted to the training or retraining of women in terms of training centres or adult education centres. These are vital in getting women into community development stream.

It must be pointed out that socio-economic factors seem to have adversely affected formalization of woman organizations and by inference, the type of assistance they could get from public and private sectors. The time frame for completing their projects and therefore its impact on the community and the ultimate emancipation of women. Our findings show that 64% of the women groups were not registered with the necessary agencies and 61% had no constitution. These lapses may not be unconnected with the level of education of women in the organizations.

These anomalies in turn affect women because without appropriate registration these organizations cannot operate as known entities which not only can sue but also be sued or which can source for financial and or technical aid from government or private sector. Were these organizations registered, they may be eligible to various assistance available from time to time. Moreover, they may be recipients of sound technical advice indispensable to the community developmental goals of these women.

Finally, given the important place of women in the survival of any nation, the development of Opobo Kingdom, Elele – Alimini and indeed Nigeria will be incomplete without the active participation of women along side their male counterparts. Women's great potentials cannot be effectively tapped and harnessed for the common good of the community except the traditions and customs that relegate them to the background are completely eliminated. It is our view that educating women is the best investment of all as this would in turn improve their programmes and projects in the two communities and yield beneficial results that would better their environments and their overall economic and social status.

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Promoting Civic Training among Primary School Pupils Through the “School Civics Clubs”: The Botswana Experience

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Abstract

Botswana is rated one of the most successful democracies in Africa and it is currently regarded as a model of African democracy (Preece and Mosweunyane, 2004). Since the country got her independence in 1966, there have been successful transfer of power from one elected President to another. However, today there are many challenges facing the sustenance of democracy and democratic values in the country. These challenges range from ethnicity, sharing of political values, economy, youth restiveness and perhaps the volatile land issues. These challenges have called for an immediate strategy for sustaining democracy in the country. Evidence currently abounds of an upsurge in the crime rates especially among the youths. These problems call for a need to target the children and youths for a re-orientation and engagement, in a more articulated way, through civic education. The paper therefore presents a report of a study on the use of an informal civic education programme through the **school civic clubs**, developed and implemented in Botswana. Pupils from ten primary schools were exposed to a series of civic activities through the club and their civic- related knowledge, attitudes and practices were measured before, during and after the project activities. The results showed a great positive impact of the intervention on the three parameters measured. It is therefore recommended that the experience could be replicated in other settings both locally in Botswana and in other countries.

Keywords: Civics, Civic Education, Civic Club, Civic Knowledge, Civic Attitudes, Civic Practices, Botswana

Introduction

Botswana is rated one of the most successful democracies in Africa and it is currently regarded as a model of African democracy (Preece and Mosweunyane, 2004). Since the country got her independence in 1966, there have been successful transfers of power from one democratically elected President to another. However, today there are many challenges facing the sustenance of democracy and democratic values in the country. This challenges ranges from ethnicity, sharing of political values, economy, youth restiveness and perhaps the volatile land issues. These challenges have called for an immediate strategy to sustain democracy in the country. The militaristic culture also imported into the country through the media, especially films and cable media, have also led to the escalation of culture of violence in the country of recent. Evidence abounds of an upsurge in crime rates especially among the youths (Preece and Mosweunyane, 2004).

All these called for a need to target the children and the youths for a re-orientation and engage them in a more articulated way through civic education.

To introduce a new subjects in the schools, called “Civic education” may not be feasible, as the school time-table is already over-crowded. Therefore, this study is focusing on using an informal approach through the school civic clubs. The Botswana vision 2016 also placed a strong emphasis on the major five principles of development, democracy, self-reliance, unity, and the Botho (Vision, 2016). If these objectives of education are to be realized, a major strategy based on research should be put in place.

Why Civic Education?

It could be argued that there are already some subjects in the school that teaches aspects of civics and citizenship education, why then do we need another programme of this nature. The answer to that is, whereas in all these subjects emphasis is place on theoretical learning, in the approach being proposed here, pupils will be able to put what they have learnt into actions through various club activities.

The literature includes many kinds of indictments of the current state of civic education, and some of these are:

- Generally, citizenship education has been neglected; it has been assigned a low curriculum priority; and their student outcomes are frequently not specified (Boyer, 1990; Eveslage, 1993; Firklestein, 1993; Goolad, 1986; Hyland, 1985; Patrick, 1987; Pereira, 1988). Specially, Goodlad writes “one of the most surprising shortcomings of the curriculum planning process is the general absence of any continuing, sustained appraisal of what is essential for young people to learn”
- Lack of meaning – often, teachers’ present isolated facts apart from any context that might give meaning to those facts (Goodlad, 1986; Newmann, 1987; 1989, Patrick, 1987).
- Irrelevance- teachers do not typically connect classroom content to students’ life experiences or to contemporary issues of interest to them (Blankenship, 1990; Hyland, 1985).
- Limited, Shallow Text Content- Most social studies texts used for citizenship education are restricted in their content, superficial in their treatment of subject matter, and presents facts apart from their context (Avery, et al. 1992, Eveslage, 1993)

Other deficiencies in the current way civic education is being taught in schools presently as documented in literature are: passive learning, lack of training in thinking and process skills, lack of focus on right, teacher control, student obedience, low- track students, low quality curriculum, text-bound instruction, inappropriate assessment etc. Generally, researchers and other writers also express considerable dismay over the inadequate preparation of teachers for providing civics education and the insufficient support provided by schools. The social studies teachers who are mainly to provide adequate explanations in key issues according to Kickbusch (1987) in his classroom observational study, reveals “a paucity of teaching skills with which to support civic education goals”.

Nearly all writers in the subject of citizenship education agree that it is essential for preserving a country’s democratic way of life. Indeed, they often remind us that the main purpose of schooling is the preparation of competent citizens (Centre for Civic Education, 1994). Many contemporary people, too, believe that education’s chief purpose is to equip students with knowledge, skills, and values needed to function effectively as citizens of a democratic society (Wood, 1998). Even those who cite other educational goals as equally important (e.g., Boyer, 1990) still concur that citizenship education is a significant aim of the schooling process.

What is Civic Education?

Bratts (as quoted by Hoge, 1988) defines civic education as “explicit and continuing study of the basic concepts and values underlying our democratic community and constitutional order”. The Thesaurus of Eric Descriptors says that civic education consists of:

learning activities, curriculum, and /or educational programmes at any educational level, concerned with rights and responsibilities of citizenship- the purpose is to promote

knowledge, skills, and attitudes conducive to effective participation in civic life (Honston, 1990: 37)

Objectives of Civic Education

While the researchers and other civic education scholars are not in total consonance about the ideal results of citizenship education, there is considerable agreement about the desirability and the following outcomes:

1. Democratic values- Prepared citizens understand and are committed to such values as: justice, freedom, equity, due process, property, participation, truth, patriotism, human right, rule of law, tolerance, civic responsibility etc (Drisko, 1993, Levitt and Longstreet, 1993).
2. The common Good- Citizens, in order to be effective, need to act from respect for the common good; that is, they need to be willing to deliberate about the nature of the public good and how to achieve it. They also need to possess compassion, ethical commitment, social responsibility and a sum of interdependence among people and between people and their environment (Adler, Luhn, and Philbim, 1993, Pereira, 1995).
3. Knowledge- Effective civic education results in knowledge and understanding of our nation, the structure of government, the political process, and the global context in which our country functions (Colville and Clarken, 1992).
4. Thinking Skills- competent citizens require skills in higher-level thinking process- critical reasoning, problem solving, perspective- taking, and divergent thinking –constructing hypotheses, and evaluating evidence (Berman, 1990; Callom, 1994).
5. Social process skill- Social skills identified as critical for high- functioning citizens include communication, conflict management, and consensus building, and working in cooperative endeavors (Fowler, 1990).
6. Student Attitudes –Effectives civic education influences students in such a way that they believe in the efficacy of civic participation, are interested in participating, and have a feeling of obligation to participate (Angell, 1991, Hoge 1988).

The Study

The current efforts at citizenship education in Botswana is not producing the desired results, hence, there is a need for a new approach in order to meet the country's target of vision 2016 of producing effective and functional citizenry. This study therefore developed and implemented an informal civic education programme through the '**school civic clubs**'. This is a participatory approach to civic education. Students were exposed to a series of civic activities through the club and their civic –related knowledge, attitudes and practices were measured before, during and after the project activities.

Specifically, the study attempted to achieve the following:

1. Developed an informal civic education programme for Botswana primary schools.
2. Implemented the Information, Education and Communication (IEC) civic education programme so developed.
3. Evaluated the impact of the IEC on the pupils' civic-related knowledge, attitudes and practices.
4. Documented the processes involved in the research in a publication for dissemination and replication in the whole of Botswana and other countries.
5. Established model clubs in schools involved in the study.

Research Questions

1. Will there be a change in civic-related knowledge, attitudes and practices of the pupils exposed to the informal civic education programme, before and after the project?
2. Will the participants' gender influence their civic- related knowledge?
3. What is the general pattern of pupils' beliefs and opinions regarding some salient civic issues?

Methodology

The one- group, time series research design was employed in the study. With this design, standards six and seven pupils from ten primary schools in Botswana constituted the group and the repetitive measures of the group were taken in three stages – before the commencement of the project, during and at the end of the project. This design also made use of the participatory approach, where the participants were involved in developing the project IEC materials and even the implementation stages. This design according to Kahn and Best (1981) allows for a researcher to take observation in a group of subjects over a period of time.

Pupils in standard VI and VII in ten primary schools in Gaborone and Francistown constituted the subjects for the study. The ten schools were randomly selected from the list of schools obtained from the Ministry of Education. Initially, five standard VI pupils were selected from each school for the orientation programme, focus group discussions and the civic education IEC programme development. This cohort of subjects constituted the core group that was involved in programme development and they went back to their various schools after the initial training to start the civic clubs. From each of the selected schools, one teacher, specifically, the social studies teacher was selected to participate in the sensitization workshop/training. They eventually served as the club Advisor/Adviser for their school. When the clubs were formed in the schools, each school club actually had not less than 50 club members, yielding a total 500 subjects in all. Data was collected using an estimated number of four hundred (400) participants. The civics Information, Education, and Communication activities were implemented through the civics clubs in each school. These activities included: lectures/symposia and debates in civics issues, video shows on governmental activities and civic activities, visits by clubs members to the parliament, Local government, the University, Courts etc to observe the running of government. It also included participatory activities within the school and in the local communities –meeting on Saturdays for environmental sanitation activities and other civic duties in their area.

These activities were carried out by the pupils with the support of the teacher-cooperators and the researchers. The activities spanned over a ten –week period. To evaluate the impact of the IEC activities on the pupils’ civic –related knowledge, attitudes and practices, the civic knowledge, attitudes and practices (CKAP) developed and validated by the researcher were administered on the participants before and after the civic IEC activities. This repetitive measures was to enable the researchers monitor changes in knowledge, attitude and practices over time, rather than a one –shot approach which may not give a total, comprehensive picture of programme effectiveness. It also allowed the researchers make changes where and when necessary. Data collected were analyzed using both the qualitative and quantitative methods. For the quantitative data, percentages, means, and t-test were used to analyze the data.

Results & Discussion

The findings from the research are presented in this section. The first thing addressed was the participants’ knowledge of civic concepts and issues before and after their participation in the club activities. The question was, whether there was any change in their knowledge due their participation in the club activities. The summary of the finding is presented in Table 1.

Table 1: Pattern of Pupils’ Scores in Civic Knowledge Test.

	Pre		Post	
	Right %	Wrong%	Right%	Wrong%
Q1	206(57.2)	154(42.8)	340(85.0)	60(15.0)
Q2	335(93.1)	25(6.9)	385(96.3)	15(3.7)
Q3	328(91.1)	32(8.9)	376(94.0)	24(6.0)
Q4	325(90.3)	35(9.7)	377(94.0)	23(5.8)
Q5	273(75.8)	87(24.2)	310(77.5)	90(22.5)
Q6	109(30.3)	251(69.7)	147(36.8)	253(63.2)
Q7	225(62.5)	135(37.5)	284(71.2)	115(28.8)
Q8	229(83.1)	61(16.9)	334(83.5)	66(16.5)
Q9	347(96.4)	13(3.6)	380(95.0)	20(5.0)
Q10	324(90.0)	36(10.0)	353(88.3)	47(11.8)
Q11	68(18.9)	292(81.1)	148(37.2)	250(62.8)
Q12	130(36.1)	230(63.9)	133(33.3)	266(66.7)
Q13	104(28.9)	256(71.1)	172(43.2)	226(56.8)
Q14	317(88.1)	43(11.9)	348(87.0)	52(13.0)
Q15	110(30.6)	250(69.4)	144(36.1)	255(63.9)
Q16	193(53.6)	167(46.4)	262(65.5)	138(34.5)
Q17	142(39.4)	218(60.6)	116(29.1)	284(70.9)
Q18	71(19.8)	288(80.2)	127(32.1)	269(67.9)
Q19	226(63.0)	133(37.0)	293(73.6)	105(26.4)
Q20	246(68.5)	113(31.5)	289(72.6)	109(27.4)

From Table 1, it could be noted that there is a general improvement in the pupils’ knowledge of civic issues after they were exposed to the intervention activities. Specifically, with regards to question 1 which asks about the year of independence of Botswana, while 57.2% of the pupils got the answer correctly before the IEC activities, a great majority, i.e. 85.0% of the pupils got the answer correctly after the intervention. Similarly with regards to item 7, asking about the name of the current president of Botswana, 62.5% of the pupils got the answer correctly before intervention, while this rose to 71.2% after the intervention. Furthermore, it could be seen that the pupils’ knowledge of the definition of Social Studies, functions of citizens, etc as requested in questions 16, 17 and 18 are generally poor as shown in the percentage of those who got the answers correctly before and after the intervention activities. It is gratifying to note that the pupils generally know where to go when they fall sick as shown in their scores in question 9(96.4% and 95%, before and after respectively). Finally when the pupils were asked to give a name to a group of people living together in a locality, 68.5% correctly defined it as a community before intervention, while 72.6% of the sample defined it same way after intervention.

In order to show the efficacy of the civic IEC intervention activities, the knowledge of the pupils before the intervention was compared with their civic-related knowledge after the intervention using a t-test. The summary is presented in Table 2.

Table 2: T-test Comparison of the Pre and Post-Test Knowledge Scores of the Whole Sample.

Group	n	x	SD	t	p
Pre-test	344	12.21	2.89	-1.36	00*
Post-test	344	13.57			

*significant @P<.05

The question addressed here was “are the activities able to improve the pupils’ knowledge of civic issues?” This we did by comparing the pre and post test knowledge scores of the whole sample. It is important to stress that although the difference in the pre and post test knowledge scores seems slim, it was however found to be statistically significant. In effect the pupils’ participation in the civic club

activities has helped them to improve on their knowledge of the civic issues in question. Therefore, the efficacy of this informal approach in developing appropriate civic knowledge, attitudes and skills in learners is not in doubt. Efforts should therefore be made to entrench the clubs in all schools and intensify the activities.

On the whole, it could be deduced that the intervention IEC activities actually impacted positively on the pupils’ general knowledge of civic issues in discourse.

The pupils’ attitudes to civic issues were also taken before and after the intervention activities and the results are presented in Tables 3(a) and (b).

Table 3a: Pupils’ Attitudes to Civic Issues (Before Intervention)

	Yes	No
	n (%)	n (%)
1. Good at expressing opinion	259(73.4)	94(26.6)
2. Good at planning things	298(84.2)	56(15.8)
3. Important to work for positive social change	282(80.3)	69(19.7)
4. Like to be actively involved in community issues	272(77.1)	81(22.9)
5. Try to help when see people in need	335(94.1)	16(4.6)
6. Always tell the truth	333(94.1)	21(5.9)
7. Keeping community clean	77(21.8)	277(78.2)
8. Willing to help others without payment	281(80.5)	68(19.5)
9. It is important for people to follow rules	341(96.3)	13(3.7)
10. Important to be interested & follows local issues	310(88.1)	42(11.9)

Table 3b: Pupils’ Attitudes to Civic Issues (After Intervention)

	Yes		No	
	n	%	N	%
1. Good at expressing opinion	310	78.3	86	21.7
2. Good at planning things	324	81.8	72	18.2
3. Important to work for positive social change	318	80.5	77	19.5
4. Like to be actively involved in community issues	325	82.3	70	17.7
5. Try to help when see people in need	383	96.7	13	3.3
6. Always tell the truth	358	90.4	38	9.6
7. Keeping community clean	94	23.7	302	76.3
8. Willing to help others without payment	339	85.8	56	14.2
9. It is important for people to follow rules	386	97.5	10	2.5
10. Important to be interested & follows local issues	348	88.1	47	11.9

From the two tables, it could be observed that there is no consistency in the pattern of the attitudes of the pupils on the civic issues examined. While for some of the items, there was some improvement in the perceptions of the pupils after the intervention activities, in some other items, the attitude scores dropped. This is to confirm some previous observations in literature that it takes a long time to change peoples’ attitudes. This study lasted only ten weeks, therefore it is not expected that there will be a sudden change in the pupils’ attitudes to the civic issues. However, it could be speculated that the more the pupils’ knowledge of civic issues increase, the better their attitudes to civic issues as well. This is because even attitude which is an affective outcome depends on the cognitive exposure. The more knowledge of a thing the pupils have, the better their attitude to that thing or situation. Therefore, it is anticipated that as the pupils participate more in their civic club activities, they will acquire more knowledge of civics and better attitudes to civic issues.

The study further examined gender influence on the pupils’ knowledge of civic issues and the summary of the pre and post t-test comparison of their means are presented in Tables 4 a and b. What was done here was to compare the mean knowledge scores of male and female pupils in the civic issues examined. The comparison was to bring out, if any, gender influence on learning of civic issues.

Table 4a: (Pre-test): T-test Comparison of Boys and Girls Knowledge Scores in Some Civic Issues

Group	n	x	SD	t	p
Boys	141	11.85	2.96	-1.97	.04*
Girls	213	12.46			

*significant@ P<.05

Table 4b: (Post-test): T-test Comparison of Boys and Girls Knowledge Scores in Some Civic Issues

Group	n	x	SD	t	p
Boys	137	13.39	2.90	-1.12	.26ns
Girls	205	13.72			

Ns= Not significant

It could be observed from Tables 4(a) and (b) that girls tend to perform slightly better than boys as shown in their mean scores before and after intervention. However, while the difference in means was significant before intervention, after the intervention the mean scores of the two groups improved and the slight difference noticed was found not to be statistically significant. In fact boys were able to catch up rapidly in their knowledge of civic issues, from $x = 11.85$ before intervention to $x = 13.39$ after intervention.

As part of their civic activities, it was interesting to find out level of media usage among the pupils. Three common media were examined in this study and the findings before and after the IEC activities are presented in Tables 5(a) and (b).

Table 5a: (Pre-test) Pattern of Pupils' Media Usage

	Daily		Always		Not at all	
	n	%	n	%	n	%
1. Television	112	38.4	140	47.9	40	13.7
2. Newspaper	94	33.9	65	23.5	118	42.6
3. Radio	97	35.3	111	40.4	67	24.4

Table 5b: (Post- test) Pattern of Pupils' Media Usage

	Daily		Always		Not at all	
	n	%	n	%	n	%
1. Television	126	33.8	192	51.5	55	14.7
2. Newspaper	153	40.3	96	25.3	131	34.4
3. Radio	131	35.4	147	39.7	92	24.9

It could be observed that the most used of all the media outlet is the Television and the least patronized is the newspaper, while the radio comes in between the two. It could be appreciated that in this age of Information Communication Technology (ICT), with a lot of video games in circulation, the Television becomes a very useful tool in accessing all these modern facilities. When prodded further, it was discovered that the children rarely used the Television for news, but rather more intensely for playing their games. However, it was gratifying to note that the children do use all these media at all

Table 5c: (Pre-test): Type of News Listened to By Pupils

	Yes		No	
	n	%	n	%
1. International news	150	45.7	178	54.3
2. National news	200	61.0	128	39.0
3. Local news	118	35.9	211	64.1
4. Sports news	147	45.0	180	55.0

One crucial aspect of media usage is news. We asked the children to indicate the type of news they listen to or watch on Television. The findings are presented in Tables 5(c) and (d).

Table 5d: (Post-test): Type of News Listened to By Pupils

	Yes		No	
	n	%	n	%
1. International news	189	47.8	206	52.2
2. National news	197	49.7	199	51.3
3. Local news	145	36.7	250	62.3
4. Sports news	140	35.4	254	64.6

It could be observed that less than 50% of our sample does listen to international news, both before and even after intervention activities. On the other hand, National news enjoyed a strong audience among the pupils. With regards to local news and sports news, the pupils indicate negative patronage of those news items. While we could explain the pupils' poor ratings on the local news, because there are no local community-based newspapers, television and newspapers in Botswana, their rating of the sports news seems strange. There is only one national television and one national radio station and two others whose coverage is only limited to the capital, Gaborone. Botswana is a small country of a population of 1.8 million, therefore anything that happens in any part of the country becomes national news. However it is strange that pupils do not patronize sport news. Perhaps this may be peculiar to our sample as youths in Botswana generally love sports. However sports reportage in the country is still largely limited.

The study further examined pupils' beliefs regarding some civic issues to determine their feelings on those issues and the summary is presented in Tables 6a and b.

Table 6a: (Pre-test): Respondents' Beliefs Regarding Some Civic Issues

	Yes		No	
	N	%	n	%
1. Working with others can improve society	334	95.2	17	4.8
2. Youth can make impact on community decisions.	251	71.7	99	28.3
3. It is difficult for youth to improve society	134	38.4	215	61.6
4. Can personally make a difference in the community.	291	85.1	51	14.9
5. What is learnt in S/S is enough for civic training.	227	66.6	114	33.4
6. To learn more about civic issues	320	93.8	21	9.2
7. School civic club will help learn civic issues	311	90.9	31	9.1
8. Like to be a member of civic club	304	89.1	37	10.9

Here we attempted to gauge the opinions of the pupils on what impact the individuals and the youth as a group could make in bringing about changes in their communities. We also attempted to determine their opinion on the need for the introduction of the School Civic Clubs in their school.

Table 6b: (Post-test): Respondents’ Beliefs Regarding Some Civic Issues

	Yes		No	
	n	%	n	%
1. Working with others can improve society	364	93.3	26	6.7
2. Youth can make impact on community decisions.	321	82.5	68	17.5
3. It is difficult for youth to improve society	180	46.2	210	53.8
4. Can personally make a difference in the community.	303	77.7	87	22.3
5. What is learnt in S/S is enough for civic training.	264	68.0	124	32.0
6. To learn more about civic issues	375	96.4	14	3.6
7. School civic club will help learn civic issues	366	94.3	22	5.7
8. Like to be a member of civic club	362	93.5	25	6.5

It could be observed from these two tables above (6a and b), that generally the pupils have a strong desire to learn more about civic issues beyond what they learn in Social Studies. While they agreed that Social studies teaches about civic issues more than any other subject in the previous findings, they were still eager to learn more about civic issues beyond what Social Studies could provide. This is demonstrated in the large percentage (about 93.8% before and 96.4% after intervention) that stated that they want to learn more. Similarly their views on the need for the club and their intentions to become members were generally positive. In fact, this became evident with 89.1 %(before) and 93.5% of the sample indicating that they will like to become members of the School Civic Clubs. The enthusiasm generated during the piloting of the IEC activities in the clubs in all the schools actually stimulated a lot of the pupils to become willing and more interested in learning more about civic issues through these clubs. Today, those civic clubs have now become a permanent feature in those schools involved in the study.

Conclusion

This project was fashioned after a similar one conducted by Mansaray & Ajiboye (2000) for Nigeria schools. That project was supported with a grant from the Office of Transition initiatives of the United States Agency for International Development (USAID, OTI). Whereas the two projects focused on civic education, their major goals were quite different. In the Nigerian project, the focus was to introduce the participants to civic and democratic issues because most children in Nigeria primary and secondary schools as at year 2000 never had any experience of democracy and democratic rule. Those children were born during the solid years of military hegemony in the country (i.e. 1984-1999). Therefore that project aimed at exposing that cohort of Nigerian children to issues of democracy and democratic rule. On the other hand, for Botswana, the children have ever lived in a democracy since the country never experienced military rule since independence in 1966. However, there were some noticeable undemocratic practices among the youths in the country that needs to be targeted for immediate action. Therefore, the focus of the Botswana project was to reinforce democracy and democratic practices among the children.

It is however important to stress that in both projects, the use of the informal civic club approach have yielded positive results in developing appropriate civic-related knowledge, attitudes and practices among the participants. In most countries of the world, Botswana inclusive, the school time tables are already overcrowded; therefore to introduce new subjects in schools becomes very difficult if not impossible. For example, with the global attention on Climate Change, it may not be feasible to introduce a new subject called “Climate Change” in schools. However, the informal approach experimented with in this study could serve as a viable alternative to introducing new subjects to address emerging issues in our societies. This approach has the potency to absorb such emerging issues whenever they arise. It is therefore recommended here that this approach be utilized in absorbing other emerging global issues including global climate change.

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Food Demand among HIV Households in North Central, Nigeria

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Abstract

Amidst growing concern on the impact of HIV/AIDS on agricultural production and food security globally, this study examines food demand situations among HIV/AIDS households in Markudi, a capital city of Benue State which doubles as the food basket and the second most HIV ravaged State in Nigeria.

An Almost Ideal Demand System (AIDS) model was used to estimate elasticities of demand for major food items among HIV/AIDS households. The study shows that all the food products are own-price inelastic as the elasticity estimates are less than unity. Also, the cross price elasticity estimates are less than unity indicating that the possibilities of substitution among the various categories of food items are limited. The income elasticity estimates indicated that the estimates are positive and greater than unity for animal protein, fruits and vegetables thereby implying that the food items are seen as luxuries by the HIV households though they are required in greater quantities for an efficient disease management among HIV households. This situation is capable of undermining the potential for healthy living among the HIV households especially when their income is not improved. Hence policies targeted at improved nutritional intake among HIV households need to consider improved household income.

Keywords: Food Demand, HIV Households, Nigeria

Introduction

Various reports have presented a precarious food situation in Sub Sahara Africa and initially this has been attributed to rapid population growth and declining fertility and consequently productivity of arable lands (FAO 1998, 1996). The situation has further been worsened by the scourge of HIV/AIDS and its attendant negative impact on manpower supply especially for agricultural production in the sub region. Notable impacts including cultivation of fewer crops, disposal of farmland to pay for treatments of the disease, withdrawal from farming activities to other vocations and outright disposal of farmlands to generate income for financing cost of treatment for the disease have been reported in countries like Zambia and Malawi (Mbaya 2002, Shah et al 2002 and UNAIDS 2003).

HIV infected farmers have also been found to sell more than their surplus production, sell too many of their seeds and engaged in fewer farm investments subsequent upon which there are decline in production, household income and consequently access to food which culminates in change in household food demand (Loevinsohn and Gillespie 2003 and Hilhorst *et al.*, 2004).

The consequential change in food demand of HIV households is of nutritional consequences especially for PLWHAS whose nutritional requirements are about 50% greater for protein and 15% greater for energy than for healthy people. However, UNAIDS (2004) report on Nigeria indicated that the various interventions programme are yet to make appreciable impact on the incidence and burden of the disease. The report concludes further that there are inadequate government funding alongside stigma and discrimination which limits intervention expansion and sustainability. The bottom-line of this is that, HIV households are much left to their own home-grown coping strategies of which their food consumption pattern takes a central place.

Although literatures (Njoku and Nweke 1994; Duhaime *et al* 2002; Olarinde and Kuponiyi 2005; Giskees *et al* 2006) have established the influence of socioeconomic characteristics on household access to production and social incentives, and by extension food consumption pattern generally with significant influences impacted by such characteristics as household size, income, age of household head, level of education of household head etc., A pertinent question to be answered however is whether such general considerations could be appropriately adopted as same for vulnerable groups like HIV households who are known to suffer neglects through stigmatization and discrimination.

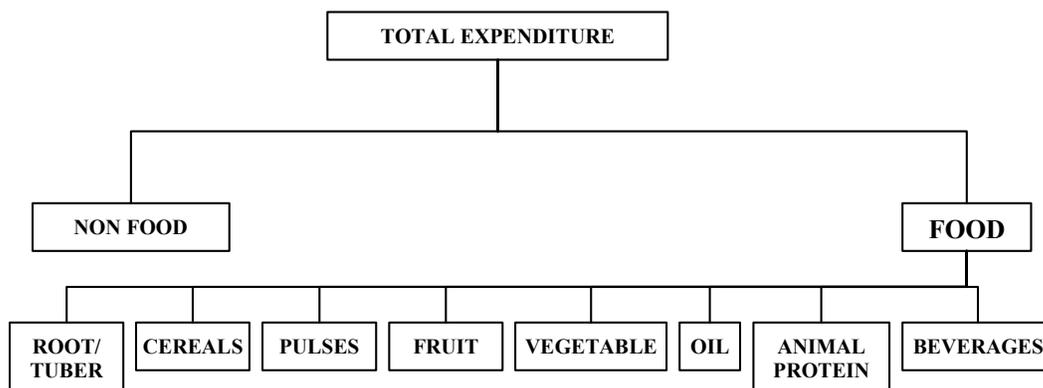
This paper thus seek to contribute to existing literature on household food consumption by examining how food prices, expenditure and socioeconomic characteristics of households influences their food demand in a population noted for food production but ravaged by HIV in Nigeria.

Methodology

Data for this study were generated through a survey of 125 HIV households selected by 2-stage sampling technique in Markudi, a capital city of Benue State which doubles as the food basket and the second most HIV/AIDS ravaged State in Nigeria. The sampling frame comprises of all men and women registered with support groups as having acknowledged their sero status as HIV positive. Lists were drawn from 10 support groups at the first stage while 125 PLWHAS were selected from the support groups randomly with probability proportional to size.

Data centering basically on consumption pattern, prices, expenditure and socio economic characteristics were then collected from household heads through structured questionnaires. A 2-way budgeting framework is used to model the food consumption behaviour of households as illustrated in Fig. 1. The household is conceptualized in the utility tree as deciding at the first stage, the total expenditure to be allocated to food consumptions vis-à-vis non food goods and then allocate food expenditure on different types of food.

Figure 1: Utility tree for household Budgeting



Source: Adapted from M. M. Dey (2001)

Hence, household food expenditure is specified following Blundell et al (1993) as

$$M_t^h = f(P_f, P_{nft}, Y_t^h, Z_t^h)$$

where P_f = Index of food prices

P_{nft} = Index of non-food prices

Y = Total household income

T = Time period

Subsequently, household preference for a particular food group is specified as an almost ideal demand system expressed as

$$s_{it}^h = f(P_{Ft}, F_t^h)$$

Where S_{it}^h = Share of a particular food group in household food Expenditure.

P_{Ft} = Vector of price of different food groups

F_t^h = Expenditure share for each household

in which case total household expenditure was disaggregated by food groups and the budget share of each food category was estimated. An Almost Ideal Demand Systems model is then applied to estimate elasticities of demand for the different food categories namely; cereals, legumes, root/tubers, vegetables, oil, animal protein, fruit and beverages. The demand model is of the form:

$$W_{i,h} = \alpha_i + \sum_{j=1}^n \gamma_{ij} \log P_{i,h} + \phi_{ih} D_{i,h} + \beta_i \log \left[\frac{X_h}{P^L} \right] + \varepsilon_{i,h} \quad (3.1)$$

where

$W_{i,h}$ = budget shares for various food items i consumed by household, h

$D_{i,h}$ = vector of socioeconomic and demographic variables for the i^{th} equation

$\ln P_{i,h}$ = the logarithm of food price consumed by household h

$\ln X_h$ = the logarithm of total food expenditure by household h

α_i = a constant for the i^{th} food

$\gamma_{i,j}$ = own or cross price elasticity

β_i = expenditure coefficient of the i^{th} food expenditure

$\phi_{i,h}$ = Coefficient of the socioeconomic variables for the i^{th} equation

P^L = Laspeyres price index

$\varepsilon_{i,h}$ = random or stochastic disturbance with zero mean and constant variance for the i^{th} food demand by household h

For this study, AIDS model captures the following socioeconomic and demographic variables – Household age ($hhag$), household size ($hhsz$), duration of being HIV positive ($hivd$), education ($hhed$), general household income ($hhin$), household father's income ($hhfin$). With respect to food demand, the parameters may be specified as:

$$D_{i,h} = \phi_{h_{i,1}} hhag + \phi_{h_{i,2}} hhsz + \phi_{h_{i,3}} hivd + \phi_{h_{i,4}} hhed + \phi_{h_{i,5}} hhinc + \phi_{h_{i,6}} hhfin + \phi_{h_{i,7}}$$

and when incorporated into the AIDS model, the econometric model estimated is explicitly of the form

$$W_{i,h} = \alpha_i + \sum_{j=1}^n \gamma_{ij} \log P_j + \beta_i [EXP] + \phi_{h_{i,1}} hhag + \phi_{h_{i,2}} hhsz + \phi_{h_{i,3}} hivd + \phi_{h_{i,4}} hhed + \phi_{h_{i,5}} hhin + \phi_{h_{i,6}} hhfin + \varepsilon_{i,h}$$

In estimating the model, the Laspeyres price index (P^L) is employed to linearize the AIDS model before estimation. The price index (geometric weighted average of prices) is estimated separately outside the model for all households before incorporating it in the demand equation. For the food type i ,

$$Price\ Index = P_h^L = \sum_{i=1}^n \bar{w} \ln P_{i,h} \quad (3.2)$$

where \bar{w} = geometric mean budget of food type i .

The estimated parameters are subject to the following restrictions:

$$\text{Additivity: } \sum_{i=1}^n \alpha_i = 1, \sum_{i=1}^n \gamma_{ij} = 0, \sum_{i=1}^n \beta_i = 0$$

$$\text{Homogeneity: } \sum_{j=1}^n \gamma_{ij} = 0$$

$$\text{Symmetry condition: } \gamma_{ij} = \gamma_{ji}$$

The own price, cross price and income elasticities of the food groups are derived respectively from the estimates as: $E_{ii} = -1 + \frac{\gamma_{ii}}{w_i} - \beta_i$, $E_{ij} = \frac{\gamma_{ij}}{w_i} - \frac{\beta_i}{w_j} w_j$ and $E_i = 1 + \frac{\beta_i}{w_i}$

Results and Discussion

Socio-economic characteristics of HIV households

The distribution of the socio-economic characteristics is shown in Table 1. About 81% of the household head are between the ages of 21 and 40 years old while 18.5% are between 41 and 60 years old. The mean age of the household is 34 years which implies that the households are still within their active productive years and would as such demand enriched diet to provide adequate energy and health for active production. Mean household size is 4.5 while the infected household have carried the infection for an average of about 4 years. The household is predominantly educated with about 70% having spent more than 12 years in formal school. Average household income is ₦ 21,824 while half of the households earn monthly income of less than ₦ 20,000. Although the high literacy of the population is expected to improve the level of awareness of the households as regards nutritional and other requirements for effective management of the disease, the fact that about half the population earn income of less than ₦ 20,000 could hinder their capabilities for procuring the more nourishing food items required for the effective management.

Influence of household characteristics on food demand of HIV households

Table 2 presents the influence of household socio-economic characteristics on HIV household demand for each category of food items. The result shows that older households stand to consume more of root/tubers and cereals but as the households become large, there is tendency for the consumption of cereal to decrease while the consumption of vegetables increases. Also, as infected household advances in years as patient, consumption of beverages decreases while the years of educational attainment enhances households' consumption of root/tubers but decreases consumption of legumes. Also, consumption of animal protein is enhanced by increase in household income at the expense of legumes while increase in income of the household head only, decreases household consumption of vegetables.

Table 1: Socio-economic characteristics of HIV households

Characteristics	Frequency	Percentage
<u>Age of Household</u>		
21-40 years	53	81.5
41-60years	12	18.5
Mean	34	
<u>Household Size (Mean)</u>	4.5	
<u>Years as HIV patient Mean</u>	3.9	
<u>Years of formal education</u>		
6 years or less	02	3.1
7-12 years	16	24.6
Above 12 years	47	72.3
Mean	13	
<u>Household Income</u>		
₦ 20,000 or less	33	50.0
₦ 21,000 – ₦ 40,000	30	45.5
Above ₦ 41,000	02	3.0
Mean	₦ 21,824	
<u>Income of Household Head</u>		
₦ 20,000 or less	21	32.3
₦ 21,000 – ₦ 40,000	40	61.5
Above ₦ 41,000	4	6.2
Mean	₦ 25759.83	

The increase in consumption of starchy staples as households get older is an indication of households preference for bulky foods to satisfy their energy need for increased physical activities but increase in household size probably from increase in number of children of younger ages requires improved nutrition to provide for healthy growth of the younger generation, hence starchy foods could be substituted for vegetables to increase the vitamins enriched foods like vegetables. Contrary to expectations however, the decrease in consumption of beverages as households' advances in years as patient negates the expected improved nutrient intake (e.g. vitamins) required for effective management of the disease and this could be attributed to probable preference of the households to spend on purchase of the expensive drugs rather than increase their consumption of beverages but. Even level educational attainment does not change the preference of household for common staples for the primary energy needs but improved household income understandably facilitates households' preference for more quality expensive animal protein than plant protein supplied by pulses. However, increase in income of the household held alone might not be enough to change the households' pattern of consumption in favour of the required increase in consumption of protein and vitamins.

Table 2: Influence of Socio economic Characteristics of Households on Food Demand by Categories.

W	Hhag	hhsz	Hivd	Hhed	hhin	Hfin
Root tuber	0.001475* (0.0073)	-0.00332 (0.3453)	-0.00066 (0.7356)	6.65E-7* (0.364)	6.65E-7 (0.3646)	-7.71E-8 (0.9194)
Cereal	0.001420* (0.00335)	-0.00895* (0.0388)	0.002848 (0.2349)	-5.85E-7 (0.5135)	-5.85 E-7 (0.5135)	1.157 E-6 (0.2153)
Legumes	-0.00067 (0.4355)	-0.00783 (0.1598)	0.000105 (0.9728)	-0.0051* (0.0239)	-2.92E-6* (0.0129)	1.583E-6 (0.1904)
Vegetables	-0.00008 (0.8373)	0.006266* (0.0193)	-0.00042 (0.7760)	0.000500 (0.6389)	7.275E-7 (0.188)	-1.47E-6* (0.0116)
Beverages	4.219E-6 (0.9906)	0.001783 (0.4420)	-0.00308* (0.0186)	-0.00143 (0.1279)	5.21E-7 (0.2821)	-1.54E-7 (0.7598)
Animal Protein	0.000270 (0.7125)	0.000229 (0.9615)	-0.00472 (0.0771)	5.51E-6 (0.9977)	3.156E-6* (0.0019)	-1.7E-6 (0.1018)
Fruit	-0.00038 (0.3698)	0.000635 (0.8178)	0.000643 (0.6753)	0.000819 (0.4614)	9.511E-7 (0.1001)	-1.78E-7 (0.7663)

Source: Results from Data Analyses.

Figure in brackets are probability levels * Significant at 5%

Elasticities of demand

Table 3 shows the estimates of elasticities of demand of HIV households for various food categories. The diagonal matrix indicates the own price values while the off diagonal matrix shows the cross price elasticity values. The income elasticity estimates is shown on the last row of the matrix. The own-price elasticity estimates varies in sign but are all below unity thereby indicating that non of the food categories is own-price elastic. While this could be expected of the common staples like root/tuber and cereals and probably oil and vegetables used as a necessary ingredient in preparation or consumed alongside with the common staples, the inelasticity to own price of food items like animal protein, fruit and beverages deviates from common consumption pattern of poor households noted with low income countries like Nigeria where such items are viewed as luxuries. However, this could be a reflection of the recognition of the importance of the food items in providing the required nutrient for a healthy disease management among the HIV households.

Nevertheless, the positive sign carried by the own price elasticity estimates for cereals (0.001) and vegetables (0.121) indicates that the demand for both categories of food by HIV households tends to increase (but less than proportionate change) with increase in price and this could be attributed to the higher premium given to cereals as energy food while vegetables are at most instances consumed with the common staples and could also help in providing the much needed vitamins as substitute for fruits and beverages. Expectedly however, the demand for foods in the other categories tends to decrease with increase in price. Generally, cereals, oil, vegetables and root/tuber with own price elasticity estimates of 0.001, -0.002, 0.121 and -0.185 respectively could be said to be highly inelastic to own price. While cereals and root/tuber are common staples, oil and vegetables are necessary ingredients used regularly in the preparation of broth consumed alongside with the common staples. The income elasticities estimates of these categories of food also points to their non responsiveness to income change thereby showing them as necessities in the average daily food consumption of the HIV families. However, animal protein, fruit and beverages were found to be income elastic with elasticity estimates of 1.069, 1.027 and 1.694 respectively which implies that household consumption of the food categories tends to increase as household income increases and are thus seen as luxuries in the HIV household consumption pattern with beverages being the most luxury. These set of foods are however among those required in increased quantity for efficient management of HIV disease among the households and when they are seen as luxuries (although expected among poor households), there is tendency for this to undermine the potential for healthy leaving among the HIV households. Meanwhile, cereals, legume, root/tuber, vegetable and oil are necessities in the average daily food intake of HIV families.

The cross price elasticity estimates among the food categories are however less than unity across all pairings thereby implying limited possibilities of substituting one category of food item for another in the consumption pattern of HIV households. In addition, the negative cross elasticities estimate between the common staples (cereals and root/tubers); and legume, vegetable, oil and beverages attests to marginal complementary consumption more so when the items (except beverages) are usually prepared and consumed alongside the common staples.

The HIV household consumption pattern also reflect marginal possibilities of substituting the common staples (cereals and root/tubers) for animal protein or fruit and this could help perhaps marginally to satisfy the required additional nutritional intake required because of their HIV status.

Table 3: Estimates of Price Elasticities of Food Demand by HIV Households

	Cereals	Legume	Root Tuber	Veget	Oil	Animal Protein	Fruit	Beverage
Cereals	0.001	-0.109	-0.296	-0.136	-0.202	0.007	0.0599	-0.073
Legume	-0.141	-0.259	-0.114	-0.208	-0.069	0.157	-0.076	-0.104
Root/Tuber	-0.301	-0.089	-0.186	-0.105	-0.013	0.008	0.0563	-0.136
Vegetable	-0.228	-0.272	-0.177	0.122	0.0429	-0.125	-0.136	-0.107
Oil	-0.444	-0.129	-0.043	0.061	-0.002	-0.222	0.106	-0.192
Animal Protein	-0.044	0.101	-0.040	-0.105	-0.124	-0.540	-0.1723	-0.145
Fruit	0.133	-0.216	0.124	-0.280	0.136	-0.486	-0.384	-0.053
Beverage	-0.222	-0.202	-0.280	-0.155	-0.152	-0.235	-0.054	-0.393
Income	0.749	0.815	0.766	0.879	0.865	1.069	1.027	1.694

Source: Results from Data Analyses

Conclusion

This study has attempted to study the expenditure profile and consumption pattern of various food categories among HIV households with respect to the influence of socio-economic characteristics of the households. The study showed that the influence of the socioeconomic characteristics on the consumption pattern of HIV households varies across food categories. The consumption of cereals and root/tubers is enhanced by age while the consumption of vegetables is enhanced by household size. Also, increase in household income enhances household consumption of animal protein at the expense of legumes.

The estimates of elasticities however indicated that the entire food items are inelastic to their own price while the cross elasticities reflected the marginal possibilities of the households substituting one food category for the other. However, the income elasticities estimate showed animal protein, fruit and beverages as luxuries. Hence, the need to encouraging improved consumption of these food items among HIV households as a way of making them gain the required additional nutrients offered by the items requires policies capable of improving households' income.

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Rural Poverty and Farming Households' Livelihood Strategies in the Drier Savanna Zone of Nigeria

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Abstract

Poverty has been found to be higher in the rural communities of the developing nations and its reduction is the most difficult challenge facing any country in the developing world, particularly Nigeria with a dysfunctional economic policies and poor infrastructures. Resultant upon this increasing poverty among rural farming households are livelihood diversifications, more often than not from farming to other non-farming activities. Data from 400 households randomly selected from 100 villages spread across 10 Local Government Areas across the four Agricultural Development Programme (ADP) Zones in Kebbi state, Nigeria were used to determine the different livelihood strategies adopted by rural farming households across poverty line developed for the study area. The study revealed that rural infrastructures were inadequate and poorly distributed with high level of poverty. Furthermore, the main livelihood strategy of rural farming households in the study area remains agricultural production (mainly crops), though at varying degrees across poverty levels, with evidences of diversification into other non-farm activities.

Keywords: Poverty, livelihood, rural households, drier savanna, Nigeria

Introduction

Poverty reduction is the most difficult challenge facing any country in the developing world. This concern evolves from the failure of various initiatives by governmental and non-governmental organizations (NGOs) to reduce poverty. Evidences in Nigeria reveal that the number of those in Poverty has been on the increase in last two decades. Several studies (Aigbokhan, 1988; FOS, 1992; Carnagarajah, *et. al.* 1996; FOS, 1998, FOS, 1999; Ogwumike, 2000) revealed that poverty profile for Nigeria is high and remained predominantly with the rural farming households.

From Table 1, poverty has been largely a rural phenomenon. For instance, 28 percent of rural people compared to 17 percent of urban people lied below poverty line. By 1985, poverty became pervasive in both rural and urban areas with poverty incidences rising to 51 percent and 38 percent respectively in both rural and urban areas of the country. While higher urban poverty incidence has been traced to high rural-urban migration that accompanied the impetus to development generated by oil revenues (Ogwumike, 2000), increased poverty in the rural areas is traceable to resource degradation, which is described as an acute problem in the rural areas (OECD, 2001).

Table 1: Nigerian Poverty Profile 1980/1996

	1980	1985	1992	1996
National	27	46	42	67
Urban	17	38	37	59
Rural	28	51	46	71
Northeast	36	55	54	67
Northwest	38	52	37	68
North central	32	51	46	66
Southeast	12	30	41	68
Southwest	13	39	43	67
South-south	13	46	41	67
Professional/Technical	17	36	35	28
Administration	45	25	22	6
Clerical	10	29	34	35
Sales worker	15	36	33	30
Services	21	38	38	34
Agriculture	31	53	48	73
Production/Transportation	23	46	41	47
Farming	31	53	48	73
Non-farming	16	37	36	58

Source: Adapted from Ogwumike, 2000.

However, in response to increasing poverty, rural households in Africa have been found to diversify from agriculture, which had hitherto been their main source of livelihood. Studies have shown that between 30 percent and 50 percent of rural household income in sub-Sahara Africa is typically derived from non-farm sources (Shann, 1994; Readon and Vosti, 1995).

Several studies have examined the livelihood of the rural communities in sub-Sahara Africa (SSA). Prominent among these works is the one by De-Agrarianization and Rural Employment (DARE) in 1999, where it was revealed that the rural settlements in sub-Sahara Africa have witnessed a high level of ‘de-agrarianization’ and ‘depeasantization’. De-agrarianization is defined as a long-term process of occupational adjustment, income-earning reorientation, social identification, and spatial relocation of rural dwellers away from strictly agricultural based modes of livelihood. Whereas, this ‘depeasantization’ represents a specific form of de-agrarianization in which peasantries lose their economic capacity and social coherence, and shrink in size (Bryceson, 1993). From the study, it was asserted that less than half of the world’s population resides in the rural areas, and most are peasants (DARE, 1999).

A peasant livelihood involves changing agrarian labour process that is responsive to internal variations like climate, local resource variation, and demography, as well as external stimuli such as markets taxation, and other forms of State interventions (Bryceson, 1993). It is therefore clear why the State interventions more often than not impact negatively on the livelihood of the people. For instance, the imposition of Structural Adjustments Programme (SAP) on most countries in Africa in the mid-1980s to the mid-1990s amounted to a drastic undermining of most peasants’ capitalized production through the removal of subsidies on improved inputs like fertilizers, seeds, and pesticides. Each of these countries experienced SAP to a varying degrees. However, the broad masses and poorer peasants involved in commodity production found the removal of subsidies and fluctuating, often declining

producer prices and inconsistent State policies threatening to the viability of their market-oriented production (DARE, 1999).

In Nigeria, SAP led to a significant increase in the production of peasant commodities, which were adversely affected by agricultural subsidy cutbacks. Farmers were faced with a more uncertain market environment, producer prices were subjected to wide variations, input prices skyrocketed and supply became tenuous as most traders did not have the rural outreach of the institutions saddled with extension responsibilities (Madulu, 1988; Meagher, 1999). Even at that, in some areas, small-scale farmers attempted to carry on with production with or without much reduced inputs, but their yields became disappointingly low. Some reverted to traditional varieties of staple food crops rather than the high yielding improved varieties requiring expensive inputs; in fact an estimated 71% decline in annual mean household income from agriculture was reported (Mung'ong'o, 1998; Yunusa, 1999).

The above led to drastic shortages and uncertainty in the returns from peasants' commercial agriculture, and daily needs for cash has kept on increasing because of government' removal of subsidies on educational and health services. The school fees and fees at the health centers take a lion share of the peasant households' budgets. There is therefore a rising need for cash, which the peasant commercial agriculture could not sustain. In Nigeria, food prices rose astronomically causing hardship for food-deficit rural households. In Northern Nigeria, many poorer peasants were cutting down on consumption of basic food items and were disposing off their productive assets, notably land, as a way of keeping up with their necessary expenditures (Yunusa, 1999).

The previous led to income diversification among the rural households in Africa. Literature has reported a surge in non-agricultural income sources over the past fifteen years of SAP implementation (Maludu, 1998; Yunusa, 1999). Non-agricultural activities are defined as any work that does not directly involve plant or animal husbandry. Income diversification in Africa encompasses agricultural diversification and its non-agricultural components. Some of the areas of diversification were found to include: agricultural waged labour on farms not belonging to the individual producer or his/her household, in other words 'off-farm work (Jambiya, 1998; Yunusa, 1999). Others include trading of all sorts, remittances, proliferation of income earners among household members, which more often than not had led to child labour among most African rural settings (DARE, 1999). Studies have shown that between 30% and 50% of rural households' income is typically derived from non-farm sources (Sahn, 1994). While income diversification has been viewed as a way of livelihood diversification, another means of diversification is migration. Migration is one of the most important methods of diversifying rural livelihoods, and it takes different forms (Stark, 1991). It means one or more family members leave the resident household for varying periods of time, and in so doing are able to make new and different contributions to the household well-being; though such contributions are not guaranteed by mere migrating (Ellis, 1998).

Furthermore, diversification has been found to be beneficial and detrimental to livelihood. The positive effects have been found to include consumption smoothing, risk reduction, more complete use of available household labour and skills, cash generation for investment in human or physical capital, more opportunity for women to exercise independent economic decisions – making and, in some cases, improvement in natural environments or reduced pressure on environmental resources (Ellis, 1998).

The negative effects of diversification however, are often the converse of the beneficial effects, and reflect the different circumstances that arise historically in different locations. The negative effects are usually on income distribution by causing disparities between the rich and the poor in rural areas. Agricultural productivity, diversion of resources into unproductive networking and adverse gender effects are other negative effects (Berry, 1989; Dercon and Krishnan, 1996). From the foregoing, this study aims at understanding household livelihood strategies in the context of poverty levels and their various environments.

Material and Methods

Study area and data

The study was carried out in Kebbi State in the North-western Nigeria, which falls in the dry savanna region comprising of Sokoto, Kebbi, Zamfara, Kano, Kaduna and Jigawa States. The area falls into the dry savanna ecological zone of Nigeria with an average annual rainfall of between 650mm and 1100mm. The vegetation largely comprises of drought resistant grasses, legumes and shrubs. There are two distinct seasons: the rainy and the dry season; with the dry season longer than the rainy season. Dry season is usually accompanied by very dry air known as the harmmerttan.

The commonly practiced religion is Islam, although a few Christians are still in the state. Largely dominated by families which are polygamous in nature, and they reside in huts. Commonly cultivated crops in the State include maize, sorghum, millet, and rice. Others include pepper, tomatoes, cowpea, and so on. The area is famous for traditional arts and crafts, beads, swords and glassware, and it is the site of the Argungu fishing festival, one of the most popular tourist attractions in Nigeria.

The sampling technique adopted in the study was multi-stage sampling technique. All the four Agricultural Development Project zones in the state were covered in the survey. The first stage was the random selection of 10 Local Government Areas (LGAs) from all the four ADP zones. The number of LGAs selected from each of the zones was proportional to the number of LGAs in the zone. The proportionality factor used is stated as follows:- $S = n/N * 10$. Where, S= the number of LGA sampled from a zone; n= the number of Local Government Areas in a zone; N= the number of Local Government Areas in all the zones in the state and 10= the desired number of LGA for the survey. In each LGA, a comprehensive list of the names of villages compiled by the Kebbi State Agricultural and Rural Development Agency (KARDA) was obtained. The second stage involved the random selection of 10 villages from each of the 10 selected LGAs to make a total of 100 villages sampled in the study area. However, villages or settlements that were non-rural in nature were excluded from the survey using the population criteria which stipulates that any settlement with a population less than twenty thousand (20,000) should be classified as rural (see Adejobi, 2004). In the third stage, 400 households were randomly selected from the 100 villages earlier selected. A proportionality factor was also introduced to determine the number of respondents coming from each of the LGAs selected. The proportionality factor used is stated thus:- $S = p/P * 400$. Where, S= sample size from a LGA; p= the population of a LGA selected¹; P= the total population of all the selected LGAs, and 400 = the desired number of respondents for the study area.

