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Culture and its Impact on the Education of the Maasai and the Coastal Women of Tanzania

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Abstract

The percentage of educated women vs that of men in Tanzania and indeed in the whole of sub Saharan Africa is not the same. The percentage of educated women lags that of men. Traditional culture is singled out as a significant factor contributing to this anomaly in Tanzania. This factor is analyzed for selected tribes of Tanzania, namely the coastal people with their menarche culture and the Maasai with their circumcision culture. Although the two cultures are significantly different, they have the same impact on marriage and education for the women in their respective tribes. Even though the analysis has been done primarily to the Maasai and the Coastal women of Tanzania, the phenomenon of education neglect for women is prevalent to most of the tribes in Tanzania. Recommendations are made to show what should be done to rectify the situation so as to narrow the gap between the proportion of women educated and that of men.

Keywords: Maasai, coastal women, tribal culture, menarche, circumcision, marriage, education

Introduction - Education Prior to Independence

Prior to colonialization, the local people had their indigenous education which was provided to the young by the elders. The indigenous education was closely related to the needs of the society and relevant to the people who received it. It prepared the young generations for their place in the community. They learned by living and doing.

With colonialization the indigenous system was disrupted and Western education was introduced for various purposes among which were for the service of colonial state (Nyerere 1968). Initially, this type of education was unpopular. Some of the parents refused to let their children go to school for various reasons, such as children having special tasks to perform at home such as looking after young children, grazing animals, collection of firewood etc.

The child enrolled in school represented labour lost in the family production team for low-level semi-subsistence peasants. The relations of production within the household would be upset – it may be necessary to find a substitute for the child, especially if a girl who would normally be responsible for nursing younger children plus helping with domestic and farm chores. Where local economies are based wholly or in part on cattle-keeping, boys may also represent an indispensable part of the household economy.

The agents of this system of education namely the European Missionaries and colonialists were clever enough to create some attractions such as wage employment which could be pursued through Western education. The wages thus obtained offered material benefit not only to the individual recipient but to the parents and the extended family. So parents regarded Western Education as passport to wage employment and material accumulation. School education became an economic

investment and many parents began to demand such education for their children especially in places where colonialists and missionaries had settled. This issue of regarding education as an investment is also supported by Mbilinyi (1972) who noted that ‘the decision to enroll children in school is presumed to be economic decision-making’.

In 1971-1972, 10 years after independence, approximately 47% (about half of the school age population) of Tanzanian children of school-entry age were actually enrolled in schools (Tanzania, 1971) for formal education. It has been found that there are regional and urban-rural disparities in enrolment of children in school. For example, the percentage of the school-age population enrolled in primary school in 1967 ranged from 80% in Kilimanjaro region and 23% in Shinyanga region (Morrison, 1970).

Differential enrolment of children in primary school on individual household differences in occupation, sources of income and/or parental educational attainment have been noted (Dubbeldan, 1970).

The sex of child is another determinant of chances for education. In some areas of Tanzania, household heads definitely prefer to educate boys, whatever their income. This is a cultural issue. When there is a financial constraint on decision-making about education, they will choose not to educate girls. For example, it was found that no girls were educated at all in low stratum peasant households in Mwanza, whereas in approximately half of the same households, at least one boy had received some amount of formal education (Mbilinyi, 1973). So even with these attractions, the percentage of educated women has always been low, the reasons being mainly embedded in culture. The aim of this paper to analyse the role of traditional culture of the Maasai and the coastal peoples on women’s Western or formal education. The analysis can be extrapolated to other tribes as well. To understand this, a brief and a general review of culture is presented below.

Culture: General

Culture is related to day to day activities and that it is not static. According to Brown (1963), culture refers to all accepted and patterned ways of behaviour of a given people. It is body of common understanding. It is the sum total and organization for arrangement of all the groups ways of thinking, feeling and acting. It also includes the physical manifestations of the group as exhibited in the objects they make, cloth up, shelter, tools, implements, utensils and so on. In this sense, of course every people however ‘primitive’ has a culture and no individual can live without a culture. It is difficult, perhaps impossible for any person ever fully to ‘get inside’ a culture that is not his own. Human beings everywhere are faced with the same basic problems of physical survival: they must discover ways to meet the elementary needs of food, clothing and shelter and must protect themselves from the onslaughts of their natural environment or from animals or from human enemies who may threaten them or their means of livelihood. Culture consists of man establishing relationships.

All societies are based on some kind of institutionalized relations between individuals and group of individuals. People can live together only if there are more or less clearly defined ways of behaving that are understood and respected by most of the people most of the time. It is our culture that enables us to get through the day. We can talk of differences in material culture by describing the different tools used in getting food. The most profitable way to look at culture is to see it as an adaptive mechanism that is to see what it does. In this sense, a culture is a body of ready-made solutions to meet problems encountered by the group. Culture is a cushion between man and environment. In order to meet their needs, people must devise ways of dealing with their environment. In order to meet their needs, people must devise ways of dealing with their environment so as to get food, clothing and shelter. They must establish and maintain certain patterns of relationships, for in each society there will be males and females, infants, growing children, youths, adults and the aged. The term culture and society are frequently used interchangeably. A society is always made of people, their culture is the

way they behave. In other words, society is not a culture, it has a culture. Religion, nationality and language are all aspects of culture that often set people apart from one another.

Tanzanian Culture

Tanzanian culture definition and elaboration is explainable at various stages of its historical development. By Tanzanian culture, we imply culture of the various tribes since there is no national culture as such. The existence of ethnic culture, which relies greatly on the use of the local languages and continued observance of traditional customs, the influence of Islam, the influence of Western culture as introduced during the colonial period, first by the Germans and later by the English, the influence of various Christian denominations, the role of independence with initially Ujamaa policy and eventually free market policies all played a big role in shaping Tanzanian culture.

Education after Independence

After independence, there was a mass mobilization for universal primary education. This mobilization was uneven between and within regions as reflected in the drop outs rates. Manase (1978) observed the following rates of primary school drop outs in 1976 as presented in Table 1 below:

Table 1: Education Drop Outs in 1976.

Arusha	16%
Kigoma	11.1%
Lindi	16%
Mwanza	11.2%
Kilimanjaro	2.2%

Source: Manase (1978)

Daily News, September 8th, 1979 for Tanga reported that of out of 213,408 pupils registered in 632 primary schools, 45,270 pupils had run away from school.

The Daily News of October 10th, 1979 reported that the Coast schools were short of pupils. The then Minister for Education in his 1976/77 Budget Speech noted that apart from encouraging the parents to send their children to school, parents should also encourage and make sure that their children stay on in school to complete primary course. There were many reasons for the phenomenon. From Table 1, Lindi, Arusha, Kigoma had a high rate of dropouts. This might have been attributed to the pattern of uneven development during the colonial period which was manifested in the number of schools available in these areas. Thus in some regions the number of primary schools was very small and the people had not yet been well mobilized to realize the need for basic education. This was the case in the regions which were rather neglected by the colonialists because they (the regions) were “unfavourable” to the Europeans and may be, did not have economic attractions. Kilimanjaro, though advanced educationally with one of highest number of both public and private secondary schools still had a few drop outs. One would have expected minimal if not non-existent drop outs. For example in 1975, the drop out rate in the primary school in Kilimanjaro Region was 2.3% and in 1976 it was 2.2% with Pare District leading (Shuma, 1980). Social and economic problems in the homes of the pupils contributed to their drop out. Pregnancy among females pupils was a serious problem and a leading factor for leaving school system early (Shuma, 1980). Out of 30 female drop outs 21 cases (70%) were due to pregnancies. Reasons being general moral laxity in the society coupled with up bring in the home. Also higher drop outs were observed among older girls who had started schooling late and had thus lost interest in school as they become older (Shuma, 1980).

In some other cases, the differences in rates of drop outs might have been be due to cultural variations of the people. It is this factor that I intend to analyse. In the next sections, culture of two

tribes, the Maasai and the coastal people is presented and deduction on how these cultures influence women's education is presented thereafter.

The Culture (the Social System) of Maasai

The Maasai social system is patrilineal. According to Arhem (1974) patrilineal clans *enkishomi* are subdivided into sub-clans *olgilata*. Each clan tends to be dispersed throughout the entire Maasai land to contain a similar composition of different clans and sub clans. Both clans and subclans are exogamous units. An important function of the clan system is to regulate marriage.

Patrilineal clanship also forms the basis of inheritance of livestock and for the allocation of diffuse rights in livestock owned by fellow clansmen. Clansmen are expected to help each other, build up herds for future marriages and in situations of individuals misfortune. In this way the clan forms a corporate group, characterized by solidarity common interests and loyalty between its members.

The life of a Maasai man is divided into several consecutive and ritually marked stages from birth to death. When a boy reaches the age of about 14-17 he is circumcised. After the circumcision ceremony the boy is initiated into warrior hood. He becomes a junior warrior *olmurani*; literally meaning "a circumcised one" and enters into an age-set. Boys of approximately the same age in the locality are circumcised together and enter into the same age-set.

After some 7-8 years a ceremony is held *eunoto* at which the junior warriors are promoted into senior warriors. At this ceremony the leaders of the particular age-set are chosen. The local leader of an age-set is called *olaiquanani*. After this ceremony the warriors are allowed to marry.

Some 6-7 years after the *eunoto* ceremony a final ceremony is held which marks the end of warrior hood and at which the age-set is given its name. This ceremony is known as *olngesher*. The warriors now become junior elders *orbayan*. After this ceremony elders are supposed to settle down, marry if they are not already married and attend to their family concerns.

The age-set system forms, in short, a model for the organization of society and the social division of labour. Uncircumcised boys provide the labour for the routine herding activities. The warriors represent the military force of the community. They protect life the property and are expected to regularly increase the local livestock herds through stock theft. The elders wield the political and spiritual power in the community. They exert control over the warriors, and they are expected to maintain and restore social order in the local community. As fathers and grand fathers the elders transmit long experience in matters of herding and resource management to the younger generations. And as spiritual guardians and sponsors of religious ceremonies they pass on the traditions of their people to the young.

The life cycle of the woman is very different from that of the man. Like the boy, the girls is circumcised at puberty. This is a family ceremony rather than a communal one and the girls does not enter into an age-set. Through the circumcision ceremony girls become eligible for marriage. Usually girls are married very young; it is not uncommon to find married girls of 13 – 14 years of age. At marriage the woman is allocated a small herd by her husband over which she acquires certain responsibilities and rights. She looks after the herd and keeps it in trust for her future sons.

Her role in society is from now on one of housewife and mother. She builds her own hut in the domain *boma* of her husband. Her domestic duties include the fetching of firewood and water, the milking of her cows, the care of her children, and the loading and unloading of transport donkeys when the family moves from one camp to another. Today an important task of the housewife is the many shopping expeditions to the nearest trading centre in search of maize meal, sugar, cloths and beads. The cleaning and preparation of hides and skins for the making of skin clothing or bed coverings, and the making of bead ornaments and necklaces are other tasks which fall upon the woman. She is also responsible for manufacturing and keeping the milking gourds clean, and it is the wife and mother who distributes the daily milk supply among the family members.

Culture of Coastal Communities

Superstition, magical beliefs and traditional aspects of village life are typical aspects of life in a coastal community. Cultural and ritual celebration are of special significance in the coastal Milieu as observed by Mesaki, 1997. The celebrations do affect economic activities and do also bring together those who are far apart. In the coastal regions, when girls reach puberty, they are not allowed to go to school. Instead, they are kept indoors to wait for wedding arrangement. Due to a better feeding, girls attain puberty very early nowadays. For most girls, the age of puberty is 12. Given the fact that some children start primary education when they are seven or more years old, it means that they attain puberty before completing primary education of standard seven. As soon as the parents realize that their daughter has reached puberty, they withdraw her from school for “hibernation”. Such practices which are common along the coastal areas of example, Tanga, Bagamoyo, Kilwa, Kisarawe, will definitely contribute to drop out rates among primary schools pupils girls thus reducing the proportion of women educated. Girls are expected to marry shortly after menarche otherwise they will become a burden to the household if they stay indoors for a long period. For young men, once there is a virgin *wali* in neighbourhood, there is pressure on them to propose for marriage (Maghimbi 1997). Of course early marriage imply early child bearing, more left outs in education and so on.

Impact of Coastal Culture on Women’s Education

Because of the early marriage culture of the coastal people, a significant number of women along the coast are either non-educated or are lowly educated. Akarro (1998) did a survey of education and fertility for women in a typical coastal settlement of Kunduchi Pwani. A follow up survey was done in 2007.

Since the size of the village is small area wise, it was possible to interview every characteristic of interest in the households. The survey was conducted in December 1996 and a follow up in April 2007. 90 households were visited. In every household, interest lay in finding girls 20-24 who were single. The following sets of information was sought:

1. Women aged 20 – 24 who were catholics, protestants, moslems or traditional
2. Women aged 20- 24 marital condition (single, currently married once polygamous, currently married once monogamous divorced, separated).
3. Women aged 20 – 24 by various levels of education (completed primary education, incomplete primary education, secondary school and over those with no education at all).
4. Women aged 20-24 fertility.

The variable single women aged 20 – 24 was treated as a dependent variable of interest. This variable was chosen because for woman who attains secondary education or college education, it will be highly unlikely for her to be less than 20 years old and as such she would be single according to school rules.

The following results were obtained.

Table 2: Statistics of Interest from the Survey

Women 20 - 24	133	100%
Moslems	124	93.23%
Christians	9	6.76%
Monogamous married	80	60.15%
Polygamous married	30	22.15%
Divorced	20	15.03%
Single	2	2.25%
Complete Primary	40	30.07%
Incomplete Primary	40	30.07%
No Education	50	37.59%
Secondary and Above	3	2.25%
Fertility One Child	20	15.03%
Fertility Two children	80	60.15%
Fertility Three children	10	7.15%
No child	23	17.29%

Source: Akarro (1998)

As can be seen in the above, the women in Kunduchi Pwani got married early as reflected in their school drop outs a result of the menarche culture. A study by Swantz (1974) in Ikwiriri village in Coast Region noticed a similar pattern. She noted that the majority of female members in the sample did not have any formal education.

The Impact of Maasai Culture on Education

The Maasai in Arusha region, have not yet developed positive attitudes towards school learning. This is because the Maasai have very strictly adhered to traditional (tribal) culture leading to their nomadic way of life. Formal schooling which involves a settled life is not feasible to them. So even if, through compulsory education they are forced to enroll in primary school, the majority will not stay on to complete the primary course as they are always on the move searching for pastures and water for their animals. In this case, in areas where the Maasai or any other nomadic people are dominant, there will be high rates of school drop outs. In fact, in areas where the population's main occupation is pastoralism, there is a tendency of keeping the young boys of school going age away from the schools so that they can graze the animals; for example in Singida, Shinyanga and Mwanza regions. Looking at drop out rate of Arusha in Table 1, 16% drop out rate is fairly high. Arusha being near Kilimanjaro whereby the presence of missionaries was effective and Arusha being located in a place where contact with foreign tourists and foreign culture was likely, one would have expected a lower drop out case. This is not so because of the nomadic nature of her population and the culture of circumcising girls rendering them for marriage at very young case.

Analysis

We have observed that the decision to educate is mostly economic. It has also been noted that it is men who have been inheriting property. My analysis is as follows: The social system of the Maasai tribe and indeed to most of the patrilineal tribes hardly gave room for the woman to inherit property. This was a deterrent for a woman to go to school because even with some economic advancement, she could not inherit certain types of property. In fact, in some places of Chaggaland (Maasai neighbours who are fairly educated) women can not inherit landed property. The social security for any person is economic. A woman did not have a social security of her own. A woman faced and forced by the aforementioned social system (culture) decided to get married early so as to have children. The children would then act as a 'cushion' for her social security in the eyes of her husband, her husbands family and the society. It is not surprising that in some tribes, if one does not have children and sons in particular who are

supposed to inherit property and stay with their parents when they are old, her place in that society is jeopardized. As for the significant number of coastal tribes, their social system is matrilineal. So woman control property to a ‘certain extent’. The influence of Islamic culture was felt most in the coastal areas and as such Western education was disregarded. Western education was disregarded because initially one was normally expected to convert to Christianity before being let into Western education. Thus, the impact of Western culture and therefore Western education was minimal. That is the value of western education to both men and women was not taken as a prerequisite.

The current law of inheritance is equal rights to all. This implies that women can now inherit property and thus securing a social security for herself. For such a woman marriage is not a prerequisite. It is not a surprise now seeing highly educated women staying single because they can take care of themselves. The issue of neglecting educating girls/women is not confined to the Maasai and the Coastal tribes alone. In fact it is prevalent to most of the tribes in Tanzania. With the introduction of inheritance legislation, these cultures have changed as indeed shown earlier that culture is dynamic and goes with time. This can be shown in Table 3 by examining the percentage of girls who completed primary education at Kunduchi Pwani, a village which was engulfed in menarche culture.

Table 3: Statistics of Interest from the Survey

Women 20 – 24	150	100%
Moslems	130	86.66%
Christians	10	6.66%
Traditional	10	6.66%
Monogamous married	70	46.66%
Polygamous married	20	13.33%
Divorced	10	6.66%
Single	50	33.33%
Complete Primary	130	86.66%
Incomplete Primary	20	13.33%
No Education	0	0%
Secondary and Above	30	20%
Fertility One Child	20	13.33%
Fertility Two children	30	20%
Fertility Three children	10	6.66%
No child	90	60%

Source: Akarro (2007)

As it can be inferred from Table 3, the percentage who completed primary education is well over 80% an indication that priorities have shifted due to governments campaigns on the need for transforming cultures to accommodate educating women. The issue of policies of Tanzania government on cultural transformation is not applicable to the coastal women or the Maasai alone. It is applicable to whole population. For example in one of the famous newspapers (Majira, 2008) reported that the government was taking stern measures against parents who were taking their girls to *Chagulaga* in Nzega district in Mwanza Region. This is cultural ceremony similar to menarche, the difference being girls would be involved in a night dance. Government officials noted that the practice was a stimulus for unwanted pregnancies, thus denying girls opportunity to advance themselves in education.

It is not surprise that we now have anti circumcision campaigns and there is very little resistance to this. The government must be commended for this legislation. This law of inheritance coupled with cultural changes would encourage women to fully exploit the ‘fruits’ of education. The fruits of relaxation are being noticed day after day. We now have a considerable number of women who are managers and professors.

Conclusion

We propose that we must take our traditional system correct its short comings and adapt to its service the things we can learn from technically developed societies of other continents. We also notice that it is not a question of forcing people to change their habits. It is not sufficient to either legislate against these beliefs or to expect that formal education will eradicate their presence.

It is a question of leadership and it is a question of all of us together. People should be free to speak their “own word” by participating directly in their own development, not only in terms of rejecting foreign cultural influences which are harmful to their freedom, but also in the revaluation of their own customs and beliefs. The introduction of inheritance legislation and relaxation of certain cultural practices will lead to changes in perception of education for women.

Recommendations

Serious attention be given to the evaluation of traditional culture in terms of its possible contribution to modern transformation of the educational system and overall national development. This depends on research and planning of cultural development. There is a need of identifying those traditional cultural practices which might contribute to under development. Work must be carried out to refine culture so that is it consonant with political action and mass mobilization. Obviously those cultural elements which constitute obstacles to development would then be eradicated through a mobilization process which involves political education and the opportunity for people to review their own cultures in determining their future.

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Arab Postgraduate Students' Attitudes Toward Word Processing: A Case Study

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Abstract

Arab postgraduate students form the second biggest group of international students after the Indonesians at University Kebangsaan Malaysia (UKM). Postgraduate international students at UKM are required to submit their assignments, projects and theses in English. They usually use the word processor more than other computer programs in order to complete their course requirement. Previous studies have revealed that students' attitude towards writing improves when they use the word processor. This study specifically investigates Arab postgraduate students' attitudes toward word processor in composing essays in EFL. It examines students' attitude based on a questionnaire survey adapted from K. Cunningham's (2002) article entitled Integrating CALL into the Writing Curriculum which was published in *The Internet TESL Journal* Volume VI, Issue 5. A total number of 80 Arab postgraduate students participated in the study. Feedback gathered from questionnaires show that Arab postgraduate students have positive attitude toward using word processing for writing essays in EFL cognitively, behaviorally and affectively. The results of the study also show that Arab postgraduate students have low apprehension level toward word processing.

Keywords: EFL, word processor, Arab students, attitudes.

Introduction

Arab postgraduate students have begun to pursue further education in more advanced countries in order to complete their academic studies and Malaysia is one of those countries. They form the second biggest group of international students after the Indonesians at University Kebangsaan Malaysia (UKM). These students are not familiar with the high technology offered in education because they are used to more conventional methods of education in their own country. Since most, if not all Malaysian universities use advanced level of computer technology in many areas of teaching and learning, Arab postgraduate students faced many difficulties in their studies and completing of assignments. The need to use high-tech as a medium of learning serves as a challenge to these Arab postgraduate students than their studies itself.

Many Arab students who are studying at Malaysian universities are postgraduate students. Apart from using Internet and other computer related technologies offered in the main library, these students are required to use computer technology to complete their assignments, projects and theses in their disciplines. Postgraduate international students are required to submit their coursework in

English. They usually use the word processor more than other computer programs in order to complete their course requirement.

Of the four skills required of learners of English as a foreign language, which are listening, speaking, reading and writing, research has shown that writing is the most difficult skill to acquire especially for adult learners. The problem is further compounded in Arab postgraduate students as the language not only differs in nature, the writing alphabet, grammar, style and vocabularies are totally unlike Arab postgraduate students' first language, which is Arabic. Thus, attempting to produce written assignments via the use of a word processor is an uphill task faced by many Arab postgraduate students. In addition, there are doubts whether the word processor can enhance Arab postgraduate students writing skills in EFL.

This lends to the objective of the study, which is to investigate Arab postgraduate students' attitudes towards word processing in composing essays in EFL, namely in terms of cognitive, behavioral, affective and apprehension.

Computer Applications and Writing

Computer technology and its applications in English as a Foreign Language (EFL) in general is becoming a more essential literacy feature of the 21st century. Elderd and Toner (2003) argue that educators cannot just pretend that computer literacy is merely enhancing pedagogy. They also stated that electronic literacy has already transformed writing instruction. This also implies that as technologies advanced, the way students perceived writing and communication have changed.

In his study, Snyder (1993) concluded that the computer-writing context in classroom was more interactive, more cooperative and more collaborative than the pen context. The use of computers had a "democratizing" effect in that the class becomes more student-centered and less teacher-dominated. This frees the students from being the consistent pressure of the teacher.

The computer makes writing faster as it no longer requires them to plan and write rough sketches. It allows a writer to see his or her ideas printed on the computer screen straightway. This has encouraged students to write for longer periods of time (Ghandoura 2006). Written words are changeable until printed. Words can also be modified with a touch of a key whereas words written on paper were immediately, and permanently placed. Many young writers have reported to using the computer to review their text such as to check spelling and grammar rather than carefully rereading the text themselves for edition. With the rapid increase in the use of computers, even the traditional paper-and-pencil international tests such as TOEFL (Test of English as a Foreign Language) and GRE (Graduate Record Examination) were redeveloped as computer-based tests (Lee 2002).

Lockard, Abrams and Many (1994) define the word processor as "a computer program for writing, editing, revising, formatting, and printing text". They claim that it can overcome many of the mechanical problems associated with typing. According to Lockard, Abrams and Many (1994: 27-28), the word processor facilitates as:

- a) mistakes can be corrected on the screen
- b) there are no errors in the final copy
- c) complex editing such as repositioning blocks of text can be done with a few keystrokes
- d) there is no need to retype because of an error
- e) once typed, anything that is correct will not need typing again
- f) all changes can be accomplished with relative speed and ease

There are a number of word processing programs available in the market, but the most popular one is Microsoft Word, which is used widely in the whole world. Using this program, a writer can easily write, delete, edit, copy, paste, and track changes on the document. These features can increase the positive attitude of a budding writer towards the process of composing.

The growing use of word processors and various computer programs have helped students to improve their composition skills. Much of the research, which focuses on word processing, centers on

revision strategies and attitudes toward writing (Eastman 1989). Findings from previous researchers support the benefits of using word processors in EFL and ESL writing and teaching writing courses. According to Balajthy (1985), composition teachers have recognized that word processing is revolutionizing writing. Thus, word processing is now seen as vital for today's academic life.

Attitudes Toward Word Processing

Cochran-Smith, Paris and Kahn (1991) stated that positive students' responses to writing with a word processor are nearly universal. In the same vein, Hyland (1990) also proposed that the word processor enables writers to concentrate on the creative process of writing rather than on the mechanics of writing. He suggests that when students are familiar with the functions of the word processor and the ease with which structural matters and errors can be corrected, they will leave corrections alone until the writing is finished. This inevitably allows them to concentrate more on content development (Pennington 1991) than other aspects of writing.

Word processing may also influence the writing process because of the ease of editing and revising provided the ease of revision on the computer may encourage writers to make more revisions and thus improve their texts. It has been suggested that the editing facility provided by a computer can affect the entire composing process. This is so because it encourages authors to write freely, without concern for errors and awkward spots and it is so easy to make changes later (Jackiewicz 1995). This leads to positive attitude toward the computer.

Other means which would lead to a favorable attitude towards using computers for writing is that word processors makes editing and revising a text easier (Wolfe et al. 1996). Where pen and paper requires a writer to rewrite an entire section or text a monotonous activity, the word processor is such as 'a great help'. The apparent difficulty of revising writing by hand may discourage students from making extensive revisions (Daiute 1986). In contrast, the ease and convenience afforded by word processor editing tools may increase the frequency with which students make certain types of revisions (Cochran-Smith, Paris, and Kahn 1991). Students may also find it satisfying to create work with neater prints and a more professional appearance overall (MacArthur 1988).

Attitudes towards writing are more likely to improve with the use of computers. Taggart (1994) states that her students who write longer papers, spend more time revising them and turn in better work. She also found that they enjoy using high-tech devices, enjoy working independently and they enthusiastically attempt to complete assignments as well as take pride in their creations. According to Moore (1989), using computers appear to alleviate students concerns about messy papers or poor handwriting.

Of the research done so far, many have shown that students' attitude towards writing improves when they use the word processor. If students' performance will benefit from an improved attitude, then it is logical to assume that the word processor will have a beneficial effect on students' writing (Lockard et al. 1994). Snyder (1993) cited a number of researchers that demonstrate their umpired attitude. He found that the majority of studies that have explored students' reactions to writing with computers report positive responses. Subjects also claim to have adjusted quickly to the new technology, asserting that writing on the computer is more fun and easier (Case 1985). Some students strongly felt that they write better with computers (Hawisher 1986).

Many surveys of student's attitudes toward writing with the word processor have also been investigated. These studies reported that students were generally positive towards writing with the word processor (Etchison 1985; Hawisher 1989). The ESL students in Pennington's (1993) study concluded that they experienced writing improvements in the affective factors of attitudes towards their writing. They also reported that positive motivation appeared to benefit computer-assisted writing. Phinney (1989) also suggested that the novelty of writing on the computer might encourage ESL students to think of writing in English in more positive ways than when writing with traditional tools. Phinney (1989) also remarks,

“The greatest effect of computer-assisted composition appears to be the change of attitudes towards writing. Almost every study has reported that students enjoy using a computer to write and that they feel a sense of mastery and accomplishment in learning to use the software” (Phinney, 1989, p.85).

Word processors have clearly given students the power to produce neat, printed work, and to correct errors without damaging the appearance of the paper (MacArthur 1988). Researches on the use of word processing with L2 writers have reported findings similar to those of LI studies. For example, students cannot be expected to improve their planning, revision, or overall writing just by being exposed to computers. They need careful instruction both in writing strategies and in how to exploit the facilities of word-processing tools.

ESL students appear to reap tremendous affective benefits from the word processing (Pennington, 1991, 1993; Phinney, 1989; Piper 1987) and their anxieties appear to decrease because computers reduce their fear of errors and worries about legibility (Phinney, 1989). Pennington (1993) also pointed out that word processors may also free up some of the novice writer’s time and attention, making it easier for writers to concentrate on the non-mechanical aspects of composing. L2 writers in particular, benefits more because writing on a computer is faster and easier (in most cases) than writing by hand and the word processing may encourage writers to produce more writing products with higher quality than those that were hand written.

Finally, research that measures students’ attitude towards composing through word-processing also reports in favor of word processors. Positive student attitudes towards composing with word processors are reported in the literature, and they write better with word processors, believing that it enhances their capacity to write (Snyder, 1993).

Methodology

Participants

The respondents in the present study consisted of 80 Arab postgraduate students studying at UKM. Majority of the respondents who participated in this study were doing their Masters Degree. Sixty-three respondents were Masters students while 17 respondents were Ph.D candidates. They were from different faculties at UKM: 54 students were from Faculty of Engineering, 10 students were from Faculty of Medicine, 8 students were from Faculty of Science and Technology, 5 students were from Faculty of Social Sciences and Humanities while 3 students were from other faculties.

Majority of the respondents (30%) were 26-30 years old while 23% were 31-35 years of age, and 21% of the respondents were 36-40 years old, finally 8% of the respondents were 41-45 years old. Almost half of the respondents were below 30 years old. Majority of the respondents can be considered young and more importantly from the new generation.

Instrument

A questionnaire adapted from Cunningham (2000) was used to collect responses from these students. It consisted of two sections. The first section enquired about students’ background e.g. age, computer experience, duration of usage of computer and duration of stay in Malaysia. The second section consisted of thirty items and each item had four scales as follows: *strongly agree*, *agree*, *disagree*, and *strongly disagree*.

Procedure

Printed questionnaires were distributed to respondents. Respondents ticked (√) the appropriate response. Questionnaires were collected after a week and data was analysed using Microsoft Excel program.

Results and Discussion

Regarding respondents' experience of using the computer, it was noted that all students from the Faculty of Engineering had excellent experience in using computer especially Ph.D candidates. However, students of other faculties had rather poor experience. Most Ph.D students have better experience than Masters students in all faculties. Table 1 illustrates duration of usage of computer by respondents.

Table 1: Duration of usage of computer by Arab postgraduate students

Usage of computer (year)	No. of respondents (%)
1-3	19 (23.8)
4-6	25 (31.2)
7-9	27 (33.8)
10-12	9 (11.2)

Table 2 illustrates the length of stay of respondents in Malaysia. The length of stay ranged from less than 1 year to 6 years. Most of the respondents (32.5%) had stayed in Malaysia for one year. 6 respondents (7.6%) had stayed for 4 to 6 years.

Table 2: Duration of stay in Malaysia

Length of stay	No. of respondents (%)
Less than 1 year	13 (16.3)
1	26 (32.6)
2	24 (30.0)
3	11 (13.8)
4	3 (3.8)
5	0
6	3 (3.8)

The following discussion of the results is based on the items in the second section of the questionnaire.

Table 3 shows cognitive influence of computers on respondents. We can see that Arab postgraduate students were influenced cognitively when they use the computer to compose essays in English. Most of the respondents ticked *Strongly Agree* and *Agree* for items no. 3, 4, 8, 14, 21 and 30, with a minimum value of 57.5% and a maximum value of 91.25%. Five important cognitive influences of computers were as follows:

- a) When I use word processing on the computer, I am more careful about grammar
- b) I can think of more ideas about my writing when I use the computer
- c) I get better scores on papers, when I've written using the computer
- d) I think I write longer papers using the computer
- e) I think using the computer in writing class in my country is useful and interesting

Table 3: Cognitive influence of computers on respondents

Cognitive influence	Strongly Agree No. (%)	Agree No. (%)	Disagree No. (%)	Strongly Disagree No. (%)
3. When I use word processing on the computer, I am more careful about grammar	28(35.0)	33(41.35) 76.35%	16(20.0)	3(3.75)
4. I can think of more ideas about my writing when I use the computer	24(30.0)	35(43.75) 73.75%	16(20.0)	5(6.25)
8. I think I am a good writer in English	9(11.25)	37(46.25) 57.5%	30(37.5)	4(5.0)
14. I get better scores on papers, when I've written using the computer	34(42.5)	38(47.5) 90%	8(10.0)	0
21. I think I write longer papers using the computer	40(50.0)	29(36.25) 86.25%	9(11.25)	2(2.5)
30. I think using the computer in writing class in my country is useful and interesting	48(60.0)	25(31.25) 91.25%	6(7.5)	1(1.25)

*percentage in blue shows the sum of the percentage for *Strongly Agree* and *Agree*

Table 4 shows behavioral influence of computers on respondents. It seems that Arab postgraduate students were influenced behaviorally when they use the computer to compose essays in English. Most of the respondents ticked *Strongly Agree* and *Agree* for items no. 1, 9, 10, 12, 13, 16, 17, 18, 20, 22, 23, 24 and 27 with a minimum value of 66.25% and a maximum value of 98.75%. Five important behavioral influences of computers were as follows:

- a) The computer helps me to write my papers better
- b) Using a computer has helped me to become better at writing in English
- c) I can change my papers more easily and more often when I use word processing than when I write with other ways
- d) I use word processing more than any other way to write papers for my studying
- e) I can easily make changes when I use the computer

Table 4: Behavioral influence of computers on respondents

Behavioral influence	Strongly Agree No. (%)	Agree No. (%)	Disagree No. (%)	Strongly Disagree No. (%)
1. The computer helps me to write my papers better	66(82.5)	13(16.23) 98.75%	0	1(1.25)
9. When I use word processing on the computer, I pay more attention to what I'm writing about	22(27.5)	45(56.25) 83.75%	9(11.25)	4(5.0)
10. Using a computer has helped me to become better at writing in English	35(43.75)	40(50.0) 93.75%	4(5.0)	1(1.25)
12. I pay more attention to choosing the right word when I use the computer	29(36.25)	39(48.75) 85%	9(11.25)	3(3.75)
13. I would recommend that other students learn to use word processing for writing their papers in English	38(47.5)	39(48.75) 96.25%	(1.25)	(2.5)
16. I can change my papers more easily and more often when I use word processing than when I write with other ways	36(45.0)	38(47.5) 92.5%	0	6(7.5)
17. I plan to continue using the computer to write my papers after going back to my country	53(66.25)	23(28.75) 95%	3(3.75)	1(1.25)
18. I pay more attention to spelling when I use the computer	26(32.5)	31(38.75) 71.25%	19(23.75)	4(5.0)
20. I use word processing more than any other way to write papers for my studying	41(51.25)	34(42.5) 93.75%	3(3.75)	2(2.5)
22. I use word processing more than any other way to write papers for my studying	14(17.5)	37(46.0) 63.5%	23(28.75)	3(7.5)
23. I can easily make changes when I use the computer	47(58.75)	28(35.0) 93.75%	3(3.75)	2(2.5)
24. I pay more attention to organization when I use the computer	33(41.25)	35(43.75) 85%	8(10)	4(5)
27. When I write using the computer, I pay more attention to grammar	20(25.0)	33(41.25) 66.25%	21(26.25)	6(7.5)

Table 5 shows affective influence of computers on respondents. Arab postgraduate students were influenced affectively when they use the computer to compose essays in English. Most of the respondents ticked *Strongly Agree* and *Agree* for items no. 5 and 11 with a minimum value of 83.75% and a maximum value of 97.5%. Three important affective influences of computers were as follows:

- a) I like using word processing more than other ways to write
- b) I like using word processor on the computer to write my papers more than writing them by other ways
- c) I am happier with my papers when I write using the computer

Table 5: Affective influence of computers on respondents

Affective influence	Strongly Agree No. (%)	Agree No. (%)	Disagree No. (%)	Strongly Disagree No. (%)
5. I like using word processing more than other ways to write	29(36.25)	38(47.5) 83.75%	11(13.75)	2(2.5)
6. Usually, I like to write in Arabic	8(10.0)	25(31.25) 41.25%	33(41.25)	14(17.5)
7. Usually, I like to write in English	30(37.5)	32(40.0) 77.5%	16(20.0)	2(2.5)
11. I like using word processor on the computer to write my papers more than writing them by other ways	29(36.25)	42(52.5) 88.75%	(10.0)	(1.25)
25. I am happier with my papers when I write using the computer	38(47.5)	40(50.0) 97.5%	1(1.25)	1(1.25)

In terms of apprehension influence of computers on respondents (Table 6), the results show that 68.75% of respondents *Disagree* and *Strongly Disagree* that it was difficult to learn how to use the computer. 93.75% of respondents *Strongly Agree* and *Agree* that using word processing make them less worried about writing because they know they can make changes easily. 68.75% of the respondents *Disagree* and *Strongly Disagree* that they had trouble understanding how to use the computer. 61.25% of the respondents *Disagree* and *Strongly Disagree* that they were worried that they would take longer time to learn how to use the computer than most of their friends.

Table 6: Apprehension influence of computers on respondents

Apprehension influence	Strongly Agree	Agree	Disagree	Strongly Disagree
15. It was difficult to learn how to use the computer	10(12.5)	14(18.75) 31.25%	28(35.0)	27(33.75)
19. Using word processing makes me less worried about writing because I know I can make changes easily	44(55.0)	31(38.75) 93.75%	4(5.0)	1(1.25)
26. I get nervous when I use the computer	9(11.25)	14(17.5) 28.75%	26(32.5)	31(38.75)
28. I had trouble understanding how to use the computer	6(7.5)	19(23.75) 31.25%	27(33.75)	28(35.0)
29. I was worried that I would take longer time to learn how to use the computer than most of my friends	8(10.0)	23(28.75) 38.75%	29(36.25)	20(25.0)

Conclusion

The study sets out to investigate Arab postgraduate students' attitudes toward word processing in composing essays in EFL namely in terms of cognitive, behavioral, affective and apprehension.

Generally, the results show that Arab postgraduate students possess positive cognitive attitudes towards the use of the word processor as was revealed in their responses to the following items: 3, 4, 8, 14, 21 and 30. All of these items had a higher percentage of the choices for *Strongly Agree* and *Agree*. Arab postgraduate students also had positive behavioral attitudes when they used the word processor as shown by the following items: 1, 9, 10, 12, 13, 16, 17, 18, 20, 22, 23, 24 and 27.

In terms of affective influence of computers, Arab postgraduate students showed positive tendency towards using word processor in composing their essays as shown by item no. 5, 11 and 25. Items no. 15, 19, 26, 28, and 29 indicated the apprehension influence of computers. The results of the study also show that Arab postgraduate students had low apprehension level.

The results clearly show that Arab postgraduate students studying at UKM believed that word processing was helpful in assisting them to prepare their essays in EFL. The word processor helped them to concentrate their attention on certain aspects of writing (e.g., grammar, word choice, and organization). These students valued the stance provided by the word processor. They were cautious about their spelling, punctuation, vocabulary, and the organization of their papers. These positive attitudes toward writing on the computer suggested that the students were willing to use the computer to write because they had indicated that their writing abilities had improved. Most importantly, the word processor had helped them to compose, draft, revise and edit their work simultaneously.

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Identification of Sources of Risk in IBS Project

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Abstract

Risk exists in IBS construction from the start until completion of the project. The use of IBS has attracted a lot of parties involved in construction industrial in countries like Germany, Japan and Singapore. This system can replace the conventional building system which is labour oriented. However, the system is not widely accepted in Malaysia. Firstly introduced in 1964, the IBS pilot project was held on 22.7 acres of land along Jalan Pekeliling. The construction of 7 blocks of 17 storey flat and 4 blocks of 4 storey flats comprise about 3,000 units of low cost flats and 40 storey shop lots. To address this matter, this paper had identified the sources of risks faced by developer in IBS construction projects. The risk identification techniques used were survey analysis of journal and conference papers of construction risks and discussion with practitioner involves in IBS projects. It was found that there are twenty eight (28) sources of risks in construction using IBS which the top three sources of risks are inexperience contractor in IBS project, complexity in design and contractor performance failure. While the bottom three sources of risks are single point responsibility, fixed time and cost and, dispute and claims. This paper also found that different types of IBS would appear with various sources of risk in the project itself. Therefore, it is hoped that the finding of this research could assist Malaysian developers in making risk management planning using IBS besides improving decision making to achieve project and objectives which are time, cost and quality.