Empirical models

The main analytical tools in this study are the Freer, Greer and Thorbecke (FGT) poverty measures and the descriptive statistics. Literature is replete on several methods of determining poverty lines (Sen, 1981; FOS, 1999; Omonona, 2001). However, the cost-of-calories (COC) method proposed by Greer and Thorbecke (1984) is used in this study for ease of computation. Besides, it gives a value that is usually close to the minimum requirements for human survival unlike the alternative methods (particularly the two-third mean per capita expenditure). The COC function estimated is of the form

$$\ln X = a + bC \quad (1)$$

Where X is the adult equivalent food expenditure (in Naira) and C is the calorie consumption per adult equivalent of a household (in kilocal). The calorie contents of the recommended (FAO, 1982; Food Basket, 1995)² daily nutrients level (L) were used to determine the poverty line Z using the equation:

$$Z = e^{(a+bL)} \quad (2)$$

Where,

Z= the cost of buying the minimum calorie intake (poverty line).

¹ The population of the LGAs was obtained from the National Population Commission office in Kebbi State.

² The recommended energy requirement is 2250 kcal per adult equivalent per day

a and b= parameter estimates from equation 1.

L= recommended daily nutrients level.

Based on the Z, several poverty measures were calculated. The weighted shortfall index P (or poverty index) is given by:

$$P = \frac{1}{N} \sum_{j=1}^m \left(\epsilon_j \frac{G_j}{Z} \right)^2 \quad (3)$$

Where,

G= Z-X_j is the food expenditure elasticity

ε_j = the Engel elasticity of energy demand faced by individual j

N= the total population

m= the number of the poor

The weighted shortfall index measures at the aggregate level, for a given elasticity of demand for food, the extent to which poor households are below the poverty line. Therefore, any household above the poverty line will have P value of zero; the extent to which P value deviates from zero is a reflection of the poverty situation in the study area. The weighted shortfall index or poverty index P satisfies the monotonicity and transfers axioms for an aggregate poverty measure, whereas, the aggregate income gap (G) and the head count ratio (H), which have been used in many studies pass only the monotonicity condition (Sen, 1981; Hassan and Babu, 1991). H and G are obtained as follows:

$$H = \frac{m}{N} \quad (4)$$

$$G = \sum_{j=1}^m G_j \quad (5)$$

Having established the poverty profile of the households, their livelihood strategies were also described with the use of descriptive statistics, such as the mean and percentages.

Results and Discussion

Village Level Characteristics

i. Distribution of Social Infrastructure in Sampled Villages

There is no doubt that the presence of social infrastructure is very important in enhancing the livelihood strategies of the rural dwellers. Some of the infrastructural facilities considered in this study include primary and secondary schools, hospitals, public toilets, electricity, and potable water. These facilities are considered to significantly affect the livelihood of the rural community in the areas of education, health/hygiene and economy.

Table 2: Percentage Distributions of Infrastructures in Sampled Villages

Infrastructure	Percentage of villages with infrastructure				
	Zone 1	Zone 2	Zone 3	Zone 4	All zones
Primary School	67.00	100.00	100.00	100.00	90.00
Secondary School	0.00	0.00	25.00	100.00	25.00
Hospitals	0.00	83.00	100.00	100.00	35.00
Public Toilets	0.00	0.00	0.00	95.00	19.00
Electricity	0.00	0.00	60.00	100.00	32.00
Tap Water	0.00	0.00	75.00	100.00	35.00
Water Wells	73.00	100.00	100.00	100.00	92.00

Source: Field survey 2001

Zone 1= Argungu, Zone 2= Bunza, Zone 3= Zuru, Zone 4= Yauri

Table 2 reveals that most villages in the study area had a primary school. On the other hand, there were no secondary schools in most villages and the children in these villages traveled an average

of 15 kilometers and spent an average of ₦ 60.00³ daily to get to school and back. This implies that secondary education is not easily accessible in the study area. This would subsequently have negative effects on the education vis-à-vis livelihood of the rural households in the study area.

From the same Table, it is observed that most of the villages sampled had no hospitals or other primary health care delivery centers. The residents of these villages where there were no hospitals traveled an average distance of 10 kilometers and spent an average of ₦ 30.00 to get medical attention. This shows that access to health care institutions was still relatively poor in the study area and this subsequently adversely impinged on the health care delivery system in the area. Result from the same Table 2 further revealed that most villages in the study area had no access to public toilets. Therefore, it could be inferred intuitively that there was a low level of hygiene existing in the villages.

Few (32.00%) of the villages had electricity. This means that despite the existence of different boards and parastatals responsible for rural electrification, most of the rural areas were still without electricity. The implication of this is that small cottage industries, which could help the economy of the rural dwellers, could not thrive in this area since most of them require electricity to operate and moreover as electricity was the cheapest source of power for these cottage industries. Similarly, the livelihood status of the people might be impaired by lack of electricity in the sense that they might not have access to certain types of information, which could only be accessed through electronic means.

Considering the essential nature of water for human survival, the availability of potable water is critical to the livelihood of people in any environment. However, from the results shown in Table 2, it could be observed that most of the villages in the study area had no tap water, which could be considered to be the most reliable source of potable water. This situation often forced the villagers to depend on less reliable sources of water such as streams and shallow wells with the attendant high risk of contacting water-borne diseases. In all, a majority (92.00%) of the villages had shallow wells, which was their only source of water supply.

In sum, the worst hit out of the four ADP zones in terms of poor distribution of rural infrastructure are Argungu and Bunza zones, while Yauri zone was better off in the study area.

ii. Distribution of Agricultural Input and Service Providers in Sampled Villages

The presence of agricultural input dealers and service points in a locality is vital to agricultural production. It is even more important in an agrarian society like the study area, where the livelihood of people depends so much on agricultural production and services. In this study, an average village in the study area had no financial institutions in spite of efforts by the government to establish financial institutions (Table 3). On the average, a villager had to travel 23 kilometers to the nearest financial institution. The consequence of this was that most villagers still relied on the local and financial institutions such as cooperatives and moneylenders with their high interest rates, to raise capital for their businesses. This was believed to have limiting effects on their productive capacities and livelihood strategies.

The presence of fertilizer agents in a locality should enhance farmers' opportunity to procure fertilizers much more easily and, hence, their opportunity for improve the farm productivity. But in the study area, most of the villages had no fertilizer dealer (see Table 3). The farmers in the villages without fertilizer dealers had to travel an average distance of 15 kilometers and at an average cost of ₦ 47.00 to reach the nearest fertilizer dealer.

³ As at the time of survey, a U.S. dollar exchanges for about ₦ 120.00

Table 3: Percentage Distribution of Agricultural Input and Service Providers in Sampled Villages

Input/Service	Percentage of villages with input dealer/service provider				
	Zone 1	Zone 2	Zone 3	Zone 4	All zones
Credit Institution	0.00	0.00	0.00	85.00	17.00
Fertilizer Dealer	5.00	15.00	45.00	80.00	29.00
Pesticide Dealer	5.00	25.00	10.00	65.00	21.00
Improved Seed Dealer	5.00	26.00	10.00	64.00	20.00
Extension Agents	19.00	57.00	100.00	81.00	57.00
Veterinary Clinic	10.00	20.00	45.00	70.00	29.00

Source: Field survey 2001

Zone 1= Argungu, Zone 2= Bunza, Zone 3= Zuru, Zone 4= Yauri

As previously stated, the availability of markets for pesticides in a farming environment is highly essential. But the survey results, however, revealed that only 21 percent, of the villages had pesticide dealers. The farmers in villages without pesticide dealers traveled an average distance of 15 kilometers and spent at least ₦ 39.00 (one way) to procure pesticides. The survey results presented in Table 3 reveal that most households in the study area did not have easy access to improved seeds dealers. The farmers in these villages traveled an average distance of between 16 kilometers and spent at least ₦ 39.00 (one way) to get improved seeds. This could also have negative impacts on farmers' productivity and livelihood.

Extension agents are the vital link between research centers and the farmers. However, only 43 percent of the villages had easy access to extension agents (see Table 3). The implication is that they might not have had an easy access to current information on improved crop varieties and new technologies of production.

On the whole, Argungu and Bunza zones were the zones with the poorest distribution of rural infrastructures and agricultural input and service providers in the study area.

Socio-economic and Demographic Characteristics of Sampled Rural Farming Household Heads

Table 4 revealed that the average sampled head of household was a male, about 50 years of age, not literate, a Moslem, usually married and he was polygamous (having more than 2 wives). He was basically into farming (though his highest income may not be from farming) and had fairly large household of between 7 and 10 adult male equivalents. An average household head cultivated about 3 hectares of land in 2 or more different fields, suggesting that land fragmentation exists in the study area. Finally, an average household head could not be said to be a member of cooperative societies and he is not into large-scale livestock production.

Table 4: Summary Description of Demographic and Socio-economic Characteristics of Rural Farming Household Heads

Characteristics	Dominant Indicator	Mean Value
Age	55% between 41 and 60 years	50 years
Gender	95% males	-
Education	70% had no formal education	3.7 years
Household size	70% between 7-10	8.27 adult equivalent
Farm size	80% above 3 Hectares	5.5
Number of farm field operated	75% above 2 fields	3.2
Major occupation	95% into farming	-
Religious grouping	98% Islam	-
Marital status	90% married and polygamous	2.4 wives
Value remittances received	27% above ₦ 100,000	₦ 125,393
Membership of farmer association/cooperative societies	33% are members	-
Ownership of livestock	10% on large scale basis	-

Source: Field survey, 2001

Rural Farming Household Livelihood Strategies and Food Poverty

i. Classification of Households by Poverty Levels

From equation 1 and 2, a food poverty line in Table 5 was obtained and households below this line were classified as being poor, while those with higher mean monthly per adult equivalent expenditure were classified as being non-poor. It is on this basis that the livelihood strategies of the households sampled were described. Table 5 shows the summary statistics of poverty measures among the households. Based on the recommended daily energy levels (L) of 2250 Kcal, the poverty line (Z) for the rural households in Nigeria is found to be ₦ 42.24 per day per adult equivalent (₦ 1267.29 per month per adult equivalent). On an annual basis, this is equivalent to ₦ 15207.48 per adult equivalent. The poverty line is higher than that of 1996/97, which was put at ₦ 11292.96 per annum (FOS, 1998). This is largely due to a very high inflationary trend, which the Nigerian economy is currently experiencing. The Naira has been devalued by approximately 54% since 1996⁴. This poverty line is, however, lower than that of FOS (1999), which puts the percentage of the poor in the north-western zone of the country at 68 percent. It is also lower than the international poverty line put at one U.S. dollar (\$) ⁵ per day. The reason for the differences in these poverty lines and estimates is as a result of the methodology adopted in the different studies. This study adopted absolute (food) poverty line, while the others adopted the relative poverty line.

Table 5: Summary statistics of poverty measures among urban households in Nigeria

Variable	Value
Cost-of-calories equation	Constant= 4.154 (0.534) ^a Slope coefficient=0.0019 (0.0004) ^a
FAO recommended daily energy levels (L)	2250 Kcal
Poverty line Z: cost of the minimum energy requirements per adult equivalent	₦ 42.24 per day ₦ 1267.29 per month ₦ 15207.48 per year
Head count (H)	0.58
Aggregate income gap (G)	-375.74
Weighted shortfall index (P)	0.029

Source: Calculations from OLS estimates of cost-of-calories equation

From the above poverty line, it was shown that 58% of the households sampled are poor by headcount (H). Furthermore, the aggregate income gap (G) of -375.74 indicates the amount by which the poor households are away from meeting their monthly basic food requirements.

ii. Rural Farming Household Livelihood Strategies

In this study, different components and strategies of rural farming household livelihood strategies were identified. As is practice in many rural economies nowadays, the rural farming households in the study area had highly diversified income-generating activities. Eight major types of these income generating activities or livelihood strategies were identified. These are described as follows.

- Agriculture (crop production with small-scale livestock). This involved the production of many kinds of crops, mostly cereal, mainly cereals for home consumption. Some livestock, mostly chicken and small ruminants, were also kept in the farmyard.
- Agriculture (large-scale livestock production). This involved livestock production on a large-scale basis, usually large herds of Cattle. The herdsmen were itinerant in nature and usually cultivated small farms to produce crops for own consumption and to complement income from livestock.

⁴ The Naira was exchanged for US dollar at an average of ₦ 65/\$ in 1996, but it is now ₦ 120\$ as at December 2001 when the survey was concluded.

⁵ One US Dollar exchanges for an average of ₦ 135

- Small and micro enterprises: These included activities such as food processing, hawking, fishing, handicraft, petty commodity production, making of mats, dyeing of cloths, carpentry and agricultural products marketing. Women and children within the households were usually engaged in these small and micro enterprises.
- Wage labour: Those engaged in wage labour included farm workers, migrant labourers and casual labourers. These jobs usually attracted low pay and little job security.
- Claims against the state: Although a well functioning social welfare system did not exist in the study area, there were pockets of households whose heads relied on financial claims from the state, most especially in the forms of pensions and gratuities.
- Claims against household members and kinsmen: Migration of kinsmen for employment and remittances from such kinsmen constituted an important source of income to rural households. As such, effective claim to these remittances from migrant workers and kinsmen was identified in the study area as an important livelihood strategy. The remittances from the migrants and kinsmen were usually in the forms of money, food, clothing and other household needs.
- Unpaid domestic labour: This involved women who received no payment of any sort but contributed significantly in kind to the household livelihood strategy.
- Illegitimate activities: Due to the economic pressure on households to survive, many members of the households in the study area undertook activities which were regarded as illegal, either in the narrow legal sense or in terms of the moral norms of the society. The activities identified under this category included street begging (*almajiri*), fuel hawking, and petty crimes.

The relative importance of the different types of entitlements and income generating activities for all households as well as the categorization of household livelihood strategies by poverty status in the study area is reported in Table 6. The Table shows that for all rural farming households, the four most important and frequently employed livelihood strategies in the study area were agricultural production, particularly food crops production (adopted by 98.00% of all households), making claims against migrant household members and kinsmen (85.00%), household involvement in small and micro enterprises (70.00%), and illegitimate activities (45.00%).

Table 6: Livelihood Strategies of Rural Farming Households

Activity	Households engaged in activity (%)		
	All households	Poor	Non-poor
Agricultural production (crops)	98.00	100.00	96.00
Agricultural production (livestock)	5.00	4.00	10.00
Small and micro enterprise	70.00	65.00	82.00
Wage labour	35.00	47.00	25.00
Claims against the state	7.50	3.00	12.00
Claims against household members and kinsmen	85.00	72.00	91.00
Unpaid domestic labour	40.00	57.00	33.00
Illegitimate activities	45.00	53.00	29.00

Source: Field survey, 2001

All the poor farming households are into crop production, and the two most frequently employed livelihood strategies after crop production are making claims against migrant household members and kinsmen (72.00% of the poor households), household involvement in small and micro enterprises (65.00% of the poor households).

For the non-poor farming households however, three types of livelihood strategies are prominent. These include agriculture -crop production- (96.00% of the non-poor households), making claims against migrant household members and kinsmen (91.00% of the non-poor households), household involvement in small and micro enterprises (82.00% of the non-poor households). It could

also be observed from the same table that more of the poor households engaged in unpaid domestic labour (57.00%), illegitimate activities (53.00%) and wage labour (47.00%) than the non-poor households.

Conclusion

This study had as its focus the examination of the rural household poverty and livelihood strategies, as well as distribution of infrastructures in rural areas of Kebbi State, Nigeria. The study showed that rural infrastructures which enhance livelihoods were grossly inadequate, the poverty level was high, with 58 percent being poor and the main livelihood strategies adopted by the households (both poor and non-poor) are similar; i.e. most rural households are still largely in agriculture, though with extensive foray into other non-farm activities.

From the foregoing, the study concluded that enhancing household livelihood and welfare with a special focus on the reduction of poverty and food insecurity in the study area calls for an integrated approach, which focuses largely on the development of rural infrastructures as well as other income generating activities, particularly cottage non-farm enterprises of these rural people.

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Career Plateau: Constructs, Consequences and Coping Strategies

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Abstract

The objective of this article is to examine constructs of career plateau. It begins with the meaning of career plateau, theorizing career plateau that includes types of plateauing and typologies of employees from the perspective of performance and career progression as well as chaos theory, measurements and consequences of career plateau. The article highlights the potential use of structural career opportunities, intrinsic job rewards and recognition as coping strategies to mitigate the effects of a plateau.

Career plateau is an important component of career development that adds to the dynamism of career research. It is a concern of employees and organizations since the phenomenon brings implications to not only the employees on how to adapt themselves in the organization but also to the organization in terms of strategies to manage the employees. Everyone reaches a career plateau at any time of his or her career, though the outcomes are more felt if the employees experience plateauing while they are still at the lower or middle level of the job hierarchy.

This article aims to examine constructs of career plateau. The understanding on these constructs is important to both employers and employees as both have their roles in managing career plateauing. The article is structured as follows: First, the definition and types of career plateau will be presented based on the pioneering work of Ference, Stoner and Warren (1977). Second, the underlying theories that include typologies of employees based on the potential of career growth as well as chaos theory, and measurements of career plateau. Third, the article explores the potential consequences and coping strategies of career plateau that will be used by human resource personnel in managing the plateauees.

Meaning of Career Plateau

The original meaning of career plateau (CP) is largely derived from the behavioural concern of the employees. Ference et al. (1977) defined CP as the point in a career where the likelihood of additional hierarchical promotion is low. Lee (2003) defined CP as the stage whereby the individual finds the work boring and provides no opportunities for knowledge and skills advancement. Kreuter (1993) refers to CP as a temporary flat point on the advancement continuum during the career of an individual. The use of promotion, advancement, or position to operationally define plateaued employees assumes a direct relationship between levels in an organizational hierarchy and job responsibility. As such, CP is an important concept for those employees who view vertical movements within organization(s) as important milestones. This definition refers to an employee's perspective of CP.

Another definition is by Feldmen and Weitz (1988) who emphasize the notion that plateaued employees are those whose likelihood to receive increased responsibility is low. This later definition denotes the concept of plateauing by focusing on the potential growth in the employee's actual contribution to the firm. This organizational perspective may differ from the employee's perspective.

However, this organizational perspective is significant because organization will ultimately determine how the plateaued employees will be managed. This definition has several advantages over the definitions dependent upon job positions, job titles or from the perspective of the employees. First, it denies the link between hierarchical promotion and the employee's contribution to the organization. Second, it incorporates elements of both structural and content plateauing. Finally, the definition lends itself to operationalization across wide settings of organization with a flatter job hierarchy such as in profit-oriented organizations.

Theorizing CP

The description on theorizing CP includes types, typologies of employees, and a theory called 'Chaos Theory' that becomes the basis of the phenomenon of CP. Literature outlines three types of CP and each seemingly describes the sources of plateauing: structural, content, and personal (FERENCE et al., 1977; Bardwick, 1986; Duffy, 2000). Structural plateau is complex and it occurs at the organizational level due to limited hierarchical movement. People who are organizationally plateaued may have the ability to perform well in higher-level job, but are unable to do so due to limited job openings. Structural plateau is also called position immobility. According to Bardwick, traditionally only about 1% of employees reach the top-level job hierarchy, a position of the decision-making level. Other sources of structural plateauing are competition and organizational needs (FERENCE et al., 1977). Competition refers to a situation in which an individual is seen as less qualified than other candidates due to ability and competency for a certain job. Organizational needs as sources of plateauing are described as situations that make the individuals too valuable to relinquish their present position due to difficulties to get replacement. Therefore, the individuals remain in the organization without experiencing any job promotion.

Content plateau occurs when an employee has mastered all of the tasks of his or her job, or may be caused by task stagnation. This form of plateau is more in the control of the employee rather than by the functions of the organization. Content plateau may be one of the results of structural plateau, or may also occur among individuals who do not perceive the present job as the primary source of income or it may be the secondary occupation in the family. The content plateau is therefore not necessarily connected with hierarchical position.

Finally, personal plateau is the most dangerous. It is characterized by a situation in which the employee lacks any direction, motivation and enthusiasm in most of the activities related to work. Personal plateau is probably due to intrinsic factors of an employee that has deep impact on the person's emotion, feeling, sense of control of what is appropriate and what is not about the job. The consequence of personal plateau is definitely on work outcomes. Related to this end, Lee (2003) introduced another construct, called professional plateau, defined as the point where employees find their jobs unchallenging and that they provide few opportunities for professional development and future employability.

Earlier analysis by FERENCE et al. (1977) describes the sources of personal plateau as follows: a) Lack of technical and managerial skills – this includes absence of interpersonal competence or technical proficiency skills needed for effective work at the higher level. Skill deficiencies could arise from lack of exposure or ability to respond to changing job requirements; b) Lack of career skills – this relates to the weakness of individuals to adequately understand the intricacy of organizational structures and functions, failing to take proactive steps to move along a viable career path; c) Lack of sufficient desire – refers to a situation in which individuals make known to the organization their desire to not be further promoted. This is due to personal reasons such as the secondary nature of the job as the person may have other sources of income such as from spouse or other business ventures.

Figure 1: Typologies of Employees based on Performance and Potential Promotion

Current Performance	Likelihood of Future Promotion	
	Low	High
High	Solid Citizen (effective plateauees)	
	Organizationally Plateaued	Personally Plateaued
Low	Deadwood (ineffective plateauees)	
		Learners (comers)

In relation to performance and potential for career progression as perceived by employers, Ference et al. (1977), Appelbaum and Finestone (1994), and Hughes (2004) further provided four typologies of the employees, as depicted in Figure 1: First, learners or comers are individuals who possess high prospects for future advancement but are currently performing below acceptable standards. They are still learning and not yet immersed into the task of the organizations. For example in the academia, they are tutors or new lecturers who have just returned after completion of PhD studies. Ference et al. (1977) cited the difficulties of an employer to identify specific individuals especially among the managerial level currently in the category. They offered three reasons for this that would suggest the dynamism of career among the learners due to its variable duration. First, many managers above entry-level positions learn new jobs and achieve high performance quickly. The learning curve is said to be very steep at the early stage. Second, some managers are prepared for and do well in a new job before being formally promoted into it. Finally, expectations of potential often influence formal evaluation of individuals during the learning period. Such individuals are likely to be rated as doing very well for some new job or are even too early to evaluate performance rating. Thus the learner category may remain in it for only a short period of time or may be in the category without public awareness by other employees.

Second, stars who are on the fast track career path, perform exceedingly well and self-motivated, as well as who possess a high potential for advancement. They are easily identifiable in any organization due to their superb performance and visibility. In today’s organizations, this group of high potential staff is readily picked up by the management to hold important positions for future leadership. Stars or top performers must come to a simple realization that success requires a commitment to change. Otherwise they are likely to plateau miserably.

Third, solid citizens are those who perform very well the bulk of organizational tasks but have little chance for future advancement due to very limited career path in the organization unless they opt for another career path after equipping themselves with other professional qualifications. They form the majority of an organization. Organizations need solid citizens to maintain stability, provide continuity and to keep the organization competitive. Organizations should not treat solid citizen passively or deny access to development and challenging tasks. Such action may de-motivate them to become ineffective.

Finally, deadwoods are individuals who perform below the acceptable standards. These employees have become problems, whether for reasons of motivation or personal difficulties. The number is however very small in any organization but the problems created by the deadwoods may jeopardize the overall service quality of the organization. Deadwoods are likely to be targets for remedial actions or they risk to be dismissed.

The solid citizens and the deadwoods are plateaued employees. The solid citizens are effective plateauees; the deadwoods are ineffective. The above categorization is also called the life-cycle theory of plateauing and it is often associated with organizational succession planning. It is founded on two career parameters, namely, the present performance and future potential for career mobility. There are two major implications of this categorization to the management of an organization. First, it is a challenge to the organization to prevent solid citizens from slipping into the deadwood category.

Second, different managerial approaches are needed to cope with the various types of plateaued employees.

Chaos theory has been applied in career counseling organizational studies particularly among the career-plateaued workers. Duffy (2000) applied chaos theory to conceptualize plateaued worker in order to reframe dominant issues faced by counselors and clients. Chaos theory can be described as a period of transition in which change occurs in unpredictable, irregular, and uncertain ways. The essence of chaos is change in which it is not a stable condition or a fixed state. It is a dynamic process that explains the changing relationship between entities in the organization. Similarly, Tetenbaum (1998) discussed the relevance of the theory in terms of the effect it will have on the roles of managers in complex and nonlinear systems.

Duffy (2000) further describes that chaos theory consists of five areas regarding the roles of managers in dealing with plateaued employees. The areas are a) Trigger points where there is an urgent sense that a change has occurred and something must happen if sufficient adaptation is to come about; b) Order is found in chaos through the individual's behavioral responses; c) Order can emerge from chaos and a new level of functioning can be achieved; d) Chaotic transition, which is the period where the individual experiences uncertainty and ambiguity; and e) Self-organizing process in which the system proceeds from a state of equilibrium through chaotic disequilibrium to eventually a stage of a new way of knowing. The strength of chaos theory is that it allows for unpredictability, tolerance of ambiguity, and flexibility of response sets.

Measurements of CP

Knowledge on the types of measurement of CP is important in the process of identifying plateaued employees. The purpose is to examine behavioural outcomes of plateauing, hence to formulate coping strategies for the plateaued employees. Based on the meaning of CP, past researchers have developed two approaches in measuring CP, which is based on the duality of career concept, external versus internal career. They are called objective career plateau (OCP), which is derived from the external career conceptualization, emphasizing vertical progression through positions carrying increasing responsibility, status and rewards defined by the organization. While subjective career plateau (SCP) measurements are derived from internal career conceptualization. OCP refers to measurement that uses job tenure, job position, promotions, salary growth and compensation as criteria to demarcate plateaued and non-plateaued individuals. OCP is basically derived from the notion that hierarchical mobility is important, thus makes up the pyramidal structure of an organization. Examples of studies using objective measurement of CP are those by Chay et al. (1995), and Mat Sani, Maimunah and Jegak (2006). The latter measured OCP among the Malaysian administrative and diplomatic officers by job tenure where six years and above were considered as plateaued employees if they were still holding the same position without any vertical mobility.

However, Bardwick (1986) observed that only a limited number of employees could reach the highest-level job position, i.e. the executives who make decisions in an organization. This fact implies that vertical career progression may not be an ambition to be experienced by a vast majority of employees. Critiques about OCP measurement are dissatisfactions due to the narrow definition of CP that fails to capture the personal perception of career. The appropriateness of the definition is also questionable due to the changing nature of many organizations resulting from downsizing, restructuring and mergers that make the job hierarchy flatter. In addition, there is quite a number of young and middle level employees who may not emphasize hierarchical promotions and they are more concerned with family and work balance as well as still uncertain about their career focus. Since OCP has its shortcoming, the alternative is SCP.

SCP refers to the career experience of the career aspirant. It is the internal dimension of career emphasizing an employee's interpretation on his or her career experience. These include job involvement, career satisfaction, expectation for advancement, promotion opportunities, career

commitment, loyalty to organization, trust in management and intention to stay. Chao's (1990) findings asserted that SCP measurement accounted for significantly more variance in work-related attitudes and behaviors than did job tenure or the OCP measurement. SCP provides a stronger explanatory power to account for the negativity of work outcomes. Chao advocated the use of a continuum to measure CP rather than dichotomizing employees into plateaued and non-plateaued categories based on the objective measurement. The use of SCP in identifying career status of employees is supported by Milliman (1992). He advanced these concepts and developed continuous subjective measures to assess individual perceptions of both hierarchical and job content plateauing. The significance of this approach of measuring CP is to acknowledge that employee's perception of plateauing can range from not at all plateaued to very plateaued. SCP is also significant as many work outcome constructs such as job satisfaction, job involvement, organizational commitment, job stress, intention to leave organization and career aspiration are able to be identified.

Lee's (2002) analysis on the need of SCP and the consequences of CP is based on changes that occurred in terms of attitudes of the employees. In the past, many employees expect that seniority would help them advance in the organizational hierarchy. Nowadays, this is no longer the norm as individuals have their say to chart their own careers. The flattening of organizational layers has reduced the career path that individuals have to go through or has made the career path less clear. Changes in organization policies that may lead to the reduction of the number of employees and other cost-cutting measures may have impact on the intention of employees to stay longer in the organization, or employees may become less optimistic about their organizational career progression. Therefore, in the present day employment, experiencing CP may no longer be an embarrassment to many employees.

The significance of SCP is also based on an emerging concept in career studies called protean careers. Protean career is introduced by Hall (1996; 2004), where it outlines a fundamental shift away from the traditional career dominating its understanding in the late 1980s, to one that is 'protean' (derived from Greek word 'proteus' that means one who will change shape at will). Protean career is characterized by relationships, which are driven by the individuals not the organization and is subjected to initiatives by the person from time to time as the person and the environment change (Hall, 2004; McDonald, Brown & Bradley, 2005). Protean career is related to psychological success experienced by an individual and can mean a personalized accomplishment accompanied by self-pride and empowerment.

According to Hall (2004), the personalities required for successful protean career individuals include involvement in key functions of the organization, continuous learning, self-awareness and self-focused in doing tasks, personal responsibility, and autonomy. McDonald et al. (2005) further assert that traditional commitment and loyalty to organization are less important in the protean career as organization tend to pursue more transactional relationships with employees while the latter emphasizes more self-interest careers. Many factors found to influence career paths in the contemporary literature are consistent with the protean career. These include the availability of mentors (Allen, Eby, Poteet, and Lentz, 2004), assertiveness (McDonald and Hite, 1996), level of exposure to assignments involving risks and visibility (McDonald et al. (2005), and among the women academics factors such as networking and involvement in administration are significant (Maimunah & Roziah, 2007). Therefore, there is a close connection between SCP and protean career in the sense that both are psychologically related domains of an employee and the parameters of careers are self-determined and controlled.

Examples of statements used in SCP measurements are as follows: For career plateau the questions are: (1) My opportunities for upward movement are limited in my present organization and (2) I expected to be promoted in my organization. The respondents were required to answer by using Likert Scale from 1- Strongly disagreed to 5- Strongly agreed. This is based on a study by Chay et al. (1995) and is recently used in Mat Sani et al.' study (2006) among the Malaysian administrative and diplomatic officers. Instrument for job performance of employees was measured by 'self-rating

performance' which consisted of 11 questions developed by Choo (1986). A five-point Likert Scale was used to measure from 1-very dissatisfactory to 5-very satisfactory. Examples of items are (1) Maintaining quantity of work; (2) Planning and organizing of work. The reliability of alpha value is 0.91.

Similarly there are instruments measuring job satisfaction (Holland & Gottfredson, 1994), organizational commitment (Mowday & Steers, 1979), job involvement (Kanungo, 1982) and intention to quit (Camman et al., 1979). All the instruments have sound Cronbach reliability levels of more than 0.75.

Consequences of CP

Studies have indicated negative outcomes associated with plateauing that can be used as consequences of CP. Plateaued employees have higher absenteeism and less satisfaction with supervisors, have more health problems (Near, 1985), more stress (Elsas & Ralston, 1989), greater intention to leave the organization (Tremblay et al., 1995), report low level of work satisfaction and organizational commitment (Chao, 1990; Milliman, 1992; Nachbagauer & Riedl, 2002).

Zaremba's (1994) comparative analysis between plateaued and non-plateaued managers in a large public service firm in the United Kingdom suggested that plateaued managers believed that they i). Have had more opportunities to work on interesting and challenging jobs; ii). Have been assigned by the organization key assignments and promotion; iii). Are more satisfied with the career guidance given; and iv) Are a more ambitious group.

Despite the dysfunctional effects of CP, there is evidence to suggest that such negativities may lead to optimism from the perspective of employees. Employees who have attained CP are able to adapt to reduced opportunities and responsibilities. Some of them may hope to attain CP because they could not cope with constraints and stress that advancement imposes (Lee, 2002; Gunz, 1989). Plateau can be a highly desirable period of rest and security that provides an opportunity to recharge energy and re-digest new ideas. Some employees experience CP as a result of choice not by design of the management of the organization. Kreuter (1993) supported this notion that a plateau can be healthy for professionals, particularly those who have not attained a breakthrough in their careers. There is actually optimism about CP depending on how it is used in helpful ways. Some employees feel safe and secure during plateaus. In other words, a period of stability is healthy provided there is accomplishment. In fact, the world of learning and working requires plateaus. A plateau can be a positive experience if combined with commitment and assurance for work renewal and aspiration. This is a healthy way of looking at plateauing.

Lee's (2002) analysis on the need of SCP can be associated with the consequences of CP on the basis of attitudinal changes experienced by the employees. In the past, many employees expect that seniority would help them advance in the organizational hierarchy. Nowadays, this is no longer the norm as individuals have their say to chart their own careers. The flattening of organizational layers has reduced the career path that individuals have to go through or made the career path less clear. Changes in organization policies that lead to employee downsizing and other cost-cutting measures may have an impact on employees' intention to stay longer in the organization, or employees may become less optimistic about their organizational career progression. Therefore, in the present day employment, experiencing CP may no longer be embarrassing to many employees.

Description on the consequences of CP can be made according to the differences between plateaued and nonplateaued employees. Past research that have operationalized plateauing as job tenure have demonstrated that plateaued individuals are more in seniority than those who are nonplateaued (Tremblay & Roger, 1993). Milliman (1992) found no significant differences in incidences of plateauing between men and women. However, Allen et al. (1998) found women become plateaued sooner than men although they have been fairly successful reaching lower-level management positions. Women were said to have fewer advancement opportunities available than did men as they faced

numerous barriers due to demands for family-work balance. Zaremba (1994) noted a little difference between male and female managers in which plateaued females had a markedly higher level satisfaction with pay and rewards than males or non-plateaued females. This may reflect the fact that females as a whole have been conditioned to expect less in the way of material rewards, but this is otherwise among the high-flyers. The study also showed that non-plateaued male managers were significantly more satisfied with their ability to develop their own career without help compared to the other group of managers.

Coping Strategies of Career Plateau

Elsas and Ralston (1989) propose three strategies in response to plateaued individuals, namely, transition, reappraisal and defense. Transition involves getting into a new role, lateral transfer or retirement. This strategy looks the easiest but it appears to be the one least used. Often individuals are unable to realize the roots of their problem or they are reluctant to accept the decision due to lack of resources and for economic reason that they have to stay with the job. Reappraisal is about making manipulation to the meaning of plateau. It selectively ignores the stressful aspects of career plateau in order to reduce the career stress. For example, a plateaued employee may say that a promotion may lead to a higher job responsibility. Therefore, to avoid responsibility they seem to be willing not to be promoted. This coping strategy is equated with the situation that the person looks pessimistic with the task and career movement does not seem to be an ambition. The third type, defense, is an act toward minimizing the physical discomfort caused by plateauing, such as taking drug or alcohol. These responses seem to be internal defense mechanisms that do not change the stressor in any way.

Many studies on CP are about the portrayal of plateauing in negative terms. Hence, CP has been used as an antecedent to many undesirable work outcomes such as low job satisfaction, high stress, low job commitment, poor performance, low motivation, absenteeism, and intention to quit. This is based on the quest toward upgrading work performance and finding the root cause of the work problems. It is also based on the tenet that employees do care about their careers and the goal of research is to find inputs for organization to cope with and to mitigate the negative consequences of undesirable behaviours of the affected employees. As such, CP becomes a focus in career research since CP has potential to cause interference in management that entails costs and other resources.

There are studies conducted to find the roles of some moderating variables in the relationship between CP and work outcomes, hence to find ways to reduce the negative impacts of plateauing. The studies basically used moderated hierarchical regression (Aguinis, 2004). Chay et al. (1995) studied among managerial and professional employees in Singapore on the role of moderating variables in the relationship between CP and work outcomes. The moderators are supervisor support and job challenges; while work outcomes are organizational commitment, job involvement, job satisfaction, career satisfaction and in-role behaviours. The study revealed that there were mixed results on the roles of the moderators in which job challenge significantly and positively moderated the effect of CP on job involvement; and supervisor support significantly and positively moderated the effect of CP on organizational commitment, job satisfaction and career satisfaction. Tremblay and Roger (2004) as well as Mat Sani et al. (2006) in their studies found that supervisory support and job performance moderated work outcomes that consisted of job satisfaction, organizational commitment and intention to quit, as well as job involvement in a number of variations. The moderating effect of supervisor support and job challenge on work outcomes indicates that, when the organizational career system does not neglect plateaued employees and they are instead provided with intervention and challenging jobs, they can remain active and productive even when they perceive the hierarchical career immobility. This suggests that the moderators could be used as among components to be incorporated in strategies to cope with plateauees.

This article adopts and adapts recommendations on strategies to handle plateauing as suggested by Appelbaun and Finestone (1994), Zaremba (1994), Feldman and Weitz (1988), Nachbagauer and

Riedl (2002). As there is no all encompassing panacea of CP, the strategies crystallized as follows should help human resource personnel to deal with the phenomenon:

1. *Policies facilitating lateral, cross departmental moves.* Moving employees laterally can prevent content plateauing. Content plateauing occurs when people perform the same set of activities over a period of time in doing routine tasks. There is no additional learning takes place. There should be provision in the assessment appraisal on points given to lateral transfer that is associated with the number of jobs assigned.
2. *Job redesign and training.* Corporate career-planning programs can be developed to train managers to design creative ways to add new responsibilities and rewards to present jobs. Activities suggested are mentoring, service on interdepartmental activities, and teamwork can be rewarding in terms of new learning.
3. *Creation of more project-type jobs.* The project management job design is an ideal way to meet both the organization's needs for flexibility and individual's need for broad based career experience. The project design can attract individuals from all levels of organizations and pay can be based on project goals and resources rather than on formal positions.
4. *Periodic rotation of technical specialists.* A specialist could be rotated from one division to the other to develop new skill and provide challenge in a slightly new environment. The new area does not entirely mean a new specialty but one where the individuals will be inspired to learn new things to support tasks.
5. *Loaned employees.* Loaning employees from one department to another (e.g. one overstaffed department to another understaffed department) allows employees to learn or relearn new skills; hence it avoids the need to lay off people due to overstaffing.
6. *Voluntary separation scheme.* Voluntary separation scheme (VSS) is a new scheme practiced such as in Malaysia by organizations resulting from downsizing, merger and restructuring where employees who opt for the scheme receive compensation due to early exit from the organization. Plateaued employees may be advised for the scheme as a means to leave the organization. This scheme is normally practiced by large profit-making organizations.
7. *Dual career ladders.* Organizations might consider the use of dual career ladders. By using these dual career ladders, organizations more satisfactorily match employees with different career anchors to different career paths; hence the decrease in work mismatches should result in fewer plateaued performers.

Conclusion

This article has discussed the constructs of CP, consequences, measurements and its coping strategies. Structural CP is seemingly inevitable due to limited hierarchical mobility as only a small percentage of employees will make to the decision making level.

However, content and personal CP can be reduced as there are many strategies formulated by organizations depending on their professional visions. From research perspectives, the strategies are conceptualized as moderators or moderating factors; and they can be categorized as structural career opportunities, intrinsic job rewards or recognition. It is clear that coping with plateaued employees is not the responsibility of the individuals, but also the employers as both should take proactive roles to mitigate the effect of plateauing. Employees are encouraged to find job enrichment, rather than to concentrate on future promotion. On the other hand, organizations should continue to show appreciation for employee performance, or to provide opportunity for various challenging lateral transfers of job moves to the affected employees. It is also important that everyone should understand that plateauing is an acceptable reality of organizational life and the various initiatives taken to mitigate the effects of CP add to the complexity of the roles of management, organization and the individuals.

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Effective Time Management for Teaching Effectiveness

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Abstract

This paper discusses the essence of time management and its positive effect on teaching and subsequently on learning. Samples were selected in two phases of the study viz: at the outset when 31 schools were selected in Ibadan City and after phase one of the study when the most effective teacher-time-manager and the least-effective-teacher-time manager were identified. Thirty students each from these classes were randomly selected and used as the pretest –posttest experimental/control groups design to confirm or confound the results of one. Findings include: effective-time management resulted in effective and learning, if teachers were to be effective time managers they must minimize social activities and devote more time preparation, good time management engenders improved student performance etc. Recommendations were that to assist teachers to manage their time better, they should be well remunerated; teachers should reduce their social activities to the barest minimum; they should the business more seriously among others.

Keywords: Time management; teaching effectiveness.

Introduction

Time management could be viewed as the process whereby people spend their working days through a proper allocation of their time vis- a-vis the content of their job in such a way that no element of his job gains more time, than it is necessary, at the expense of the other elements of the job. Ogunsanya and Agu (1990) define time management as the way managers typically spend their working days through proper apportionment of their time. Emefiele (Ogunsanya and Agu 1990) states that the measure of the effective manager is in his very tender love for time and in his ability to get the right things done (and one dare to add at the right time). However, Drucker (1967) posits that effective time managers are not just content with starting tasks, but also with their time. In essence, they first find where their time goes but planning the use of their time.

It is obvious that if time management is ineffective, the possibility of achieving one's goals is remote, and the rate of poor performance by those who did not manage their time effectively would be very high. Though time is a very precious and very scarce resource, it is a resource that every human has equal access to, but may either it effectively or ineffectively. Every body is equally endowed in terms of time. Everyone has 24 hours to use, which can neither be reduced nor added to. If anything at all we can only add utility to its usage in proper allocation to its contending demands and effective utilization of every bit of the allocated time. You cannot recreate it, as nobody is favoured or

disfavoured in its endowment. Yet its wise user, is the gainer, while of course the foolish user of time is the loser and the non – performer. Thus Drucker (1967) sees time as “totally inelastic, priceless, totally perishable, irreplaceable and cannot be stored”. Therefore, we must see time as it is, scarce and an economic resource, which needs to be proportionately and wisely distributed among the tasks being performed by the individual, particularly as we know that it can neither be contracted nor expanded. Time is God-given resource, made available to everyone in equal amount. The allocation and usage to its competing needs depends on one’s scale of preference and our ability to budget our time appropriately. Every minute of one’s time is very important and it could be make or mar the entire process. Hence, Blanchard (1985) posits that a minute is an important component of available time that must be well utilized. Note that every minute of our available time must be effectively managed, if the desired result were to be achieved. Mokuolu (2007) unequivocally states that time, in addition to skill and ability, is an important determinant of achievement in any human endeavour. In fact God Himself is a time manager as can be inferred from the creation record in Genesis chapter one and the injunction that there is time for every thing under the heavens (Ecclesiastes 3: 1 – 10) bear witness to the fact that time management is a necessity irrespective of one’s calling, and indeed for the teacher who imparts knowledge.

Time is a period or duration of period available to you to carry out certain assignment. It is period within which a thing or task must be done. Doing such a thing implies that it may have to be broken into parts, if it were to be both efficiently and effectively done. In the execution of the school curriculum, for instance there is a period of time allocated to the teaching of a segment of a subject for efficiently and effectively imparting appropriate and relevant knowledge to the taught. Most often a 35 or 40 minute period of time is given to teaching a particular topic in a subject either once or twice a week. Thus the teacher, say of mathematics would, therefore, work out how best to utilize the time allocated to the teaching and learning of that topic effectively. Time in relative term, has components, in the sense that whatever you are billed to do within a given period of time determines the components of that given time. The contents of and duration of each element of the task to be done determines the components of the given time during which the particular task must be accomplished. A thorough analysis of the various God-given resources will reveal that time is one of the freest, cheapest and most equitably distributed. Hardly will one purchase time, yet time when well utilized it brings in money to its user.

Planning is the key to effective time utilization and management. Ejiogu (2004) views planning, as “the practical thinking, dreaming, scheming and scheduling of the activities that would be performed in order to achieve the objectives for which the enterprise has been set up.” It is also projecting, designing or charting out a course of action. Thus time planning can be described, as time scheduling which in our context must be relative to the activities of teaching and simultaneous learning. The steps involved in the proper imparting of the relevant knowledge, skill and attitude in question in terms of the object of study i.e. teaching and learning individual topics of a particular discipline determines how the time will be scheduled. The components of a particular task and the amount of time, it will take must be forecasted and estimated to aid the scheduling of the time. A properly scheduled time coupled with the determination to use it well will result in a time well utilized. Time utilization is determined by the tasks to be done and the time each task element will take to be executed and work in absolutely compliance with the given time scheduled for the completion of the task (Onuka, 2006).

Onuka (2004) posits that forecasting, planning and budgeting are some of the tools of management. He describes “management” as an everyday phenomenon which involves everybody. He views management as including (or encompassing) forecasting, planning, organizing, implementing and monitoring and evaluation, while Easterby-smith (1995) considers “management” as all about planning, organizing, staffing, directing, coordinating, reporting and budgeting. He points out that, acceptable definition of the subject depends on who the person defining the term is and what he wants to do with the definition. However, in the context of time management and classroom interaction we

may view it as the ability to plan and budget time for classroom interaction for effective teaching and learning by both the educator and the educated (pupils). Time management could thus be described appropriately as using a time scheduled to accomplish a predetermined task, working within the allocated time to complete each component efficiently and effectively. Effective time management leads to effective use of time which in turn denotes the right utilization of God's equitable gift to mankind yet a scarce resource, right thus yielding the appropriate outcome. Efficient use of time is the right combination in the right quantum of the resource with other resources to yield the right output if effectively handled. You can be efficient and may not be effective and vice versa. Effective use of time will often yield the appropriate expected result.

It is important to note that management denotes appropriate planning, organizing and utilization, evaluation and feedback.

Effective teaching and learning in the context of time management starts with effectively forecasting the classroom activities required to make a particular topic or subject effectively taught and learned within a given time horizon. You, who as a teacher, are to facilitate both teaching and learning will break these activities into tasks and forecast the duration within which each task can be undertaken.. This is followed by allocation of time duration to every step or task that is required to complement others to make a whole. This act can be regarded as time budgeting or time scheduling. This comes with practice. So you may not be very accurate the very first time you do it. Next you organize the materials that could facilitate the process of teaching-learning. Having done this, you may proceed to carry out a mock implementation of your programme according to the schedule; so as to ensure that what you have done will work in the actual practice or life situation. Effective teaching/learning (classroom interaction), and effective time management is a product of thorough planning, time budgeting, organization and strict adherence to implementation time schedule. Doing this rightly at the right time and doing it right the first time will result from several mock practices. For a teacher who has already taught a class before he has to start his classroom interaction with the recall of what was taught before, to determine the rate of learning of the previous activity by the pupils, however, if the class has just started then he may well do an oral pre-test (questioning) to ascertain previous attainment, so as to decide how proceed and where to start from. This segment of the classroom interaction must be given its appropriate timing with strict adherence to it in order to engender effective time management. He decides what time to give to introduction of the new topic, time for questioning which will spur pupils' participation as well as ascertain how much of what is being taught has been learnt. You should also allot time to the pupils' questioning so that you can clear their doubts about the subject matter and thus facilitating their own learning process. The above illustration can be presented as follows:

1. Recall or determination of previous attainment 5 minutes out of 35 minutes
2. Introduction (5 minutes)
3. Teaching (step by step) (15 minutes)
4. Questioning (both by the teacher and the learners) (5 minutes)
5. Restating/clarification (5 minutes)
6. Evaluation of the lesson (2 minutes)
7. Summarise the lesson restating the salient points (3 minutes)

White (1998) states that in time budgeting and managing well, one should first identify his vision and clarify the vision before proceeding to do any other thing including prioritizing our lesson plan. To enable you achieve the objectives of teaching, one must do one thing at a time. Organize your plan by putting/pooling together all the necessary events/materials in the appropriate order. Start with the no 1 or grade 1 priority rather than grade 3 or 4 priority. In case of a lesson must be systematic – introduction will be considered grade 1 priority as it leads to the main theme and move to the main theme step by step mindful of the time allocated to each.

An example of how we can plan to manage our time properly is shown by table below:

Table 1: shows a hypothetical time/task schedule for a classroom lesson period.

Task	Time
Introduction	5 mins
Step 1	5 mins
Step 2	5 mins
Step 3	6 mins
Step4	4 mins
Restating/questioning/evaluation	10 mins
Conclusion	5 mins
Total	40 mins

Time management is not just about planning; it is also about results. So proceed from planning to organization then to action.

We need to note the following two ways in which we can manage our time effectively:

1. Lesson time management is a micro type (time management schedule) (Locale).
2. Global (Macro) Time Management – Your Whole Day (Typical Day) time management schedule.

It should also be noted that the macro time management would of a necessity encompass the micro type. Micro time management is subsumed in the macro type. In other words the locale must be situated within the context of global.

Thus we must evolve macro and micro time management and ensure that they synchronise well. Macro time management schedule should precede micro time management, because the success of the latter depends largely on the success of the former. An example of macro time management schedule is what is often referred by corporate bodies as year planner. It should be stated that no schedule is perfect because they are based on forecasting and estimates. Yet it is far better than none.

In summary, the following steps are essential to effective time management:

- Adequate knowledge of the activities to be undertaken, their individual expected duration, and their sequence of occurrence.
- Always remember there is only 24 hours in day
- Note that the afore-mentioned makes time, though equitably God-given resource, yet scarce, leading to the fact that we must prioritize our activities both globally and micro – wise.
- Thus allocate time to every activity (including sleep, relaxation and eating) to be undertaken
- These preceding parts (steps) call for thorough planning of the use of time
- Linear programming/graph could be used to depict one’s use of time plan
- Rehearse plan in a mock exercise to ensure effective actual implementation
- Implement strictly according to schedule
- Review the implementation
- Feedback the result to the plan
- Revise your time plan
- Rehearse it again
- Implement again

It is thus a cycle of planning, executing, reviewing, feedback and revision until perfection is attained; and since real perfection is far fetched, it is a continuous process *until thy kingdom come*

You can practice this again and again until perfection is obtained, but since perfection can only be achieved by God then the process remains a continuous one. However, you cannot be effective in time management unless you decide your priority of events to be included in your time plan.

These include preliminary preparation, every event and its duration vis a vis other activities of the day. You should also plan the use of time allocated to every activity, rehearse the execution of the

plan and the delivery which ultimately proves the effectiveness of the management of your time. Please note that you break your lesson into steps and match the time appropriate for the completion of each step in accordance with their weighting. Globally too you may also organize your activities for a week by planning and scheduling these activities through time budgeting and control of all the week activities and then ensure strict adherence to the schedule during implementation. Be sure that a one time schedule is done on day by day basis if it were to be effective.

The Problem of the Study

Arising from the fact that many a Nigerian teacher does not effectively manage his/her time and the consequent ineffectiveness of the teacher in facilitating high degree of learning, this investigation set out to study the reasons why this is so and to find out how the trend can be overcome.

Research Questions

1. Are teachers able to manage their time effectively?
2. What are the constraints to teachers effectively managing their time?
3. How can these impediments be overcome?

Hypothesis

H₀1: There is no difference between teaching effectiveness of teachers who manage their time effectively and those who do not

Research Procedure

Research Method

The method adopted for this research was ex post as well as quasi – experimental and control type with the pretest post test design.

Population, Sampling and Sample

Population

The target population was all the teachers of secondary schools in Both Ibadan city and Ibadan less city of a total of eleven Local Government Council Areas, Oyo State, Nigeria.

Sampling and Sample

The multi-stage sampling technique was adopted as follows:

Ibadan was clustered into eleven LGCA's. The proportion of schools per LGCA was proportionately but randomly chosen. The researchers decided that at least half of the number of schools in LGCA would be randomly sample. Finally one Economics teacher in each of the selected schools was used in the sample. Two sets of 30 students each from two of the schools were used for quasi – experimental group and control group were chosen, to represent one effective time management teacher and the other non –effective teacher as was found the first step analysis who were again observed for six weeks.

Table 2: LGCA’s, number of Schools and Sample size

S/No	LGCA	No of Schools	Sample size
1	Akinyele	19	4
2	Egbeda	12	2
3	Ibadan North	23	5
4	“ North-East	11	2
5	“ North-West	07	1
6	“ South-East	17	3
7	“ South-West	23	5
8	Ido	07	1
9	Lagelu	18	4
10	Oluyole	12	2
11	Ona-Ara	10	2
Total		149	31

Instrumentation

A typical teacher full day time/work 12-item schedule – check list kind of instrument designed and validated by the researchers, through test – retest, and intra and inter rate correlation at the following coefficients 0.86, 0.74 and 0.71 was used in collecting some of the data. Respondents were also requested to freely list what they considered constraints to time management as well as possible ways of overcoming these constraints, to which they listed ten points against each of constraints and ways of overcoming them.

Method of Data Collection

Data for the study was collected using the check-list and direct observation using anecdotal coding as the principal actions of concern in the study such as giving directives, instructing, teacher questioning, student questioning, response (teacher and student), clarification, summarizing, evaluation and conclusion in the classroom. It also examined and award mark using the format of time/lesson schedule as well as the lesson plan content, lesson preparation/rehearsal period earlier on discussed. Each teacher was observed and rated twice by either one of the researchers or a trained assistant and once by another rater.