Keywords: Risk identification, risk management, industrialised building system.

Introduction

The construction industry is one of the most dynamic, risky, challenging and rewarding fields. It involves numerous uncertainties and is widely associated with a high degree of risk due to the nature of construction business activities, processes, environment and organization (Kartam and Kartam, 2001). Failure to identify and adequately deal with this uncertainties has been shown to cause cost and time overruns in construction projects (Thompson, 1992).

Risk has been defined in different ways. Barrie and Paulson (1992), Perry and Hayes (1985), Healy (1982) and Porter (1981) have articulated risk as an exposure to economic loss or gain arising from involvement in the construction process; Moavenzadeh and Rosow (1999) and Mason (1973) have regarded this as an exposure to loss only. Boothroyd and Emmett (1998) and Bufaied (1987)

described risk in relation to construction project whose variation results in uncertainty in the final cost, duration and quality of the project. In order to emphasize the major objectives of survey on risk management action, risk has been defined as the probability of occurrence of some uncertain, unpredictable and even undesirable events that would change the prospects for the profitability on a given investment.

In construction, risk exist from the early of the project development until the completion of the project (Liebing, 2001). IBS is a system which all building components are mass produced either in factory or at site under strict quality control and minimal on site activities (Triksa, 1999). A lot of research done indicate that IBS have lot of advantages but since 1964 till today, IBS in Malaysia is not well accepted by the construction parties although the government has put a lot of promotion and also incentives to encourage developers to invest in IBS project. This is because of the failure to identify and adequately deal with risks in the IBS projects (Lian, 2002).

The success of a project management exercise depends very much on the efficient and effective management of the risk involved (Ren, 1994). If we are to manage the risks, we must first identify those risks. However, attempts to consider every risk are doomed to failure: the time taken would be enormous, delaying the possibility of formulating managerial strategy until after the risk consequence had actually occurred and the whole exercise is a waste of resources (Triksa, 1999). Thus, the objective of this paper is to identify the sources of risk in IBS projects in Malaysia and to evaluate the developers views on allocation of the risks.

Research Method

The research were conducted by the mean of questionnaire survey. The questionnaire design were undertaken in the phase consisted of literature review of past research focused on risks in construction and IBS housing project. Housing developers were identified through list of active contractors in IBS produced by IBS Centre, Construction Industry Development Board Malaysia. It is found that 135 housing developer in Malaysia have connected with these active IBS contractors. A total of 135 questionnaires were sent out to the IBS construction developers. Out of 135 questionnaires, the researcher gathered 49 usable questionnaires. Hence, the ultimate response rates were 36.3%. This was considered a medium percentage. The questionnaire is described below.

Questionnaire design and distribution

The questionnaire was designed with two sections. The first section solicited general information about the respondent and the organization. The second section inquires about the sources and parties contribute to the risks and the respondents were asked to choose an appropriate opinion rating against the specified scale for each factor. The respondents were requested to indicate the importance of each risk, low importance is accorded a value of 1 while the greatest important is accorded a score of 5. A rating scale of 1 to 5 is adopted because of its simplicity and suitability for evaluating of each item based on the respondent's own experience judgement. Although the degree of important varies from project to project, the questionnaire is expected to elicit a general assessment of the importance of risk. The degree of importance was related to the overall impact these factors have on meeting the project's objectives of being within budget, on schedules and meeting the performance requirements of the clients.

Approach of analyses

Statistical analysis method that have been used for this paper is descriptive analysis. Total weighted score is used to evaluate the priority implementation of IBS projects, the level failure of IBS projects, the ranking sources of risk in IBS projects and the risk allocation. While Chi-Square analysis is used to identify the relationship between sources of risk and the types of IBS.

The figures in brackets in Table 1 and Table 2 are weighted scores for each factor. Each individual's weighted score is obtained by multiplying the number of respondents with the corresponding weight. The figures in the last column of the tables give the total weight scores for each factor.

Results

The priority implementation of IBS Project

Table 1: The Priority Implementation of IBS Project

Description	Factors contribution rank to risk in IBS – Weighted Score					Rank	Total Weighted Score
	1	2	3	4	5		
Good coordination	(1)1	(10)5	(42)14	(68)17	(60)12	4	181
Quality of the project	(1)1	(2)1	(12)4	(44)11	(160)32	1	219
Quality of design	(1)1	(16)8	(30)10	(96)24	(30)6	6	173
Project speed	(1)1	(4)2	(30)10	(92)23	(65)13	2	192
Maximum profit	(1)1	(22)11	(54)18	(68)17	(10)2	7	155
Complexity of project	-	(14)7	(42)14	(72)18	(50)10	5	178
Improved communication	-	(4)2	(51)17	(80)20	(50)10	3	185

The aims of the organization involved in the IBS project were surveyed against several common factors. The overall ranking of variables in this factor ranges from 155 to 219. From the result, the priority implementation of IBS are ranked correspond to the particular respondents. Table 1 shows that organization responded to the same factor and agreed that IBS could contribute towards enhancing the achievement of the quality of the project respectively, with 219 total weighted score. However, the respondents (155 total weighted score) claimed that IBS does not save in cost where the respondents find that it is hard to estimate the actual cost and there are lots of hidden cost in IBS work. In relation to that, majority of the respondents agreed that maximum profit is to be ranked at the last variables.

The respondents agreed that IBS speeds up construction duration, besides having good coordination, and improves communication. Malaysia's first IBS pilot project, was completed within the time duration in contract as mention in Lian (2002), Chew (1986) and Trikha (1999). The ability of the projects that use IBS is also approved through research done abroad (Engletrik, 2000; Karim and Adeeb, 1993). IBS is likely to offer greater time saving due to earlier contractor involvement in the design and the overlap in the design and construction process (Akintoye, 1994). Moreover, manufacturing process of IBS component in factory produced in mass and is not affected by the change of climate. This could ensure that constructions could be done according to project planning (Akintola and Malcolm, 1997; Warszawski, 1999).

IBS products manufactured in factory have better quality due to careful choice of materials, use of better productin tool and strict quality control (Warszawski, 1999). This finding is supported by previous research done in Malaysia which indicates that IBS can enhance the quality of finished products (Shahrul, 2003). According to Lian (2002), IBS gives better quality finish on both interior and exterior because of the uniform quality control in the casting of component parts.

Level failure of IBS

Table 2: Level Failure of IBS

Description	Contribution rank to failure of IBS project – Weighted Score					Rank	Total Weighted Score
	1	2	3	4	5		
Project delay	-	(8)4	(36)12	(80)20	(65)13	3	189
Poor quality	-	-	(12)4	(68)17	(140)28	1	220
Over budget	-	(4)2	(24)8	(84)21	(90)18	2	202
Maximum risk	(1)1	(8)4	(42)14	(84)21	(45)9	4	180
Less aesthetic	(2)2	(22)11	(57)19	(68)17	-	7	149
Dispute in project	(3)3	(8)4	(33)11	(100)25	(30)6	5	174
Lack of co-ordination	(2)2	(12)6	(57)19	(80)20	(10)2	6	161

The level of failure in the implementation of IBS was highlighted to respondents in order to reveal an opinion from parties involved in IBS project. Table 2, shows that the respondent measured their failure in IBS project if the products have poor quality with 220 total weighted score. Therefore, this result provide an indication that most of respondents considered IBS project will fail if they are not satisfied with the quality of the product. Next, the respondents measured the failure of IBS if the projects are over budget, with 202 total weighted score. When there are lot of changes in design during construction period, the contractor will bear additional cost and increase their expenditure.

Ranking sources of risk in IBS project

Table 3 presents the summarized sources of risk in order to indicate the highest frequency of occurrence of risk associated in IBS projects in the descending order. The principle is the highest of occurrence of risk in IBS would be assigned the largest weight.

Table 3: Ranking Sources of Risk in IBS Project

Sources of risks	Mean	Std. Deviation	Rank
Inexperience of contractor in IBS project	4.11	0.68	1
Complexity in design	4.08	0.76	2
Contractor performance failure	3.96	0.79	3
Inappropriate estimate of construction cost	3.93	0.92	4
Variety of design	3.87	0.70	5
Change in requirement	3.77	0.81	6
Inexperience of consultant in IBS project	3.77	0.94	7
Sales & marketing	3.72	0.82	8
Lack of information	3.66	0.80	9
Error in design/drawing due to material & workmanship	3.66	0.84	10
Transportation	3.61	0.78	11
Inexperience of clients in IBS project	3.61	0.98	12
Lack of communication between the parties	3.61	1.09	13
Unexpected price escalation not covered	3.55	0.70	14
Delay start of project	3.50	0.79	15
Prolong in tendering process	3.50	0.92	16
Delay payment on contract	3.50	0.96	17
Unforeseen ground condition	3.50	1.04	18
Lack of staff/inexperience of staff	3.44	1.04	19
Inadequate tender pricing	3.38	0.61	20
Complexity of the project	3.38	0.78	21
Insufficient of client’s brief	3.33	1.08	22
Late planning approvals	3.27	0.96	23
Ambiguity of drawing and specification	3.27	1.07	24
Adverse weather	3.22	0.73	25
Dispute and claims	3.22	0.94	26
Fixed time and cost	3.16	0.92	27
Single point responsibility	3.05	0.80	28

From this section, the first rank of risk source is inexperience of contractor in IBS project. Experience in managing construction projects helps to provide planning work like planning the duration of activities and estimating budget of equipment and labour cost. Hoggs and Morledge (1995) say that contractor who is willing to be involved in construction project must have the relevant experiences to control and manage the project.

Complexity in design, the second highest allocation score in favour of the developer. The IBS should only be considered for a building, which is not complex (Lian, 2002). For a building, which needs to be technically advanced and or highly serviced, IBS is not appropriate for complex solutions because complexity may involve a relatively long design period with client involvement throughout. IBS is only suitable for simple project and is less appropriate where the projects works are complex, requires special needs and high quality is an important factor. If not, there is a high risk for cost overrun in IBS project if the design is too complex.

Single point responsibility was the least contribution risk sources toward project’s objectives as shown in Table 3. This is because in most of projects that used IBS approach, the contractor takes responsibility for the whole of the construction process. This also mean that the developer trust the contractor to handle their project and with the hope the project can be completed on time, have good quality and within budget.

Risk allocation

Table 4 present the analysis of risk allocation perception based on the responses by developers. The criterion for a risk to be appropriated to a particular category (owner/developer, contractor, or shared), was that it should get at least a 60% response rate. Those that failed to get such response rate in favour of any category were listed as undecided (in alphabetical order).

Table 4: Risk Allocation

Risk description	Risk allocation (%)		
	Owner/Developer	Shared	Contractor
Acts of God	22	67	11
Changes in work	78	5	17
Change order negotiations	17	78	5
Changes in government regulations	17	72	11
Contractual failure	6	94	0
Defective materials	6	5	89
Deficiencies in specification and drawings	60	32	8
Delay payment on contract	17	33	50
Delays in resolving contractual issue	11	83	6
Adequacy of project financing	6	94	0
Poor productivity	0	11	89
Labour disputes	0	40	60
Loss or delay due to resources availability	0	17	83
Problem permits and ordinances	22	67	11
Quality problems	0	35	65
Poor site safety	0	67	33
Sales and marketing	81	15	4
Site access	21	28	51
Suppliers/subcontractors poor performance	11	45	44
Unforeseen site conditions	6	44	50

It appears that the developers have realized the futility of shifting the onus of responsibility to the contractors and are ready to take a more proactive role in the management of such risk factors. Respondents have allocated three risks onto themselves and six risks onto the contractor.

The respondents agreed that they should bear the risks of changes in work, deficiencies in specification and drawings, and sales and marketing. It should be the owner’s responsibility to manage

the changes in work by variation clauses that are appropriate and fair (Smith and Gavin, 1998). Furthermore, the consultant must be empowered by the owner to ensure timely management of the changes. A respondent could also best manage deficiencies in specifications and drawings by appointing a capable consultant and providing sufficient design budget (Smith and Gavin 1998).

The respondents agree that the contractor should bear the risks of quality of work, labour and equipment productivity, defective materials, labour disputes, suppliers/subcontractors poor performance and labour, equipment and material availability, since the contractors are in a better position to control these risks and it is correct that they be allocated (Smith & Gavin 1998).

Results of the survey show that the respondents prefer to share the following risks; safety, changes in government regulations, change order negotiations, delays in resolving contractual issue, cost of legal processes, financial failure-any party, permits and ordinances, and acts of God.

Lastly, the respondents who responded to the survey were undecided on the allocation of the following risks, delay payment on contract and unforeseen site conditions and site access/right of way.

Sources of risk to type of IBS

There are 26 sources of risk identified in this paper which are divided into 5 broad risk categories. They are Natural Risk, Design Risk, Financial Risk, Legal and Regulatory Risk, and Construction Risk. Six types of IBS were used in the project study. It consists of System Formwork, Non-Load Bearing Panel System, Load Bearing Panel System, Non-Load Bearing Block Panel, Load Bearing Block Panel and Frame System. The cross tabulation to view the association of these two variables (Sources and IBS types) would be a 5 x 6 cross tabulation table.

The respondent's sample size is considered medium to fulfill the requirement of having at least 5 cases for each cell of the table. Furthermore, 22 out of 49 respondents used Panel System (consist of Non-Load Bearing and Load Bearing). The categories for types of IBS are therefore reduced to "Panel System", "System Formwork" and "Others" (including Block Panel and Frame System). Meanwhile the categories of sources that were determined were maintained.

For all the 49 questionnaires replied, the category with most perceived agreement on the sources of risk in IBS was determined through the following method. Mean ratings of sources from risk categories were calculated from every respondent and the risk category with highest mean score was selected as the category with most perceived risky on the sources of risk in IBS project. (1=Very Low, 2=Low, 3=Medium, 4=High, 5=Very High) The highest score indicates the highest risk on the sources of risk in IBS project. The mean score of the most risky category and types of IBS used are summarized in Table 5.

Table 5: Sources of Risk to Type of IBS

Project ID	Type of IBS Used	Sources of Risk	Mean Score
1	Others	Design	4.89
2	Panel System	Construction	4.50
3	System Formwork	Legal and Regulatory	3.70
4	System Formwork	Financial	3.20
5	Panel System	Construction	3.13
6	Panel System	Financial	4.65
7	System Formwork	Legal and Regulatory	2.80
8	Others	Natural	3.04
9	System Formwork	Design	3.18
10	Panel System	Construction	4.12
11	Panel System	Construction	4.10
12	System Formwork	Design	2.40
13	Panel System	Construction	3.34
14	Panel System	Financial	3.67
15	Others	Legal and Regulatory	3.67
16	Others	Construction	3.67
17	System Formwork	Legal and Regulatory	4.23
18	System Formwork	Natural	2.35
19	Others	Legal and Regulatory	4.56
20	System Formwork	Legal and Regulatory	4.12
21	Panel System	Construction	4.02
22	Others	Construction	3.49
23	Panel System	Design	3.25
24	Panel System	Design	3.56
25	System Formwork	Design	4.51
26	Others	Financial	4.32
27	Others	Legal and Regulatory	3.67
28	Panel System	Natural	3.89
29	Panel System	Natural	4.32
30	Panel System	Construction	4.06
31	Panel System	Construction	3,78
32	Others	Design	3.49
33	System Formwork	Legal and Regulatory	4.32
34	Panel System	Legal and Regulatory	4.34
35	Panel System	Financial	4.21
36	Panel System	Design	3.24
37	Panel System	Financial	3.45
38	System Formwork	Construction	4,03
39	System Formwork	Construction	4.04
40	Others	Legal and Regulatory	3.87
41	Others	Financial	4.00
42	Panel System	Natural	4.32
43	System Formwork	Construction	3.91
44	Others	Construction	4.05
45	System Formwork	Design	3.12
46	Panel System	Design	3.09
47	Others	Construction	3.42
48	Panel System	Financial	4.20
49	Panel System	Legal and Regulatory	4.13

The crosstabs table that consists of IBS usage and category of risks are presented in Table 6. Result of Chi-Square Test shows that the null hypothesis is rejected at 95% of confidence level ($\chi^2 = 8.252$; $df=8$; $\text{sig- } \chi^2 (.000) < .05$). In conclusion, there is no significant association found between types of IBS usage and the sources of risk in project. It is at 0.05 level of significance. Generally, different types of IBS would appear with various sources of risk in the project itself.

Table 6: Crosstabulation of Type of IBS vs. Sources of Risk in IBS According to Category of Risk.

Type of IBS		Natural	Design	Legal	Financial	Construction
	Panel System		3	4	2	5
System Formwork		1	4	5	1	3
Others		1	2	4	2	4
Total		5	10	11	8	15

(sig- χ^2 (.000) < .01)Reject H₀

Conclusion

It seems that most of the developers agreed that the implementation of this building method is one of the most important strategies that could be used in order to achieve project goals which are related to time and quality. Looking at the developers view regarding the suitability of IBS, overall scores indicated that developers gave the highest rank to time constraint. This is because they may believe that guaranteed time, which appears as the most characteristic of IBS always works to the advantage of the client. However most of the respondents did not implement IBS complex project. This may due to difficulties when the changing of requirement occurs during construction and it increases construction cost too.

With regard to the significant sources of risk in IBS, the result has clearly identified five significant sources of risk in IBS. Changes in requirements, contractor performance failure, insufficient clients' brief, inexperience contractor and lack of communication are most significant sources that can cause risks in IBS project. Minogue (1996), points out that changing in requirements by the client (developer) is the biggest factor behind the rapid growth of IBS as building system. This may gives implication for the overall construction progress for example, the delay of construction progress.

Regarding the insufficient client's brief, Health (1995) and Riodut (1995) mentioned that failure of IBS project is caused by lack of clients in clarifying detail of requirement. It may due to unfamiliar of clients with IBS. With regards to inexperience contractors, Hoggs and Morledge (1995) highlighted that contractors who are willing to be involved in IBS must have relevant experiences, because usually they fail to plan and manage the projects. Hoggs and Morledge (1995) pointed out that communication is important in IBS. There is a danger of lack of communication between client and contractor. Many studies showed that poor building and quality are the result of the poor communication between them.

Based on the responses of the survey, the respondents were consistent in deciding the risks that should be shared or borne by the contractors. It was found that presently three risks were unclearly decided and the respondents expected that the contractors would readily bear more risks.

The undecided risks found, such as delay payment on contract and site access/right of way, are essentially in the hands of the developers or owners. Currently, the developers or owners, especially those in private construction tend to share or transfer these risks to the contractor. Lastly, the survey noticed that at present, different types of IBS would appear with these 26 various sources of risk in the project itself.

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Enrolment Rate into Primary Schools in Bayelsa State: A Trend Analysis (2000-2006) Implications for Millennium Development Goals' Attainment

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Abstract

Universal primary school enrolment is one millennium development goal nations of the world are striving to achieve. Here in Bayelsa state, the extent has this goal or target has been achieved had been the subject of this inquiry. The paper discovered that primary school enrolment in the state is low and still remains an issue. This situation is further aggravated by gender disparity and rural-based (enrolable) children population in an equally difficult geographical terrain. Thus, the paper called for urgent government intervention in rural development, female education motivation, capacity and policy reforms with a view to making universal primary education achievable by 2015 as enunciated by the UNESCO Millennium Development Goals initiative, in the state in particular and the country at large.

Introduction

Education produces knowledge, skills, ideas, values, habits, and attitudes. It is necessary for civic order and citizenship and for sustained economic growth and poverty reduction.

One hundred and eighty-nine (189) countries have committed themselves to eight Millennium Development Goals (MDGs) aimed at eradicating extreme poverty and improving the welfare of their people by the year 2015. The second of the goals is “Achieve Universal Primary Education”, with the specific target of ensuring that by 2015, children everywhere, boys and girls alike, would be able to complete a full course of primary schooling (World Bank Review, 1995). This commitment was echoed by many of these countries in Jomtien, Thailand in 1990 to achieve universal primary education by the year 1999. The Jomtien commitment was extended and reaffirmed at the World Education forum in Dakar in 2000.

In Nigeria, the Universal Primary Education (UPE) commitment was initiated in 2004 through the launch of the Universal Basic Education (UBE) programme by the Obasanjo administration, with legal backing via the UBE Act of 2004. It aimed to provide basic education of 9-years comprising 6 years of primary education and 3 years of junior secondary school which “shall be free and compulsory” (Federal Republic of Nigeria, 2004:13). This means that every 6-to-11-years-old child in the country should have a chance to enroll into primary school, particularly such children in an at-risk (Bayelsa) state.

However, a World Bank study reports that with the current high population growth rates in Africa, the number of 6-to-11-years-old children not in primary school will increase to 162 million by

2015, from 129 million in 1990. How many of such children would be in Nigeria, particularly in Bayelsa state? What could possibly be done to raise primary school enrolment rates towards meeting national and global targets? These are some of the issues that formed the basis for this study.

In this study, the researchers considered the effect of location (Rural/Urban) as this would have serious implications on the issue of 6-to-11-years-old children enrolling into primary schools. Consequently, schools in Yenagoa local government area (YELGA)-the state capital are considered as urban schools, while schools in the rest seven (7) LGAs are taken as rural schools. This choice is informed by the fact that Bayelsa state is almost entirely a rural state where every local government area is geographically situated in the creeks, rivers, swamps, etc. except Yenagoa. The later is not only the fastest growing city in Nigeria but also the state capital, situated in an upland topography with access to modern socio-economic amenities.

Purpose of the Study

In Nigeria, primary education is basic to every 6-to-11-years-old child and is “tuition free, universal and compulsory” (FRN, 2004:15). And, the primary level of education is the key to the success or failure of the whole system’s capacity to effect national development.

It is quite imperative to investigate the number of children who enroll into primary school over the years as this factor could be vital for achieving universal primary education target of Millennium Development Goals, and also help lay a solid foundation for development in Bayelsa state, and the country at large.

To effectively achieve this purpose the following research questions were posed:

1. What is the number of children that enrolled into primary schools in Bayelsa state over the years (2000-2006)?
2. What are the percentage boys and girls (gender) enrolment into primary schools in Bayelsa state over the years (2000-2006)?
3. What is the percentage primary school enrolment in urban and rural areas in Bayelsa state over the years (2000-2006)?

Method

This study is a descriptive research and utilized documentary analysis. It mainly examined government policies, texts and records to synthesize the issue. The main data used for analysis was the schools, streams, teachers, and enrolment in primary school data in Bayelsa state from 2000 – 2006.

Findings

Research Question 1: What is the number of children that enrolled into primary schools in Bayelsa state over the years (2000-2006)?

Table I: Enrolment of children into primary school in Bayelsa state, 2000-2006

S/No.	Year	No. of schools	Enrolment primary 1	Change in enrolment	Remark
1.	2000	484	103,897	---	---
2.	2001	501	105,588	1,691	---
3.	2002	512	106,815	1,227	dropped
4.	2003	535	110,183	3,368	Sharp rise
5.	2004	N.A.	N.A.	N.A.	N.A.
6.	2005	535	101,048	---	---
7.	2006	544	102,169	1,121	Dropped
Total		544	629,660		

Source: Extracts from primary school enrolment statistics, Bayelsa state, 2000-2006.

Table I above shows that 629,660 children enrolled into 544 primary schools over the 7 years period in Bayelsa state. The distribution indicates that enrolment decreased, almost stagnated over the years; increased to 102,169 in 2006 from 103, 897 children in 2000, representing only a 5% change over the period. Specifically, change in enrolment showed an unpredictable and inconsistent pattern. The progression was a little above one thousand every year except in 2003 where the enrolment rose sharply to 110,183 by about 3,358 representing 9% increase in enrolment. The character of this change reflects lack of planning in educational policy operations and poor policy implementation as well as lack of encouragement for children to attend schools in the state.

Research Question 2: What are the percentage boys and girls (gender) enrolment into primary schools in Bayelsa state over the years (2000-2006)?

Table II: Enrolment of boys and girls into primary schools, 2000-2006.

Year	Boys	%	Girls	%	% Diff.	Total
2000	53,632	51.6	50,265	48.4	3.2 (in favour of boys)	103,897
2001	54,400	51.5	51,188	48.5	3.0	105,588
2002	54,840	51.3	51,975	48.7	3.6	106,815
2003	57,012	51.7	53,171	48.3	3.4	110,183
2004	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2005	51,221	50.7	49,827	49.3	1.4 (in favour of boys)	101,048
2006	51,782	50.7	50,387	49.3	1.4	102,169

Source: Extract from primary school enrolment statistics, Bayelsa state, 2000-2006.

Table II shows that percentage enrollment into primary schools in Bayelsa state over the 7 years period was not gender balanced. The distribution shows that male enrolment into primary schools increased by over 3% than that of females during the first three years (2000-2003) of analysis. Though it declined to a little above 1% during the last two years of this analysis, it was still an increment over the female enrolment. For instance, the male enrolment was a little above average (50.7% in 2006 from 51.6% in 2000) throughout the years, whereas female enrolment remained below average (49. 3% in 2006 from 48.4% in 2000). This means that there were more boys than girls in primary schools over the period, though the enrolment in both sexes almost remained constant over the years in the state.

Research Question 3: What is the percentage primary school enrolment in urban and rural areas in Bayelsa state over the years (2000-2006)?

Table III: Distribution of urban and rural school enrolment in Bayelsa state, 2000-2006.

Year	Urban enrolment	%	Rural enrolment	%	Diff. (U-R)	Total
2000	15,292	14.7	88,531	85.3	70.6	103,897
2001	15,474	14.7	90,114	85.3	70.6	105,588
2002	15,627	14.6	91,188	85.4	70.8	106,815
2003	16,143	14.7	94,040	85.3	70.6	110,183
2004	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2005	5,692	5.2	104,356	94.8	89.6	110,040
2006	5,832	5.7	96,337	94.3	88.6	102,169

Source: Extracts from primary school enrolment statistics, Bayelsa state, 2000-2006.

Table III above shows that out of the 629,690 children that enrolled into primary schools over the period, 555,627 (about 88.2%) were in rural schools, while 74,063 (or 11.8%) enrolled into urban primary schools in Yenagoa city local government area in the state.

The distribution is a huge indication of a-rural-area-based children population in the state with an inconsistent character that can better be described as a chance, rather than planned, enrolment. For instance, out of the 629,690 children in primary schools in the state, rural schools enrolled 88,612 (85.3%) in 2000; 90,114 (86.2%) in 2001; 92,188 (85.5) in 2002; 94,040 (85.3%) in 2003; 95,356 (94.4%) in 2005; and 96,337 (94.3%) in 2006. Trend of enrolment into urban schools was as follows:

15,295 (14.7%) in 2000; 14,474 (13.8%) in 2001; 15,627 (14.5%) in 2002; 16,143 (14.7%) in 2003; 5,692 (5.6%) in 2005; and 5,832 (5.7%) in 2006, in Yenagoa city over the period.

Discussion

In education, the learner occupies “a prime place in the school system because the school exists primarily for his/her benefit” (Igwe, 2002:9) and that of the country. Ituen (2004:4) believes that the intention of getting pupils to learn something “is the central element in the teaching situation”. Hence, their number is a huge determinant of what foundation is laid for national development.

Statistics for this study indicate that about 629,690 children enrolled into primary schools in Bayelsa state over the 7 years (2000-2006) period. A close look reveals that change in the 6-to-11-years-old children enrolment into primary schools throughout the state was, not only marginal but almost stagnated, over the period. Enrolment increased by 1,691 (i.e. changed to 105,588 in 2001 from 103,897 in 2000). This trend sustained throughout the period, recording a little above one thousand children enrolment progressively except in 2003 when it went up by 3,368 children.

Bayelsa state is a typical rural state with a rural cosmology where modern birth control measures are yet to be accepted and appreciated meaning that birth rate (hence population of children) would be high but many could not get access to primary school education. This finding agrees with a recent World Bank Review report that developing countries (Nigeria inclusive) account for the largest number of children without access to primary education globally. About 72 million of all the 113 million school-aged children in total are estimated to be out of school (World Bank Review, 1995). Also, the United Nations Educational Scientific and Cultural Organization’s (UNESCO) Education for All Development Index (EDI) introduced in 2003 to provide a summary measure of a country’s situation vis-à-vis Education for All (EFA), and covers four goals, namely UPE, adult literacy, gender and quality of education, report is consistent with that of this study. The result of the index computed for 123 countries on all four components show that twenty-eight (28) countries have EDI values below 0.80. More than half are in sub-Saharan Africa. In these countries, all four components of the EDI are at low levels. They are not likely to achieve EFA by 2015 without dramatically stepped-up efforts, including international support (UNESCO, Global Monitoring Report, 2006).

Progress towards full gender participation has been slow in Bayelsa state, over the years of analysis. The state’s net enrolment ratio though dropped by less than one percentage point for boys (i.e. to 50.7% in 2006 from 51.6% in 2000), that of girls (though increased to 49.3% in 2006 from 48.4% in 2000), is way below the average and that of the boys. This slanted enrolment in favour of the boys, though marginal, is a clear expression of male dominance in academic activities and a rift in the gender issue.

Again, this finding is consistent with an earlier UNESCO study (1980) which discovered that 64% of women in Africa cannot read and write. In another study, UNESCO noted that “in the mid-1980s, fewer than half of school age girls were enrolled in primary schools...” (Ambakederemo, 2005:200). On the other hand, on a study of 314 rural women, Ejembi (1994) discovered that 77.8% of the women got married before they are 15 years of age. The above trend, if not checked, is capable of reducing the productive base of a society, particularly that of Bayelsa state.

One could frankly state that being born a male or female (gender) can hardly diminish a child’s capability to contribute maximally to national development. Female children should not be discriminated against or be subjected to early marriages at a time when countries are committed to bridging gender gap thus increase national productive base. Gender disparity and the need for women empowerment is another goal of UNESCO’s EDI that many countries of the world are making commitment to ensure compliance. Hence, the yawning (2.8%) gap between male and female school enrolment in Bayelsa state is an exception, not the rule.

This issue is further compounded by the geographical terrain of the state. For instance, a clear 98% of total children enrolment is into primary schools in rural and outlying areas. Percentage rural

primary school enrolment rose up to 94% in 2006 from 85% in 2000 which represent 9% increase over the period. The urban enrolment, on the other hand, increased by only 15% from 2000 to 2003, and later dropped to mere 5% by 2006. This means that the population of enrolable children in the state is based in the rural areas hence efforts to improve education should be channeled to the rural areas rather than schools in the urban (Yenagoa city) area.

It is worth to note that the UNESCO Global Monitor (2006) reports that 40% of sub-Saharan African countries have Gross Intake Rates (GIRs) below 95%, implying that mere access to primary school remains an issue, especially for poor rural children, particularly girls (UNESCO, EDI, 2006). It further notes that across sub-Saharan Africa, however, enrolment ratios are rising and the gender gap is slowly closing. Yet, many countries (Nigeria, and Bayelsa state in particular) still combine low enrolment ratios with insufficient capacity to accommodate all children which calls for continued policy efforts to expand systems and improve their quality.

Also, it is instructive to note that in sub-Saharan Africa, the number of school age children is likely to increase by 34 million (32%) over the next decade (UNESCO- Global Monitor, 2006), and a significant proportion of that figure may likely be in Nigeria (being the most populous country) and especially in Bayelsa state; a predominantly rural state where customs and traditional practices still dictate a better part of events, including education. The gross and net enrolment rates effective in a society is a reflection of the society's view concerning who (the number) should be educated (Edem, 1987).

Education is critical for economic growth and poverty reduction. Progress in education (expanded enrolments at schooling) has contributed significantly to the growth of economies, industries, and labour markets throughout the world (Lipsey, 1989). The UPE (now UBE) programme is intended to equip some minimum skills in every Nigerian child, including migrant fisher folks and nomads (Ebong, 2006). The key assumption is that “the political and economic health of society is enhanced if its individual members are more enlightened” (Edem, 1987:67). But increasing the share of children who enroll into primary schooling is the essential first step, particularly in Bayelsa state.

In a borderless world, where the gulf between the rich, educated and empowered and the poor, stagnating and powerless increasingly poses threat to all, no country can any longer consider primary schooling a casual level of education for its labour force. Indeed, few global goals have been as consistent and deeply supported as the concept that every child in every country should have a chance to enroll in primary school (World Bank Review, 2006). With adequate government support it could become a reality.

Conclusion

This study concludes that children access to primary education in Bayelsa state is low and still an issue. A situation where annual primary school enrolment increased by only a thousand over a 7-year period is not only an increase at decreasing rate but also a slow progress. Also, this study showed a slanted gender enrolment in favour of males and a high concentration of enrolable children in the rural areas thus confirm the typical rural nature of the state.

However, the character of this discovery could be a clear testimony of the difficult geographical terrain of the state that had to locate schools many kilometers away from children as well as insufficient capacity to accommodate them. Besides, the economic culture of the people raises the possibility that children, particularly girls, are considered important farm hands or financial assets (in marriages) rather than attend schools and hardly encourage basic education. To most parents, farming and fishing are economically more viable than investing in education whose returns, if at all, comes after 10 or more years.

Girl child education is affected by certain factors. Ambakederemo (2005:200) observes that females constitute “about 50% of the population of Nigeria according to the 1991 census figures, and majority of them are employed in agriculture and allied cottage industries”. The dominance of females

in this wise, she continued, may represent limited formal education, lack of exposure, and a way female rights and privileges are trampled upon by tradition, religious norms and values; and political and economic cultures.

Universal primary education is crucial for national economic and social advancement. It is a goal that all developing countries are committed to achieving by 2015, but one that will not be reached (especially in Bayelsa state, Nigeria) without a significant acceleration of current progress. Faster progress would require the bridging of substantial policy, capacity, and data gaps in the state in particular, and the country at large, besides financing gaps. If effectively implemented, its potential could control youth restiveness, economic sabotage, and social crimes, thus raise the level of contribution to national development substantially in the state in particular and the country at large.

Recommendations

Based on the findings of this study, the paper recommends that:

- Since Bayelsa state is a predominantly rural state, educational reform efforts should concentrate on the growth and development of rural schools.
- It is known that rural areas are poor and lack socio-economic amenities, Government should endeavour to provide socio-economic amenities so as to make teaching and learning conducive in the state.
- Since capacity to accommodate children is insufficient, government should endeavour to increase capacity (by building more schools with adequate facilities provided) to enroll more school-age children in the state.
- Government should as a matter of urgency address the issues of gender disparity existing in the state by encouraging female education. This could be done through special incentives such as scholarships, bursary allowances, and free tuition for those willing to attend higher institutions, and automatic employment opportunities for those who successfully complete primary education in the state.
- Government should provide adequate and sufficient financial support to ensure capacity and quality of primary education improvement, particularly in the rural areas, in the state in the years ahead.

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The Otherization of the West in the Turkish Press: A Discursive Analysis of the Caricature Crisis

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Abstract

This study is an attempt to analyze how the reaction to that Denmark's Jyllands-Posten newspaper published caricatures of the prophet Muhammad following September 30, 2005, which turned into a crisis between the West and East, particularly the Christian and Islamic Worlds, was interpreted and signified in the Turkish national press. Setting out from the discursive analysis, it is focused on the newspapers, namely *Cumhuriyet*, *Milliyet*, *Zaman*, *Türkiye*, *Radikal* and *Sabah* which correspond to the leftist, rightist, centerist, and Islamist press.

Keywords: Discourse, identity, the other, press, civilization, the West, Islam, crisis.

Introduction

The media and particularly newspapers are regarded as the means of production of certain meanings and ideological discourses. As far as it is concerned with the production of meanings, thoughts or discourses, the close relationship of the media and ideologies is immediately apparent. In this regard, the news can be seen as strategical textual discourse in the ideological construction of reality (Dursun, 2001:124). That is to say that the news media are tools of constitution rather than tools of representation which reflect like a mirror. Thus, texts in the newspapers are taken as discursive materials (İnal, 1996:29) in this paper.

This study aims to analyze how events are interpreted and signified by the mass media in the case of the reaction of the Turkish press to the caricature crisis which began with Danish Jyllands-Posten newspaper's publication of the caricatures of the prophet Muhammad following September 30, 2005. In other words, the study is an attempt to examine how reality is discursively (re-)constructed around the concepts of identity and difference through the news on the caricature crisis. Taking into account the political and ideological orientations of six separate Turkish newspapers, exclusively *Cumhuriyet*, *Milliyet*, *Zaman*, *Türkiye*, *Radikal* and *Sabah* which have been surveyed between 28 February and 3 March 2006.

It would be useful to begin with the concept of discourse on which there exists a vast literature. Although the notion of discourse is based mainly in language, it cannot be confined merely to language. Rather discourse which can be seen as both linguistical and non-verbal system has a close connection with thought. The concept of discourse, in this paper, is used as a critical mode of thought rather than in the traditional sense which can be divided into two groups as *formal* or *empirical* approaches.¹ Michel Foucault who is one of the most prominent critical discourse theorists, refers to the term "discourse" not as language or social interaction, but as "relatively well-bounded areas of social knowledge" (McHoul and Grace, 1995:31). According to Foucault discourses,

¹ For a brief discussion of the *formal* and *empirical* approaches to discourse, see (McHoul and Grace, 1995:27-31).

“are ways of constituting knowledge, together with the social practices, forms of subjectivity and power relations which inhere in such knowledges and the relations between them. Discourses are more than ways of thinking and producing meaning. They constitute the ‘nature’ of the body, unconscious and conscious mind and emotional life of the subjects which they seek to govern” (Weedon, 1987:108).

Similarly, Van Dijk who is a critical discourse theorist, (1989:19) conceives of discourse as “a specific ‘textual’ form of language use in the social context”. In this regard, discourse has a key role in understanding the relationship between language and ideology, and the formation of social control (Dursun, 2001: 46). There is a close relationship between discourse and social power which is “a property of the relationship between groups, classes, and persons as social members” (Dijk, 1989:19). As social control is exercised through discourse, the production of discourse and the control of it are significant (Dijk, 1989:21). The constitution of the subject is also indispensable of discourse and language (İnal, 1996: 49).

Within the framework of the constitution of the subject, to follow Althusser,² the category of the subject is the constitutive of ideologies, but that is not to say that the subject is the creator of the world. Because for Althusser, “*the category of the subject is only constitutive of all ideology insofar as all ideology has the function (which defines it) of ‘constituting’ concrete individuals as subjects*” (Althusser, 1971:170). In other words, ideologies “interpellate” individuals as subjects. To deconstruct his notion of ideology, it is possible to argue that the subject is constructed through discourses which can be thought to cover ideologies as well.

In order to understand the discursive formation of the subject, it would be useful to make a reference to Foucault. According to him, the subject is not constituent or a priori, but is constructed. He attempts to analyze modern self in terms of the relation between power and knowledge and contends that the subject is constructed through discourse and within the relations of power. With respect to the relation between the subject and discourse, he argues in *The Order of Things* that the subject has been formed by discourse as a result of arrangement of knowledge over the centuries. Moreover, Foucault’s account of the subject may help us to grasp the multiplicity of the subjects. The way that he examines the mad self, ill self, criminal self, and sexual self as a modern self, implies that there is no unified subject, but are fragmented selves or multiple subjects, and that the others/differences are excluded in the process of the constitution of the subject.

The individuals perceive the reality as well as themselves through the ideology by which they are interpellated as subjects. In other words, the subjects in their daily lives often suppose that they are completely independent of the influence of any hegemonic discursive formation, and possess their own points of views, values and beliefs, although they are cognitively formed by the signs and codes of ideological discourse (Parlak, 2005:58). In the same way, the individuals are likely to perceive the news produced by the media as though the texts were “pure reality” rather than as “the re-production of the reality”.