The two schools in which the most effective time management teacher (A) and the most non-effective time management teacher (B) were found (as revealed by the first step analysis in the study) and their respective classes were used as experimental group and control group. Pretest and post test were administered on the both groups to determine the effect of effective teacher time management on student cognitive achievement viz a viz non effective time management, having assisted the former to better manage his time for three further weeks.

Method of Analysis

Data used were got from collating and coding data from the three sources of data of direct observation, checklist and the lesson notes.

Data from the exercise were analysed using qualitative analysis and statistics such as percentage, Spearman – Brown rank order correlation statistic.

The second stage data analysis involved the use of t-test statistic

Findings and Discussion

Table 3: The relative effective time utilization and management in percentage

S/no	Percentage range	No of teachers	Remarks
1	1-10	-	
2	11-20	-	
3	21-30	1	Found to be a drunk (very very poor time managers.
4	31-40	4	Seriously involved in local partisan politics (very poor time managers)
5	41-50	7	Were not fully interested in teaching (poor time managers)
6	51-60	4	Were partially committed but had to contend with family & other interests (fair time managers)
7	61-70	5	Fairly good time managers
8	71-80	3	Good time managers
9	81-90	5	Very good time managers
10	91-100	2	Excellent time manager
Total		31	

The table above presents qualitative data that shows that a number of teachers in the sample know something about managing their lesson by planning how to utilize their lesson time well ahead the actual period for maximal effectiveness. The number of the teachers who scored from 50% to 100% on the effective time management scale was 19 which are 61% of sample used in the study. An indication that a number of them had knowledge on time management by way of planning and executing their lesson period well enough to make them effective teachers which is the essence of time management in a school setting, which is in consonance with the finding of (Ogunsanya and Agu, 1990). However, 39% of the subjects in the study did not bother to plan their time well as so they were ineffective teachers as proved by the result of the quasi-experiment carried out to find out whether a relationship exists between effective management and students' achievement in this study. Well a number of teachers could manage their well because they did not think it necessary to do because they felt they have already garnered sufficient to make them effective without planning to manage their time. They thus rely on residual and archaic knowledge rather than imbibing dynamism in their career and by extension effectiveness in their chosen field of endeavour. Some felt constraints by poverty, thus instead of planning ahead for the next lesson they are engaged in making ends meet, by taking on some other activities that can earn them some other income. But those who were content with the job made out time to the necessary preparation for effective teaching through time management (TM) agreeing with the view held by (Blanchard and Peter, 1985; and White, 1998).

Table 4: Perceived constraints to time management and suggested solutions (in percentages)

Constraints	Frequency	Percentage	Suggested solutions	Frequency	Percentage
Lacking competence in TM	13	41.9*	Mounting of training on TM	28	90.3**
Many demands contending for time	17	54.8	Increase salary	31	100
Many administrative assignments	18	58.1	Employ more teachers to reduce work	29	93.5
Student over-population	12	38.7	Reduce administrative assignment given to classroom teachers	23	74.2
Too short a time to cover syllabi	19	61.3	Make content of syllabi more concise	21	67.7
Much family needs to be met	25	80.6	Teachers should not be involved in too many social obligations	24	77.4
Social demands to attend to	29	93.5	Teachers must create time for preparation outside sch. Hour	11	35.5
Can't create time outside of school hours to prepare	14	45.2	Teachers must not assume knowledge or competence	15	48.4
The assumption of adequate knowledge of the subject matter/competence	12	38.7	Teachers must be committed	16	51.6

* provides answer to question 2

** provides answer to question 3

From table 4 above in the first three columns, it is clearly shown that quite a substantial number of the respondents, irrespective of whether or not they are effective time managers; believe that there are constraints to the teacher effective time management. The constraints listed by the respondents include lack of knowledge of/incompetence in time management (41.9), many things demanding for the teacher's time (54.8), teachers being overloaded with administrative responsibility (58.1), student overpopulation (38.7), time available for teacher not commensurate to the content of syllabi causing rush to finish the content (61.3), trying to meet family needs which does not teachers to devote much of their outside of school to preparation of school work (80.6), Efforts to meet social demands (93.5), teachers are unwilling to create time for school work out of their leisure time (45.2) and assumption of adequate knowledge of subject matter and/competence in teaching (38.7). The implication of these findings as expressed by teachers is that unless these perceived constraints are addressed, many of them would rather pursue other businesses that could enhance their standard of living at the expense of their teaching preparation since theirs is not just routine work that has to be followed day in day out. Whereas, according to White (1988), Ogunsanya and Agu (1990) and Blanchard and Lorber (1985) if one were to be effective in his duty, he must plan and manage his work time effectively, which implies that these findings in some measure contradict the norm due possibly to wrong value system imbibed by the society. Since teaching results in learning and learning in education and development of the total man which according Onuka (2004) is the tool for national development, then these constraints must be addressed as suggested by the respondents in the section of this work. Some of the constraints listed show that there the need for value reorientation because money has been placed above dedication and contribution to development.

The last three columns of table 4 provide answer to question three.

The result here shows that the respondents are of the opinion that if these measures here suggested are considered and implemented there may be considerable improvement in the average teacher attitude to time management which by extension implies preparation for effective teaching. The suggested solutions by the respondents are namely:

Mounting regular training programme on the import of the time management (90.3), increase in teachers' salary to reduce their level of search for extra income to enable them plan and manage their school time effectively (100), employment of more teachers to reduce the work over load on the

teachers to enable them devote more to preparation rather than battling to cope with the overcrowd of students in terms of attention and marking (93.5), reduction in administrative responsibility given to the teachers so allow to allow them sufficient to plan and manage their school time (74.2), making the content of the syllabi concise to allow for enough and avoid rush so that the teacher can effectively manage their time and the consequent teaching effectiveness (67.7), teachers must reduce the premium they place on socials to allow them enough time to plan to educate and develop the young and up coming generations (77.4), teachers must create time to plan and manage their teaching effectively and thus the concomitant learning (35.5), Teachers assume sufficient knowledge and competence to the level of disregarding the need to prepare for effective teaching which is the import of the teacher time management concept (48.4) and the teacher must be fully committed to duty (51.6). All these suggestions confirm the need for training and retraining of the Nigerian manpower in all sectors of the economy as posited by Onuka (2004).

Table 5: Aggregate intra-rater and inter rater correlation coefficients showing the relationship teacher time mgt and teaching effectiveness.

Type	No	Intra-rater	Inter-rater
Effective time managers*	19	0.76	0.72
Ineffective time managers**	12	0.69	0.66

* Teachers rated fair time managers to those rated excellent time managers were collapsed together to form the effective time manager category

** Those rated poor time managers and below as indicated in table 3 were categorized as ineffective.

Table 6: The t-test of significance of the difference between the performance of the students of the effective time management teachers and those of the non-effective time management teacher in economics

Group	Sample size	Pretest		Posttest		t-obs	t-crit
		Mean	SD	Mean	SD		
Teacher A's Students	30	46	6.9	56	7	12.71	2.66
Teacher B's Students	30	34	8.0	39.5	7		

P= 0.01 df= 58

Tables 5&6 show the results providing clue to the hypothesis of this study. Table 5 shows high correlation between good time management and teaching effectiveness as well as poor time management and lower teaching effectiveness. The aggregate intra-rater and inter-rater of 0.76 and 0.72, for good time management and teaching effectiveness show that the efficient and effective time manager the teacher is the more effective he is in his teaching exploits. In the same the table also reveals that the less efficient and effective time manager the teacher is the less effective he is most likely to be in his teaching undertakings. These results agree with postulation of Ejiogu (2004) that planning and the resultant management of resource constitutes the key to effectively implementing a programme. They equally confirm the findings of Ogunsanya and Agu (1990) that effective time management engenders effective teaching and learning as well as the views of Blanchard and Lorber (1988) and White (1998) that effective time management is a result of good planning which leads to the realization of set organizational goal and objectives. This is because time management is composite to project planning, management and implementation (Onuka, 2006). The results depicted in table 6 confirm the findings shown in table and goes on to show that good time management engender not only effective teaching but also effective learning (Ogunsanya and Agu, 1990; and Onuka, 2006). With a mean score of (56 post test) against a mean score of 46 at pre-test implying a ten-unit gain for the experimental group whereas the mean score of 34 for the control group at pre-test, and a mean score of 39.5 at pos-test meaning a gain of 5.5 units as against the ten-unit in favour of the experimental group. An indication that good time management results in effective learning by the taught. This result underscores the views and findings of some authors and researchers that time management definitely and necessarily engenders effective learning and /or performance (Blanchard and Lorber, 1985; Ogunsanya and Agu, 1990; White, 1998 and Onuka, 2006). Thus there is no gainsaying that in the

circumstance, where there is a substantial chunk of teachers who are not skilled in time management nor wanting to get to terms with time management which is probably why vices (including examination malpractices are on the increase in our educational institutions, the need to urgently address this anomaly cannot be overstressed.

The t-test of significance shows that the t-observed is greater than t-critical the hypothesis that there is no significant difference between achievement of the students of time –effective management teacher and those of non-effective time management teacher should be rejected because the result prove there is a significant difference between the students of the time management variant teachers. Those of the effective time manager performed significantly better than those of the opposite teacher (the not so effective time manager –teacher. Thus it could be inferred the former facilitates a better teaching – learning interaction and the resultant student achievement. The result conform to the findings of the studies by some scholars and researchers that if the time available for teaching is well managed students achieve substantially in learning (Ogunsanya & Agu, 1990; Blanchard and Lorber, 1985; Whiter, 1998 and Onuka, 2006). Therefore teachers need to be trained and encouraged to manage the available teaching better for a better teaching – learning interaction and the concomitant student achievement as well as enhanced expected learning outcomes as well as confirms the position of Mokuolu (2007) that proper use of time is an factor in the level of achievement in any human endeavour.

Conclusion and Recommendations

Conclusion

The investigation has clearly shown that effective classroom interaction or effective teaching-learning process is no doubt a product of effective time-matched-task forecast, proper time allocation coupled with planning your subject topic effectively and organizing and implementing your work (teaching-learning) schedule within a time-frame effectively. To manage teaching-learning time effectively is to have done your work-plan well ahead of teaching-learning time, do mock practice, master the subject matter, distribute the components of the subject well and assign to each task and an appropriate time schedule for its execution. This entails systematic planning, practice and mastery of the subject matter so that you know exactly what amount of time can be allocated to each step and each item that makes for effective classroom interaction. In conclusion, it should be noted that there cannot be effective teaching-learning time management without effective planning, budgeting, organizing and implementation as well as practices to ensure that plans are executable and are appropriately executed.

Recommendations

Arising from the findings, discussion and conclusion of this study the following recommendations are hereby made for consideration by the relevant authorities.

- The stakeholders in education should come to discuss and implement the strategy for effective teaching time management in the Nigerian schools.
- All proprietors (government and private individuals) should review the conditions of service for teachers, professionalise teaching to give impetus to review their attitude to work and thus make them devote more time to their teaching work.
- Teachers and indeed all Nigerians must be reoriented in value system so that money will not take premium over commitment though their remuneration needs to be reviewed and enhanced.
- Attendance at social functions must be reduced to the barest minimum by the teachers and every Nigerian citizen, to create more time for planning and implementing work tasks efficiently and effectively, which is what time management and thus increase learning in the Nigerian school system.

- Time management experts should be employed and/or contracted to mount training programmes on time management for teachers nationwide.
- The various syllabi be reviewed so as to make their contents match the available for effective teaching and learning interaction in the Nigerian school system.

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Effects of Professional and Non-Professional Teachers on Students' Achievement in English Language

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Abstract

This study assessed the influence of moderator variables in the choice of teaching as a profession and examined the effects of professional and non-professional teachers on students' achievement in English Language. Data were gathered using questionnaire and an achievement test. A pre-test – posttest control group design was used for the quasi experiment. Data were analyzed using frequency counts and t-tests. The main effect due to professionalism was significant in favour of the experimental group. The implications for teacher education and pedagogy were drawn.

Introduction

Education is fundamental to, and a pre-eminent force in national development. Every society desires schools, continuity and reproduction; teachers conduct and convey these. Hence teachers are conventionally placed at the center – stage of the pedagogical enterprise.

Teaching as a term has been variously conceptualized and defined. According to Schelfer (1985) teaching is both an activity and a status. It refers to what teachers actually do at work within educational institutions but may also refer to their membership of an occupational group.

As an activity teaching is aimed at the achievement of learning and practised in such a manner as to respect the students' intellectual integrity and capacity for independent judgement (Schelfer, 1985). Teaching according to Okebukola and Ogunbiyi (2002) is an activity consisting of verbal interaction between the learners and their teacher as he/she aims at influencing the behaviour of the learners. Schein (1975) in a similar vein defined teaching as an arrangement of contingencies of reinforcement under which behaviour changes.

Simply put, teaching is the ability to make things known, to impart skills or transfer instructions; as a process, it involves solving learners' problems.

It is an open secret that the teaching profession in Nigeria is plagued by the employment of non-professional teachers. Many people have expressed dismay and condemned this development Ajayi (1985) noted that one third of the practicing teachers are people that have never undergone any course in education. According to Olaseinde (1992) the advent of this unqualified and untrained teachers in large numbers have caused great depression to the profession to the extent that most parents have lost confidence in the ability of the profession to perform its normal function.

This study assessed the influence of moderator variables by examining the effects of professional and non-professional teachers on students' achievement in English language. The outcome will serve as a litmus test of their competence and efficiency in promoting learning.

It will also help to validate or otherwise the claim that non-professional teachers constitute a bane to the teaching profession and a clog on the wheel of teaching and learning. This will provide the needed information for stakeholders in education especially government towards taking appropriate actions.

Research Questions

The research questions raised in this study are:

- (1) What influenced the choice of teaching as a career?
- (2) Was effect of professionalism significant on students' achievement?

Method

Participants

The subjects for the study consisted of 20 professional, 20 non-professional teachers, and 156 JS1 students randomly selected from four secondary schools in Lagos State. The experimental group had 75 students while the control group had 81 students.

Design and Procedure

The study is both quasi – experimental and descriptive. A questionnaire was administered to assess the influence of moderator variables on the teachers' choice of teaching as a career. A pretest – posttest control group was used for the quasi – experiment. The control group received instruction from the non-professional teacher while the experimental was taught by the professional. Both groups received instruction on the grammatical structure – adverbs for two weeks. Both groups were pre and post tested using a 20 – item multiple choice achievement test selected for the study.

Instrumentation

The main research instruments used for data collection were a researcher constructed questionnaire and English achievement test (EAT). The questionnaire was divided into two sections (A and B), section A deals with demographic data while section B contains some identified factors which could affect the choice of teaching as a career. The factors were scored on a 5 point Likert scale of strongly agree (SA), agree (A), undecided (U), strongly disagree (SD), and disagree (DS).

The English Achievement Test (EAT) consisted of 20 multiple-choice items based on the use of adverbs. The test served as pre and posttests. The reliability of the instruments was established at 0.67 and 0.78 respectively using the crombach alpha statistical method.

Data Analysis

The analysis of data gathered through the questionnaire was done by computing the responses using frequency counts and percentages. While the data on the achievement test was computed by determining the mean scores and standard deviation. The differences between pairs of mean scores were assessed by the use of t-test.

Results

The results of the study are hereby presented in the order of the research questions guiding its conduct.

Research Question 1

What influenced the choice of teaching as a career? Frequency and percentages measure influence of moderator variables in the choice of teaching as a career. The results are presented in Table 1.0

Table 1.0: Table showing the influence of moderator variables on the choice of teaching as a career.

Item	Statement	Groups	Frequency	Percentage
1	To earn a living	Professional	20	100
		Non professional	20	100
2	Self interest	Professional	14	70
		Non professional	6	30
3	Poor family background	Professional	4	20
		Non professional	5	25
4	Parent/guardian/spouse initiation and wish	Professional	3	15
		Non professional	2	10
5	Lack of employment	Professional	4	20
		Non professional	18	90
6	Urge to demonstrate skill and help society (talent)	Professional	17	85
		Non professional	5	25
7	Grade at school	Professional	13	65
		Non professional	6	30
8	Religious belief	Professional	2	10
		Non professional	1	5

The results revealed that both groups of teachers got into the profession primarily as a means of livelihood (100%). While a remarkable percentage of professional ones declared interest in their job, the engagement of non-professionals in teaching is largely due to lack of employment (90%). The wish of parents, guardians and spouse does not significantly influence the choice of teaching as a career as shown in the table.

A large percentage (85%) of the trained teachers see themselves as talented in pedagogy hence their choice of teaching as a career. However only 25% of the untrained ones considered themselves talented. In other words they doubted their own competence in teaching.

The professional teachers' grade at school influenced their choice of teaching as a career, (65%) while the non-professional teachers' grades had no influence on their choice (30%). The results also showed that poor family background, and religious belief do not significantly influence people's choice of teaching as a career.

Research Question 2

Was effect of professionalism significant on students' achievement?

The mean of the professional teacher (PT) instructed group exceeded the mean of the control group in standard deviation units. Mean effect sizes associated with instruction by professional and non-professional teachers are reported in Table 2.0.

Table 2.0: Table showing the Effects of instruction by professional and non-professional teachers.

Groups	N	X	SD	DF	T. cal value	T-table value at 0.05
Student taught by professional teachers (Experimental)	75	55.4	11.8	154	36.27	1.96
Students taught by non-professional	81	21.39	12.14			

From table 2.0, it is apparent that instruction by professional teachers was effective in improving students' achievement in English language (means 55.4 and 21.39).

Discussion

The findings of this study reveal that students taught by professional teachers performed better than those taught by non-professional teachers and that the latter are better equipped and more suitable for

the job. This is consistent with research findings in this area of study. For instance Gurick (1990) noted that professional teachers exhibit effective, task oriented and business like demeanour (Gurick 1990).

Akomolafe (2004) also noted that professional teachers are able to maintain a sense of purpose through out the teaching – learning process, they are able to carefully plan instruction, select appropriate teaching and, logically follow plan of teaching to the extent that the learners could maximally benefit from instruction. On the other hand, non-professional teachers due to lack of requisite knowledge may not be able to effectively plan and carry out teaching using appropriate channels and methods.

Conclusion and Recommendation

This study has validated the belief that professional teachers are effective and that their students are more able to perform well in examinations. Similarly it is clear that by virtue of their training they display high interest and knowledge in pedagogy. Thus, they are bound to be devoted to their job. On the other hand, the non-professional teachers are in – experienced and less knowledgeable in pedagogy. Although they may possess the knowledge of content, it should be realized that the business of the classroom is learning and any teacher who fails to achieve this cannot be said to be successful. An effective teacher emphasizes and focuses classroom activities on tasks that are most likely to help students’ learn. He directs his own behaviour and his students’ behaviour toward successful learning outcomes.

Based on the findings of this study, the following recommendations are advanced.

- Non-professional teachers should be banned from the classrooms. Those who are already in the school system should be made to enroll for induction or part time course in education.
- In order to keep abreast of research findings, teachers should compulsorily belong to professional associations like Science Teachers Association of Nigeria (STAN) Reading Association of Nigeria (RAN) etc.
- Professional teachers should be encouraged to engage in the writing of relevant textbooks for students.
- All Governments should recognize teaching as a profession and give it equal treatment like other professional bodies.

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Inservice Mathematics Teachers' Beliefs about Mathematics Teaching and Learning

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Abstract

This study examined the in-service elementary school teachers beliefs about teaching and learning mathematics as it related to been a good mathematics learner. The result indicated that teachers belief that feelings about school and mathematics, and teachers assessment practices are related to been a good mathematics learner. Female mathematics teachers are of the opinion that student expectation of teacher/lecturer do affect been a good mathematics learner.

Keywords: In-service teachers; beliefs about mathematics

Introduction

As a result of the variety of perspectives and discipline within which beliefs have been studied, it is not surprising that the field abounds with subtly different definitions and classification of beliefs (Leder, Peakones and Torner, 2002). They traced the beginning of the research of beliefs and belief systems to the 20th century. According to Bar-Tal (1993), the study of beliefs can be classified into four areas: Acquisition, change structure of beliefs, effects of beliefs, and contents of beliefs.

Beliefs have been viewed by social psychologists as units of cognition. They Constitutes the totality of an individual knowledge, including what people consider as facts, opinions, hypotheses as well as faith (Bar-Tal, 1993). According to Bar-Tal (1990), beliefs can be differentiated on the basis in which they formed. descriptive beliefs are formed on the basis of direct experience. Inferential beliefs are based on rules of logic that allow inference and Informational beliefs are formed on the basis of information provided by outside source (p.12).

Krech and Crutehfield (1948) had long proposed the following seven characteristics to describe beliefs: These are kind, content, precision, specificity, strength, importance and variability. To Opt, Eynde and Verschaffel (2002) belief may be defined as the implicitly or explicitly help conceptions, understanding, premises, propositions, expectations that subjects hold to be true. These beliefs according to them are organized in complex belief systems which are characterized by cluster, structure, quasi-logicalness and psychological centrality.

Mathematics teachers, whether prospective or in-service, hold many beliefs about the nature of teaching and learning mathematics and these beliefs interact in a wholesome manner to affect the ways they perform their duties, as teachers of mathematics. Teachers' beliefs gratefully influence their classroom practices. The beliefs teachers themselves have about teaching and learning and the nature of the expectations they hold for students also exert a powerful influence (Raffim, Jamark, 1993).

The most significant contributions of research in education suggest that teachers' beliefs relate to their classroom practice (Thompson, 1992). It has also become an accepted idea that teachers' beliefs play an important role in shaping teachers' characteristics patterns of instructional behaviour

(Thompson, 1992). Ernest (1989), discussing the finding of studies in mathematics teachers' beliefs, noted among others keys elements that influence the practice of mathematics teaching, the following three are considered notable.

- (1) the teacher's mental contents or schemas, particularly the system of beliefs concerning mathematics and its teaching and learning.
- (2) the social context of the teaching situation particularly the constraints and opportunities it provides, and
- (3) the teachers' level of thought processes, and reflections He further describes the key beliefs component as the teachers view or concept of the nature of mathematics.
 - * View or conception of the nature of mathematics
 - * Model of view of the nature of mathematics teaching
 - * Model or view of the process/ learners mathematics.

According to Brophy and Good (1974) cited by Fang (1996), a better understanding of teachers' belief system or conceptual base will significantly contribute to enhance educational effectiveness. To understand teachers from teachers' perspectives, we have to understand the beliefs with which they define their work (Nesspor, 1987, p.2231). The view is further supported by Underhill (1998) when he stressed the importance of assessing teachers beliefs and to knowing how this affect them as a basis of how we can improve their delivery of mathematics instruction. Pajares (1992) pointed out that few would argue that the beliefs teachers had, influence their perceptions and judgment, which, in turn, affect their behaviour in the classroom setting.

In teaching, teachers weave together many different kinds of knowledge and beliefs; of students of how students learn, of the teacher's role, of pedagogy, and of the subject they teach. In other word, teachers' decision making and behaviour are structured by their attitudes, beliefs and expectations as a subject matter, themselves as mathematics instructors, and their students as learners.

Ernest (1998) has noted that knowledge is important but its not alone and not enough to account fore the differences between mathematics teachers in the ways they carried out their professional assignment. Two teachers to him can have similar knowledge, but may teach mathematics in different ways as a result of their beliefs towards didactic approach. For this reason, he emphasizes emphasis on the role of beliefs in teaching mathematics.

Vistro-Yu (2002) declared that high school mathematics teachers hold certain beliefs and view about mathematics, which have both desirable consequences in the way they teach in the classroom, and that these beliefs cannot be ignored because it the impact they have on teachers classroom teaching.

Problem of the Study

Prospective elementary teachers do not come to teacher education feeling unprepared for teaching. From their years as pupils in elementary and secondary schools they bring with them, many ideas about teaching, learning, subject matter, and students (Keiman-Nemsa, McDiarmid, Melmick, and Parker, 1987). According to them, pre-service teachers learning during teacher preparation is an interaction between the conceptions they bring and the knowledge and experiences they encounter and unless teachers educators help their students surface and examine initial beliefs and assumptions these taken –for-granted ideas may distort the lessons taught and learned during teachers preparation. The foregoing may not be limited only to the pre-service teachers but equally applicable to in-service teachers who may have a cloud of uncertainty towards the teaching of their subject matter. So the more we come to know about teachers (both pre-service and in-service experiences, how their practice in the classroom, develops and the factors that impinge upon this development, the more we will be able to construct models or theories of professional growth that will be able to shape the construction of future courses inform the training and induction of teachers and serve as guide for action for mathematics

teacher, educator, dealing apparently with the complex task of helping teachers to learn and improve on the practice of teaching (Calderheads and Shorrock, 1997).

Method

Design

The designed employed in the study was an ex-post facto type. The researcher does not have a direct control of both the independent and dependant variables, because their manifestations have already occurred or because they are inherently not manipulable.

Participants

The study sample were 61 male and 37 female mathematics specialist teachers who are undergoing inservice degree course at a university in Nigeria.

Instrument

The Indiana Mathematics Beliefs Scale (IMBS) (from Kloosterman, and Stage, 1992) was used (with minor changes) to tap the teachers beliefs concerning varied aspects of mathematics learning. The total reliability measure of the scale using Cronbach alpha coefficient is $r = 0.89$. The second instrument used, was an 10 items questionnaire develop and validated by the researcher to measure “good mathematics learner”

Results

The study explores the relationship of “good mathematics learner” with teachers’ beliefs in mathematics. Correlation between being a good mathematics learner and the variables of beliefs are given in Tables I and II for males and females respectively.

Tables I show that there is a positive correlation between being a good mathematics learner and feeling about schools (.31) and assessments practices (.277). The results imply that male mathematics teachers feel that what goes on in the school do affect the learning of mathematics. More over the assessment practices of teachers/lectures do affects the mathematics learning.

Table 1: Showing Corrections, Regression Coefficient and F-Ratio in Male (N=61)

s/n	variables	Regression Co-efficient	R2	F	r
1	Feeling About School and Maths	.311	.097	6.434*	.311**
2	Efforts in Mathematics	0.21	.000	.021(N.S)	0.21
3	Non School Influence on Motivation	.066	.004	.260(N.S)	.060
4	Natural Ability in Maths	-.130	.017	1.026	-.130
5	Self-Confidence in Maths	-.011	.000	.007	-.011
6	Goal Orientation on and Efforts	-0.097	.009	.575	-.097
7	Study Habit in Maths	.133	.018	1.074	-.133
8	Maths Content	.118	.014	.845	.118
9	Assessment of Practices	.277	.077	4.977**	.277**
10	Students Expectation of Lecturers	.151	.023	1.408	.151

F *P<.01 **P<.05
r *P<.01 **P<.05

Table 2 shows the correlation for females. A perusal of the results indicates that view a mathematics learners correlate partially and significantly with study habit and mathematics (.339) and assessment practices (.327).

Table 2: Showing Correlations, Regression Coefficients and F-Ratio in Female (N=37)

S/N	Variables	Regression Coefficient	R2	F	r
1	Feeling about School and Maths	1.63	.027	.981	.163
2	Efforts in Maths	-.099	.010	.355	.099
3	Non School Influence on motivation	-.082	.007	.244	.080
4	Natural Ability in Maths	.072	.005	.190	-.072
5	Self-Confidence in Maths	-.209	.044	1.650	-.209
6	Goal orientation on and effort	.028	.001	.028	.028
7	Study Habit in Maths	.339	.115	4.678**	.399**
8	Maths Contents	.066	.000	.001	.006
9	Assessment of Practices	.327	.107	4.303**	.327**
10	Students Expectation of lecturers	.302	.091	4.603**	.302

F **P<0.1 **P<.05, r *P<0.1 **P<

The results show both male and female in-service teachers view that the nature of assessment practices in the (university) is a critical factors that really affect them as learners of mathematics.

A Stepwise multiple regression was performed to determine the amount of variance in the dependent variable (a good mathematics learners) that could be accounted for by the independent variables(feeling about school and mathematics, efforts in math non-school influence on motivation, natural ability in math, self-confidence in math, goal orientation and efforts, study habits in math, maths content, student expectation of lecturers) and the impact of each independent variables in the prediction of dependent variable (view as a mathematics learners).

Results of the regression analysis indicate that for both male and female 22% of the variance is explained by the selected variables. The low variance could be because of this variability not being as significant as assumed to be. Moreover, there could be some other more important variables which could have contributed towards been a good mathematics learner. Variables which are significantly contributed towards been a good mathematics learner for male are, feeling about school and mathematics (F= 6.34, P, <00.1.051 and assessment practices, P<0.05) while those that contributed to been a good mathematics learners of female are study habit (F=4.678, P<0.05, assessment practices (F=4.303, P<.05, and student expectations of lecturers (F=4.1003, P<.05).

Discussion

The correlation obtain from both female and male concerning feeling about school and assessment may be interpreted to mean that the teacher are of the view that the totality of what goes on in a school will affect the learning of mathematics and the assessment procedures employed do affect students ways of learning mathematics.

The results also clearly indicate that for female the student expectation from their lecturer is crucial for one to be good mathematics learners.

The implication of this is that the role of the mathematics lecturer/teacher is a factor that does affect the way and manner they learn mathematics. A good school environment will be a better place for mathematics learner. The issue of assessment of the curriculum should not be taken lightly. Assessment practices may enhance or impede mathematics learner and also gender issues must be taken into consideration by mathematics teachers.

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Dimensions of Hospital Service Quality in Nigeria

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Abstract

Little or nothing is known of service quality from the customer's perspective as it pertains to hospital management in Nigeria, and transparent, objective and comparable measurements of it, are absent. The objective of the study was to provide insight into the nature and characteristics of consumer focused service quality, as it pertains to the Nigerian hospital setting, through identifying a workable measurement scale and determining the underlying service quality dimensions. Teaching hospitals were used as the focal point, because of their complex structure and service mix that would allow for downward application of the study methodology and recommendations. The instruments had a battery of 39 consumer focused service quality attributes on which respondents rated the hospital on importance and performance. The dimensions were confirmed through factor analysis of importance data, performance data and computed quality data. The results indicated that eight dimensions - *resource availability, quality of care, condition of clinic/ward, condition of facility, quality of food, attitude of doctors and nurses, attitude of non-medical staff and waiting time for service*, best described the service quality phenomena, producing Cronbach-alpha reliability coefficients of 0.74 to 0.94.

Keywords: service quality, service quality dimensions, hospital service quality, consumer focus, factor analysis, Nigeria.

Introduction

In both private and public health facilities in Nigeria, the consumers' interest in the service delivery process is rarely considered. Usually, the processes are set up with the sole convenience of the operators. For example, it is common for health facilities to give appointments to all patients for a given clinic day for 7 a.m., despite the fact that the doctors would not arrive until 9 a.m. and patients would be seen one at a time, leading to unnecessarily long waiting times for patients. In addition, services that used to be free have long been replaced by payment for services rendered or "payment before service" in many health facilities. Also, fees charged have been increased quite frequently without being matched by appreciable improvements to the service package offered in most cases. These problems have led to under-utilization or over-utilization of some facilities by consumers, based on perceived service quality. All these lead to a situation where potential consumers delay to seek care for fear of confronting such unsatisfactory conditions.

In *The World Health Report 2000*, World Health Organisation (WHO) reveals that the poor generally emerge as receiving the worst levels of responsiveness, being treated with less respect for

their dignity, given less choice of service providers and offered lower quality amenities (WHO, 2000). Nigeria is no exception to this finding.

Kenagy, Berwick, and Shore (1999) draw the following two conclusions: “First, if high-quality service had a greater presence in our practices and institutions, it would improve clinical outcomes and patient and physician satisfaction while reducing cost, and it would create competitive advantage for those who are expert in its application. Second, many other industries in the service sector have taken service quality to a high level, their techniques are transferable to health care, and physicians caring for patients can learn from them” (p. 661).

Kutzin (1994) proposes that as health ministries change their functions from service delivery to monitoring and regulation, the need for objective measurements of the performance of staff, systems, and contractors, increases. Thus, quantitative and qualitative measurements of service outputs are needed to assess performance.

In Nigeria, a national study to determine the availability and quality of essential obstetric care (EOC), revealed low quality and availability of EOC services, with private facilities doing better than the public institutions (Fatusi and Ijadunola, 2003). There is no doubt that there is a shortfall in the delivery process of health care services in Nigeria. In a study of Primary Health Care in Nigeria, the situation analysis assessment revealed low quality care (Olumide, Obianu and Mako, 2000). This was confirmed by Mbanefo and Soyibo (1992:13), who stated that the Nigerian health care delivery system “tends to be be-devilled with waiting problems, irrespective of whether one is reporting for the first (illness) episode or not”.

Depending on providers’ perspectives on quality may be misleading, as was identified in a study in India where most of the 54 auxiliary nurse midwives interviewed could not define quality services or suggest service improvements, and medical officers focused mainly on inadequacies in the clinic infrastructure and on clinic equipment, supplies, and medicines (Lantis, Green and Joyce, 2002).

The problem is therefore that while little or nothing is known of consumer focused service quality as it pertains to hospital management in Nigeria and transparent, objective and comparable measurements of it are absent, hospital service delivery cannot be oriented towards being more consumer focused in its approach within the constraints of its total resources.

The objective of the study was therefore to provide insight as to the nature and characteristics of consumer focused service quality, as it pertains to the Nigerian hospital setting through identifying a workable measurement scale and determining the underlying service quality dimensions.

Literature Review

Dimensionality of Service Quality

Researchers are in agreement that service quality is a complex multidimensional concept composed of several dimensions which are to some extent inter-related. These dimensions involve both the process of procuring the service as well as the outcome (Devlin and Dong, 1994). The dimensions along which consumers evaluate service quality is sometimes divided into two groups – the outcome dimension (which focuses on the reliable delivery of the core service) and the process dimension (which focuses on how the core service is delivered). According to Schiffman and Kanuk (1998), and Davidow and Uttal (1990), the process dimension offers the service provider a significant opportunity to exceed customer expectations.

Parasuraman, Berry and Zeithaml (1991a:41) identify five dimensions of service as follows:

1. *Reliability*: The ability to perform the promised service dependably and accurately.
2. *Responsiveness*: The willingness to help customers and to provide prompt service.
3. *Assurance*: The knowledge and courtesy of employees and their ability to convey trust and confidence.
4. *Empathy*: The provision of caring, individualized attention to customers.

5. *Tangibles*: The appearance of physical facilities, equipment, personnel, and communication materials.

On the other hand, Mowen (1995:513-514) criticizes the following eight dimensions proposed for product quality by Garvin as being best applied to evaluations of goods quality alone –

1. *Performanece*: Performance on primary operating characteristics.
2. *Features*: The number of bells and whistles that supplement primary characteristics.
3. *Reliability*: Probability of failing or malfunctioning.
4. *Durability*: The life of the product.
5. *Serviceability*: Ease of repair, and the speed, courtesy, and timeliness of personnel.
6. *Aesthetics*: How the product looks, feels and sounds.
7. *Conformance to specifications*: Degree to which the product meets production benchmarks.
8. *Perceived Quality*: A catchall category that includes the effects of brand image and other intangible factors that influence customers' perceptions of quality.

However, Mowen (1995) is of the view that neither the five dimensions of Parasuraman's research team nor Garvin's eight dimensions of product quality are adequate and proposes the following eight dimensions as being more appropriate and capable of taking care of both service quality and goods quality -

1. *Performanece*: The absolute level of performance of the good or service on the key attributes identified by customers.
2. *Number of attributes*: The number of features/attributes offered.
3. *Courtesy*: The friendliness and empathy shown by people delivering the service or good.
4. *Reliability*: The consistency of the performance of the good or service.
5. *Durability*: The product's life span and general sturdiness.
6. *Timeliness*: The speed with which the product is received or repaired; the speed with which the desired information is provided or service is received.
7. *Aesthetics*: The physical appearance of the good; the attractiveness of the presentation of the service; the pleasantness of the atmosphere in which the service or product is received.
8. *Brand Equity*: The additional positive or negative impact on perceived quality that knowing the brand name has on the evaluation of perceived quality.

A hierarchical approach has been suggested by Brady and Cronin (2001) which concentrates the primary dimensions into 1. *interaction quality*, 2. *physical environment quality* and 3. *Outcome quality*, with each of these primary dimensions having sub-dimensions, and each sub-dimension having a reliability item, a responsiveness item and an empathy item.

The Joint Commission on Accreditation of Healthcare Organizatons (JCAHO) in the United States of America identifies nine quality dimensions for hospitals. They are: 1.*Efficacy*, 2.*Appropriateness*, 3.*Efficiency*, 4.*Respect and Caring*, 5.*Safety*, 6.*Continuity*, 7.*Effectiveness*, 8.*Timeliness*, 9.*Availability*. Sower et al. (2001) selected these nine JCAHO dimensions as the theoretical framework of hospital service quality for their study which supported exclusion of 'efficacy' as a dimension, since efficacy of care is generally determined by using measures such as mortality and complications. Sower et al. explain that while the patient may be able to form an opinion about efficacy based on obvious outcomes, he or she generally lacks the medical knowledge and training to meaningfully assess whether outcomes were consistent with professional expectations for the condition.

Attkisson, Roberts and Pascoe in the evaluation ranking scale they developed to obtain a measure of patient satisfaction for evaluating health care delivery within practices, and comparing performance between practices, grouped the attributes considered under the dimensions shown below (Wilkin, Hallam and Doggett, 1992:245):

1. *Clinic location and appointments*: Location, Parking, Hours of operation; Obtaining appointment(s).

2. *Clinic building, offices, and waiting time:* Amount of waiting time; Appearance of building, offices, and waiting areas.
3. *Clinic assistants and helpers:* Courtesy and helpfulness of: Telephone operators; Receptionists; Aides and volunteers.
4. *Nurses and doctors:* Skillfulness; Friendliness; Clarity of information/advice; Thoroughness; Amount of time spent.
5. *Health services offered:* Received the services I wanted; Saw the nurse or doctor I wanted.
6. *Service results:* Success of services; Speed of results; Value of services; Usefulness of information/advice.

Mowen (1995:506) proposes that the attributes of a hospital include the competence of its physicians and nursing staff, the appearance of the physical facilities, the quality of the food, and the consideration and treatment of patients, each of which would impact on the use experience of a patient.

In a study on the choice of obstetric care in Cebu, Philippines, the following measures of quality were used – the availability of medical supplies - number of drugs available to treat diarrhea), practitioner training (doctor or midwife), service availability, facility size, and waiting time. In another study, the quality of health care in Ghana was measured in terms of infrastructure (electricity and running water); personnel (number of doctors and nurses); basic adult and child health services; including the availability of a laboratory and the ability to vaccinate children and to provide pre-natal, postnatal, and child-monitoring clinical services; and the availability of essential drugs (ampicillin, chloroquine, paracetamol) and an operating room. In Ogun State, Nigeria, several quality variables were reported to have affected the use of public health clinics. These variables included operational costs per capital, the physical condition of the facility, the availability of drugs, and the number of functioning x-ray machines and laboratories. The number of support personnel, nurses, and doctors per capita did not have a significant effect. (Alderman and Lavy, 1996)

Clearly, not all the attributes and dimensions are transferable, especially between countries, where the cultural setting and service delivery practices differ.

Measuring Service Quality

To effectively manage service quality, it has to be measured and there are several ways in which this has been achieved.

The SERVQUAL scale, proposed by Parasuraman, Zeithaml and Berry (1985), was designed to measure the gap between customers expectations of service and their perceptions of the actual service delivered, based upon the following five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. Since its development, the SERVQUAL scale has been used in numerous studies, though not all of its empirical findings correspond precisely to the five dimensions that the scale is designed to measure. Research by Devlin and Dong (1994) and others confirm that these five key elements should be incorporated into the model of how customers view a service organisation.

Sower et al. (2001) empirically sought to confirm the nine dimensions in the JCAHO scale which incorporated the SERVQUAL five dimensions, and they came up with the “KQCAH” scale, for the determination of service quality of hospitals in the United States of America.

Cronin and Taylor (1994) identified another scale, based on performance measures of service quality, known as SERVPERF. This scale is based on the consumer’s perception of service performance. They argue that there are problems in conceptualizing service quality as a “difference” score. The SERVPERF scale results have been used in a number of ways including plotting the summated overall service quality score relative to time and specific consumer subgroups (e.g., demographic segments).

Another way researchers have measured service quality has been by combining the performance of the service with the importance of the service as rated by customers (Martilla and James, 1977; Cronin and Taylor, 1994; Kotler, 1997; 2001; 2002; Whyne and Reed, 1994, 1995; DuVernois, 2001; Kennedy and Kennedy, 1987; Oh, 2001; Brandt, 2000). This combination, which

has been applied to marketing research and health care service assessment, is known as Impotence-Performance (IP) analysis. According to Martilla and James (1977), IP analysis is used to rate the various attributes or elements of the service bundle and to identify what actions are required. It has been applied to health care service assessment in various ways. For example, Hawes and Rao (1985) applied the IP analysis technique to develop health care service marketing strategies, while Kennedy and Kennedy (1987) and DuVernois (2001) applied the IP analysis technique to the assessment of student satisfaction with a University Health Service. Whynes and Reed (1994) applied it on a study of hospitals in the Trent region of Britain, in an attempt to provide information on that which practitioners deemed important with respect to quality, and on how purchasers assessed the quality of their current service performance. The conventional approach to IP analysis, has been criticized by Brandt (2000) and improvements have been suggested by Oh (2001) and Olujide and Mejabi (2007).

Ostrom and Iacobucci (1995) investigated the evaluation of services by consumers in terms of service attributes that should have an impact on judgements as well as the nature of the judgements themselves. Service alternatives that differed in terms of price, level of quality, friendliness of the service personnel, and the degree of customization of the service were considered. Services also differed in the type of service industry being evaluated (experience or credence service); the criticality of the service situation (high or low importance that the service be executed well); and the type of evaluative judgement asked of the respondent (i.e. ratings of subjects' anticipated satisfaction, value, or likelihood of purchase).

Ostrom and Iacobucci report that all service attributes are important to consumers and that their importance varies with the mediating factors e.g. consumers are price sensitive for less critical purchase situations, whereas quality is more important for credence services. They suggest that their findings "allow for a parsimonious theoretical explanation based on risk and the clarification of some constructs in the area of consumer evaluations".

For health care services, Alderman and Lavy (1996) propose a measure based on patients perceptions of quality to provide a tractable approach to explaining the multiple dimensions of quality in the supply of and demand for health care services. In their approach, objectively measurable characteristics of health care facilities are linked to household subjective assessment of the probable outcome. These attributes that are easy to measure serve as proof for those that are unobserved. The observable service components, which include physical facilities, number of staff members and level of supervision, availability of essential drugs and equipment, and provision of basic health services, are highly correlated with quality indexes, thereby allaying concerns to the choice of approaches. Another concern is that measures of quality are liable to be inaccurate. For example, two measures of staffing in Cote d'Ivoire was compared - the number of staff members listed in official records, and the number who were actually present in the 24 hours preceding the interview. It was found that the actual number of doctors present had a favorable and significant effect on child health; and that the number on the books was irrelevant.

What types of actions are desired from service quality measurement results have influenced the type of respondents' sampled. When carrying out service quality research customers who did not renew or return have been targeted as results provide more useful evaluation of strengths and weaknesses than a survey of current contented customers. Another way has been to survey current customers and group them by their responses. (Wakefield, 2001)

A study focused on a subgroup of consumers – patients and families of patients, who had recently been hospitalized or who had a life-threatening or chronic illness was carried out because this group was believed to have a very high interest in what the researchers called clinical quality, and a significant appetite for additional information – because their study focused on answering the questions of what information consumers considered in decision-making of choice of service provider, what were their expectations and how those compared with their experiences (Ebersberger, 2001).

According to Wakefield (2001) attention should be paid to what may seem like minor deviations from excellence, and action taken immediately to correct major deviations. Kotler

(2002:457) suggests that service quality standards should be set appropriately high because though a 98% accuracy standard sounds good, it would result in FedEx losing 64,000 packages a day; 6 misspelled words on each page of a book; 400,000 misfilled prescriptions daily; and unsafe drinking water 8 days a year.

Methodology

Sample

Teaching hospitals were used as the focal point, because of their complex structure and service mix that would allow for downward application of the study methodology and recommendations. The data for this study was collected from the University College Hospital (UCH), Ibadan and the University of Ilorin Teaching Hospital (UITH), Ilorin, using six service points at each hospital. The service points were medicine outpatient clinic, surgery outpatient clinic, medicine female ward, medicine male ward, surgery female ward and surgery male ward. Since the hospitals belonged to different geo-political zones of Nigeria (UCH in the south and UITH in the north), were of different generations and environmental setting, with varied service offerings and clientele of different ethno-religious mix, the two teaching hospitals were deemed to provide enough contrasts sufficient to examine the service quality phenomena.

For the purposes of this study, the relevant consumer population was persons utilizing the different hospital services at the time of administering the research questionnaire. Such persons included patients receiving care as well as their caretakers. Caretakers are relatives or friends of patients in the hospital who in the Nigerian hospital setting are intricately involved in the hospital service delivery process.

For this group of respondents, obtaining a list of all patients or caretakers in the population was impractical. Thus, probability sampling methods that rely on knowledge of the population size for determination of sample size and selection of subjects could not be used. Of the non-probability sampling methods commonly used, quota sampling is thought to result in a sample with the least bias (Luck and Rubin, 1999), and is one of the most commonly employed non-probability procedures in marketing research (Green and Tull, 1990). This sampling method was therefore adopted for the sampling of consumers.

To determine the appropriate quotas for the consumer sample, records of hospital attendance at both hospitals were obtained from the Health Records department. At UCH, the record available was the average weekly hospital attendance, while at UITH it was the average daily hospital attendance. These were extrapolated to obtain estimates of patient attendance over a 3-month period.

Patient – caretaker relationship, as well as male – female proportions, were used as parameters for assigning the quotas used for sampling. The sample sizes estimated were split equally between patients and caretakers, based on the assumption that each patient will have one caretaker, although in reality, some patients will have none, while other patients may have more than one. This was further split equally between males and females, except in the case of gender specific wards e.g. male or female surgery ward, where only male or female patients were to be expected. Since the number of males and females in the Nigerian population are approximately equal, it was assumed that males and females would also be equally distributed among patients and caretakers.

Determination of Hospital Service Attributes

As advocated by Devlin and Dong (1994) and in line with the consumer-centred study questionnaires were developed in a manner that would assist respondents to recall and evaluate their service experiences, by “walking” them through the service encounter. This approach emphasizes customers’ views rather than details of internal processes of the organization. Devlin and Dong were also of the opinion that since services may not be fresh in customers’ minds, ordering questions along “service

script” lines can increase accuracy; and that this benefit outweighs the bias possibly introduced by question order. They used the term “service script” to describe the path customers take as they enter the service setting, receive the various services, and exit the service setting. We have adopted this approach in identifying the attributes relevant in the Nigerian hospital setting.

Thus, the service attributes on which assessment of importance and performance was sought, were developed based on the activities or actions at the hospitals in Nigeria which have an impact on the consumer. Observation of the hospital service delivery process revealed the following areas of interest:

- (a) service fees
 - the amount charged;
 - the payment process.
- (b) drugs
 - availability;
 - cost.
- (c) clinical care
 - promptness of response;
 - diagnosis;
 - prescription.
- (d) infrastructural facilities
 - bed space;
 - toilets and bathrooms;
 - water supply;
 - electricity supply.
- (e) support services
 - cleaning;
 - catering;
 - laundry.
- (f) front-line service workers
 - attitude: to patients and visitors; of doctors, nurses, porters, pharmacy staff, technologists, etc.
- (g) service level
 - waiting time to be served;
 - turn around time for tests.
- (h) environment
 - cleanliness;
 - aesthetics;
 - ease of movement from point to point within the hospital.

In order to ensure that the questionnaires were consumer-focused and content valid, focus group discussions were held with several groups of patients and their caretakers. For inpatients, the discussions were held in the evenings when patients who are recuperating sit around with their relatives and friends in groups on the hospital grounds. Discussions were also held with patients and their caretakers, while they were waiting to see the doctors at the outpatient clinics. To guide the discussion, the following five questions were asked in order of appearance:

1. What do you think about quality of health care services in Nigeria?
2. How do you judge the quality of hospital services?
3. What good things can be said about this hospital?
4. What bad things can be said about this hospital?

5. How would you describe the quality of service at this hospital?

Information gleaned from the focus group discussions was used to refine the service attributes on which importance and performance ratings were to be sought, as well as the general service questions. Some of these were the highlighting of the processes in the health records section and the attitude of health records staff.

To obtain ratings of importance and performance on the battery of service attributes, rather than use sentence type style to present the more than 30 attributes, which would have resulted in an unnecessarily long questionnaire, a list of the attributes in a tabular form, with a main statement to guide the evaluation as the table heading, was adopted.

For hospital service consumers in the Nigerian setting to easily understand the assessment required, the 4-point Likert scale used by Martilla and James (1977) was adopted. That is, a 4-point scale of “extremely important”, “important”, “slightly important”, and “not important” to assess importance; as well as a 4-point scale of “excellent”, “good”, “fair”, “poor” to assess performance. A “Can’t judge” option was included to allow for consumers who may not be familiar with an attribute. This situation may arise, when for example, an inpatient does not eat the food provided by the hospital and hence cannot judge the taste, variety or quantity of the food served.

The questionnaire developed was pre-tested and resulted in final refinement of the instruments to make for better clarity through the recast of ambiguous questions or attributes, and the removal of redundant questions or attributes. The quotas allotted to UITH and UCH yielded samples of 300 and 422 consumers, respectively.

The thirty-nine (39) attributes or variables used in this study to describe different facets of hospital service quality were grouped into seven (7) dimensions to represent the relationships among sets of presumably interrelated variables, termed *a priori* service quality dimensions and are presented in Table 1.. However, factor analysis has been used to empirically confirm the underlying dimensions. The Principal Components (PC) analysis method was used to extract the factors, while the rotation algorithm used was the varimax method.

Three data sets were subjected to factor analysis: importance ratings (I), performance ratings (P), and estimate of attribute quality (Q) (i.e. the product of I and P for each attribute).

Table 1: Service Attributes, their Codes and Classification into Hospital Service Quality Dimensions

Service Attributes	Codes for Importance Ratings	Codes for Performance Ratings	Codes for computed Quality scores	Service quality dimensions (<i>a priori</i>)
Availability of Doctors	I1	P1	Q1	Resource Availability
Availability of Nurses	I2	P2	Q2	
Availability of Drugs	I3	P3	Q3	
Availability of Diagnostic facility	I4	P4	Q4	
Availability of Emergency services	I5	P5	Q5	
Explanation of Problem	I6	P6	Q6	Quality of Care
Solution to Problem	I7	P7	Q7	
Clarity of Explanation of Prescription	I8	P8	Q8	
Promptness of Response	I9	P9	Q9	
Cleanliness of Ward/Clinic	I10	P10	Q10	Condition of Clinic/Ward
Adequacy of illumination e.g electricity	I11	P11	Q11	
Aeration e.g. by cross-ventilation, fans	I12	P12	Q12	
Cleanliness of toilets & bathrooms	I13	P13	Q13	
Adequacy of water supply	I14	P14	Q14	
Aesthetics e.g.furnishing, wall decoration	I15	P15	Q15	
Clarity of directions to various facilities	I16	P16	Q16	Condition of Facility
Ease of movement from point to point	I17	P17	Q17	
Cleanliness of hospital environment	I18	P18	Q18	
Aesthetics e.g.plants/flowers, architecture	I19	P19	Q19	
Taste of food	I20	P20	Q20	Quality of Food
Adequacy of quantity served/meal	I21	P21	Q21	
Variety of food served	I22	P22	Q22	
Doctors – Empathy	I23	P23	Q23	Attitude of Staff
Doctors – Politeness	I24	P24	Q24	
Nurses – Empathy	I25	P25	Q25	
Nurses – Politeness	I26	P26	Q26	
Porters/Orderlies etc – Empathy	I27	P27	Q27	
Porters/Orderlies etc – Politeness	I28	P28	Q28	
Medical Records staff – Empathy	I29	P29	Q29	
Medical Records staff – Politeness	I30	P30	Q30	
Waiting time to Process card at Medical Records	I31	P31	Q31	Waiting Time for Service
Waiting time to See the doctor	I32	P32	Q32	
Waiting time to Collect hospital drugs	I33	P33	Q33	
Waiting time to make payments	I34	P34	Q34	
Waiting time to get results of laboratory tests	I35	P35	Q35	
Waiting time to get attention for X-ray	I36	P36	Q36	
Waiting time to get results of X-ray	I37	P37	Q37	
Waiting time to get attention for Ultrasound	I38	P38	Q38	
Waiting time to get results of Ultrasound	I39	P39	Q39	

Results

Examination of the Correlation Matrices

As a first step, the data was examined for suitability to undergo factor analysis through examination of the correlation matrix and statistics computed from the inverse correlation matrices. Examination of the correlation matrices showed that for each data set, all attributes have a large correlation with at least one of the other variables, and have coefficients greater than 0.3 in absolute value, with at least ten other variables in the set. The Bartlett’s test of sphericity, its level of significance, and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, presented in Table 2, further confirmed the suitability of the data for factor analysis.

Table 2: Values of Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, Bartlett Test of Sphericity (B) and its level of significance (p)

Data Set	KMO	B	P
Importance ratings (I)	0.82	11503	.00000
Performance ratings (P)	0.87	7004	.00000
Computed Quality (Q)	0.82	5995	.00000

Extraction of Factors

The results of factor extraction and rotation are summarized as follows: consumer importance data in Table 3; consumer performance data in Table 4; consumer computed quality data in Table 5. Each table shows the following details –

- The number of factors extracted using principal components (PC) analysis, which for all the data sets corresponded to the number of factors whose eigenvalues (or variances) were greater than 1 (Norusis and SPSS, 1993)
- The number and percentage of residuals that are greater than 0.05, from the reproduced correlation matrix after factor rotation (Norusis and SPSS, 1993)
- The final statistics of factor analysis. That is, communality, variance explained by each factor (that is, the eigenvalue), percent of the total variance explained by each factor, and the percentage cumulative variance explained by extracted factors.
- The varimax rotated factor matrix, and
- Attributes whose factor matrix coefficient loading on a factor are greater than or equal to 0.50 (Norusis and SPSS, 1993), are designated with a solid line outline. Where an attribute meets the criteria for loading on more than a factor, a solid line is used to outline the higher coefficient or interpretable factor, while a broken line is used to enclose the lower coefficient.

Table 3: Final Statistics from Principal Components analysis and Varimax Rotated Factor Loadings for Importance ratings (I) of Service Attributes

Principal Components (PC) analysis Extracted 8 factors.

There are 136 (18.0%) residuals that are > 0.05 from Reproduced Correlation Matrix.

Varimax Rotated Factor Matrix and Final Statistics of Factor Analysis:

Service Attributes	Code	FAC- TOR1	FAC- TOR2	FAC- TOR3	FAC- TOR4	FAC- TOR5	FAC- TOR6	FAC- TOR7	FAC- TOR8	Communality
Availability of Doctors	I1	0.05	0.82	0.24	0.10	-0.03	0.07	0.05	0.05	0.76
Availability of Nurses	I2	0.09	0.77	0.11	0.17	0.11	0.10	0.16	0.03	0.70
Availability of Drugs	I3	0.07	0.80	0.29	0.03	0.08	0.01	0.04	0.12	0.74
Availability of Diagnostic facility	I4	0.09	0.78	0.10	0.13	0.19	-0.02	0.26	0.09	0.75
Availability of Emergency services	I5	0.16	0.65	0.29	-0.04	0.11	0.13	0.26	0.14	0.65
Explanation of Problem	I6	0.11	0.50	0.09	0.14	0.03	0.16	0.53	0.06	0.60
Solution to Problem	I7	0.15	0.35	0.26	0.14	-0.01	0.11	0.65	0.16	0.70
Clarity of Explanation of Prescription	I8	0.09	0.26	0.21	0.09	0.19	0.04	0.73	0.21	0.74
Promptness of Response	I9	0.13	0.21	0.31	0.30	0.10	-0.01	0.69	0.01	0.73
Cleanliness of Ward/Clinic	I10	0.11	0.18	0.66	0.15	-0.02	0.03	0.41	0.01	0.67
Adequacy of illumination e.g electricity	I11	0.26	0.17	0.70	0.13	0.13	0.08	0.22	0.08	0.69
Aeration e.g. by cross-ventilation, fans	I12	0.13	0.23	0.70	0.18	0.20	0.12	0.12	0.06	0.66
Cleanliness of toilets & bathrooms	I13	0.11	0.26	0.71	0.19	0.16	0.13	0.12	0.12	0.70
Adequacy of water supply	I14	0.03	0.27	0.73	0.13	0.21	0.12	0.10	0.13	0.71
Aesthetics e.g. furnishing, wall decoration	I15	0.08	-0.01	0.16	0.04	0.78	0.12	0.23	0.04	0.71
Clarity of directions to various facilities	I16	0.08	0.17	0.25	0.25	0.62	0.11	-0.03	0.18	0.59
Ease of movement from point to point	I17	0.06	0.25	0.18	0.28	0.69	0.16	-0.02	0.03	0.68
Cleanliness of hospital environment	I18	0.20	0.19	0.37	0.17	0.46	0.22	-0.02	0.08	0.50
Aesthetics e.g.plants/flowers, architecture	I19	0.01	0.01	-0.01	0.02	0.73	0.35	0.09	0.08	0.67
Taste of food	I20	0.08	0.16	0.13	0.13	0.26	0.83	0.10	0.09	0.84
Adequacy of quantity served/meal	I21	0.13	0.07	0.11	0.10	0.24	0.86	0.03	0.14	0.85
Variety of food served	I22	0.10	0.06	0.16	0.22	0.20	0.82	0.07	0.12	0.81
Doctors – Empathy	I23	0.14	0.17	0.18	0.69	0.08	0.20	0.08	0.18	0.65
Doctors – Politeness	I24	0.15	0.13	0.22	0.78	0.11	0.13	0.14	0.15	0.77
Nurses – Empathy	I25	0.19	0.09	0.13	0.77	0.18	0.08	0.13	0.27	0.78
Nurses – Politeness	I26	0.18	0.09	0.17	0.75	0.19	0.09	0.19	0.21	0.76
Porters/Orderlies etc – Empathy	I27	0.07	-0.08	0.15	0.34	0.27	0.16	0.35	0.60	0.73
Porters/Orderlies etc – Politeness	I28	0.10	-0.04	0.21	0.27	0.22	0.18	0.37	0.65	0.77
Medical Records staff – Empathy	I29	0.16	0.26	0.08	0.27	0.05	0.11	0.03	0.75	0.75
Medical Records staff – Politeness	I30	0.23	0.30	0.06	0.29	0.06	0.11	0.06	0.71	0.75
Waiting time to Process card at Med Records	I31	0.65	0.06	0.10	-0.04	-0.06	0.01	-0.15	0.41	0.63
Waiting time to See the doctor	I32	0.71	0.12	0.18	0.05	-0.02	0.04	-0.09	0.21	0.60
Waiting time to Collect hospital drugs	I33	0.74	0.13	0.09	0.03	0.13	-0.02	0.09	0.00	0.59
Waiting time to make payments	I34	0.72	0.03	0.00	-0.01	0.26	-0.15	0.12	0.17	0.65
Waiting time to get results of lab. tests	I35	0.84	0.05	0.09	0.14	0.14	0.03	0.13	-0.05	0.78
Waiting time to get attention for X-ray	I36	0.86	0.02	0.10	0.09	0.03	0.08	0.09	-0.01	0.77
Waiting time to get results of X-ray	I37	0.87	0.07	0.09	0.13	-0.01	0.11	0.08	0.03	0.80
Waiting time to get attention for Ultrasound	I38	0.82	0.01	0.04	0.17	0.01	0.15	0.10	0.06	0.74
Waiting time to get results of Ultrasound	I39	0.79	0.09	0.03	0.18	-0.05	0.15	0.07	0.04	0.70
Variance explained by Factor		12.82	4.39	3.00	2.08	1.64	1.31	1.29	1.13	
Percentage variance explained by each factor		32.9	11.2	7.7	4.2	3.3	3.4	3.3	2.9	
Percentage Cumulative variance explained by extracted factors		32.9	44.1	51.8	57.2	61.4	64.8	68.1	71.0	

Table 4: Final Statistics from Principal Components analysis and Varimax Rotated Factor Loadings for Performance ratings (P) of Service Attributes

Principal Components (PC) analysis Extracted 8 factors.

There are 129 (17.0%) residuals that are > 0.05 from Reproduced Correlation Matrix.

Varimax Rotated Factor Matrix and Final Statistics of Factor Analysis:

Service Attributes	Code	FAC-TOR1	FAC-TOR2	FAC-TOR3	FAC-TOR4	FAC-TOR5	FAC-TOR6	FAC-TOR7	FAC-TOR8	Communality
Availability of Doctors	P1	0.11	0.16	0.15	0.17	0.77	0.02	-0.08	0.12	0.71
Availability of Nurses	P2	0.04	0.14	0.05	0.21	0.81	0.11	-0.05	0.22	0.78
Availability of Drugs	P3	0.08	0.19	0.14	0.31	0.72	0.00	0.13	0.11	0.71
Availability of Diagnostic facility	P4	0.06	0.36	0.26	0.30	0.61	-0.05	0.30	-0.12	0.77
Availability of Emergency services	P5	0.08	0.37	0.20	0.27	0.57	0.12	0.06	-0.17	0.64
Explanation of Problem	P6	0.11	0.11	0.05	0.79	0.26	0.12	0.17	0.09	0.77
Solution to Problem	P7	0.11	0.23	0.09	0.79	0.24	0.20	-0.07	0.08	0.80
Clarity of Explanation of Prescription	P8	0.18	0.09	0.06	0.75	0.25	0.06	0.11	0.06	0.69
Promptness of Response	P9	0.15	0.33	0.21	0.68	0.31	0.21	0.06	0.12	0.80
Cleanliness of Ward/Clinic	P10	0.23	0.65	0.03	0.30	0.18	-0.02	-0.13	0.26	0.67
Adequacy of illumination e.g electricity	P11	0.22	0.71	0.11	0.33	0.20	0.02	0.03	0.10	0.72
Aeration e.g. by cross-ventilation, fans	P12	0.03	0.69	0.01	0.04	0.16	0.12	0.10	0.12	0.55
Cleanliness of toilets & bathrooms	P13	0.16	0.71	0.21	0.08	0.18	0.01	0.14	0.16	0.66
Adequacy of water supply	P14	0.28	0.75	0.14	0.07	0.15	0.10	0.03	0.17	0.73
Aesthetics e.g.furnishing, wall decoration	P15	0.12	0.59	0.00	0.10	0.21	0.10	0.16	0.47	0.67
Clarity of directions to various facilities	P16	0.17	0.45	0.30	0.19	-0.10	0.04	0.23	0.58	0.76
Ease of movement from point to point	P17	0.13	0.44	0.17	0.16	-0.01	0.17	0.21	0.66	0.77
Cleanliness of hospital environment	P18	0.15	0.42	0.04	0.00	0.20	-0.02	0.15	0.68	0.73
Aesthetics e.g.plants/flowers, architecture	P19	0.18	0.26	0.01	0.11	0.24	0.05	0.36	0.65	0.72
Taste of food	P20	0.31	0.10	0.12	0.04	0.11	0.21	0.80	0.25	0.88
Adequacy of quantity served/meal	P21	0.27	0.19	0.17	0.10	-0.02	0.28	0.76	0.18	0.84
Variety of food served	P22	0.28	0.06	0.15	0.13	0.03	0.20	0.80	0.23	0.86
Doctors – Empathy	P23	0.07	-0.09	0.25	0.32	0.03	0.60	0.28	0.33	0.72
Doctors – Politeness	P24	0.06	-0.06	0.25	0.31	0.01	0.72	0.17	0.29	0.80
Nurses – Empathy	P25	0.29	0.21	0.12	0.09	0.07	0.81	0.19	-0.09	0.86
Nurses – Politeness	P26	0.33	0.21	0.23	0.03	0.07	0.78	0.16	-0.11	0.86
Porters/Orderlies etc – Empathy	P27	0.25	0.13	0.70	0.23	0.14	0.39	0.15	0.16	0.83
Porters/Orderlies etc – Politeness	P28	0.22	0.16	0.71	0.24	0.18	0.37	0.13	0.15	0.84
Medical Records staff – Empathy	P29	0.37	0.12	0.77	0.04	0.19	0.18	0.11	0.08	0.83
Medical Records staff – Politeness	P30	0.34	0.12	0.78	-0.01	0.23	0.16	0.11	0.03	0.83
Waiting time to Process card at Med. Records	P31	0.50	0.13	0.69	0.08	0.09	0.01	0.08	0.01	0.76
Waiting time to See the doctor	P32	0.65	0.04	0.48	0.11	0.08	0.08	0.09	0.11	0.70
Waiting time to Collect hospital drugs	P33	0.61	0.15	0.35	0.29	-0.05	0.04	0.26	-0.03	0.67
Waiting time to make payments	P34	0.70	0.27	0.28	0.15	0.06	0.15	0.11	0.04	0.70
Waiting time to get results of lab. tests	P35	0.68	0.32	0.31	0.02	-0.03	0.04	0.17	0.07	0.69
Waiting time to get attention for X-ray	P36	0.82	0.22	0.15	0.03	0.07	0.13	0.23	0.04	0.81
Waiting time to get results of X-ray	P37	0.83	0.20	0.15	0.15	-0.01	0.14	0.15	0.04	0.80
Waiting time to get attention for Ultrasound	P38	0.82	-0.05	0.10	0.05	0.24	0.18	0.11	0.23	0.85
Waiting time to get results of Ultrasound	P39	0.70	0.10	0.17	0.19	0.19	0.22	0.06	0.32	0.75
Variance explained by Factor		15.35	3.96	2.73	2.39	1.52	1.41	1.16	1.03	
Percentage variance explained by each factor		39.4	10.1	7.0	6.1	3.9	3.6	3.0	2.6	
Percentage Cumulative variance explained by extracted factors		39.4	49.5	56.5	62.6	66.5	70.1	73.1	75.7	

Table 5: Final Statistics from Principal Components analysis and Varimax Rotated Factor Loadings for Quality (Q) of Service Attributes

Principal Components (PC) analysis Extracted 8 factors.

There are 124 (16.0%) residuals that are > 0.05 from Reproduced Correlation Matrix.

Varimax Rotated Factor Matrix and Final Statistics of Factor Analysis:

Service Attributes	Code	FAC-TOR1	FAC-TOR2	FAC-TOR3	FAC-TOR4	FAC-TOR5	FAC-TOR6	FAC-TOR7	FAC-TOR8	Communality
Availability of Doctors	Q1	-0.03	0.00	0.16	-0.03	0.20	0.85	0.09	-0.05	0.81
Availability of Nurses	Q2	-0.05	0.12	0.30	0.18	0.16	0.76	0.06	-0.19	0.79
Availability of Drugs	Q3	0.05	0.09	0.32	0.07	0.23	0.71	0.03	-0.06	0.68
Availability of Diagnostic facility	Q4	0.01	0.01	0.49	0.11	0.36	0.60	0.16	0.10	0.78
Availability of Emergency services	Q5	0.03	-0.09	0.47	-0.02	0.29	0.60	0.20	0.13	0.73
Explanation of Problem	Q6	0.15	0.22	0.76	0.16	0.06	0.31	0.09	-0.04	0.79
Solution to Problem	Q7	0.05	0.16	0.78	0.04	0.24	0.25	0.07	-0.09	0.77
Clarity of Explanation of Prescription	Q8	0.10	0.07	0.83	0.10	0.13	0.20	0.13	0.07	0.79
Promptness of Response	Q9	0.10	0.26	0.71	0.06	0.29	0.21	0.08	0.03	0.72
Cleanliness of Ward/Clinic	Q10	0.15	0.07	0.35	0.06	0.76	0.19	-0.03	0.03	0.76
Adequacy of illumination e.g electricity	Q11	0.10	0.01	0.40	0.18	0.74	0.15	-0.04	-0.06	0.77
Aeration e.g. by cross-ventilation, fans	Q12	0.03	0.19	0.33	0.31	0.65	0.22	0.02	0.12	0.73
Cleanliness of toilets & bathrooms	Q13	0.11	0.11	-0.02	0.22	0.77	0.31	0.08	0.15	0.79
Adequacy of water supply	Q14	0.08	0.08	0.11	0.40	0.68	0.17	0.20	0.02	0.71
Aesthetics e.g.furnishing, wall decoration	Q15	0.17	0.07	0.30	0.71	0.34	-0.06	0.03	0.10	0.75
Clarity of directions to various facilities	Q16	0.14	0.08	0.12	0.76	0.20	0.09	0.16	0.22	0.75
Ease of movement from point to point	Q17	0.09	0.22	0.05	0.74	0.27	0.11	0.06	0.14	0.71
Cleanliness of hospital environment	Q18	0.13	0.14	-0.09	0.56	0.45	0.32	0.01	0.06	0.67
Aesthetics e.g.plants/flowers, architecture	Q19	0.18	0.14	0.07	0.76	0.04	0.01	0.76	0.10	0.73
Taste of food	Q20	0.19	0.30	-0.01	0.38	0.04	-0.02	0.10	0.75	0.84
Adequacy of quantity served/meal	Q21	0.19	0.30	0.01	0.44	0.07	-0.18	0.16	0.71	0.89
Variety of food served	Q22	0.20	0.29	0.00	0.24	0.12	-0.07	0.13	0.80	0.86
Doctors – Empathy	Q23	0.15	0.77	0.14	0.02	0.07	0.13	0.17	0.33	0.79
Doctors – Politeness	Q24	0.14	0.83	0.26	0.10	0.05	0.06	0.08	0.19	0.83
Nurses – Empathy	Q25	0.13	0.80	0.09	0.19	0.10	0.02	0.25	0.12	0.79
Nurses – Politeness	Q26	0.12	0.82	0.08	0.21	0.15	-0.01	0.27	0.06	0.84
Porters/Orderlies etc – Empathy	Q27	0.21	0.50	0.21	0.26	0.04	-0.05	0.65	0.11	0.84
Porters/Orderlies etc – Politeness	Q28	0.21	0.43	0.30	0.27	0.07	0.04	0.65	0.13	0.84
Medical Records staff – Empathy	Q29	0.25	0.20	0.09	0.09	0.06	0.20	0.84	0.16	0.89
Medical Records staff – Politeness	Q30	0.27	0.24	0.09	0.09	-0.01	0.23	0.82	0.07	0.87
Waiting time to Process card at Med. Records	Q31	0.62	0.11	0.00	-0.19	0.15	-0.12	0.47	-0.02	0.69
Waiting time to See the doctor	Q32	0.74	0.16	0.00	-0.03	0.18	-0.05	0.35	-0.06	0.74
Waiting time to Collect hospital drugs	Q33	0.64	0.07	0.21	0.23	0.09	-0.18	0.19	0.11	0.60
Waiting time to make payments	Q34	0.73	0.11	0.11	0.33	0.05	-0.05	0.11	-0.12	0.70
Waiting time to get results of lab. tests	Q35	0.78	-0.04	0.01	0.16	0.15	0.01	0.23	0.21	0.76
Waiting time to get attention for X-ray	Q36	0.81	-0.05	-0.09	0.14	0.12	0.07	0.11	0.27	0.80
Waiting time to get results of X-ray	Q37	0.81	0.01	0.11	0.19	-0.02	-0.03	0.02	0.20	0.75
Waiting time to get attention for Ultrasound	Q38	0.80	0.26	0.03	0.00	-0.04	0.22	0.00	0.09	0.76
Waiting time to get results of Ultrasound	Q39	0.76	0.33	0.00	0.00	-0.01	0.13	-0.07	-0.03	0.75
Variance explained by Factor		13.05	5.54	3.31	2.89	1.63	1.31	1.27	1.04	
Percentage variance explained by each factor		33.5	14.2	8.5	7.4	4.2	3.4	3.3	2.7	
Percentage Cumulative variance explained by extracted factors		33.5	47.7	56.2	63.6	67.8	71.1	74.4	77	

Discussion

Factor analysis of Importance data

Final statistics from principal components analysis and varimax rotated factor loadings for importance ratings of service attributes by consumers' are shown in Table 3 and indicates that 8 factors were extracted, which can be interpreted as follows:

- Factor 1 – Waiting time for service
- Factor 2 – Resource availability
- Factor 3 – Condition of clinic/ward
- Factor 4 – Attitude of doctors and nurses
- Factor 5 – Condition of facility
- Factor 6 – Quality of food
- Factor 7 – Quality of care
- Factor 8 – Attitude of non-medical staff.

These 8 factors explain 77% of the total variance, while the communalities for the attributes range from 0.55 to 0.88, indicating that most of the variance is explained by these common factors. The results show that “Explanation of problem” I6, loaded on both factor 2 (0.50) and factor 7 (0.53). As argued by Parasuraman, Berry and Zeithaml (1991b:442-443) and Parasuraman, Zeithaml and Berry (1994:114), similarity in respondent rating of this item to other items pertaining to resource availability, is a plausible explanation for this diffusion. Also, “cleanliness of hospital environment” falls short of the 0.50 cut off, although the loading is close (0.46) on factor 5, the expected dimension for this attribute.

Factor analysis of Performance data

Results from principal components analysis and varimax rotated factor loadings for performance ratings of service attributes by consumers are shown in Table 4 and indicates that 8 factors were extracted, which can be interpreted as follows:

- Factor 1 – Waiting time for service
- Factor 2 – Condition of clinic/ward
- Factor 3 – Attitude of non-medical staff
- Factor 4 – Quality of care
- Factor 5 – Resource availability
- Factor 6 – Attitude of doctors and nurses
- Factor 7 – Quality of food
- Factor 8 – Condition of facility.

These 8 factors explain about 76% of the total variance, while the communalities for the attributes range from 0.55 to 0.88, indicating that most of the variance is explained by these common factors. The loadings further reveal that P31 “waiting time to process card at medical records” loaded on both factor 1 (0.50) and factor 3 (0.69). This attribute was expected to load on factor 1 (the *a priori* classification) instead of factor 3. However, the resulting factor loadings while suggesting similarity in respondent ratings of this attribute and those contributing to factor 3 (attitude of non-medical staff), may also suggest that consumers evaluated performance on attitude of medical records staff along with the waiting time experienced while processing their card at medical records.

Factor analysis of Computed Quality data

Principal components analysis and varimax rotated factor loadings for computed quality scores of service attributes are shown in Table 5 and indicates that 8 factors were extracted, which can be interpreted as follows:

- Factor 1 – Waiting time for service
- Factor 2 – Attitude of doctors and nurses

- Factor 3 – Quality of care
- Factor 4 – Condition of facility
- Factor 5 – Condition of clinic/ward
- Factor 6 – Resource availability
- Factor 7 – Attitude of non-medical staff
- Factor 8 – Quality of food.

These 8 factors explain about 77% of the total variance, while the communalities range from 0.60 to 0.89, indicating that most of the variance is explained by these common factors. The loadings further reveal that Q27 “Empathy from porters/orderlies” apart from loading interpretably (0.65) on factor 7 (attitude of non-medical staff), also loads borderline (0.50) on factor 2 (attitude of doctors and nurses), and can be explained by similarity in respondent rating of the attributes contributing to both factors. Also, Q15 “aesthetics of clinic/ward” loads on factor 4 (condition of facility) instead of factor 5 (condition of clinic/ward) where the loading is 0.34. Based on interpretability of factors, a plausible explanation besides similarity in respondent rating of attributes, may be that consumers perceive aesthetics of the clinic or ward as being a part of the general ambience of the “servicescape” (Bitner, 1992).

Overview of Factor Analysis

From the information on residuals shown in Tables 3, 4 and 5, the number of residuals greater than 0.05 in absolute value are less than a quarter for each data set, ranging from 2% to 18%, indicating that the fitted model of extracted factors reproduces the observed correlations well.

Although, there are cases of diffusion of factor loadings across factors, the overall results support the *a priori* classifications proposed. However, evidence from factor loadings suggest that the dimension described as “Attitude of staff” should be split into two. That is, a dimension which can be described as “Attitude of doctors and nurses”, and another dimension which can be described as “Attitude of non-medical staff”.

On examination of the correlation matrix between the resulting quality dimensions, a high intercorrelation value was observed between quality scores for “Attitude of doctors and nurses” and “Attitude of non-medical staff”. The correlation coefficient between the service quality scores for these two dimensions was 0.87 from the UCH data while it was 0.90 from the UITH data. However, since the results of factor analysis clearly indicate a split in “Attitude of Staff”, we conclude that based on the data presented, eight (8) dimensions adequately describe the service quality phenomena being examined.

The confirmed service quality dimensions and their contributing attributes are summarized in Table 6.

Table 6: Confirmed Service Quality Dimensions for Hospital’s in Nigeria and their Corresponding Attributes

SNo.	Confirmed Service Quality Dimensions	Associated Service Attributes
1.	Resource Availability	<ul style="list-style-type: none"> • Availability of Doctors • Availability of Nurses • Availability of Drugs • Availability of Diagnostic facility • Availability of Emergency services
2.	Quality of Care	<ul style="list-style-type: none"> • Explanation of Problem • Solution to Problem • Clarity of Explanation of Prescription • Promptness of Response
3.	Condition of Clinic/Ward	<ul style="list-style-type: none"> • Cleanliness of Ward/Clinic • Adequacy of illumination e.g. electricity • Aeration e.g. by cross-ventilation, fans • Cleanliness of toilets & bathrooms • Adequacy of water supply • Aesthetics e.g. furnishing, wall decoration
4.	Condition of Facility	<ul style="list-style-type: none"> • Clarity of directions to various facilities • Ease of movement from point to point • Cleanliness of hospital environment • Aesthetics e.g. plants/flowers, architecture
5.	Quality of Food	<ul style="list-style-type: none"> • Taste of food • Adequacy of quantity served/meal • Variety of food served
6.	Attitude of Doctors/Nurses	<ul style="list-style-type: none"> • Doctors – Empathy • Doctors – Politeness • Nurses – Empathy • Nurses – Politeness
7.	Attitude of Non-Medical staff	<ul style="list-style-type: none"> • Porters/Orderlies etc – Empathy • Porters/Orderlies etc – Politeness • Medical Records staff – Empathy • Medical Records staff – Politeness
8.	Waiting Time for Service	<ul style="list-style-type: none"> • Waiting time to Process card at Medical Records • Waiting time to See the doctor • Waiting time to Collect hospital drugs • Waiting time to make payments • Waiting time to get results of laboratory tests • Waiting time to get attention for X-ray • Waiting time to get results of X-ray • Waiting time to get attention for Ultrasound • Waiting time to get results of Ultrasound

The reliability and internal consistency of these eight dimensions was confirmed through examination of the Cronbach alpha reliability coefficients shown in Table 7.

Table 7: Cronbach alpha reliability coefficients for confirmed service quality dimensions

Dimension	UCH	UITH	Total Sample
Resource availability	.8344	.9207	.9031
Quality of care	.9161	.8992	.9043
Condition of clinic/ward	.7387	.9119	.8927
Condition of facility	.8343	.8582	.8541
Quality of food	.8986	.9431	.9334
Attitude of doctors/nurses	.9296	.9166	.9205
Attitude of non medical staff	.9248	.9349	.9314
Waiting time for service	.8591	.9316	.9206

None of the reliability alphas is below the cut-off point of 0.60, which is considered to be the criterion for demonstrating internal consistency of new scales (Nunnally, 1978). The lowest reliability coefficient was 0.74 for “condition of clinic/ward” at UCH, and the highest was 0.94 for “quality of food” at UITH. Thus, since “reliability refers to the instruments ability to provide consistent results in repeated uses, and validity refers to the degree to which the instrument measures the concept the researcher wants to measure” (Sohail, 2003:201), the 39 service quality research attributes developed for this study can be said to have met the conditions for reliability and validity.

Conclusion

This is an initial study that is limited in scope and spread. It is expected that future studies would include hospitals at other levels of the referral system, of both private and public ownership, while the sampling scope would be expanded to include other service delivery points. Despite the limitations, the eight dimensions that have emerged from the study – *resource availability, quality of care, condition of clinic/ward, condition of facility, quality of food, attitude of doctors and nurses, attitude of non-medical staff* and *waiting time for service* – adequately describe the service quality phenomena in the Nigerian hospital setting. Also, the dimensions provide a workable platform for streamlining service quality management in Nigeria and to which more attributes could be added or removed, as required.

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Gender Differences in Resources Allocation among Rural Households in Nigeria: Implication for Food Security and Living Standard

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Abstract

While women play important roles as food producers, managers of natural resources, income earners, food processors, food marketers and caretakers of household's food and nutrition security, they continue to face enormous social, cultural and economic constraints. This study assesses gender differences in allocation of resources and their impact on household's food security and living standard. The study employed a three-stage sampling method to select sixty farming households consisting of thirty male and thirty female-headed households. The data were collected from Kwara State in the north-central region of Nigeria in year 2005. Descriptive statistics were used to compare gender differences in resources allocation. Anthropometric measurement such as height-for-age, weight-for-height and incidence of stunting and wasting were measured and used as indices of food security measure among male and female-headed households. Several criteria for assessing living standard were measured and compared also. The study showed that household's and production resources were more available in male than in female-headed households. This confirms the notion of gender disparity in resource ownership and income. Food security and living standard were lower in female than in male-headed households. It is recommended that government should put in place, legislation that would give equal right to men and women to own resources and to inheritance. Women should be given increased off-farm employment opportunities and sufficient nutrition education to improve their food and nutrition security status.

Keywords: Gender, Food security, Living standard, Male-headed household, Female-headed household, North Central Nigeria.

1. Introduction

The right to an adequate standard of living including food is recognized in the universal declaration of human right (Eide, 1984). Food security and living standard are foundation objectives of development policy and also measures of its success. Food security has been a leading concept in the development discourse during the last few decades. While up to the 1970s, food security was primarily seen in terms of availability of food supplies, gradually the emphasis shifted to the issue of access. The growing attention for access rather than just availability was accompanied by a shift in the level of aggregation at which food security problems were analyzed. Food security was no longer only studied as a global, regional or national issue but also as a household's issue. Also, important is that fact that global, regional or national adequacy in food supply does not mean adequate supply at the households' level and this prompted various study on food security at the household's level (Niehof, 2002). Food security is an important ingredient of economic development. Adequate food and nutrition enhances physical health thereby improves labour productivities. Good nutrition is associated with learning ability and could lead to higher human capital accumulation. Nutrition also increases the standard of living thereby increasing life expectancy (Kimhi, 2004).

Gender equality and empowerment of women has been identified as one of the effective ways to combat poverty, hunger and diseases and to stimulate sustainable development. Both men and women are actors, stakeholders and agents of change in their households and communities and contribute to national development. Bringing the perceptions, knowledge, experience, needs and priorities of both men and women to the centre of attention enlarges the resources for development and enriches development efforts. Women are however, often constrained from contributing their fullest potentials by inequalities and subordination (Kimhi, 2004). Despite improvement in building women's capabilities, gender gaps in entitlement-the resources which women and men can command through available legal means, continue to persist (Akinsanmi and Doppler, 2005). This is usually reflected in unequal right between men and women for both natural and physical capital which leads to inadequate and inappropriate use of resources; and limited alternatives, low income, poor diet and low living standard. These disparities have serious consequences for well-being not only for women themselves, but also for their families and the society at large.

In sub-Saharan Africa, women have less access to education, labour, fertilizer and other inputs than their men counterpart. The right to own, use and manage land resources is also limited among rural women (Quisumbing, 1996). Various studies (Aidoo, 1998; Kimhi, 2004; Panin and Brummer, 2000; Ellis, Manuel and Blackden, 2006) have shown that women produce between 60 and 80% of the food in most developing countries and are responsible for half of the world's food production. FAO (1989), confirmed that while women are the mainstay of small scale agriculture, the farm labour force and day-to-day family subsistence, they face more difficulties than men in gaining access to resources such as land, credit and improved inputs. In Nigeria, women play a major role in production of food crops and they also undertake processing, marketing and livestock husbandry¹. Despite the bias against women, empirical studies have shown that there would be an increase agricultural productivity, improved nutrition and health for children as well as reduction in food insecurity when gender discrimination against women is eliminated in terms of access to productive resources (Blackden and Wodon, 2006).

¹ A survey by Ukeje (2003), on the contribution of women in staple food crops production among the 'Ibos' of Abia state in south-eastern Nigeria, showed that women contributed most of the labour in planting maize, cassava, cowpea, melon and rice. They are completely in charge of planting and harvesting of cowpea and melon. Apart from land preparation, women contributed more than 80% of the labour for planting, weeding, harvesting and storage of cassava in the study area.

Food security has been defined as a situation when all people, at all times, have physical and economic access to sufficient, safe and nutritious food needed to maintain a healthy and active life (FAO, 1996). A situation where this does not occur indicates food insecurity. The definition integrates access to food, availability of food and the biological utilization of food and stability of these. These factors are interrelated. Having access to food, for example, means little if poor health status impinges on people's ability to utilise the food they consume. Likewise, earning income to purchase food (access) matter less if insufficient food is available in the market and a well-stocked market is irrelevant to those who do not earn income to purchase food. According to Scoones (2000), a household represents a group of people cohabiting together, carrying out production and consumption activities together and accepting the supremacy of an individual (i.e the head of the household). This view implies that people in the household share meals, have common source of income or pool resources to meet the needs of the household's members. The concept of living standard is a complex one and composed of several criteria (Doppler, 2005). These criteria include family income, cash and liquidity, degree of independence from resource owners, food supply, food security, supply of housing, sanitary equipment, energy, clothes, education, health conditions and social security. These criteria involve social and economic dimensions and both qualitative and quantitative values. The living standard criteria are often used to measure economic success and security of the family (Doppler, 2005). The socioeconomic characteristics and resources of individual households have been identified as basic factors that influence the food security, living standard and economic success of the household (Sanusi *et al*, 2006). The implication of this is that disparity in access to resources could lead to disparity in household's food security and living standard.

The study of gender differences in resource allocation in Nigeria has received increasing attention in recent years. Not only does such an analysis provide important insights into labour and resource supply behaviour, but it also gives useful information about policy changes that require the use of resources in the household. A number of studies have analyzed resource allocation in developing countries by gender. It is widely held that women in developing countries bear a disproportionate share of work, with most of their activities concentrated in the home; they work longer when the time they spend on domestic work is added to the hours they work outside the home and in family enterprises. The data for Nigeria as well as other developing countries show that girls tend to spend more time on domestic chores than boys and thus have more limited opportunities for education and leisure activities (World Bank, 1997).

The aim of this paper is to contribute to the on-going debate about gender inequalities in Nigeria and the impact on households' food security and living standard. The paper compares resources availability, food security level and the living standard among male and female-headed households in Kwara state, north-central region of the country. This type of study could guide policy makers in advancing policies that would reduce inequalities and remove the dichotomy among men and women on issues of resources access and control which could affect food security and living standard. The remaining part of this paper is organized as follows. Section 2 discusses gender inequality and its roles in agriculture while section 3 discusses gender inequality and food security in Nigeria. The conceptual framework is presented in section 4. Data set and methodology adopted are discussed in section 5. Section 6 present and discuss the empirical results and section 7 summarizes and concludes the paper.

2. Gender Inequalities and its Roles in Agriculture

Access to resources is essential to improving agricultural productivity of both men and women farmers. Because women play crucial roles in agricultural production, improving productivity and well-being will depend to a large extent on ensuring that women farmers have sufficient access to production inputs and support services. While both men and women smallholder farmers lack sufficient access to agricultural resources, women generally have much less access to resources than

men (Niehof, 2002). The causes of this are rooted, to a great extent in: gender-blind development policies; discriminatory legislation, traditions and belief; and lack of access to decision making. Worldwide, women have insufficient access to land, membership of rural organizations, credit, agricultural inputs and technology, training and extension and marketing services (Saito, 1994). Result of IDRC (1991) studies in African countries showed that legal and cultural constraints placed on women's access to inputs hamper their ability to make effective contribution to agricultural production and hence, food supply.

Though, men and women in the rural areas have always been predominantly known as farmers with trading as a secondary occupation (Okore, 1987). Nigerian rural women can play a more predominant role in agriculture if they are given the necessary farm resources at the appropriate time (Olawoye, 1989). Several studies by the FAO (1984), Sivard (1985), Walker (1985), and Ikpi (1988) indicated that Nigerian women contribute between 46 and 65% of the total hours spent on traditional agriculture and processing. It is therefore no exaggeration to say that women in developing countries are the backbone of the rural food systems. Research estimates showed that for women in Burkina Faso and in Nigeria, the average working day is 14 hours, eight or nine of which are devoted to farm work, and the remainder to non-farm work; the corresponding figure for men is between eight and nine hours, seven of which is in farm work, and the remainder in non-farming activities (Saito, 1994). In the centre province of Cameroon, women's total weekly labour was over 64 hours, of which 26 are employed in providing family labour, while men's weekly labour is 32 hours, four of which are for family labour (Blackden and Bhanu, 1999). Village surveys in Ghana and Tanzania have demonstrated that women spend about three times more hours in transport than men do and that they transport about four times more in terms of volume (Abbas, 1997)

Standing (1978), identified major determinants of gender resource allocation. These factors can be grouped into individual, household and resource market characteristics. Each category of variable could further be sub-divided into micro and macro variables. At the micro level, socio-economic variables considered in the household production model were child status, educational attainment, husband's income, occupation and education. Other micro variables more specific to developing countries include marital status, presence of domestic or house help in the household, migrant status, women's relationship to the household head, proportion of informal sector job opportunities and income distribution (Standing and Sheehan, 1978). Okojie (1981) maintained that cultural variables are also important in any analysis of gender resource allocation behaviour. Such cultural variables include religion, ethnic origin (race or caste), marriage type (polygamy or monogamy) and household type (nuclear or extended families). Women continue to have less access to simple labour saving devices and inputs such as fertilizers than their male counterparts. This has made their farm work laborious and associated with low productivity and meagre economic returns (NAERLS, 1994). Although capital is relatively scarce and expensive in Nigeria, most of the technologies available to women and other small holders are purchased. Women do not often have economic access to improved technologies such as chemical fertilizers and herbicides (IITA, 1990).

3. Gender Inequalities and Food Security in Nigeria

Despite the economic gains that Nigeria has made over the years, poverty and household food insecurity remain persistent and pressing social problems (Akinsanmi, 2005). Food insecurity is a major problem amongst a large part of the population. The level of food insecurity has continued to rise steadily since the 1980s. It rose from about 18% in 1986 to about 41% in 2004 (Sanusi *et al*, 2006). The daily per capita calorie supply as a proportion of recommended requirement was 90% between 1988 and 1990 and 85% between 1992 and 1996 (FOS, 1999). According to FAO (2000), Nigeria was able to reduce the prevalence of under nourishment by more than 30% between 1979-81 and 1996-98. The prevalence dropped from 44% to 8% between these periods. However, the average per capita daily calorie intake remained 2050 kcal during the 1979-81 periods while the diet comprised

of 64% cereals and root and tubers (Agboola *et al*, 2004). National food expenditure data showed that almost two thirds of total expenditure of households in 1980 was on food. This food share rose by about 10% points by 1985, but dropped during the period 1985-1992. In subsequent four year period, 1992-1996, a further drop of 5% points took place. The figures were 63.4%, 74.1%, 72.8% and 63.6% for 1980, 1985, 1992 and 1996 respectively. Also, trends in poverty reveal that the incidence of poverty increased sharply between 1980 and 1985 and between 1992 and 1996. The figures were 27.2%, 46.3%, 42.7% and 65.6% for 1980, 1985, 1992 and 1996 respectively. The figure for 1996 was translated to 67.1 million (Agboola *et al*, 2004). The overall national average household income in 1996 prices indicate a very significant downward trend, moving from 13,454 Naira in 1980 to 6,252 Naira in 1996, over 50% reduction. The average household in the rural areas earned 5,590 Naira (FAO, 2000). A disaggregated data of food insecurity in Nigeria showed that women and children accounted for 75% of the population of food insecure individuals². The proportion of female-headed households that were food insecure was about 70%. While women play important roles as producers of food, managers of natural resources, income earners and caretakers of household food and nutritional security they continue to face enormous social, cultural and economic constraints (Ukeje, 2003). Owotoki (2005), observed that land holding and other household's assets of female-headed households were smaller than that of their male counterpart. This is also true for farm equipments, production credit and labour supply. Akinsanmi (2005), reported that family income, land size, agricultural and household equipment, credit and labour resources were significantly higher in male than in female-headed households in Nigeria. The FAO (2006), reported that the literacy level of women was 60.6% while that of men was 75.7% in 2003 in Nigeria. Net enrolment ratio in primary school for girls was 56.5% and 63.5% for boys in 2004. The overall gender parity index in tertiary education enrolment was 0.55 in 2004. Furthermore, the share of women in wage employment in the non-agricultural sector was lower than 30% in 2002. Despite their seemingly achievement in the political scene in Nigeria, women still suffer glaring inequality³.

4. Conceptual Framework

The farming system approach which looks at the farm household in the wider context of its environment was used in this study. Wattenbach and Friedrich (2001), defined a farming system as a natural resource management unit operated by a farm household and include the entire range of economic activities of the family members (on-farm, off-farm agricultural as well as off-farm non-agricultural activities) to ensure their physical survival as well as their social and economic well-being. Doppler (2005), considers the concept of farming system as important in the understanding of the interactions between farm and household as open systems with its constraints and potentials and having complex interactions with the external components which are important for the survival of the system. The internal factors related to a farming system are resource endowment-family labour, capital, land, own assets. The external factors include labour market, extension services, socio-cultural environment, financial and insurance market. The farming system approach suggests that the amount of resources that a farm household control has effect not only on the availability, accessibility, stability and utilization of food, but also on the living standard of the household (Doppler (2005).

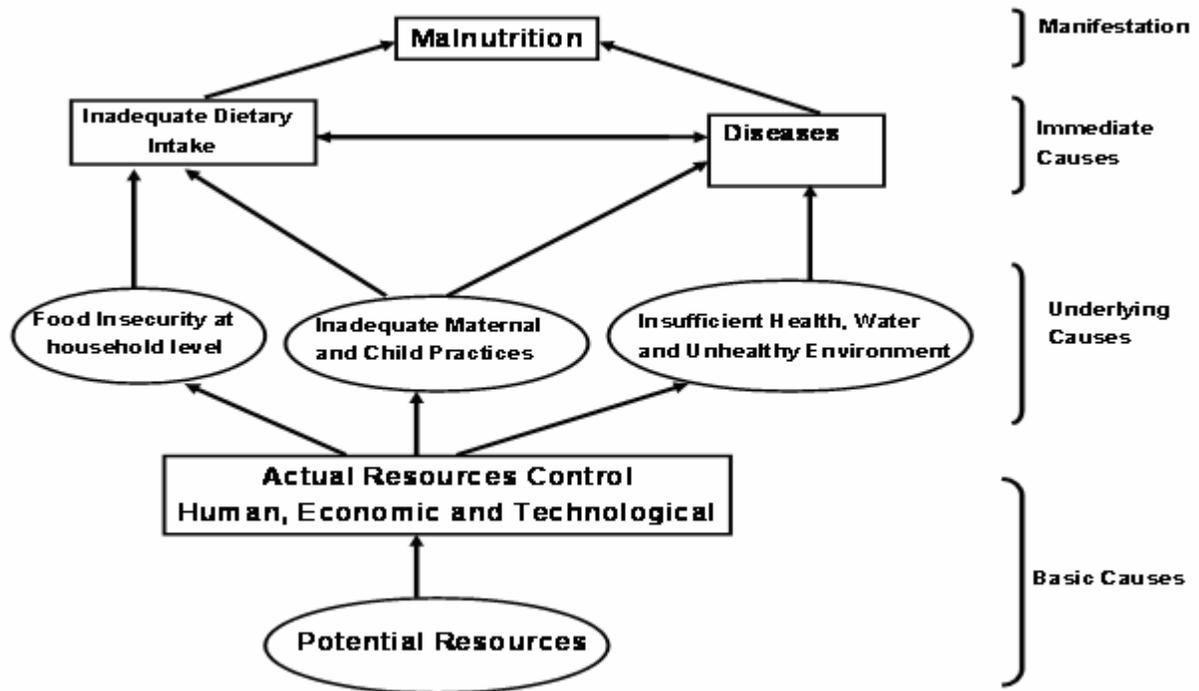
UNICEF (1998), outlines the causes of malnutrition as immediate, underlying and basic. The basic causes of malnutrition which manifest at the society level include among others, potential and actual resources base. These comprise of human, economic, environmental, technological and political

² The more vulnerable groups include the victims of religious and ethnic conflicts-mostly located in the northern part of the country, nomadic pastoralists, landless and rental farmers, orphans, street children and beggars, migrant labours, female-headed households and widows (Ayoola *et al*, 2001).

³ The total number of seats held by women in the National Parliament as at 2005 was 21 compared to 448 held by men. There were three female deputy governors and no governor out of 36. As at September 2006, there were 9 female ministers out of a total of 38 ministers (FGN, 2006).

resources. In this study, gender difference in access to resources is considered as one of the basic causes of difference in food security and living standard among male and female-headed households. Figure 1 shows the conceptual framework of malnutrition.

Figure 1: Conceptual Framework of Causes of Malnutrition



5. Data Set and Methodology

This paper is based on a primary data collected through a cross section survey of farm households in Kwara state in the north central region of Nigeria. Out of the six states in this zone, the state was purposely chosen based on knowledge of the prevailing situation⁴. Kwara State had a population of over 1.5 million people with about 219,508 farm families in 1991. The total cultivated area under crop is about 408,436 hectares. (KWADP, 1998). The climate of the state is tropical with rain and dry seasons⁵. According to the KWSG (1985), a household in the study area had on the average 9.9 persons consisting of a head of household, 1.2 wives, 4.9 children and 2.8 other dependent relatives. However, CBN/SAP (1990), indicated that the average household has about 6.7 persons consisting of the head of the household, 1.6 wives, 2.9 children and 1.3 other dependent relatives. Thus, the average household size appears to be on the decrease. KWSG (1985), also submitted that about 60 man-days of the average farm household labour supply was devoted to farming per month in the state. These were made up of 19 man-days contributed by the head of households, 13 man-days contributed by the spouses and 28 man-days contributed by the children and dependents. On annual basis, there was an estimated labour capacity of 1220 man-days per household. Over 50% of the available labour was actually utilized in agriculture. The indications are that agriculture provides a significant amount of employment and income in the state.

⁴ The state is often regarded as the gateway between the northern and southern regions of Nigeria. This strategic location allows both farm and non-farm activities to thrive side by side in the state. Farm produce could easily find markets among itinerant traders from the north or south, while the presence of these traders encourages non-farm businesses.

⁵ The rain season lasts between April and October while the dry season is between November and March. The annual rainfall ranges between 1200mm and 2400mm and the average temperature range is between 25°C and 35°C.

The study employed a three-stage sampling technique procedure to select 60 households. The first stage was random selection of three Local Government Areas from the state. Two villages were randomly selected from each of the selected Local Government Areas in the second stage. A total of six villages were randomly selected. In the final stage, two lists of the households were generated in each of the village consisting of the male-headed households and the female headed households⁶. Ten respondents comprising five male-headed and five female-headed households were selected in each village. Data were collected through the use of a gender disaggregated structured questionnaire. The survey collected both quantitative and qualitative data consisting of both socio-economic and demographic characteristics of the households. The gender disaggregated information collected included household members, age, sex, education, employment status, income, work and leisure hours, health conditions of household members, allocation of other resources e.g. land, capital and credit facilities, decision making in the households, household living standard and information about household's coping strategies were also collected. Descriptive and statistical methods were used to compare the level of resources available to male and female-headed households. This was done to bring out the level of gender inequalities in access to productive resources. Anthropometric measurement such as height-for-age, weight-for-height and incidence of stunting and wasting were measured and used as indices of food security measure among male and female-headed households. Several criteria for assessing living standard were measured and compared to describe the difference in living standard among male and female-headed households.

6. Empirical Results and Discussion

6.1. Resources Availability in Male and Female-headed Households

The comparison of resources available to male and female-headed households shows that farm land, labour, off-farm income, value of farm tools, households' assets, education of head and total family income were significantly higher in male than in female-headed households. There was no significant difference between farm income in male and female-headed households. Given the fact that male-headed households have more farm resources than female-headed households, it is expected that the farm output measured by the farm income should be higher and significant, but this was not the case. This bring to the fore the issue of efficiency among men and women farmers. The non-significant difference in the farm income means that female-headed households earned equal farm income compared to male-headed households who had larger resources. This could be interpreted to support the notion that women farmers are more efficient than their men counterpart (Saito, 1994). Though there was no figure on the amount of credit received by the households, the result shows that 71.5% of the male-headed households received credit while 63.1% of the female-headed households actually received credit. Table 1 shows the comparison of resources availability among male and female-headed households.

⁶ The female-headed households found in these villages are the *De lure* type. The woman becomes the household head when she is unmarried, divorced or widowed.

Table 1: Comparison of resources availability between male and female-headed households.

	Male-headed households	Female-headed households	T-values
Farm land (acres)	2.19 (1.64)	1.10 (1.02)	1.86*
Labour (hour)	3060 (2141)	2077 (1012)	2.03**
Education of household head (year)	9.27 (6.61)	5.53 (5.51)	2.84***
Farm Income (Naira/annum)	192,543 (213387)	153,315 (140354)	0.404
Off-farm income (Naira/annum)	881,000 (374495)	609,600 (254137)	3.23***
Total Family income (Naira/annum)	1,073,543 (402444)	762,915 (331099)	2.98***
Value of farm tools (Naira)	75,706 (3152)	5,946 (3696)	1.81**
Value of household assets (Naira)	174,407 (10046)	127,825 (11236)	2.36**
Received credit (%)	71.5	63.1	2.78***

Source: survey data, 2005, *, **, *** indicates that the difference between the two measures is significant at 10%, 5% and 1% level respectively. Numbers in parenthesis are standard deviations.

Note: 1 US Dollar = 120 Naira (2005)

6.2. Food Security level among Male and Female-headed Households

As stated earlier, anthropometrics measurements (which measure the nutritional status) was used as an index of the level of food security among male and female-headed households. In children, the three most commonly used anthropometric indices to assess nutrition status are; weight-for-height, height-for-age and weight-for-age. For the purpose of this study only the first two indices were used. The Z scores of weight-for-height and height-for-age were estimated in reference to the measured height, weight and age of preschool children compared to the standard well-nourished individuals of same age and sex. The use of the mean Z scores has the advantage of describing the nutritional status of the entire group directly without resorting to a subset of individuals below a set cut-off (WHO, 1995). Table 2 shows that the mean height for age Z scores of both the preschoolers in the male and female-headed households were less than zero reflecting that most of the preschoolers in the study area failed to reach linear growth potential. There was no significant difference in the mean weight-for-height Z scores for the preschoolers for both households.

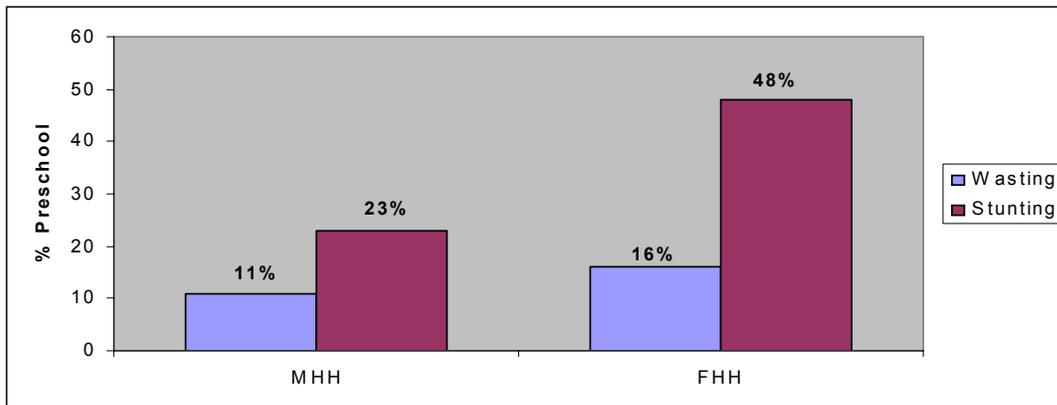
By classifying the preschoolers into male and female-headed households (Figure 2), 11% and 16% of the preschoolers in the male and female-headed households were found to be wasting indicating a recent and severe process of weight loss, which is often associated with acute starvation and/or severe disease. The higher prevalence of wasting and stunted growth in the female-headed households indicates that these households had less access to and utilization of food and are less food secure than the male-headed households.

Table 2: Comparison of height for age and weight for height Z scores of preschoolers in male and female-headed households.

	Male-headed households	Female-headed households	T-values
	n=15	n=11	
Mean height for age Z scores	-1.02 (1.36)	-1.78 (2.01)	2.32**
Mean weight for height Z scores	0.42 (1.26)	0.14 (1.52)	0.32 ^{ns}

Source: own survey data, 2005. *, **, *** indicates that the difference between the two measures is significant at 5% level. ns = not significant; numbers in parenthesis are standard deviations.

Figure 2: Comparison of the wasting and stunting in preschoolers in male and female-headed households.



Source: Own survey data, 2005

6.3. Comparison of Living Standard among Male and Female-headed Households

Living standard can be viewed as a complex parameter which is composed of several aspects varying from region to region, from culture to culture. Doppler (2005), proposed a set of criteria to quantify and compare living standard. The criteria are: family income, liquidity, supply of basic needs such as food supply, drinking water and housing, health situation, degree of independence from resources owners, education and social security. Table 3 shows the summary of living standard for the male and female-headed households. The table shows that among the male-headed households 15.5% had more than enough food, 55.3% had enough food and 29.2% reported that they had insufficient food supplies. In the female-headed households 9.8%, 42.0% and 48.2% had more than enough food, enough food and insufficient food respectively. The table further shows that male-headed households spent 23.0% of their income on food expense compared to 20.3% spent by the female-headed households. This implies that male-headed households spent more on food whereas the female-headed households spent less on food, thus making them less food secure. Analysis on drinking water showed that 18.6%, 30.4% and 51.0% of the male-headed household drank from the river, well and tap respectively as compared to the female-headed households with 34.4%, 28.2% and 37.4% respectively. This may imply that other things being equal, the male-headed households (as compared to the female-headed households) were less susceptible to water borne diseases since a higher percentage of them drank from the tap which is considered better than drinking from the river and well.