Within this framework, the media can be seen as a significant force which possesses the function of construction of the reality and of the social reality (Dursun, 2001:79), and which is organized socially, economically and technically so as to produce a variety of messages and signs (Hall, 1999b:236). The media claim that they (re)present the social reality rationally rather than linguistically and discursively through the texts. That is “the constructed reality” which, Hall (1999b:236) argues, is constructed through language as a system of signs. In the process of the construction of reality, the boundary between the selected information, meaning and descriptions, and not selected ones is not fixed, but changeable (Hall, 1999b:234). What the media seek to do within this context is, in Gramsci’s (1971) terms, “to produce consent”.

Within the context of maintenance and legitimation of the current socio-political order, ideology possesses functions of rationalization, naturalization, legitimation, reification and mystification (Parlak, 2005:68). Within this framework, mass media play a vital role in the

² Althusser’s notion of ideology, in this paper, is regarded not only necessarily in relation to class, but also in relation to individuals and groups.

reproduction of ideology which provides a framework for the exercise or maintenance of power in the society. Mass media what Van Dijk conceptualizes as “symbolic power”,

“may set the agendas of public discussion, influence topical relevance, manage the amount and type of information, especially who is being publicly portrayed and in what way. They are the manufacturer of public knowledge, beliefs, attitudes, norms, values, morals, and ideologies” (Dijk, 1989:22).

In this study, discourse analysis is carried out in terms of thematic analysis, binary oppositions, and ideological interpellations. Critical discourse analysis is applied to newspaper texts in order to reveal modes of thought. From the perspective of critical discourse analysis, texts which are composed of signs and codification of signs can be interpreted through discourses which are articulated with ideological elements (Sholle, 1999: 271). Thus, the paper appeal to the terms “ideology” and “discourse” as complementary analytical tools, without ignoring their distinct theoretical traditions.

Thematic Analysis

Thematic analysis of this section focuses on the themes on which ways of expressions and discursive formations are performed (Dursun, 2001:202-203).

The Themes of Anti-imperialism and Anti-westernism

The themes of anti-imperialism and anti-westernism in the newspapers can be said to stem from two ideological standpoints. The first is represented by anti-imperialist critiques of *Cumhuriyet* newspaper which is characterized as leftist and nationalist. The other standpoint corresponds to the anti-westernism of *Zaman* and *Türkiye*, which are islam-centric newspapers. The discourses of “double standard” and “hypocrisy”, of the west that are performed by nearly all of the newspapers are evaluated in the context of anti-westernism. The common emphasis made by the columnists for *Cumhuriyet* newspaper is on the view that the caricature crises should not be reduced to the discourse of clash of civilizations. In today’s world order the conflict between the rich and the poor is underestimated or ignored, instead it is presented as the clash of civilizations by the imperialism which is as the same as the Christianity (Cumhuriyet, 5 February 2006).

The West is also evaluated as the responsible for the underdevelopment of Arab countries which are relied essentially on religion. It is put forward as evidence that the authoritarian or despotic leaders in the Arab countries are supported by the west. Moreover it is argued that the economic resources of Arab countries are exploited by the west.

The critiques of the West are associated not only with the caricature crisis but also with the “double standard” and “hypocrisy” of the west with regard to the EU accession process of Turkey: “Multicultural, multiracial and multicivilizational west turned to a ‘monolithic’ body when it was Turkey’s turn” (Cumhuriyet, 7 February 2006). Furthermore the attempts to identify Islam and its prophet with terrorism are criticized and the west is illustrated as the source of terrorism (Cumhuriyet, 8 February 2006).

Zaman newspaper suggests that the caricatures are the signs of the west’s attitudes of “double standardism” and “immorality”. For example, “not to abuse liberty and not to harm others are moral attitudes...The western media corporations transgressed the rules which were enacted by themselves...They violated the limits of freedom of thought and exemplified the attitudes of immorality and irresponsibility” (*Zaman*, 7 February 2006). In emphasizing the limits of liberty, *Zaman* implicitly places the westerners just below the animals by the expression that “unlimited liberty is found neither in nature nor in animals”.

A.H. Aslan, a columnist for *Zaman*, argues that the west has an imperialist aspect and is the source of a number of problems in the east: “The West continues to see us as an ill civilization. However, while they are saying that they want to get us well, they do not see their contributions to our illness at all...”. Besides the appearance of violent events in the Islam world is explained through the

western imperialism: “The spread of microbes due to the caricature caused such impacts. But Let’s put the right diagnosis for the illness which weakend the psycho-social immune system of the Muslims. In my opinion that is not ‘radical Islam’, not ‘Islam’ at all, but post-colonial ‘stress disorder’...”

Within the context of the caricature crisis, it is also made a reference to the Holocaust. The west taken in relevance to the Holocaust is totally characterized as racist. In this regard, it is emphasized that a neo-racist movement in which the Jews have been replaced by the Muslims, emerged. In this context, it is often referred to the expression “Islamophobia has replaced anti-Semitism” of some foreign politicians and R.T. Erdoğan, Turkish prime minister and A. Gül, the former minister of foreign affairs.

In *Türkiye* newspaper’s discourse, the West is portrayed as the root of all evil: “In territories of the Muslims, blood and tears burst out. Because the Muslims’ such ways of lives are also determined by the westerners.” (*Türkiye*, 5 February 2006). By ignoring the internal dynamics of the Muslim countries, the West is made a scapegoat of and is otherized as a “provocateur” (*Türkiye*, 6 February 2006). The West is also identified as an agent having “paranoiac supremacy” and “passionate impulse toward being hegemonic”, and aiming at maximizing its own selfish interests. (*Türkiye*, 11 February 2006).

The Columnists for *Radikal* newspaper criticize the West notably on the basis of freedom of thought. It is emphasized that the freedom of speech cannot be confined to the freedom of worship and that liberal thought is responsible for “the glorification of the individual” and for the destruction of the glorious concepts such as religion-state-nation (*Radikal*, 7 February 2006). Kadioğlu argues that the westerners attempted to “dig a ditch around themselves and to exlude the non-westerners” on the plea of the freedom of speech (*Radikal*, 19 February 2006).

Among the assessments of the West made by Güzel, the columnist for *Radikal*, these points are the most prominent: 1. Behind the crisis, “there are prejudices of the Christian world against the Muslims and the Prophet Muhammed, which have been pervasive since the era of the Crusade” 2. “The western colonialism has been exploiting” 3. “In most of the world countries, the Muslims live under the dictatorial regimes, in poverty”. Thus the author claims that the way the West sees Islam has not been changed since the era of the Crusade and that the West is responsible for the dictatorial regimes in the Islamic countries which have been exploited by the West itself (*Radikal*, 9 February 2006).

The Columnists for *Milliyet* newspaper too evaluate the crisis in terms of anti-westernism. For example, Akyol analyzes the crises on the one hand, around globalization, on the other hand, in terms of colonialism. For him, globalization stimulates people to attach their identities. Moreover, it provides ground for the conflict between the West which has “the Crusade subconsciousness and Islamophobia”, and Islamic societies which are in reaction to their colonial past (*Milliyet*, 7 February 2006).

Talu, the columnist for *Sabah* newspaper has become prominent with his anti-American and anti-western attitudes. He criticizes USA for not blaming the caricatures and asserts that USA tries to create an impression of “Respectful USA near insolent Europe”. Because since colonialism and imperialism, USA has been “the greatest agent of the great traumas in the rest of the world” (*Sabah*, 5 February 2006).

Likewise, Muhtar holds that there are not only reactions to the caricature crisis, but also the feelings of humiliation of the people who were began to be looked down after the September 11, underlying the violent events (*Sabah*, 7 February 2006).

Therefore, the columnists are more likely to interpret the Muslims’ reactions to the crises as the outcomes of the policies of West and of the United States. In this regard, they seem to adopt the discourse of anti-imperialism and to attempt to justify the Islamic reactions which turned to violent incidents.

The Theme of the Oppressed (Mazlum)/Victimized(Mağdur) Islam and the Critiques of Islamic Societies

The theme of the victimization of the Islam/Muslims is often highlighted by Zaman newspaper. In proving the victimization of the Muslims, some empirical examples such as the conscience test in Germany and the treatment of the Muslims and non-whites after the September 11 are put forward. Kava suggests that the West encountered two similar provocations before the caricature crisis. These are S. Rüşdi and T. Nesrin crises. He asserts that following the collapse of the Soviet Union, Islam began to be put on target by the western media. The gradual spread of Islam, especially the increase in the number of Islamic spaces such as mosques, schools and cultural centers in Europe has led to the West's reaction to Islam (Zaman, 4 February 2006). Several columnists for Zaman and Türkiye newspapers argue that Islam is on the target due to its gradual spread in the West.

In nearly all of the newspapers, it is commonly underlined that Islam began to be blamed" after the September 11 which is evaluated as a turning point. Moreover, that communism has been replaced by Islam as a "new enemy" constitutes the common theme.

On the other hand, besides the theme of the victimized Islam, the critiques of Islamic societies are also made by the columnists. Among the critiques, two are the most prominent. The first is the critiques of the ordinary people's overreaction to the caricatures, and violence. The second is the critiques of authoritarian Arab leaders. Nearly all of the newspapers share common in criticizing the violent reactions of the Muslims. However, the critiques of the violent reactions do not seem to be categorical, but to be concerns about the image of Islam. The newspapers oppose the violence for these reasons: 1. The Muslims who resort to violence may justify the western discourse of "Islam=terrorism", 2. Since the violent reactions constitute the Muslims' "vulnerability", the West may use the same instrument in return, 3. Although the Muslims are right, they may "turn out to be in the wrong"

Nevertheless, particularly the columnists for Zaman newspaper seem to justify the violence by putting forward the argument that the violence is the result of the imperialist order and hegemony over the Islamic world, of the West.

So, what is to be done? With regard to the crisis, the newspapers suggest mostly "prudence and commonsense", that although the Muslims are right, they not "turn out to be in the wrong", and that Islam be proved that "it is incompatible with violence and terrorism in contrast to the western allegation". In addition, there are some other suggestions made by the newspapers. The first suggestion of the columnists for Zaman is economic boycott. According to Bulaç "...the participation of the Muslims, NGOs and firms who take their religion seriously, in the boycott is a religious obligation" (Zaman, 1 Şubat 2006). The adjective clause "who take their religion seriously" explicitly/latently implies that those who avoid joining the boycott, are the persons who do not take their religion seriously. The boycott is imposed upon the all Muslims as a religious obligation which is a must in Islam. The columnist also attempts to connect the boycott to "the love of the prophet": "Each Muslim who carries even crumbs of love of the prophet in his/her heart must look out to the each product what he/she will buy, and must not even touch the product if it is of Denmark" (Zaman, 6 February 2006). He advises the citizens to prefer the national products, if these products not available, to buy the products of the far East, and if these products also not available, "not to consume". As Bulaç aims at "shooting the West with its own weapon", he insists on the boycott.

The Theme of Game and Provocation

Especially *Zaman*, *Türkiye* and *Cumhuriyet* newspapers consider the caricatures to be part of a deliberate game or provocation which targeted the Islamic world. According to *Cumhuriyet*, on the one hand, "the European racist right "and European rightist press which insisted on the re-publication of the caricatures published by *Jyllands Posten*, and on the other hand, "radical Islamic circles" constitute the most prominent agents of provocation. It is emphasized that the crisis emerged due to the

manipulation of both the radical Islamic and European rightist/racist circles. It is also stated that following the crisis, the European rightist press which had never drawn upon the freedom of speech and other liberties, turned to “a monument of democracy which never makes even a bit concession by its principles”

Alkan, a prominent columnist for *Zaman*, contends that the publication of the caricatures is deliberately intended to provoke the Muslims and to slander Islam: “When we use the concept of the Islamic civilization, we often refer to a historical model, while the westerners make sense of the same concept through what they have watched on the television; that is in a way the picture of underdevelopment and shortcomings” (Zaman, 6 February 2006).

Türköne who is also a political scientist, suggests that as the Muslims have been suffering an affront since the Crusade which was also declared by Bush after the September 11, the caricatures have not been affront for the first time. For him, “the Muslim minorities” in several western countries are regarded as “a matter of security” (Zaman, 7 February 2006).

Türkiye newspaper evaluates the crisis as an attack of which purpose is the provocation. According to the newspaper, by the means of provocation which is “the most sensitive point of the Muslims”, the West seeks to make the Muslims “yield to temptation to use force so as to plead to fall upon them” The discourse of “yield to temptation” can be read as a strategy to soften the violent actions of the activist Muslims who attacked and set embassies and flags on the fire, and conflicted with the police. However, the same discourse is not valid for the caricaturists or the activist Muslims who have resorted to violence are not interrogated. The West is portrayed in a way as a wolf which is about to “fall upon” the Islamic world. The aggressive tendency of the West is explained by the reason of “changing the image of Muslim as a terrorist in the eyes of the Europeans... (and) preventing to favour the Islam”

Er, a columnist for *Türkiye*, expresses that the West can no longer be trusted in his words “it seems that the Crusade has not be forgotten by the West, but by us. An Iranian died in vain or a Nigerian is not as of worth as of a dog going aroups the streets of Paris or Copenhagen” (Türkiye, 24 February 2006). Similarly, Bol argues that even If the Islamic world was set on the fire, the West would not care (Türkiye, 24 February 2006).

On the other hand, the Columnists for *Cumhuriyet* point out that not only the western aspect, but also the Eastern aspect, of the provocation. They ask why the world was dragged into conflict not in September 2005 when the caricatures were first published, but five months later. (Cumhuriyet, 6 February 2006).

Although the columnists for *Milliyet* and *Sabah* newspapers can be said to be more moderate than the previous columnists, they too assess of the caricatures as “part of a great conspiracy”. Cemal, a columnist for *Milliyet*, evaluates the caricatures as “dirty and dangerous game” which is an attempt to show the prophet and Muslims as terrorists. For him, the winners of the game are “the fanatics” who are not only the Islamic fanatics, but also those in favour of the confrontation between the West and Islam, while the losers of it are peace and inter-religious dialogue (Milliyet, 7 February 2006).

Aköz, a columnist for *Sabah*, asserts that the caricature crisis which is characterized as conspiracy has two parties. The circulation of the caricatures throughout the world and the way the western politicians avoid apologizing reveal that the caricatures are outcomes of the western conspiracy, while that the Muslims who had not seen the caricatures, made demonstrations and set Danish flags on the fire, illustrates the Islamic conspiracy (Sabah, 9 February 2006).

The Theme of Clash of Civilizations

The newspapers, except for *Cumhuriyet*, are also inclined to interpret the crisis in reference to the theme of clash of civilizations. *Cumhuriyet* advocates that the conflict is not between the civilizations, but between the poor and rich countries. According to the newspaper, the civilization has been used as a provocative instrument by both the radical Islamists and the racist/rightist Europeans, which are characterized as “the extreme circles” (Cumhuriyet, 6 February 2006). The newspaper claims that the

European racist parties which have difficulty particularly in overcoming the increase in the rate of unemployment, aim to sweep the Muslims up and move them out of country on the plea of the freedom of speech (Cumhuriyet, 7 February 2006).

Mahçupyan, a prominent columnist for *Zaman*, interprets the crisis within the framework of the differences between the western and Eastern mental patterns. For him, since the freedom of speech is closely dependent on the mental patterns, it is often discussed whether “the sacred was insulted” or not. The Islamic world which is rested on the patriarchal mentality, tends to perceive the reality in the realm of spirituality which transcends man, and the essence of reality as sacred; thus the freedom of speech is limited by the sacred itself. However, according to the western world which is inclined to perceive the reality as something matter through the relativist mentality, the limits of the freedom of speech is not determined by the sacred, but by human himself/herself. What is to be done, for Mahçupyan, is “to endorse the other’s feelings and perception as values, and to define and produce freedom in co-existence” (Zaman, 10 February 2006).

Likewise, Berkan, a columnist for *Radikal*, in his analysis of the crisis, emphasizes that there are major differences between the western and Eastern civilizations. He argues that the existence of god and religion is not essential in the western structure and thus the cartoons of a prophet may stem from the freedom of speech, while the love of the prophet is the inseparable essence of Islam, therefore the caricatures of the prophet are viewed as insult and irrespectability (Radikal, 4 February 2006).

Evaluating the crisis in the context of clash of civilizations, Bol, a columnist for *Türkiye*, too asserts that after the September 11, Islam came to be seen as a new enemy which had been expected in the post-communist era. Moreover, the West does “not avoid using the most outrageous method” in order to spread the conflict at the global level (Türkiye, 5 February 2006). He blames the West for “promoting the clash of civilization thesis and keeping anti-Islam hostility alive” (Türkiye, 6 February 2006).

The Theme of the Superiority of Islam

The thesis on the superiority of Islam can be said to aim to subvert the West’s negative perception of Islam. Abay, a columnist for *Türkiye*, describes on the one hand, the West as the Christians who know no sacred, and on the other hand Islam as those who know and do not disrespect the sacred. For him “They have described their own god!..They live with their idols produced by them. We believe in creed, which is the line which differentiates us and them, and the Christian, atheist or deist West does not understand. We do not interfere with them so they should understand us” (Türkiye, 6 February 2006).

Furthermore, it is obvious that whereas Islam is glorified, the West is humiliated as morally corrupt by especially *Zaman* and *Türkiye* newspapers. The West is viewed in terms of pejorative discourses as a society in which women no longer prefer official marriage, married couples cannot protect their marriage (Zaman, 21 February 2006), “men marry men, dogs stand for sons, husbands and wives”, “homosexuality and every sort of sexual deviation are protected by the law” (Türkiye, 6 February 2006), “children are protected by the law so as not to be harmed by their parents” (Türkiye, 8 February 2006).

Binary Oppositions

Binary oppositions play a significant role in the process of construction of identities. Each identity applies to binary oppositions and excludes the differences in order to constitute itself. The analysis of binary oppositions in the news texts may help identifying how the identity and the other are constructed.

<u>The western World</u>		<u>The Islamic World</u>
Indecent	_____	Decent
Irreconcilable	_____	Reconcilable
Insincere	_____	Sincere
Deviant	_____	Indeviant
Inreligious	_____	Religious
Wrong	_____	Right
Intolerant	_____	Tolerant
Insensitive	_____	Sensitive
Rasmussen	_____	R.T.Erdoğan
False	_____	Correct
Disrespectfull	_____	Respectfull
Cruel	_____	Victim
Provocator	_____	Oppressed
Incivilized	_____	Civilized
Proud	_____	Humble

The construction of “we” and “the other” in the newspapers is based on the strategy of ideological discourses in which, as Dijk argues, “*Our* good things and *Their* bad things will tend to be emphasized, as is the case for mitigation of *Our* bad things and *Their* good things” (Dijk 2006:124). As illustrated above, binary oppositions are often used in the production of “we” and “them”, and “good things” are attributed to the Islamic world which represents “we”, while “bad things” are attributed to the western world which is seen as “the other”.

The binary oppositions used in the newspapers reflect in a way the media elites’ perception of the West at a specific moment. The Islamic identity is reconstituted by excluding the West which is characterized in such pejorative terms as “cruel, disrespectfull, deviant, indecent, insensitive, proud, provocator”. “Bad things” attributed to the West differentiates the Islamic world as “we” which does not consist of “bad things” at all, but of “good things”. That is what Hartley and Fowler call the process of creation of stereotypes’. Especially *Zaman* and *Türkiye* among the Turkish newspapers are the most prominent in the process of creation of binary oppositions and stereotypes’ between the western world and Islamic world.

Nevertheless, an attempt to make an otherization within the notion of “we” is also evident in the newspapers which make a distinction between “good Muslims” and “bad Muslims”. Whereas the category of good Muslims include laicist and democratic Turkey, ordinary religious people, Erdoğan and Gül, of bad Muslims consist of authoritarian, tyrant Arab leaders, fundamentalist organizations which seek to provoke Muslim people, Egypt, Iran and Syria.

Ideological Interpellations

Ideology interpellates individuals as subjects in order to maintain discursively the socio-political order. In Althusser’s words “*the category of the subject is only constitutive of all ideology insofar as all ideology has the function (which defines it) of ‘constituting’ concrete individuals as subjects*” (Althusser, 1971:170). Ideological discourse has relational functions which re-make sense of the actual conditions of individuals and constitute them as subjects (Parlak, 2005:5). Just like when a child gets lost, he/she thinks that all the world is lost, ideology gives rise to the illusion that it cannot survive without *us* (Eagleton, 1996:202). The subject which has no precise beginnings and endings is in a state of flux (Barrett, 1991:101). Thus ideology makes individuals perceive the world as naturally given to them, and themselves as part of that reality.

Muslim Subjects

‘Good Muslim’ Subjects

Muslim individuals are constituted as “good” subjects in terms of their beliefs, faith and tolerance. For example, the discourse that “the crisis arises from the conflict between the West’s pride and ignorance, and Muslim’s sensitivity to their beliefs” interpellates Muslim individuals as Muslim subjects. The Muslims are interrogated on the basis of their beliefs and faith, and the reaction is coded as a necessity of the faith in the discourse that the Muslims must react to the cartoons, otherwise that would be “a serious shortcoming in the context of faith”. The discourse that “the spirit of Islam is not violence, but compassion” implies that a Muslim must be a compassionate subject.

Furthermore, the Muslims are also interpellated as “the victimized” subjects. For instance, the discourse that “there are people who want to detach the Muslims from the world and to generate global enmity toward them...the Muslims should show more smart, more prudent and more reasonable reactions” on the one hand interpellates the victimized Muslim subject, and on the other hand implies that the westerners who are sometimes characterized as Christians, colonizers or imperialists, are the victimizers

‘Bad Muslim’ Subjects’

Who are called “bad Muslims” include authoritarian Arab states and their leaders, Iran and fundamentalist organizations that use force. It is claimed that Arab states and Iran sought to use the caricature crisis in favour of their interests, and that Arab countries are not able to react to the crisis on the basis of anti-imperialism or human rights, but are easily able to mobilize the religious sensitivities. Whereas authoritarian Arab leaders kept their silence during the invasion of Afghanistan and Iraq, they now use the crisis to maintain their political power.

Moreover, fundamentalist organizations which declared war to be a *jihad* between “true believers” and “the infidel” are interpellated as “bad Muslim” subjects. It is argued that such organizations which are also characterized as “provocator” and “reactionary”, come to “harm advocating the legitimate case of the Islamic world”.

Denmark as the Subject

Denmark is overtly or covertly interpellated in negative terms as a subject. It is mentioned as an agent which is “the first country to publish the caricatures”, “the inventor of the caricature crisis”, and “did not even apology for the caricatures”. In addition to Denmark, Rasmussen, the editor and the caricaturists are often constituted as “insolent, imprudent, unjustifiable, aggressive” subjects.

Particularly Rasmussen, the prime minister of Denmark, is constituted as an “imprudent politician” in the discourse of “the actor of the caricature scandal”. The editor of Jyllands-Posten is constructed as an “insolent” and “hypocrite” agent who “lighted the fuse of the crisis”

The West as the Subject

The West is interpellated as an agent of a variety of negative thoughts and actions which seriously impact on the Islamic countries and other developing countries. It is asserted that the West which in a racist sense “humiliates and otherizes the Muslims and generally easterners”, and views the Islamic civilization or countries as the eternal enemy, is responsible for the enmity between the West and East.

The West is identified in terms of pejorative discourses as a subject which has “prejudices against the Muslims and the Prophet Muhammed, which have been pervasive since the era of the Crusade”, “paranoid supremacy”, and is “colonist and imperialist”

Turkey as the Subject

Turkey is constituted in positive terms as a subject. It is regarded as a mediator and conciliatory agent in the discourses that “Ankara pressed the button against the caricature crisis”, “as far as it is concerned

with the alliance of civilizations Turkey is almost the only country which has the right to voice as a mediator in Europe”, “Turkey is playing a deliberate and constructive role in the resolution of the caricature crisis”

Within the context of the caricature crisis, Turkey is also constructed as a unique and supreme subject among the other Islamic countries. It is argued that Europe selected Turkey as a partner in the Islamic world, and that Turkey accomplished a reconciliation between the Islamic and western values, differentiates Turkey as a leader from the other Islamic countries.

Conclusion

It is seen that the newspapers which are also said to be ideological structures, cannot provide information without interpretation in the case of the caricature crisis. The newspapers function as a tool of creation rather than as a tool of representation. The way the newspapers interpret the crisis turns to the process of re-production of ideological discourse through which the world is understood and explained.

Within the context of the caricature crisis, it is evident that several themes are produced by the newspapers depending on their ideological standpoints. The newspapers emphasize predominantly the themes of anti-imperialism/anti-westernism, oppressed/victimized Islam, game/provocation, clash of civilizations, and superiority of Islam. There are both some similarities and differences between the themes highlighted by the newspapers. The most prominent theme is anti-westernism which is also commonly emphasized by the six newspapers.

Nevertheless, especially *Cumhuriyet* which is a leftist newspaper, tends to adopt anti-imperialist approach, and to interpret the relationship between the West and East on the basis of economic conflict, while *Türkiye* and *Zaman* which are sensitive to the religious and national issues, are inclined to make sense of the West-East relations in terms of the clash of civilizations.

The second salient theme which is underlined mostly by *Türkiye* and *Zaman* newspapers, is the victimized and oppressed Islamic societies which have been subjected to the western policies. However, *Cumhuriyet* newspaper apart from *Türkiye* and *Zaman*, adopts a critical approach to the Islamic leaders and people. In other words, *Cumhuriyet* appeals to the discourse of anti-Arabism which is rested upon the critiques of authoritarian Arab leaders and fundamentalist organizations, well as the discourse of anti-westernism.

The third central theme of the newspapers is game and provocation of which agent is seen as the West. It is asserted that the West deliberately provokes the Muslim people to appeal to violence which is not rejected categorically, but due to the strategic considerations. Because the discourse that the crisis is deliberate game and provocation can be said to be prone to legitimize the violence used by the Muslim demonstrators.

The clash of civilizations is the other central theme which is frequently referred by several columnists. It is argued that the conflict stems from the cultural differences between the West and East, orientalist point of view of the West. However, specially *Cumhuriyet* is distinguished by its argument that the conflict is essentially socio-economic rather than cultural. The theme of the superiority of Islam is also noticeable.

On the other hand, the analysis of the texts in terms of binary oppositions illustrates how identities and the others are constructed. Binary oppositions are often applied in order to constitute the distinction between “we” and “them. Binary oppositions can also be seen as a process of creating stereotypes’ between the Islamic and West worlds, which are taken as unified wholes. Whereas “good things” are attributed to the Islam, “bad things” are attributed to the West.

Furthermore, the analysis of the crisis in terms of ideological interpellations demonstrates how a variety of subjects are interpellated or hailed. In addition to the stereotypes’ of the West and Islam, Denmark and Turkey are interpellated as the subjects. The distinction between “good” Muslims and “bad” Muslims is also noteworthy. While Islam generally, and “good” Muslims and Turkey

particularly are interpellated in terms of positive discourses, the West generally and Denmark particularly are hailed in pejorative terms.

As a result, the newspapers and their columnists, as Heper and Demirel suggest (1996:120), similar to their equivalents and colleagues in the continental Europe have played an active role which includes not only the analysis and interpretation, but also the manipulation of the publication of the caricatures in the process of the crisis. Moreover, the discourses performed by the press, maintain and re-produce the meaning(s) of both the West which is attributed “good things” and Islam which is attributed “good things”.

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Techniques of Sourcing Candidates: An Exploration of the Current Strategies of Recruitments

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Abstract

The purpose of this study was to explore current techniques used by recruiters to source candidates for filling the vacancies. Qualitative method was used in this study. The grounded theory methodology employed an open ended questionnaire to collect the data. In all, 54 in-depth interviews and five focused group discussions were carried out amongst participants belonging to 20 different search firms. Findings of this study led to the emergence of five major themes namely: Headhunting, Networking, Portal Search, Advertisements, and Database management. Empirical findings demonstrated the prevailing techniques used by recruiters to fulfill the vacancies existing with organisations. In conclusion, this paper proposes how the different techniques of sourcing might help in designing improved research and better educational usage of the concepts.

Keywords: Recruiter, recruitment, headhunting, networking, sourcing, Boolean search.

Introduction

Recruitments have always remained as a center of attraction for many people. Now, with the boom in various sectors of the economy, there has been a phenomenal growth in the demand of manpower across all industries, gaining everyone's attention to this function of Human Resource. Views have prompted scholars to call in for greater understanding of the ways in which organisations recruit, socialise and develop individuals and the mechanism through which they integrate recruitment with the growing organisational requirement of manpower.

Recently, a large number of firms have been found to be facing the difficulty of filling their raising vacancies. This has stimulated an increasing interest in the employer's search activities. The old techniques of sourcing candidates have no more been found to be sufficient enough. In addition to them, organisations have tried to find out new ways, with the help of technology, to fill their increasing vacancies. In the present study, we have tried to explore some of the current techniques used by recruiters, to fulfill their growing requirement of manpower.

We begin with a brief review of research that has been carried out in the field of recruitment sources.

Literature Review

Several aspects of employer's recruitment behaviour have been examined in the literature so far. A study by Ullman (1966) was one of the first to examine recruitment sources. He found that new employees who were recruited by means of informal sources (i.e., employee referrals, direct applications) had a lower turnover rate than individuals recruited via formal sources (i.e., newspaper advertisements, employment agencies).

The publication of Ullman's study (Ullman, 1966) stimulated several additional recruitment source studies (e.g., Blau, 1990; Gannon, 1971; Saks, 1994).

Van ours and Ridder (1992) found empirical evidence that employers tend not to lower the hiring standards as the vacancy duration increases. The use of different recruitment channels has been studied in Van ours and Ridder (1992), where the authors suggested that the employers pool applicants when using advertisements. Gorter et. al. (1994) stressed that search behaviour depends on the channel used (confirming the results of Roper 1988). Gorter and Van Ommeren (1994) showed the existence of two primary search strategies: a sequential strategy, in which the search channels are, activated one after the other and a non sequential strategy in which search channels are coordinated in order to provide a diversified pool of applicants. Russo et. al. (1994) found empirical evidence that supports the importance of personnel management and labour market segmentation. Van ours and Ridder (1992) showed that vacancy durations not only reflect differences in selection procedures as a possible source for longer vacancy duration, but also by accounting for possible 'difficulties in recruitment'. Difficulties in both attracting a sufficient number of responses and in reaching an agreement on the wage level are considered.

In attempting to measure recruitment source effects, many researchers (e.g. Griffeth et al., 1997) have measured job satisfaction, performance, and turnover at the end of one year of employment. An extensive review of the search approach (Devine and Kiefer, 1993) shows that search models have mainly focused on the supply-side of the labour market (e.g. Gorter *et al.*, 1993). It goes without saying that the choice of employers' search methods (in particular formal versus informal channels) has direct consequences for the hiring chances of unemployed and employed job seekers (Lindeboom *et al.*, (1993); Mortensen and Vishwanath, 1994) and men and women (Leicht and Marx, 1997).

Considerable research has been done on recruiters and their impact on candidates. Alderfer and McCord (1970), while conducting a study on recruiter characteristics, found that applicant perceptions of recruiters' behaviours (e.g., their willingness to provide information) and attitudes (e.g., their interest in the candidate) were associated with applicants' expectations of receiving a job offer and their reported probability of accepting the offer. In the next few years, several other researchers also tried to examine the impact of recruiter informativeness and personableness (e.g., Harris & Fink, 1987; Macan & Dipboye, 1990; Taylor & Bergmann, 1987).

Some amount of research has been done highlighting the importance of job advertising. Barber & Roehling, (1993) have documented the positive effects of providing a recruitment message that conveyed both more information and more specific information. Other research dealing with recruitment ads has also shown the benefits of their including specific information (Mason & Belt, 1986) and more information (Yuce & Highhouse, 1998). Recently, Highhouse, Beadle, Gallo, and Miller (1998) examined whether the wording of an advertisement for a restaurant position affected college students' perceptions of the estimated hourly pay, the company's image, and their job pursuit intentions.

Research has also been done highlighting the importance of site visit, resulting in mixed findings. For example, Taylor and Bergmann (1987) reported that, after entering expected job attributes as predictor variables in regression analysis, the site visit (e.g., how well recruits were treated) had no effect on applicants' ratings of company attractiveness or of their likelihood of accepting job offers. In contrast, Rynes, Bretz, and Gerhart (1991) found that for their sample the site visit played a significant role in the recruitment process. In particular, job seekers noted the importance

they attached to the status of the people they met, whether they felt "specially treated," and the organisation's professionalism during their visit. Turban, Campion, and Eyring (1995) reported that various ratings of the site visit (e.g., host likeableness) were predictive of the recruits' ultimate decision of whether to accept a job offer.

Overall, a review of literature in recruitment sources brings forward a gamut of research activities that has been carried out in this area. However, this literature tends to overlook the current strategies and methods that have recently come up to fulfill the growing needs of the industry. Consequently, the exploration of these sourcing strategies for recruitment is the aim of this study.

Research Design and Methods

For better understanding of the current sourcing techniques, qualitative methods were employed in this study. This is because; "A major strength of the qualitative approach is the depth to which explorations are conducted and descriptions are written, usually resulting in sufficient details for the reader to grasp the idiosyncrasies of the situation."(Myers, 2000a). Hence, qualitative methods were used as this helped to foster an understanding of each participant's unique experience through in-depth and focused group discussion. It also provided an understanding of the phenomenon being researched through direct, first hand experience.

Purposive sampling technique was employed to select the participants. Purposive sampling relies on the researcher to make decisions about what criteria participants should meet in order to provide the desired information to meet the study aims, (Schofield & Jamieson, 1999). In this, the eligibility criterion was that participants should be aware of the different sourcing techniques and should have used it as a method while working with the hiring firms. Since the recruitment process involved a request for voluntary participation, it was difficult to accurately predict the number of staff who would participate in this study; as many as 85 recruiters from 20 different executive search firms from Pune and Bombay city, India, were approached. However, 54 participants agreed to volunteer. Participants comprised of thirty females and twenty four males, mean age – 25.4 years, Mean experience – 3.1 yrs and range – 19 – 37 yrs.

The data was obtained from five focus group discussions of recruiters held between June and August, 2007 and 54 in-depth interviews with individual recruiters between September and December, 2007.

Interviews were conducted using a semi-structured interview guide, which served to guide but not govern the discussion. Questions were open-ended in order to provide participants with the opportunity to fully explain their experiences. Individual interviews were conducted either at a restaurant situated near the participant's organisation or at his home or also in a private area, often chosen by the participant. Interviews generally lasted one hour, were tape recorded, and transcribed verbatim. Participants were made aware of the recording and transcribing procedures prior to their involvement with the study. After the interviews, memos and notes were written about questions, impressions, and feelings we had during the interviews. Broad transcription approach was used where standard orthographic full stops and commas were used to mark major pauses and grammatical phrase groups.

Further, focus groups have been also used as a complement to surveys for course evaluation to explore reasons behind quantitative responses. Bloor (2001) notes that focus groups can be used "adversarially" to contest survey data and results or at least to offer alternative interpretations of apparent results (Bloor, 2001, p. 11). In this paper, both the individual professional's "account" of experience and this account as a response to the group – both the individual "moving picture" and group "snapshots" (Catterall & Maclaran, 1997) - is explored as significant effects of the focus interview. Myers (2000b), rejecting the view that talk in moderated groups is artificial, adds, rather ambitiously in my view, that focus group analysis, is "a chance to explore how society emerges" and, in particular, how the individuals locate themselves in society.

For the five focused group discussion, availability of the informants were checked, and after mutually deciding the time and date, meetings were held. Participants were invited to participate in the focus group discussion over the phone, at a mutually agreed location, generally at a private place. Each focus group comprised eight participants. In order to maintain the confidentiality of all recorded material, appropriate safeguards were taken to ensure that this material is protected. At the conclusion of the focused group as well as individual interviews, participants were asked to allow us to contact them for follow-up verification of the transcription and interpretation of the data. The anonymity of the organisations and the participants was protected by referring to each participant only as a *participant*. The first five minutes of each interview and focused group discussion were devoted to developing trust and creating an informal atmosphere.

Data collection stopped at the point of “Theoretical Saturation”, the point in data collection at which no new themes or insights are revealed. (Flick, 1998). Data collection and analysis used a thematic analysis approach to derive patterns in informants’ perceptions of the impact of living with stress. (Miles & Huberman, 1984). No preliminary hypotheses were offered and data was analysed continuously to identify common themes.

Analysis

The data from this study was systematically gathered and analysed using a grounded theory approach (Strauss & Corbin, 1998). As defined by two of its major proponents (Strauss & Corbin, 1990), “the grounded theory approach is a qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon” (p. 24). Grounded theory offers coding procedures as a framework for providing standardisation and rigor to the analytic process (Strauss & Corbin, 1998). In this study, the analysis of the transcribed data followed the coding procedure using open, axial, and selective coding. Coding is referred to by Strauss and Corbin as representing the operations in which data are broken down, conceptualised, and put back together in new ways. Open coding involved the identification of categories or themes that emerge from the first interview and continued with new categories being added in subsequent interviews. The second step involved the use of axial coding, which included a more in-depth examination of the emerging themes and the identification of additional information that led to further themes being developed. Once the major themes were identified, selective coding was used. This stage of the analysis involved a search for connections between themes that led to theory building. Throughout the coding process we used the constant comparative method (Lofland & Lofland, 1995). According to Patton (2002), comparative analysis constitutes a central feature of grounded theory development. Therefore, each participant transcript was compared with the other transcripts and codes and categories were compared with each other. Negative cases were also analysed (Kirby & McKenna, 1989) against existing themes to affirm and ensure the relevance of themes and patterns. Direct quotes were used to illustrate the themes.

Trustworthiness

As suggested by Hallett (1995), three methods were used to ensure rigour and trustworthiness in this study. First, conformability, meaning that two or more independent people would agree on the meaning and relevance of the data, was enhanced through the use of a research assistant who participated in the data analysis. Second, a documented audit trail to justify where the themes emerged from the data was kept.

Credibility, the third measure suggested by Hallett, contributes towards trustworthiness, and relates to having confidence in the truth of the data (Polit, Beck & Hungler, 2001). The audiotaping of the interviews and the use of a member check, providing feedback to the participants on the preliminary findings and interpretation and seeking their reaction, were used to strengthen credibility.

Findings

Discussion with the participants indicates that the sourcing techniques uncovered were learned by the recruiters while working with their senior colleagues, often through demonstration, participation and/or observation.

Analysis of the data uncovered widespread activities that we label “sourcing strategies”. Using these strategies not only help the recruiters creating a qualified pool of applicants, which they keep on using again and again but also help their clients to select the best out of the created pool. Analysis of the interviews uncovered five main recruitment strategies: Networking, Portal Search, company mapping, Headhunting and Database management. Each of the themes has been explained as under. To help the readers to understand the various themes in a better way, direct quotes are used for illustration.

Theme 1: Networking

The first technique identified during the interviews was networking. Networking could be explained as the process by which the recruiters contacted applicants through informal channels/sources. It was understood that networking was the most favoured technique when compared to the other techniques of sourcing like use of Boolean search on the job portals, using job boards, headhunting etc.

While some of the recruiters equally appreciated the need and importance of the other techniques of sourcing, networking remained everyone’s favorite choice. Discussion with the recruiters led to the emergence of five aspects describing the phenomenon of networking and each one of them has been described as under:

Industry awareness: “Industry awareness” refers to the recruiter’s knowledge of various activities that are taking place in the industry. This could refer to information about various upcoming and existing organisations and their candidate requirements in terms of skill sets. It also means to keep on gathering information about different organisations, the new players entering the market, keeping a close watch on upcoming and existing competitors.

One of the participants quote:

“Well, I think the core strength of a recruiter lies in his market awareness. How much is he updated about the new companies that are coming up and their nature of job. If it matches with the profile of our client companies, through networking, either we can source candidates from there or make them our client.”

Industry awareness not only helps the recruiter to know about the changes that are taking place in various organisations but also keeps on updating him about the new and upcoming requirements. This helps him to increase his network in those specified areas, if it falls in his purview. Hence, this helps him to understand the areas where he needs to develop or strengthen up his networking.

Need for socialisation: The second aspect of the networking technique emphasizes on the need for socialisation in order to gather information. 87% of the participants (47 out of 54) agreed that the more a recruiter is into socialisation, the stronger becomes his network in the industry. Being social meant meeting the industry people, formally or informally, at various occasions like in clubs, parties, seminars, conferences etc. Such occasions are considered as an ideal place for interacting with various organisational heads and industry people and developing relationship with them.

A participant quotes:

“Well, most of the clients with whom I work, met me in some conferences or get-together parties. After that, I was constantly in touch with them. This way, I developed a good rapport. Hence, later, when they had some requirements, they remembered me and this way, I started getting business from them.”

Most of the participants agreed that being social, by nature, was a quality, which had helped them to get references as well as place candidates with organisations.

A similar experience is shared by a participant:

“I was looking for a project engineer for one of my clients. One evening, while attending a family function, my cousin got me introduced to one of his friends who was a very good

singer. Knowing this, when some of the family members asked him to sing, through his voice he won everyone's heart, including mine. At the end of the party, when I asked him about his job, he said that he was working for an MNC as a project engineer but was now, looking for a change. I had got my candidate."

Role of Trust: According to 89% of the participants (48 out of 54), the networking method of sourcing lay great emphasis on the "trust" factor both from the candidate as well as company's side. While recruiting candidates via networking, the recruiter trusted the reference giver and vice versa. This is because the sourcing of candidates through networking happens through referencing and references are, generally, given by known persons. When a recruiter gets a candidate through some informal network, he gets all the information of the candidate from the person who gives his reference. Similarly, the recruiter also passes the actual job requirement and the future prospects of the job, to the candidate. In this entire process, the person who gives the reference acts as a mediator. The reference giver, generally, has his/her reputation at stake and would not compromise it by forwarding misleading information about the candidate or the job.

A participant puts his views as under:

"The quality of the candidates those who are sourced through the networking technique, are trusted much more than any other technique of sourcing. This is because someone recommends this candidate. Later on, in case the candidate is not able to perform well, the person who has given his reference could be contacted and with his help, the counseling of the candidate for better performance, could be done."

Most of the participants agreed that through the networking technique the chances of getting a wrong and a misfit candidate is very low; though it could not be totally ignored.

Working as a team: Even in this sector, a vital aspect that came out from the participants was relating to teamwork. According to the participants, the networking technique of sourcing is primarily based on teamwork. Whenever there is a requirement that comes up, the recruiters of that organisation are, mostly, aware of it. In case a candidate approaches a recruiter who is handling a different area, then he forwards the profile of that candidate to the concerned recruiter who is handling the candidate's area of expertise.

One of the participants shares a similar experience:

"Many times it happens that we come across profiles that are not important to us but we can make out that it could be very important for our colleague. This happens because we work on different verticals. In such case, we forward the profile to the concerned recruiter who is handling that vertical. This not only helps the candidates, who is not aware of which recruiter is working on which vertical, but it may also help us in case we have such a requirement and the profile is good."

Increasing the Network: There are various ways and means, which the recruiter adopts to expand and strengthen his/her network. Mostly, they are informal in nature. It was found that the recruiters, most of the times, had the habit of making new friends and developing relationships with them. Around 76% of the participants (41 out of 54) agreed that initially a relationship was developed with a person without any selfish interest. It just happened that thoughts, views, choice or hobbies were similar and hence, they became friends. Later on, after a few interactions, they realise that their relationship could be used as a channel for networking, for sourcing candidates. One common thing that was found amongst all the recruiters was that they made it a point that the relationship is maintained through regular interaction. They did this by either meeting regularly on weekends or fortnightly or on different occasions or by keeping in touch through mails.

One of the participant quotes:

"Ten years ago, I had met a person while I was on a vacation tour. During the tour, we realised that our choices and hobbies were same. That time he was a final year management student. Since then, we have been in regular touch either via e-mails or phone calls. Today, he is the Zonal head of a bank. Whenever he needs any person to

recruit for his organisation, I am the first person whom he approaches. Also, I have helped him to place some of his colleagues in good organisations. Hence, now, his friends are also covered in my network.”

Another non-formal method of increasing the network adopted by some of the participants was that, at times, they took the help of professional bodies (e.g. I.C.A.I, National HRD Network, etc...) where they had memberships.

Theme 2: Boolean Search

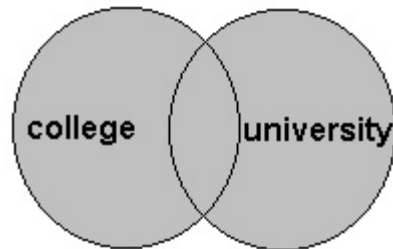
The next process identified was relating to another search method which was relating to the internet. It was understood that the recruiters used to search for profiles on various job portals such as Naukri.com, Monster.com, and Jobsahead.com etc... These were all payee databases where prospective candidates, in search of job openings, could be identified. Since, any of the job portals, mentioned above, have a huge number of profiles, with different combination of skill sets, identifying and sourcing “matching profiles” from the job portals is a skill in itself. Boolean search is the technique that is being used in order to identify and source the desired candidate from the database. The process of Boolean search has been understood as under:

Boolean logic consists of three logical operators:

- A. OR
- B. AND
- C. NOT

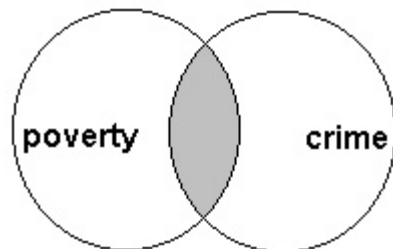
Each operator can be visually described by using Venn diagrams, as shown below:

A. The logic behind OR



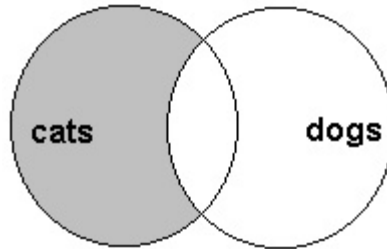
College OR University

B. The logic behind AND
AND



Poverty AND crime

C. The logic behind NOT
NOT



Cats NOT dogs

One of the participants quotes as under:

“In Boolean search, we sometimes, directly put the competitor firm’s name and all the candidates looking for a job in that organisation, gets filtered and are seen to us. Amongst them, if anybody matches our requirement, we try to source that candidate.”

Another participant explained the phenomena as under:

“We generally search for skill sets. We put 2 to 3 skill sets with the “AND” operator. This helps to filter and bring forward only those candidates to us who have the said skills. Out of them, after further screening, we can source the desired candidate.”

It was pretty clear that the recruiters used the Boolean search quite exhaustively in order to source candidates from the job portals. This not only helped them to filter and bring forward the desired candidates within a few seconds, but also helped the recruiters in reducing huge amount of initial screening which, otherwise, had to be done manually causing wastage of time.

Theme 3: Company Mapping

By Company mapping or competitor analysis, here it means the process of trying to identify the company from where suitable candidates could be targeted. While discussing with the participants, it was learnt that competitor analysis played a major role in the success of the sourcing process. Recruiters, generally, did competitor analysis of their client on four different aspects i.e. Marketing, Finance, HR and Systems. Depending upon the type of the client, their best fit employees could be found in: (a) Marketing: Companies making similar products or giving similar services, (b) Finance: Company having similar financial turnover, (c) Human Resource: Companies having similar employee strength and (d) Systems: Companies working on similar systems and processes. A competitor was identified on the basis of these four aspects. Ideally, for a company to be a client’s competitor it should be manufacturing similar products or providing similar services, should have similar financial turnover, should have similar employee strength and should be working under similar systems and procedures.

One of the participants explained this phenomenon as under:

“It is very important to do company mapping intelligently; else, the entire process and efforts become a waste. If all the four parameters are not taken care of simultaneously, chances of failure in headhunting the right candidate increase.”

Another participant explained his views as described below:

“The competitor analysis process needs to be followed wisely. Depending upon the requirement, we need to decide whether we need to follow all the processes strictly or not. For example, if our client is a car manufacturing company, and their requirement is of a Dash Board Design Engineer, then we need to follow all the four processes of company mapping strictly, for headhunting the “right” candidate. Whereas, if client’s requirement is of an HR Manager, then we could do the company mapping a bit leniently. This is in the sense that instead of limiting the search to car manufacturing companies only, the search area could broaden and automobile manufacturing companies also could be considered, other processes (i.e. HR, Finance and Systems) remaining the same.”

The company mapping process identified was found to be a unique process adopted by the recruiters to identify the competitors of the client company. This was understood to be a very tricky process. Even a small mistake while doing the company mapping could lead to targeting the wrong company, leading to sourcing of ‘misfit’ candidates.

Theme 4: Headhunting

Headhunting could be referred to as the process by which employees from the competitive organisations are identified, targeted and approached, by the sourcing firms in order to place them in their client’s organisation. The process of headhunting candidates could start after the company mapping was done. The different aspects that emerged in the process of headhunting have been mentioned as under:

Making the Call: Once the company mapping was done and a list of target companies was made, the next process was to make the call. Board numbers of that company could be obtained either from telephone directory, internet, or similar sources. After this, the call is made by the headhunter on the board numbers, acting either as a client or service provider etc., using a dummy name. Either the receptionist picks up the phone and transfers the call to the concerned department or gives some information. In small organisation, sometimes, the receptionist has the information and the headhunter starts collecting the information from here itself. If the receptionist transfers the call to the concerned department, depending upon the unknown receiver’s response, the dialogue proceeds.

One participant explained an experience as under:

“I was looking for a Purchase Manager Position. When I called up our client’s competitor, during lunch time, acting as a very senior person from the corporate office of the very same company, the receptionist immediately transferred the call to the purchase department. There, the office clerk picked up the phone. I told him that I was calling from the corporate office and asked for the other guys. The clerk said that they had gone for lunch. So, I acted as if I was a bit annoyed and said that how could all of them go for lunch at the same time. The clerk got a bit nervous. Realising this from his voice, I asked him to give me their mobile numbers and other details. The clerk, without thinking much, got the office diary and gave me all the names and numbers of the employees working in the purchase department.”

Another participant describes the spirit of teamwork as under:

“With respect to headhunting, I am comparatively new. In case some problem comes and I am being too much cross-questioned by the call receiver, I take the help of my colleagues, who are more experienced, in tackling such situations. They have always helped me out. This has always acted as a boost for my morale.”

Not a preferred Technique: While discussing with the recruiters, a kind of hesitation was found amongst them, regarding using the headhunting technique for sourcing candidates. Generally, this was kept as the last option by most of the recruiters. Hardly anyone chose the headhunting technique as their first choice for sourcing.

“I do not like this technique of sourcing candidates. I feel nervous while making the cold call. I start fumbling, if cross-questioned from the other party. I would prefer other techniques of sourcing. I don’t think I would ever be able to become an expert in headhunting. Whenever I am cross-questioned from the receiver of the call, out of excitement, I keep down the phone.”

Participant recruiters described that a high level of confidence and presence of mind was required to make the cold call. This was because there could be lots of cross questions from the other side, which need to be handled tactfully. This was essential in order to gain the confidence of the call receiver, who might have the detailed information required.

One of the recruiters narrated an experience where she tried to tackle the situation but could not succeed due to the smartness of the other party.

“I had the requirement of an operations manager for one of our client. I had the list of competitors of our client from where potential candidates could be tapped. So, when I called up the competitor organisation, the receptionist picked up the phone. I requested to connect me to the operations manager. The receptionist asked about me and the purpose of my call. I said that I was his friend and had an important message to give. The receptionist smartly cross-questioned by asking the operations manager’s name. I had no option but to put down the phone.”

Professional Identity: Another aspect that came out was relating to the identity of the headhunters. The recruiters who resorted to the headhunting technique for sourcing resumes expressed that they used dummy names while making cold calls. This was because using dummy names protected them from any future probable repercussions. One of the participants expressed his views as under:

“Every time I make a cold call, I use a different name. This is what I have been advised to do. Even I also feel the same. Other than my boss, nobody even knows who I am and how good I am in my work. In this entire process, I lose my actual identity.”

The participants accepted that this way, they lost their professional identity as their dummy identity was replacing them. Outside the organisation, they were, but, just an employee of a hiring firm.

Ethical Dilemma: An important factor that came into picture while discussing with the recruiters, was relating to the ethical and moral issues that were involved in headhunting. Some of the recruiters believed that the process of headhunting itself was not ethical, while others were concerned about it. One of the participants quotes as under:

“I don’t like using a dummy name and calling up an organisation where I have to give a fake identity of myself, in order to extract information. It’s simply betraying the trust of the person whom you are talking to. Just think of a situation where someone tries to extract information from you by giving a false identity of him. How would you feel...?.... You don’t need to do all these things. There are better ways out...”

It was found that some of the hiring firms had signed anti poaching agreements with their clients. This meant that the hiring firms would not headhunt candidates from these companies, to fulfill the requirements of some other company. But, even after signing such agreements, in some instances, the hiring firms violated the agreements and tried to poach from their client organisation also.

Even the candidates are also not spared in this regard. The recruiters use various ways to convince the candidates to leave the present organisation and join their client. In quite a number of instances, it was found that the recruiters put forward hyped images of their client organisation and the job that the candidate would be doing. Also, sometimes they hide crucial information that the candidates should have been told about.

One of the participants tried to justify his act as under:

“Well, I was looking for a Java developer for our software client. The candidate was interested only if the organisation was ready to provide an onsite opportunity. Our client was a good pay master and provided faster growth opportunities, but they had clearly mentioned that they did not have any onsite opportunities. Now, I did not want to lose this candidate. So I told him that in future, the organisation would surely send him for onsite projects, but that would depend upon his performance and since it was confidential, the organisation would not disclose it at this point. So, the candidate went ahead and joined the organisation. Today, he is doing pretty well and does not have any grudge for not getting onsite opportunities.”

Theme 5: Database Management

Data Base management was the next process found to be carried out by the recruitment agencies. It was understood that there were many profiles which were not found to be relevant at that given point of time or position but the recruiter also realised that those profiles were equally good and hence, could

be required in the future for some other requirement. For this purpose, they had to be maintained in a very systematic way so that they can be easily located as and when required. The management of such profiles is termed as Data Base management of such profiles.

Though while discussion it came out that none of the recruitment agencies were using any specific software available in the market for their data base management, all the consultancies had developed their unique ways of managing the data of resumes which frequently kept on coming to them.

One of them explains it as under:

“We store all the resumes in our computer. We generally prepare separate folders for separate areas of specialisation like HR folder, Marketing folder, Finance folder etc...and store all the resumes in those folders respectively. This way, when any requirement comes from the client, depending upon the area of requirement, we search that folder only and not others.”

Another participant explained their ways of storing and keeping record of their profiles:

“We maintain the profiles as per industry and then again subdivide them as per their area of specialisation. Like initially, we make folders of I.T Sector, Pharma Sector, Banking Sector, Manufacturing sector etc... and then again subdivide each folder into various specialisation by creating subfolders inside them and divide them as Marketing, Finance, HR, Supply chain etc... This is because if you want a good fit of your client’s requirement, then the best fits would be available in their competitors only and, hence, it is better to store them accordingly. However, we do not get matching profiles, then we can think of looking profiles from the other sectors also.”

It was understood that this was one of the processes in which the agencies had developed their own ways of managing and storing the profiles. In absence of any particular Data Base Management software, they had found out their own ways of segregating the profiles and keeping a record of them as per their own convenience.

Discussion

The exploration of the current techniques used by recruiters to source candidates to fill the vacancies of client companies reveal that the hiring firms adopt a gamut of techniques in order to create a pool of applicants for their clients. These and other findings suggest that generating greater insights into the various techniques of sourcing is important for both the development of knowledge regarding recruitments and for conceptualising contemporary organisational life.

A key contribution of this study is the provision of empirical insights into the sourcing techniques used by hiring firms. While a number of extant studies have highlighted the research carried out in various aspects of recruitments and the need for more research in this area (e.g. Barber, (1998); Rynes, (1991), Williams et al. (1993), Stevens (1997) and Barber & Roehling (1993), this paper supply contemporary empirical insights that explicitly and exclusively focus on the current techniques and the processes involved in them.

These findings may well be a manifestation of the research focus adopted. Unlike previous studies that generally focused on recruitment source studies (e.g., Blau, 1990; Gannon, 1971; Saks, 1994), search approach (e.g. Devine and Kiefer, 1993), realistic job previews (e.g. Meglino, Ravlin, & DeNisi, 1997) and recruitment advertisements (e.g. Highhouse, Beadle, Gallo, and Miller (1998), this study provides insights into some of the current techniques used by recruiters, and the process how they were used.

This study contributes insights with respect to the networking technique, which was found to be the most favoured technique of sourcing candidates. The recruiters use this technique extensively to fill their client’s vacancies. The proficiency of a recruiter was understood to be based on the larger the network he/she was able to develop. Once the concept of networking was explained to the recruiters,

they accepted that they have used this technique exhaustively and they prefer this technique to the other ones (e.g. headhunting, portal search etc.)

It has been found that “awareness of the industry” is the key to have a strong network in the market. The recruiters need to have information of the changes that are constantly taking in various other companies in terms of their expansion strategies, manpower requirement and the skill sets on which these companies work.

Analysis of the statements throw some insights into the networking process stating that the recruiters need to have the inherent quality of getting socialised with people. They should not only be able to mix up with people very easily but also should be smart enough to get the necessary & relevant information from the industry people. Further, this study also contributes insights with respect to the effective role of teamwork in the networking process. It was found that the backbone of the networking technique depended on teamwork. The recruiters, at times, required the help of their colleagues to fulfill their requirements. They were also dependent on the reference providers for sourcing candidates and the reference providers were depended on the recruiters for placing their known colleagues in different companies. The findings of the study support the findings of numerous theorists illustrating the positive effects of team work in different fields. (e.g. Borrill C. et al., (2000), D’Amour, D. et al., (2005), Wilson, V. and Pirrie, A. (2000), Boyacigiller, N.A., & Adler, N.J. (1991), Campion, M. A. et al. (1993). The networking technique was found to be putting great emphasis on the role of trust factor. While using this technique, as per the findings, “values” have a great role to play. Since the technique involves getting references from the known people who have a “good reputation” in the industry, the chances of foul play, from either side of the parties, is minimal. Though, the possibility of such a happening cannot be totally avoided.

This research has also tried to highlight various ways that the recruiters adopt in order to develop a new network and/or strengthen the old ones. Some of the strategies might include keeping in touch via e-mail or a phone call, meeting over the weekends, getting associated with professional bodies and/or joining new clubs and forums and also encouraging new memberships to increase the forum.

Analysis of the data showed that this technique was more effective in terms of speed, accuracy and reliability. Earlier studies have already proved the fact that the candidates through personal references prove to be more reliable and stable with organisations. (e.g. Taylor and Schmidt, 1983). Also this technique has resulted in more qualified candidates (e.g. Breugh and Mann (1984). This makes the relevance of this study of understanding the referencing process more important.

Secondly, the headhunting technique was found to be one of the most covert techniques of sourcing candidates. Though sourcing through this technique is believed to be one of the best ways of getting the “desired” candidate, it was not preferred by many recruiters prefer it. Though most of the search firms spoke a lot about their proficiency in headhunting candidates, however analysis of the data found that the recruiters used the term “*headhunting*” synonymously with the other techniques of sourcing like networking, using job boards, Boolean search on the net, sending e-mails of job offers via net, etc. Once they were explained about the meaning and concept of headhunting, it was found that very few recruiters were actually doing headhunting to source candidates.

This technique also provides evidence that the headhunters not only, sometimes, neglects their moral responsibility of giving full information to the candidates but also, if needed, break all rules and regulations and poach candidates from their own clients to fulfill the requirements of others.

Third contribution of this study is relating to the company mapping process that is being adopted by the recruiters to find out the “exact” candidate from the competitor organisation. This study has been able to supply insights that explicitly and exclusively focus on the ways adopted by the recruiters to identify the target competitor companies. The tree building process is yet another valuable insight brought forward in this research in order to understand the organisation structure of the targeted company or department.

Fourthly, Boolean search on the job portals was yet another technique adopted by recruiters to source candidates. The proficiency of using this technique laid greatly on the recruiter’s expertise of

using the internet to search candidates who had registered in the job portals. The recruiters were found to be using various ways to identify the desired candidate.

Lastly, managing the database was also considered to be another way of sourcing the candidates who had applied some time ago. Such applicant's profile was found to be very systematically maintained in the database created by the recruiters. The methods adopted to maintain profiles in the database was found to be of classical nature as compared to the database techniques used in the developed countries (see e.g. Winters, P., 1995; Murphy, C., 2000; Goodridge, E., 2000).

Limitations and Directions for further Research

This study has a number of limitations that should be highlighted. In particular, two restrictions deserve individual attention. First, the research design was purposefully exploratory and descriptive in nature. While this approach has allowed us to illuminate and more clearly highlight various methods of sourcing candidates, the nature of the study preclude causal claims. In this regard, these sourcing strategies studied should be viewed as the possible approaches designed to recruit the desired candidate and not as the only strategies, which would necessarily be used to get in the desired candidates.

The evidence from the interviews strongly indicates that applicants, human resource professionals, department heads, influential recruitment decision makers all believe that such activities eventually lead to filling of the vacant positions. Thus, although our research precludes definitive casual claims, the presented empirical evidence and extant theory is sufficient to enable us tentatively to suggest the existence of such associations.

The study is also limited to the extent that we had to rely on informant's experiences, recall abilities and self-reporting. As with all studies that rely on informants, we are unable, conclusively, to exclude the possibility that informants (intentionally or otherwise) supplied inaccurate or misleading responses (either for reasons of social desirability bias or simply to conceal other acts). Although we designed this research to limit such bias, the possibilities of such issues must be acknowledged.

Second, the focus of this study has primarily been on exploring the current techniques of sourcing candidates and not on study of source usage, as conducted by the Bureau of National Affairs (1988), inputs into the recruitment process by employers (Barron and Bishop, 1985; Barron, bishop and Dunkelberg, 1985) or the recruiter's behaviour and characteristics, as conventionally discussed in the literature (e.g. Alderfer and McCord (1970). Although we feel that such an approach has generated deep and interesting insights into the current strategies, this focus limits the extent to which we are able to comment on the full range of various sourcing techniques used by the hiring firms. Similarly, we are unable to comment validly on the antecedents of these sourcing strategies. Such issues require future research, which given the likely time lags involved, is unlikely to be forthcoming for a number of years.

The limitations and contributions of the study lead to a number of potentially fertile opportunities for further research. While this research has described many interesting techniques, the research approach may have constrained my findings. That is, we uncover five different sourcing techniques, using qualitative methods. Thus, further studies wishing to extend our research findings may benefit from the adoption of quantitative methods of data collection measuring the effectiveness and reliability of each of the techniques as compared to other. Further, we believe that it would be advantageous to adopt a different approach in future studies by further exploring each of these techniques over a longer period, probably involving data collection at numerous points in time. Such an approach should yield valuable insights into not only the nature and effectiveness of the technique but also monitoring the performance of people joining through each of such technique and/or the effect on productivity. Studies could also focus on casual research to uncover the extent to which different sourcing techniques are significant and effective predictors of high quality candidates or are fruitless in the long term. Without further study, such issues will remain speculative, so we strongly urge our colleagues to pursue this topic.

It is hoped that the present results constitute not only valuable insights into the techniques of sourcing but also provide a tentative starting point towards the greater understanding of the art of hiring.

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The Readability Level of English Textbooks of the Tenth Grade and its Relationship to Students' Gender and Area of Residence

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Abstract

The purpose of this study was to investigate the readability level of the tenth grade English textbook in Tafila, and to investigate the effect of the gender and Area of residence on the readability level of these books. To achieve the purpose of the study the following questions were formulated:

1. What is the readability level of the tenth grade English textbooks in Tafila educational directorate?.
2. Is there a relationship between the readability level of tenth grade English textbook and the gender of the students?.
3. Is there a relationship between the readability level of tenth grade English textbook and the students Area of residence?

4. Is there an interaction between the gender of the students and their Area of residence in the readability level of tenth grade English textbook? The sample of the study consisted of (308) males and females of tenth graders during the academic year 2006/2007. The researchers used the cloze test to test the readability level of the texts. The researchers used the descriptive statistics, namely the means, standard deviations and percentages of the students in the readability levels. t-test was also used to test the differences in the readability level between male and female students. One-Way analysis of variance (ANOVA) was used to test the differences between the areas of residence of the students. And Two-Way analysis of variance was also used to test the interaction between the gender and the area of residence. The results of the study showed that the readability level of tenth grade English textbooks was very low which mean it is at the frustration level. It was in the frustration level, which means that the students have difficulties in understanding the passages even with the help of the teacher. Results also showed that there were significant differences due to the student's gender and Area of residence of the students. Results also revealed that there were no significant statistical differences at $\alpha=0.05$ due to the interaction between the gender of the students and the region they belong to. The study recommends that the Ministry of Education in Jordan should put plans to change the passages that the tenth grade English textbook include because they are unsuitable for the level of the students and they do not stemmed from the student's culture.

Theoretical Background

Introduction

One of the major language skills that should be emphasized in classroom is reading comprehension. Therefore, this skill is given time and weight in the Basic School English Curriculum. The main aim of teaching reading is to enable students to "read and comprehend English in different contexts with ease and accuracy". (Ministry of Education, 1996) Amra Teacher's Book. Reading is as considered one of the most important and basic skills to be acquired by language learners whether it is being learned as a first, second or foreign language. Phillipson (1992) argues that reading is much more than pronouncing words correctly. Many learners face some difficulties while reading. One of the difficult problems facing learners of English as a foreign language is the presence of difficult words that they cannot comprehend, retain or use correctly. Many students read without any particular strategies for remembering new words. They do not pay attention to difficult words consequently, they do not comprehend the general idea of what they are reading, or they may gain little information from it. Reading comprehension includes many skills that should be improved, for example, the ability to evaluate the text. Venkateswaran (1995) defines reading as a psycholinguistic process by which the reader reconstructs a message, which has been encoded by a writer. He views reading as an interaction among three essential factors: background knowledge, conceptual Abilities and learning strategies. These three factors are important. Background knowledge is necessary in the sense that students who have background knowledge of a certain topic are likely to comprehend the text more than these who have no background information about it. Conceptual abilities are also essential in the reading process as intellectual capacity is necessary to assimilate meaning. As for process strategies readers should use different strategies to help them assimilate the meaning and comprehend the text. Different purposes require using different reading strategies. It has been noticed that some learners who are good at language are not good readers, which could be due to the strategies they use while reading. Reading is a language activity that includes a variety of skills. McGovern (1983) mentions that the teacher can make use of the reading comprehension lesson to help students develop the ability to: discover specific facts, recognize the writer's point of view, read at a reasonable rate, guess the meaning of unknown words from the context, read extended pieces of texts easily, understand how one part of a text relates to another, follow an argument, grasp the gist of what has been read, and note the importance of such logical expressions such as however, and so, finally... etc. Efficient reading is an essential prerequisite for success in today's world. We cannot leave learners with the idea that reading a text means understanding every word. Different purposes demand appropriate comprehension and retention levels and therefore, the use of different reading in order to decide on suitable strategies for reading tasks. Also, students should be encouraged to develop the skill of guessing, as word-by-word reading does not result in overall comprehension of the text. Teachers play an important role in steering students towards efficient independent reading by helping them concentrate their efforts on specific purposes. "One of the purposes of a good textbook is to convey the principles of the subject. From the perception of the subject contained in the author's mind the knowledge is transformed into printed words. The reader of the printed words digests them and stores them in his mind. At best this interface is inefficient. At worst it is near total barrier to communication." (Stearns & Villere, 2006). Readability is a measure of the accessibility of a piece of writing. Both the reading level of the audience and the complexity of the passage in question factor into readability. A rough idea of readability is useful for people who want their writing to be reached by a broad audience. The reading level of a text is the difficulty level. It can be defined objectively by a readability formula or by subjective judgment. The reading level can use a score such as a grade level score. For example: " This book is at 8th Grade reading level. Or any other type of ranking can be used such as " This book has a reading level of 67". Reading level can also refer to a child or adult's ability to read. You could say this child or adult has a reading level of 8th grade. That means that the child or adult can read about the same as the average 8th graders. The term readability refers to all the factors that affect success in reading and understanding a text. These factors include: the interest and motivation of the reader, the legibility of the print (and of

any illustrations) and the complexity of words and sentences in relation to the reading ability of the reader.

(Otto & Waune, 2005). Readability describes the ease with which a document can be read. Readability tests, which are mathematical formulas, were designed to assess the suitability of books for students at particular grade levels or ages. Over time, different methods have been developed to objectively predict the reading difficulty of written materials. A readability formula is simply a mathematical equation derived through regression analysis. The best fitting model is the one that best predicts a measure of the difficulty experienced by people reading a given text in relation to certain linguistic characteristics of the text (Taylor & Francis, 2003). (Harrison and Hodges, 1995) defined readability as "the ease of comprehension because of the style of writing". Readability to most reading professionals usually means the application of readability formulas. True readability does have a more general meaning found in popular dictionaries such as "easy or interesting to read--capable of being read" (The Random House Dictionary of the English Language, 1983). But in classrooms and publishing houses readability is often thought of as an objective numerical score obtained by applying a readability formula. Readability formulas provide an easy and quick way to predict readability, and as a result are a practical solution to the problem of estimating readability. There are more than 30 readability formulas available to estimate text difficulty such as:

1. The Fry Readability Graph (1968).
2. Klare's Formula (1974-1975).
3. Chall and Dale Formula (1995).
4. Meyer, Marsiske, and Willis Model (1993).
5. Tayler's Cloze procedure (1953).
6. Bormuth (1964). (Anderson & Davison, 1988).

Readability formulas do have limitations. For example, readability formulas fail to consider how familiar a reader is with the topic. A research indicates that background knowledge of content determines readers' comprehension of text (Spiro, Bruce and Brewer, 1980). It must be recognized that readability formulas measure only the difficulty of the style of writing. Factors such as content, word order, imagery in writing, interest to the reader, type style, type size, and page format are not evaluated. (Stearns & Villere, 2006). Motivation is another factor that affects what readers understand and remember from text, interest in the topic and purpose of reading also influence comprehension (Alexander & Filler, 1976). Readability formulas ignore these reader-based elements of comprehension. Text factors such as figures of speech affect readers' comprehension; language style and density of ideas also influence understanding (Estes & Wetmore, 1983). Again, readability formulas cannot account for these less obvious elements of language comprehension. Text organization also influences what readers understand and remember from a piece of writing (Meyer, 1975). For example, an author can use headings to organize the overall structure of the text for the reader. Also, well-formed paragraphs organized around topic sentences assist readers in comprehending major ideas. Three stylistic factors, easily manipulated by writers and commonly thought to influence readability, were examined. Two of the factors, word frequency and sentence length, appear in almost all the most widely used readability formulas. The third factor, sentence structure, has earned some research and theoretical support, although generally it is not considered in readability formulas. (Dale & Chall, 1948). Word frequency, the frequency of occurrence of a word in samples of texts, is related to word familiarity. Frequently occurring words are recognized and pronounced faster than infrequently occurring words. At the passage level, correlational studies have demonstrated that word frequency is associated with passage difficulty (Bormuth, 1966). Yet when passages are rewritten by varying word frequency, subjects' comprehension scores do not consistently reflect any changes in readability. (Jenkins, Pany, & Schreck, 1978). The effects of sentence length, the average length of the sentence in a passage, have been investigated in similar experiments. In correlational studies, sentence length was associated with the difficulty of selections (Bormuth, 1966); but in experimental research, no clear

pattern of positive effects on comprehension emerged (Colman, 1962). Thus, while sentence length and word frequency are associated with the difficulty of selections, they may not be causes of the difficulty.

Readability: Cloze

The cloze procedure was originally introduced by Taylor (1953) as an attempt to improve on the existing readability measures. Correlations between cloze scores and readability measures in the Harrison study were lower than those found by others. Bormuth (1966) noted that correlations between cloze and the same readability formulae. This recent finding is a corrective to the claims made for cloze. It is useful to have evidence that cloze results are variable and that they are both potentially unreliable and also measures of other things than text difficulty.

Furthermore, cloze is heavily dependent on the actual deletions in anyone passage, which is why 5th or 7th word deletions are not necessarily similar in terms of results what distinguishes one cloze text from another (even the 'same' text at one deletion rate compared with itself at another) is the deleted words. We need to be cautious as Harrison et al (1995) point out in making any large claims for cloze. They conclude that readability measures are effective in predicting text difficulty as estimated by pooled teachers' judgments. They are less enthusiastic about the value of cloze procedure. In other words, the best measure of text difficulty is combined expert judgment and reading formula. No doubt what the expert judgments take into account over and above the salient variables of the readability formula are things like potential interest and availability of a text to its intended readers.

Harrison et al (1995) raise the interesting question of what makes a teacher a reliable judge of readability and suggest that "a teacher who is aware of the extensive range of demands made by texts on children at different age levels is likely to be in a much stronger position to make a reliable judgment about potential difficulties" (p. 100).

We assume that texts having different readability levels achieve different comprehension results. Estes (1983) gave two groups of readers; two versions of the same text, the original and a specially written simplified one. The group with the simplified passage produced significantly higher comprehension test scores. So there is some evidence that readability levels make a difference in comprehension. But why do they? The nature of text difficulty is not much discussed in the readability literature.

When it is raised one kind of answer concentrates on the comprehension issue; this says that one text is simpler than another if more people understand it. Another kind of answer takes up the linguistic issue: this says that texts become simpler as surface features come to represent meaning more directly, i.e. they lose synonymy, ambiguity, transformations, etc. Essentially this is an argument for idealization, for removing performance phenomena and making sentences as little like utterances as possible, and, as a corollary, it implies that types of words like adjectives, adverbs and prepositional phrases are difficult rather than simple.

Significance of the Study

Readability of school textbooks is of a great importance; the ultimate goal of reading is to comprehend what is written. The importance of this study is that it is the first study on the readability of the tenth grade English textbooks in Jordan. According to the knowledge of the researcher.

The results of the study may be crucial for those who are concerned with designing school textbooks, it means that if the readability level of the textbooks is high then the textbooks are suitable to be taught in our schools, but if the readability level of the textbooks is low, then, these textbooks are not suitable for our students. This study may also contribute to improving teaching methods as well as curriculum design and development.

Statement of the problem

The readability level of a text is the difficulty level. Results of student's achievement in English showed that students are weak in English language, their results always low. The low level of the learners might be traced to the comprehension capability of the learner.

The Ministry of Education in Jordan issued a new series of tenth grade English textbooks (Jordan Opportunities) focusing on the new teaching strategies:

1. Problem solving.
2. Critical thinking.
3. Instruction based on activities.
4. Working in groups.

This study will provide the curricula designers and the teachers with some knowledge about the readability level of this textbook and so to help in developing this textbook in the nearer future if the results of the study show that there is a need to do so.

Purpose of the Study

The study aimed at achieving the following purposes:

1. Investigating the readability level of textbooks of tenth grade in Tafila educational directorate.
2. Investigating the effect of the gender of students on the readability level of school textbooks.
3. Investigating the effect of the Area of residence of students on the readability level of school textbooks.
4. Investigating the interaction between the student's Gender and Area of residence.

Questions of the Study

To achieve the purpose of the study, the following questions are to be answered:

1. What is the readability level of the tenth grade English textbooks in Tafila?
2. Is there a relationship between the readability level of tenth grade English textbooks and the gender of the students?
3. Is there a relationship between the readability level of tenth grade English textbooks and the region of the students?
4. Is there an interaction between the gender of the students and their Area of residence in the readability level of tenth grade English textbook?

Operational Definitions

Readability: The level that represents the student's comprehension of a written text and it is measured by the number of the correct words the students fill in the blanks in the cloze test.

Tenth grade textbook: The book, which the Ministry of Education in Jordan set for the tenth graders in the academic year 2005/2006 from the series of (Jordan Opportunities).

Cloze test: A test to measure the readability level of a text, the students will be categorized into three levels according to their results: The independent level, the instructional level, and the frustration level.

Readability Level: The readability level in general can be categorized in three levels:

58% - 100% correct –independent level

44% - 57% correct – instructional level

0% - 43% correct- frustration level.

This criterion was put by Burmuth.

Limitations of the study

This study is limited on the tenth grade students in the academic year 2006/2007. The generalizations of the results of this study are limited to the study population in Tafila in the year 2006/2007, therefore, findings of this study can only be generalized to similar populations. This study is also limited to the tenth grade textbook in Jordan. The study also limited to Burmuth formula.

Review of Related Literature

Greenfield (2000) Classic readability formulas have been widely used to match English texts to native English speaking readers, for whom the formulas have been extensively validated. They are also being used in ESL and EFL contexts, for which they have not been conclusively validated. Recent research on second language reading, together with consideration of the nature of the formulas and assumptions on which they rest, raise questions about their validity for EFL readers. This project investigates the validity of the Flesch, Flesch-Kincaid, Bormuth, Coleman-Liau, and New Dale-Chall formulas for predicting the readability of English texts for Japanese college students. Validity is tested in multiple ways, using a new criterion established by cloze testing of 200 Japanese students over 31 passages assembled by Bormuth. The observed difficulty of the criterion passages is compared with their difficulty predicted by each of the classic formulas, finding Pearson correlations ranging from .691 to .861. Using the models of the classic formulas, new regressions are made against the new criterion, and their predictions of difficulty are compared with predictions by each of the original formulas. For Coleman-Liau, Bormuth, and Dale-Chall models the recalculated formulas were found to be significantly more accurate than the original formulas. In addition, a new Miyazaki EFL Readability Index was constructed using only two easily measured text variables. Producing scores on a 100-point scale, the formula has an adjusted coefficient of determination of .726, superior to all but the recalculated Bormuth formula. Finally, the relationship of observed difficulty to readers' TOEFL scores was explored and found to be too weak to support indexing readability to TOEFL proficiency of this group.

On the strength of these findings, the classic formulas are probably valid for use with Japanese EFL students, although they require interpretation. Increases in accuracy found for recalculated formulas, while statistically significant, may not be sufficient to replace formulas conveniently available for computer measurement. However, the new Miyazaki Index offers an easy to use alternative that also appears to be highly valid.

Phelps (1989) conducted a study to compare the readability levels of the A Beka Book Reading Series with readability levels of five other reading programs. To accomplish this purpose, the readability levels of 32 books and the stories within each book in grades one through six of the A Beka Book readers was determined. The variation of the estimation of readability level (ERL) rating from the publisher's designated level (PDL) was compared at the intra-book, inter-book, and inter-series levels as an extension of Fox's earlier research. The study utilized the same readability formula, Fry's Readability Program for the microcomputer, and sampling techniques as Fox's research. Selections were made from the beginning, middle, and end of each story of at least one-hundred word length. The readability sampling of A Beka Book readers included 2,316 passages in 844 stories to find the ERL rating of each story. Intra-book variation of the ERL rating from the PDL indicates 86.1 percent of the stories in A Beka Book readers are placed above the PDL. The inter-book analyses indicates less variation of the A Beka Book stories from the PDL rating in the primary grades than the intermediate grade levels. Most A Beka Book readers have ERL book sequences that vary five or more levels from the PDL. The correlation between the PDL and ERL ratings of the A Beka Book readers is .77. Inter-series analysis indicates stories in all six series fail to match the instructional grade level. The five series used in the comparison generally have books sequenced by level of difficulty, but the readability levels are above the PDL. Recommendations resulting from the study include: (a) publishers make available to educators more information regarding readability of basal reading series, and (b) that

individual readability ratings of stories be listed in the teacher's manuals along with suggestions for sequencing stories according to the readability level.