Table 3: Summary of living standards between the male and female-headed households.

Criteria	Male headed households	Female headed households
Family income (Naira/annum)	1,073,543	762,915
Farm income (Naira/annum)	192,543	153,315
Off-farm income (Naira/annum)	881,000	609,600
Food supply perception (%)		
More than enough	15.5	9.8
Enough	55.3	42.0
Not enough	29.2	48.2
Food expenditure in family income (%)	23.0	20.3
Drinking water (%)		
River water	18.6	34.4
Well water	30.4	28.2
Pipe-borne water	51.0	37.4
Housing (%)		
Thatched straw house	44.2	46.0
Mud-brick wall house	31.0	40.5
Cement-block house	24.8	13.5
Education		
Average years of schooling of head	9.27	5.53
Percentage literacy level of head	80.0	60.0
Percentage of head with primary school	56.0	44.0
Health condition (%)		
Rarely fall sick	56.6	20.0
Fall sick very often	30.0	54.4

Source: Own survey data, 2005. Note: 1 US Dollar = 120 Naira (2005)

Analysis of housing condition showed that 46.0%, 40.5% and 13.5% of the female-headed households lived in thatched straw houses, mud-brick houses and cement-block houses respectively while 44.2%, 31.0% and 24.8% of the male-headed household lived in thatched straw houses, mud-brick houses and cement-block houses respectively. On the whole the Results above indicate that male-headed households had a better living standard than the female-headed household. This supports the findings of Saito (1994), who submitted that female-headed households live under very poor conditions in Nigeria, regardless of the key role they play in food and agriculture.

7. Summary and Conclusion

This study examines gender difference in resources allocation and its implications on food security and living standard among rural households in Nigeria. Results of the study shows that there were gender-based disparities in the allocation, ownership and control of production resources; the male-headed households operated more land than the female-headed households, this was due to cultural gender biases which made it difficult for females to own land directly. Most of the female household heads owned land through inheritance by the children especially the males. The study has also shown that labour hour, off-farm income, education of heads, value of farm tools and value of household's assets were significantly higher in male-headed households than in female-headed households. Though there was no significant difference between the farm income in male and female-headed households, the total household's income was higher in male-headed households. In terms of credit availability, a higher percentage (71.5%) of male-headed households received credit for agricultural and household needs than the female-headed households (63.1%). This could be the fallout of absent of suitable collateral assets which could serve as guarantee for obtaining credit.

The study further shows that, using anthropometrics measurements as indicator of food security, female-headed households were more food insecure than male-headed households. There was higher prevalence of wasting and stunted growth among preschool children of female than male-

headed households. This implies probably that female-headed households had less access to food and utilization of food which eventually leads to higher food insecurity. The result of the living standard criteria showed that male-headed households had a higher living standard than their female counterpart. Most of the criteria used for measuring living standard (see for example Doppler, 2005), were higher in male than in female-headed households. This could also be tied to the disparity in assets ownership and control, given the fact that most of these criteria are largely dependent on household's assets and entitlement.

Given the fact that increasing food production and income are central to achieving food security and improved living standard, sufficient access to resources should be guarantee to both men and women farmers in Nigeria. Legislations that would give equal right to men and women to own production resources should be put in place. Awareness campaigns should be carried out to sensitise the society on the need to change the cultural beliefs which do not allow women the right to inheritance. This is because it was discovered that one of the most important ways by which men acquire resources is by inheritance and there are still several traditional beliefs which prohibit women from right of inheritance. Formal and informal credit institutions should endeavour to give loans to women (as they do to men) without demanding for impossible collaterals from them. The income earning potentials of women should be enhanced by providing opportunities for more off-farm employment. This would increase their economic access to quality foods. Women should be given sufficient nutrition education to ensure that with adequate access to food; nutritionally adequate meals are served in their homes thereby improving food and nutrition security of farming households in general and female-headed households in particular.

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Empirical Analysis of the Impact of Income on Dietary Calorie Intake in Nigeria

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Abstract

This paper analyzes the impact of income on calorie intake in Nigeria. The paper was based on secondary data covering the period 1970-2003 and was obtained from Central Bank of Nigeria and the National Bureau of Statistics. The result revealed that domestic food production and per capita income were the significant determinants of dietary calorie intake in Nigeria. The result brings to focus the need to increase domestic food production in order to increase calorie intake and reduce the present level of food insecurity in the country. It also shows the need for increased income so as to increase the purchasing power of households which could allow them increase their calorie intake. Trend of food import, food export and inflation rate revealed a high level of instability over time suggesting the need for appropriate policies that would stabilize the trend. The calorie-income elasticity was very low, implying that increased income alone may not be a sufficient way of achieving improvement in calorie intake. As a result of this, a combination of policies that would address food production, income and nutritional factors would be needed to increase calorie intake and reduce food insecurity.

Keywords: Calorie intake, income, food import, food export, food security, Nigeria

1. Introduction

Food is the most basic of human needs for survival, health and productivity. It is the foundation for human and economic development (Smith, Alderman and Aduayom, 2006). Hunger-an uneasy sensation, exhausted condition, caused by want of food, remains a pervasive problem in developing countries of the world and how to reduce it has been a major research objective in Sub-Saharan Africa (SSA). This becomes more important especially after the declaration of the Millennium Development Goals (MDG). While national governments are trying to direct available scarce resources towards providing food for the people in need or enabling them to acquire it themselves, many researchers have been trying to identify the determinants of food supply and the factors which enhance access to food (Kijima, Matsumoto and Yamao, 2006).

Food insecurity-insufficient access by people to adequate food and nutrients has been identified as the most important immediate cause of hunger (Smith, Alderman and Aduayom, 2006). One of the indicators of food insecurity at the household and national levels is the amount of per capita dietary calorie availability. The percentage of a country's population that does not meet the minimum per capita dietary calorie intake directly measures the prevalence of undernourishment. In Sub-Saharan Africa as a whole, the prevalence of undernourishment was 32% in 2003. This translates to about 206 million undernourished people (FAO, 2006). This high rate of undernourishment is partly because in most SSA countries, domestic food production is not up to the consumption level and as such is

inadequate in feeding the whole population (Adenegan, Oladele and Ekpo, 2004). Over the past decades, many SSA countries have been net importer of food notably rice and other cereals. In 1991 for instance, total volume of cereals imported was 11.4 million tonnes and this has been more than double by 2001 (Adenegan, Oladele and Ekpo, 2004).

In Nigeria, despite the fact that average dietary calorie intake has increased over the past two decades, it is believed that over 40% of the population are still living below the minimum dietary calorie intake. Average per capita calorie intake increased from 2050 kcal in 1979 to 2430 kcal in 1989 and further increased to 2700 kcal in 2003. As a result of this, the proportion of undernourished people fell from 13% in 1992 to 9% in 2005 (FAO, 2006). Table 1 shows some of the food security-related indicators in Nigeria. It is generally believed that agriculture is the mainstay of the Nigerian economy and that it provides over 80% of the food needs of the country. The neglect of the agricultural sector by successive government has led to a decline in per capita domestic food production, thereby creating a gap between national food supply and demand. Food importation has been increasing and this has created a lot of concern with regards to increased share of food import bill in total Gross Domestic Product (GDP).

Table 1: Food security related indicators in Nigeria

Selected Indicators	Mean Value
Food energy intake (kcal/capita/day)	2700 (2003)
Percentage of population living below 1 US dollar per day	70.8 (2003)
Percentage of population living below national poverty line	60 (2000)
Poverty gap ratio (%)	34.5 (2003)
Income inequality (Gini coefficient)	0.51 (1997)
Food consumption inequality (Gini coefficient)	0.15 (1995)
Percentage of undernourished people	9 (2005)
Number of undernourished people (millions)	11.5 (2005)
Percentage of children (under 5 years) underweight	28.7 (2003)
Percentage of children stunted	38.3 (2003)
Percentage of children wasted	9.3 (2003)
Percentage of children overweight	3.6 (2003)
Share of food expenditure in total expenditure (%)	61 (1990)
Infant mortality rate (per 1000 live births)	98.8 (2005)
Under five mortality rate (per 1000 live births)	198 (2003)

Source: FAO (2006).

The level of dietary calorie intake is believed to be determined by several factors including food accessibility, food availability, food utilization and food stability. Food access is determined by income and market factors. Income level determines the quantity and quality of food consumed and the composition of the diet (Gross, Schultink and Kielmann, 1999). As the basis of the household purchasing power, income determines food intake particularly for households that are non food producer and this underscores the importance of a country's per capita income in dietary calorie intake and food consumption. There is a high degree of income inequality and the real per capita income fluctuates over the year in Nigeria. This has serious impact on food consumption by the larger percentage of the population.

The overall objective of this paper is to analyze the impact of income on per capita dietary calorie intake in Nigeria. Specifically, the study examines the impact of real per capita income and other variables such as domestic food production, food import, food export and inflation on dietary calorie intake and makes recommendations based on the result of the analysis. The rest parts of the paper are structured as follows. Section 2 discusses data source and methodology used. Section 3 discusses the result-both descriptive and regression results, while section 4 concludes the paper.

2. Data and Methodology

The data used for this study were obtained from secondary sources. The bulk of the data were obtained from various publications such as Statistical Bulletin of the National Bureau of Statistic (NBS), Central Bank of Nigeria (CBN) Annual Reports and Statement of Accounts, CBN Economic and Financial Reviews and CBN Statistical Bulletin. The data collected cover the period between 1970-2003 and were analyzed using descriptive and econometric techniques. Specifically, means and summary statistics were calculated and described over time. In addition, graphs showing the trend in per capita calorie intake and the determinants were used to analyze the movement of these variables from 1970-2003. This makes sense because graphical methods are generally believed to be good for showing growth of variables in time series data (Adenegan, Oladele and Ekpo, 2004).

In addition to the descriptive analysis, per capita calorie intake was modeled as a function of per capita income, domestic food production, food import, food export and inflation in the econometric analysis. The aim is to examine the influence of these variables on calorie intake at the national level in Nigeria. Three functional forms of the model were fitted to the data. Econometric and statistical criteria were used in selecting the model that best fit the data. The implicit form of the model is expressed as:

$$DCI = f(DFO, FIMP, FEXP, PCI, INFL) \quad (1)$$

Where:

DCI = dietary calorie intake in kilocalorie/day

DFO = domestic food output in thousand metric tonnes

FIMP = food import in million Naira

FEXP = food export earning in million Naira

PCI = per capita income in Naira

INFL = inflation rate in percentage

From theoretical consideration, it is expected that an increase in domestic food output, food import and per capita income should lead to an increase in per capita calorie intake, while an increase in food export and inflation is expected to reduce per capita calorie intake. Population, which is important in per capita calorie intake, was not included as a right-hand variable because, the income variable was measured in per capita and this implies that the total national income had been divided by the population, indicating that the effect of population growth has been factor into the per capita income component.

3. Results and Discussion

3.1. Descriptive Analysis

The descriptive analysis starts with the sample statistics of per capita calorie intake and the explanatory variables over the period of 1970-2003. This is shown in table 2.

Table 2: Variable definitions and sample statistics: 1970-2003 (N = 34)

Variables	Definition	Mean value	Standard deviation
Per capita calorie intake	Daily per capita dietary energy intake in kilocalories/day	2210	411.0
Domestic food output	Total domestic food production in 1000 metric ton	53447.1	34373.0
Food import	Food import bill in million Naira	32248.2	52013.3
Food export	Food export earning in million Naira	1469.5	2848.1
Per capita income	Real per capita income in Naira	988.8	142.6
Inflation	Inflation rate measure by consumer price index	20.9	17.3

Source: Computed from CBN (2005) Annual Report and Statistical Bulletin

Note: In 2006, 1 US Dollar = 120 Naira.

For the thirty-four year period, the average per capita calorie intake was 2210 kcal/day. This is lower than the recommended minimum calorie intake of 2250 kcal/day. The average domestic food production for the period was about 534 billion metric tones. This amount of domestic food production

was shared between local consumption and export. Though data on food export was not given in metric tonne, it was observed that the average food export during the period amount to about 1.4 billion Naira. The average food import bill was about 32.2 billion naira for the reference period. By comparing food import bill with food export earning, it can be seen that Nigeria was a net importer of food during the period under review. This confirms the earlier report that for the past few decades most Sub-Saharan Africa countries have been net food importer (Adenegan, Oladele and Ekpo, 2004). The average rate of inflation was 21%. Judging by the coefficient of variation (CV), it can be shown that food export with a CV of 1.93 was the most varied determinant of calorie intake followed by food import with a CV of 1.61. Inflation rate rank third with a CV of 0.82.

Table 3 shows the change in average per capita calorie intake and its determinants from 1970-2003. It can be seen from the table that average per calorie intake was highest in the period 1998-2003, even higher than the recommended minimum dietary intake of 2250 kcal/day. Many factors including the various economic and agricultural reforms could be responsible for this. Similarly, total domestic food production and food import were highest during the period 1998-2003. Though it is surprising for domestic food production and food import to move in the same direction, it may be one of the reasons responsible for the high calorie intake witnessed during this period.

Table 3: Change in average per capita calorie intake and its determinants (1970-2003)

Periods	Per capita calorie intake	Total domestic food output	Food import	Food export	Per capita income	Inflation
	(kcal/day)	(1000 metric ton)	(₦ m)	(₦ m)	(₦)	(%)
1970-1976	1939.2	25539	180.4	66.5	1063.4	15.2
1977-1983	1741.7	17799.4	1389.0	207.9	998.0	15.0
1984-1990	2083.8	42918.7	1814.2	912.9	827.4	21.0
1991-1997	2632.8	82900.4	44020.7	4856.9	994.0	40.3
1998-2003	2728.3	105516.7	127435.1	1275.8	1073.5	11.5

Source: Computed from CBN (2005) Annual Report and Statistical Bulletin

Note: In 2006, 1 US Dollar = 120 Naira.

Food export earning was highest between 1991-1997. The average export earning during this period was about five billion Naira. Average per capita income was highest during the 1991-1997 periods, while average inflation rate was lowest during the same period. The 1991-1997 period was unusually difficult for the average consumer in Nigeria as the average consumer price index was highest at 40.3%.

The trend in per capita calorie intake and the determinants are shown in figures 1 to 6. Figure 1 shows that per capita calorie intake fell from early 1970s to late 1970s. It fell to about 1500 kcal/day in 1981 and rose steadily afterward to over 2500 kcal/day in 2003. Domestic food production stagnated at below 20 billion metric tonnes between 1977 to 1983 but rose steadily from mid 1980s to about 120 billion metric tonnes in 2003. Between 1970 and 1991, food import was low, but it increased gradually to 160 billion Naira in 2001. In the same way, food export earning was low between 1970 and 1985, it however, begin to rise after 1985 up to 1995 when it was highest at over 14 billion Naira from where it fell again. Per capita income was high between 1970 and 1980, but fell gradually after 1980. After 1985, it increased marginally and by 2003, it was a little over 1000 Naira. Trend of inflation shows that it rose and fell alternately between 1970 to 1995 when it was highest at over 70%. In 2003, it was about 14%.

Figure 1: Trend in per capita calorie intake in Nigeria (1970-2003)

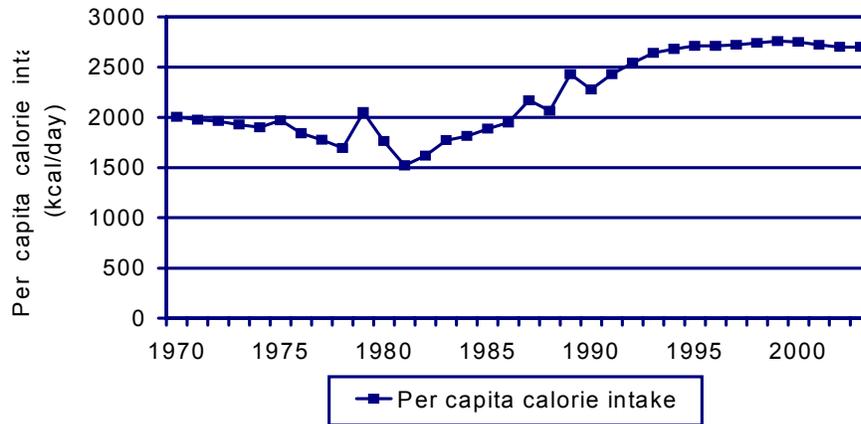


Figure 2: Trend in total domestic food production in Nigeria (1970-2003)

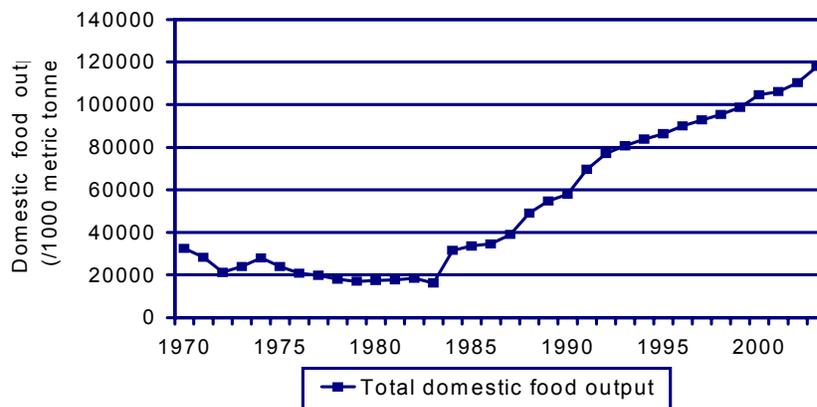


Figure 3: Trend in food import in Nigeria (1970-2003)

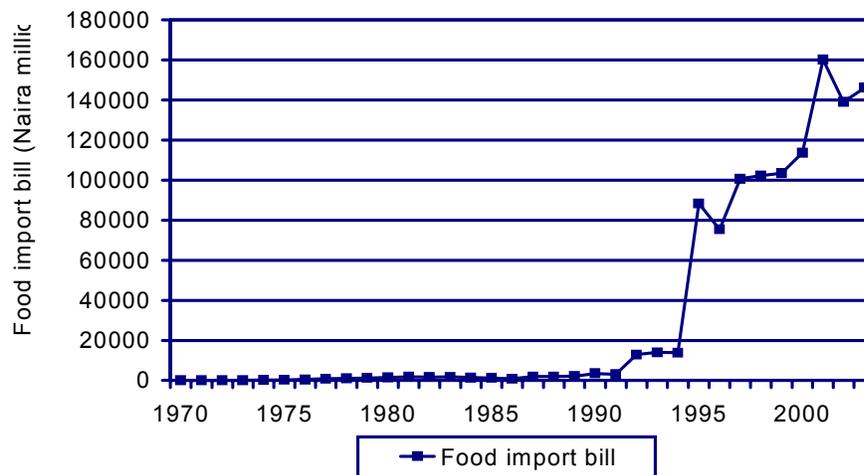


Figure 4: Trend in food export in Nigeria (1970-2003)

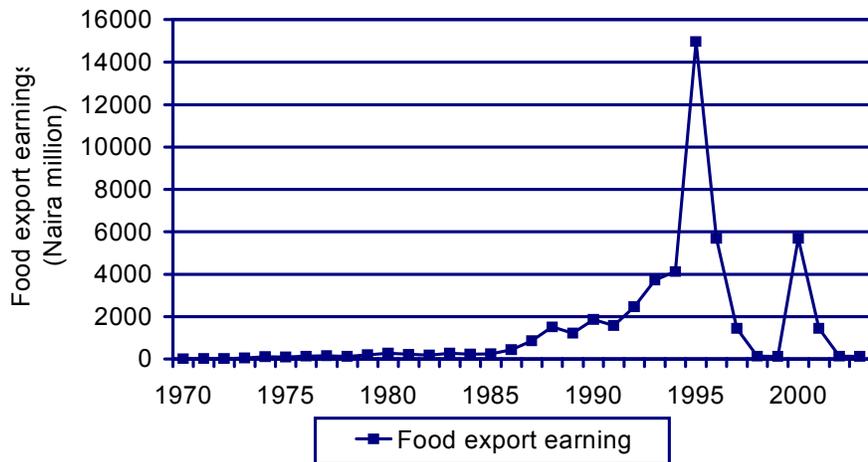


Figure 5: Trend in per capita income in Nigeria (1970-2003)

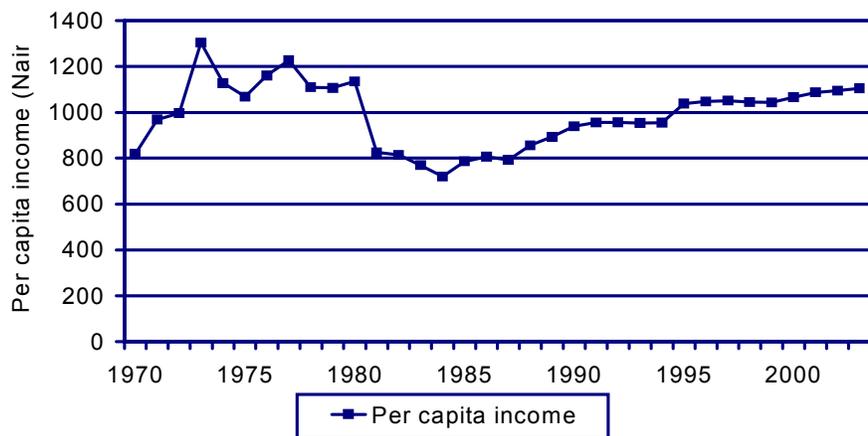
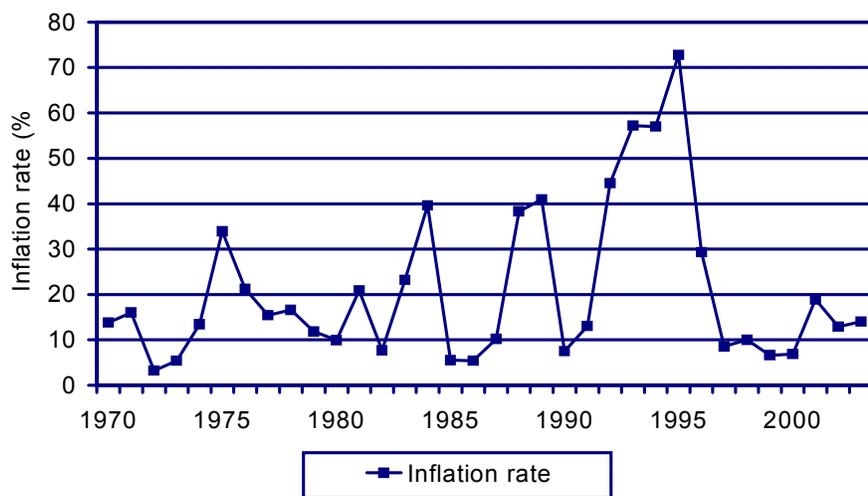


Figure 6: Trend in inflation rate in Nigeria (1970-2003)



3.2. Regression result

Considering the three regression functions fitted to the data, the Double-log function was selected as the lead equation. The regression estimates and the model statistics are shown in table 4. Judging by the value of the coefficient of determinant (R^2), the lead equation reveals that about 95% of the

variation in per capita dietary calorie intake was explained by domestic food output, food import, food export, per capita income and inflation. The F-value of 109.1 is significant at 1% level indicating the statistical significance of the overall regression equation. The Durbin-Watson statistic, which is used to determine the existence or otherwise of serial correlation (or autocorrelation) is 1.82 and does not fall between the lower and upper critical values of $dl = 1.13$ and $du = 1.81$ for a sample size of 34 and 5 explanatory variables. This implies that there is no existence of autocorrelation in the data.

Table 4: Regression result of dietary calorie intake model in Nigeria 1970-2003 (N = 34)

Functional forms/Explanatory variables	Linear function	Semi-log function	Double-log function
Domestic food output (/1000 metric tonne)	0.014*** (12.87)	560.9*** (12.67)	0.279*** (13.24)
Food import (Naira million)	-0.002** (-2.85)	10.8 (0.84)	-0.003 (-0.54)
Food export (Naira million)	0.016** (2.01)	1.62 (0.11)	0.002 (0.38)
Per capita income (Naira)	0.211 (1.69)	353.0*** (2.83)	0.162** (2.73)
Inflation (%)	-1.11 (-0.80)	-1.14 (-0.05)	-0.002 (-0.17)
Constant	1300.8*** (9.72)	-6308.2*** (-6.54)	3.60*** (7.84)
R ²	0.957	0.954	0.951
R ⁻²	0.949	0.946	0.942
F-value	124.7	118.3	109.1
Prob>F	0.000	0.000	0.000
Durbin-Watson	1.35	1.52	1.82

***, **, indicate coefficient significant at 1%, and 5% level respectively. Figures in parenthesis are t-values. Dependent variable = per capita dietary energy intake. Note: In 2006, 1 US Dollar = 120 Naira.

With regards to the explanatory variables, the model result shows that the coefficient of total domestic food output is positive and significant at 1% level. This makes sense because higher domestic food output translates to higher food availability which could mean increased calorie intake at the national level. The implication of this is that, other things being equal, higher food production would translate to higher dietary calorie intake in Nigeria. The coefficient of per capita income is positive and significant at 5% level. This indicates that other things being equal, higher income would lead to higher dietary calorie intake. This result agrees with apriori expectation and other similar studies which have concluded that income is one of the important variables that determines calorie intake (Taffesse et al, 2000; Smith and Haddad, 2002; Aromolaran, 2004).

From theory, it has been shown that in the Double-log regression equation, the coefficient of independent variables indicate elasticity. Therefore, from this result, the calorie-income elasticity in Nigeria was 0.16 implying that a 1% increase in per capita income would lead to about 0.2% increase in calorie intake. This is consistent with other empirical results such as that of Behrman and Deolalikar (1987), which reported very low calorie-income elasticity in India. Furthermore, this result has implication for the search for effective options for increasing food calorie intake among the poor segment of the population. The implication is that income increase would have very little impact on increasing calorie intake. The coefficient of food import, food export and inflation were not significant, even at 10% level. The constant term (intercept) is 3.60 and it is significant at 1% level. This indicates that even at zero production and income, a minimum level of calorie is necessary to maintain life.

4. Conclusion

This study has examined the determinants of calorie intake in Nigeria. The study was based on secondary time series data covering 1970-2003. The data were collected from Central Bank of Nigeria (CBN) and the National Bureau of Statistics (NBS). The study brings out the following conclusions.

First, the study has shown the need to increase domestic production of food to increase calorie intake and reduce the present level of food insecurity. Formerly, in Nigeria the shortfall in domestic output of food had been balanced by food importation especially cereals and livestock products, however, with the recent ban on importation of certain food items, including partial ban on rice and

poultry products, there is an urgent need for increase domestic food production. To achieve this would require measures such as increased expenditure on agricultural research, provision of irrigation facilities and provision of credit and inputs at subsidized rate to farmers. Resources that were committed to food importation before could be redirected to provision of these services to boost domestic food production.

Second, the study also shows that to increase dietary calorie intake and reduce food insecurity, there is need to increase income. The food that household consumes either comes from their own production or from the market. Increased income could increase the purchasing power of individuals and households which would enable them to demand for more food. More income earning opportunities should be created and conducive environment for production and business development should be guarantee by government. Finally, the study shows that though income increase is important for increased food intake, the calorie-income elasticity was very low implying that other being equal, increased income alone may not be sufficient for achieving improvement in calorie intake. As a result of this, a combination of policies that would address food production, income and nutrition factors would be needed to increase food intake and reduce food insecurity.

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Solidarity-Based Economy in Spain: A Corporate Social Responsibility Perspective

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Abstract

This paper analyses in a Corporate Social Responsibility perspective the situation of solidarity based enterprises, companies that are born not with economic motivation, but to satisfy a social aim. The different concepts related to the Solidarity Economy are reviewed in this paper, as well as their characteristic differentials; not only as opposed to the mercantile economy, possibly much more clear, but also with respect to the social economy and the denominated Third Sector. The dimension of the Solidarity Economy in Spain-Basque Country serves as referring being able to watch like a realistic although minority alternative, and not like a mere testimonial casuistry.

Keywords: Corporate Social Responsibility, Solidarity Economy, Solidarity based enterprise

Introduction

In Spain in the last decade, as in many other European countries, there is a movement, called as Corporate Social Responsibility (CSR). Most of companies give high importance to the reputation of the corporation and the obtaining of competitive advantages to be the major driving forces of CSR. But some purpose of the firms beyond making money and sounded to heresy, and concepts as those of balance or social audit were known only by some initiates. Nowadays there is a high focus in the study of the CSR (Cochran & Wood, 1984; Wood, 1991; Carroll, 1999; McWilliams & Siegel, 2000; Joyner & Paine, 2002; De Bettignies, 2002; Carroll & Buchholtz, 2002; Perrini et al., 2006), although Bowen (1953, p. 6) provided the first modern contribution to this topic “it refers to the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society”. In this sense, corporate decision making processes have to consider not only the economic dimension, but also social aspects. Actually, economic purpose of the company coexists, in greater or smaller degree, with the social purpose of the same one.

This paper shows the superior limit of the CSR, and the Solidarity-based economy as it puts utopian. Concretely, in Social Responsibility the main exposition is the consideration of the central responsibility of the company as the generation of benefits, but due to the increasing power of the consumers is necessary the one that the companies are responsible socially, so that they are not

“punishment”; by these; or in its positive dimension because the consumers are inclined to buy to companies with some social commitment. This subsidiary exposition of the CSR could be considered from marketing understanding that the company must socially be responsible because this is good for its image, its reputation, and really for sales (Simcic & Belliu, 2002).

However, in another perspective, the Social Responsibility of the company as a consubstantial objective of the same one is considered from the Stakeholder’s Theory with a socially oriented approach. The company is an organization who must respond to the interests of joint mixed of interest groups (Freeman, 1984; Wood, 1991; Smith, 1994). The generation of benefits can be a totally legitimate interest of the shareholders of a company, but suitable labour conditions are it also on the part of the group of employees, and the quality of the product, or the security of the payments can be legitimate exigencies of consumers and suppliers of any company. In this second meaning, basically, the Social Responsibility happens to be an instrument to the service of the results, to become a central objective of the company.

Carroll (1991) establishes four different and differentiated aspects of social responsibility, called *Pyramid of Social Responsibility*. These four progressive levels in the Social Responsibility of the Companies could be identified as following ones: 1) economic responsibility, 2) the legal responsibility, 3) ethical responsibility and 4) the philanthropic. In the first level of responsibility we would be with companies where the economic results are their only objective, being arranged to skip the legality in those cases in that the result favours the benefits; in a second stage we would find the companies involved with the economic results but that play honestly within the framework legal. In a third level the company would normally assume an ethical commitment that goes beyond the legal one and has always arguable character, with all or parts of his stakeholders. Finally, a stage of superior level that Carroll denominates philanthropic, is which the company involves resources in the realization of performances of support to social causes.

In spite of the different underlying expositions a company, to be responsible, necessarily must be profitable (Wood, 1991), because only the yield is going to guarantee the generation of resources sufficient to be able to take responsibility ethically faced with the diverse groups of stakeholder, or to destine resources to altruistic or solidarity causes.

Nevertheless, another way exists to raise the Social Responsibility of the companies, that by minority does not stop being interesting, are the Solidarity Companies, companies that are not created to obtain yield, because they are without profit spirit, but to give answer to some social problem or to generate positive an impact social. In this sense, this paper shows the existence and the constitution of a type of companies that not only incorporate the Social Responsibility in their level more involved, but also they are originated in the Social Responsibility.

In this context, this paper seeks to analyze the specific point of view of the CSR by Solidarity based Economy. The concept of CSR gives rise to various definitions associated with the focus of the implantation of CSR in the firms. It is a broader concept that could be explained from Solidarity-based Economy. There is no previous evidence to determine the Solidarity-based Economy in the limits of CSR. The provision of such evidence is the main contribution of this paper.

The paper is organized as follows: Section 2 examines previous research about the concept of Solidarity Economy as well as the limits with Social Economy and Third Sector and the families of Solidarity Economy. Section 3 presents the data and the analysis procedure used to conduct the empirical study. The results of the investigation are shown in Sections 4. Section 5 sets out the principal conclusions, and the paper ends with a list of bibliographical references.

Solidarity Economy: Review of Literature

The concept of Solidarity Economy

Anywhere in the world the appearance of new companies under different legal forms that fundamentally characterize by their search of justice and its absence of profit spirit is being developed.

This new enterprise framework, generically denominated solidarity (Capron & Gray, 2000; Enciso & Retolaza, 2004) try to give answer not only to the deficiencies in the model of European social well-being, but also, and even mainly to the processes of inequality and exclusion generated by the predominant logic in the capitalist economy of free market¹.

The entities of Solidarity Economy cannot be identified by their legal form, because in the same one they participate cooperatives, labour associations, foundations, societies, mercantile societies and until some independent one. They are not possible either to be identified by his sector of activity because, although some can occur in greater measurement, any sector can be object of the activity of a located entity of this concept. And although all even shares preoccupation by the use and the quality of he itself, these organizations could be created specifically for the creation of the most excluded occupations for work integration social enterprises (Vidal, 2005; Vidal & Claver 2005), joined with others that, in the opposed end, not generate occupations or these do not have anything to do with the exclusion - as it is the case of some cooperatives of consumption or specialized organizations of services.

On the other hand, exists a clear denomination that it combines to all this type of companies, because although with the passage of time the term of Solidarity Economy is prevailed with power, this meaning still has an important variability according to the reference country and coexists with other denominations such as New Social Economy (France)², Popular Economy, Social and Solidarity-based Companies of Social Initiative, Companies, Solidarity partner-economy, among others. Furthermore, sometimes Third Sector is even in the common denominator of Social Economy or, to which can belong the organizations in some cases taking care of its concrete legal form.

To understand better the concept and its evolution we are going to follow the description of it made by Retolaza et al. (2004) related to its evolution in Spain.

Firstly, it is necessary to show that at the end of Nineties in Basque Country-Spain, Traperos de Emaus of Iruña (Pamplona-Spain) begin to talk about the Marginal Social Company, in an attempt to compare the social exclusion with handicaps legally recognized. In the first years³ of the following decade the term falls in disuse by its own marginality and the concept of Solidarity-based enterprises is developed that will be a reference concept until the present time, although from the beginning of the millennium, the organizations that invigorate the process⁴ have been praised off a progressive form by using the concept of Solidarity Economy, extensive as far as their reach, more specific as far as their meaning, and possibly more revolutionary.

¹ The common characteristics to these organizations would be the following ones: a) institutionalized, in terms of the own organizational structure, independently of the legal formalization; b) private, in the sense to constitute a separated structure of the government. Which does not mean that, under certain circumstances, these organizations cannot receive governmental support, or that used and officials government cannot be members of the same ones; c) no lucrative, as soon as that does not distribute to benefits between their members or directors. However, they can accumulate benefits like product of his operations, with the obligation of reinvest them or destining them to the fulfilment of his specific mission, and never to the distribution between his members; d) self-governed, that is to say, that has their own control systems and maintains the autonomy and the control of their own actions; e) voluntary, or that they involve in many cases, of significant form the participation of collaborators no repaid; f) nonreligious, in the sense that its fundamental aim is not tie with the own development of the religion or its beliefs, although is not excluded, absolutely, the organizations promoted or tie by churches; g) none favour, in the sense of not being destined to impose no political idea, nor to reach the power in the State, although the possible organizations promoted from the political parties are not excluded.

² The meaning of New Economy was introduced with force in France (Capron & Gray, 2000), and in Spain Perez (2000); having certain acceptance in university scopes that they have drunk of French sources; despite the Castilian identification in of new economy with the emergent sector of Internet and its little use at street level it has practically taken to the disappearance of this term.

³ In 1994 it takes place in Beire (Navarrese) Conferences supported by Aurkilan and Gaztelan (two Spanish foundations to improve the social and solidarity based economy) in which the bases of the concept of Shared in common Social Company are put, being referring of the movement during enough years.

⁴ See REAS (Network of Shared in common Alternative Economy) Spain for more information (www.reasnet.com).

The initial characteristics of the Social Solidarity-based Companies: 1) to foment the insertion, 2) not to have profit spirit, 3) to be apart of it, and 4) to be ecological, through diverse dynamics complementary like the creation and development of the European Network of Alternative and Solidarity Economy, the Encounters biennials of Solidarity Economy of Cordoba that begin in 1995, the development of *Carta emprendedor por un mundo solidario*⁵; and, mainly the creation of the Network of solidarity Alternative Economy (REAS) of Spain, has happened in their replacement by the extensive concept but of solidarity Economy, characterized by the six gathered basic principles in mentioned document. They are; 1) Equality: Understood as the satisfaction of way balanced of the interests of all the protagonists interested in the activities of the company or the organization; 2) Use: understood as the objective is to create stable occupations and to favour the access to worked against or little qualified people; assuring to each member the personnel conditions of work and a worthy remuneration, stimulating its personal development and its taking of responsibilities; 3) Commitment with the environment: understood like favouring actions, products and methods of production that they do not injured the environment in the short and in the long term; 4) Cooperation: understood like to favour the cooperation instead of the competition inside and outside the organization; 5) Commitment with the surroundings: understanding that the solidarity initiatives will be totally directed in the social surroundings in which they are developed, which demands the cooperation with other organizations who support diverse problems of the territory and the implication in networks, like a way to the solidarity experiences can generate a model socioeconomic alternative; and 6) Without profit spirit: understanding that the solidarity initiatives will not have the objective of benefits, but the human and social promotion, which not mean so that it is essential balancing the account of income and expenses, and even, if it is possible, the obtaining of benefits. However, the possible benefits will not be distributed for particular benefit, but that will be reverted to the society by the support to social projects, new solidarity initiatives or programs of cooperation to the development, among others.

Complementarily on a international-way basis, World-wide the Social Forum from 2002 it is generalizing the term of Solidarity Economy, at least in the countries of Hispanic speech, although its meaning is perhaps more extensive than to which we are making reference here. In this sense the Intercontinental Network of Promotion of the Social and Solidarity Economy (RIPESS) with its international encounters of annual character has contributed to the diffusion the concept, defining the Social and Solidarity Economy like “the set of activities and economic practices with social purpose that contributes to a new way to think and to live economy” (adopted by RIPESS in the First Encounter the International on globalization of the solidarity celebrated in Lima in 1997). In that moment the value of Solidarity Economy is little delimited in a terminology sense, but as definition could considerate appropriate, REAS one, who consider it like “the partner economic, cultural and environmental system developed of individual or collective form through solidarity, participative practices, humanists and without spirit of profit for the integral development of the human like an aim of economy”. However, this conception is too extensive to identify the system of good practices to which they would make reference, and that could be made specific of descriptive way along the six basic viewpoint already mentioned, and the complementary viewpoint.

There are other requirements, that they are not necessary, but they could be recommended to assume because they are high valued by practices in the Companies of Solidarity Economy. They are the following ones (See Table 1):

⁵ It is adopted in the Assembly of Malaga (2000) in the framework of redefinition of REAS like Network of Networks as delegation of Euskalerrria REAS, that had elaborated it and approved previously in a Board of directors of he himself year. The Letter to undertake by a Solidarity World is born within the framework of the European initiative Horizon, more concretely within the frame of one of the transnationalities composed by: three Spanish centres (Ataretaco, Trinijove and Fundación Deixalles), three Belgian centres (Hefboom, SAW and Tremplin 2000) and two centres of France (GIEPP and Agora).

Table 1: Practices in Solidarity Economy based Companies (Sichar, 2003).

Solidarity Economy based Companies: Principles
1) The products, services, battles propose or conducted by the company/solidarity organization contribute to improve the quality of life.
2) It must be integrated in his local scope from the economic, social and ecological point of view. It must tend to decrease the indirect expenses in charge of the community. It regularly engages in a dialog with the groups or people by means of his actions, products, services or their processes of production.
3) Enterprise/organization manages of the possible most independent way with respect to the powers public or to everything third organization although this one finance it.
4) It adopts a tactically important position with respect to the excesses induced by the productive race, the technological competitiveness and investments.
5) It develops to commercial relations rights.
6) The circulation of the information is assured inside and outside the company/organization. It is related to the financial and human aspects of the management, the development strategies, the hierarchic structure of the organization, his impact in the society.
7) The workers will be associated to the decisions that concern their work or the future of the company. Processes will favour the internal democracy, among others in formation terms.
8) The differences of maximum salary will be defined and controlled collectively.
9) Formulas of distribution of tasks accompanied by the creation of occupations will be created.
10) It will lend a particular attention to the quality of the work and an improvement in the qualification of all the personnel, thanks, in particular, to the evaluations, the formation and the adapted instruments of work.
11) Of having volunteers in the organization, a collective reflection will be carried out on the paper of the voluntary military service and its conditions of work. They will have guaranteed a correct integration and a formation. Nevertheless, the priority will be centred in the access to the remunerated work.
12) The company/organization supports solidarity initiatives undertaken in the groups or ceased to favour regions.

Limits with Social Economy and the Third Sector

There are not only organizations that are defined to them inside the Solidarity Economy. The firms that are considering it shared in common have legal forms related to the Social Economy, neither with the Third Sector. It is not clear what the limits are and what is the relation between Social Economy and Third Sector, so there are two realities of general character (Laville & Nyssens, 2000; Lynn, 2006).

Previous perspective of Social Economy establishes that it would be possible to be defined based on the legal form adopted, so historically Social Economy has been only considered to the companies with legal form of cooperative, public limited company and labour limited society. However, in countries of Europe this conception is being broken. Social Economy is not understand in most of Europe countries, including Basque Country, like mere legal formula, but it is understand in the narrowest sense of entailment as a trade union form.

However, in the set of Europe and more concretely in Spain, this conception based on society form begins to be diluted. As it shows, it is possible to indicate that the Enterprise Confederations of Social Economy (CEPES) are admitting like partners to organizations that legally are not included in the Social Economy.

From this perspective, not only legal, but based on values and principles, it would be possible to consider the possible inclusion of the Solidarity Economy in the Social Economy, reasonable because they share a very important percentage in the values that is sublime to both conceptions. In fact, the Solidarity Economy could - and in fact for assuming the following cooperative principles (See Table 2):

Table 2: Cooperative principles.

Cooperative Principles establishes by CECOP (2002)
1) Voluntary and opened adhesion.
2) Democratic management on the part of the partners.
3) Economic Participation of the partners.
4) Autonomy and independence.
5) Education, formation and information.
6) Cooperation between cooperatives.
7) Interest by the Community.

Therefore, there are some mutual aspects between Solidarity Economy and Social Economy, so it cannot say that there are two different realities. Doubtlessly, the reach and development of the Solidarity Economy is greater than the development of Social Economy. In this sense, could be logical sense to determinate that Solidarity Economy is a specific part of the Social Economy.

Nevertheless, it is important to explain the specificity of the Solidarity Economy. First of all, Solidarity Economy is not simply a group of entities inside Social Economy. Secondly, in the case that the conceptualization is being with capitalist or nonlucrative (with exception done of the cooperatives of social initiative, that still represent a recent reality in the panorama in Spain) perspective, the specificity of Solidarity Economy is evident. Thirdly, and the most important one, the Solidarity Economy difference and contributes to the rest of the Social Economy, by the way of its indeed solidarity character. The constitution and performance of Solidarity based enterprises do not look for never ever the benefit of the promotional partners, because the fundamental performance of this type of organizations is give services and obtain a form to help to the work inclusion of the employees. This characteristic is not absolutely a common requisite of the Social Economy, there are Social firms that have not as aim give services and help employees to the work insertion. It supposes a differential characteristic, a specific scope within the Social Economy, called by the society as Solidarity based Economy enterprises. Therefore, the same one the no lucrative character necessarily of the constituted organization is come off.

In some way, the Social Economy creates and has created -inspired by such principles that the Solidarity Economy is a system of solidarity between the participants, extended sometimes to the scope of the cooperative- inter cooperation or the localization by territory. Furthermore, there is a system of external solidarity which aim is give services and help people with disabilities and specific difficulties, personal and social. This situation determinates another characteristic, that if nonessential, at least it has been historical point and very importance. It is the entailment of the Solidarity Economy with the processes of work insertion and personal development.

The differentiation between Solidarity Economy and Third Sector (organizations without profit spirit, traditionally with legal formula of Associations or Foundations) is important to limit the position of the Solidarity Economy. Solidarity based Economy firms are identified as “without spirit of profit”, in this sense they could be localized in the Third Sector. But there are two different firms’ system models in the Third Sector:

1. The European continental one of French origin, transferred to Canada and Latin America (with its blending), in which the expression is used synonymous Social Economy and Third Sector as and includes the cooperatives, mutual benefit society and the associations.
2. The NPO Model (non-profit sector or non-profit organizations), of Anglo-Saxon origin, with strong implantation in the United States, in which organizations are fitted who fulfil certain requirements (according to the model established by the University Johns Hopkins and his prestigious study on the matter).

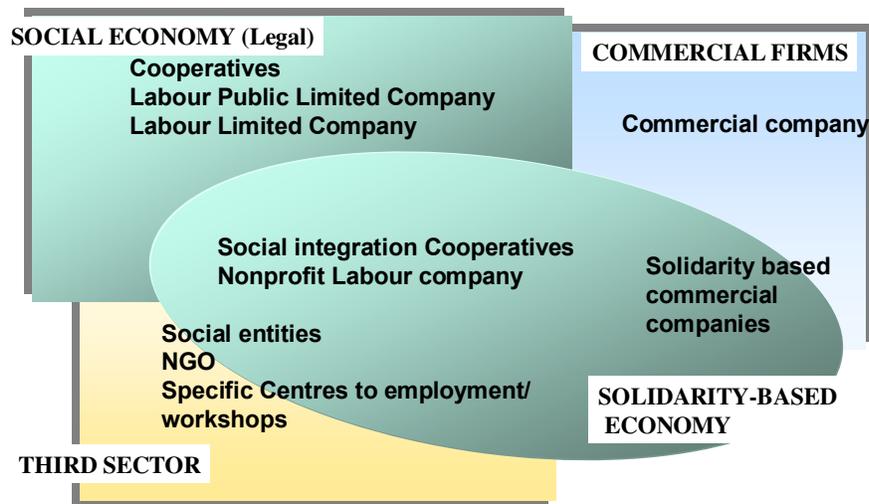
Levi (2004), distinguishes exhaustibly the preservative and transforming organizations of the third sector, despite a previous comparison between third sector has occurred and social economy whose acceptance although can be possible in countries like France, is not it absolutely in the Anglo-American scope and it even is quite debatable in the world of Hispanic speech.

Furthermore, the own denomination of third sector is confused, between the private sector and the public sector. This concept comes from the system of national accounting proposed by United Nations where; the government or public sector is the sector based on the general interest on the primary firms; the private sector is based on the spirit of profit like the secondary one. It would be left therefore a third sector, whose definition is rather negative, that is to say, not including in the previous ones. But Solidarity Economy shares with Social Economy all of values and principles accepted by Social Economy and Third Sector does not. Because Third Sector groups several organizations with diverse ideologies, but without an unique philosophy; some of these firms are included on a “more righter” model of economy or on a solidarity society, other firms are included on existing capitalism model, and most of them are included on a system which main purpose is the interest and the benefit of the owners –economic variable-, although this is not the main aim and main factor of this type of firms.

Finally, the Solidarity Economy takes some differential characteristics that give rise to establish the Solidarity Economy as a specific subgroup of the Social Economy. Moreover, the Solidarity Economy shows an important intersection with the Third Sector that would be interesting to considerate, because there are a lot of companies in Third Sector. The following figure shows graphically a map of the different concepts around the Social Economy and Solidarity Economy.

Figure 1: Social Economy in the widest sense

Social Economy in the widest sense

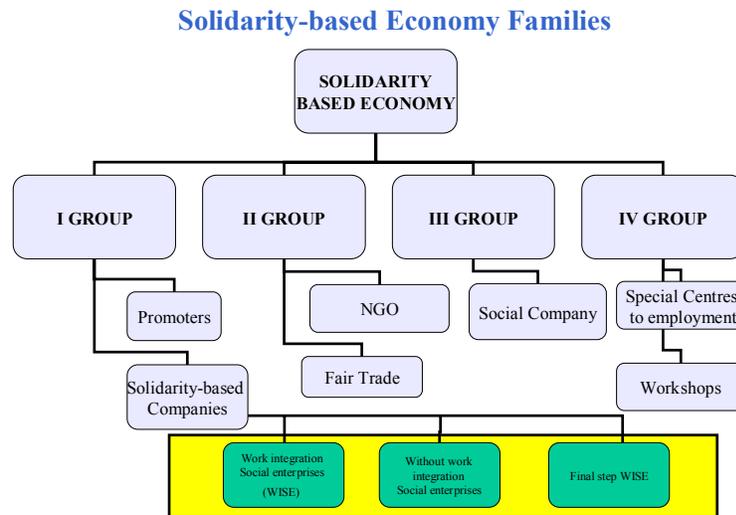


Resource: own elaboration

Families of Solidarity Economy

The concept of Solidarity Economy is quite extensive and includes organizations of very diverse type; therefore, the following figure shows the structure of the organizations.

Figure 2: The classification of Solidarity Economy entities.



Resource: own elaboration

Solidarity Economy differentiates four groups or families based on their social object. They are the following ones (Mugarra, 2000; Retolada et al., 2004; Lukkarinen, 2005, among others):

- 1) Promotional organizations and solidarity companies, centered in the scope of the insertion labour partner of people in process, or with problems of exclusion.
- 2) Organizations of social initiative, that are those, fundamentally associations or foundations, that they are born with the purpose of helping to solve some kind of social problem.
- 3) The organizations that foment the cooperation to the development, in their two slopes, the majority one, through the execution of projects and programs in the own territory or the country of destiny, and the one that do through the commercialization, in the scope of the denominated commerce just.
- 4) Finally, in the fourth group we would have the ones offer occupation to people concerning to groups with some legally recognized incapacity.

If the difference between social organizations of market and no market is implicated⁶, the promotional organizations would be the organizations of social initiative, the NGO of development or cooperation, and the factories protected, mainly would register in the scope of the social Economy of no market, whereas the insertion companies, the stores of right commerce and the special centres of occupation, would be located in the social economy of market, although based on greater or smaller independence in its financing with respect to the government we could speak of companies oriented to the market and oriented the government (Retolaza & Ruiz, 2005).

Data and Research Method

This study was conducted on Basque Country firms-Spanish firms. This research try to consider all of the companies in this areas, so in Basque Country have been identified 45 companies. Forty-five companies were selected, of which only 31 responded. The reasons of no respond of the rest of firms, 14 companies are the following ones:

1. Inability to establish contact with them, because there are problems in the identification of the firms or the responsible is abroad (2 cases).

⁶ It is a differentiation established by European System of National Accounting that distinguished between market subsector: companies with democratic organization and distribution of benefits that not contribute to the capital and subsector of nonmarket, formed by private institutions deprived without lucrative aims to the service of homes (ISFLSH).

2. Demand for a personal meeting to provide the required data (2 cases).
3. Lack of persistence in obtaining data (in 10 cases).

Data were collected by means of telephone interviews, a method that ensures a high response rate. To guarantee the highest possible number of replies, business respondents were made aware of the study in advance by means of a letter indicating the purpose and importance of the study. In cases where they were reluctant to reply or made excuses, a date and time were arranged in advance for the telephone interview. The final response rate was approximately 68%, and the interviewees were the persons responsible for the management of the firms, managers or administrators. The following table summarizes the technical characteristics of the study.

Table 3: Technical characteristics of the study

Universe	Basque Country Solidarity based economy firms-Spain
Sample	The population (45 spanish firms)
Data	Questionnaire and SABI Database
Date Performed	Field work was carried out on November 2006
Margin of Error	Em= ± 3.77% with a confidence level of 95%, p=q=0.5, for overall data

Methodology is basic in the investigation about social economy and solidarity base economy is not an exception. In this context, it is possible to appear many problems related to social economy that could improve very important challenges for investigation, as the related to aim of the firms, the importance of their objectives, as well as, the services to the community. It is necessary then to analyze the situation of solidarity base economies, because their importance in our economy is growing up, taking an important share of the companies.

Results: On the CSR the Solidarity Based Enterprises

The Social Responsibility in Solidarity Economy

Face to face with the work that occupies to us, referred the social responsibility of the companies, we will be centred exclusively in those of market, because the other organizations, either by their legal form, or by its financial dependency of the Administration do not count on sufficient independence to be able to develop a comparable process to the one of the enterprise social responsibility.

In relation to these companies, there is not doubt that the social responsibility, is not instrumental, nor collateral, but that the same cause of its birth, instead of being due to the profit spirit, habitual motivation of most of the companies that are created, is its origin in the necessity to respond in positive form to some cause or social problem. Despite the Social Responsibility that is estimated to them it would have to be resisted in his daily execution through some process of balance or social audit (Mugarra, 2000; Owen et al., 2000), because the case that could occur the internal dimension of Social Responsibility does not correspond with the adaptation of its external dimension. In fact the dissociation between both dimensions is a habitual phenomenon of the Solidarity Economy (Retolaza & Ruiz, 2005).