Najadat (1999) conducted a study to analyze the content of literary text and reading textbooks for the eighth, ninth, and tenth grades in the elementary education, in the light of the readability of (the word, sentence, idea, and style). Population of the study consisted of the three text and reading textbooks taught to eighth, ninth, and tenth graders in the elementary education. A sample of eleven texts was used, so findings were:

1. The most common in the study textbooks were factors of word field, with 80.76%, 80.76%, 86.99%, 84.37% for textbook of the eighth, ninth, and tenth grade levels respectively.
2. Factors of sentence field come next in terms of its textbooks of eighth, ninth, and tenth grade levels respectively.
3. Style field factors come thirdly with 4.15%, 1.07%, and 1.38% for textbooks of eighth, ninth, and tenth grade levels respectively.
4. Ideal field factors came finally with 4.32%, 0.99% and 0.95% for textbooks of eighth, ninth, and tenth grade levels respectively.
5. Findings revealed that there was not found a balance or graduation in word, sentence and style fields, while a balance or graduation seems to be found in the idea field.

Rawashdeh (1995) conducted a study aimed at investigating the readability level and the degree of student's involvement in the seventh grade Loughatuna Al Arabiyya Textbook.

Cloze test was used to measure the textbook readability level. The population of the study consisted of two types of populations. The first one consisted of all seventh male and female grades enrolled in the public schools in Karak Education Directorate for the academic year 1995/1996. There were (4530) students distributed over (190) sections in (129) schools. The second consisted of the seventh grade textbook "Loughatuna Al-Arabiyya" which included (18) lessons.

The sample of the study consisted of two types. The first one consisted of (594) male and female students distributed over (23) sections in (18) schools. The second one (topic sample) consisted of four prose texts for the readability; and ten pages for the presentation of the instructional material, ten pages for the suggested activities and three summaries to determine the student's involvement.

The degree of the student's involvement through the presentation of the instructional material was 52%, through the activities 40% and through summaries (zero).

The percentage findings showed that the readability level in Loughatuna Al Arabiyyah was low; and the student's involvement through the teaching material and the activities was appropriate. This gives student' chances to be involved, and encourages inquiry and investigation on their part. However, summaries didn't include the minimum of the student's involvement.

Ali (1994) tried to answer the following two-part question, Does the language of the reading text influence the comprehension ability of Jordanian EFL students? And, what type(s) of language make(s) Jordanian EFL students score better on a test based on a reading comprehension text? The population of the study consisted of all the 12th-grade female Jordanian literary stream intermediate-proficiency students of government schools in the educational directorates of Al-Karak, Al-Mazer, and Quasser for the academic year 1993/1994. The sample of the study consisted of 120 female 12th –grade literary intermediate-proficiency students chosen randomly by using the simple random sampling technique. These students were chosen from 17 sections in 10 female schools in Al-Karak district; each of the chosen sections had at least 25 students.

The researcher developed and employed a cloze-test that consisted of 25 gap-filling items. This test was employed to identify the intermediate proficiency students (i.e., those who scored 40% to 60%).

The study has shown the following findings:

1. There were statistically significant differences ($P>0.01$) in the achievement mean scores between the group that read the original text and the group that read the lexically simplified text in favor of the second group.
2. There were statistically significant differences ($P>0.01$) in the achievement mean scores between the group that read the original text and the group that read the lexically and syntactically simplified text in favor of the second group.
3. There were statistically significant differences ($P>0.01$) in the achievement mean scores between the group that read the original text and the group that read syntactically simplified text in favor of the first group.
4. There were statistically significant differences ($P>0.01$) in the achievement mean scores between the group that read the syntactically simplified text and the group that read the lexically and syntactically simplified text in favor of the second group.

Nuqrush(1991) in his study aimed at determining the readability level of Loughatuna Al-Arabiyya for sixth grade, The findings of the study revealed that the readability level of the textbook is suitable for the students and there is no difference in the readability level due to the gender.

Jadaan(1989) conducted a study in Jordan aimed at measuring the readability level of the texts in Loughatuna Al-Arabiyya for the fifth grade and to determine the difficulty of the texts in the textbook. The results of the study showed the following findings: (22.03%) of the students were in the instructional level, (50.76%) of the students were in the independent level, and (27.2%) of the students were in the frustrational level. And the texts was not ordered from the easiest to the most difficult, so it need to be reordered.

The origin of the cloze test is to Taylor (1953), who used it as a tool for testing readability of native language passages. Bormuth (1964) employed cloze test as a measure of reading ability of native speakers. The cloze test is employed as an instrument for testing the readability and appropriateness of material for (ESL) learners. Several studies had been conducted using cloze test a measure of ESL/EFL global proficiency (Gamroff 1997, Fotos 1991, Turner 1988).

Gamaroff (1997) examined the usefulness of a cloze test for assessing levels of language proficiency. The sample consisted of (80) seventh grade subjects who were divided in terms of whether they take English as a first-language course subject or a second-language school subject at Mmabatho high school in south Africa. Two cloze tests from Pienaar's(1984) pilot survey "Reading for meaning" were used to asses the level of grade (7) pupils. Results indicated that the two cloze tests were valid and an indicator of global proficiency.

Staphorsius (1994) in his study has selected the mean cloze score as a measure of readability. The predictions which were used in this study were indicators of lexical and syntactic complexity. The predictors included in the equation resulting from the multiple regression analysis were the average word length in letters, the percentage of frequent words, the percentage of types in the first 250 words and the number of sentences per word ($R=0.85$). Using the 250 regression equation (readability formula), it was possible to determine the relative readability of texts though not the absolute readability. The average Cloze Score of a text is not the average score of readers of the text. Therefore, a supplementary criterion of readability is necessary.

Fotos(1991) used the cloze procedure test to measure the English as a second language (ESL) proficiency of Japanese college students(English majors and non majors). The study suggested that well-designed cloze tests could be useful in integrative language proficiency. Results also revealed that cloze test correlated significantly with an essay test and improved prediction of ESL proficiency.

Turner (1988) investigated the underlying factor structure of second language cloze test performance as explained by a theoretical model including four hypothetical constructs: cloze-taking ability; knowledge language; content domain; and knowledge of contextual constraints. One hundred eighty two Francophone, university level students were given (8) cloze tests that reflect the posited factors. A model building process which included model fitting and model comparison was used to examine the factors. Results indicated that cloze performance is dependent upon language factors

(second language and first language factors) and non-linguistic specific knowledge related to cloze-taking ability that crosses over linguistic boundaries. Cloze had been considered as an overall second Language proficiency level.

Tousi, Fatima, and Oller, (1980) conducted a study that aimed at measuring the English proficiency of Iranians in the United States and uncover the factors that contribute to the attainment of proficiency in English, gave fifty five undergraduate and graduate Iranian male students at the university of New Mexico two cloze tests and two dictations for English proficiency. The subjects completed a (21) item questionnaire designed to elicit on factors believed important to the acquisition of proficiency in English. The findings indicated that English proficiency of the Iranian fell between levels achieved by fourth and seventh grade native speakers. In addition, results indicated that the most important variables that affect the acquisition of proficiency in English were the association with American friends and the amount of time spent in the United States.

Most of these studies use different readability formulas to study the readability level such as: the Fry readability graph, the Flesh formula, the Klare's formula, Chall and Dale formula and the Cloze test procedure. In this study the researcher used the cloze test and Bormuth formula.

Design and Methodology

This chapter deals with the design of the study. The main focus was on the population, sample, and instrumentation, variables of the study, procedures for collecting data, and data analysis procedures.

Population of the Study

The population of the study consists of all the tenth grade students in public schools in Tafila during the academic year 2006/2007. The population consists of (1630) students divided as follows:

1. (832) Male students
2. (798) female students.

The second population consists of tenth grade English textbook "Jordan Opportunities" which include (12) passages that consist of (250) words or more

Sample of the study

The researchers used the random sample in choosing the schools in which they conducted their study. The researcher chose (2) female schools and (2) male schools randomly in the three areas of residence(City, Village, and Badia). In each of these schools, class was the unit of selection. The selection of one section in each school was also randomly. Thus the sample of the study is divided to two types. The first one consists of: (308) male and female students distributed over (12) sections in (6)schools.

1. Bosaira: (52) male students and (46) female students. (Village)
2. Tafila: (63) male students and (39) female students. (City)
3. Al Hassa: (47) male students and (61) female students. (Badia)

The second one (topic sample) consisted of 12 passages from the tenth grade English textbooks. (All the passages that consist of (250) words or more).

Material

The researcher selected (12) reading passages from the tenth grade textbook. The passages were about:

1. Eco-campaign.
2. Home In Space.
3. Come to Gadara!
4. Christopher Reeve.
5. Eating In Britain.

6. Memories of Ramadan.
7. The Martyrs' Memorial.
8. Who wants to be a millionaire?
9. Scotland.
10. The Future of Cyberspace.
11. Auckland New Zealand.
12. New Zealand Factfile.

Research Instrument and procedures

A CLOZE TEST: The researchers as mentioned previously, chose twelve passages from the tenth grade textbook. These passages were typed each on a single sheet of paper, and every fifth word was "CLOZED", that is, every fifth word was omitted, and in its place was an underscoring. Each underscoring was of uniform length (about 12 typewriter spaces). The passage which was selected was of utmost importance. It must come very close to being representative of the book. Each passage is 250 words long and need not end with the last word of a sentence. The passage is the first 250-word passage of continuous writing that is found on or after the designated page number. Each fifth word was closed to the end of the sentence in which the 250th word occurs. Only the first 50 closures were scored. The passages that consisted of less than (250) words were excluded.

The passage was typed on a single sheet of paper. The closed passage was reproduced so that all students had their own copy, and they fill in the blanks. Numbers and answer sheets cannot be used, for this would invalidate the results. (Each blank filled in serves as a clue to another blank. An answer sheet would make these clues more difficult to recognize). The procedure to select the representative passage is as follows: each of the twelve passages was given to at least 25 students. Here the researcher used 3 female classes, so each student will be given only two passages. The same with male students.

After each passage had been scored, the mean average for the passage was computed by adding all of the percentage scores and dividing by the number of students who were tested on the passage. Next the mean of means was computed. The passage whose mean was closest to the mean of the mean was selected as representative of the book.

Now all students were given the selected passage at the same time (see appendix 3). The (308) students were asked to write in the exact word that has been omitted. There was no time limit. The percentage score a student receives was used to determine his or her reading level for the passage:

- 58% - 100% correct –independent level
- 44% - 57% correct – instructional level
- 0% - 43% correct- frustrational level.

The results of the students on the cloze test at the first stage to choose the representative passage were as follows:

Passage	Mean
1-Home in Space	11%
2-Come to Gadara!	19%
3-Eco-campaign	15%
4-Christopher Reeve	12%
5-Eating In Britain	18%
6-Memories of Ramadan	14%
7-The Martyrs' Memorial	18%
8-Who Wants to be a Millionaire?	17%
9-Scotland	9%
10-The Future of Cyberspace	16%
11-Auckland* New Zealand	10%
12-New Zealand Factfile.	21%

$$\frac{11+19+15+12+18+14+18+17+9+16+10+21}{12} = 15\%$$

The above mentioned table shows that the mean of means is (15%). The first passage (Eco-campaign) had the same mean 15%; therefore, it was selected as a representative passage of the tenth grade English textbook.

Statistical Analysis

The researchers used the descriptive statistics, namely the means, standard deviations and percentages of the students in the readability levels. t-test was also used to test the difference in the readability level between the males and females. One-Way analysis of variance (ANOVA) was used to test the difference between the areas. And Two-Way analysis of variance was also used to test the interaction between the gender and the area.

Validity of the test

To judge the validity of the research test, it was given to a jury of specialists on measurement and evaluation, methodology and supervisors of English Language. The jury was asked to judge the test by determining whether the researcher applies the cloze test in the proper way or not. That means; did the researcher use passages that contain more than (250) words? Did the researcher omit every fifth word? The jury agreed on the test.

Reliability of the test

The reliability of the test was computed by using Kuder- Richardson 20 formula. The result was., 72 which is an accepted percentage to conduct such a study. (This result was for the representative passage-Eco Campaign).

Procedures of the Study

The researcher used Bormuth Formula to test the readability level of the tenth grade English textbook and followed the following steps:

The researcher selected the sample of the study which is divided to two types. The first one consists of: (308) male and female students distributed over (12) sections in (6)schools.

1. Bosaira: (52) male students and (46) female students. (Village)
2. Tafila: (63) male students and (39) female students. (City)
3. Al Hassa: (47) male students and (61) female students. (Badia)

The second one (topic sample) consisted of 12 passages from the tenth grade English textbooks. (All the passages that consist of (250) words or more).

The researcher conducted the first stage of the study to select the representative passage, the passage which has the mean nearest to the mean of mean (15%) is the representative passage and it was Eco-Campaign.

Now all students were given the selected passage at the same time (the second stage). The(308) students were asked to write in the exact word that has been omitted. There was no time limit. The percentage score a student receives was used to determine his or her reading level for the passage:

- 58% - 100% correct –independent level
- 44% - 57% correct – instructional level
- 0% - 43% correct- frustration level.

The results of the study showed that the readability level of the tenth grade English textbook was very low (12.8), this result mean that the readability level was in the frustration level.

Findings and Discussions

The results to those questions will be discussed according to the questions respectively.

Results Related to the First Question

The first question: what is the readability level of the tenth grade English textbooks in Tafila?

To test the first question of the study, mean scores and standard deviations of males and females for the three areas (City, Village and Badia) understudy were used. The results showed that there was a statistical difference due to the gender and areas of residence.

Table (1) shows the means and the standard deviations of males and females for the three areas under study. Results also showed that there was a statistical difference due to the gender and area.

Table 1: Mean and Std. Deviation for the Area of residence and Gender

Area	Sex	No.	Mean	Std. Deviation
City	Male	63	13.3175	10.2104
	Female	37	17.6410	12.4277
Total		100	14.6100	11.0608
Village	Male	52	10.9808	9.8488
	Female	46	16.1522	12.4953
Total		98	13.4082	11.4088
Badia	Male	47	8.1123	8.2521
	Female	61	11.8852	11.2251
Total		108	10.2407	10.1722
Total		308	12.8149	11.0822

The results showed that there were (308) students (Male and Female) the mean of their achievement on the cloze test was (12.8), that means they are in the frustration level. To be in the frustration level means that students can not understand the text even with the help of their teachers.

The student's results were very low and categorized in the frustration level. It could be attributed to the lack of training programs that are planned for EFL teachers in Tafila district, as well as to instability of the teacher's experiences especially the male teachers, and that can be noticed clearly from the table. Also, the researcher attributes that the lack of exposing students to authentic situations and to native speakers, which may affect on their comprehension.

In the researcher's perspective, the low main scores of these results could be traced back to the un-functionality of the passages according to the Jordanian environment.

The results of the first question agreed with the results in the study of Rawashdeh(1995) in which the percentage findings showed that the readability level in Loughatuna Al Arabiyyah was low.

On the other hand the results disagreed with the results in the study of Nuqrush(1991) relating to the suitability of the reading level. Results also disagreed with Jadaan(1989) because results in his study showed that most of the students are in the instructional level.

Results related to the second question:

Question two: is there a relationship between the readability level of tenth grade English textbooks and the gender of the students?

Table 2: t- test for testing the differences between males and females

Means		Std. deviations		t-value	degrees of freedom (df)	P-value
Male	Female	Male	Female			
11.0556	14.7671	9.7403	12.1406	-2.972	306	.003

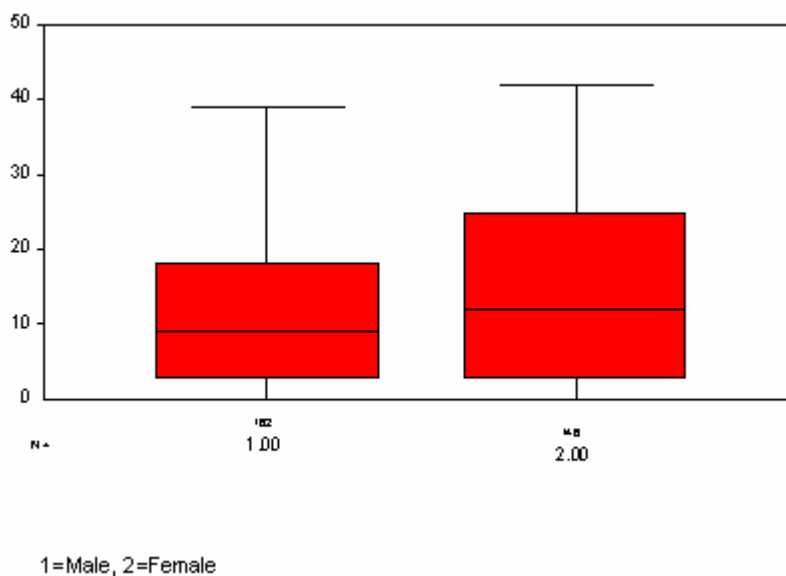
Hypothesis testing involving the difference between two population means is employed to determine that the two population means (males (M) and females (F)) are unequal, so the results shown in table (2) indicate that at $\alpha = .05$ (Significant level) there is significant difference in the means of performance between males and females in favor of the females.

This difference could be attributed to many reasons, first of all, "female students are more serious than males. Also, neurologists believe that females acquire or comprehend language easier than males". Arabski(2000)

According to the researcher's experience as a school headmistress, in the Ministry of Education, she claim that male teachers don't prefer working in Tafila Educational Directorate which may have an effect on the student's achievement during the starting period of the year, also, female students try to enroll supportive courses in English language during their vacations; whereas, males tend to refuse to enroll in such courses.

Results related to the second question disagreed with Nuqrush(1991) which shows that there is no difference in the readability level due to the gender.

Figure 1: Box plot to show the difference in the readability level between the males and females



Results related to the third question

Question three: is there a relationship between the readability level of tenth grade English textbooks and the region of the students?

Table 3: Means and std. deviations for students' achievements according to the Areas of residence.

Area of residence	No.	Mean	Std. Deviation
City	102	14.9706	11.2500
Village	98	13.4082	11.4088
Badia	108	10.2407	10.1722
Total	308	12.8149	11.0822

Table (3) shows that the total means was (12.81490), the highest means was (14.9706), the med means was (13.4082) and the lowest was (10.2407) of the city, village and badia respectively. These can be attributed to many reasons: well qualified teachers are provided to cities and also those of long teaching experiences can be found either in cities or in villages, in addition, the city schools are always well equipped with infrastructure, labs and educational centers. To test for the differences between the

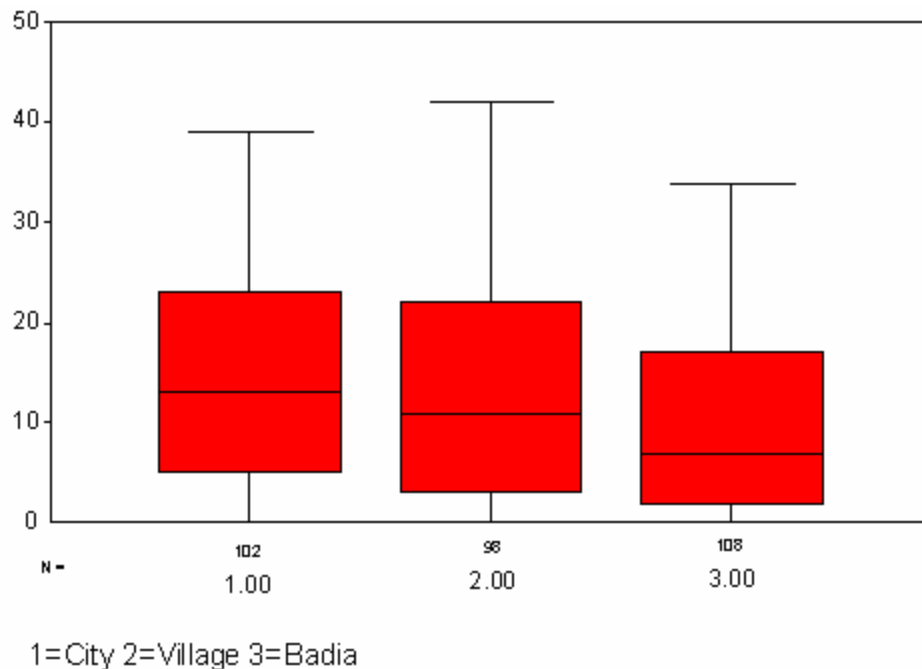
means achievement of the student in the areas One-Way analysis of variance can be used, table (4) is the ANOVA table.

Table 4: One- Way analysis of variance (ANOVA) for testing the difference between the means achievement of the students in the areas.

Source of variation	Sum of squares	df	Mean squares	F-value	P-value
Between Areas	1224.125	2	612.063	5.117	.007
Within Areas	36480.326	305	119.608		
Total	37704.451	307			

From table (4) it is concluded that the three means of the students’ achievement are not equal (i.e. reject H_0) at $\alpha = .05$ since $P\text{-value} < .05$, in this case least significant difference (LSD) multiple comparison is used to test the hypotheses that all possible pairs of population means are equal, the result of this comparison the students achievement in the city and village are the same but in the badia their achievements are lower. These results agreed with the results in Rawashdeh(1995).

Figure 2: Box plot for the achievement of the students in readability level in the three areas



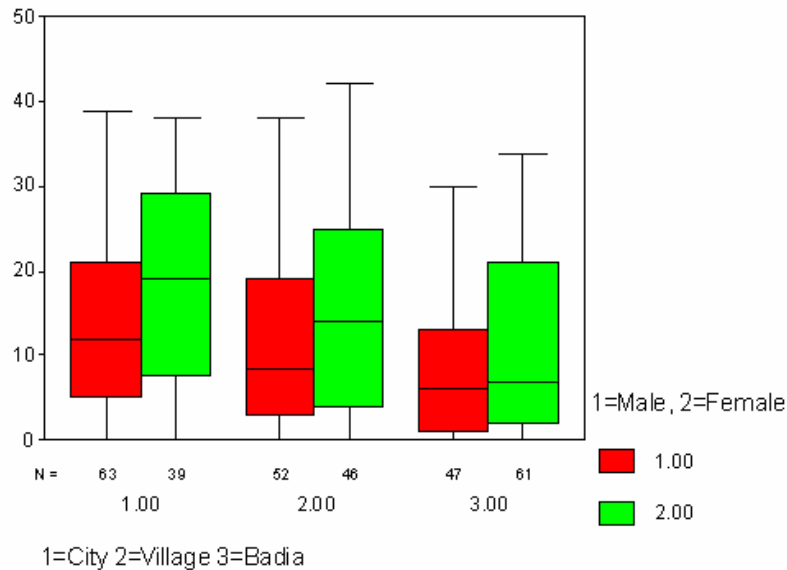
Question four: Is there an interaction between the gender of the students and their Area of residence in the readability level of tenth grade English textbook?

Table 5: Two- Way analysis of variance (ANOVA) for testing the interaction between gender and Area of residence.

Source of variation	Sum of squares	df	Mean squares	F-value	P-value
Area	1579.861	2	789.931	6.816	.001
Sex	1466.407	1	1466.407	12.654	.000
Sex*Area	24.904	2	12.452	.107	.898
Error	348998.206	302	115.888		
Total	37704.451	307			

Table (5) shows that there's an effect of the area on the students readability level, and also there's an effect of the gender of the students on the readability level. Also, the table shows that there's no interaction between sex and area.

Figure 3:



Box plot for the achievement of the students in the three areas for male and females. It is clear from the results stated above that the readability level of the tenth grade English textbook was very low (12.8) and it is categorized in the frustration level. The readability level in general can be categorized in three levels:

- 58% - 100% correct –independent level
- 44% - 57% correct – instructional level
- 0% - 43% correct- frustration level.

The results of the study showed that the readability level in this study ranges between (14.6) in the city (13.3 for males and 17.6 for females), and (13.4) in the village (10.9 for males and 16.1 for females), and finally in the Badia it was the worst results (10.2) 8.1 for males and 11.8 for females. The results in general were very low. According to the effect of gender, the results showed that there is a difference between male and female students in favor to the females. The results of the study showed that there is a difference between the areas of residence in favor to the city and village but the Badia was the lowest. The results also showed that there were no interaction between the gender of the students and the area.

Recommendations

The study recommends that the Ministry of Education in Jordan should put plans to change the passages that the tenth grade English textbook include because they are not suitable for the level of the students and do not stem from the students culture and daily life.

Ministry of Education should pay much more attention to the reading skill from the beginning of teaching English for the basic stages. Students should be taught on the different strategies of reading to enhance comprehension and utilize productive skills. Teachers also should be well trained on how to develop reading habits.

The researcher recommends other researchers to conduct further studies on readability.

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An Update on the Polish Economy: Meeting the Criteria for a “Normal Country”

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“The country is brimming with optimism, according to a survey entitled Current Problems and Events conducted late 2007 by Poland’s CBOS polling center.... An overwhelming majority of Poles believe that the new year will bring a greater sense of well-being and that the quality of life will improve everywhere around the world.”¹

Abstract

This paper is an update on the Polish economy. It describes the economy in both macro and micro terms, within the context of recent political developments. The paper describes the “main drivers” in the Polish economy, important growth elements, and major economic indicators, including employment figures, export figures, and relevant data from the Warsaw Stock Exchange. The paper concludes with an outlook for 2008-2009 and includes commentary on both positives and negatives in the Polish economy and in Polish society.

General Commentary

The *Financial Times* reported that there were five main “economic drivers” at work in the Polish economy in 2007-2008:² *strong investment*, including that from abroad in the form of FDI; *a major increase in EU aid* that came with accession but has yet to start flowing in any real terms; the heavy boost to *infrastructure spending* that “Brussels” will help finance (including expenditures linked to hosting the 2012 European football championships³); *rising employment and wages* especially among the current cohort of young people in their 20s; and the *growing contribution of Polish “migrant workers”* bringing money home.⁴

Both 2006 and 2007 can now be considered as “banner years” for the Polish economy. As reported last year at the annual meeting of the Polish Institute of Arts and Sciences, Poland’s gross domestic product or GDP (the total amount of goods and services produced in the Polish economy within a one year period) in 2006 increased by an impressive 6.2 percent. GDP per capita, measured in

¹ Adapted from Witold Zygulski, *Warsaw Voice-Society*, January 13, 2008, p. 10 (reporting on a recent CBOS poll). The Centrum Badania Opinii Społecznej (CBOS) (Centre for Public Opinion Research) is an opinion-polling institute in Poland, based in Warsaw. It was originally established in communist Poland in 1982 and since 1997 has operated as a non-profit public foundation created by a special law (*Ustawy o fundacji Centrum Badania Opinii Społecznej z dn. 20 lutego 1997 r., Dz.U. nr 30, poz. 163*).

² See Jan Cienski, “Polish economy grows 6.5%,” *Financial Times* (on line), January 30, 2008.

³ See Konrad Baginski, “Spur to Action,” *Polish Voice*, December 2007, p. 5 (outlining expected improvements in roads, airports, trains, hotels and tourism, and stadiums as a result of *Euro 2012*).

⁴ Indeed, “the Polish Central Bank said the two million Poles who left home to work elsewhere in Europe sent home at least £3 billion (\$4.2 billion) in 2007 via money orders and electronic financial transactions.” Reported by Allan Hall, “Poles send home £1.8 billion to start a boom in Warsaw,” *Daily Mail* (on line), January 5, 2008.

purchasing power parity (PPP), now stands at \$16,200.⁵ According to data released by GUS (Central Statistical Office), growth for 2007 registered an increase of 6.5 percent.

One of the reasons for this sustained and impressive economic growth may be attributed to from major developments in the political arena. The seemingly contradictory “conservative-liberal” Civic Platform or the PO⁶ won an unexpectedly decisive victory in the parliamentary elections held on October 21, 2007. While the PO fell short of winning an absolute parliamentary majority, it nevertheless claimed a clear mandate for change in the political arena. The PO took 41.39 percent of the vote (adding 76 seats to its 2005 total), to 32.16 percent for the PiS,⁷ 13.2 percent for the Left and Democrats (LiD),⁸ and 8.93 percent for the Polish Peasants’ (People’s) Party or PSL. As a result of the elections, a coalition of Civic Platform (with 209 seats) and the Polish Peasants’ Party (with 31 seats) formed a government with a working majority in the *Sejm*.⁹ Failing to meet the legally required electoral threshold of five percent were former PiS coalition partners, Andrzej Lepper’s populist *Samoobrona* (1.54 percent) and Roman Giertych’s nationalist and ultra-Catholic League of Polish Families (*Liga Polskich Rodzin*, LPR) (1.3 percent). To the surprise of many observers, overall election turnout was 53.79 percent—the highest percentage of voters in the last six parliamentary elections. In the Senate, the PO will hold 60 seats and PIS will hold 39, with one seat being occupied by an independent.

Concerning issues that might arise in the economic sphere, the PO committed itself in its election campaign to lower taxes, raise public-sector salaries, and bring down the budget deficit. However, it is not clear how far the PSL is also committed to these objectives. Interestingly, the new Minister of the Economy and Deputy Prime Minister will be the more populist Waldemar Pawlak of the PSL who served twice before as Prime Minister (1992, 1993-1995).¹⁰

⁵ The 2007 *CIA World Factbook* places Poland’s PPP for 2007 at \$14,100, with a ranking of 63rd place in world economies. See www.photius.com/rankings/gdp_per_capita2007_0.html (last accessed February 24, 2008). The United States ranks 9th, with a PPP of \$43,500.

⁶ Civic Platform (*Platforma Obywatelska*, PO) is a traditional European Christian-Democratic and hybrid “liberal-conservative” political party. It combines traditional liberal—essentially free market—stances on the economy with conservative stances on certain social and ethical issues, including continued opposition to abortion, gay marriage, euthanasia, and fetal stem cell research. While the new government may be as conservative as the prior one, many Polish voters hoped that the PO would at least be more *tolerant* of opposition views.

⁷ Law and Justice (*Prawo i Sprawiedliwość*, PiS) was established in 2001 by the Kaczyński twins, Lech, the current President of Poland, and Jarosław, former Prime Minister and current PiS leader. Many PiS members were once closely associated with the now defunct Solidarity Electoral Action coalition (*Akcja Wyborcza Solidarność*, AWS) or the Movement for Reconstruction of Poland (*Ruch Odbudowy Polski*), both active in prior parliamentary election cycles, representing elements of the Solidarity Trade Union Movement (*NSZZ- Niezależny Samorządny Związek Zawodowy-“Solidarnosc”*).

⁸ Left and Democrats (*Lewica i Demokraci*, LiD) is a center-left political coalition in Poland. The coalition was formed by four political parties in order to compete specifically in the 2007 parliamentary elections:

- Democratic Left Alliance (*Sojusz Lewicy Demokratycznej*, SLD—the successor to the Polish United Workers’- PZPR, *Polska Zjednoczona Partia Robotnicza* or Communist Party);
- Social Democracy of Poland (*Socjaldemokracja Polska*, SDPL);
- Labour Union (*Unia Pracy*, UP); and
- Democratic Party (*Partia Demokratyczna*, PD).

The LiD was headed by former Polish President Aleksander Kwasniewski (1995-2005) who announced his “retirement from Polish politics” soon after the disappointing parliamentary election results were announced.

⁹ For a discussion of new government in Poland under Prime Minister Donald Tusk, see Witold Zygulski, “New Government, Old Conflicts,” *Warsaw Voice*, November 25, 2007, pp. 6-7. Officials of Civic Platform said President Kaczynski had tried to block Prime Minister Tusk’s appointment of Radek Sikorski as foreign minister and Zbigniew Cwiakalski as justice minister. Sikorski, who became a member of the conservative American Enterprise Institute in Washington, had at one time served as defense minister in President Kaczynski’s government. He resigned in February 2007 after clashing with the Kaczynski brothers over the terms under which Poland would deploy a part of the U.S. antimissile system. Law and Justice leaders called Sikorski a “traitor” when he joined Civic Platform. When Tusk nominated Sikorski to assume the position of foreign minister, President Kaczynski, who has the constitutional power as president to block cabinet appointments, contended that Sikorski was a “danger to the nation’s security” and that the security services held “secret files” on him. Evidence to support that allegation was never produced. The President also tried to keep Cwiakalski out of the cabinet, but again no evidence was offered to support accusations that Cwiakalski was a security risk. See Judy Dempsey, “Cabinet takes shape in Poland,” *The International Herald Tribune*, November 15, 2007, p. 4. Principal government officials in Poland (with their political party affiliations) include President, Lech Kaczynski (PiS), Prime Minister, Donald Tusk (PO), Deputy Prime Minister, Waldemar Pawlak (PSL), Deputy Prime Minister and Minister of Internal Affairs and Administration, Grzegorz Schetyna (PO), Minister of Foreign Affairs, Radek Sikorski (PO), Minister of Defense, Bogdan Klich (PO), Minister of Finance, Jacek Rostowski (non-party), Minister of Treasury, Aleksander Grad (PO), Minister of Science and Higher Education, Barbara Kudrycka (PO), Minister of Education, Katarzyna Hall (PO), Minister of Agriculture, Marek Sawicki (PSL), Minister of Environment, Maciej Nowicki (non-party), Minister of Health, Ewa Kopacz (PO), Minister of Culture and National Heritage, Bogdan Zdrojewski (PO), Minister of Infrastructure, Cezary Grabarczyk (PO), Minister of Justice, Zbigniew Cwiakalski (non-party), Minister of Labor and Social Policy, Jolanta Fedak (PSL), Minister of Regional Development, Elżbieta Bienkowska (non-party), Minister of Sport, Mirosław Drzewiecki (PO), and Member of the Council of Ministers and Minister without Portfolio, Zbigniew Derdziuk (PO).

¹⁰ The Polish People’s Party (*Polskie Stronnictwo Ludowe*, PSL, often translated as Polish Peasants’ Party) traces its origin to an agrarian political party in then Austro-Hungarian-controlled *Galician Poland*, which sent representatives to the parliament in Vienna.

Slawomir Majman, political columnist for the *Warsaw Voice*, insightfully commented on the importance of the fall 2007 parliamentary elections. Majman noted the following:

- Poland will be “no more and no less” conservative than before the elections—“only the type and quality of conservatism will change”;
- Poland has opted for strong and powerful (and potentially independent) parliamentary government;
- Poland effectively issued a “red card” to the PiS, the winners of the previous election, and the party of Poland’s President, Lech Kaczynski;
- The PiS will nevertheless be a powerful voice of opposition in Polish political life; and
- Poland is essentially a “normal country”—“Poland is a peaceful and stable democracy which can cope very well with its own problems.”¹¹

Economic Indicators and Factors¹²

“In Warsaw, shoppers lug home bags stuffed with Hugo Boss suits and Prada dresses below the glass skyscrapers and cranes that tower over construction sites that are swarming with workers.”¹³

According to Stefan Wagstyl, writing in the *Financial Times*, “The main driver is domestic demand with Polish consumers spending money as never before, while companies are expanding investment at nearly 20 per cent a year. Construction is booming, as are consumer services from drycleaners to travel agencies.”¹⁴

The Main Statistical Office in Poland (GUS) likewise attributed the high and continued growth in the Polish economy in 2007 to strong production and construction, particularly in residential building.¹⁵ The National Bank of Poland (NBP)¹⁶ reports that *investment* spending increased by 20 percent in 2007 over 2006. Because of two factors—the influx of foreign direct investment and the infusion of European “structural funds”—investment should continue to grow by 10 percent in the near term. In fact, Poland still maintains a reservoir of zł.19 billion to spend from EU funds it was allocated for the 2004-2006 period. Polish businesses and consumers spent a total of more than \$8 billion on consumer hardware, software, and IT services in 2007—a figure that is expected to rise by 12.8 percent annually over the next five-year period. Business bankruptcies were down by 24 percent over 2006. Overall, *domestic consumption* rose by 8.6 percent in 2007 and is projected to rise by 6.5 percent on the average in the future. Retail sales are expected to rise by 15 percent in 2008 over 2007. However, goods will be more expensive in 2008 than in 2007. The Ministry of Finance projects that prices will rise 2.3 percent in 2008, with cigarettes (+15 percent) and electricity (+5-10 percent) leading the way.

Other economic indicators are also worth noting. Poland’s current *labor force* amounts to 17.01 million. The breakdown of the labor force indicates 16.1 percent involved in agriculture; 29 percent in industry; and 54.9 percent involved in services. As reported by the *Economist*, “The stock of vacancies in the labor market fell slightly (year on year) in September 2007, causing some observers to conclude that the labor market had peaked.”¹⁷

The Labour Ministry recently noted that *unemployment* is once again on the rise, as Poland’s unemployment rate climbed in January to 11.8 percent from 11.4 percent in December. The rate of joblessness in Poland, which was 15.1 percent in January 2007, had been falling throughout 2007 and

¹¹ Slawomir Majman, “The Night After,” *Polish Voice*, October 28-November 4, 2007, p. 24.

¹² Economic statistics were reported in Andrzej Ratajczyk, “Economy: Optimistic Forecasts,” *Warsaw Voice*, January 13, 2008, p. 27. Statistics were also drawn from the *CIA Factbook* (on line), February 2008, available at www.cia.org/the-world-factbook.

¹³ Ryan Lucas, “Consumer boom spurs Polish economy,” at www.boston.com (June 11, 2007) (the website of the *Boston Globe*).

¹⁴ “Report-Poland,” December 12, 2007, p. 2.

¹⁵ See, e.g., GUS, “Information on socio-economic situation of the country- January 2008,” February 25, 2008, available at <http://www.stat.gov.pl/english/index.htm>.

¹⁶ For a detailed discussion of the NBP and the role of its former President, Leszek Balcerowicz, see Richard J. Hunter, Jr. & Leo V. Ryan, C.S.V., “A Primer on the National Bank of Poland: A Central Institution in the Transformation Process,” *European Journal of Economics, Finance, and Administrative Sciences* (on line), Vol. 1, No. 1 (2005).

¹⁷ “Country Forecast,” *Economist Intelligence Unit*, November 14, 2007.

in fact had receded to 11.2 percent in November 2007. According to Ministry of Labour data, out of 38 million Poles, 1.81 million were unemployed at the end of January, up from 1.75 million a month earlier. While the minimum wage is scheduled to rise to zł.1,128¹⁸ or approximately \$453 per week, costs incurred by employers will actually *fall* by 2 percent, as obligatory social insurance contributions made by employers on behalf of their employees will be lowered from 6.5 percent to 4 percent of employees' gross monthly wages, with employees individually paying 1.5 percent of their gross wages as a social insurance contribution.

The current labor market presents quite an anomaly. At the same time that unemployment may rise, the *Warsaw Voice* reports that businesses “will have problems recruiting new employees...” It should also be noted that the average gross monthly wage is expected to rise by 3.6 percent from 2007 to zł.2,843 or approximately \$1,141 per month or \$13,688 per year! State-funded pensions are set to rise by 5.6 percent in 2008. On the negative side, 17 percent of Poland's population is said to fall *below* the poverty line.

In 2007, *stock market* turn-over reached an all-time high of zł.482 billion, an increase of 40 percent over 2006 and market capitalization soared to zł.1.08 trillion, including zł.510 billion in domestic stock and zł.570 billion in foreign stock. At the end of 2007, a total of 351 companies—including 23 foreign companies—were listed on the Warsaw Stock Exchange's main market,¹⁹ with 81 new companies marking their debut in 2007 alone.²⁰ In addition, in the first three quarters of 2007, Poland's 10 biggest banks posted a combined net profit of over zł.8.5 billion.²¹

Export growth was more rapid than import growth for the first time since March 2006, contributing to a slight year-on-year fall in the current-account (trade) deficit. Since Poland joined the EU, its overall exports have grown by more than 30 percent, with exports to Russia alone increasing by more than 75 percent. During this time, Poland's trade balance has continued to improve, with export growth significantly outpacing import growth. The share of foreign trade in terms of Poland's GDP is nearly 75 percent. Poland's top three export partners are Germany, France, and Italy. The commodities mainly exported are vehicles, machinery, electronic equipment, furniture and beddings, and mineral fuels and oils. Poland's top three import partners are Germany, Russia, and Italy. Poland mainly imports machinery, mineral fuels and oils, electronic equipment, vehicles, and plastics,²² categories indicating strong cross-border trading policies.

Outlook for 2008-09²³

Based upon the factors described above, we will attempt to summarize the main points of the outlook for the Polish economy and society in 2008-2009:

- The prospects for political stability have improved markedly following the victory of the “conservative-liberal” Civic Platform (PO) in the October 2007 parliamentary elections. “The time of the Polish twins” has certainly passed!
- The new government of Prime Minister Tusk enjoys good *short-term* prospects, but populist demands from the Polish Peasants' Party (PSL), clearly the junior member of the coalition government, but still holding a powerful negotiating position, may mean that the government may not survive a full five-year parliamentary term.

¹⁸ At the point of the initial research for this paper, the NBP Exchange rates were 1 USD = zł.2.4511 (January 7, 2008). An update will be given at the June 2008 meeting.

¹⁹ See the website of the Warsaw Stock Exchange, “Information and Statistics,” at <http://www.gpw.pl> (last visited February 12, 2008).

²⁰ See Jan Cienski, “Warsaw has designs on being central European financial hub,” *Financial Times*, January 15, 2008, p. 25. The Warsaw Stock Exchange is itself a candidate for privatization in 2008, although it is currently 98 percent owned by the Polish government. See “Poland weighs bourse sale,” *International Herald Tribune* (on line), January 8, 2008, p. 16.

²¹ For an interesting discussion of the current banking situation, see Michal Jeziorski, “Banking Bonanza,” *Warsaw Voice*, January 13, 2008, p. 29. The article contains a description of the changes that occurred in the banking sector since the early 1990s. For a listing of the major Polish banks, see “Poland Banks and Banking Sites in Poland,” at www.worldwide-tax.com/poland/polinvestbanks.asp (last accessed February 25, 2008).

²² Federation of International Trade Associations (FITA), at www.fita.org/countries/Poland/html (February 11, 2008).

²³ Adapted from “Country Forecast,” *Economist Intelligence Unit*, November 14, 2007.

- The new government will certainly adopt a more “liberal approach” to economic policy than did its predecessor, but radical changes in approach are highly unlikely. Similar to the political sphere, Poland seems to have entered into a period of economic stability, regularity, and relative calm.
- However, the Tusk government will be more positive about Poland's entry to European economic and monetary union (EMU) with the adoption of the Euro.
- Economic growth is set to slow from an estimated 6.5% in 2007²⁴ to 5.2% in 2008 and 4.4% in 2009 as external demand weakens and tighter monetary policy in the form of an increase in key interest rates to 5.25 percent by the Monetary Policy Council (RPP)²⁵ weighs on domestic demand.
- Rapid wage growth and higher food prices will push up consumer price inflation from an estimated 2.2% in 2007 to 3% in 2008 (previously estimated 2.8%).²⁶ Weaker demand pressures should allow inflation to fall slightly in 2009.
- The current-account deficit will again continue to widen gradually, rising from an estimated 4.3% of GDP in 2007 to 4.9% of GDP in 2009.

Some Positives and Negatives

The Federation of European Employers is “bullish” on Polish prospects. The *FedEE* provides an objective evaluation of investment risk in twenty-seven European Union countries, plus Iceland, Norway, Switzerland, and Turkey from the perspective of *human resources*. The survey is based upon fifteen individual factors relating to labor supply, human capital, employee relations, inflationary pressures, labor costs, and labor flexibility. Poland ranked number one in the “Top Five Category” in 2007, above Denmark, Slovenia, Switzerland, and the United Kingdom. Poland's only negative score was found in its level of Internet skills.²⁷

This is not to say that there are not some negatives on the horizon as well. According to the World Bank's *Doing Business Survey 2008*, Poland slipped to 74th place among the 178 countries in the survey in terms of the overall ease of doing business. Poland surprisingly ranked below Estonia (17), Georgia (18), Latvia (22), Lithuania (26), Slovakia (32), Armenia (39), Hungary (45), Bulgaria (46), Romania (48), and the Czech Republic (56). According to the *Report*, which is based on ten business regulation indicators, potential areas for improvement included elimination of minimum capital requirements, speeding up of building permits, and expanding online tax payments.²⁸

In addition, Poland also ranked 61 in the world in the Corruption Perception Index (CPI)—ranking behind Slovenia (27), Estonia (28), Hungary (39), the Czech Republic (41), Slovakia (49), Latvia (51), and Lithuania (tie for 51).²⁹

²⁴ See Jan Cieski, “Polish economy grows 6.5%,” *Financial Times* (on line), January 30, 2008.

²⁵ The Monetary Policy Council (*Rada Polityki Pieniężnej*, RPP) is a body of the National Bank of Poland. In conjunction with the budget presented by the government, the MPC sets the bases of monetary policy. It sets the level of the NBP's interest rates, the rules and levels of bank's reserve obligations, and sets an upper limit on obligations resulting from loans taken by the NBP in foreign banking and financial institutions. The MPC is composed of the Chairman, who is the President of the NBP, and nine other members, selected in equal parts by the President of Poland, the *Sejm*, and the Senate. Members of the MPC are chosen to serve for six year terms. The RPP functions in a similar fashion to the Federal Reserve Board in the United States. See especially <http://www.nbp.pl> (outlining the duties and responsibilities of the Council and the members of the Council).

²⁶ The *Financial Times*, however, predicts inflation may reach 4 percent. The *International Herald Tribune* reported that inflation had reached 4.3 percent in January 2008. For a look at annualized inflation rates for January in the EU's Eastern European Nations, see “A look at inflation rates across EU's Eastern Europe nations,” at <http://www.ihf.com/bin/3-col.php?id=10186502>, February 19, 2008.

²⁷ See “Expanding into Europe: Are employees making the best decisions?” <http://www.fedee.com/countryratings.shtml> (last visited February 14, 2008).

²⁸ World Bank Group, *Doing Business 2008* (2008). The ten categories include: starting a business; dealing with licenses; employing workers; registering property; getting credit; protecting investors; paying taxes; trading across borders; enforcing contracts; and closing a business.

²⁹ The index defines corruption as the abuse of public office for private gain. It measures the degree to which corruption is *perceived* to exist among an individual country's public officials and politicians. The CPI is a composite index, drawing on 14 polls and surveys from 12 independent institutions, which gathered the opinions of businesspeople and country analysts. The scores range from ten (“squeaky clean”) to zero (highly corrupt). A score of 5.0 is the number Transparency International considers the “borderline figure distinguishing countries that do and do not have a serious corruption problem.” Poland's score was 4.2 in both 2006 and 2007. See <http://www.transparency.org> (the website of Transparency International).

Conclusions

The past nearly twenty years of “transition” in the Polish economy (1989-2008) have been both exciting and challenging. As Poland continues to progress as an essentially “normal country,” future challenges and opportunities will no doubt arise. What does seem clear, however, is that the progress that has been achieved is substantial and that “Poland’s March to the Market” is irreversible. Poland seems poised to continue on its “glide path to success” and to provide future opportunities for the Polish people to whom the dysfunctions of communism may only be a memory.

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Credit Constraint Condition and Output Supply of Cowan Farmers in Oyo State, Nigeria

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Abstract

Credit is an important factor for accelerating agricultural productivity in a typical agrarian economy. This study was carried out in three local government areas of Ibadan metropolis of Oyo State, Nigeria. A two stage random sampling technique was used to select 150 farmers that benefited from Country Women Association of Nigeria (COWAN) programme in the chosen local governments. A descriptive statistics and switching regression model were used to analyze the primary data obtained from the survey conducted.

The logit analysis result showed age, sex, farm size, level of education, marital states, contact with extension agent, land acquisition, income of household head, income of other members of the household, membership of local institution, farmers' level of saving, outstanding debt and ratio of working to non-working household members as the determinant of credit constraint condition of the sampled farmers. The switching regression model was used to determine output supply of credit constrained farmers and credit unconstrained farmers. The result showed lambda variable type of enterprise and level of education as the significant variables for credit unconstrained farmers while lambda variable, type of enterprise, farm size and method of land acquisition are the significant variables that influenced of output of credit constrained farmers. The significance of the estimated lambda shows that ordinary least square estimate of the data collected would have yielded biased estimates and therefore, switching regression model has corrected for the biasness in the data used. A test of hypothesis on difference in the value of the output for the two groups of farmers showed that credit unconstrained farmers have their output supply higher than that of credit constrained farmers.

Keywords: Credit-constrained, output supply, logit and switching regression models.

Introduction

Nigerian agriculture is characterized by low farm incomes; low level of capacity to satisfies the food and fibre needs of the country and primitive techniques of production. The environmental problems that plagued the system are soil degradation, pollution and lack of appropriate conservation policies. The task of revamping Nigeria agriculture can be achieved through combined effects of improved technology, resources availability, management and marketing expertise in agricultural business, as well as the availability of capital capable of creating economic opportunities for farmers. Therefore, it

has long been recognized that the absence of adequate credit to finance agriculture in Nigeria is one of the major impediment to the country's agricultural development process (Kusimo, 1994).

Most credit policies in Nigeria have sought to improve farmers' access to credit through supply – oriented strategies and subsidized credit institutions. However, a lot of lessons have to be learnt from wide spread failure of these state-managed credit programmes. The existence of thriving informal financial institutions for credit, savings and insurance services to all rural dwellers and the urban poor point to the fact, that there is a lot more to the utility of credit than its mere supply to stimulate demand for credit.

Researchers and policy makers have increasingly claimed that improved access to credit and savings by the poorer segments of population which consists largely of peasant farmers should increase their income level. This enables them to preserve their assets during times of hardship (seasonal fluctuation in income) and permit them to buy food during lean periods to militate seasonal poverty (FAO 1975).

In order to boost the efforts of both the institutional and non institutional credit source in overcoming the credit constraint to agricultural development in Nigeria, some Non-Governmental Organizations were established. Some of which are Farmers' Development Union (FADU), Country Women and Development (COWAD) and Country Women Association of Nigeria (COWAN). COWAN finances agricultural projects ranging from arable crops, livestock projects to marketing and processing of agricultural product. It is expected that these NGO's will provide credit to improve agricultural output supply. However, farmers under them still face one or more constraint in obtaining needed credits. This study sets out to evaluate the prospects and problems in the use of NGO'S fund for agricultural activities.

Problem Statement

Credit constraints condition has been shown to be a major cause of low level of agricultural output supply (Ijere, 1979), which eventually cummlate into low farm income. Formal sources of credit have been found to contain some ambiguities and time-consuming procedure which most times do not favour small scale crop farmers. Though, farmers resolved to use informal sources as an alternative, the size of credit available through these avenues is very small. In response to this bottleneck, NGO's (i.e. COWAN) who are service provider established themselves as agent of credit supply to the prospective farmers through strategic means (Abugre, 1993). Furthermore, efficiency of these NGO's is constrained by farmers' specific problems (illiteracy, lack of collateral and low saving). Again NGO's have limited coverage, which to some extent constrained the beneficiaries from sourcing for enough fund. Additionally, some farmers may not fall into priorities programme of these NGO's, and this caused credit constraint condition that result into low productivity (Akinterinwa, 2005). These itemized problems raise the following research questions: why are rural farmers still credit constraints after being granted loan by their NGO's? What are the factors that influenced credit constraint condition of the farmers? Is there any difference between the outputs of credit constrained and credit unconstrained farmers? What are the factors that influenced output supply of credit constrained and credit non-constrained farmers? The research questions shall be answered through the following objectives:

- i) To determine the factors that influences the credit constraint condition of the farmers.
- ii) To examine how credit constraint condition of the respondents affect agricultural output supply.

Research Hypothesis

Ho: There is no significant difference between average value of output of credit-constrained and credit unconstrained farmer.

Theoretical and Conceptual Framework

There has been a general awareness of the significance of credit as an instrument of agricultural development. Credit serves as marginal capital employed in the business by farmers, and it is used to supplement equity capital. Therefore, using credit to stimulate agricultural productivity of small-scale farmers has relevance in agricultural development.

Researches on credit constraint condition and output supply of farmers have been carried out (Feder *et al*, 1990, Freeman *et al* 1998). However, their studies were based on formal and informal sources alone, which in Nigeria have been considered least effective to the small-scale farmers. This study was carried attempt to investigate the effectiveness of NGO's in reducing the credit constraint condition with respect to output supply of the farmers. Feder *et al* (1990) explained that when liquidity is a binding constraint, the amounts and combinations of inputs used by a farmer deviate from their national optimal levels. The marginal contribution of credit is therefore to bring inputs level closer to the optimal levels, thereby increasing output supply. Freeman *et al*, (1998), stated that access to credit facilitate input level used closer to potential level when credit is not a constraint. They further suggest functioning and effective credit delivery as a panacea to reduced credit constraint condition and also improve farmers' access to additional liquidity. Guirking and Boucher (2005) in their study showed that productivity of credit constrained households is lower than that of unconstrained households. Productivity of credit constrained households depends upon their endowments of productive assets and the credit they obtained from informal lenders. Credit constraints in the formal sector adversely impact farm productivity, suggesting that the agricultural sector would benefit from a strengthening of formal institution. This study intends to examine how credit rationing constrained outputs of farmer in the study area.

Methodology

The study was carried out in three local government area of Ibadan metropolis, Oyo State, Nigeria where COWAN beneficiaries were mostly located. The major economic activities of people in these locations are farming, trading and artisans. COWAN lays emphasis on agriculture more than any other enterprise and therefore, the sample for this study was drawn from those that are primarily engaged in farming enterprises.

Primary data were collected through a structured questionnaire. A two-stage random sampling was used to select the wards and respondents in these location. In the local governments used, 150 respondents out of 800 that are on the record of COWAN were finally approached for interview and information collected from them was used for this analysis. The distribution of questionnaire to the respondents was on proportionate to size and, 78, 40 and 32 farmers from Ona-ara, Egbeda and Akinyele respectively completely filled their questionnaire.

The data collected were analyzed with descriptive statistics, Logit and switching regression models. The logit model was used in the first stage to determine the factors that affect credit constraint conditions of the selected farmers in the study area. Switching regression model was then used to correct for the sample bias which may arise from other interventions that provide multiple services to farmers in addition to credit (Madalla, 1983). Empirical application of this model to agriculture includes studies by Feder *et al* (1990); Guetz, (1992), Fuglie and Bosch (1995) Freeman *et al* (1998) and Guirking and Boucher, (2005).

In using switching regression model, separate regression equations were used to model the output supply of farmers conditional on a specified criterion function. Four functional forms were tried in order to obtain the lead equation. These are linear, semi log, double log and exponential functional forms. The credit-constrained condition of the farmer is described by an unobservable excess demand function of a vector of exogenous household socio-economic and credit variables. The relationship between excess demand for credit and the vector of explanatory variable is specified as

$$I^* = \delta z_i + \mu_i \quad (1)$$

Where z is a vector of exogenous variables δ is a vector of parameters and μ_i is a random disturbance term that is distributed with zero mean and variance σ^2 .

I , which is the excess demand functions for credit, is not observed but responses from survey is used to determine those households whose productive activities are constrained if the demand for credit exceeds the supply of credit, that is $I^* > 0$. These responses are used to define the criterion function which is the observable dichotomous variable where;

$$\begin{aligned} I &= 1 \text{ if } I^* = \delta Z_i + \mu_i > 0 \\ I &= 0 \quad \text{otherwise} \end{aligned} \tag{2}$$

The dependent variable in the first stage logit equation is farmer’s credit constrained condition. The variable takes a value of 1 if a farmer is credit constrained and 0 otherwise. The explanatory variables comprise both the continuous and binary variables a shown in table 1 below.

Table 1: Description of Variables

Variables	Type	Description
Age	Continuous	Age of the respondent in years
Hhsize	Continuous	Household size
Farm size	Continuous	Farm size (in hectares)
Depratio	Continuous	Ratio working to non-working household
Oustdebt	Continuous	Outstanding debt
Maritast	Binary	1 if married, 0 otherwise
Sex	Binary	Sex of respondent: 1 if male and otherwise
Educa	Binary	1 if respondent has female education and otherwise 0
Contact	Binary	1, if respondent has contact with extension agent, 0 otherwise
Locainst	Binary	1 if belong to local institution 0 otherwise
Interate	Continuous	Interest rate
Enterpri	Binary	1 for crop farming, 0 otherwise
Landacceu	Binary	1 if rent or lease 0 otherwise
Collater	Binary	1, if yes, 0 otherwise
Inch Head	Continuous	Income of household
Incomeot	Continuous	Income of other household members
Loanobt	Continuous	Loan obtained
Savfinac	Continuous	Saving with COWAN

Logit equation is used to estimate the parameter δ in equation (2). It is assumed that $\text{var}(U_i) = 1$, since δ estimate only up to a scale factor. The output supply of the two groups of farmers is modeled by reduced form equations specified by:

$$\begin{aligned} Y_{1i} &= \beta_1 X_{1i} + U_{1i} && \text{if } I = 1 \\ \text{And,} \\ Y_{2i} &= \beta_2 X_{2i} + U_{2i} && \text{if } I = 0 \end{aligned} \tag{3}$$

Where; β_1 and β_2 are vector parameters.

X_{1i} and X_{2i} are vectors of exogenous variables

U_{1i} and U_{2i} are random disturbance terms

Y_{1i} and Y_{2i} are the value output supply function for credit constrained and credit non-constrained farmers respectively.

Ordinary least squares method (stepwise) is used to estimate the parameters β 's in equation (3). The random disturbance terms U_{1i} , U_{2i} and U_i are assumed to have trivariate normal distribution with zero mean and a non-singular covariance matrix (Feder et al, 1990 and Freeman et al, 1998). Maximizing the bivariate logit function is feasible but time consuming, so a two-stage estimation method is used to estimate the systems of equation in equations 2 and 3.

The conditional expected values of error terms, u_{1i} and u_{2i} in equation 3 are:

$$E\left(\frac{U_{1i}}{U_i} \leq \delta^1 Z_i\right) = E\left(\delta_1 u \frac{U_i}{U_i} \leq \delta^1 Z_i\right)$$

$$= \delta_1 u \frac{\phi(\delta^1 Z_i)}{\Phi(\delta^1 Z_i)}$$

and

$$E\left(\frac{U_{2i}}{U_i} \leq \delta^2 Z_i\right) = E\left(\delta_2 u \frac{U_i}{U_i} \geq \delta^2 Z_i\right)$$

$$= \frac{\phi(\delta^2 Z_i)}{1 - \Phi(\delta^2 Z_i)}$$

$$1 - \Phi(\delta^2 z_i).$$

Where; ϕ and Φ are the probability density function and the cumulative distribution respectively. The ratio ϕ/Φ evaluated at $\delta^i z_i$ for each I is the inverse Mills ratio. For convenience defining

$$\lambda_{1i} = \phi(\delta^1 z_i)/\Phi(\delta^1 z_i), \text{ and,}$$

$$\lambda_{2i} = \phi(\delta^2 z_i)/1 - \Phi(\delta^2 z_i) \tag{4}$$

These terms are included in the specification of equation 3 to yield

$$Y_{1i} = \beta_1 X_{1i} + \delta_{1u} \lambda_{1i} + e_{1i} \quad \text{if } I = 1$$

And,

$$Y_{2i} = \beta_2 X_{2i} + \delta_{2u} \lambda_{2i} + e_{2i} \quad \text{if } I = 0$$

The independent variables X_i used are already defined in table 1

Where; e_{1i} and e_{2i} are new residuals have zero conditional means. These residuals are however heteroscedastic. Therefore estimating equation (5) by weighted least square (WLS) rather than OLS would give efficient estimates.

Thus the two stage estimation procedure that is used to estimate the model proceeds as follows. In the first stage, logit model was used to obtain estimates of δ from equation (2). By substituting the estimated values of δ for δ , estimates are obtained for λ_{1i} and λ_{2i} as instrument for λ_{1i} and λ_{2i} respectively. Lambda (λ) estimate is used to test for biasness in OLS estimates.

Results and Discussion

The socioeconomic characteristics of the farmers examined show that both male and female farmers sampled were still credit constrained and male farmers (67.5%) were more credit constrained than female farmers. Farmers in the active age group (60%) are more credit constrained than the older farmers in the study area. Farmers with no formal education (52%) are more credit constrained than those that received one form of education or the others. Married farmers (83%) are more credit constraint than single, widow and divorced farmers sampled. Those that have off- farm income sources (70%) in addition to farming are less credit constraint than those that are totally engaged in farming. Farmers with frequent extension contact are less credit constraint (78%) than those that have no contact with extension officers. Farmers that sourced their land through rent (62%) are more credit constrained than those that used their inherited farm land. Livestock farmers (20%) are more credit constrained than crop and crop – livestock farmers.

Farmers that cultivate less than 1 hectare (70%) are more credit constrained than those with more than 1 hectare; and farmers with large household members (60%) are more credit constrained than those with few household members.

The credit characteristics of the farmers evaluated revealed that (84%) of the respondent had access to credit which was in kind and cash. However, most of the farmers with access to credit did not receive full amount. Those that arranged for medium term repayment (66%) are more credit constrained than those with short term repayment agreement. Farmers that used their loan for non-farming activities in the past were quantity rationed and therefore are more credit constrained than those that used it for farming. Farmers who belong to local level institution are less credit constrained than those that do not belong. The interest rate (15%) paid on amount of loan obtained constrained 57% of the respondents such that most respondents could not obtained the required amount.

Farmers without collateral (72%) are more credit constrained than those with one form of collateral or the other. Eight-three percent (83%) of the sampled farmers claimed to have had an improved output supply as a result of loan obtained though COWAN and (82%) complained of input-sourcing problem in their domain.

Determinants of Credit Constraint Condition of the Farmers

Table 2: Result of Logit Model for Farmers' Credit Constraint Condition

Variable Name	Regression Coefficient	Standard Error	T-values
AGE	0.209	0.0044	4.7871***
SEX	0.1364	0.0605	2.2559**
FARM SIZE	0.2060	0.0466	4.4164***
EDUCATION	0.1326	0.0300	4.4261***
MARITAST	0.2323	0.0520	4.4658***
CONTACT	-0.0608	0.0357	-1.7049*
LANDACCEU	0.3488	0.0573	6.0871***
ENTERPRI	-0.0304	0.0543	-0.5607
INCHHEAD	-0.0002	0.0000	-5.5592***
INCOMEOT	-0.0001	0.0000	-5.7234***
LOANOBT	0.0000	0.0000	1.3686
HHSIZE	0.0268	0.1033	-0.2588
LOCAINST	-0.3908	0.0619	-6.3139***
INTERATE	0.0082	0.0067	1.2276
COLLATER	0.1856	0.1332	1.3935
SAVFINAC	0.3036	0.0738	4.1140***
OUSTDEBT	0.0003	0.0001	3.4017***
DEPRATIO	-0.0502	0.0251	-1.9992**
INTERCEPT	-0.2718	0.2030	-1.3390

Pearson goodness of fit: Chi square = 93401.864. d.f=131. p=.0000

Table 2 shows the logit model result. From the table, Farmer's age, sex, farm size cultivated, education, marital status, contact with extension agent, source of land, income of household held, income of other household, membership of local institution, savings in COWAN, outstanding debt and ratio of working to non working households are the significant factors that influence farmers credit constraint condition and they are with their expected signs.

This result implies that older and female beneficiaries are highly favoured in COWAN credit than younger and male beneficiaries. The frequent contact with extension agent by farmers, ratio of working to non-working household, belonging to local institution, income of household head, and income of other household reduces credit constraint condition of the farmers. Thus, contact with extension agent, other income sources, ratio of working to non-working household and belonging to local institution play a vital role in reducing credit constraint condition.

The farm size cultivated (small size and less than one hectare), source of farmland cultivated (rented), level of education (no formal), marital status, poor saving with the NGO's, and high outstanding debt of majority of the farmers, contributed significantly to credit constraint condition of the farmers.

This implies that small scale and married farmers with large household size might have been denied access to credit programme of COWAN. The rate of interest charged on amount borrowed though not significant and very high outstanding debt could have contributed to the reasons why some farmers were denied from having access to this credit programme. Also, farmers that cultivate on farmland other than inheritance (62%) faced credit constraint condition due to tenure insecurity. This tenure insecurity (as a result of violation of agreement between tenants and landlords) look risky to the lenders and, farmers in this category are risk-rationed.

Determinants of Output Supply of Credit Constrained Farmers

Table 3 shows the semi-log functional form (lead equation) result of factors influencing output supply of the credit constrained farmers in the study area. The significance of lambda in the model shows that ordinary least square regression model of the estimate could have yielded a bias estimates. Therefore, two-stage switching regression model used in this study is justified and it produced an efficient estimates.

With inclusion of more variables (stepwise procedure), it shows that type of farming enterprise, farm size cultivated and source of land cultivated are the significant factors that influence the value of output supply of the credit constrained farmers. Thus, model 4 shows that the value of output of credit constrained farmers can be increased farm size cultivated, and crop other than livestock enterprise. The source of farmland (rented) cultivated reduces the value of output supply of the credit constrained farmers

Table 3: Determinants of output supply of Credit Constrained Farmers

Model	Beta	Std Error	t-vavue	R ²
1. (Constant)	267693.9	39507.820	6.78***	0.471 ^a
LNLAMDA	47141.392	7931.096	5.94***	
2. (constant)	304004.2	37253.518	8.16***	0.585 ^b
LNLAMDA	51004.718	7364.578	6.93***	
ENTERPRI	-30852.3	6491.986	-4.75***	
3. (constant)	294171.8	36634.209	8.03***	0.613 ^c
LNLAMDA	50236.032	7208.719	6.97***	
ENTERPRI	-31109.3	6349.904	-4.90***	
LN FARMSIZE	19505.333	7593.668	2.57**	
4. (constant)	331865.4	40546.014	8.14***	0.630
LNLAMDA	56920.069	7823.538	7.28***	
ENTERPRI	30499.1	6274.688	4.86***	
LN FARMSIZE	22089.790	7600.092	2.91***	
LANDACCEU	-14411.5	7110.322	-2.03**	

Dependent Variable: value of output
 *** significant@1% ** significant@5%

Determinants of Output Supply of Credit Unconstrained Farmers

Table 4 shows the linear functional form (lead equation) result of factor influencing the value of output supply of credit unconstrained farmers in the study area. The result also shows lambda variable being significant. The significance of lambda in the model shows that ordinary least square regression model of the estimate could have yielded a bias estimates. Therefore, two-stage switching regression model used in this study is justified and it produced an efficient estimates. The value of output supply of credit unconstrained farmers is negatively influenced by the type of enterprise (crop in relation to livestock). These farmers reared livestock (poultry) and disease outbreak as at the time of this study reduced the value of output for the season under consideration. The level of education of the farmers is not significant and the reason being that, most credit unconstrained farmers sampled had informal education.

Table 4: Determinants of output supply of Credit Unconstrained Farmers

Model	Beta	Std Error	t-value	R ²
1. (Constant)	-57453.6	35426.050	-1.62	0.408
LNLAMDA	3189487	776479.9	4.11***	
2. (constant)	-17575.8	29786.360	-0.59	0.633
LAMDA	3110528	611556.9	5.09***	
ENTERPRI	-87810.6	23054.982	-3.81***	
3. (constant)	-14864.4	26554.718	-0.56	0.709
LAMDA	3428142	558905.0	6.13***	
ENTERPRI	-69678.9	21739.919	-3.21***	
EDUCATIO	-56400.6	22181.950	-2.54***	

Dependent Variable: value of output
 *** significant@1%

Table 5: Test for difference in the value of farm output of the respondents

Descriptive Statistics	Credit Unconstrained n = 24	Credit Constrained n = 126
Mean	75441.67	33774.21
Standard deviation	91912.42	44026.47

Z_{CAL} = 2.173 @5%; Z_{TAB} = 1.64 @5%

Table 5 shows that the value of credit unconstrained farmers is higher than that of the credit constrained farmers. That is, Z-calculated is greater than Z-tabulated which implies that there is significant difference between the values of output of the two groups.

Conclusion and Recommendation

The study shows the impact of agricultural credit (provided by COWAN) on agricultural output supply of the farmers. Though, this source of fund to farmers proved to be effective, however, some farmers still face credit rationing problem and therefore, are credit constrained. The study further shows the factors that influence credit constraint condition of the farmers as it affects their output supply and that the value of output of credit unconstrained farmers is greater than and significantly different from that of credit constrained farmers. The result of this study is expected to serve as a signal to COWAN, the farmers under this NGO and policy maker on effective credit supply – demand policies. It suffices to note that through examination of socio economic and credit factors is expected to provide a background for effective formulation of credit policy in agriculture sector of the study area.

Based on the analytical results obtained and policy implication of these results, the following recommendations are made:

- There is the need for a special education programme to majority of the farmers under COWAN programme. This is necessary in order to facilitate the understanding of the farmers on the use of credit given to them. Though, they claimed to have access to extension agents, the information given to them through this medium need to be improved upon given the level of education of most farmers sampled.
- COWAN need to inculcate into their credit delivery programme an efficient farm input supply in order to facilitate output supply of the farmers which may translate into more farm income and possible timely repayment schedule.
- There is the need for COWAN to put into their policy base farm land resource security for the majority of the farmers who cultivate on rent and lease land. This will reduce cost of production and improve the value of output supply.

- Adequate provision of credit to farmers can be improved upon if and only if they expand the land under cultivation. It is assumed that medium and large scale farmers have ability borrow and repay loan more than small-scale farmers.
- For agricultural sustainability, young and middle aged farmers should be encouraged into farming through guaranteed credit programme.

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Women in Cottage Industry Development Project in Sarawak, Malaysia: Understanding of Participation and Reasons for Leaving the Programme

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Abstract

The purpose of this study was to explore the participation of rural women in the group-based approach of the Cottage Industry Development Programme (CIDP) of the Ministry of Agriculture, Sarawak in Malaysia. The participants of the study comprised members of the CIDP from the villages of Sejingkat, Buntal, Telaga Air and Selang Ulu located in Kuching District. Seventeen participants were purposefully selected and interviewed. Guided by questions and constant comparative method, the findings revealed that participants joined the programme because of (i) the need to make up the number to be eligible for the programme; (ii) deference to the senior members, and (iii) their interest in business and programme activity. The findings also revealed that none of the participants was involved in the formulation of the CIDP. Formulation of the CIDP was top-down rather than participative and participants were passive recipients rather than seen as partners. Finally, the findings revealed that participants left the programme due to lack of incentives, absence of responsible leadership, lack of disciplines among members and unfulfilled promises by development agents.

Keywords: Cottage industry development programme (CIDP), Rural women, Participation, Malaysia.

Introduction

Participation of rural women in development programmes is recognised as an essential element in strategies for sustainable rural development (Maimunah, 1997). According to the FAO (1996), the key element in people's participation programme is the formation of small homogeneous self-help groups as a first step in a long-term institution building process. The FAO People's Participation Programme has demonstrated that participation is possible when the people form small self-help groups that allow them to pool resources in pursuit of their own objectives. Thomas (1996) noted that the small-sized groups permit a high level of internal democracy and promote farmers' participation as what has happened in Sri Lanka's rural development programmes.

At the international level, programmes for rural women have been advocated as one of the avenues to develop women (Moser, 1993; McDowell, 1999). It has been argued that project-based development for women would make their productive work visible and would make them greater political and economic strength. Women's small scale enterprises are alternative systems of production operating on the principle of human economy, in that their goal is to contribute to the education and health of the family with minimum emphasis on profit. This is based on the rationale that a greater proportion of women's income compared to that of men goes to meet family needs.

Malaysia, in its attempt to improve and develop the rural sector, especially the lower income group, has recognised the importance of the people's participation as an essential element in strategies for sustainable development. The emphasis on participation of women in a wide range of economic-based projects has been intensified in the New Economics Policy of Malaysia which was initiated in 1971 (Malaysia, 1971). According to Jariah and Laily (1999), a rural enterprise project has the potential of providing an avenue for the rural women not only to improve their socio-economic well-being, but more so to increase their entrepreneurial abilities and personal empowerment. The study by Sarimah (1994) shows that women's micro-enterprises contributed to about 30 percent of the total household income. The micro-enterprise activities provide opportunities for women to develop the skills in decision-making, problem solving and information-seeking.

In the state of Sarawak, Malaysia the Ministry of Agriculture is the agency responsible for planning and implementing agricultural and community development programmes. One of the community development programmes implemented by the Department of Agriculture (which is one of the departments in the Ministry of Agriculture) is the Cottage Industry Development Programme (CIDP), aimed at improving the socio-economic well-being of rural women. The primary goals of the CIDP were to increase household incomes and provide useful employment for the rural women in improving their socio-economic conditions.

The CIDP was implemented through the participation of the rural women as a group based on the needs and interests of the people and availability of resources in the area. The CIDP was intended to bring sustainable benefits to the participants of the programme, namely the rural women. Programme participants were given assistance in the forms of building materials, equipment and other accessories to open up or improve the existing processing centres.

The CIDP was implemented in 1992 with the main aim of developing viable small-scale industries among rural women groups in the processing of marine products, agriculture products and handicrafts. The marine and agriculture food processing activities include the production of fish chips, shrimp paste, salted fish, tapioca chips, various types of traditional cakes, sago biscuit, nipah palm sugar, coconut oil, bakeries, noodles and fruit jam. The handicraft programme includes sewing, basketwork made from various materials such as rattan, nipah palm, bamboo and *bemban* (arrow foot family), beads made into hats, necklaces, belts, rings and pendants and woodcraft.

The CIDP in Kuching

From 1992 till 2002, there were a total of ten CIDPs implemented in Kuching District Sarawak, with a total of 97 participants. The villages in Kuching District that participated in the CIDP were Selang

Darat, Kampung Buntal, Semariang Batu, Telaga Air, Telaga Apong, Sejingkat, Bako Tengah, Rampangi, Stapok and Batu Kawa.

Each individual village developed its own products depending on the availability of the resources in the respective villages. For example, Kampung Bako, being a fishing village, produces fish products such as fish chips, shrimp paste and fish cake. There were four villages involved in sewing activities, namely Kampung Buntal, Sungai Apong, Telaga Air and Batu Kawa. The rest of the villages were mainly involved in the production and selling of traditional cakes/cookies.

Sustainability of Rural Women Participation in CIDP Programme

The yearly reports of the CIDP in Kuching showed that the net profits from sales of food/handicrafts had been satisfactory and in some cases there was a sizeable profit margin. The CIDP remained a viable programme in terms of profit from its implementation in 1992. However, the CIDP in seven villages failed to sustain its group members except for Bako Tengah, Rampangi and Stapok which were run by family members. The CIDP had not been successful in sustaining its group members for long even though the programme was developed according to the needs and interest of the group members. The informal, homogenous and voluntary groups were not able to sustain their members. Most of the projects were abandoned and in some cases the projects were left with only one member who took over as an individual or family business.

Sustaining the participation of group members to function collectively, either in making decisions or implementing group activities is critical to ensure success of group projects. The present strategy of developing the rural women through the CIDP has not been successful in sustaining their participation. Issues that have hindered effective participation and implementation of the CIDP need to be explored. The CIDP groups, which were informal self-help groups, were formed around viable income-generating activities and they were voluntary and self-governing yet failed to sustain participation of their members. Contrary to most studies in the literature conducted in other developing countries of the world which viewed the group-based approach to socio-economic development as an essential element in ensuring sustainability of the programme, the group-based approach of the CIDP in Sarawak, Malaysia however, has generally failed to sustain the participation of its members. Members of the CIDP group left the programme after participation for a while. Why was the CIDP not able to sustain the participation of its group members? Specifically, the study addressed the following questions: (a) What did the women understand about the programme? (b) Why did the women leave the programme?

Objective of the Study

The main objective of the study was to provide an explanation on why the CIDP failed to sustain the participation of its members. The study sought to examine the women's understanding of the CIDP; and identify reasons for women leaving the programmes.

Qualitative Methodology

This study required the researchers to elicit detailed information from the participants' experiences and perceptions of their participation in the CIDP group. An attempt was made to explore and examine the phenomenon of the decline in the participation of the group members in the CIDP in the villages of Kuching District Sarawak. Eliciting a systematic description and examination to the phenomenon required the researcher to interact and communicate with the participants in order to obtain direct information from the participants' perspective of the phenomenon under study; therefore a qualitative study design (Merriam, 1991) was employed. The intent was to understand the phenomenon from the

participants' perspectives and the importance the individual participants attached to their actions by leaving the programme.

Several factors might have caused the women to leave the CIDP. The popular belief, as found in the literature (Bonfiglioli, 1997) was that the group-based approach to socio-economic development had been successful in achieving its aim to increase participation of rural poor in development initiatives. However, the participation of women in the CIDP was short-lived. Hence, this had prompted the researchers to embark on this research which requires them to uncover reasons for the participants to leave the programmes after they had participated in a number of years.

Participants of the Study

Participants for this study were individual members of the CIDP in the villages of Kuching District, Sarawak. Purposeful sampling was done in this study. Samples were selected based on three criteria: (i) they must be registered members of the CIDP group; (ii) the women must have participated in the programme for at least a year so that they had sufficient experience to describe the process of their involvement in the CIDP; and (iii) the women must have left the programme and were not involved in any activity of the programme anymore. The names of the participants were solicited from the records kept at the Agriculture Department of the state.

After going through the list of participants, there were 68 of them involved in the failed CIDPs. Out of that, 48 participants were eligible for the study according to the criteria set. After confirming the participants' names, the principal researcher went to the locations where the CIDPs were implemented and met the leaders of the programmes to verify the names of the participants. The researcher contacted the participants and conducted the interviews.

Data Collection

The methods used for data collection in this study were mainly interviews supported by observations and interactions in the field setting. Each interview was tape-recorded. Each participant was interviewed in one or more sessions at her home or at the site cottage industry itself. An unstructured interview guide was used in each interview to ensure that a common scope was covered in all the interviews. However, the questions and the order in which they were asked were tailored according to specific participants and situations. The social context of the interview was noted and seen as important for interpreting the meanings or responses. The data collected were transcribed and analysed after each interview.

During the interview, the researcher also noted the environments or settings the participants were in, either at the cottage industry or at their homes. It was noted that the participants were more at ease when the interviews were conducted at their homes than at the cottage industry itself. The participants felt more secure when other participants were not around to listen what they had to say about their experiences in CIDP programme. The participants were then more willing to share their experiences and their views without any hesitations.

Documents were also used as sources of information for this study. The documents that were sought to provide information in this study were records kept at the premises where the cottage industry was being practised. Records available were

- (i) records of names of participants and their addresses,
- (ii) records books containing orders from clients with names, addresses, types of goods ordered, amount ordered and the costs for the order were kept;
- (iii) graph charts showing records of monthly sales, and
- (iv) the organisation charts if available at the premises of the CIDP.

Other documents that were sought were records kept at the Agriculture Department on the performances of the participants in the Cottage Industry Development Programme under the Women’s Economic Development in Agriculture (WEDA, 2002).