Social Responsibility of the Solidarity-based enterprises of Spain-Basque Country

On the basis of the classification previously indicated a study with the totality of the identified population has been made, of which an answer of the 69% has been obtained. We have analysed the billing of the firms to show the importance of this type of firms, Solidarity based Economy firms. Concretely, in Basque Country, the total number of invoicing of the Solidarity Economy is of 174 million of Euro (see Table 4), representing the 0.25% of the total of Gross Domestic Product (GDP). This type of firms there are not a lot, but their impact is high because they grow up a total of 12,500 jobs, corresponds approximately 1.5% of the existing jobs or occupancy in Basque Country-Spain. Another fact complementary, but very important too, is their grow share, that in the last decade

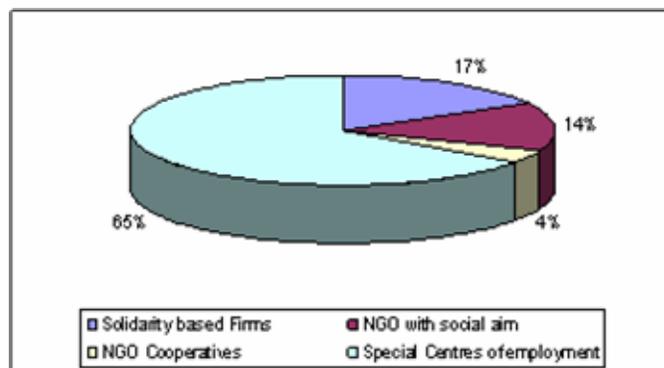
surpasses the 10% (annually measured). It is because these firms are composed by group of persons that afford the economic exposition with a great dynamism.

Table 4: Information about solidarity based firms in Basque Country-Spain.

<i>Variables</i>	<i>Information</i>
Billing	174,000,000 Euro
GDP	0.24% of GDP Basque country
Employment	12,500 Jobs
% Employees	1.4% Job Basque Country
Grow Share	Growing more than 10% per annum

Another important aspect to show is the distribution by families (see Figure 3), which we have commented before, the graphical reflects visually, as the special centres of employment generate 65% of the jobs, followed of the promotional organizations and solidarity based firms that represent 17%; with 14% of the share-jobs we find the organizations (NGO) with social aim, being far away the jobs, only the 4%, created by the organizations of cooperation to the development (NGO cooperatives). However, it is necessary to consider that in this last calculation it has not considered the destination positions, only have been analysed the jobs or occupation located in Basque Country.

Figure 3: Employment distribution by families in Basque Country.



In relation to the type of companies (see Table 5), most of them are micro companies (less than 10 employees), but near 25% they are already medium companies (between 50 and 250 employees) and the rest, 32% are small firms (between 10 and 50 employees). Most of these companies are focused in social services or recuperation activities, 57%. The legal form of Solidarity based economies is used in general enterprise formula, concretely 61% of the total percentage (cooperative, Pls and Ls). Most of these firms are social enterprises, 51% (cooperatives and Pls). The billing per employee shows that employee work is low appreciation, it could be one of the causes of the dissociation between the internal and external perspective to which we have alluded previously in the theory part.

Table 5: The solidarity based enterprises: descriptive analysis of solidarity based firms

<i>Variable</i>	<i>Information</i>
Size of the firm	Micro: 45% Small:32% Médium: 23%
Industry	Social services/recuperation 57%
Legal form	Association: 23% Foundation: 16% Cooperative: 28% P.L.S.: 23% L.S.: 10%
Billing per employee	18.330 €

The composition and form of Solidarity based Economy firms have been done explaining the average of employees by company. It is 45,84 (see Table 6). The principal jobs are occupied by women, approximately 78% of the total staff are women, but nevertheless, in the directive positions this relation is reversed, most of them are men (78% too). The average of employers of insertion by company is of 7.3%, but very unequally distributed, since while the 58% do not have to any, rest 42 groups to 100%.

Table 6: The solidarity based enterprises: the information about their employees.

<i>Variable</i>	<i>Information</i>
Employees	Average: 45,84 Median: 19 Women: 78% Men: 22%
Board of Directors	Women: 22% Men:78%
Voluntary	Average: 4,6 (10%)
Scholar	10%
Work Insertion Employees	Average: 7,3

Concluding Remarks

This paper explores the reality of solidarity base enterprise in Spain-Basque Country, using a sample approximately of the 70% of Basque Country-Spanish firms. The results of the study indicate that there is evidence to support that these companies have done of the Social Responsibility his *leit motiv*. These firms could be a reference of how a conventional company can get to imply itself in the Social Responsibility.

This paper has confirmed the important presence of Solidarity based firms in Basque Country-Spain. The development of this type of firms in the last ten years shows that there is not a merely marginal phenomenon with testimonial character; it is a new form to entrepreneurship and a new form to understand the economy. It is a new economy in which the main objective is the social development and the good, high and qualified services to the community.

Limitations

Finally, a number of limitations in this research must be acknowledged. First, this article draws its conclusions from a static moment with the limitation of using cross-sectional data. Another limitation of the study is that the sample is based on a specific geographical area. Possible extensions to this research could broaden the analysis to cover other countries.

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Spatial Durbin Model for Poverty Mapping and Analysis

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Abstract

The use of spatial regression models for describing and explaining spatial data variation in poverty mapping has become an increasingly important tool. This study considered the spatial Durbin model (SDM) in identifying possible causes of poverty in Bari region of Somalia using Somalia settlement census data. Data properties were identified using exploratory spatial data analysis (ESDA) and the output ESDA provided input into the spatial Durbin model. Parameter estimation and hypotheses testing and assessment of goodness of fit were carried out for the specified model. Dissimilarity of neighbouring settlements in North West Somalia and similarity of neighbouring settlements in North East and South Central Somalia with respect to the variables of interest were observed using the Global and Local Moran's I test statistic. The proportion of families who cannot afford two meals per day was taken as a proxy indicator for poverty level and the implication of the findings on policy decision making for development planning are discussed.

Keywords: spatial regression, spatial Durbin model, poverty

2000 Mathematics Subject Classification Codes: 62M30, 62D05, 62J12

1. Introduction

Poverty mapping, defined as the spatial representation and analysis of indicators of human wellbeing and poverty, is becoming an increasingly important instrument for investigating and discussing social, economic, and environmental problems with the aim of arriving at possible solutions. This is essential to enable identification of the poor and consequently determinants of poverty. This will ensure evidence based decision making for better policy formulation and targeting of development assistance

including humanitarian relief. For relief efforts to be effective, the poor communities have to be identified and their specific locations determined.

Poverty studies often do not take into account the geographical components and environmental data that may have important impact on research results. There is often a concentration of poverty in environmentally fragile ecological zones where communities face and contribute to different kinds of environmental degradation. The poor households also have circumstances in common such as road facilities, availability of public facilities such as health, water supply and education. Methods which use spatial analysis tools are required to explore such spatial dimensions of poverty and its linkages with environmental conditions [1].

There has been a recent increase in the use of maps to display the geographic distribution of poverty and consequent formulation of policies and plans for alleviating poverty and allocating development resources. For the most part, data used to develop these maps have been obtained from econometric models which do not take into account the spatial dependence of data. The use of poverty maps alone does not provide information on the causal linkage between poverty and the variables that influence it. There is therefore an increasing realization that statistical spatial analysis models are required to explore spatial dimensions of poverty and possible empirical relationship between poverty and socio-economic indicators. Spatial regression techniques are beginning to become part of the toolbox of applied econometrics [4].

The study by [14] showed the statistical significance of environmental variables in estimation of poverty. This suggested the existence of poverty-environment relationship and hence the role of environmental factors in the livelihood of the poor and the potential impact of poverty reduction efforts. They therefore recommended that environmental indicators could form an important part in the design and evaluation of poverty reduction strategies and hence should always be included in the statistical analysis.

It was shown by [11] that spatial autocorrelation influences the model selection. A revisit of an earlier analysis of plant distribution data and environmental covariates from Germany using spatial autoregressive models and results showed that spatial autocorrelation influences the model selection. He further stated that the findings from using the simultaneous autoregressive error model were consistent with ecological theories and previous observations. Out of the spatial models only the error model (ESAR) with a neighbourhood of up to two cells was able to reduce autocorrelation to an insignificant level, and this also provided the best fit out of all the models considered (as measured by Akaike's Information Criterion, AIC).

2. Generalized Spatial Linear Models

Spatial dependence may arise when we deal with located observations because of measurement errors for observations or because some unobserved economic and social phenomena present a spatial structure leading to complex interactions. For this purpose, spatial analysis is applied to poverty data in Bari region of Somalia to determine the effect of geo-sociological variables on the incidence and intensity of poverty in these regions. This is based on the assumption of the presence of spatial dependency and spatial heterogeneity among the measured geographic variables.

Therefore, the analysis used an estimation approach which incorporates explicitly spatial dependence through the inclusion of the spatially lagged dependent and independent variables. The maximum likelihood estimation of the resulting model called a spatial Durbin model (SDM) allows us to demonstrate the existence of geographical spillovers among the settlements in Somalia as the number of those not affording two meals per day in each settlement depends not only on the values of its own independent variables, but also on the average values of the dependent and independent variables in the neighboring settlements. In this study, the number of families who cannot afford two meals per day in each settlement is set as the poverty baseline.

Regression models specify a functional relationship between a response variable (Y) and k explanatory variables (X_1, \dots, X_k). The standard regression model specifies a functional relationship between y_i , (the response variable measured at site i) and x_{1i}, \dots, x_{ki} (the explanatory variables measured at site i), hence we have

$$y_i = \beta_0 + \beta_1 x_{1i} + \dots + \beta_k x_{ki} + \varepsilon_i, \quad (1)$$

where β_0, \dots, β_k are regression coefficients and ε refers to the error or disturbance term. In this classic regression specification, the error terms have mean zero ($E[\varepsilon_i] = 0$, for all i) and they are identically and independently distributed. Consequently, the model is taken to be homoskedastic and devoid of serial correlation. In matrix notation (1) can be written as

$$\mathbf{y} = \mathbf{X}\boldsymbol{\beta} + \boldsymbol{\varepsilon}, \quad (2)$$

where \mathbf{X} is an $(n \times (k+1))$ matrix of observations on the k explanatory variables, \mathbf{y} and $\boldsymbol{\varepsilon}$ are $n \times 1$ vectors and $\boldsymbol{\beta}$ is a $(k+1)$ vector. The error terms have mean zero $E[\boldsymbol{\varepsilon}] = 0$ and $E[\boldsymbol{\varepsilon}\boldsymbol{\varepsilon}^T] = \sigma^2 I$ (where I is the identity matrix).

The state of a system consisting of n areas at time t is defined as

$$y_t = (y_{1t}, \dots, y_{nt}), \quad (3)$$

where y_{it} is the value of attribute y at location i at time t .

A spatial process is where changes of state are due to spatial properties of the attribute and (3) therefore becomes

$$y_{i,t+1} = f(\{y_{jt}\}_{j \in N(i)}, \{y_{j,t-1}\}_{j \in N(i)}), \quad (4)$$

where $N(i)$ specifies the areas adjacent to i . Spatial and temporal dependencies might extend over many lags and assume many functional forms (f) [10].

Spatial dependency is introduced into (4) in two major ways, spatial lag dependence and spatial error dependence [8]. In such instances, the Ordinary Least Squares (OLS) estimation in spatial process models has limitations. Spatial dependence between observations leads to inefficient OLS estimators and unreliable statistical inference.

The two alternative forms of spatial dependence models are the spatial lag model and the spatial error model (both of which are simultaneous autoregressive models (SAR)).

The lagged model corrects for the autocorrelation of the response variable. A spatial lag model is a formal representation of the equilibrium outcome of processes of social and spatial interaction. A function of the dependent variable observed at other locations is included in the model to give

$$y_i = g(y_j, \theta) + X_i^T \boldsymbol{\beta} + \varepsilon_i, \quad (5)$$

where \mathbf{J}_i includes all the neighbouring locations j of i , with $j \neq i$ (the neighbour relation is symmetric). The function g can be very general (and non-linear), but typically is simplified by using a spatial weights matrix. The spatial weights matrix is an $n \times n$ positive matrix, \mathbf{W} , through which the neighborhood set's specified for each observation. A location (settlement) appears both as row and column, with non-zero matrix elements w_{ij} indicating a neighbor relation between observation (row) i and (column) j . Self-neighbors are excluded, such that the diagonal elements $w_{ij} = 0$. Also, the weights matrix is often used in row-standardized form, with weights $w_{ij}^s = \frac{w_{ij}}{\sum_j w_{ij}}$ to facilitate the interpretation of the weights as constructing an average of the neighboring values in the so-called spatial lag operator, $\sum_j w_{ij} z_j$ [4].

The mixed regressive, spatial autoregressive model then takes on the form

$$y_i = \rho \sum_i^M w_{ij} y_i + X_i^T \beta + \varepsilon_i, \quad (6)$$

where ρ is the spatial autoregressive coefficient, and the error term ε_i is identically and independently distributed. In matrix notation (6) can be written as

$$y = \rho W y + X \beta + \varepsilon, \quad (7)$$

with a row standardized spatial weights matrix. This added variable is referred to as a spatially lagged dependent variable, or spatial lag. The resulting endogeneity must be accounted for in the estimation process. The proper solution to the equations for all observations is the reduced form, which no longer contains any spatially lagged dependent variables on the right hand side [8].

A model that is nonlinear in ρ and β and has a spatially correlated error structure is given by

$$y = (I - \rho W)^{-1} X \beta + (I - \rho W)^{-1} \varepsilon. \quad (8)$$

More importantly, this reveals the spatial multiplier, i.e., the notion that the value of y at any location i is not only determined by the values of x at i , but also of x at all other locations in the system.

In spatial error models (SEM), the spatial autocorrelation does not enter as an additional variable in the model, but instead affects the covariance structure of the random disturbance terms. The typical motivation for this is that unmodeled effects spill over across units of observation and hence result in spatially correlated errors [9].

Spatial error autocorrelation is a special case of a non-spherical error covariance matrix, in which the off-diagonal elements are non-zero, i.e., $E[\varepsilon_i \varepsilon_j] \neq 0$, for $i \neq j$. Hence, it is necessary to impose structure and to obtain estimates from a more parsimonious specification. Given (2) and an error term defined as $\varepsilon = \rho W \varepsilon + u$, the SEM is given as

$$y = X \beta + (I_n - \rho W)^{-1} u \quad (9)$$

The spatial Durbin model is a mixed autoregressive model. It considers spatial autocorrelation in both error and response variable and is a specification test on the common factor hypothesis. It exploits the property that a spatial error model can also be specified in spatial lag form, with spatially lagged explanatory variables included, but with constraints on the parameters (the common factor constraints) [5]. The model defined in (8) can be extended to spatial Durbin model (SDM), that allows for explanatory variables from neighboring observations, created by WX . The equation

$$(I_n - \rho W)y = X \beta + WX_\gamma + \varepsilon. \quad (10)$$

simplifies to

$$y = (I - \rho W)^{-1} X \beta + (I - \rho W)^{-1} WX_\gamma + (I - \rho W)^{-1} \varepsilon \quad (11)$$

when y is specified. The $k \times 1$ parameter vector γ measures the marginal impact of the explanatory variables from neighboring observations on the dependent variable y . Multiplying X by W produces "spatial lags" of the explanatory variables that reflect an average of the neighboring observations [12]. W in this study is constructed so that the five nearest neighbors are allowed to influence each other.

A positive measure of the spatial autocorrelation implies similar values tend to be near each other while a negative value implies the converse. This assesses the spatial dependency or the similarity or dissimilarity of neighboring settlements within certain distance (d). Global Moran's I indicates the significance of the similarity or dissimilarity of neighboring settlements for the whole of Somalia (that is, shows the extent of clustering). The local Moran's I [3] indicates the location of similar or dissimilar neighborhoods and the strength of the similarity of a settlement with its neighbours. *GoeDa* a spatial data analysis package and R-language were used to compute both Global and Local Moran's I.

The Moran's I statistic for regression is defined as follows:

Let (X_1, \dots, X_N) be observations from N sites. When the statistic is approximately zero then the observed values are random and independent over space Petrucci, [14].

$$\mathbf{I} = \frac{e^T W e / S_0}{e^T e / n} \quad (12)$$

where e is an $n \times 1$ vector of OLS residuals $\mathbf{y} - \mathbf{X}\boldsymbol{\beta}$, W is a spatial weights matrix, and $S_0 = \sum_i \sum_j w_{ij}$, a normalizing factor. Inference in a test against spatial autocorrelation is based on a normal approximation, using a standardized value, or z-value.

3. Model Selection

Model selection criteria enables the estimation of the performance of different models in order to choose the best one. Some of the existing criteria are R^2 , adjusted R^2 , Mallows's C_p , Akaike's Information Criterion (AIC), Schwarz's Bayesian Information Criterion (BIC) and New Continuity Information Criterion (CIC). In the study, the AIC and BIC were used as the model selection criteria.

The AIC statistic given as $\mathbf{AIC} = -2\log L + 2mk$ is an estimate of the expected entropy. It penalizes the log likelihood by the total number of parameters required for model estimation by adding two times the number of degrees of freedom. Despite the problems associated with the application of this criterion, it still constitutes the standard in model selection criteria.

The BIC statistic on the other hand, given as $\mathbf{BIC} = -2(\log Lik) + \log Nd$, is applicable in settings where the fitting is carried out by maximization of a log-likelihood. BIC tends to penalize complex models more heavily, giving preference to simpler models in selection [17]. Lower BIC implies higher posterior probability of the model.

4. The Data

The data set contains information on several attributes from 5781 settlements distributed across Somalia. The information was obtained through a census of settlements in Somalia during the period 2005 to 2006. Over 400 explanatory variables were collected in each settlement and used to explain the proportion of families in the settlement living on less than two meals per day. For this study data from one of the 18 regions (Bari) with **1206** settlements was analyzed. A few of the variables included in the model are given in Table 1.

Table 1: Description of contents of the data

Field	Description
RTEI	proportion of families in the settlement living on less than two meals per day
RECD	Region code
IDCD	Region and district code
LATI	Y Coordinate
LONG	X Coordinate
SETT	Type of settlement
LVHD	livelihood nature of settlement
SFOD	Main source of family food ranked 1 st
SINC	Main source of family cash income ranked 1 st
HZDS	Main hazards and risks ranked 1 st
ECON	Economic characteristics of the poor ranked 1 st
SOCL	Social characteristics of the poor ranked 1 st
CDEV	Constraints to development ranked 1 st
WATW	Presence of main source of water during wet season(1 Available, 2 Not Available)
WATD	Presence of main source of water during dry season (1 Available, 2 Not Available)
NUMB	Number of families, which cannot afford to have two full meals per day
ROAD	Motorable road in settlement (1 Available, 2 Not Available)
LDMN	Presence of landmines in settlement(1 Available, 2 Not Available)
HSEC	Current human security(1 good,2 average,3 poor,4 don't know)
AVHH	Average household numbers
HPAV	Health Post facilities

Somalia is situated in the north east of Africa (Horn of Africa). It is bordered by Kenya and Ethiopia on the west, Kenya to the south, Indian Ocean on its east and Gulf of Aden to its northern side. The total land area is estimated to be 638,000 square kilometers, 13 percent of which is arable land [13]. There are 18 administrative regions based on pre-war boundaries and each of the regions is divided into four administrative districts on average. Decades of conflicts and persistent high levels of both income and human poverty has left about 43 percent of Somalis living on less than USD 1 per day and 73 percent live on less than USD 2 per day [18]. There is also a sectoral disparity in the population living in extreme poverty, with the rural sector accounting for 54 percent and the urban sector accounts for 24 percent. Somalia is ranked as 161 out of 163 poor countries based on the human development index. Income inequality is significant in Somalia, with household surveys suggesting that the poorest 10 percent of the population receives only 1.5 percent of the total income generated in Somalia, whereas the top 10 of the population receive 35.6 percent of the total income [15].

Somalia scores well below average on most social indicators. Only 29 percent of people have access to clean water (53 percent in urban and 4 percent in rural areas) and a mere 26 percent of Somalis have access to improved sanitation. Primary school enrollment stands at 22 percent, which ranks among the lowest in the world. Health indicators are among the worst in the world, with under-five and maternal mortality at a staggering 22.4 percent and 16 women per 1,000 live births, respectively [15]. There are three settlement types; independent, main and satellite. Livelihood nature of the settlement has six types: farming, agro-pastoralists, pastoralists, fishing, business and trade and the last category for any other nature of livelihood.

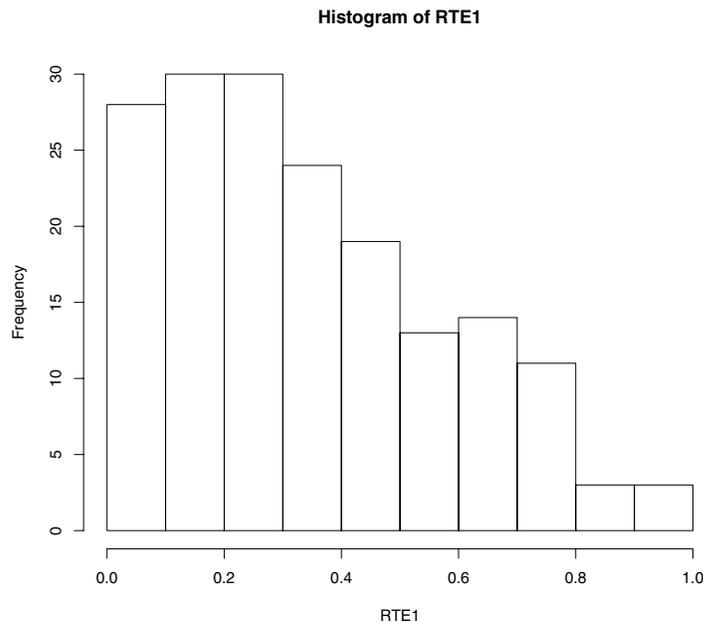
No prior effort to map poverty data of Somalia, either with the aid of regional, district and settlement disaggregated poverty maps or use of spatial regression models. In this study, we demonstrate the potential use of poverty maps derived from statistical analysis in the formulation of pro-poor policy planning and interventions in poverty-alleviation programs in Somalia. Also, to ascertain if the persistent conflict coupled with recurrent long drought spells situation has caused clustering of communities and to determine the principal factors contributing to poverty in communities.

5. Exploratory data analysis

Histogram

Figure 1 shows the distribution of the response variable for Bari region. It is shown to be positively skewed. Analysis was carried out without data transformation because the spatial Durbin model is robust in handling asymmetric data.

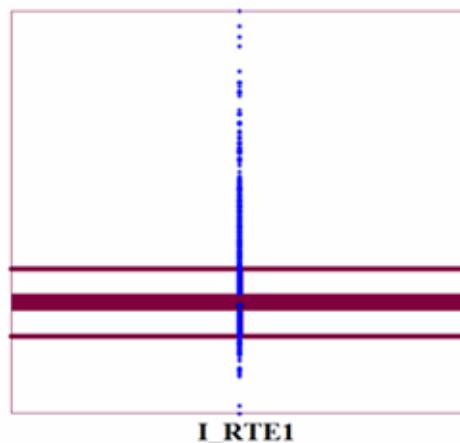
Figure 1: Distribution of the response variable for Bari region



The LISA Box Plot

The boxplot in Figure 1 confirms the skewed distribution and outliers of the response variable.

Figure 2: Local Moran's I box plot

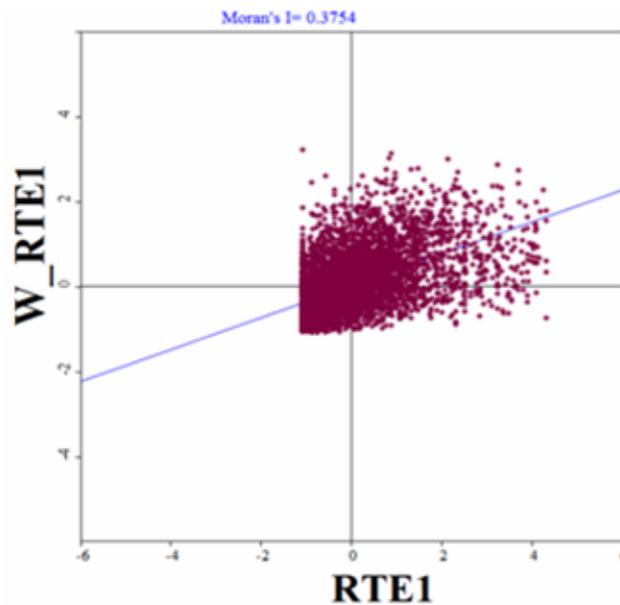


The LISA scatter diagram

The scatter plot in Figure 2 shows positive spatial autocorrelation. Moran's I statistic value of 0.38 shows that there is similarity in the five nearest neighboring settlements of Somalia as a whole. Most of the settlements are also within the second and the fourth quadrant. Settlements falling within the fourth quadrant have low proportions of the poor and are surrounded by settlements with low proportions of

the poor. Settlements in the first are those with low poverty surrounded by settlements with high poverty while those in the third quadrant are settlements with high poverty surrounded by settlements with low poverty.

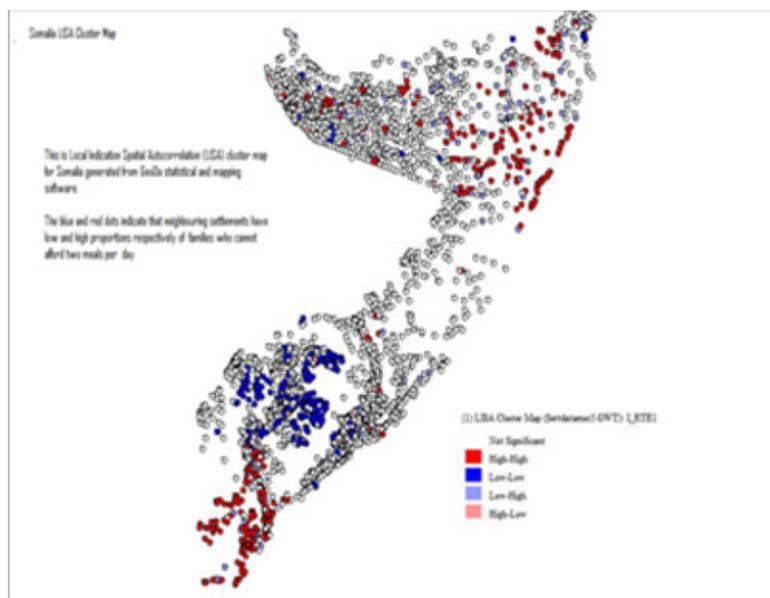
Figure 3: Lisa scatter diagram



The Local Moran's I cluster map

The map in Figure 3 shows a clustering of settlements with high levels of poverty (indicated by the red dots in the north-east and south-west). The blue dots (in the south-central) indicate the clustering of settlements with low levels poverty. The orange dots shows settlements with high poverty surrounded by settlements with low poverty and the pale blue colour shows settlements with low poverty surrounded by settlements with high poverty.

Figure 4: Local Moran's I cluster



6. Spatial Analysis of Settlement data

The results of the Moran's I test for residual spatial autocorrelation for the whole of Somalia is presented in Table 2.

Table 2: Moran's I Statistic for Somalia selected regions

Region	Statistic
Somalia	0.3754
Awdal	-0.0354
Togdheer	0.0129
Bari	0.2231
Bay	0.2200
Lower Shabelle	0.1768

This study finds minimal spatial autocorrelation of data from North West of Somalia (See Table 2). Spatial autocorrelation however exists in North East and South Central Somalia. One explanation could be the proximity of settlements to each other which is much more in South Central Somalia than in North West. However further research needs to be undertaken to establish possible explanations. Somalia as a whole indicates spatial autocorrelation of data.

The full model contained all the variables indicated in Table 1. The Akaike's information criterion (AIC) was applied to each of these variables one at a time. The variable that reduced the value of AIC the most in the first step was included in the model together with each of the remaining variables separately resulting in several models. A subset of the output is presented in Table 3.

Table 3: Model selection through an AIC and BIC process for Bari region

Variables in the model	AIC	BIC
All	1.278	352.570
SETT	-28.677	-6.523
LVHD	-21.534	19.608
SFOD	-11.460	29.682
SINC	-6.387	53.744
WATW	-14.463	1.361
ROAD	-20.619	-4.795
SETT+LVHD	-29.929	23.872
SETT+SFOD	-21.019	32.783
SETT+SINC	-18.988	53.802
SETT+WATW	-25.753	2.730
SETT+LVHD+SFOD	-17.217	
SETT+LVHD+SINC	-17.575	
SETT+LVHD+WATW	-26.373	
SETT+LVHD+ROAD	-30.384	
SETT+LVHD+ROAD+SFOD	-15.774	
SETT+LVHD+ROAD+SINC	-15.830	
SETT+LVHD+ROAD+WATW	-27.058	

Table 4: Table of Effects for Bari region

		Estimate	Std. Error	95% CI		p-value
				LL	UL	
Settlement type	SETT1	Reference				
	SETT2	0.002	0.052	-0.100	0.155	0.967
	SETT4	0.121	0.052	0.019	0.154	0.020
Livelihood	LVHD1	Reference				
	LVHD2	0.137	0.071	-0.001	0.209	0.052
	LVHD3	0.197	0.066	0.068	0.196	0.003
	LVHD4	0.202	0.082	0.042	0.241	0.013
	LVHD5	-0.046	0.111	-0.264	0.328	0.675
	LVHD6	0.033	0.115	-0.193	0.341	0.773
Road	ROAD1	Reference				
	ROAD2	-0.040	0.049	-0.136	0.145	0.409

The parameter estimates in Table 4 show the significant association of poverty with various settlement attributes, namely; type, main source of family food and income, main hazards or risks faced by the population, presence of land mines, social and economic characteristics and constraints to development. Adjusting for the settlement type, livelihood nature of the settlement and availability of road through the settlement, there are significant differences between independent settlement and satellite settlement. Satellite settlements are more likely to have high levels of poverty by about 10% compared to communities residing in independent settlements.

Further, adjusting for the settlement type, livelihood nature and availability of road through the settlement, there are significant differences between those communities whose livelihood nature is farming and those whose livelihood nature is pastoralist and fishing. Communities whose main livelihood nature is pastoralist and fishing are both more likely to be have high poverty levels by 20% than communities whose main livelihood nature is farming.

7. Discussion and summary

The local indicator spatial autocorrelation (LISA) cluster map reveals that poor communities are mainly located and clustered to the north east and south of Somalia while the less poor are located and clustered in the south central part. The spatial regression analysis for Bari region pastoralist communities as the most vulnerable with the addition of fishing communities in Bari region. The settlement type, particularly those communities residing in satellite settlements are significantly associated with high levels of poverty. This could be explained by the fact that most satellite settlements lack essential services and opportunities which are found in main settlements.

Secure environments are normally associated with low levels of poverty and Bari region seems to be enjoying relatively good security status as suggested by the results of this study. This confirms the usual view that secure communities are less vulnerable to incidence of poverty possibly because they are able to move about freely and engage in various socio-economic activities.

We would like to recommend that policy decision making and planning for development and humanitarian relief should to take into account the various settlement characteristics influencing poverty levels. In Bari region communities whose main source of family food is gifts and *zakat* are the most vulnerable to poverty as seen by the high chance (35% and 70%) of these settlements having high poverty incidences.

However, further research is needed on the accessibility to road network in Bari region. It is significantly associated with high poverty for the neighbouring settlements only and not the referenced settlement. The exact nature of its contribution to high levels of poverty needs to be established. In this study only the linear relation was explored. Poverty is multi-dimensional and the factors that influence it might not be captured by the model used in this study. Further reserach could be carried out using

generalized linear spatial models and Bayesian spatial statistical methods which were outside the scope of this study. The robustness of SDM needs to be further investigated using among other methods, a Matrix Exponential Spatial Structure (MESS). Results from these models can then be compared with those obtained from this study.

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Health Equity and the Monetization of Workers Health Benefits in Nigeria

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Abstract

The study used a public institution to evaluate the policy of monetization of workers health benefits vis-à-vis the old system of health expenses re-imburement. The policy gives 10 per cent of a workers basic annual salary as health benefits for a family of six. For all the workers, ANOVA results show inequality in the distribution of benefits. The lower the group's position on the salary level, the smaller is the average health status of members of households. For workers on levels 01-06, the largest mean value of their health allowance of ₦ 236 per household member per month is less than US\$2. For those on levels 07-09, the highest mean value is about ₦ 414. This is less than US\$3 per member per month. Those on salary levels 10-12 have the largest mean value of ₦ 577 which is less than US\$4.5 per household member a month. For the level of 13-15 the per month allowance is less than US\$5.5 at ₦ 798. The study results also indicate that the junior and middle cadres workers tend to prefer the old system of health expenses re-imburement policy while the senior cadres prefer the monetization policy. Whichever way it is viewed, the new health policy tends to imply the privatizations of the health delivery system in Nigeria. Thus health delivery care has been placed under the hammer of privatization of services. The study therefore recommends that government should enhance and advance health equity. As once the workers are paid, they are on their own.

Keywords: Health equity, public institution, monetization policy, workers, Nigeria.

Introduction

Health security is increasingly being recognized as integral to any poverty reduction strategy (Jutting, 2004). However there has been a shift of focus to social risk management though poverty reduction remains of central concern. This is because of the role risk plays in the life of the poor (Holzmann and Jorgenson, 2000). Health risks post the greatest threat to their lives and livelihoods. For the poor households, labour (time) is the dominant household resource which must be allocated to several competing activities including market, non-market activities and leisure. Hence, a health shock leads to direct expenditure for medicine, transport and treatment (Jutting, 2004). It also leads to indirect costs related to a reduction in labour supply and productivity (Asfaw, 2003). A strong link is known to exist between health and income at low-income levels. Hence, a health shock affects the poor the most (CMH, 2001; Morrisson, 2002).

The poor state of the Nigerian health facilities is a frequent topic in newspaper articles, public debates and discussions (Gureje, 2005). According to Lucas (2005), the Nigerian health system is sick,

very sick and in urgent need of intensive care. It is blind, lacking in vision of its goals and strategies; it is deaf, failing to respond to the cries of the sick and dying; and it is impotent, seemingly incapable of doing things that neighboring states have mastered. The current uncoordinated approach to solving the nation's health problems must give way to a workable and equity-enhancing system.

In the context of this study, the health system is conceptualized in line with W.H.O (2000); as embodying the actors and activities whose primary purpose is to promote, restore, or maintain health. The health system in Nigeria can be categorized mainly into two. These are: the traditional health care and the orthodox/conventional medical care. The orthodox system is provided by both the private and public health services. In Nigeria, there is already a widespread consultation of trado-medical care by a large proportion of the population. There is thus a gradual reduction in the utilization of orthodox care by those who cannot afford to pay.

The focus of this study is the public health delivery/provision system as embedded in the employment status of workers. To this end, the economy of Nigeria can be segmented into formal and informal labour sectors. The formal labour segment is conceptualized as that portion of the labour force employed by the public and private sectors in which their conditions of service include the provision of health benefits to the workers. The formal labour component enhances the tax-base of the economy. On the other hand, the informal labour portion is made up of self-employment and wage employment without health facilities attached in which the provision of health care is the problem of the workers. This constitutes the larger segment of the economy. It has the larger proportion of the very poor for which buffer or health equity is of critical importance. This segment affects the tax-base of the economy as a result of rampant tax evasion. The issue of health equity in this latter segment can better be imagined than discussed. Hence, the focus of this study is on the formal labour segment of the economy as conceptualized. The aim is to use a public institution as the unit of analysis in terms of public provision of health care and the implications for advancing health equity in the economy.

The Problem Statement

The basic health indices in Nigeria are fairly well known. Life expectancy is 48 years for males and 50 years for females (DHS, 2003; WHO, 2004). The figures for Ghana are 56 and 59, Gambia 55 and 59 and Senegal 54 and 57 respectively. In India, it is about 60 years for males and 61 years for females. For every 1000 children born in Nigeria, 200 will die before the age of 5. The corresponding figure for Ghana is about 110, in Gambia 125 and in Senegal 135(Gureje,2005). The healthy life expectancy index shows a different picture of the health status of the country. This index, which according to Mathers et al, (2000), is the equivalent number of years in full health that a new born can expect to live based on current rates of ill-health and mortality. It is about 41 years in Ghana, Gambia and India and 61 years in Brazil (Gureje, 2005). These indices are the undesirable consequences of more fundamental problems with the health system in Nigeria.

The health system in Nigeria is highly un-responsive in terms of how it meets the expectations of the users of the system. This includes the promptness of attention, quality of the amenities, access to social support networks and freedom to choose providers. In this context, WHO (2004), rates Nigeria in the 149th position out of 191 member states. India ranks 108th, Senegal 119th while Ghana is rated 132nd. The health system operates almost entirely an out-of-pocket payment regime. Users pay something at the point of delivery of services. What they pay is not related to how able they are economically (Gureje, 2005). Thus, the fairness of financing the system as a measure of performance is devoid of equity. The WHO (2002), rates Nigeria in 180th position among its 191 member states in this aspect. Nigeria is better than only Cameroon and Sierra Leone in Africa in this regard. The issue of fairness of financing the system is about equity i.e. about providing for the weakest groups in the country, about providing equality of opportunity with anyone receiving as much health care as anyone else in the same medical condition regardless of income, age, sex, etc. This connotes availability and accessibility to health care for the citizens.

Most of the money spent on health in Nigeria comes from user-sources. The contribution of these sources as a percentage of the total national expenditure on health is about 77%. This implies that the contribution of government is only about 23%. In comparison, out-of-pocket payments amount to 40% in Ghana, 41% in Senegal and 53% in Benin Republic (WHO, 2002; 2004). Nigeria is one of the countries in Africa in which it is feared that the millennium development goals as they relate to health may not be achieved because of the weakness of the health system (Travis et al; 2004). Moreso, good health is a fundamental human right and its provision is both a moral and compassionate obligation on the part of the government. Hence, providing good health for the citizens should not be seen as a purely economic issue (Gureje, 2005). It is behind this background and context that the possibility of advancing health equity in Nigeria is examined.

The objectives of this study therefore is to quantify the average medical allowance of a household of six members, examine health equity in terms of the average medical allowance for the workers, assess workers' preference for the monetisation policy vis-à-vis the re-imburement policy, measure the disparity in medical allowance for the groups of workers, and assess the health equity implications of the new policy to workers

Background Information on Health Benefits to Workers in Nigeria

From independence in 1960 to September 2004, public institutions provide medical facilities for their workers as part of their conditions of service. The public institutions have their own health services or liaise with a private clinic to provide a broad base health services to the staff and staff dependents. These facilities are extended to the immediate family, the staff, spouse and four children. A member of staff who incurs any expenditure in respect of medical treatment for himself or family outside the public health services has the right to claim a refund of any such expenditure. The claim must however be supported by proper receipts.

By October 2005, this health policy changed to one of direct monetization of health benefits of workers. The monetized benefit is 10% of the annual basic salary paid on monthly basis to the workers. The direct provision of health care or health expenditure refund scheme has thus been monetized to a fixed level. The implication is that whatever, extra costs incurred by the worker is his own problem not that of his employer as it used to be. The National Health Insurance Scheme (NHIS) has direct linkage with the monetization policy. The scheme is built on the 19% health allowance, which the policy offers. But for a worker on levels 01-06, what is 10 percent to him in maintenance of the health of a family six (husband, wife and four children) for one year? (Edeh, 2004). Of course, the issue of participation in the NHIS by the workers is critical and crucial in the health care sector in view of the perceived poor performance of the Insurance industry in Nigeria. For now, the issue is that of advancing health equity among the workers through a change in policy from re-imburements of medical expenses to monetization of health benefits fixed at 10 percent of the workers basic annual salary.

The monetization of health benefits package for workers in Nigeria thus provides the setting for the current study. The new policy tends to connote a complete privatization of the health system; the system seems to have assumed the status of pay-as-you-use for the monetized workers. The bottom line is that now both the formal and informal labour force segments of the economy are at the mercy of private providers of health-care? Yet health is recognized for both its intrinsic and instrumental value. It contributes directly to an individual's level of well being, as well as indirectly via its impacts on other components. This is captured in the common saying that "Health is Wealth". The question is: What are the implications of the monetization of workers health benefits in Nigeria in terms of advancing health equity? What are the advantages and disadvantages of this system vis-à-vis the old system? Can this system enhance availability and accessibility of health services to the workers? Can this enhance the health status and equity of the workers?

Methodology

Scope of Study

This covers workers in a public institution in Nigeria as a case study. The groups of workers covered are the junior workers on levels 01-06, middle cadre on levels 07-09, senior workers on levels 10-12 and the most senior workers on levels 13-15. The classification is based on the number of salary scales for each group. The first two groups have 15 scales but are differentiated into junior and middle cadres. The third group has 11 while the last group has 9 scales.

Methods of Data Collection

Both primary and secondary data were collected for this study. The primary data involved a random selection of 300 workers from each of the four groups. The secondary data involved information contained in the basic salaries and for the workers allowances (HATISS.IV, 2004).

Methods of Data Analysis

Descriptive statistical analysis involving mean, and percentages was carried out. Analysis of variance was used for each group to capture equity or disparity in the means of their medical allowances for the workers. The four groups are then combined for further analysis.

Results and Discussion

The allowances for workers on levels 01-06 over 15 years form a 6 by 15 matrix. The individual value in the matrix was divided by 12x6, to obtain the average health allowance per member of a household of six per month. These values were then subjected to descriptive analyses. This was also done for the other groups.

For these levels of workers, the health allowance when then worker is on level one step one is ₦ 93,00 and ₦ 132,00 when on step fifteen. The range is ₦ 39.00. The mean value over 15years for this level is ₦ 112.00. Dividing the range value of ₦ 39.00 by 15 amounts to about annual increments of ₦ 2.60. The calculations for the other levels are presented in Table 1.

Table 1: Descriptive statistics of health allowances of workers on levels 01-06

Levels	01	02	03	04	05	06
Min	93	94	99	113	138	186
Max	132	142	156	179	219	286
Range	39	48	57	66	81	100
Mean	112	118	128	146	179	236
Annual increment	2.6	3.2	3.8	4.4	5.4	6.7

Source: Calculated from HATISS; 2004

The largest mean value of N236.00 for level 06 workers is less than US\$2 per household member per month or US\$24 per year per member. One is forced to ask: what is the rationale and possibility of attaining health equity with such an amount over a 15-year period for the worker? What quantity and quality of drugs can this amount purchase? Is this enough to cover the consultation fees of most private health care providers? What about the transportation costs to the health centers? Is this amount sufficient to treat high cost diseases such as malaria, tuberculosis and HIV/AIDS that are endemic in Nigeria?

One feels that this monetization policy will not result in health equity among workers in the formal sector. Most drugs are imported and thus have a foreign exchange component. These drugs are highly expensive and out of reach of junior workers not to talk of those in the informal labour sector. This situation has led to the importation of expired and fake drugs into the country. The National

Agency for food, Drug Administration and Control (NAFDAC) a parastatal of the federal ministry of health between April-December, 2001-January February, 2004, destroyed fake drugs worth N4,615 billion (NAFDAC, 2005). The demand for and supply of health services by the Alternative Therapy are on the increase. This is evidenced by the level of advertisement in the media. This is commonly referred to as Trado-medicine or traditional health care.

The ANOVA results, to which the 6x15 matrix was subjected, indicated significant difference in the means of this group of workers. The f_{cal} of 70.69 is greater than f_{tab} of 2.96 at 1% and 2.29 at 5% level of significance. The alternative hypothesis was thus accepted. Hence, the results do not support equity in the allowances. The results obtained here encouraged the use of Duncan's multiple range test to group the mean that are not significantly different. The test indicated that the means for levels 01, 02, and 03 are not different while the means for levels 04, 05 and 06 are significantly different. The first three levels are thus disadvantage while the second three levels are at an advantage statistically. This result also confirmed inequality in the allowances among the workers.

Table 2: Descriptive statistics of health allowances of workers on levels 07-09

Levels	07	08	09
Min	242	286	336
Max	360	426	491
Range	118	140	155
Mean	301	356	414
Annual increment	7.87	9.33	10.33

Source: Calculated from HATISSIV, 2004

For the 07-09 levels, it is a 3x15 matrix. The annual increment in allowance is ₦ 7.87, ₦ 9.33 and ₦ 10.33 respectively. This is obtained by dividing the range values by 15. The largest mean of ₦ 414.00 for level 09, is less than US\$3 per household member per month or US\$36 per year. The 3 by 15 matrix of allowances was subjected to analysis of variance. The ANOVA results indicated a significant difference among the means of health allowances for the three levels. The F_{cal} of 24.12 is greater than F_{tab} of 4.98 at 1 per cent and 3.5 at 5 per cent levels of significant. The alternative hypothesis was thereby accepted. This confirmed inequality in the values and hence cannot promote health equity among the workers. The Duncan's multiple range test showed that the means are significantly different. This implies that statistically, there is no equality or equity in the health allowances.

Table 3: Descriptive statistics of health allowances of workers on levels 10-12

Levels	10	11	12
Min	388	434	480
Max	559	615	675
Range	171	181	195
Mean	474	554	577
Annual increment	15.55	16.46	17.73

Source: Calculated from HATISSIV, 2004

For the 12-13 levels, the 3 by 11 matrix for the salary levels and steps was put through the analysis of variance procedure. It is worth noting that the largest mean allowance of N577.00 is less than \$US4.5 per household member per month. This is equal to \$US54 per year. The ANOVA results showed that there is significant difference in the means of health allowance within the group. The F_{cal} of 8.05 is greater than the F_{tab} of 5.39 at 1 per cent and 3.32 at 5 per cent levels of significance. The alternative hypothesis was accepted at these levels. Statistically, the means of health allowances for the group are not the same. The Duncan's test, however, indicated that the means 474 and 524 are not significantly different hence they are the same statistically. The mean 577 is significantly different

from the other two. The implication of this finding is that even within group there is inequality and hence equity is not achieved.

Table 4: Descriptive statistics of health allowances of workers on levels 13-15

Levels	13	14	15
Min	531	588	655
Max	740	838	940
Range	209	250	285
Mean	636	713	798
Annual increment	23.22	27.78	31.67

Source: Calculated from HATISSIV, 2004

The levels 13-15 workers have a 3x9 matrix. Table 4 shows the largest mean health allowance of N798 and this is less than US\$5.5 per individual. This is equivalent to US\$66 per year. The ANOVA results led to the acceptance of the alternative hypothesis with f_{cal} of 8.06 that is greater than f_{tab} of 5.61 at 1 per cent and 3.40 at 5 per cent levels. The Duncan's test showed that the means 636 and 713 are not significantly different hence they are statistically the same. The third mean of 798 is different from them. These results again confirmed inequity in health allowances within the group.

In this section; ANOVA is carried out for all the workers simultaneously with emphasis on the fact that the number of steps for the groups is not the same. This analysis looks at the totality of the workers as a whole (levels 01 to 15). The ANOVA results indicated a highly significant difference among the means with f_{cal} of 268.71 and f_{tab} of 1.79 at 1 per cent and 1.52 at 5 per cent levels. Hence, the monetization policy has not resulted in advancing health equity among the workers. The Duncan's test emphatically and statistically confirmed this assertion. It showed that the workers can be divided into two sets of 01-05 and 06-15. There is no significant difference among the mean health allowances for the first set. There is however significant difference for the second set. The monetization policy does not seem to advance health equity among the workers.

The analysis moved a step further. The specification in this case, looks at the workers as made up of four classes; junior (01-06), medium (07-09), senior (10-12) and most senior (13-15). The allowances for these classes were arranged in ascending order down the steps. The ANOVA results for this specification indicated a highly significant difference among the mean health allowances for the four classes of workers as defined. The F_{cal} of 608.39 is greater than the F_{tab} of 3.78 at 1 per cent and 2.60 at 5 per cent levels. The alternative hypothesis was accepted at these levels. The Duncan's multiple range test showed that mean health allowances for the classes are significantly different. Hence, even at the class-level, there is no equity. The inference that could be drawn from these results is that the monetization of health benefits of workers does not and cannot result in advancing health equity of this set of workers in Nigeria.

Table 5: Workers Preference for the Policies

Workers	Prefer old	Prefer new	Indifferent	Sample
Junior 01-06	235 (78.3)	50 (16.7)	15 (5.0)	300
Middle 07-09	172 (57.3)	110 (36.7)	18 (6.0)	300
Senior 10-12	20 (6.7)	280 (93.3)	0 (0.0)	300
Senior 13-15	0 (0.0)	300 (100.0)	0 (0.0)	300

Source: Field survey, 2006. Figures in parentheses are percentages.

Table 5 tends to imply that junior workers prefer the old system to the new. Some 78 percent of them will like the old policy to be restored. Only about 17 percent of them prefer the new policy. The 78 percent believe that there is equity in the old system, as all expenses incurred are re-imbursed hence their preference. This set must have benefited a lot from the old system. However, 17 per cent of them that prefer the new policy because they seldom use the old system. Now they have something, even if not much coming into their purses. The remaining 5 percent are indifferent because they rely too much on traditional care for their ailments.

As regards the middle cadre, about 58 percent prefer the old policy as against only 37 that preferred the new policy. The 58% prefer believe that what ever they spend will be re-imbursed. They argued that now, once they are paid, the money may not be there during health shocks. They may be forced to go a borrowing. They may be forced to seek alternatives-trado-medicure or be forced to live with their ailments. The 37 percent prefer the new policy because of the state of health delivery system in Nigeria. They prefer to get the money and source for their own services. They have the choice of self-medication and or diverting to alternative therapy. With regard to the senior cadres 93 and 100 percent prefer the new policy. These sets require high quality medical services not the type provided by the public. They have private medical providers that they consult even without official medical benefits. The monetized medical allowance will only aid in reducing part of their self expenditure on medical bills

Generally, the conclusion that can be reached is that the junior and middle cadres prefer the old policy while the senior cadres prefer the new policy. This preference can be understood in terms of the preferential demand for heath services by the groups. The income differentials and/or status of the workers, partly influenced by their educational levels, are major determinants of the type of medical service that they will demand. This demand, itself points to inequality as it is not expected that all the worker can demand for the same services gives the same health conditions. The new policy does not make for advancing health equity among the workers. As for the larger society which depends on the private sector providers and self-financed, the situation is better imagined than discuss. In this case discussing health equity will be meaningless.

Conclusion and Recommendations

There seems to be a strong empirical evidence in support of social inequalities in the monetization of health benefits of workers. Typically, the lower a worker's position is on the salary level, the smaller is his benefits and by extension, the worse the average health status of the members of his household. This finding agrees with those of Townsend and Davidson, (1990), Krieger *et al*; (1993), and Duyal, (1995). As shown in this study there tends to be a relationship between income inequality and population health. The finding here is that the more unequal a society is, the worse is its achievements in aggregate health (see Wilkinson, 1996; Kaplan *et al*; 1996 Kawachi *et al*; 1997, and Judge *et al*. 1998). This is because income differentials among workers encourage differences in access to health care in terms of demand and quality. Some workers are completely marginalized out of the markets for health care by virtue of their social and occupational status. Are the 10 percent values for the different categories of worker within the acceptable welfare range and within the concept of social justice, where justice stands for fairness? This kind of question according to Rawl (1971;1993) provides a useful frame work for evaluating social inequalities in health.

The mechanism implicit in the basic institution and processes that produce the monetization policy as it relate to health only advances the more, social inequalities in health in Nigeria. Many Nigerians are known to seek medical attention abroad. Even for the most senior workers in the country, the entire monetized amount for a year can not cover such a single trip. This goes back to the society in terms of the principal social and economic institutions and the inequalities in health that originate in the results of social division of labour. A social division of labour, that benefits the better off groups at the expense of the worse-off. Hence, the basic social arrangements only have the effects of

undermining the fundamental equality of all members of societies and this do not constitute a “fair” system, nor does it make for equity in health or for advancing it in a society.

Finally, once the workers have been paid, they are on their own. The underlying implicit implication is that health delivery care has been placed under the hammer of privatization of services. Private providers are profit centers, out to maximize their profit. These cannot be expected to enhance health equity in a free market economy. The onus is on the government to enhance and advance health equity. The government has thus backed out with the monetization of workers health benefits

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Mobility of Holes in Cu₂O Solar Cell

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Abstract

Copper (I) oxide (Cu₂O) semiconductor is envisaged to be a good material for the production of low cost solar cell. This oxide film was oxidized in laboratory air between the temperatures of 950°C to 1050°C at an oxidation time ranging from 2 minutes to 9 minutes and then annealed at a temperature of about 500°C for 1.5 hours. The resistivity and mobility of holes in this oxide were analyzed in all the samples. Results show that as the resistivity values decreases down the group, the charge carrier mobility values increases correspondingly. This is in agreement with the expected results. However, in order to achieve high conversion efficiency of solar cell materials, it is expected that the mobility values for such materials should be as high as possible.

Keywords: Holes, Charge Carrier Mobility, Hall Effect, Annealed.

Introduction

The conductivity measurements cannot reveal whether one or two types of carriers are present in a conducting sample nor distinguish between them. However, this information can be obtained from Hall Effect measurements, which are basic tools for the determination of mobility. This effect was discovered by E.H HALL in 1879 (E.H Putley 1960).