Data Analysis

The data collected were analysed by an inductive method to identify the categories that emerged. The essential concern in qualitative research, as contended by Bodgan and Biklen (1982) is “meaning”. The researchers were interested to know how these women negotiated meanings and what their own reasons were for not remaining in the CIDP group. The emerging themes that addressed each specific research question were sorted out. All emerging themes were evaluated, compared and synthesised. As a general guide, the researchers examined for similarities and dissimilarities and the patterns that emerged in the observations. The researchers examined what was common within and across cases, discerning patterns of behaviour, finding the underlying meanings in the events observed and eliminated features that were not shared across cases. The researches used the constant comparative methods in order to uncover patterns in the data. Themes were developed and continuously revised until the final version of the study themes emerged.

Results and Discussions of the Study

Demographic Profile of Participants

The demographic profiles of the participants are summarised in Table 1. Most of the participants (88.2%) were housewives except one working as a clerk and another worked as a canteen assistant at the nearby factory. Their ages ranged from 32 to 74 years old with a mean age of 47 years old. The average family income was RM 660. All the participants were locals of the respective villages except one participant who had been staying in the village for ten years. In terms of educational attainment, 76.4% of the participants attained only primary level education except one who attained secondary level education; two participants whose ages were 62 and 74 years respectively had never attended formal education.

Table 1: Demographic Profile of the Participants

Participants	Age (years)	Educational Attainment	Occupation	Family Income	Length of Stay (Years)
Lipah	44	Primary 6	Housewife	RM 480	44
Imah	34	Primary 6	Housewife	RM 600	34
Ami	32	Primary 6	Housewife	RM 760	32
Siah	37	Form V	Clerk	RM 1700	10
Jidah	45	Primary 6	Housewife	RM 300	45
Milah	57	Primary 4	Housewife	RM 750	57
Mon	47	Primary 6	Housewife	RM 380	47
Azzie	45	Primary 6	Housewife	RM 530	45
Emon	48	Primary 4	Housewife	RM 750	48
Dara	51	Primary 4	Canteen Assistant	RM 1200	41
Siti	74	Nil	Housewife	RM 250	74
Ani	44	Primary 4	Housewife	RM 1200	44
Ipah	39	Primary 6	Housewife	RM 550	39
Lia	47	Primary 6	Housewife	RM 400	47
Samah	40	Primary 6	Housewife	RM 550	40
Piah	62	Nil	Housewife	RM 480	62
Endun	48	Primary 6	Housewife	RM 350	48

The main purpose of this study was to explain reasons for the participants left the CIDP. The results are discussed under two specific purposes namely; (1) to determine the women’s understanding

of the programme; and (2) to explain factors that caused the women to leave the programme. The results are summarised in Table 2.

Table 2: Summary of Results

Purpose	Categories
Understanding of participation in the programme	<ul style="list-style-type: none"> • Sharing the cost equally amongst members • Providing an opportunity to learn and involved in business
Factors that caused the women to leave the programme	<ul style="list-style-type: none"> • Lack of incentives • Lack of discipline among members • Absence of responsible leadership • Unfulfilled promise

Understanding of the Programme

The concept of the CIDP in providing an avenue for rural women to improve their socio-economic well-being and increase their entrepreneurial abilities and personal empowerment was poorly understood by the participants. Participation of the community in development programmes should be seen as a continuous, two-way community understanding of the processes and mechanisms. The findings suggested that most of the participants failed to understand the concept of the CIDP. Their understanding was limited to (i) sharing the costs and profits amongst members and also (ii) the CIDP had provided them with the opportunity to learn and to be involved in business. To most of the participants the CIDP was understood as sharing the operating costs equally amongst members. Whatever profits made from the tailoring or sales from the cake were also to be shared equally. As stated by Dara, “I only knew that if sold the delicacy, we shared the profit. We shared the capital. We shared the cost of the palm delicacy, sugar and the rice flour. We brought the coconut ourselves”. Imah too contended that she did not quite understand the CIDP. Imah stated that,

No, we don’t quite understand. I followed the rest. The Agriculture Officer asked those who wanted to join the Programme, put their hands up, so I did. It was told to me during the meeting at Women’s Home which was quite some time ago. They did not tell us about the programme, they only said that those who want to join have to pay 50 ringgit per member for the initial capital to operate the industry. I came up with fifty ringgit because I am interested. I only understood just like that.

This was affirmed by Ami’s statement,

The Agriculture people did inform us of the project, if enough people then we could apply for the project. As far as I know, the machine and the “house” were given by the Agriculture people; we only made and sold the cakes. That’s all I understood, the rest I did not know. Nobody told us. At first we use our money for the initial capital to operate the industry. They have returned the money.

A similar comment made by Lijah on her understanding about the programme was that, “I only knew about the group. I was not told about the project. All I knew was that we shared the cost to run the project”.

Ani’s understanding on the Programme was that it was a business venture and members of the group shared the operating costs. The profits were shared equally amongst participants. According to Ani, her role was only making the cookies; she did not go out marketing. She would normally spend her time in the afternoon at workshop to do the ring delicacy. Recalling Ani’s remarks,

I was told that we only had to share the costs for making the cookies. It was like doing business. Other than that I did not know. All I knew was that I was supposed to prepare the cookies and send them to market. The profits made would be shared amongst members.

Without a clear understanding of the objectives of the programme, the participants would not have a clear sense of what to achieve and a clear sense of direction. With limited information and

understanding of the concept of the group approach to socio-economic development, the participants were not able to perceive the CIDP as an economic activity which would contribute not only to the household incomes but more importantly, building the women's capacity in entrepreneurship.

The concept of the CIDP was also understood as providing an opportunity for the participants to learn and involved in business. Their understanding of this micro-enterprise project was limited to that the facilities for them to run the business were provided by the government and their role was just confined to the facilities provided at the project house.

Participants did not know exactly what they were in for apart from stating the business as a group, the costs to run the business to be shared equally among members of the group and also being given the opportunity to learn sewing and involved in business. Without a clear understanding of the objectives of the Programme, the participants would not have been able to have a clear sense of what to achieve and a clear sense of direction. As contended by Boone (1985), with a clear direction the group members make commitment about the way they use the resources and also have a clear idea of what they need to organise.

Reasons for Women to Leave the Programme

Reasons identified for women to leave the CIDP can be classified under four categories i.e. (a) lack of incentives, (b) absence of responsible leadership, (c) lack of disciplines among members, and (d) unfulfilled promises.

(a) Lack of Incentives

Lack of incentive was one of the reasons participants left the programme. People participate because their interest in something is sufficiently great for them to want to be involved. Most of the participants felt that they were not motivated to stay on because of low monetary returns. According to Lijah, the programme did not benefit her, stating that it took up a lot of her time and also there was no monetary returns. Lijah lamented:

Everyday I went to the house (the cottage). We made the cookies everyday. I did not see any profit. The whole day I spend time at the house. It took a lot of my time. We were only paid very little, according to the hour. But we got only a few cents per hour. I might as well do it at home. Get more money. Furthermore, I don't have to leave my house.

Similarly, Imah said that she was not satisfied with the long working hours and the small wage. The remarks made by Imah showed a lack of incentive for her to continue with the programme. Imah said, "I was not satisfied, worked hard, no commission, we were paid very little."

The desire to get more money served as a motivating force for the participants but when the money was not there they leave the programme. Another participant also admitted that she left the group because of low monetary returns and was not satisfied with it.

(b) Absence of Responsible Leadership

It has been generally established that group effectiveness and leadership are intimately related to one another. Leadership provides the direction to its members or followers toward goal achievement. Therefore, the choice of good leadership is essential in any organisation in ensuring that the objectives are met and carried out in an effective manner.

All participants in the village of Sejingkat gave the main reason they left the programme was because of the leader. This was apparent by the statement given by Imah,

I was not satisfied, worked hard, no commission as we followed our leader. By right she should have kept the money here (at the cottage); she held the money, therefore, we did not know what was happening, I was not happy the way things were done, we had to do everything including marketing. I had to ask my husband to sell the cakes at his workplace. I was not happy, so I decided to leave the programme.

Similar comment on the leader was made by Siah, who lamented,

The leader decided all the work, who to do what and even decided how much to sell the cakes. We had no say, even as a treasurer I could not say anything, she decided everything. I didn't like the way things were done here.

Ami was one of those who strongly felt that leadership factor was the reason why participants left the programmes. She contended that "as long as the leader is honest, there should be no problem with this project". Jidah felt that the programme could have been successful if only they had a good leader and a more organised team.

Furthermore, in all the four villages the leaders were appointed by the Agriculture Officer by virtue of them being the local women leaders of the ruling political party branch. It was a matter of convenience rather than ensuring that the right leader was chosen to lead the programme.

(c) Lack of Discipline among Members

The ability of the individual member to plan, organise and implement the activities is an essential element in ensuring the programme is being carried out in an organized manner. However, participants lamented that they were not happy with the work discipline at the project house. The comment made by Mon indicated the lack of capacity in organising the work such as,

I was not happy with some of the members who did not turn up regularly, yet they got same amount of money. They could come anytime, certain days they did not turn up at all. I felt that it was not fair. We did the work, yet some members were lucky, could come as they like.

Other participants made similar comments stating that some members did not turn up for duty regularly and they were not happy about it. Azzie said, "one of the problems here is attendance of the participants. If they did not turn up regularly, they also received the same amount of money. Azzie felt that as a group, members should work together and come regularly to the workshop."

(d) Unfulfilled Promises

Besides lack of incentives, participants in the village of Selang Ulu were not happy with the promises made by the Agriculture Officer. According to the participants, the Agriculture Officer promised them a machine for mixing the dough in making their job easier. However, up to the date of the interview, the machine had not been provided to them. This was evident from Ipah's complaint;

How could we stand, mixing the dough manually was tough and hard job. They promised to give us the mixer, but until today we did not receive any machine. I got fed up with the empty promises made by them (the Agriculture Officers).

Ipah continued saying,

If the machines had been provided, I would have continued with the programme. We needed the machines – the blender and the flour mixer, these two machines were enough. Last time the Agriculture Officers did tell me about the machines, they tried to get them for us. That's why! How come Sharipah (Agriculture Officers) gave the machine to her sister who was from another village? We should get them? We should be given the machines as well.

In most cases, villagers are easy to deal with. They are simple minded and straight forward. If one were to promise something to them make sure that they are being fulfilled. If one were not able to fulfil them, don't keep quiet about it, tell them and rationalize with them, they could accept it if the reasons are valid and the actions are transparent. Transparency is a key to making them believe the reasons for not fulfilling a promise.

Conclusions

Contrary to popular belief and support of community development literature which viewed group-based approach to socio-economic development as an essential element in ensuring participation, this

study showed that the group-based approach, to some extent, had not been able to sustain participation for too long.

Based on the results of the study, it can be concluded that the participation of the women in group-based approach of the CIDP in Sarawak can only be sustainable on a short-term basis. All the members of the group stayed on for a minimum of one or two years after which they left the programme. During the initial period of operation of the cottage industry, members attended the workshop regularly and carried out their functions accordingly as laid down by the group leaders. They performed the roles expected of them when they were at the workshop. The group influences individual behaviours through the members' strong tendency to conform to the group even when they are not asked to do so.

The CIDP group, however, after a while as indicated in the results failed to sustain participation because of lack of incentives such as monetary gain. The incentive property of a group that determines group cohesiveness or the degree to which members of the group are attracted to one another and are motivated to remain in the group is lacking. The results indicated that there was no incentive for the group members to stay and continued on with the programme. Thus they left after a while.

After the participants left the programme, observations showed that they were able to continue the trades on their own to make more money than when they were with the programme. Those women who were involved in the bakery projects were able to acquire knowledge and skills to make and sell their own cookies/cakes either locally or by sending them to the school canteens or shops near their villages. They indicated that they made more money than when they were with the groups. The knowledge, skills and experiences gained when they were with the programme, however enable them to start their own businesses.

Formulation of the CIDP was top-down and participants were passive recipients of physical facilities to start off the project. Participants were not aware of the rationales why the project was formulated and their understanding of the vision, mission and goals of the project was minimal. Under this situation, misunderstanding would easily occur between the participants and the initiator of the project (Agriculture Officer) as well as the group leaders which would result in lack of cooperation, mistrust and problems of disciplines. These problems worsened when leadership capacities of the programmes were low and actions taken by them were inconsistent with favouritisms.

Although, the CIDP was not able to sustain the group, a positive outcome of the group approach was an increase in the capacity of the individual participant to carry out the businesses on their own after leaving the programme. This is a clear evidence that the participants had acquired some knowledge and skills through interactions between and among participants and the group activities that they had performed. The ability to make some decisions and the confidence of running the trades on their own reflected that the participants had become more independent, able to run their own business without outside assistance even though as a whole the participants failed to achieve the goals of group-based projects in the rural areas.

Recommendations

It is important to note that in sustaining participation of rural development programmes such as the CIDP, both the development agents and the recipients have to be involved and worked together as partners. It is felt that the programme needs to focus on developing the women's capacity and their ability to identify, recognise and make rational choices and decisions affecting their livelihood. According to Desai and Reddy (1990) individuals need to work together in a cooperative manner. In ensuring that the above elements are met and based on the results of the study, the following recommendations are suggested:

First, In view of the lack of capacity as one of the factors that led to the decline of participation in the CIDP, it is suggested that the participants should acquaint themselves with the necessary skills needed for them to function effectively as entrepreneurs through training programmes before

embarking on a group-based project. Various adult learning approaches (Ramirez, 1990) are suggested such as by exposing them with success stories of similar projects done in other areas whether through video presentations or field trips to successful project sites.

Second, after a short period of low monetary returns at the beginning of the project, the development agent (Agricultural Officer) should work closely with the group to increase sales by establishing market networks beyond the boundaries of the villages into nearby town. In doing so, incomes for the group would increase and thus, the shares for each member would also increase. This would increase monetary returns for the group members.

Third, the choice of a leader to lead the group must be determined by the group members rather than appointed by the authority. The feeling of trust and satisfaction among members about their leaders influences sustainability of group-based projects. Related to effective leadership functions to plan, organise and implement activities of the group, it is suggested that individual members should know explicitly what tasks they are to perform and what levels of quantity and quality are expected out of them. These are not known to members resulting in some have to do more while others do very little. The feelings of dissatisfaction arise among members and they are disillusioned with the goals of the group.

Fourth, the authority must be honest and transparent in dealing with villagers. If a promise is made, it should ensure that it will be fulfilled or if it cannot be fulfilled it must be explained to them so that they would understand why the promise was seen otherwise.

Finally, in the presence of viable alternatives to earn incomes on individual basis, the group-based programme must be attractive to lure villagers to continue on with the activities of the group. This can be in the form of higher incomes than the alternatives can offer as well as a rich ground for social interaction and capacity building for members involved.

Client especially women's participation in development programmes, especially rural development programmes, is recognized as an essential strategy not only for success of the programme but also to sustain membership of group-based projects. There are plenty of support of this view in the literature, especially in developing countries (Moser, 1993; FAO, 1996; Thomas, 1996; Bra, 1999; Maimunah, 2001). However, due to certain reasons as this study has revealed, may impede women's continuous participation, which otherwise help women in rural development.

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Poverty and its Determinants among Nigerian Farming Households: Evidence from Akinyele Lga of Oyo State, Nigeria

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Abstract

This study examined poverty and its determinants among Nigerian households. The data employed were obtained from 150 randomly selected households from Akinyele Local Government Area of Oyo State. The data were analyzed using the FGT weighted poverty index and the Ordinary Least Squares Regression Model.

The poverty threshold obtained was ₦1203.13. The FGT analysis revealed that poverty increases with increase in the age of household head, household size and dependency ratio. But poverty decreases with increase in educational level of household head. While farmers are the poorest of all the occupational groups, the public sector workers are the least poor. In addition, households headed by males are poorer than female headed ones while those households headed by the married are poorer than the unmarried. The result of the OLS regression revealed that units increase in the years of formal education of household head will lead to 0.0196 fall in log of poverty ratio. But, the log of poverty ratio will increase by 0.1426 and 0.0875 respectively with a unit increase in household size and dependency ratio.

The study concludes by recommending education of children in the household, adequate birth control measures and the provision of the enabling environment for jobs to be created with a view to decreasing dependency ratio.

Keywords: Poverty, determinants, farming households, and Nigeria.

1.0. Introduction

A search of the relevant literature shows that there is no general consensus in any meaningful definition of poverty. This is not unconnected to its multidimensional nature, which affects many aspects of human conditions, including physical, moral, social, and psychological aspects. Hence, many criteria have been used to define poverty. While on economists would approach the subject from the view point of wants, needs and effective demand, the psychologist may look at it from the standpoint of deprivation, esteem and ego. But whatever perspective it is viewed, it is obvious that it is a condition of life that is so degrading as to insult human dignity. Ojha, 1970, and Reutlinger and Selowsky, 1976 have defined the poverty as being unable to meet basic nutritional needs. Streeten 1979 and Ogwumike 1987 defined poverty in very broad terms, such as not being able to meet basic needs. Basic needs refer to the physical (food, healthcare, education, shelter, clothing, transportation, energy) and/or non-physical (participation, identity etc) requirements for meaningful life. Sen (1983),

however, related the concept of poverty to entitlements, which refers to the various bundles of goods and services over which one has command considering the means of acquisition and its availability. Chambers (1995) opines that poverty is a subset of the general condition of deprivation whose dimension includes social inferiority, isolation, physical weakness vulnerability, powerlessness and humiliation. Englama and Bamidele (1997) have defined poverty as a state where an individual is notable to cater adequately for his basic needs for food, clothing and shelter, is unable to meet social and economic obligations, lack of awful employment, skills, assets and self esteem and her limited access to social and economic infrastructure such as education, health, potable water and sanitation and as a result has limited chance of advancing his welfare to the limit of his capabilities. But irrespective of how poverty is defined, the poor have been described by Ayoola et al (1999) as those who could not obtain adequate income, feed poorly, live in unhygienic houses, has poor clothing, can't educate children quantitatively, unemployed, heavily indebted socially excluded, hopeless, helpless, beg for assistance always, lack of formal education, landless laborers, cannot marry easily, can't pay for medical bills etc.

The Nigerian poverty situation is precarious. Not minding the human and material endowments of Nigeria, a large proportion of her population is still poor. World Bank (1997) using the most recent indicators of poverty, such as illiteracy, access to safe water and the number, ranks Nigeria below Kenya, Ghana and Zambia. The Nigeria's Gross National Product per capita is also lower while the purchasing power of Nigerians continues to decline with high inflation and increasing income inequality. The FOS (1999) using the 1980, 1985, 1992 and 1996 National Consumer Surveys' data revealed that poverty has been on the increase. With an approximate 17.7 million poor people in 1980, the number of poor people rose to 34.7 million in 1985, 39.2 million in 1992 and 67.1 million poor people in 1996. With declining economic conditions within the economy, the population in poverty in 2001 would have increased far above 70 million people.

The Federal Government in realizing the enormity and consequences of the poverty problem launched a poverty assessment in 1994 through the National Planning Commission (NPC) in partnership with the World Bank, UNICEF, DFID, UNDP, a experts from the Universities and organized private sector. This was completed in 1995 and it led to the development of a strategy for poverty relief code named Poverty Alleviation Programme Development Committee (PAPDC). This committee then put forward a draft national strategy called Community Action Programme for Poverty Alleviation (CAPP) for the government's consideration. Apart from this, there have been several other poverty related programmes and projects that have been executed by the Federal government. Such programmes are National Accelerated Food Production Programme (NAFPP) Agricultural Development Programme (ADP), River Basin Development Authorities (RBDA), Directorate for Food, Road and Rural Infrastructure (DFRRI), National Directorate of Employment (NPE), National Agricultural Land Development Agency (NALDA) and Better Life Programme which metamorphosized into Family Support Programme and the Family Economic Advancement Programme (FEAP) among others. According to Olayemi et al (1999), most of these programme did not produced the intended effect/impact on the poor. Hence, the reason for the increasing poverty situation in the country. This lack of progress in reducing poverty in Nigeria shows that one of the fundamental goals of development has not been achieved.

Apart from the very low growth in the economy and bad governance of the past, that have been responsible for the increasing poverty level of Nigerians, the lack of understanding of the causes of poverty empirically have made all efforts so far at poverty reduction to be unfelt. Glewwe and van der Gaag (1988) and World Bank (1990) have revealed that if effective policies to reduce poverty are to be formulated or proper poverty reduction programmes are to be established, more knowledge and understanding of the specific determinants of poverty are required. This is done by constructing the poverty profile in the form of a regression of the individual's poverty measure against a variety of household characteristics. In Nigeria, a lot of studies have been done on poverty. But little or nothing has been done in studying the impact of the determinants of poverty. Some of these studies include

Anthonio (1975), Oshuntogun (1975), Adeyokunnu (1975), Ogwumike (1991), Ogwumike do Ekpeyong (1996); Anyanwu (1997), Englama and Bamidele (1997), Odusola (1997) e.t.c. The exceptions to this in Nigeria to the best of my knowledge are Ogwumike (1987), who studied the impact of demographic and socio-economic variables on household poverty among different occupational groups in Nigeria. The other Omonona (2001), who studied the impact of demographic, socio economic, human capital, farm specific and occupational factors on poverty among rural farming households in Kogi state. The fact that recent poverty determinant studies are scarce in Nigeria makes this study to be very essential as it provides missing information on the poverty status of households in Akinyele Local Government Area of Oyo State, Nigeria.

An increasingly common method of regression according to Ravallion (1996) is to state that y_i/z_i (or its log) is a function of a vector of observed household characteristics x_i , namely

$$y_i/z_i = \beta x_i + e_i \text{ where}$$

β is a vector of parameters, e_i is the error term, y_i is the per capita expenditure, z_i is the poverty line and y_i/z_i is the welfare ratio. One then defines the binary variable $h_i = 1$ if $y_i/z_i < 1$ and $h_i = 0$ otherwise. This method then pretends not to observe the y_i 's, acting as if only h_i and the vector of characteristics x_i is observed. Hence only logit or probit model is normally used. Several studies that have used these probit and logit models include among others Ogwumike (1987), Reardon and Taylor (1996) Rodriguez and Smith (1994) Mason (1996) Baulch and McCulloch (1998), Appleton (1996), Coulombe and McKay (1996) etc. But evidence has shown that the usefulness of the conditional poverty profile has not always been positively related to the degree of sophistication. Infact, the probit or logit model may be redundant. This is because unlike the usual binary response model (like the case of applying different doses of insecticide to insects), the continuous 'latent' variables are not latent at all, but observed in this case. So, according to Ravallion (1996), there is no need for a binary response estimator if one wants to test effects of household characteristics. The parameters can be estimated directly by regressing y_i/z_i in X_i . It is noteworthy that this study was patterned after the model above as proposed by Ravallion (1996) as explained in the methodology with little modification. Instead of using the welfare ratio (y_i/z_i), we have used the poverty ratio (z_i/y_i) such that the higher the poverty ratio, the higher is the level of poverty and vice versa.

2.0. Methodology

The Study Area

The study was conducted in Akinyele Local Government Area (LGA) of Oyo State, a state located in the southwestern geo-political zone of Nigeria. According to the 1991 census, Akinyele LGA's population was put at 500,000. The major occupation of the people is farming with other activities like trading, food processing, carpentry, bricklaying etc being the minor occupation.

2.1. Sources of Data

Primary data were used for this study, collected through the use of well-structured questionnaire. Those data collected include the household income and expenditure, demographic characteristics of the household and its head, the occupation of the household head and the major indicators of poverty. Most data were collected on monthly basis except otherwise. In this case, they were converted back to monthly data since the period of analysis is monthly.

2.2. Sampling Procedure

The multistage sampling technique was used to select the representative households used for the study. The first stage was the random selection of 5 wards out of the 12 in the LGA. Out of these wards, a list of the households was obtained from the planning unit of the local government at Moniya (the Headquarter). From this list, a total of 30 respondent households were selected per ward to give us a

total of 150 households. In a situation where the selected household fails to cooperate, the next available household was sampled. The data were collected in February and March 2000.

2.3. Analytical Techniques

The analytical techniques used in the analysis of the data include the Foster, Greer and Thorbecke's (FGT) weighted poverty index and the Ordinary Least Squares Regression Model.

The FGT weighted poverty measure, otherwise called the P α measure is used to obtain the incidence, depth and severity of poverty. The FGT measure is mathematically given as

$$P_{\alpha i} = \frac{1}{n_i} \sum_{i=1}^{q_i} [(Z - Y_{ji})/Z]^\alpha \tag{1}$$

where P αi is the weighted poverty index for the ith subgroup; n $_i$ is the total number of households in subgroup i, q $_i$ is the number of the ith subgroup households in poverty; Y $_{ji}$ is the per adult equivalent expenditure (PAEE) of household j in sub group i; Z is the poverty line and α is the degree of aversion. When $\alpha = 0$, it gives the incidence of poverty; $\alpha = 1$ gives the depth of poverty and $\alpha = 2$ gives the severity of poverty.

The poverty line is defined as the two-third mean per adult equivalent expenditure. It was obtained using the formula below

$$\text{ith per adult equivalent expenditure} = \frac{\text{Total ith household monthly consumption expenditure}}{\text{ith household's adult equivalent}}$$

$$\text{Mean per adult equivalent expenditure} = \sum_{i=1}^n \text{PAAE}/n$$

where n is the sample size.

This study used the nutrition based adult equivalent scale calculated from the World Health Organization (1985) and used by Dercon and Krishnan (1998). This is based on the fact that there exists economies of scale in various items of consumption and also the needs of children are quite different from those of adults while the needs of male members are different from those of females of the same age. This adult equivalence scale is shown below

Table 1: Nutrition (calorie based) equivalence Scales

Age in years	Male	Female
0-4	0.4875	0.4875
5-14	0.8550	0.7600
15-64	1.0600	0.8350
Above 65	0.8400	0.7400

Source: Adapted from WHO (1985)

The regression model hypothesizing the determinants of poverty is stated below as

$$q_i = f(X_1, \dots, X_n)$$

where q $_i$ is the poverty ratio, defined as Z/Y $_{ji}$

- X $_1$ = the age of the household head in years
- X $_2$ = the sex dummy of the household head (D = 1 if male, 0 if otherwise)
- X $_3$ = the marital status dummy of the household head (D = 1 if married, 0 if otherwise)
- X $_4$ = the years of formal education of the household head
- X $_5$ = the household size
- X $_6$ = the household income in naira; and
- X $_7$ = the dependency ratio of the household. This is defined as the ratio of non-workers to workers in each household.

There has been a recent debate in the literature on the merits of welfare regressions versus binary poverty models. Ravallion (1996) argues that the binary response model is redundant, since the parameters measuring the effect of household characteristics on the probability to be poor can be derived from the levels regression, which is consistently estimable under weaker assumptions about the distribution of the error.

Four functional forms were tried in order to obtain the one that best fits the data. These are the linear, exponential double logarithmic and semi-logarithmic functions. The general form of these functions are stated below:

$$\begin{array}{ll}
 q & =b_0 + b_1x_1 + \dots + b_n x_n + e_i & - & \text{Linear} \\
 \ln q & =b_0 + b_1x_1 + \dots + b_n x_n + e_i & - & \text{Exponential} \\
 \ln q & =\ln b_0 + b_1 \ln x_1 + \dots + b_n \ln x_n + e_i & - & \text{Double log} \\
 q & =\ln b_0 + b_1 \ln x_1 + \dots + b_n \ln x_n + e_i & - & \text{Semi log}
 \end{array}$$

The lead equation was selected based on the economic, statistical and econometric criteria outlined by Olayemi (1998).

The likelihood that there exists reverse causality between the years of formal education of the household head and poverty status was verified by introducing an instrumental variable in place of the education variable. According to Grootaert and Braithwaite (1998), work experience and age could be used as instruments. We have decided to use the years of working experience of the household head as the instrumental variable. If the use of the instrumental variable (work experience) leads to slightly higher R² compared with that obtained with the use of the actual education variable and the instrumental variable has higher coefficient (0.0063) than for the education variable, then one can infer that there is exogeneity of the education variable [See Narayan and Prichett (1997) and Grootaert (1999)].

3.0. Results and Discussion

The analysis of poverty starts with the derivation of the poverty line. This was done based on the occupational groups within the study area as shown in the table below.

Table 2: Derivation of the Poverty Line

Primary Occupational Group	Mean Per Adult Equivalent Expenditure
Farmers	₦1015.23
Traders	₦1873.91
Private sector workers	₦2260.04
Public sector workers	₦2371.93
Crafts and Artisans	₦1502.36
Total of MPAEE	₦9023.47
Mean of MPAEE	₦1804.69
Poverty Line (2/3 MPAEE)	₦1203.13

Source: Derived from Survey data (2000)

From table 1 above, a poverty line of ₦1203.13 was obtained. When compared with the poverty line obtained by World Bank (1996), it was found to be comparable. A poverty line N395 per capita per annum at 1985 constant price was obtained. This translates to N13, 262.12 per annum or N1105.18 per month per capita in the year 2000 based on a raising factor of 33.576 obtained by dividing year 2000’s Composite Price Index (CPI) by that of 1985.

3.1. Poverty Profile of Respondents

The profiling of poverty was based on factor such as sex, age, marital status and educational level of household heads. Others are the household size, dependency ratio and occupation of household head.

3.1.1. Sex of Household Head

Table 2 below shows that the male-headed households have higher poverty incidence, depth and severity than the female headed ones. This may be due to the fact that most male-headed households always have higher household size than female ones. Female-headed households are either singles, separated, divorced or widowed. Such new female heads have the responsibility of taking care of their own immediate members; which are normally small sized.

Table 3: Poverty by Sex of Heads

Sex of Household Head	P ₀	P ₁	P ₂
Male	0.405	0.134	0.057
Female	0.283	0.141	0.085

Source: Derived from Survey Data 2000.

3.1.2. Age of Household Head

The poverty level by age of household is shown in the table below:

Table 4: Poverty by Age of Heads

Age of Household Head	P ₀	P ₁	P ₂
< 31 years	0.306	0.087	0.026
31 - 60 years	0.392	0.129	0.037
> 60 years	0.492	0.184	0.072

Source: Derived from Survey Data 2000.

From the table above, poverty tend to increase as the age of the household head increases. Those households headed by persons aged below 31 years are the least poor while those headed by those aged above 60 years are the poorest. This may not be unconnected with the high dependency that increases as the head's age increases. And secondly, the capacity to work tends to decrease with increase in age of the head of the household.

3.1.3. Marital Status of Households Head

The analysis of poverty by marital status revealed that households headed by married persons have higher poverty than those headed by singles as seen in the table below.

Table 5: Poverty by Marital Status of Heads

Marital Status	P ₀	P ₁	P ₂
Single	0.281	0.075	0.029
Married	0.392	0.137	0.036

Source: Derived from survey data 2000.

The above table shows that the higher poverty among the married may be due to the joint effect of increased household size and dependency ratio. Being married also increase responsibility towards the in-laws in the African Context as one gets married to a family and not an individual.

3.1.4. Educational Level of Household Head

The level of education of the heads of households is indirectly related to the poverty level as seen from the table below.

Table 6: Poverty by Educational Level of Heads

Educational Level	P ₀	P ₁	P ₂
No Formal Education	0.886	0.362	0.194
Primary Education	0.575	0.197	0.087
Secondary Education	0.481	0.159	0.068
Tertiary Education	0.137	0.038	0.007

Source: Derived from Survey Data, 2000.

The table above shows that households whose heads do not have formal education are the poorest while those whose heads acquired tertiary education are the least poor. This is due to the fact that the higher the educational level attained, the higher is the chance of obtaining a highly remunerative job. In addition, the level of education is indirectly related to the household size, as better educated persons are better able to use family planning methods. Finally, since they do not derive labour or much labour from the children, they tend to have less children, meaning low household size and dependencies.

3.1.5. Household Size

The level of poverty experienced by any household is directly related to the number of the members of the household.

Table 7: Poverty by Size of Households

Household Size	P ₀	P ₁	P ₂
< 5	0.154	0.018	0.007
5 - 9	0.403	0.148	0.062
10-20	0.793	0.306	0.156

Source: Derived from Survey Data, 2000.

The table above shows that while 15 percent of those households with less than five members are poor, 79 percent are poor in households with between 10 and 20 members. The impact of large family size is in two folds. One, it depresses the per adult equivalent expenditure and second, it may raise the dependency ratio, both of which increase the level of poverty among households.

3.1.6. Dependency Ratio

Apart from the size of the household, the composition with respect to the working and non-working members of the household also affects the welfare status of the household. The table below shows that poverty level is lowest in households with no dependants and highest in households with more than one dependency ratio.

Table 8: Poverty by Dependency Ratio

Dependency Ratio	P ₀	P ₁	P ₂
Zero	0.097	0.008	0.001
Less than one	0.239	0.062	0.028
Exactly one	0.497	0.153	0.069
Greater than one	0.515	0.183	0.087

Source: Derived from Survey data 2000.

The likely reason for the above pattern is that whenever the number of people generating income is becoming smaller than those not earning, then the level of per capita expenditure decreases, thereby leading to an increase in the poverty level.

3.1.7. Primary Occupation of Household Head

The table below shows the poverty level across the primary occupational groups.

Table 9: Poverty by Primary Occupational of Group of Head

Primary Occupational Group	P ₀	P ₁	P ₂
Farmers	0.693	0.238	0.106
Traders	0.464	0.119	0.058
Crafts and Artisans	0.326	0.135	0.071
Private sector workers	0.293	0.089	0.037
Public Sector workers	0.194	0.073	0.026

Source: Derived from Survey Data 2000.

From the table above, households headed by farmers are the poorest while those whose heads are in the public sector (civil servants) are the least poor. This finding is in consonance with the finding of FOS 1999 in which poverty incidence, depth and severity were higher among Nigerian farming households than their non-farming counterparts in 1980, 1985, 1992 and 1996. The public sector workers had higher welfare due to the September 1999 increase in the public sector workers' pay.

3.2. Determinants of Poverty

The results of the regression analysis is shown in the table below

Table 10: Results of Regression Analysis

Parameters	Functional Form			
	Linear	Exponential	Double-Log	Semi-log
Constant term	0.4630 (0.1832)**	-0.9897 (0.2534)***	-0.7642 (0.7823)	0.7954 (0.5461)
Age	-0.0056 (0.0067)	-0.0078 (0.0061)	-0.5070 (0.2569)*	0.0315 (0.1106)
Sex	-0.0390 (0.1462)	0.4705 (0.1498)***	-0.0979 (0.1827)	-0.0510 (0.0974)
Marital status	0.0006 (0.0037)	-0.0012 (0.0074)	-0.0043 (0.0057)	0.0017 (0.0165)
Years of formal education	-0.0095 (0.0053)*	-0.0196 (0.0069)***	-0.0005 (0.0004)	-0.0021 (0.0154)
Household size	-0.0589 (0.0109)***	0.1426 (0.0305)***	0.6000 (0.1164)***	0.1600 (0.0389)***
Dependency ratio	0.0332 (0.4821)	0.0875 (0.0337)***	0.0007 (0.0024)	0.0005 (0.0028)
R ²	0.42	0.67	0.59	0.44
R ²	0.40	0.66	0.57	0.42
F-ratio	12.53	27.05	32.65	16.28
Number of observations	150	150	150	150

Figures in parentheses are standard errors.

Asterisks denote significance *** - at 1%; ** - at 5%; and * - at 10%.

From Table 10, the exponential functional form was selected as the lead equation. This choice was based on the a priori expectation and the statistical significance of the regression coefficients. The coefficient of multiple determination (R²) was 0.67. This implies that 67 percent of the variability in poverty is accounted for by the explanatory variables included in the model. In addition, the F-statistics (32.65) is greater than the tabulated F(2.80) at 1 percent level of significance. This shows that the model has a good fit to the data.

Of the 6 explanatory variables included in the model, 4 were significant while 3 were not. Those variables with insignificant coefficients include the age and marital status of the household

heads. On the other hand, the sex and years of formal education of household head, household size and dependency ratio are respectively significant at 1 percent level. These imply that a year's increase in formal education acquired by household head will decrease the log of poverty ratio by 0.0196. But as for household size and dependency ratio, a unit increase in household size and dependency ratio will lead to 0.1426 and 0.0875 increase in the log of poverty ratio. In addition, belonging to a male-headed household is positively associated with poverty.

Education and Household Poverty: Any Reverse Causality?

Grootaert and Braithwaite (1998) and a host of other researchers have found strong bivariate correlations between poverty incidence and the level of education of the head of household. Hence, the need to test if the education variable included in the OLS regression is truly exogenous to poverty or not. We have assumed that the years of formal education of the household head is truly exogenous in the OLS regression. In order to validate this assumption, this study tested for existence of two-way causality with the aid of instrumental variable. The instrument chosen is the years of work experience of the head of the households.

The original education variable was replaced by the instrumental variable. The choice of the instrument used for social capital is guided by available information and submissions by Grootaert and Braithwaite (1998). In this context, work experience of the household head is used as instrumental variable. Table 11 presents the result for the lead equation without and with instrumental variable.

Table 11: Result of Instrumental Variable Estimation

	With instrumental Variables (2SLS)
Constant term	-0.8903 (0.2406)***
Age	-0.0062 (0.0040)
Sex	0.0285 (0.0072)***
Marital status	-0.0008 (0.0029)
Years of work experience	-0.0147 (0.0042)***
Household size	0.1311 (0.0195)***
Dependency ratio	0.0802 (0.0369)**
R ²	0.69
R ²	0.68
F-ratio	34.71
Number of observations	150

Figures in parentheses are standard errors.
Asterisks denote significance *** - at 1%; ** - at 5%; and * - at 10%.

The result is indicated in Table 11. From the table, it is evident that the use of the instrumental variable (years of work experience) leads to slightly higher R² (0.69) compared with (0.67) obtained with the use of the years of education of household head. In addition, the instrumental variable method leads to higher coefficient (-0.0147) for the years of work experience of the household head than in the OLS method where it was (-0.0196). Thus, judging from Narayan and Prichett (1997) and Grootaert (1999), one can confidently assert that there is no significant reverse causality since the coefficient of the years of work experience of household head in the instrumental variable method is higher than the OLS coefficient of years of education of the household head. Hence, one can infer that there is exogeneity of years of education of household head.

4.0. Policy Recommendations

Based on these findings, the following recommendations are made in a bid to reduce the poverty level in Nigeria.

- i. Human capital development is necessary. The education of children at school is very essential at not just poverty reduction but eradication. School completion eventually qualifies a person for employment and continued source of regular income. But to the uneducated, the job opportunities opened to him is very limited. Even, when he or she gets one, the pay is not attractive. Education also helps in appreciating the use of birth control measures. An educated person is better able to adopt and use the contraceptives than the uneducated. Education is very important because schemes at poverty reduction will not achieve much success in the long run without major investment in human capital. In fact, education in addition to nutrition and health are required to break the intergenerational transmission of poverty.
- ii. The government should provide an enabling environment for employment generation so that people who are unemployed can get meaningful jobs through which they can obtain income needed for survival. The provision of unemployment for people will in no small way reduce the dependency ratio because a large proportion of the labour force is employed in the area. This will in no doubt, raise the per capita income and the welfare of the people.
- iii. There is the need to cut down the growth of household size by adopting various birth control measures that will automatically reduce the dependency ratio. It is, therefore, recommended that efforts at enlightening the populace about birth control measures be intensified so that household size can be substantially reduced.

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Socioeconomic Deprivation and Rise of Social Movements in Nigeria: A Study of Niger Delta Region of Nigeria

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Abstract

Our study investigated the relationship between socioeconomic deprivation and the rise of social movements in the Niger Delta Region in Nigeria. The study found that in spite of the fact that the region is the highest contributor to national wealth; it is socially and economically deprived. It was established that the region lacks the necessary infrastructural facilities that can stimulate sustainable development. In addition, it was found that there is a general feeling of neglect among the people in terms of substantive position in the federal government. We also found that feeling of deprivation led to the formation of various militia organizations which became arrow heads of different social movements in the region.