Generally, the Hall voltage is not a linear function of magnetic field applied, meaning that the Hall coefficient is not generally a constant, but is a function of the applied magnetic field. Consequently, interpretation of the Hall Voltage is not usually a simple matter. However, it is easy to calculate this (Hall) voltage if it is assumed that all carriers have the same drift velocity.

The purpose of these investigations is to see how the drift velocities of holes in Cu₂O can be improved by varying the thickness of the oxides as a function of its oxidation temperature and oxidation time. The mobilities of holes and electrons in any solid is not constant but a function of temperature, then the Hall coefficient is also a function of temperature and it may become zero. At the point of zero Hall coefficients, it is possible to determine the ratio of mobility and their relative concentration. These Hall Effect measurements in conjunction with resistivity measurements provide information on carrier mobility. It must be noted however, that mobility obtained from Hall Effect measurements does not always agree with directly measured values, the reason being that carriers are distributed in energy, and those with higher velocities will be deviated to a greater extent for a given field as mobility varies with velocity.

Basic Theory

Photogeneration of Charge Carriers

When a photon hits a piece of semiconductor, one of three things can happen:

1. The photon can pass straight through the semiconductor- this (generally) happens when the energy of the photon is lower than the bandgap energy of the semiconductor.
2. The photon can reflect off the surface- this (generally) happens if the photon energy is greater than the bandgap energy of semiconductor.
3. The photon can be absorbed by the semiconductor- this happens if the photon energy is within the bandgap energy of semiconductor.

Note that if a photon has an integer multiple of bandgap energy, it can create more than one electron-hole pair; However, this effect is usually not significant in solar cells. The “integer multiple” part is a result of quantum mechanics and the quantization of energy.

When a photon is absorbed, its energy is given to an electron in the crystal lattice. Usually this electron is in the valence band, and is tightly bound in covalent bonds between neighboring atoms, and hence unable to move far. The energy given to it by the photon “excites” it into the conduction band, where it is free to move around within the semiconductor. The covalent bond that the electron was previously a part of now has one less electron- this is known as a hole. The presence of a missing covalent bond allows the bonded electron of neighboring atoms to move into the “hole,” leaving another hole behind, and in this way a hole can move through the lattice. Thus, it can be said that photons absorbed in the semiconductor create mobile electron- hole pairs.

A photon need only have greater energy than that of the bandgap in order to excite an electron from the valence band into the conduction band. However, the solar frequency spectrum approximates a black body spectrum at 6000K, and as such, much of the solar radiation reaching the earth is composed of photons with energies greater than the bandgap of semiconductor. These higher energy photons will be absorbed by the solar cell, but the difference in energy between these photons and the semiconductor bandgap is converted into heat (via lattice vibrations- called photons) rather than into usable electrical energy. Solar cell free encyclopedia, (2006).

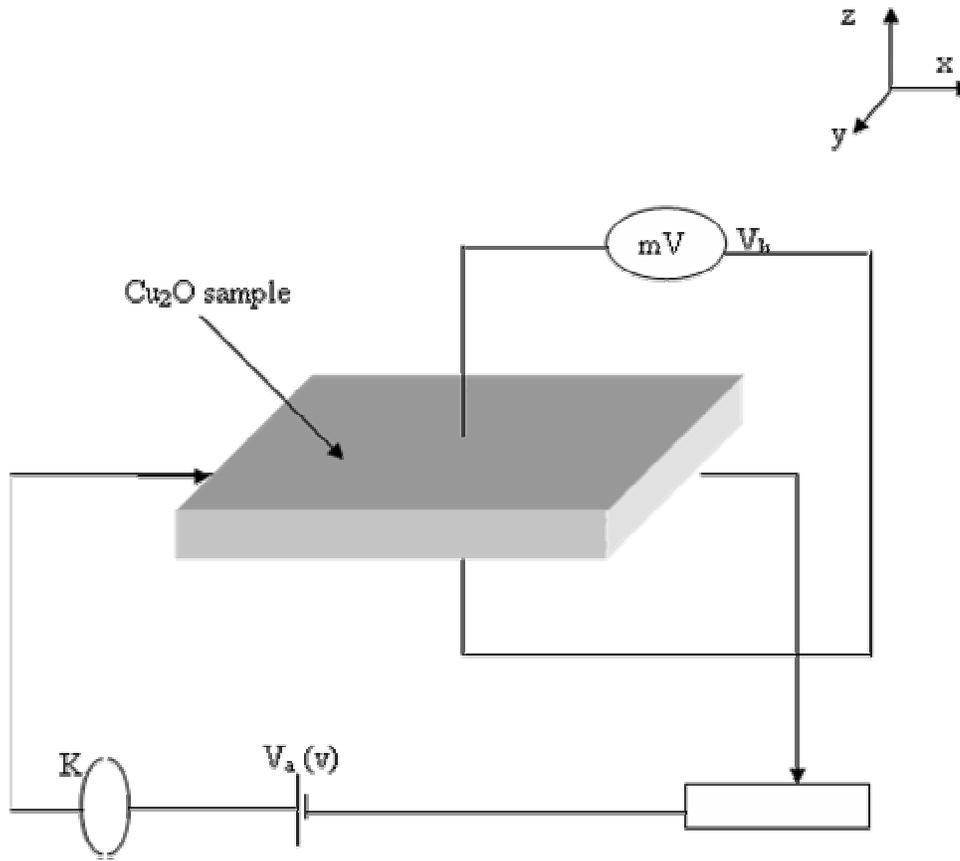
Experimental Procedure

Sample preparation

The cuprous oxide samples were prepared in a furnace by thermal oxidation techniques at an elevated temperature. This oxide film was obtained from the oxidation of pure copper (Cu) foil in laboratory air between the temperatures of 950°C to 1050°C at an oxidation time ranging from 2 minutes to 9 minutes and then annealed at a temperature of about 500°C for 1.5 hours.

Charge Carrier Mobility Measurement (μ)

Figure 1: Circuit diagram for mobility measurement



The Cu_2O sample was held with a wooden stand and placed between the opposite poles of the magnet. The variable control of the direct current (d.c) power supply was used to increase the applied voltage V_a in steps of 0.2 volts from 0.4 to 2.2 volts. The corresponding Hall voltage, V_h in each case was recorded. The wooden stand holding the sample was left stationary while the magnet was removed after each set of readings were taken, and replaced after the increase in the next applied voltage were made. Fig (2) shows an illustration in this respect.

A static magnetic field has no effect on charges unless they are in motion. When the charges flow, a magnetic field directed perpendicular to the direction of flow produces a mutually perpendicular force on the charges. When this happens, electrons and holes will be separated by opposite forces. They will in turn produce an electric field (\vec{E}_h) which depends on the cross product of the magnetic intensity, \vec{H} and the current density, J . The situation can be represented as:

$$\vec{E}_h = R_H \vec{J} \times \vec{H} \tag{1}$$

where R_H is called the Hall coefficient.

Consider a bar of semiconductor, having dimensions, X, Y and Z. An electric field applied along X-axis and a magnetic field along the Z –axis. At the bottom side of the sample, there will be a piling up of holes caused by the down-directed current, which in turn gives rise to an electric field \vec{E}_y .

If \vec{J} is directed along X and \vec{H} along Z then \vec{E}_h will be along Y. so that we could write:

$$R_H = \frac{V_h / Y}{JH} = \frac{V_h Z}{IH} \quad (2)$$

Where V_h is the Hall voltage and $I = \vec{J}YZ$.

In general, the Hall voltage is not a linear function of magnetic field applied, i.e. the Hall coefficient is not generally a constant, but a function of the applied magnetic field. Since there is no net current along the Y-direction (Hall field \vec{E}_h) should exactly balance the magnetic force fig (2). But force on the positive charge along the Y-axis is given by $q\vec{E}_h$. Then, equation (2) becomes:

$$q\vec{E}_h = q\vec{V}_x \times \vec{H} = qV_x \vec{H} \quad (3)$$

where $V_x = R_H \vec{J}$ that is

$$\vec{E}_h = V_x \vec{H} \quad (4)$$

Since the Hall field can be measured externally and this is given as:

$$\vec{E}_h = \frac{V_h}{W} \quad (5)$$

where W is the sample width. But mobility,

$$\mu = \frac{V_x}{E_x} \quad (6)$$

$$\Rightarrow V_x = \mu E_x \quad (7)$$

Now putting equation (8) into (5), we obtain

$$\vec{E}_h = \mu E_x \vec{H} \quad (8)$$

But E_x can also be measured externally, this is given as:

$$E_x = \frac{V_a}{L} \quad (9)$$

Where L, is the sample length

By substituting equations (6) and (10) into equation (9),

We then have:

$$\frac{\vec{V}_h}{W} = \frac{\mu V_a}{L} \vec{H} \Rightarrow \vec{H} \mu V_a W = V_h L \quad (10)$$

And this equation (11) can be rearranged as:

$$V_h L = \vec{H} \mu V_a W \Rightarrow V_h = \vec{H} \mu \frac{W}{L} V_a \quad (11)$$

Comparing equation (12) with the equation of a straight line

$$Y = Mx + C \quad (12a)$$

A graph of V_h against V_a will be a straight line from origin and a slope of

$$\vec{H} \mu \left(\frac{W}{L} \right) \quad (12b)$$

is obtained, so that the mobility μ can be calculated as

$$\mu = \frac{\text{slope}}{(W/L)H} \quad (13)$$

This equation (14) was used for the calculation of the charge carrier mobility.

Results and Discussion

Results

The charge carrier velocity is a function of the applied electric field. Usually, the proportionality constant connecting the velocity with the applied electric field is what is called the CHARGE-CARRIER MOBILITY (μ). The charge carrier mobility is a parameter that tells us how rapidly the charge carrier will move on application of an electric field. This was measured by plotting a graph of Hall voltage against the applied voltage and the slope were obtained in each case to calculate the charge carrier mobility using equation (14).

Figures 1-5 shows the graph of Hall voltage versus applied voltage for all the samples. It should be noted that at every oxidation temperature and time, a replicate of the sample were measured in order to optimize the accuracy of the resulting mobility.

Figure 1: A graph of Hall voltage versus applied voltage for samples A₁₁,A₁₂,A₁₃

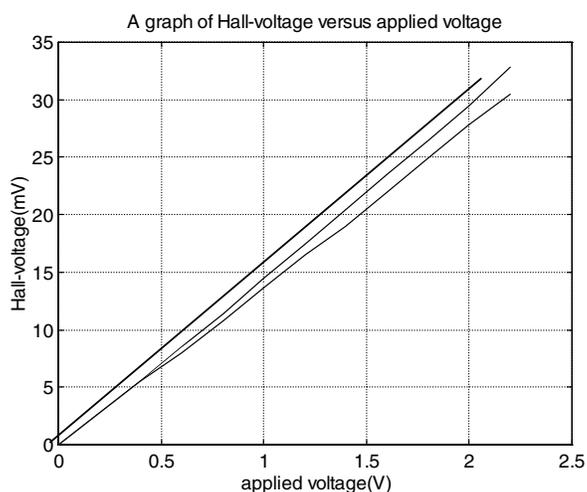


Figure 2: A graph of Hall voltage versus applied voltage for samples A₂₁,A₂₂,A₂₃

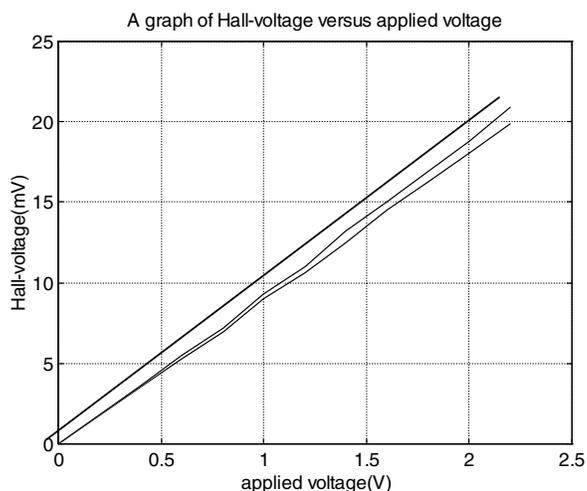


Figure 3: A graph of Hall voltage versus applied voltage for samples A_{31}, A_{32}, A_{33}

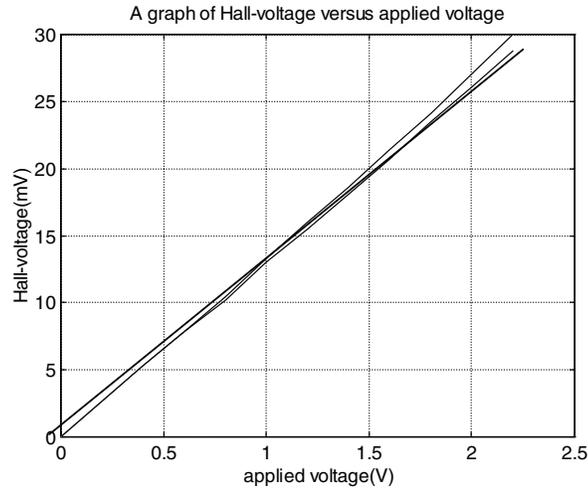


Figure 4: A graph of Hall voltage versus applied voltage for samples A_{41}, A_{42}, A_{43}

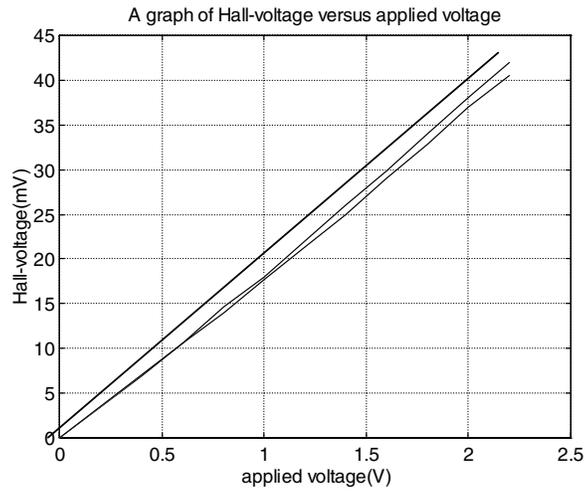


Figure 5: A graph of Hall voltage versus applied voltage for samples A_{51}, A_{52}, A_{53}

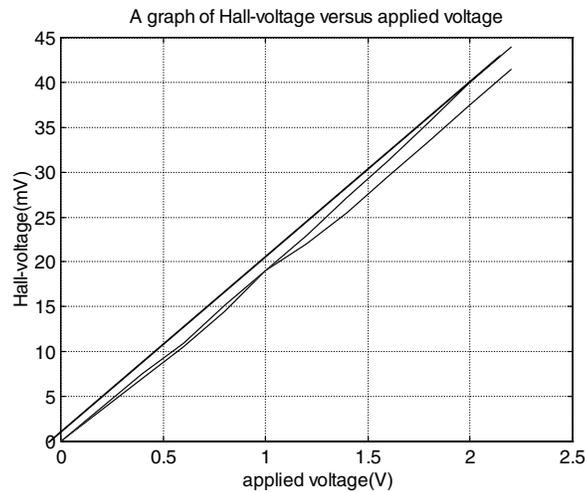


Table 1: Summary of Charge Carrier Mobility Value for (Cu_2O) Samples

S/N	Oxidation Temp. ($^{\circ}C$)	Oxidation Time (mins.)	Mobility $\mu_1 (cm^2V^{-1}s^{-1})$	mobility $\mu_2 (cm^2V^{-1}s^{-1})$	mobility $\mu_3 (cm^2V^{-1}s^{-1})$	Average mobility $\mu (cm^2V^{-1}s^{-1})$
1	950	7	278.20	280.00	282.20	280.13 ± 2.00
2	970	6	284.00	309.50	284.00	292.33 ± 14.7
3	980	5	301.10	298.00	284.80	294.40 ± 8.66
4	1000	4	383.80	384.00	387.00	384.93 ± 1.80
5	1050	3	385.40	390.00	388.00	387.80 ± 2.31

Table 2: Showing Samples Thickness and Average Resistivity Values

S/N	Samples	Oxidation. Temp. ($^{\circ}C$)	Thickness (mm)	Average resistivity $\rho (\Omega cm)$
1	A ₁₁ A ₁₂ A ₁₃	950	0.12	359.69 ± 2.42
2	A ₂₁ A ₂₂ A ₂₃	970	0.113	327.69 ± 1.21
3	A ₃₁ A ₃₂ A ₃₃	980	0.108	300.08 ± 1.07
4	A ₄₁ A ₄₂ A ₄₃	1000	0.107	292.73 ± 0.15
5	A ₅₁ A ₅₂ A ₅₃	1050	0.106	291.62 ± 0.45

Discussion on the Charge Carrier Mobility

In any two or more given semiconductors, the charge carrier in the material of higher resistance is expected to have lower velocities than the materials of low resistance for the same value of applied electric field. This is not unconnected with the fact that the material of high resistance will give more opposition to the free flow of charge carriers, while that of less resistance gives less opposition to the flow of charge carriers. A close observation at tables (1) and (2) show that as the resistivity values decrease down the group, the charge carrier mobility values increase correspondingly. This is in agreement with the expected results.

However, in order to achieve high conversion efficiency of solar cell materials, it is expected that the mobility values for such materials should be as high as possible. Mobility of holes in cuprous oxides prepared by thermal oxidation method has been measured as $200 \text{ cm}^2V^{-1}S^{-1}$ by Brattain, (1951). While the mobility of holes in cuprous oxides has been measured by Vogt (1930) as $120 \text{ cm}^2V^{-1}S^{-1}$ at room temperature. In the present study, cuprous oxides have been prepared at nearly $1000^{\circ}C$, annealed, quenched and experimental measurements carried out at about $35^{\circ}C$. The orders of values for are in good agreement with values reported in literature. Since the mobility of material increases with decrease in temperature, then, this result is in agreement with the results obtained in the literature.

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Politics in University Governance in Nigeria at the Onset of the 21st Century

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Abstract

Governance and politics connote power, authority, control and influence. While some people believe that education and politics should be separated, this paper argues that good politics is a necessity for good education in an era of stifling competition for global resources. In doing this, the discussion covers eight pertinent premises.

The first part of this paper examines the historical origin of politicization of university education as this relates to the process of colonial state formation in Nigeria. The second part discusses the interaction between politics and university planning while the third part of the paper examines politics in the structure and organization of Nigerian universities. The fourth part discusses the workplace politics with emphasis on the role of trade unions vis-à-vis the governance of university education in the country. The fifth part deals with politics in the appointment of key management staff such as the Vice-Chancellor and Council members. The sixth part focuses on politics as it affects the control of Nigerian universities by the National Universities Commission (NUC). The seventh part discusses the interplay of politics in budgetary allocation to Nigerian universities while the last part examines the politics in funding of university research especially by the donor agencies.

The paper concludes by recommending that Nigerian universities should brace up to the challenges before them in the twenty-first century, and ensure that their missions are geared towards achieving the desired targets within a fast growing globalized society.

Introduction

Politics could be described basically as support building, influence gathering, protection of domain, acquisition of power and self-serving behaviours. Those who support the idea that politics is a self-serving activity are of the contention that politics should not be made to rubbish educational matters; especially with respect to resource allocation, decision-making regarding crucial educational issues, admission of students, promotion of staff, among others. This is due to the fact that the negative outcomes of politics such as competition, conflicts, rivalry, and struggling in the process of sharing the scarce resources, have detrimental consequences. Also, this school of thought contends that politics as self-serving activities impact negatively on objectivity, rationality and economic efficiency in decision-making in education. Nigerian politicians and public officials, while pursuing their personal or political interests, most often than not exploit educational resources (by engaging in certificate racketeering and false declaration of such certificates) as a means of appropriating jobs, contracts, scholarships and other personal rewards, and often to the jeopardy of the educational system. In spite of this blatant extravagant exploitation of educational resources, quite a substantial number of the electorates continue to cast their ballots for these unscrupulous politicians who persist in manipulating the educational system for electoral purposes. A clear example was the one-time Speaker of the Federal House of Representatives, Alhaji Haruna Abubakar, who was found to have possessed a fake university degree

from the University of Toronto, Canada. This scenario gives the feeling that Nigerians prevalently but scandalously give preference to the manipulative and ridiculous use of educational resources by those in position of authority.

If we think about the deliberate utilization of political patronage in Nigeria right from the time of political self-rule, and the political manipulations and influences on education, there is the likelihood to support those who dispute that education and politics should be separated. Be that as it may, politics is much more than partisan politics. It is a fact that there is a correlation between those who hold political power and the ability to make or manipulate decisions. However, it does not necessarily follow that one should be a member of a specific political party before playing politics. Political power is therefore not evident, but essential to attain organizational objectives in the overall interest of the society.

Nigeria currently has ninety-two universities, some of which are federal, state or private-owned (National Universities Commission, 2007). Nigerian universities are presently characterized by low morale and motivation, brain drain, declining commitment, complacency among administrators and despondency among university teachers. This is the consequence of government's suppression of opposition, under-funding of universities, and pervasive anti-intellectualism in the wider society. Nigeria has therefore reached a stage in which the governance of her universities deserves an incisive analysis of the problems, as well as the adoption of urgent and pragmatic solutions to the pressing multifarious problems.

Politicization of University Education in a Democratizing Nigeria

After several decades of dictatorial (military) regimes in Nigeria, democratic governance eventually emerged in May 1999. Plank and Boyd (1994: 4592/4593) opine that "in countries emerging from authoritarian rule, the establishment of democratic institutions is often regarded as a defense against the re-emergence of authoritarian rule." At this preliminary stage of democratic governance in Nigeria, university education cannot be separated from politics. Essentially, since 1999, university politics has reflected many of the tensions that are inherent in the larger political system - sanitization (ethical and academic cleansing), democratization, deregulation (doing away with obnoxious rules and policies), privatization (free-market system of university education) and monetization of the university system.

The politicization of education, and indeed university education at the macro level could be traced to the process of state formation in Nigeria. In the days preceding the advent of colonialism, social collectivity carried out their affairs in a stateless community in "Nigeria". Democratization was manifest then in the community, especially with superior systems of agricultural production and commerce. There were small but large states such as Oyo, Benin and Fulani Kingdoms with extensive administrative systems in some parts of the entity now called Nigeria. However, these States did not develop all the basic institutions of the modern state, such as a standing force to enforce the rule of the state, an inter-state diplomatic relations to secure international legitimacy, an independent bureaucracy to administer a well-defined territory, and an effective system of taxation for the extraction of resources to finance the bureaucracy and the army. During this period, the states employed the traditional system of education that also catered for knowledge, attitudinal, and skill development of the younger ones.

The advent of colonialism disrupted the already laid down systems of rules and administration that had evolved over centuries. Also, this had grown in response to political, material and cultural needs of the community. One major consequence of colonialism was the fact that it brought together, under a single territory and a single administration, people of diverse settings who had previously conducted their affairs independently and separately. The colonial administration employed the use of indirect rule in order to reduce cost and cut down manpower constraint (Taiwo, 1982). They achieved this by employing the use of traditional rulers at the local levels in their system of administration. Nonetheless, this type of "indirect system of rule" as it were, did not bestow any authority on the

subjects. The basic reason for this action was essentially to exercise some measure of control of the subject territory and to equally exploit both human and natural resources at minimum cost. However, this was due mainly to the benefit of the municipal power. In actual fact, there was very little organic relation between the colonial state and the ruled. What was practically in existence was nothing short of a ruler-subject relationship between the colonial government and the governed. One other major feature then was the fact that the colonial state was not accountable to the people that it governed. All the same, the colonial state put in place well developed rules and regulations for administrative and financial accountability. Also, the colonial state equally enforced its laws. However, it is unfortunate to note that the colonial state tactically made these good aspects of its governance unseen to the colonized people of “Nigeria”. This was due mainly to the fact that the colonized people were completely excluded from the authoritative allocation of values and had little voice in the realization of the colonial laws.

Thus, the post-colonial state in Nigeria from 1960 to present day inherited the authoritarian character of the colonial state. The attainment of independence in the country involved the seizure of power from the colonialists by the nationalists and independence movements. With the attainment of independence, the Nigeria polity started to feel the pressure from the disintegrated tribes and ethnic groups that were arbitrarily amalgamated into a juridical state, for rapid development and improved standards of living, which they had been denied of by the colonial power. Backed up by the steadily increasing commodity prices and generous external supports, Nigerian government made huge investments in education and other social services. Confronted with the onerous task of how to build national unity, guarantee an even and consistent growth in education in a plural society, Nigeria truncated freedoms, discouraged private initiatives and encouraged centralized, authoritarian and politicized or consensus-building tendencies even in the management of its education sector. There is no doubt that with the existing post-colonial state structure, politics becomes indispensable in public affairs to arrive at compromise and to avoid the danger of centrifugal forces. Politics in the present day Nigeria is essentially in every aspect of university governance.

Politics in the Planning of University Education

According to McGinn (1994:4596), politics of education is any effort (consciously or unconsciously) to influence the education system. This may be by legislation, pressure group or union action, experimentation, private investment, local transactions, internal innovation or propaganda. Therefore, politics in educational planning implies the use of politics to influence the inputs, processes and output of university education. Educational planning, as a rational systematic approach, is essentially to influence or control the educational system. Therefore, the planning of university education is basically a political instrument. Invariably, there is politics in the so-called rational, technical or non-political educational planning, or else, the plan will be unsuccessful owing either to lack of political will and commitment or because inadequate attention is given to those who would be responsible for its execution.

Educational planners work essentially for the political power in government since education, in almost everywhere, has become the responsibility of the State. Thus, educational planners are useful to the extent that they can assist their political bosses to attain their goals. In order to ensure that their plans succeed, effective planners go beyond speaking the theory and showing statistics to those in power, and also seek to gain power through the building of consensus and a network of supports. They need to build consensus about (a) what goals are or should be, (b) the extent to which goals are being realized, (c) causes of failure to reach goals, (d) the policy alternatives most likely to be effective, and (e) how best to carry out the designated policy (McGinn, 1994). Effective planners must influence those in authority as well as those who would execute their plans, and the various stakeholders (including the opponents) who would be affected by their plans that their plans are plausible.

Moreover, effective planners should not give the impression that their plans are tainted by mere political considerations.

It is important to state here that politics in educational planning can be dirty especially when politicians employ educational planning to give a rather hypocritical impression that they intend to implement such plans, when in actual fact their intentions are insincere. Those in positions of authority make use of educational plans as part of their political agenda “to legitimize their regime, justify actions already taken, (and) distract attention from other policies more likely to mobilize opposition” (McGinn, 1994: 4597). A clear case of the use of educational planning in political strategizing is the apparent repetition of a specific educational plan in annual budgets without any substantiation of its implementation by preceding regimes.

The politics of planning university education invariably becomes critical in a country like Nigeria where her nascent democracy is gradually substituting long-entrenched military dictatorship. Essentially therefore, an interactive planning, which makes provision for policy dialogue among various stakeholders, and moves educational control closer to the citizenry, is essential to demonstrate that the government in power is actually democratic. The process of planning (university) education in Nigeria is gradually more likely to become political than technical. Nonetheless, there is the need to distinguish between authentic discourse and gimmick in which the dominant groups impress their plans on the defenseless. In some cases however, the donor agencies use this political gimmick to manipulate developing countries to accept through stage-managed “consensus-building” policy dialogues, a particular hidden agenda. In fact, what they call “consensus” is a compromise in favour of the powerful to influence the inputs, processes and outputs of the education systems of the powerless (Babalola, 2003).

Politics in the Structure and Organization of Nigerian Universities

Organizations are said to be political structures, and politics is prevalent in any organization irrespective of the size and ownership. The constitution is the basic law of Nigeria. The constitution provides the legal structure upon which the government, its agencies and several administrative processes operate. Under the constitution, the legal framework of university education in Nigeria involves both the Federal and State Governments only. The constitution of the Federal Republic of Nigeria confers legislative powers on the National Assembly as well as the thirty-six State Houses of Assembly. The legislature enacts laws on university education or may delegate its rule-making functions to the Governing Councils of both Federal and State-owned universities. The executive or administrative arm of the government executes educational plans in the universities through the National Universities Commission (NUC).

Essentially, the government at the center controls some activities of the universities through the National Universities Commission. The Governing Councils of both federal and state-owned universities perform such functions like the appointment, promotion, discipline and determination of the career of teaching and non-teaching staff of their respective universities.

Public universities are established by law. Therefore, their establishment, control and management, and the numerous day-to-day decisions are directly or indirectly products of the law. Issues bordering on university finance, employment relations, curriculum, policy making and their impact on teachers, students and parents and, and a variety of relationships among universities, the community (society) and other bodies derive from the constitution or enabling legislation. Most university problems arise from human interaction, which are generated and resolved within the framework of law. The overlapping involvement of both the federal and state governments in university education, no doubt, creates political problems of coordination, uniformity (of standard), management and control in Nigeria.

Politics of University Staffing and Workplace Politics

The politics of university staffing involves both direct and indirect influence on the process of workers' (teaching and non-teaching) recruitment, selection, induction, placement, transfer, promotion, dismissal, training, health and safety, welfare, labour relation, research, wage and update of conditions of service. There is high politicization of personnel management in university education in Nigeria as a result of plural and unemployment nature of the country (Sanda, 1992). He opines further that favouritism has replaced meritocracy in the process of staffing in most Nigerian universities. There were some cases of mass retirements that were politically motivated in Nigeria during both the military rule and civilian administration. The quota system and the catchment's area policies, which affect both the admission and staffing processes in universities in Nigeria have political connotation. Recently, in Nigeria, the Federal government sent out circulars to various federal institutions of learning that they should employ 75% of the junior staff (level 01- 06) from the State in which they are located. This policy has implications for output and academic performance, especially in States with insufficient qualified teachers. However, the policy aims at reducing the unemployment situation among Nigerian graduates.

Teachers, like other civil servants are not expected to participate in active partisan politics. Be that as it may, there are pieces of practical evidences indicating that teachers are political actors at the classroom, institutional, union and community levels. At the classroom level, teachers contribute immensely in determining the knowledge that is either included in or excluded from the curriculum. Even though the teachers do not have complete autonomy with which they would determine officially the curriculum, they are likely to position themselves in such a way as to resist or generate alternatives to the curriculum determined by others. In the Republic of South Africa, some teachers have sought to redefine curriculum content from its racist, sexist, and class bias to the goal of social relevance, political liberation, and social equality (Ginsburg and Kamat, 1998:4582). There was a similar effort by teachers in Nazi Germany at criticizing cultural imperialism (legitimizing colonial and neocolonial rule through curriculum choices) as well as racial stereotypes and ideologies through their influence on the curriculum, and power of indoctrination.

It is apparent that teachers, non-teaching staff and others who work in universities get themselves involved in politics of the workplace. They accomplish this act by strategic use of power to seek and sustain control over material resources (employment, promotion, salary, project funds, and so on) and symbolic resources (status and recognition). They also get involved in micro politics to steer the ship of their institutions and to chart the course of the organization. They (teachers) employ assorted political strategies to take charge, acquire some levels of contentment and feel secure at work. Among some of the strategies adopted include, diplomatic friendliness, avoiding controversy and conflict, mutual recognition and retreat to classroom security. The latter strategy (retreat to classroom security) involves moving away from macro institutional politics wherein there are grave power struggles over symbolic and material resources to the classroom setting.

There exists to a very large extent, power relations and struggles between teaching and non-teaching members of staff in any institution of learning (including the universities). Teachers often make use of their academic skills and professionalism to situate them over and above the non-teaching staff (administrators). In actual sense, no profession should be made superior to the other; rather they should be made to complement one another. However, some professionals endeavour as much as possible to outwit each other to gain some level of political relevance. Teachers, as a result, make determined efforts to strengthen their professionalism while the administrators equally employ their administrative clout and tactics to deskill the former (teachers) through proletarianizing efforts.

Organized teachers' unions are revolutionary and egocentric political weapons. For instance, in reaction to changing resources in public universities in Nigeria, the Academic Staff Union of Universities (ASUU) has been at the vanguard of advocating reforms in the Nigerian university system. The current policy on university autonomy with its financial reforms was a consequence of series of negotiations between ASUU and the military/civilian governments between 1981 and 2001. A

total of 33 issues were negotiated by ASUU in 1981, out of which 3, representing 9.1%, were on university autonomy and academic freedom. These are primarily concerned with the appointment of Vice-Chancellors by universities as well as the composition and functions of the National Universities Commission (NUC). Even though the former was not in favour of ASUU, the latter issue was favourably negotiated. The one relating to the composition of university Councils was however deferred (Aniemeka-Okonji, 2002). A decade later, precisely in 1992, ASUU renewed its negotiations with the Federal Government of Nigeria on a much wider scale. There was an increase in the number of issues negotiated, going up from 33 in 1981 to 85 in 1992. Out of these however, 18, representing 21.18%, were on university autonomy and academic freedom alone. Quite a large number of these issues were on innovative funding reforms in Nigerian universities. It is worth mentioning here that the proposal from ASUU to the Federal Government of Nigeria in May 1999 had immense potential input to the future of universities in the country. A total of fifty-two issues were negotiated, 4 were on funding of universities, autonomy and academic freedom, while the last one was on articulating a future for Nigerian universities. Unfortunately, this last issue was referred to the Federal Government while those on funding; autonomy and academic freedom were for the second time in a decade, deferred outrightly. In June 2001, ASUU renewed its negotiations with the Federal Government and came up with 64 issues out of which funding level; sources of funding, university autonomy and academic freedom covered 4, 23 and 23 items respectively. Of the entire 23 issues negotiated under autonomy and academic freedom, only three were not favourable to ASUU. These consist of the appointment of the Deputy Vice-Chancellor, tenure of the Deputy Vice-Chancellor and Visitors and visitation to universities (Aniemeka-Okonji, 2002).

The most contentious issue concerns abrogation of laws that hinder university autonomy and academic freedom. The Academic Staff Union of Universities (ASUU), which has been at the vanguard of university autonomy, especially during the dictatorial military regimes in Nigeria, raised some arguments against the decision of the new democratic civilian government to promote university autonomy. The major bone of contention was on the abrogation of laws (earlier enacted by previous military regimes) that impede university autonomy and academic freedom. ASUU insisted that some of these laws be repealed to guarantee basic constitutional rights within the university system. Such laws consist of the Trade Dispute (Essential Services) Act, No. 23, of 1996; The Teaching (Essential Services) Act, No. 30 of 1993; Trade Disputes (Amendments) Act, No.54 of 1987, Section 32A; The Students' Union Activities (Control and Regulations) Act, No. 47 of 1989; among others.

Politics of University Leadership

Maxwell (1998:11) opines, "leadership is influence." He stated further "If you don't have influence, you will never be able to lead others". As a result, politics of university leadership deals with influencing (directly or indirectly) those who would eventually lead a group or project within a university community to success

According to Heller and Hindle (1998:237), leadership task cannot usually be delegated to a subordinate, but can be shared with one or two senior colleagues. That possibly explains why governments, more often than not, influence educational leadership in favour of those they could put their trust. Leaders practically engage in five major tasks: (a) modeling the way for others, (b) inspiring a shared vision, (c) challenging the process, (d) enabling others to act, and (e) encouraging the heart of people (Kouzes and Posner, 2002:13). For instance, if an educational leader fails to share the vision of the government of the day, how would such a leader inspire his subordinates to share a vision that he or she does not believe? Public universities in Nigeria, for example, are closely under the scrutiny of the government through members of their Councils. Suffice it to say that the appointment of lay members of the Council is usually political, just as the appointment of a university Vice-Chancellor. Corroborating this assertion, Babalola, Jaiyeoba and Okediran, (2002) opine that during the civilian regimes, key officers of regional universities in the then Eastern, Northern and Western Regions were

members, supporters or sympathizers of the ruling parties in the respective regions. Expectedly, each university Council and Vice-Chancellor are therefore, inclined to lend their support to the government that established such university.

Past experiences point to the fact that government's control of key officers of public universities seems inevitable for political reasons. This practice would become even more deep-rooted if universities continue to be financially dependent upon government. Essentially, universities that are funded by the government should invariably see the government as their proprietors just as private universities regard their proprietors. It would be ridiculous to expect the proprietor of a private university to stand clear in matters relating to the appointment of members of the Governing Council in his or her institution. This is certainly an area where politics cannot be divorced from education. Be that as it may, such political appointments should be restricted to those of Chairman of Council, lay members of the Council and perhaps the Vice-Chancellor through the Council. It is important to state here that the interests of both parties (government and university) should take precedence in making appointments at this level and holders of key offices should make it a point of duty to protect the interest of the university and that of society.

Politics of University Control

In 1975, the Federal Government of Nigeria assumed ownership of all the existing six first-generation universities in the country (the University of Ibadan, Ibadan; University of Nigeria, Nsukka; University of Lagos, Lagos; Ahmadu Bello University, Zaria; University of Ile-Ife which is now known as Obafemi Awolowo University, Ile-Ife; and University of Benin, Benin-City) and subsequently established more universities in each State of the federation. In a similar vein, the federal government of Nigeria abolished tuition fees and reduced accommodation fees to a minimal level in all (federal) universities. Furthermore, government equally established through decrees, the National Universities Commission (NUC) and Joint Admissions and Matriculation Board (JAMB).

The military governments that ruled the country between 1983 and 1999 promulgated several decrees during those periods to guide and regulate education. Decree 16 of 1985 promulgated the national minimum standards, Decree 20 of 1986 changed the school calendar from January/December to October/September, and Decree 26 of 1988 proscribed and prohibited the Academic Staff Union of Universities (ASUU) from participating in trade union activities. The National Policy on Education (1981, revised in 1998) was prominent among the policy documents that regulated the provision and finance of education in the last decade. The policy clearly articulated the view of education ceasing to be a private investment in Nigeria to bring about uniform standards.

Education witnessed unprecedented failures in Nigeria within the last three decades when education was exclusively under the control of government. For example, the government exercises control through the National Universities Commission (NUC). The NUC is the state agency, which supervises and indeed, administers the university system in Nigeria. In addition, the government intervenes directly in university administration through its appointment of the vice-chancellors (the chief executives) of the universities, and the use of appointed government representatives (including the chairman) in the universities' governing councils. Invariably, during students' protests and other emergencies, government directives to the universities are swift and pointed. Furthermore, the admission of students into the universities is handled by the Joint Admissions and Matriculation Board (JAMB), through which the federal government's directives on quota admission of students from "educationally disadvantaged states" or on the principle of "federal character", locality or catchment's area, and merit admissions into the universities are implemented. Notwithstanding the elaborate provisions on NUC powers and functions, there was frequent sidetracking of the NUC both by the president as Visitor and by the Federal Ministry of Education, as unilateral decisions were sometimes taken without consultations with the NUC. Much more regrettable was the practice by some of the governments recently to *direct* the governing councils of some of the universities to retrench or retire

university staff without due process as entrenched both in the nation's Constitution and the university laws. Thus, the universities witnessed crises for reasons ranging from poor teachers, poor trainees, poor textbooks, poor or inadequate teaching-learning equipment, to poor teaching, poor technology and poor funding. In particular, university education almost collapsed under the pressure of numerous strike actions and student restiveness. In no time, it became apparent that the Nigerian university system increasingly became less effective and efficient in responding to the needs of its clientele and the society. Consequently, this scenario created a veritable ground for private universities to flourish. The proliferation of private universities in Nigeria since the 1990s was indeed unprecedented. The first of these private universities is the Igbinedion University at Okada, in Edo State, Nigeria. Thereupon, deregulation then became the means with which to give legal backing to the already existing system of private participations in the provision of university education.

Nigeria started to deregulate her economy following the emergence of a democratic government in 1999. The deregulation move in Nigeria pivots around the America's free market enterprise, based on the view that economy operates best when government leaves businesses and individuals to succeed or fail on their own merits in an open and competitive market (Babalola, 1999). It is important for the Nigerian government to remove stifling administrative barriers that may prevent reasonable economies in education. The Nigerian government should create an enabling supervisory environment that encourages initiatives to expand access to good quality education in both public and private institutions of learning. Key dimensions of such supervisions should include the legislative framework governing the establishment of new universities, quality assurance mechanism and legislations on intellectual property rights.

Governments generally should expect the private sector to serve the interests of the society, and failure to do this should incur one form of government intervention or the other. Studies conducted by Babalola (1999), reveal that there is no evidence of any private educational institution that is very free from public scrutiny and government's influence. It is government's responsibility to monitor the activities of private institutions of learning in Nigeria. The government, as it were, may not necessarily specify for the private sector an expected student-teacher ratio, the qualification of staff to employ, the percentage of expenditure that they should spend on salary, the amount of fees that they should charge, and so on. But it is sufficient for the government to gear her political efforts at ensuring quality output while allowing each institution of learning a reasonable control over the process.

Politics in Budgetary allocation to Nigerian Universities

An educational budget could be regarded as a document outlining the scheme for raising and allocating resources for education for a stipulated time period (usually a year) in both numerical and monetary terms. According to Babalola (1998: 43/66), the politics of educational budget is a planned or conscious effort made at influencing any aspect of the document (budget) before or during its implementation. This has become the norm in recent times with the current spate of economic downturn that is being witnessed in Nigeria. Often times, there has been the tendency of institutions to overestimate required resources. For example, a department may deliberately increase its number of personnel with no proof of increase in operation. Or it may demand so much for the purchase of an item when the market price of such item is only half that amount. The apparent solution to this kind of overestimation lies mainly in the imposition of budget ceilings with a view to forcing spending agencies to operate within the sphere of financial possibility and to avoid arbitrary cuts that may bring about unnecessary frictions. In an attempt to influence budgets and officers in charge, some institutions often play different types of politics. Deliberate efforts may be made to wine and dine relevant officials to get favourable responses. Some agencies may even tempt budget officials with money, women, and other offers. This was exactly the case in Nigeria in 2005, when the then Minister of Education, Professor Fabian Osuji was alleged to have offered about N50 million to the then Senate President of Nigeria, Chief Adolphus Wabara alongside some other implicated members of the National Assembly

in order to influence the budget for his Ministry. Similarly, the then Vice-Chancellor of the Federal University of Technology, Owerri, Imo State, Nigeria, Professor Jude E. Njoku, was equally alleged to have offered gratification to some members of the National Assembly so as to increase the vote to his university. Some other agencies may adopt the politics of the “camel’s nose”. This is a situation whereby a spending agency demands for much less than they require. By beginning small, the project gets approval. But as soon as it is approved, the spending agency commences the implementation with the understanding that when expenses increase thereafter, the government will be committed to finishing what has been started.

Legislators on the other hand equally play politics with education budgets. One of the essential duties of the legislators includes guarding the treasury, but in Nigeria, it does appear that they appropriate far more money than the treasury can possibly mobilize. A possible explanation to this is that most legislators believe that election depends upon how much they are able to attract to their constituencies. As a result of this, they work very hard to get such appropriations. But quite unfortunately, some of these legislators are only interested in being able to announce to their people that they have been able to secure appropriation for education projects belonging to their constituencies. To our greatest dismay, such legislators may not care if such projects are actually implemented. At the end, these legislators blame the executive arm of the government for not carrying out its obligations. Legislators, more often than not, play politics with education budget so as to create political problems for the government in power. They may consciously cut down budgetary allocations to universities in order to cause social crises and attract actions from the various trade unions in the nation’s ivory towers (Babalola, 1998). Some legislators will blatantly refuse to vote for the appropriation of an education sector (especially university budget which is regarded to be a sensitive sector in Nigeria) unless their projects are approved. They may insist that their supporters get jobs on the government payroll as a condition for approving staff increase in education. If the government’s programme were popular, legislators may pass it all but add their own.

Politics in funding of University Research

Research and experimental development provide the necessary scientific approach to effecting change in society, through the introduction and utilization of new ideas, discoveries, interventions, new equipment or previously non-existent techniques which are obtained from different types of research on how to attain society’s goals, or for the solution of society’s problems. Such educational researches may be in the form of basic or pure research, which may be addressing theoretical or guiding principles, usually over a long time. Alternatively, such researches may be in the sphere of applied or policy/mission- oriented research, which is often geared toward the solution of practical problems, or the provision of answers to urgent or obviously pragmatic questions. The common end product of both types of research however, is new information in the form of new knowledge, ideas, discoveries, inventions, or new techniques. Governments and donor agencies actively support and influence research agenda, administration and/or research actualization/utilization in order to absorb scientific information to shape and justify policies.

Politics comes into research at three major levels, that is, during the establishment of research institutions and agenda, in the selection and conduct of research studies, and in the utilization of research results. At the first level, owing to limited resources, governments and donors attempt to spread resources too thinly over some representative set of research projects. Consequently, politics comes in to select one or two politically important topics to gain attention and support. On the other hand, politics at the level of setting agenda usually results in neglecting local realities, ignoring emerging national problems and too much emphasis on applied research. Secondly, politics also occurs at the level of administration (that is selecting and conducting research studies). The basic political decision at this level is how to create a balance between applied and pure studies and retain the ultimate significance of research for national development, quality and utility to satisfy all important

constituencies such as policy makers, practitioners, politicians, parents and private donors. Lastly, politics equally takes place at the level of research utilization.

It is the view of these authors that educational research in Nigeria lacks maximum political support since policy makers see it as a “soft science” with little or no persuasive effect that could provide the information they need to either make or justify policy. Moreover, these authors strongly believe that education contains second-rated scholars and institutions to be enlisted in the research business. Research support by powerful education associations is equally limited. In Nigeria for instance, associations like the Nigeria Academy of Education (NAE), National Union of Teachers (NUT), and the Academic Staff Union of Universities (ASUU) have no research grants.

Conclusion and Recommendations

Politics comprises all activities in public affairs that are designed to influence authoritative allocation of limited or scarce resources. Education, being one of the numerous social institutions competing for the existing resources needs to design some activities that will help them in getting their own fair share of the resources. Such activities include lobbying, agitation, and negotiation. The education sector can adopt representation, delegation and consultation to influence the authoritarian allocation of public resources to education. The interest of the pupils or students must be adequately represented, and as such, must be actively involved in decision-making concerning educational welfare.

Educationists, especially university administrators and teachers, should consciously situate themselves where they can influence authoritative allocation of public resources in favour of the universities. The current attitude of educationists that are in power, but are not politically conscious and active, should change through deliberately designed political education and induction courses. In the event where no university teacher or administrator is actively present in the major theatres of power at the state and federal levels, university administrators should identify the major loci of power and positively influence them in favour of universities. The present apolitical stand of some universities in Nigeria should equally change. There ought to be closer link (through lobbies and other types of public relations activities) between these universities and those in power to influence the authoritative allocation of symbolic (especially professional status and institutional recognition) and material resources (especially budgets) in favour of their institutions. This should however be done without necessarily dragging the institution and/or such actors into disrepute. Universities in Nigeria should encourage research with all the seriousness it deserves in order to provide necessary information on how to develop workable political strategies and tactics that would make university education more competitive among sharers of national cake. Education cannot be an island unto itself, especially in this era of globalization.

There is no gainsaying the fact that, there is politics in education, and expectedly, there must be education in politics. This is with a view to minimizing the abysmal aspects of dirty politics either at the macro or at the micro level. Nigeria, no doubt is presently making frantic efforts at curbing administrative and non-administrative corruption in all spheres of her national polity, especially with the establishment of the Economic and Financial Crimes Commission (EFCC), as well as the Independent and Corrupt Practices Commission (ICPC), but the government should work harder on political ethics, produce and circulate a legal document that will be binding on every citizen of Nigeria and make all efforts to implement it.

Nigerian universities should be prepared to brace up to the numerous challenges that lie ahead of them, especially at the threshold of the twenty-first century. They should as it were, be able to articulate their visions and also ensure that their missions are geared towards achieving the desired targets within a fast growing globalized society.

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Rice Production Response to Policy Initiatives in Nigeria: An Application of the Growth Decomposition Model

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Abstract

The study examined the supply response of rice at the aggregate level over successive policy environments in Nigeria. Rice data for the period 1967-2004 were analyzed in order to meet the objectives of this study. Trend equations, Growth Decomposition and Kinked Growth models were estimated. Augmented Dickey Fuller (ADF) and Phillips-Peron (PP) unit root tests were carried out on variables which were found to be stationary at the first difference. The estimated trend equations showed that all the parameters on time except that of yield for the period 1961-2004 are significant at the 1% level. The results also indicated that almost all growth in rice output has been due to increases in the area cultivated. In the period 1961-2004 and sub-periods 1961-1985 and 1986-2004, area contributed 96, 66, and 208 per cent to output growth of rice while yield was responsible for 4, 33 and -109 per cent to output growth for the periods respectively. The contribution of yield to output in 1961-1985 was about 8.5 times that of the period 1986-2004 though the first sub-period represented non-intervention era. The second sub-period which typified the era of policy intervention recorded a negative yield growth. The Kinked model confirmed that there was a structural break in 1986 due to the policy intervention by the government. The production and demand projections over ten years from 2005 to 2014 showed that the rice self-sufficiency index ranged between 0.95 (95%) and 0.98 (98%) with a self-insufficiency gap of between 0.02 (2%) and 0.05 (5%). Measures that will increase rice productivity (partial or total) are therefore required to boost production. The adoption and use of high yielding variety e.g. the New Rice for Africa (NERICA) and other productivity enhancing technologies should be encouraged. This should be linked to the provision of an effective and efficient extension service delivery system. Attention must be paid to the growth in the GDP of the country

Keywords: Rice, Policy Initiatives, Growth Decomposition Model, Kinked model, self sufficiency index.

Introduction

Up till the early 1960's, Nigeria was self-sufficient in food production (Ojo, 1991). The Nigerian agriculture, with a near total dependence on rain produced food and raw materials to the industrial sector of the economy. As from 1970, the decline in farming activities became more pronounced (Oludimu and Imoudu, 1998). There were widening food supply-demand gaps and rising food import bills (Falusi,1990). The food self-sufficiency index- ratio of aggregate local food supply to the aggregate food demand fell (Rahji,1999). The output of local rice was estimated to be three million tons while the demand amounted to five million tons (Falusi,1990). The Federal Government, in an attempt to boost rice production allocated N1.5 billion for certified seeds multiplication and distribution to rice farmers (Tribune,2004).

Self-sufficiency in rice production is now an important political-economic goal of the Nigerian government (Bello,2004). As a development strategy, it is a necessary precursor to the ultimate goal of self-reliance standards which is a desirable goal of society. Such an economic policy has major implications for the dynamics of the socio-economic and institutional environments within which farmers operate. It has been justified as a means through which farmers can enhance their efficiency and productivity. But, in the unfolding process of agricultural and economic reforms since independence - over four decades ago, what has been the farmers' response especially in terms of rice production in Nigeria? How has rice import-ban, triggered by the self-sufficiency drive, impacted on the short-run and long-run rice supply response in Nigeria? Are the policies put in place effective as supply shifters for adequate rice supply response by the farmers? Are the price, output and non-price incentives adequate? Can these rice farmers change set habit of production?

Misari et al; (1990) reported that the ban on rice importation in 1986 led to an increased rice production from 0.94 in 1986 to 2.54 million tons in 1994. But Nigeria expends N250 billion yearly to import agricultural products. Rice alone gulps N60 billion (Abdullahi,2002; NAMIS,2004). In 1990, Nigeria imported 224,000 metric tons of rice valued at US 60 million dollars. This increased to 345,000 metric tons in 1996 with a value of US130 million dollars. By 2001, rice import increased to 1.51 million metric tons valued at US288.1 million dollars (FAO,1994). These figures indicate a 500 percent rise in foreign exchange expenditure on rice imports within eleven years. With an exchange rate of US1 dollar to N140, this constitutes a great drain on the nation's foreign exchange. The possible trade imbalances that the import of such a single item could cause, prompted the government to embark on measures targeted at rice self-sufficiency.

Nigeria is known to have the potential to produce enough rice for its needs and even export (Bello,2004; Nasko,1989). Hence, the government seeks ways of reducing external payment imbalances through a renewed interest in agricultural supply response policy (Goetz,1992). As a result, a clear understanding of the principles and factors influencing the dynamics of local rice supply and demand in Nigeria can constitute a major issue in her policy formulation. This study is therefore deemed to be of immediate application in rice production policy decisions in Nigeria and in other African countries facing similar situation.

The main objective of this study therefore was to identify sources of growth in rice production in Nigeria over the 1961-2004 period while the specific objectives were to apply a growth decomposition model to the Nigerian rice data set, to identify the potentials for further growth and self-sufficiency in rice, as well as to evaluate the prospects for strategic policy directions in rice production

Methodology

Data sources

Data were sourced from Food and Agricultural Organization (FAO) under the FAOSTAT data base (2004) accessed 24/02/2005. The data set covers the period 1961 to 2004. Data were collected on three variables of output, area and yield of rice for the period. The study period 1961-2004, is broken down into 1961-1985 and 1986-2004 periods. In order to account for the components of rice production

growth, we employ a growth decomposition model using 1961-2004, 1961-1985 and 1986-2004 periods.

Methods of Data Analysis

The Growth Decomposition Model

This model borrows from the work of Baffes and Gautam (2001). Rice production in year t , which is Q_t can be expressed as:

$Q_t = A_t \cdot Y_t$ where, A_t is area and Y_t is yield or productivity per unit area. The growth rate of total rice production (ρ) can be recovered from the trend equation.

$$\ln Q_t = U + \beta t + e_i \quad (1)$$

$$\rho = \exp(\beta) - 1$$

Let k be the year in which a structural change has taken place. This is 1986 in this study because in 1986, rice importation was banned in order to encourage local production of the commodity. Since then quantitative restrictions and tariffs have been used. In 2001, tariff on rice was raised from 50 per cent to 85 per cent. It was increased to 100 per cent in 2002 and 150 per cent in 2003. By 2004, it stood at 110 per cent. The sub-periods are thus termed the pre-ban (1961-1985) and the ban and post-ban periods (1986-2004).

Typically, to account for such changes, equation (1) is transformed as:

$$\ln Q_t = \mu_1 D + \mu_2 (1-D) + \beta_1 D + \beta_2 (1-D)t + e_i \quad (2)$$

When D is a dummy variable taking the value of unity up to year k and zero elsewhere. Since equation (2) is equivalent to running two separate regressions, the trend lines may not necessarily intersect at the break point k . To eliminate this discontinuity, Boyce (1986) is followed by imposing the following linear restriction.

$$\mu_1 + \beta k = \mu_2 + \beta_2 k \quad (3)$$

The restriction implied in equation (3) ensures that the trend lines intersect at k . Hence, solving equation (2) for μ_2 and then substituting the resulting expression into equation (3), and re-arranging terms result in.

$$\ln Q_t = \mu_t + \beta_1 [Dt + (1-D)k] + \beta_2 [1-D][t - k] + \sum t \quad (4)$$

The hypothesis $H_0: \beta_1 = \beta_2$ is then tested. The rejection of this would indicate that a structural break did not occur in year k . As Boyce (1986) argued, in the absence of special circumstances equation (4) is preferable to equation (2). In addition to this, equation (4) has the advantage of ruling out the possibility that the growth rate derived from equation (1) falls outside interval (β_1, β_2) as derived from equation (2). Hence, equation (4) is the estimating equation in this study.

This framework allows for the identification of variables for broad policy direction. It is complementary to micro-economic analyses, such as total factor productivity analysis which accounts for the contribution of inputs to output, and duality applications, which study the structural properties of production technology.

The analysis is restricted to the growth in area and yield of rice over the period.

Test of Hypothesis

Null hypothesis; $H_0: \beta_1 = \beta_2$. That a structural break in policy reforms did not occur in 1986.

Alternative hypothesis; $H_1: \beta_1 \neq \beta_2$ That a structural break did occur in 1986.

$$t_{st} = \frac{\beta_1 - \beta_2}{SE(\beta_1 + \beta_2)} \quad (5)$$

Where $SE(\beta_1 + \beta_2) = \sqrt{\text{Var}(\beta_1) + \text{Var}(\beta_2)}$

The square root of the variances of β_1 and β_2 are the standard errors obtained in the estimated linked regression model. The β_1 and β_2 are the estimated parameters in the model. In this specification

the Cov (β_1, β_2) is assumed to be zero in testing the hypothesis as is often done in the literature when applying the Taylor's series (Adesimi, 1977).

Production Projection Model

The following relationship is used for the per capita rice production projection(qt).

$$qt = A_{t-1} y_{t-1} (1 + Py - Ppop) \tag{6}$$

Where Ppop denotes population growth rate, yt is per capita yield. Py = growth rate of yield.

Demand Projection Model

For demand projection; a semi-log specification is used under which per capita demand at period, t, (dt) is projected as:

$$dt = d_{t-1} [1 + (Pgdp - Ppop) \eta] \tag{7}$$

where, Pgdp is the GDP growth rate and η is the income elasticity of demand for rice.

The rice income elasticity of 0.3378 obtained over the 1960-2004 period for Nigeria by Rahji and Adewumi (2007) is adopted in this study. 0.35 to 0.40 values have been used in Bangladesh (Goetz,1994; Ahmed,1994).. Baffes and Gautam (2001) used 0.30. Population growth rate of 3.0% is assumed. GDP growth rate of 4.2% is obtained from the data for the period covered (estimated). The income elasticity of 0.3378 shows that local rice is a normal good but is income inelastic.

Results and Discussion

Table 1 contains the results of the trend equations on the variables of interest for the periods. In almost all the cases, time seemed to have significant impact in the variables. All the parameters except that of yield for 1961-2004 are significant at the 1% level. This finding tends to imply that for this period, time had no significant influence on the yield of rice. The ADF and PP unit root test statistics for the first difference cases are reported in Table 1. The critical values both for the two tests at the 1 per cent, 5 per cent and 10 per cent levels of significance are the same and are -4.19, -3.52. and -3.19 respectively. The tests statistics are thus greater than the critical values. These time series variables are found to be stationary at the stated levels of significance for the first difference.

Table 1: Constant Growth Rate Model-1961-2004, 1961-1985 and 1986-2004

1961-2004	Q	A	Y
μ	12.01 (132.5)	11.63 (147.6)	9.6 (125.7)
β	0.0814*** (23.2)	0.0814*** (25.6)	0.0034 (1.1)
R ²	0.93	0.94	0.01
ADF	-7.56	-5.96	-7.97
PP	-8.28	5.94	-16.55
1961-1985	Q	A	Y
μ	11.91 (98.6)	11.85 (116.9)	9.27 (182.8)
β	0.0864*** (10.6)	0.0574*** (8.4)	0.0290*** (8.5)
R ²	0.82	0.74	0.75
1986-2004	Q	A	Y
μ	13.47 (45.9)	11.51 (38.1)	11.17 (70.2)
β	0.0407*** (4.9)	0.0830*** (9.8)	-0.0423*** (9.4)
R ²	0.56	0.84	0.83

t values in brackets.

Table 2 shows the growth rates calculated from the parameters of the trend equations. The results indicate that for the periods covered, the growth rates of area are greater than those of yield. This means that the growth in yield is very low when compared with the growth in area expansion. Growth in yield was negative for the period 1986-2004. As a break down of the results, the growth rate of output in the 1961-1985 sub-period at 9.02 when there was on policy intervention is more than twice that for the sub-period 1986-2004 at 4.15 when there was intervention. It is also slightly more than that for the entire period 1961-2004 of 8.48.

The growth rate of area for the sub-period 1961-1985 without intervention at 5.91 is about twice that of yield at 2.94 for the same sub-period. For the sub-period 1986-2004 with intervention, the growth rate of area is positive at 8.65 while that of yield is negative at -4.14. Also, the growth rate of area for the entire period 1961-2004, at 8.11 is about twenty-four times that of yield at 0.34. These results show that almost all growth in rice production (output) has been due to increases in the area cultivated to rice.

Table 2: Growth Rates for Output, Area and Yield

Period	Q	A	Y
1961-2004	8.48	8.11	0.34
1961-1985	9.02	5.91	2.94
1986-2004	4.15	8.65	-4.14

Source: Data Analysis, 2007.

This finding is further confirmed in Table 3. To obtain the decomposed growth rates, the output growth rates were converted to 100 while the contributions of area and yield were calculated from them. In the 1961-2004 period, area contributed 96 percent of the growth in output while yield made up for the remaining 4 percent. Similarly, in the 1961-1985 period, area was responsible for 66 percent of the growth in output while yield provided the balance of 34 percent. It is surprising that the contribution of yield to output at 2.94 in 1961-1985 period is about 8.5 times that of the period 1961-2004 which stood at 0.34. Yet policy intervention during the period for this result was non-existent. It is also surprising that during the period 1986-2004, typified as the height of government intervention in the rice sub-sector of the food sector, the growth in yield was negative.

Table 3: Growth Rates Decomposition

Period	Q	A	Y
1961-2004	100	96	4
1961-1985	100	66	33
1986-2004	100	208	-109

Source: Data Analysis, 2007.

Figures represent the weighted contributions to overall growth in percentage terms. This was estimated by making growth rate of output 100 and calculating the shares of area and productivity from this.

In Table 3, during this period, the contribution of area to output was 208 percent while yield recorded a negative contribution of 109 percent. The implication of this finding is that the growth in rice output had virtually been due to area expansion. It would appear that the policies put in place had negative effect on productivity (yield). The policies have therefore not been effective. More so, land expansion has reached the limit as marginal and lands of poor fertility are put into use. The aim of intervention, of course, was the achievement of productivity increases in production. The results obtained tend to imply that this was not achieved. There was therefore little total factor productivity growth in rice production.

Table 4: Kinked Growth Rate Model-1961-2004

Variable	Q	A	Y
μ	14.55 (190.60)	13.83 (150.50)	9.94 (207.20)
β_1	0.0101*** (4.52)	0.0177*** (6.56)	-0.0076*** (5.37)
B_2	0.0832*** (10.88)	0.0506*** (5.50)	0.0327*** (6.80)
ADF	-7.56	-5.96	-7.97
PP	-8.28	-5.94	-16.55

Source: Data Analysis, 2007. *** Significant at 1 per cent t-values.

Table 4 presents the results of the kinked growth rate model for the variables for the period of 1961-2004. This model allows for a structural break due to the policy interventions/reforms as from 1986. The kinked growth regression ensures continuity in the growth path at the time the structural break (kink) occurs, allowing for the path dependency in the growth rate.

The parameters of each equation are all directly related to the dependent variables in the equation and are significant at the 1% level. The key issue in this model is to test whether a structural break did occur in 1986. The hypothesis that $\beta_1 = \beta_2$ is tested for each equation. The results of this test indicate that the calculated t-statistics in absolute values for output, area and the yield equations are 7.4592, 2.7647 and 6.5000 respectively. The tabular values at 1% and 5% are 2.3900 and 1.671 respectively. Hence, the alternative hypothesis ($H_1: \beta_1 \neq \beta_2$) is accepted at these levels of significance for the equations. The rejection of the null hypothesis for each equation indicates that a structural break did occur in 1986. It then stands to reason to examine the effects of this structural break in policy on rice output, area cultivated to rice, and changes in the productivity of the crop over the period 1961-2004 with the year 1986 constituting the breaking point in the policy environment.

Table 5 presents the results on the demand-supply projections and the rice imbalance analysis. To evaluate future excess demand of rice, we calculate the differences between aggregate per capita demand and supply for rice. To assess the rice imbalance associated with each production scenario, rice imbalance is calculated as $dt - qt$. The percentage changes are calculated as $100(dt - qt)/dt$.

The various production and demand scenarios allow us to evaluate the rice imbalance that is likely to emerge in the next 10 years. The first general result is that self-sufficiency will not be met though the gap may be very small. The self-sufficiency index qt/dt for the period 2005 to 2014 ranges between 0.95 and 0.98. Hence, rice self-insufficiency index ranges between 0.02 and 0.05.

Table 5: Rice Imbalance over the Period 2005-2014

Year	dt(MT)	qt(MT)	Difference	SS index	ISS index	%Changes
2005	0.038	0.037	0.001	0.97	0.03	2.63
2006	0.040	0.038	0.002	0.95	0.05	5.00
2007	0.042	0.040	0.002	0.95	0.05	4.76
2008	0.044	0.043	0.001	0.98	0.02	2.27
2009	0.046	0.045	0.001	0.98	0.02	2.17
2010	0.049	0.047	0.002	0.96	0.04	4.08
2011	0.051	0.050	0.001	0.98	0.02	1.96
2012	0.054	0.052	0.002	0.96	0.04	3.70
2013	0.057	0.055	0.002	0.97	0.03	3.51
2014	0.060	0.058	0.002	0.97	0.03	3.33

Source: Data Analysis, 2007.

Possible Reasons for Results and the Policy Implications

From a policy perspective, it is important to note the relative impacts of the different parameters obtained. The decomposition of growth rates and the findings there-off have important policy implications for the simple reason that area has limited potential for expansion due to fertility issues and the high cost of fertilizers and it is almost exhausted in supply. Yield of course has negative influence on output. Hence, when the potential of land is exhausted due to its fixed supply and assuming the current trends in yield, the growth in rice will decline significantly.

These findings tend to support Fulginito and Perrin (1998), that a characteristic of the developing countries agriculture is a widespread of productivity decline. According to Falusi (1995), in recent years, despite all the human and material resources put into agriculture in Nigeria, the rate of its productivity increase is said to be declining. Rahji and Popoola (2000) also found that rice. recorded negative productivity of -3.30 percent over the period 1986-1993.

The negative growth rate of yield in 1986-2004 raises the important issue of declining productivity (Falusi, 1995 and Fulginito and Perrin, 1998) probably due to resource degradation, low input, hence resources spread too thinly over the area, low income, low investment in agriculture and poor market prices and outlets for the commodity. This could be responsible for the result of the negative impact of policy reforms on farm efficiency (output-output ratio) and productivity (output-input ratio) post-1986 period.

As a basis for evaluating the prospect for policy direction, these results tend to suggest that focusing on self-sufficiency as a primary policy objective; in isolation from other indicators such as economic growth and income distribution can be a misguided policy direction. Besides population, GDP growth and income elasticity of rice are likely to affect demand projections. More over, income growth may not necessarily be independent of population growth and the effect of population may be either negative or positive.

These findings have important implications for the debate on the future rice supply demand imbalance. There is clearly no alternative to increasing productivity of rice. This should entail exploitation of available technology by closing the existing yield gaps, increased research efforts to develop varieties with higher yield potentials, and additional research on the likely impact of current practices to pre-empt declining yields due to resource degradation.

To increase output, attention has to be focused on raising productivity. The results also have important implications for food self-sufficiency as an indicator of economic performance. A slow-down in the rate of growth of GDP or a more unequal distribution of income will tend to produce a higher surplus or lower deficit. Thus while the economic performance may be deteriorating, or poverty may be increasing, it might appear as if the country were performing well as measured in terms of achieving self-sufficiency in rice production -a cherished goal in developing countries. Measures that will increase productivity (partial or total) are required to boost production. The adoption and use of high yielding variety e.g. the New Rice for Africa (NERICA) and other productivity enhancing technologies should be encouraged. This should be linked to the provision of an effective and efficient extension service delivery system. Attention must be paid to the growth in the GDP of the country

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Impact of Selected HR Practices on Perceived Employee Performance, a Study of Public Sector Employees in Pakistan

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Abstract

This study examines the relationship between three key Human Resource(HR) practices i.e. compensation practices, performance evaluation practices, promotion practices and perceived employee performance. A questionnaire was distributed to supervisors and lower level employees in the public sector organizations of Pakistan. The results indicate that performance of public sector employees is affected by compensations practices, and promotion practices. However performance evaluation practices have insignificant impact on perceived employee performance. Strategies focusing various issues have also been discussed.

Introduction

HR management system is associated with higher employee performance (Horgan & Mohalu, 2006). There is nothing wrong with the civil servants of developing countries; rather there is a problem in the management of the civil servants (Tessema & Soeters, 2006). With each new HR law, HR related court decision, and technological advancement, the working world (in general) and the job of HR professionals (in particular) has become more complex. Gone are the days of the clerical “personnel department”. HR has truly become a profession. As such, government’s HR professionals require knowledge and skills sets that can be best achieved through formal education (Coggburn, 2005). These arguments highlight the importance of HR-Performance relationship complexity of HR function in the organizations. Major research on HR practices has been conducted in private sector firms while very few studies have examined their applicability in public sector organizations as Legge (1998) argues that a considerable attention has not been paid on evaluating impact of HR practices in public sector organizations. At the same time research on HR practices and their impact on employee and organizational performance mainly revolves around the developed countries. Tessema & Soeters (2006) argue that developing countries situation is not fully comparable to the situation in Western parts of the world. Thus current study is an attempt to evaluate impact of few HR practices on perceived employee performance in public sector organizations of Pakistan a developing country for which no earlier research could be found addressing the HR issue under consideration. Understandably, Pakistan in general has been described as an under researched country by Aycan et.al. (2000).

Pakistan is situated in South Asia having a population of about 160 million people. The country has four provinces Punjab, Sindh, North West Frontier Province (NWFP) and Baluchistan. Each province has its own provincial government while the Federal Government through the capital of Pakistan, Islamabad and manages the affairs of the state. Before 1947 the country was ruled by Britain

that followed bureaucratic organizational structure in public sector organizations. Even after sixty years of Pakistan's independence in 1947 the public sector organizations are still following the same organizational structure. The decision-making is centralized which is a major cause of inefficiency in public sector organizations of Pakistan as Cogburn (2005) argues central HR systems are also characterized by their slowness, rigidity, complexity, and unresponsiveness. In contrast, decentralized HR systems are thought to offer the flexibility and responsiveness needed by today's public agencies for effective administration. The upper level managers enjoy all the privileges while the lower level employees hardly make both ends meet due to limited income levels. These brief facts will help to understand the impact of HR practices in public sector organizations of Pakistan.

The current study is an attempt to find out the impact of few of important HR practices that affect perceived employee performance of supervisors and lower level employees. The findings will help managers in public sector organizations of Pakistan in particular and those in developing countries in general to answer the long standing question, how to enhance employee performance?

Literature Review

HR practices have a positive influence on firm performance but (these practices) also articulate the mechanisms through which HR practices improve performance (Park, Mitsuhashi, Fey & Bjorkman, 2003). HR practices have a direct effect on organizational performance (Khatry, 2000). HR practices seemed to be maximally related to firm performance only when paired with a participative system that allows employees to contribute their discretionary effort towards positive organizational outcomes (Wright, McCormick, Sherman, & McMahan, 1999). Impact of HR practices on organizational and employee performance is well established through a number of studies (e.g. Williams, 2004; Tessema & Soeters, 2006; Horgan & Mohalu, 2006). The way workers respond to HR initiatives, reflected perhaps in the concept of the state of psychological contract is linked to their performance (Guest, 2002). Similarly there are a number of studies which show a positive impact of HR practices on different dimensions of employee behavior which ultimately affect their performance e.g. Huselid (1995) found that investment in HR practices are associated with lower employee turn over and greater productivity. HR practices can impact the skills and behaviors of the workforce (Wright et.al, 1999). HR practices were strongly related to organizational commitment (Wright, Gardner & Moynihan, 2003). HR practices impact collective commitment (Wright, Gardner, Moynihan & Allen, 2005)

Pakistan is a developing country. Due to frequent economic and political turbulences since its independence in 1947 the public sector organizations have failed to provide efficient services. Different governments in Pakistan have used these organizations and its employees for political gains and that's not a case with Pakistan alone, Tessema & Soeters (2006) found that "civil service of many developing countries has been politicized". They further argue, "Placement and promotion to upper middle and top civil service positions are very much politicized". Public sector organizations in Pakistan employ a huge number of employees. The annual statistical bulletin of Federal Government Employees indicates that 358,130 employees were working in the Federal Government during 2005-2006 ("Sanctioned and actual strength", 2006). These are the figures for the Federal Government only, thousands of employees are also serving in the four provinces of Pakistan.

Various studies provide evidence about existence of positive relationship between compensation and performance (e.g. Gneezy & Rustichini, 2000; Gardner, Dyne & Pierce, 2004; Tessema & Soeters, 2006). Guest and Dewe (2003) suggest to prioritize performance appraisal practices. Researchers have identified bundle of HR practices that affect performance. Williams (2004) reports of the ten practices used in his study, team working had a consistent positive effect on employee attitude, with training, empowerment, involvement in decision-making, communication (inverse) and performance-related pay schemes affecting some, but not all outcomes Delery & Doty (1996) advocates that there are seven HR practices which affect performance. Tessema & Soeters (2006) measured impact of eight HR practices on employee performance. However some researchers

do not agree to rely solely on HR practices count e.g. Purcell & Hutchinson (2007) suggest that research on the HRM and performance link which focused exclusively on a count of HR policies in place and the proportion of employees covered by such policies had the danger of giving an erroneous impression that it was the number and mix of policies that was important. Amid these diverse opinions we have confined our study only to three HR practices. The reason for selecting these HR practices is that the study focuses lower level supervisory staff and employees in a developing country like Pakistan where per capita income is very low employees face economic constraints. They are therefore more concerned about practices, which affect their economic well being. These selected practices mainly affect economic prosperity of employees. Thus we assume that these practices determine a major portion of lower level supervisors and employees performance in public sector organizations of Pakistan. This may or may not be a case in the developed countries. Statement by Boxall (1995) also favors our assumption that argued that HR practices differ in different societal contexts and there are no practices, which can be applied universally. Each organization has to define the desired performance levels of its employees as Khatri (2000) argues that HR practices vary a great deal according to the performance measures. So one can say that there is not a universal set of HR practices that can be successful everywhere as it depends on a number of contingency factors. Khatri (2000) further suggest that HR managers should not copy HR practices from other companies blindly. Effective HRM would be contingent mainly upon country's economic and political condition (Tessema & Soeters, 2006). Different societal context accounts for much weaker relationship between high performance HR management and employee performance (Horgan & Mohalu, 2006).

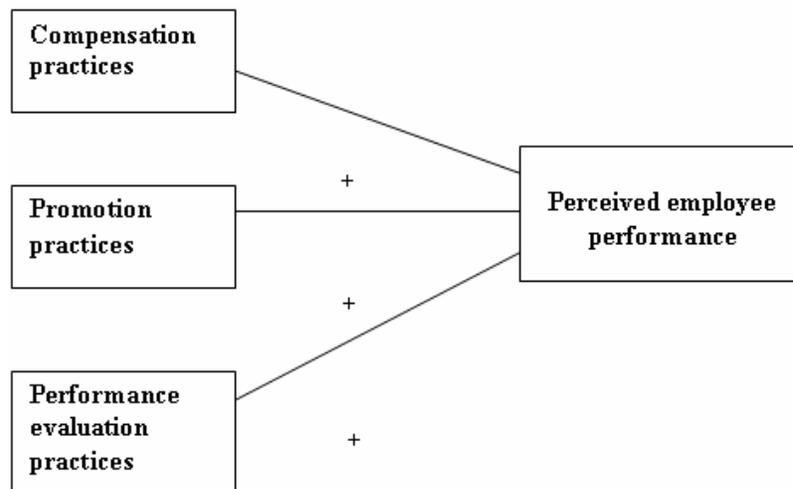
Since we have selected three HR practices for the study the underlying hypotheses are:

H1: Compensation practices positively affect perceived employee performance.

H2: Promotion practices positively affect perceived employee performance.

H3: Performance evaluation practices positively affect perceived employee performance.

Figure 1: Relation ship between compensation practices, promotion practices and performance evaluation practices and perceived employee performance



Methodology

Questionnaire

The questionnaire was adopted by Tessema & Soeters (2006). It was used by them to measure impact of Eight HR practices on perceived employee performance with HRM outcomes as mediating variable. However since we have restricted our study to three key HR practices the portion dealing with compensation practices, performance evaluation practices and promotion practices has been used. The

questionnaire was tested for reliability value of each scale that showed a satisfactory value as per given table:

Table 1:

<i>Variable</i>	<i>Alpha</i>
Compensation practices (5 items)	0.84
Performance evaluation practices (6 items)	0.76
Promotion practices (3 items)	0.82
Perceived employee performance (3 items)	0.79

The response was required on five point Likert scales (endpoints: 1 = strongly disagree, 5 = strongly agree). A covering letter explaining the importance of the study was used and the questionnaires were distributed to HR managers/ administrative officers of different ministries and other government offices.

Participants

The participants mainly included lower level clerical staff, administrative staff and lower level managerial staff. The employees hold titles like superintendent, assistants, upper division clerks and lower division clerk etc. Since the HR practices vary for different level employee in public sector organizations a single study can not be used for measuring impact of these HR practices on perceived employee performance at all levels. The responses were therefore not collected from middle level and upper level managers. A total of 400 questionnaires were distributed among public sector organizations across Pakistan out which 333 were received back making a response rate of 83%. Thus a sufficient sample size has been used for analysis in the current study.

Statistical Methods

i. Demographics frequency table:

Demographics are shown in a demographics frequency table.

ii. Correlation Matrix:

Correlation test was conducted to verify existence of relationship between the independent variables and the dependent variable.

iii. Regression Analysis:

Relative strength of relationships between perceived employee performance and HR practices was examined through regression analysis.

Demographics

<i>Description</i>	<i>Range</i>	<i>Frequency</i>	<i>Percentage</i>
Gender	Male	241	72.37
	Female	92	27.62
Age(years)	20-29	85	25.52
	30-39	132	39.63
	40-49	83	24.92
	50 and above	33	09.90
Tenure (years)	1-9	108	32.43
	10-19	120	36.03
	20-29	83	24.92
	30 and above	22	06.60
Level in organizational hierarchy	Upper level management	00	
	Mid Level management	00	
	Supervisory Staff	83	
	Clerical staff	250	
Language	Urdu	73	21.92
	Punjabi	122	36.63
	Pushto	52	15.61
	Sindhi	41	12.31
	Balochi	24	07.20
	Others	21	06.30

Demographics are not part of analysis these are intended to show composition of respondents. Gender wise male staff dominates Pakistani public sector organizations. As a cultural dimension in Pakistan females are supposed to look after the home affairs while male members are supposed to earn bread and butter. This trend is rapidly changing and female literacy is gaining importance and resultantly more women are joining organizations in public sector and private sector organizations in Pakistan. Thus 28% female respondents might look appear a low percentage if compared with western countries or USA but in specific Pakistani culture this figure is quite satisfactory.

Majority of respondents are less than 40 years of age, however a considerable number of older workers responded to questionnaires making the sample size balanced. Organizational tenure of majority of respondents is less than 20 years. The reason for having few respondents having more than 30 years tenure is that most of employees either retire from service as the retirement age in public sector organizations is 60 years or some of them are promoted to managerial positions. The languages portion indicates geographical distribution of respondents in four provinces of Pakistan. Thus demographics indicate that respondents belong to different age groups, different areas of Pakistan, including both genders, which indicates that the data was collected across Pakistan and results are true representative of impact of HR practices on perceived employee performance of lower level supervisory staff and employees working in public sector organizations of Pakistan.

Results

Correlation Analysis

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>PEP</i>
PEP	2.20	0.40	1.00
CP	2.14	0.65	0.564**
EPE	2.12	0.63	0.102
PP	2.06	0.71	0.472**

**p < 0.01, n=333, SD= standard Deviation, PEP= Perceived Employee Performance, CP= Compensation Practices, PP= Promotion Practices, EPE= Employee Performance Evaluation

Correlation Analysis indicate a significant relationship between Compensation practices and perceived employee performance (0.564**, $p < .001$) and also between Promotion practices and perceived employee performance (0.472**, $p < .001$). These findings are consistent with our theoretical framework. However contrary to our hypothesis Performance evaluation practices showed a weak and insignificant relationship with perceived employee performance (0.102). We have tried to find out the causes of this insignificant relationship in discussion section. The other important and significant finding is the mean values of all the variables. None has exceeded the average of 3, these values imply that public service employees in Pakistan are strongly dissatisfied with HR practices. Although Compensation and promotion practices affect their performance but as a whole they are dissatisfied with the way these practices are being managed.

Regression Analysis

Independent Variable	Beta	t-value	Sig.
Constant	1.0	12.22	.000
Compensation Practices	0.27	10.06	.000
Employee Performance Evaluation	0.04	1.66	.099
Promotion Practices	0.18	7.22	.000

n =333, R Square = 0.413, Adjusted R Square = 0.407, F =76.78, Significance F =.000,
Dependent Variable = Perceived Employee Performance

To analyze impact of HR practices on perceived employee performance regression analysis was used. The regression analysis reinforced our findings in correlation analysis. HR practices as a whole explained 40 percent variance in perceived employee performance. Compensation practices and Promotion practices showed a significant impact on perceived employee performance but like correlation analysis the employee performance evaluation practices showed no significant impact on perceived employee performance with low beta and t values. This somewhat unique finding will help to understand the difference that exists between organizational culture in developed countries and those in underdeveloped countries. It will also strengthen the argument since majority of research is being conducted in developed countries and their findings cannot be exactly applied in developing poor countries.

Discussion

This study was an attempt to analyze the impact of HR practices in the public sector organizations of Pakistan, which is a developing Asian country. If we review the relevant literature, unfortunately there is none to find, as no research study exists specific to Pakistan. This means that decision makers in Pakistan are trying to improve the employee performance without any proper analysis and research or on the basis of past practices, which is wrong as Soni (2004) argues that government must reframe its HR issues, and not rely solely on past approaches to solve the current crisis. In other case practices and procedures that have proven successful in developed countries, are applied in Pakistan without realizing the cultural differences. Thus the present study assumes significance as this form of research has not been attempted earlier. The other thing, which makes this research significant, is some of its unique findings, which also reflect how cultural differences affect the results in different countries.

As expected the Compensation and Promotional practices showed a strong and significant relationship with perceived employee performance. If we specifically try to find out the reasons for this significant relation ship the answer is quite simple. In most of the developing countries including Pakistan the lower level employees are poorly paid, hence they are more concerned with practices that can increase their earnings. Compensation and promotion directly affect the economic prosperity of employees. So the employees consider these practices important for their improved performance. However the compensation must be linked with performance to have improved performance at

organizational level as Monk & McMakin (2001) argue that at group level, the guiding principle was the move from pay for seniority towards pay for performance.

The most significant finding is a weak relationship between the Performance evaluation practices and perceived employee performance. This finding is against our expectation but when we analyzed the whole performance evaluation system especially of lower level employees in different organization across Pakistan, we finally found a logical answer to this weak relationship. In public sector organizations across Pakistan there is no performance evaluation practice in place except yearly review of performance through a few pages document called the ACR (Annual Confidential Report) or PER (Performance Evaluation Report) as it is called now a days. At the end of a calendar year this document is distributed to all the immediate supervisors/managers of employees to fill different columns for assessing employee performances during the entire year. The employee performance is rated on a six-point scale starting from outstanding to poor. Each column carries marks, which are taken into consideration at the time of promotion. Except this evaluation report we could not find any system of performance evaluation in public sector organizations of Pakistan.. These reports do not take into consideration individual differences hence these are an ineffective tool to measure performance as Truss (2001) suggests that we need to compare and contrast performance measures at variety of individual and organizational levels if we are to gain real insight as to what performance really means. These reports carry some importance for middle and upper level managers but for lower level employees these reports are of no importance as they are rarely promoted to higher positions. The bureaucratic structure does not allow the lower level employees to get promoted and most of them after rendering 30-40 years service retire mostly on the same level where they had started their careers. Thus lower level employees are least concerned about their performance evaluation as getting a very good report reaps no benefit and similarly if they get a poor report it does not affect their salary or status. The timing of evaluation is also a reason for these interesting findings. Since the reports are written after one year it is impossible to assess the employee's whole year performance on a single day. The evaluation is significantly affected by performances during last months of the year and being subjective in nature the mood and attitude of the supervisory officer at the time of writing the report is also an important contributor. Another possible reason for this response can be that promotions in public sector are not performance based rather employees are promoted on their turn i.e. time based seniority regardless of their performance. Thus "High", "Average" and "Poor" performers can be promoted together if it's their turn. Performance is given least importance at this stage. In presence of such system of performance evaluation, the results of present study are consistent with the existing environment in public sector organizations of Pakistan.

The low averages for independent and dependent variables in our study indicate the intensity of problem that how poorly HR practices are being managed in public sector organizations of Pakistan. The average monthly income of Pakistani employees is 4994 Pakistani rupees (US \$83.02). No additional benefits/incentives are there for lower level employees. Thus at these low-income levels the employees are highly dissatisfied with the compensation. Similarly at lower levels the chances of getting promoted are limited. In 30-40 years service employees hardly get promoted from one level to other hence employees showed dissatisfaction with promotion practices.

Implications

This study has a number of implications for decision makers managing the HR practices in public sector organizations with specific reference to lower level employees. Due to availability of limited research specific to Pakistan with reference to HR practices the decision makers rely on hit and trial approach to implement HR practices or they try to carry on with practices which were successful in past. This approach needs to be changed if the decision makers want to improve employee performance through HR practices.

Implementation of compensation practices needs a comprehensive review. This requires job evaluation of all the posts and according to this evaluation such salary structure should be introduced through which employees can meet their basic needs. These salaries should be comparable to private sector organizations in Pakistan as private sector employees are relatively paid well. Unless a reasonable compensation is not paid the employee performance in public sector organizations cannot be improved. Lchniowski (1997) suggests that worker performance is substantially better under incentive pay plans that are coupled with supportive innovative work practices like flexible job design, employee participation etc. This suggestion can enhance the impact of compensation practices.

The Promotion practices also need a comprehensive review. Currently, no opportunities exist for high performers to get a rapid promotion. Employees have no motivation to work hard in the absence of promotional ladder. In our discussion in different organizations all the employees reported that the upper level management in the bureaucratic structure never allow the lower level employees to get promoted at higher positions.

The Government has recently initiated Civil Services Reforms with new policies but it remains to be seen whether these reforms will be practically implemented or not as Hailey (2005) argues that the best of HRM policies may be designed but that does not mean that they are implemented within the workplace. Managers, therefore, need to be concerned not only about the design of these policies, but also about the way in which they are implemented to meet the needs of different groups of employees (Kinnie et.al., 2005).

The current study used only three HR practices to observe their impact on perceived employee performance of public sector employees in Pakistan while a number of HR practices, which affect employee performance, remain untested. Thus future research should focus on other HR practices like recruitment & selection, training & development, career management and employee relationing as well. However these analysis need a cautious approach as Veldhoven (2005) suggests that simple causal models that try to explain the HR performance relationship with a one-way, forward chain of causality and which use a short time frame may not describe organizational reality.

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The Effect of Misinterpretation on Trading Volume in an Informational Efficient Market

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Abstract

In an informational efficient market, it is the apriori expectation that trading activities should possess a directorial relationship (Barron and Karpoff, 2004). A positive information which promises a better performance should ordinarily affect trading volume positively and vice versa. However, that is on the assumption that information is uniformly interpreted and understood by market players. Where there is misinterpretation by various users to the extent that same information makes different meanings, inverse relationship could result, leading to sub optimization of the firm's goal and objectives.

In this paper, borrowing from Barron and Karpoff trading volume model of 2004, we considered the relationship between trading volume and the precision of the public announcement with respect to different interpretations and proportional transaction costs. The earlier part is always negative and the later negative. Whether total trading volume is increasing in the precision or not depends on which effect dominates.

We therefore, recommend that sensitive market information be interpreted and monitored while the disseminator puts necessary information enhancement factors in place so that overall benefit of optimization could be achieved.

Introduction

Revising the theory of market efficiency we recall that an efficient market is one which provides a mechanism, which given the information available result in an optimal allocation of monetary resources. In addition, there are three (3) sufficient conditions for market efficiency which are:

- a. All available information is costless to all market participants
- b. No transaction or agency costs and
- c. All investors take similar views on the implications of available information leading to same operational behaviour among market participants.

These sufficient conditions are somewhat unrealistic and restrictive because not all information is available to all existing or potential investors nor is it costless and of course, all investors do not always agree upon the implications of the available information. However, if all investors have the knowledge of the relevant information at the same time, if all agree on the implication of this information, and if there were no advantages in terms of transaction or agency cost determined by the size of trading, then the market would be perfect in an economic sense. As it were, with respect to an informational efficient market, there is the need to examine the implications of information misinterpretation as it could become an indicator of market inefficiency if not checked and controlled.

In dynamic market like Nigeria's, the producers, seller and other market operators should be able to understand that ordinarily, it is assumed that market operators have access to similar information (Akintoye, 2006) but the behaviour of one market operator may differ from the other, resulting in interpreting same information in different ways leading to different operational behaviour which could be an indicator of market inefficiency. In this paper, as we consider the effect of information misinterpretation in the presence of transaction costs, while we categorise the relationship between trading volume and the precision into three segments: the first part denotes the effect of the different interpretation, the second denotes the effect of different interpretation of the previous private information, and the third denotes the impact of proportional transaction costs. It is hoped that at the end of our study we shall be able to compare the models employed in each of the segments highlighted above and make comparison between the final result obtained, and also determine if the information disseminated to the market were uniformly interpreted.

In the economy with common interpretation and without transaction cost, the model may generate positive relation between trading volume and the precision, however this positive relation may also decrease monotonously: Moreover, whether the public information is identically interpreted or not, the effect of the transaction cost may dominate the others, such that trading volume increase and then decreases in the precision.

Our study helps to reconcile several puzzling empirical results involving trading volume reactions to public announcement (Barron & Karpoff 2004; Akintoye, 2006).

Empirical Review

Generally speaking, it is believed that meaningful and relevant information generate trading volume, which is known to be a useful measure of public announcement's information content, however most theoretical models (Grundy and McNiholas 1989), Kim and Verrechia (1991) opined that trading volume increases with the precision of public information. Earnings announcements accompanied by high trading volume are interpreted to convey more information to market operators than announcements with low trading volume in many empirical papers (Bamber 1986, Morse 1981).

On the other hand, some empirical studies, Baron (1995) finds that trading volume is negatively related to analysis forecast around earnings release. This makes Baron's study inconsistent with the above conventional notion that trading volume increase with information precision which brings about the convergence beliefs.

To help reconcile these empirical results we develop a two period model in which traders have different prior expectation in the second period. We study a market with a large number of traders. We also demonstrate that for any given public announcement and a proportional transaction cost, when the precision is high enough, trading volume is decreasing in the precision. We further incorporate the different interpretation to public announcement which is motivated by the fact that it is more descriptive of real market settings. According to Klim and Verrechia (1997) when private information is exclusively announced, trading volume has a linear relation to absolute value of price changes with a zero intercept. This relation is contrary to the empirical evidence (Kandel and Pearson, 1995), Bamber *et al* (1999) who suggest that trading volume exist without price change. When there is different interpretation, trading volume is independent of absolute value of price change. Most typically, models of trade volume avoid this issues by assuming that traders employ information either in anticipation of or in conjunction with public announcement.

As we examine and compare models in this study with the Nigerian market in mind, we hope to identify the effect of misinterpretation on trading volume and also recommend ways of ensuring that the Nigerian market operators are properly orientated and re-positioned such that they begin to interpret information appropriately, and then able to maximize information released into the market.

Presentation and Examination of Models

a. Informational Efficient Market with Uniform Interpretation

We assume there is no distortion (no noisy supply) in the second period, therefore all traders interpret the public information in the same way:

Sellers' Equilibrium

Base on the common prior expectation and his private information, each trader maximizes his final wealth at the end of the second period.

The demand of each traders in the first period is

$$d_{1,i}^j = P_0 (\alpha - P_1) + P_i (Y^j - P_1)$$

By the market clearing condition, the equilibrium price in the first period can be easily calculated and it is:

$$P_1 = \frac{P_0 \alpha_0 + (\mu P_1 + (1 - \mu) P_2) \alpha - X_1}{P_0 + \mu P_1 + (1 - \mu) P_2}$$

$$= \frac{P_0 \alpha_0 + (\mu P_1 + (1 - \mu) P_2) \alpha - X_1}{K_1}$$

Where K_1 is the weighted precision of all traders at date 1.

Because of the uncertainty of the noisy supply, the equilibrium price in the first period is not revealing.

As in the first period, each trader maximizes his expected wealth at the end of the second period:

$$\text{For buyer at date 2; } W_3^j = d_{2,i}^j (\alpha - p_2) + d_{1,i}^j (P_2 - P_1) + Z_0 - (d_{2,i}^j - d_{1,i}^j) C$$

With negative exponential utility we have the demand of each trader in the second period:

$$d_{i2}^j \left[P_0 \alpha_0 + P_1 y_{ii}^j + p_w y_2 + \frac{tq}{G^2} - (p_2 + C) K_{2,1} \right] \text{ for buyer}$$

$$\left[P_0 \alpha_0 + P_1 y_{ii}^j + p_w y_2 + \frac{tq}{G^2} - (p_2 + C) K_{2,1} \right] \text{ for Seller}$$

Because of the presence of transaction costs in the second period, traders trade only when the gains from transaction is high enough to compensate for transaction costs.

In the case of $P_2 < P_1 - C$, informed traders in group 1 buy and uniformed traders in group 2 sell. Similarly, we calculate the equilibrium price in the second period:

$$P_2 = \frac{I}{K_2} \left[P_w y_2 + P_1 k_i + \frac{tq}{G^2} - C(2x-1)(P_0 + P_w + \frac{t}{G^2}) + P_1 - (1-\mu)P_2 \right]$$

While trading volume can be calculated either by the orders of informed traders or by those of uniformed traders, it is relatively easier to be calculated by the buyer orders.

$$V = \frac{(1-\mu)\mu}{K_2} \left[\lambda P_w y_2 + \frac{tq}{G^2} - P_1 (P_w + \frac{t}{G^2} (P_1 - P_2) - 2CK_{2,1}K_{2,2}) \right]$$

where λ is 1 if $Y^2 > Y^{up}$, and is -1, if $Y^2 < Y^{down}$. The partial derivative of trading volume (V) with respect to the precision of public information P_w is

$$\frac{\partial V}{\partial P_w} = \mu \frac{(1-\mu)}{(K_2)^2} \left[\lambda P_1 - P_2 (y_2 - P_1) K_2 - P_w + \frac{t}{G^2} - (P_1 - q) - 2C[u(K_{2,1})^2 + (1 -)K_{2,2})^2] \right]$$

$$> \frac{(1-\mu) \lambda (P_1 - P_2) (\frac{t}{G^2} (P_1 - q) K_2)}{(K_2)^2} + \frac{2CK_{2,1}K_{2,2}(K_1 + t) - 2C\{\mu(K_{2,1})^2 + (1-\mu)(K_{2,2})^2\}}{P_w G^2}$$

In a world without transaction cost, the term in the square brackets does not depend on the precision of common information. Trading volume is always a monotonic function of the precision. If we suppose that the equilibrium price is not available or traders can not infer information contained in the equilibrium price in the first period, then the term $\frac{t}{G^2} (P_1 - q)$ disappears. We have shown that when $Y_2 > P_1\lambda = 1$ and when $P_1\lambda = -1$. Trading volume is always increasing in the prevision of common information, which is consistent with Kim and Verrechia (1991) model.

If traders can infer information contained in the equilibrium price in the first period, $(y_2 - P_1)$ and $(P_1 - q)$ may have different signs and trading volume may be monotonically decreasing in the precision of common information.

When there are transaction costs, the second term is always negative and increase in magnitude with the size of transaction costs. At the first source, it seems that the first term is independent of the precision of common information (P_w) the common information disseminated the first term is positive if transaction costs are high enough trading volume may be decreasing in the precision of common information.

Trading Volume and Examination of Barron and Karpoff (2004) Model

This model is similar to the one we outline in this section, trading volume in their model is: $V_{BK} = \max(w[y+z] - x, 0)$

$$\text{Where } W = \frac{(K_{b,1} - K_{s,1}) p w}{K_{s,2} + K_{b,2}}$$

$$Y = \frac{Y_2 - K_{bl} \Psi_{b,1} + K_{sl} \Psi_{s,1}}{K_{bl} + K_{sl}}$$

$$Z = \frac{X_1}{K_{b,1} + K_{s1}}$$

$$X = \frac{2_c K_{2,1} K_{2,2}}{K_{s2} + K_{b,2}}$$

Comparing their trading volume with the ones below is highly impressive, because they do not study the equilibrium price and the information sets in the second period and do not include the equilibrium price in the first period. Trading volume in the model becomes:

$$V = \text{Max} \left[\left(\frac{1-\mu}{K^2} \right)^\mu \left(\lambda P_w (y_2 - P_1) (P_1 - P_2) - 2cK_{2,1}K_{2,2} \right), 0 \right]$$

$$= \text{Max} \left[\left(\frac{1-\mu}{K^2} \right)^\mu \left[\lambda P_w (y_2 - P_0 \Psi_o + (u p_1 + (1-\mu) P_2) \Psi) + \frac{x_1}{k_1} (p_1 - p_2) - 2cK_{2,2} \right], 0 \right]$$

The major difference between these 2 formula lies in the signs of the terms

Wy and

$$\left(Y_2 - \frac{P_0 \Psi_o + (u p_1 + (1-\mu) P_2) \Psi}{k_1} \right) (p_1 - p_2)$$

Baron and Karpoff (2004) argue that when information surprises is positive ($y > 0$) investor b is the buyer at date 2 because his or her precision is higher ($K_{b,1} > K_{s,1}$) implying that W also is positive. Conversely, when the information surprise is negative ($y < 0$) investor b is the buyer because his or her precision is lower ($K_{b,1} > K_{s,1}$). Thus W and Y always have the same sign.

From the analysis below, in the second period when the information surprise is positive ($Y_2 > Y^*$) traders with higher precision ($K_{1,1} > K_{1,2}$) are sellers and when it is negative ($Y_2 < Y^*$) traders with higher precision ($K_{1,1} > K_{1,2}$) are buyers.

In the first period, when information is positive, traders with the higher precision, buy and those with lower precision sell in general. In the second period, when information surprise is positive (negative) traders with lower precision will never want to sell (buy) again, even though the trader with higher precision wants to sell and trader with lower precision wants to buy. Our analysis also shows that $W(Y+Z)$ namely, $\lambda (y_2 - P_1) (P_1 - P_2)$ is always non negative and that the situation when W and Y are negative and $Z > Y$ do not exist.

The partial derivative of trading volume with respect of the precision in Baron and Karpoff (2004) model is $\frac{\delta V_{BK}}{\delta P_w} =$

$$\left(\frac{K_{b,1} + K_{s,1}}{(K_2)^2} \right) \left(\frac{[Y + Z] - 2c(K_{2,1})^2 + (K_{2,2})^2}{(K_2)^2} \right)$$

They argue that the first term on the right hand side is positive and the second term on the right hand side is negative. The latter increases in magnitude with the size of the transaction costs.

Although our study show similar results, Baron and Karpoff's analysis is not quite rigorous, as they do not study the equilibrium price and this can not explicitly get the relation between the equilibrium price and the common information

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b. Information Efficient Market: Identical or Different Interpretation

While holding all the other assumptions unchanged, we assume that traders interpret the same public announcement in different ways and there is no distortion (noisy supply) in the second period.

The change of information environment does not influence the equilibrium in the first period and all the analysis about the first period applies. It is discovered that due to different interpretation, traders in the same group do not longer have same demand, which informs the different equilibrium prices and trading volume.

The equilibrium price in the second period is

$$P_2 = \frac{\beta (P_0 = t) - Cc + D + Ep_1}{G^2} \quad A$$

Where

$$A = UK_2 [1-a(m_1) + a(n_1) + (1-\mu)K_{2,2}(1-a)(m_2) + a(n_2)]$$

$$B = \mu [1-a(1-a)(m_1) + \varepsilon (n_x)(1-a)(M_2) + a(n_2)]$$

$$C = UK_{2,1} [1-a(m_1) - a(n_1) + [(1-\mu)K_{2,2}(1-a)(m_2) - a(n_2)]]$$

$$D = \mu \frac{P_V}{P} [a(m_1) - a(n_1) + (1-\mu) a P_V (m_2) - a(n_2)]$$

$$E = \mu K_1 \eta_1 [1-a(M_1) + a(n_1)] + (1-\mu) \sqrt{h} K_{1,2} (1- \varepsilon (m_2) + a(n_2))$$

$$n_1 = \frac{\sqrt{h}}{P} [K_{1,1}(P_2 - C - P_1 + P (P_2 - \theta - C)) + t \frac{(P_2 - C - q)}{G^2}]$$

Given O, supply in the second period is presented below:

$$V = \frac{\mu}{2} V^1 + \frac{(1-\mu)}{2} V^2$$

In general terms, the par

Where

$$V = \frac{P}{n} [\alpha(-mi) - mi\alpha(-mi) + \alpha(ni) + ni\alpha(ni)]$$

In general terms, the partial derivative of supply volume with respect to the precision can be written as:

$$\frac{\partial V}{\partial P_w} = DV_1 \frac{1}{A} \frac{\partial}{\partial P_w} + DV_2 \mu \frac{(1-\mu)}{A} \frac{\partial P}{\partial P_w} + DV_3 \frac{C}{A} \frac{\partial P}{\partial P_w}$$

Where

$$\begin{aligned} DV_1 &= -\mu(1-\varpi) K_{2,2} I[\theta(M_2) \theta(n_1)(1-\theta)(m_1)] \\ &+ \mu(1-\mu) K_{2,2} [\theta(M_1) \theta(n_2) + \theta(n_1)(1-\theta)(m_2)] \\ &+ K_{2,1} \mu^2 [\theta(m_1) \theta(n_1) + \theta(n_1)(1-\theta)(m_1)] \\ &+ K_{2,2} (1-\mu)^2 [\theta(m_2) \theta(n_2) (1-\theta)(m_1) - \theta(n_1)(1-\theta)(m_2)] \\ DV_2 &= (P_2 - \theta)(P_1 - P_2) [\theta(n) (1-\theta)(m_1) - \theta(n_1)(1-\theta)(m_2)] \\ DV_3 &= -\mu^2 K_{2,1} (1-\theta)(m_1) \theta(n_1) \\ &- (1-\mu)^2 K_{2,2} (1-\theta)(m_2) \theta(n_2) \\ &- (1-\mu) (K_{2,2} + K_{2,2}) [(1-\theta)(m_2) \theta(n_1) + (1-\theta)(m_1) \theta(n_2)] \end{aligned}$$

In analyzing the sign of this formula, two special case will be employed to understand the relation between trading volume and the precision.

c. Nil Transaction Cost Under Different Interpretation

Given this special case, with traders still following different information in the first period, the precision of information is same to all traders i.e. ($P_1=P_2$). The partial derivative is then simplified as:

$$\frac{\partial V}{\partial P_w} = \frac{1}{AVn} \frac{\partial P}{\partial p_w} \theta(m_1)$$

This terms reveals that we have traditional result that trading volume is monotonically increasing in the precision.

d. Nil Transaction Cost Under Different Interpretation

Considering that the previous information precision are different i.e. ($P_1>P_2$) the second term is adapted into the partial derivative which becomes:

$$\begin{aligned} \frac{\partial V}{\partial p_w} &= (\mu\theta(m_1) + 1-\mu) \theta(M_2) d \left[\frac{P}{vn} \right] \frac{\partial P}{\partial p_w} + (p_2 - \theta)(p_1 - p_2) \\ &\left[\theta(n_2) - \theta(n_1) \mu \frac{(1-\mu)}{A} \right] \frac{\partial p}{\partial p_w} \end{aligned}$$

The second term therefore presents the influence of the previous different precision of the private information on the relation. From the equilibrium price with zero transaction cost

$$p_2 = \frac{1}{K_2} (PQ + \frac{tq}{G_2} + K_1 P_1) \quad \text{we have}$$

$$(n_2 - n_1)(P_2 - \theta) = \frac{P_2 - P_1}{(K_2)^2} Vn (P(\theta - P_1) + \frac{t}{G^2} (q - p_1)(K_1(p_1 - \theta) + \frac{t}{G^2} (q - \theta))$$

It is important to recall that in the economy where traders interpret common information in the same way, trading volume is always a monotonic function of the precision. However, where traders can infer the information contained in the previous period, even though transaction is costless, trading volume is no longer a monotonic function of the precision. Note that while the second term does not depend on the precision, the first term may change sign whenever $\theta - P_1$ and $q - P_1$ have different signs.

Recall that $q - P_1 > 0$ means that the equilibrium price in the first period is higher than the prior identical expectation before the first period, on the other hand, $q - P_1 < 0$ equally means that the equilibrium price in the first period is lower than the prior identical expectation before the first period. Gives rise to the condition, $\theta - P_1 < 0$ means that $P_2 < P_1$.

e. Proportional Transaction Costs under Different Interpretation

Assuming there are proportional transaction costs, as earlier expressed, DV_1 denotes the influence of differential interpretation. DV_2 denotes the influence of the different precision of the previous private information and DV_3 denotes the influence of transaction costs on sales volume with respect to the large economy, the relationship between precision of public announcement and trading volume can be divided into the following parts:

- a. The initial part denotes the contribution of the differential interpretation and it is always positive.
- b. The next part denotes the effect of different precision of the previous private information, it may be negative or positive
- c. The last part denotes the contribution of proportional transaction cost and it is usually negative determining an increase or decrease in total trading volume, therefore depends on which of the above effects dominates.

Concluding Remarks

Having examined the relationship between trading volume and public announcement under proportional transaction cost, we examine a two period model. Considering the market with same interpretation and without transaction cost; we found that there is a positive relationship between trading volume and the precision.

Similarly, we also discover that in a market with different interpretation, traders in the same group do no longer have same demand, which results in different equilibrium prices and trading volume. We further divide the relationship between the precision of public announcement and trading volume into three parts: the initial part denotes the contribution of the differential interpretation. The next part denotes the effect of different precision private information, while the last part denoted the impact of proportional transaction cost.

The initial part is always positive, the second part may be positive or negative, and the last part is always negative. Whether total trading volume is increasing in the precision or not depends on which effect dominates.

Implication and Recommendation

From our findings, we discover that even in dynamic markets like the Nigerian market, there is need to examine the implication of information misinterpretation as it could become an indicator of market inefficiency if not checked and controlled. It is therefore important for information disseminator to

realize the need to interpret and monitor the understanding of his information otherwise the objective of the profit maximization for which the firm is set up may be more of an illusion rather than reality. We thereby recommend that, as much as possible, sensitive market information should be presented in seminars, workshops, conferences, trade bulletins, newspaper adverts, bill board advert, radio interviews, circulars etc, as well as in public awareness campaigns so that the overall benefit of optimization could be achieved.

We opine that whatever the cost incurred on such exercise of public enlightenment, will definitely be justified by returns overtime (an increased trading volume), such expenditure can be capitalized and written off subsequently.

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