To stem the current wave of social movements and create way for peace and sustainable development, the study suggested among other things, that: the needs of the region be provided to them; both the oil companies and the federal government should meet their constitutional responsibility in the region; and stakeholders in the affairs of the region should implement the legal and statutory regulations regarding oil exploration and exploitation in Nigeria.

Introduction

From the later part of 1990s, Nigerians have noticed an unprecedented rise and proliferation of social movements and other collective behaviours such as crowds, demonstrations of various kinds riots etc. In the wake of this, many militia organizations such as Odua Peoples congress (OPC) Arewa Peoples Congress (APC), Ibo Peoples Congress (IPC), Movement for the Actualization of the sovereign state of Biafra (MASSOB), Egbesu Boys of Africa, Bakassi Boys, Movement for the survival of Ogoni People (MOSOP), Niger Delta Volunteer Vanguard etc have come to stage to organize and control protest activities. Initially, these arrow heads of social movements in the Niger Delta were not formally organized by the cultural groups whose course they claim to fight. Rather their emergence tended to conform to what Broom and Selznick could call free play of emotions, personal contacts and influence, the give-and take of political competition and emergence of transitory opinions and allegiances. But all the emergent organizations claim to fight for the people of Niger Delta Region, to rescue them from economic deprivation, individual poverty and political marginalization.

Earlier, sociologists have drawn our attention to the contention that social movements emerge to bring about or resist fundamental change in an existing group or society (Benford 1992). Based on this perceived function of social movements, Herbert Blumer (1955) defines social movements as “collective enterprises to establish new order of life”. Although sociologist Richard T. Schaefer (2000) have shown the role of social movements on the course of history and evolution of social structure, our main concern is the recent unprecedented and dimension of social movements in the Niger Delta in Nigeria. We also want to investigate the relationship between socioeconomic deprivation and occurrence of social movements in this region of Nigeria.

The Niger Delta Region

The Niger Delta Region in Nigeria refers to the six states that fall within the geo-political South-South area of Nigeria. These include Akwa Ibom, Bayelsa, Cross River, Delta, Edo, and Rivers State. It covers an area of 70,000 sq.km, and 25, 640km² of Nigeria's total land area. There are an estimated 20 million inhabitants in the Niger Delta Region. The Region accommodates some 40 different ethnic groups, housed in some 3,000 communities and speak about 250 different dialects (Okowa 2001).

The ethnic nationalities in the Niger Delta are minority ethnic groups within the political calculus of the Nigerian federation. This minority status is a major set back in their ability to influence national policies and decisions to their favour in terms of development projects.

The people of Niger Delta are known for small scale farming, fishing and trading. Other sources of living in the Region are small scale processing of agricultural products, harvesting and gathering of forest products, lumbering, various craft works, canoe building etc. Political relationships are egalitarian and republican. Various village, clan and community leaders play dominant political roles. The Chiefs serve as custodians of the various cultural heritages of the people.

Some Theoretical Explanations

Our work relied on two main sociological explanations: relative-derivation and resource-mobilization. According to Wilson, J. (1993), relative-deprivation refers to conscious feeling of a negative discrepancy between legitimate expectations and present actualities. That is to say things are not good as you hoped they would be Rose (1982) has noted that people who feel they lack sufficient income, satisfactory working condition, important political or basic social dignity may engage in organized collective behaviour to bring about a more just state of affairs.

According to the relative deprivation thesis, social movements originate from the feeling of dissatisfaction arising out of comparison between what people currently enjoy and what they expect, what they ought to have or what they believe is ideal. A relatively deprived person is dissatisfied because he or she feels marginalized relative to some appropriate reference group. Thus the people of Niger Delta who are conscious of the contribution of their region to the oil or national wealth in Nigeria without commensurate social amenities such as good roads, bridges, hospitals, electricity, drinkable water etc may nevertheless feel deprived in comparison with other regions who lavishly enjoy such amenities. To this people, collective behaviour or social movement may become a means of seeking change that brings them greater benefit.

However, Morrison (1971) pointed out that feeling of dissatisfaction is not sufficient for a social movement. Two other variable must be present

- (1) People must feel that they have right to their claim, that they deserve more or better than they have.
- (2) The disadvantaged group must be aware that it cannot achieve its goals through conventional means.

Our analysis provides evidence that satisfies these conditions in the Niger Delta Region in Nigeria.

While the relative- deprivation extol the importance of feelings of dissatisfaction with the status –quo and low out come relative to expectation in the emergence of social movements, the resource mobilization emphasizes the fact that the success of any social movement depends on the availability of resources. Such resources may include money, human labour, office facilities, communications, equipment, mass media, positive public image and political influence. The concept resource mobilization refers to the ways in which a social movement makes use of such resources.

The resource mobilization theory also draws attention to the importance of organizational structure and leadership in sustaining social movements. (Anthony, O. 1973). Resource mobilization also highlights the relationship between social movements and outsiders or other groups and organizations who are capable of providing or withholding valuable resources. The earlier mentioned

organizations spear heading social movements in the Niger Delta Region seem to have met these conditions.

Objectives

The paper analyzes the relationship between socio-economic deprivation and rise of social movements in the Niger Delta Region in Nigeria over fifteen years (1990-2005). It has four objectives.

- To find out if the region is economically and socially deprived
- To find out if socio-economic deprivation is the major cause of rise in social movements in the region
- To identify the major factor that causes the formation of militia groups in the region
- To suggest measures that could enhance peace and development in the region.

Methodology

The Niger Delta region is made up of 6 states. The six states were included in the study. They are Akwa Ibon, Bayelsa, Cross River, Delta, Edo and Rivers State. Each of the states was categorized into 3-community leaders, members of militia organization and other members of the community. The essence of this was to ensure equal representation of members of the community in the sample. The purposive sampling technique was adopted in selecting respondents. 39 respondents were chosen from each of the categories in which the states were ranked. A total of 117 respondents were selected in each state. This makes a total of 702 respondents (see table 1). The purposive sampling technique enabled us select people considered to possess the knowledge required for the study.

Table 1: Distribution of Respondents by State and Category

State	Community leaders	Members of Militia Orgs.	Other Members of the community	Total
Rivers State	39	39	39	117
Bayelsa State	39	39	39	117
Cross River Sate	39	39	39	117
Delta State	39	39	39	117
Edo State	39	39	39	117
Akwa Ibom State	39	39	39	117
Total	234	234	234	702

Findings

Our first concern was to investigate the contribution of the Niger Delta Region to the National Wealth. This investigation becomes necessary because it provides background to determine the extent of socio-economic deprivation of the region in relation to other geo-political regions in Nigeria. The respondents were therefore asked the question “which region do you think is the major producer of wealth in Nigeria”? Table 2 shows the respondents answers to the question.

Table 2: Respondents Answers to the Question which Region do you Think is the Major Producer of Wealth in Nigeria

Region	Community leaders	Members of Militia Orgs.	Other members of the community	Total
North East	-	-	-	-(0%)
North West	-	-	-	-0%
North central	-	-	-	-0%
South East	-	-	-	0%
South West	-	-	-	0%
South-South (Niger Delta)	234(100%)	234(100%)	234(100%)	702(100%)
Total	234(100%)	234(100%)	234(100%)	702(100%)

There is strong evidence that the Niger Delta Region is the highest producer of wealth in Nigeria. All our respondents were unanimous in this regard. To further provide support to our findings, we reproduce the publication of the Federal Ministry of Finance in April 2005 which shows all the 6 Geopolitical zones and the states there in and their contribution to the National Mineral Revenue. The publication indicates that the Niger Delta zone contributes 91.64% of the mineral revenue in Nigeria. (See table 3 below)

Table 3: Contribution of Zones (States) to Federation Accounts April 2005

S/N	Zone	% Contribution of States to Mineral Revenue	Total
1.	North East		
	Adamawa	0.00	0.00%
	Bauchi	0.00	
	Borno	0.00	
	Gombe	0.00	
	Jigawa	0.00	
	Taraba	0.00	
Yobe	0.00		
2	North West		
	Kaduna	0.00	0.00%
	Katsina	0.00	
	Kebbi	0.00	
	Zamfara	0.00	
Sokoto	0.00		
3	North Central		
	Benue	0.00	0.00%
	FCT-Abuja	0.00	
	Kogi	0.00	
	Kwara	0.00	
	Nassarawa	0.00	
	Niger	0.00	
Plateau	0.00		
4	South East		
	Abia	1.31	2.75%
	Anambra	0.00	
	Ebonyi	0.00	
	Enugu	0.00	
Imo	1.44		
5	South West		
	Ekiti	0.00	3.87%
	Lagos	0.00	
	Ogun	0.00	
	Ondo	3.87	
	Osun	0.00	
Oyo	0.00		
6	South South		
	Akwa Ibom	16.93	91.64%
	Bayelsa	32.42	
	Cross River	1.53	
	Delta	20.1	
	Edo	0.084	
Rivers	29.58		

Source: Federal Ministry of Finance April 2005

On the issue of socio-economic deprivation of the Niger Delta Region, our respondents were asked, ‘would you say that the Niger Delta Region is economically and socially deprived?’ Table 4 shows the responses to the question.

Table 4: Responses Showing Whether Niger Delta Region is Economically and Socially Deprived

Option	Community leaders	Members of the Militia Orgs.	Other members of the community	Total
Yes	225(96%)	234(100%)	222(95%)	681(97%)
No	9(4%)		12(5%)	21(3%)
Total	234(100%)	234(100%)	234(100%)	702(100%)

The responses in table 4 make it clear that the Niger Delta Region is economically and socially deprived. Deprivation as earlier noted is a cause of anger and frustration. This induced anger and frustration can be linked with the development of social movements in the region. Earlier research by Eke (2003) demonstrated that instead of the expected wealth and human and material development, the Niger Delta Region experiences extreme poverty, lack of social amenities such as good roads, electricity, good drinking water, modern market facilities, hospitals, unemployment, underdevelopment, hunger, loss of soil fertility, youth restiveness, fights over little compensation funds etc. In addition, the British foreign secretary expressed the deprivation of the Niger Delta Region as follows:

The wealth of the Niger Delta is a curse to the people. Upon all the trillion of dollars Nigeria has earned from Niger Delta oil, what has the Federal Government of Nigeria got to show the world for it. It is monumental and inexplicable foreign debt, 419, corruption unlimited every where, alleged billions in foreign currencies in individual accounts of current and former public office holders (south-south Express May 28,2001).

Frustrated by their sense of deprivation, the people of Niger Delta engage in an unending specter of social movements, expressed in demonstrations, militia attacks, capture of oil workers and massive human induced oil spillages.

To establish the true cause of social movements in the Niger Delta Region, the respondents were asked, “what in your opinion is the major cause of social movements in the Niger Delta Region? Table 5 summarizes the respondents’ answers.

Table 5: Responses Showing the Major Cause of Social Movements in the Niger Delta.

Indicators	Community Leaders	Members of Militia Orgs.	Other Members Of The Community	Total
Socioeconomic deprivation	211(90%)	220(94%)	210(89.7%)	641(91.3%)
Unemployment	8(3.4%)	14(6%)	10(4.3%)	32(4.6%)
Political Neglect	8(3.4%)	-	8(3.4%)	16(2.3%)
Discrimination	5(2.1%)	-	4(1.7%)	9(1.3%)
Lack of self recognition	2(.9%)	-	2(.9%)	4(.6%)
Total	234(100%)	234(100%)	234(100%)	702(100%)

We find strong relationship evidence between socioeconomic deprivation and rise of social movements in the Niger Delta Region in Nigeria. 91.3% of the respondents accepted that socioeconomic deprivation is the major cause of social movements 4.6% indicated unemployment as the major cause, 2.3% thought it was political neglect while discrimination and lack of self respect received 1.3% and .6% of the respondents claiming discrimination and lack of self respect as the major cause of social movements in the region of our study.

In our attempt to further test the strength of socioeconomic deprivation in the causation of social movements the respondents were asked if they would support social movements if they (social movements) are purely meant to fight against socioeconomic deprivation of the Niger Delta Region. Table 6 summarizes their responses.

Table 6: Summary of Responses from Respondents on the Question”Would you Support Social Movements Ifthey are Purely Meant to Fight Against Socioeconomic Deprivation of the Niger Delta Region?”

Responses	Community Leaders	Members of Militia Orgs.	Other Members of the Community	Total
Yes	234(95.7%)	234(100%)	227(97%)	685(97.6%)
No	10(4.3%)	-	7(3%)	17(2.4%)
Total	234(100%)	234(100%)	234(100%)	702(100%)

The above analysis maintains the respondents’ insistence that socioeconomic deprivation is the cause of rise of social movements in the Niger Delta Region in Nigeria. We are not alone on this finding B.A. Kombonimi (in Telegraph June 2005) in a paper titled 2007 Presidency and the south – south Bid, stated as follows:

Basically, the south-South zone represents the Niger Delta region and by economic parallel the area which produces the main oil and gas, the lifeline of Nigeria’s economy. It is one of the causes of horrendous Nigeria/Biafra civil war (1967-1970). It led to the 12 day rebellion in declaration of the seceding republic of the Niger Delta by Late Major Isaac Adaka Boro in the present Rivers and Bayelsa states. The Ogonis’ revolt are contently there. South-South people feel cheated and exploited by a policy under which the wealth under their land is carted away, leaving them with crass poverty, polluted and devastated environment...

On the reason for the formation of militia organization, the respondents were asked the question “what can you say is the major reason for the formation of militia organizations in the Niger Delta Region?” Table 7 carries their responses.

Table 7: Reason for the Formation of Militia Organisations.

Possible Reason	Community Leaders	Members of Militia Orgs.	Other Members Of The Community	Total
To fight for self recognition	-	-	-	-
To fight for creation of more states and LGA’s.	-	-	-	-
To fight against socioeconomic deprivation.	234(100%)	234(100%)	234(100%)	702(100%)
Total	234(100%)	234(100%)	234(100%)	702(100%)

Again, as shown in table 7, the respondents were unanimous in saying that socioeconomic deprivation is the main reason for the formation of militia organizations. They were further asked if they would encourage their relatives to join militia organizations since they are meant to fight against the socioeconomic deprivation of the Niger Delta. Table 8 shows their responses.

Table 8: Respondents’ Answers to the Question “Would you Encourage Any of your Relatives to Join Militia Group if it is Meant to Fight Against the Socioeconomic Deprivation of Niger Delta?”

Answer	Community Leaders	Members of Militia Groups	Other Members Of the Community	Total
Yes	230(98.3%)	223(97.4)	234(100%)	692(98.6%)
No	4(1.7%)	6(2.6%)	-	10(1.4%)
Total	235(100%)	234(100%)	234(100%)	702(100%)

A cursory analysis of table 8 shows that the undercurrent of social movements in the Niger Delta Region in Nigeria hinge on socioeconomic deprivation, in tables 4,5,6,7 and 8, there are general consensus among our respondents that socioeconomic deprivation is the major cause of social movements in the region.

Summary

The finding of this paper justifies our assumption that socioeconomic deprivation is the root of social movements in the Niger Delta Region of Nigeria. The major point is the widening difference between what the people feel they want from the Nigerian state visa-vis their contribution to the National wealth such as infrastructural developments – good roads, drinkable water modern market facilities, hospitals, attractive positions in government and government policy making agencies etc. and what they actually receive from the government – non existence of the infrastructural developments and denial of lucrative positions in government. The case of Niger Delta replicates the ingredients of the writings of

Feierabs (1969), Davis (1962), and Gurr (1970), in their frustration – aggression, want – get – ratio and relative deprivation theories.

Suggestions

The unending violence in Niger Delta is man made and so is subject to solution. In line with this and to redress the wide spread frustration in the region, we suggest that:

- The needs of the Niger Delta people be provided. This includes rent for land use, claims for gas flaring, paying compensation for acquired land, clean up of the environment should there be any oil spill.
- All stake holders government and oil companies should meet their constitutional responsibilities of providing basic social amenities.
- The stake holders should implement the legal and statutory regulations regarding oil exploration and exploitation in the region i.e Petroleum Act 1969, the provisions of Decree 51 of/1969, the Petroleum regulations 1969, the Mineral Oils Safety regulation 1963 revised in 1997. These regulations spell out a number of obligations some of which are technology transfer, Nigerianisation policy, compensation for acquired land and damages and the respect for municipal laws safety operation and the respect for life and property.

When these demands and the legal statutory obligations are duly addressed, they could lead to peace and sustainable development in the Niger Delta Region and eradicate or minimize the outbreak of social movements.

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Credit Constraints Condition and Welfare among Farmers in Egbeda Local Government Area of Oyo State, Nigeria

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Abstract

The study was carried out in Egbeda Local Government Area of Oyo State to determine the impact of credit constraint condition on welfare of the farmers. A random sampling technique was used to select 150 farmers from five of the eleven wards in Egbeda Local Government Area. A descriptive statistical tool, probit regression and switching regression models were used to analyze the primary data obtained from the survey conducted. The findings of the study revealed that majority of the farmers (80%) were credit constrained and therefore, this affects their agricultural productivity and efficiency. The probit analysis result showed farmers' age, farming experience, marital status of the respondents, level of education, farm size cultivated, ownership of bank account and application for loan as the most important variables that significantly influenced credit constraints condition of farmers in the study area. The switching regression model was used to determine the impacts of credit constraints condition on farmers' welfare. The result showed farmers' age, household size, farming experience, marital status of the respondents, ownership of bank account and level of education as significant factors that influence per capital expenditure of the credit constrained farmers; while farmers' age, farm size cultivated, ownership of bank account, amount of loan obtained, level of education and farming experience were significant factors that determined the per capita expenditure of the credit unconstrained farmers. The estimated lambda parameter for both group of farmers was significant and this implies that ordinary least square estimate of the data collected would have yielded a bias estimates and therefore, the switching regression model used has corrected for biasness in the data obtained. Thus, effort to succour the credit-constrained farmers with a well-defined strategy should be put in place in order to improve their productivity and welfare.

Keywords: Credit constrained, probit and switching regression model.

Introduction

Credit has been regarded as an important catalyst to agricultural production activities because it allows the users to satisfy the cash needs induced by the production cycle which characterizes agricultural

activities like pre-planting, planting and post-planting operations that are typically carried out over a long period of several months in which very little cash revenue is earned, while expenditures on inputs and consumption must be made in cash (Feder et al, 1990). The provision of credit to farmers who lack resources including collateral to enable them perform effectively, thus become essential, given the introduction of improved technology which can then stimulate agricultural productivity (Adegeye and Dittoh, 1985).

Credit availability, if targeted to credit constrained farmers is expected to facilitate investment in agriculture and have substantial impacts on smallholder farms (Freeman, et al, 1998). Hossain (1998) noted that loan offered to small-scale entrepreneurs could increase their capital base as well as their investment, thus, helping them to accumulate wealth, which can generate further employment activities. However, Braeman and Guash (1986) concluded that small scale enterprises still face the problem of inadequate financial services and limited access to credit in spite of concerted efforts of the developing economies to alleviate the credit inadequacy problem.

Credit constraint condition has been attributed to some socio-economic factors like level of education, farmers' income, unavailability of collateral (Jimoh, 2005) and rationing factors used by the lenders to sort out potential borrowers (Striglitz and Weiss, 1981). Bell (1990) demonstrated that incomplete information might generate the problem of credit rationing which eventually make a borrower to be credit constrained.

In order to mobilize rural saving and encourage credit availability to Nigerian farmers, credit programmes were put in place by various governments. These are Nigerian Agricultural and Cooperative Bank (1973), Agricultural Credit Guarantee Scheme Fund, (1977), Peoples Bank (1989) and Community Bank (1990). Other credit programmes were organized through special programme like National Directorate of Employment and National Poverty Eradication Programme. However, the structure, conduct and *modus operandi* of these laudable programmes, have not addressed the strategy and methodology for stimulating the larger proportion of farmers (small scale farmers), who are most often regarded as credit-constrained farmers. Thus, analysis of socio-economic factors vis-à-vis per capita expenditure of the farmers is expected to serve as policy stimulus towards reducing the level of constraint imposed by credit unavailability on the farmers.

Problem Statement

Credit plays an important role in agricultural development but due to low margin of savings, most farmers are unable to accumulate enough capital. This is true especially for peasant farmers who lack capital and have their actual income obtained below expected or potential income. The inability of most peasant farmer to have access to adequate capital has been heightened by the relatively high level of poverty and increase in price of agricultural inputs, such as fertilizer, seed, farm implements etc. Inadequate credit supply is a central problem upon which other production factors exert negative influence on farmers' output and by extension, income receivable and welfare. Most lenders again do not consider socioeconomic factors of the borrowers and this generate information asymmetry that consequently leads to credit rationing (Bell, 1990). The rationing of credit as a result of imperfect information put borrowers to situation where full amount of credit applied for is not received or they are turned down by the lenders. Thus, the following research questions are raised to bridge the gaps on credit programme research in Nigeria: Why farmers are credit constrained? What factors account for this problem? To what extent do these factors influence welfare of the farmers? Is there any significant difference between per capita expenditure of the credit constrained and credit unconstrained farmers? The research questions raised shall be solved through the following research objectives:

- (1) To identify the determinants of farmers' credit constraint condition
- (2) To determine the extent to which credit constraint influence the welfare of the respondents

Research hypothesis

The null hypothesis employed in this study is stated below: There is no significant difference between per capital expenditure of credit constrained and credit un-constrained farmers ($H_0: \bar{x}_1 = \bar{x}_2$).

Theoretical and Conceptual Framework

The potential benefit in agricultural productivity is one motivation underlying many government programmes seeking to provide more credit to the farm sector. An important area in credit policy is the magnitude of expected productivity gain. If marginal productivity effect of credit is small, then the resources may be more beneficially deployed elsewhere. Assessment of the expected productivity gain is not trivial because the effect of credit is likely to differ between liquidity constrained and unconstrained farm households (Feder *et al*, 1990)

Previous studies showed the effect of credit on farmers' welfare by estimating separate production function for borrowers and non-borrowers and then proceed to compare the estimate (David and Meyer, 1980). An assumption made with regards to this methodology is that borrowers and non-borrowers are homogenous with respect to credit demand and supply situation. This assumption cannot hold because most non-borrowers do not borrow not because they actually have sufficient liquidity from their own resources but because they are not credit worthy. Similarly, the marginal effect of credit may actually be zero for borrowers for whom liquidity is not a binding constraint (Feder *et al* 1990). The same argument applies to situations where all sampled observations are pooled to estimate production functions with credit as a production input or as a supply determinant. The supply function is different depending on whether liquidity is a constraint. Estimates, which do not take account of these restrictions on the specification, are therefore flawed (Feder *et al* 1990). The model as applied in these situations has been criticized on the basis of sample selection bias which may arise from other interventions that provide multiple services to farmers in addition to credit. To correct for sample selection bias, a switching regression model is used (Lee, 1978; Madalla, 1985; Pitt, 1983; Feder *et al* 1990; Goetz, 1992; Fuglie and Bosch, 1995 and Freeman *et al*, 1998). The two-stage switching regression model applied in this study used a probit model in the first stage to determine the relationship between farmers' credit constraint condition and a number of socio-economic and credit variables. In the second stage, separate regression equations were used to model the welfare outcomes of group of farmers' conditional on a specified criterion function.

In Ethiopia, household size and site are significant variables that affect credit constraint condition of diary farmers while age, sex, attendance at livestock training and available loan are factors that significantly affect credit constraint condition of farmers in Kenya (Freeman *et al*, 1998). Ologun (1995) showed that family size and amount of credit used are the significant factors that influenced the ability of the borrowers to obtain credit in Nigeria, while amount repaid from previous season and the number of branches of bank in the rural areas was the relevant factors that determined the supply of agricultural credit. Feder *et al* (1990), submitted that savings in financial institutions and last season's income are the determinant of credit constraint condition of farmers.

Oluoch-Kosura and Ackello-Ogotu (1998) stated that functioning and effectiveness of credit delivery system in different countries is perhaps one of the most important determinants of smallholder's credit constraint condition because they largely determine their access to additional liquidity. Adeoti (2000), discovered level of education, family size, annual income and cost of inputs as the significant factors that affect women's demand for credit. These backgrounds form the basis for this study.

Methodology

The study was carried out in 5 wards of Egbeda local government area of Oyo State, Nigeria. It is located between East and North-east of Ibadan metropolis. It is bounded on the west by Ibadan North

and North East local governments, on the north by Lagelu local government on the south by Ona-ara local government and on the east by Irewole local government in Osun-State, Nigeria. The economic activity of the people is largely subsistence farming with traces of commercial farming springing up across the wards. The off-farming activities in the area are food processing and trading.

Primary data were collected for this study through structured questionnaires from farmers that used community banks as source of loan to agricultural activities. A two stage-random sampling procedure was used to select wards and respondents in the study area. The five out of eleven wards randomly selected are Egbeda, Erunwun, Ayese, Ajiwogbo and Osegare. In each ward, 30 farmers were finally selected from the list supplied by the agricultural officer of the local government and this gives a sample size of 150 farmers. The data collected cover study objectives and the responses of the farmers were analyzed with descriptive statistical tool and switching regression models.

The probit regression model was first used to determine the factors that affect credit constraint condition of the farmers sampled while switching regression model was used to correct for sample selection bias which may arise from other interventions that provide multiple services to farmers in addition to credit (Lee, 1978, Madalla 1983). Empirical applications of this model to agriculture include studies by Feder et al (1990); Goetz (1993); Fuglie and Bosch (1995) and Freeman et al (1998). In using Switching regression model, separate regression equations are used to model the welfare of groups of farmers' conditional on a specified criterion functions. Four functional forms were used such as linear, semi log, double log and exponential functional forms.

The credit constraint condition of the farmer is described by an unobservable excess demand function of a vector of exogenous household socio-economic and credit variables. The relationship between excess demand for credit and the vector of explanatory variable is specified as

$$I^* = \delta z_i + \mu_i \quad (1)$$

Where; z is a vector of exogenous variables δ is a vector of parameters and μ_i is a random disturbance term that is distributed with zero mean and variance σ^2 .

I , which is the excess demand functions for credit, is not observed, but responses from survey is used to determine those households whose productive activities are constrained if the demand for credit exceeds the supply of credit, that is, $I^* > 0$. These responses are used to define the criterion function which is observable dichotomous variable I_i where;

$$\begin{aligned} I &= 1 \text{ if } I^* = \delta Z_i + \mu_i \geq 0 \\ I &= 0 \text{ otherwise} \end{aligned} \quad (2)$$

The dependent variable in the first stage probit equation is farmer's credit constraint condition. The variable takes a value of 1 if farmer is credit constrained and 0 otherwise. The explanatory variables (table1) are continuous and binary.

Table 1: Description of Explanatory Variables

Variables	Type	Description
AGE	Continuous	Age of farmer or respondent
SEX	Binary	Sex of respondent 1 if male and 0 otherwise
EDUCATION	Binary	1 if respondent have formal education, 0 otherwise
HSIZE	Continuous	Household size
FAMSIZE	Continuous	Farm size in hectares
THEAPS	Continuous	Total heaps on farm
EXTCONT	Binary	1 if respondents has contact with extension agent, 0 otherwise
INCOME	Continuous	Income realized in the last cropping season
EXPEND	Continuous	Household expenditure
HFARM	Continuous	Hours work on farm
ACCOUNT	Binary	1 if farmers keep account with community bank, 0 otherwise
APPLOAN	Binary	1 if farmer borrowed in last cropping season, 0 otherwise
FEXPER	Continuous	Farming experience
OUTSTAND	Binary	1 if farmer has outstanding debt, 0 otherwise
DEPRATIO	Continuous	The ratio of children to adult in the family
AGRTRAIN	Binary	Farmers' attendance at training, 1 if farmers' attended, 0 otherwise
BELOCAIN	Binary	Belonging to local level institution, 1 if respondents belongs to I, 0 otherwise

Probit maximum likelihood estimates is used to estimate the parameter δ in equation (2). It is assumed that $\text{var}(U_i) = 1$, since δ is estimable only up to a scale factor. Following from Feder *et al* (1990) and Freeman *et al* (1998), the welfare of the two groups of farmers is modeled by reduced form equations specified by:

$$Y_{1i} = \beta_1 x_{1i} + U_{1i} \quad \text{if } i = 1$$

and,

$$Y_{2i} = \beta_2 X_{2i} + U_{2i} \quad \text{if } i = 0 \tag{3}$$

Where;

β_1 and β_2 are vector parameters

x_{1i} and x_{2i} are vectors of exogenous variables defined in table 1.

U_{1i} and U_{2i} are random disturbance terms

Y_{1i} and Y_{2i} are the per capita expenditure function for credit constrained and credit unconstrained farmers respectively

Ordinary least squares method (OLS) is used to estimate the parameters β 's equation (3). The random disturbance terms U_{1i} , U_{2i} and U_i are assumed to have trivariate normal distribution with zero mean and a non-singular covariance matrix. Maximizing the bivariate probit likelihood function is feasible but time consuming so a two-stage estimation method is used to estimate the systems of equations in Equations (2) and (3).

The conditional expected values of the error terms U_{1i} and U_{2i} in equation (3) are:

and

Where ϕ and Φ are the probability density function and the cumulative distribution function respectively. The ratio ϕ/Φ evaluated at $\delta^1 z_i$ for each I is the inverse Mills ratio. For convenience define

$$\lambda_{1i} = \phi(i\delta^1 z_i)/\Phi(\delta^1 z_i)$$

and,

$$\lambda_{2i} = \phi(\delta^1 z_i)/1-\Phi(\delta^1 z_i) \tag{4}$$

These terms are included in the specification of equation 3 to yield

$$Y_{1i} = \beta_1 x_{1i} + \sigma_{1u} \lambda_{1i} + e_{1i} \quad \text{if } I = 1$$

$$Y_{2i} = \beta_2 x_{2i} + \sigma_{2u} \lambda_{2i} + e_{2i} \quad \text{if } I = 0 \tag{5}$$

Where; e_{1i} and e_{2i} , the new residuals have zero conditional means. These residuals are however heteroscedastic. Therefore estimating equation (5) by weighted least square (WLS) rather than OLS would give efficient estimates.

Thus the two stage estimation procedure that is used to estimate the model proceeds as follows: In the first stage probit maximum likelihood is used to obtain estimates of δ from equation (2). By substituting the estimated values of δ for δ ; estimates are obtained for λ_{1i} and λ_{2i} from equation (4). In the second stage (equation 5) is estimated by WLS using the estimated values λ_{1i} and λ_{2i} as instrument for λ_{1i} and λ_{2i} respectively.

Results and Discussion

The socioeconomic and credit characteristics of the respondents examined include age, gender, marital status, level of education, family size, farm size, source of labour used type of enterprise source of land, contact with extension agents, source of credit, ownership of account, application for loan, use of loan, type of collateral, level of savings, interest on loan and outstanding debt.

The result shows that 65% of the farmers are between 50 to 60 years of age with 88% of this age group being credit constrained. While this age group may not have the potential to sustain agricultural production activities, unavailability of credit may limit the zeal in them to expand their business activities. Eighty seven percent (87%) of the female farmers interviewed were credit constrained while male farmers though dominating the sphere of agricultural activities in the study area were less credit constrained than their women counterparts. Eight –two percent (82%) of the farmers were married and are more credit constrained than those that are single and widowed. The rationale behind this may be explained on the notion that married households have tendency to divert credit to other non-farming activities. Most respondents (52%) received no formal education and this constrained their access to credit.

The households with an average of 11 to 25 members are more credit constrained than the household with fewer members and as usual, large family size may evoke decision to divert loan away from farming activities due to high dependency ratio. Majority of the respondents (89.8%), that cultivate less than 3ha of land are more credit constrained than those that cultivate above 3ha. This implies that farm size (*ceteris paribus*) is expected to produce output that can simultaneously generate income to payback the loan and high level of profit accruable from the enterprise. Farmers that used hired labour (96.87%) are more credit constrained than those that used family labour due to high cost of hired labour in the study area. The livestock-based farmers (96.1%) are more credit constrained than crop-based and crop-livestock based farmers in the study area. This is due to small loan size available to potential borrowers (average of #50,000 per annum), and this amount is not enough to stock reasonable size of livestock. Those that acquired their land through rents (92.7%) are more credit constrained than those that secure theirs through inheritance and purchase. Thus, tenancy security may serve as collateral for loan obtained. Farmers with less than 5 years farming experience (30%) are more credit constrained than those that have more than 5 years of farming experiences.

Majority of the respondents (73%) had no contact with the extension agents and are more credit constrained than those that had contacts with the extension agents within their domain. Poor contact with extension agents might have complicated the severity of credit constraint condition of the farmers. Farmers without bank account (93.5%) and savings with the community bank are more credit constrained than those that have account and saving with the community bank. In the same vein, those that did not applied for loan last season are more credit constrained than those that applied for it. This is true because, community banks would have monitored financial status of their customers within this period. Majority of the respondents (86%) showed willingness to pay at low interest rate and this also prevented most farmers from having access to credit. Those farmers (92%) that have previously diverted the loan for non-farming activities are more credit constrained than those that used their loan for a particular farm enterprise. Most farmers sampled (90%) have no collateral and are more credit constrained than those that have one form of collateral or the other. The farmers that schedule their repayment scheme on short term (90.8%) are less credit constrained than those that have their

arrangement on medium and long-term basis. More, importantly, those that have outstanding debt (83%) are more credit constrained than those without outstanding debt.

Determinants of Credit Constraint Condition of the farmers

The results of probit model (Table 2) used to determine factors that affect credit constraint condition of the farmers showed that farmers’ age, ownership of bank account, farming experience, farmers’ level of education, marital status, farm size cultivated and application for loan are the significant factors that influence credit constraint condition of farmers using community banks in the study area.

Table 2: Probit Regression Result for Farmers Credit Constraint Condition

Variable name	Regression coefficient	Standard error (S.E)	t-values
SEX	0.9868	0.12131	0.81346
AGE	0.02432	0.00532	4.56786*
MARITSTA	0.42320	0.18603	2.27498**
EDUCATION	0.99388	0.13926	7.13693*
FARM SIZE	0.08324	0.04947	1.68269***
HOUSE SIZE	-0.02026	0.01558	-1.30015
EXTCONT	0.21498	0.11818	1.81900
BELOCAIN	0.03184	0.12897	0.24683
ACCOUNT	0.45651	0.12991	3.51398*
FEXPER	-0.01991	0.00379	-5.25905*
AGRTRAIN	0.01280	0.00784	1.63171
APPLOAN	0.23576	0.12558	1.87733***
OUTSTAND	-0.15156	0.10854	-1.39632
DEPRATIO	0.45835	0.14588	1.10213
Constant	0.4809	0.1201	4.004*

Pearson’s Goodness of fit: chi-square = 10804.650

Note: * Significant at 1%; ** Significant at 5%; *** Significant at 10%

Age positively influence credit constraint condition of the respondents, because majority of the farmers are older people. Thus, lending agencies may be bias in granting credit to older farmers. Similarly, the significance of marital status of the respondents implies that married household is denied credit because they may divert the loan for other purpose other than primary purpose. The level of education of majority of the farmers (no formal education) could have contributed to credit constraint condition of the farmers. Thus, high level of education might have been very important factors in granting loan to the prospective borrowers. The reason for ownership of account can be explained based on the majority of the farmers (93.5%) sampled who operate no account with the community bank. Fewer numbers of farmers (30%) apply for loan from the community bank and therefore, majority of the respondents that did not apply for loan are more credit constrained than those that were applied for loan.

Farm size cultivated (small size) by the majority of the respondents constrained them from getting credit from the community bank, because bank favours large-scale farmers with collateral, that can serve as guarantee in the case of default. Farming experience reduces credit constraint condition of the respondents because most respondents that secured loan from community bank have considerable years of farming experience.

Determinants of Welfare among Credit Constrained and Credit-unconstrained Farmers

The exponential function form was chosen as the lead equation for the determinants of welfare of credit-constrained farmers based on criteria for chosen the lead equation. The result shows (Table 3)

farmer’s age, farm size cultivated, farming experience, marital status, level of education and ownership of bank account as the significant factors that influenced per capita expenditure of the farmers. Farmer’s age marital status and household size reduce welfare of the credit constrained farmers because; most credit constrained farmers are older farmer, married with large family size. The level of education reduces welfare of the credit constraint farmers because they possessed informal education. In the same vein, ownership of bank account reduces welfare of the credit constraint farmers due to their inability to keep bank account with the community bank, and, this restrict their borrowing potential. Farming experience, however, improves the welfare of the credit constrained farmers. The estimated lambda is significant, and it tells us that if we had used the ordinary least square, the estimates obtained would have been biased. Hence, the estimates obtained from switching regression analysis are efficient.

The semi-log functional form was chosen as the lead equation for the determinants of welfare among credit-non constrained farmers (table 4). The result shows farmer’s age, farm size cultivated level of education, ownership of bank account, amount of loan obtained and farming experience as the significant factors that positively influenced per capita expenditure of this group of farmers. We expect contact with extension agents to influence welfare of the credit unconstrained farmers; however, the farmers revealed that bank support them with such services. The estimated lambda is significant, and it tells us that if we had used the ordinary least square, the estimates obtained would have been biased. Hence, the estimates obtained from switching regression analysis are efficient.

Table 3: Result of Switching Regression Model for credit constrained farmers (Exponential functional form)

Variable name	Coefficient	Standard error	T-value	Sig.
CONSTANT	11.10509	0.530	20.953	.000*
AGE	-0.380	0.024	-1.741	.085***
FAM SIZE	0.083	0.112	0.665	.058
F SIZE	-0.274	0.039	.2.259	.026**
LOAN OBTAINED	-0.003	0.000	-0.038	0.970
FEXPER	0.491	0.016	2.600	0.011**
AGRTRAIN	-0.148	0.01 9	-1.340	0.183
DEPRATIO	-0.010	0.808	-0.103	0.918
LAMDA	1047.46	250.329	4.1843	0.0023**
SEX	0.022	0.242	0.212	0.833
MARITST	-0.457	0.0445	10.2696	0.002*
EDUCATION	-0.739	0.0854	-8.6533	0.0043*
EXTONT	-0.313	0.273	-1.235	0.220
BELOCAIN	-0.108	0.262	-1.071	0.287
ACCOUNT	-0.873305	0.449	-1.945	0.055**
R ²	0.307			
ADJUSTED R ²	0.210			
F-VALUE	3.167			

Dependent variable Per Capita Expenditure (LNPCE)

Source: Field Survey (Jan. 2005)

*Significant at 1% level; ** Significant at 5%; *** Significant at 10%

Table 4: Result of Switching Regression Model for Credit Non-Constrained Farmers (Semi-Log model)

Variable name	Coefficient	Standard error	T-value	Sig.
CONSTANT	781637.4582	380729.4	2.053	0.053***
LN AGE	86856.1113	38585.567	2.251	0.036**
LN H SIZE	-0.241	16192.671	-1.396	0.178
LN FAMSIZE	44463.921	13812.961	3.219	0.004*
LN LOAN OBTAINED	2.618	0.5814	4.5029	0.0028*
LN FEXPER	12.2	6.15274	1.9828	0.159***
LN AGRTRAIN	-0.122	6879.183	-0.839	0.411
LN DEPRATIO	-0.067	6305.699	0.558	0.583
SEX	-0.112	15377.693	-0.664	0.514
MARITST	0.142	26928.327	0.556	0.585
EDUCATION	12.499	3.1876	3.92144	0.00345*
EXCONT	0.125	15484.719	0.754	0.460
BELOCAIN	0.102	17761.358	0.645	0.526
ACCOUNT	7.73	4.52142	1.730	0.0872***
LNLAMBDA	1.268	0.5524	10.2045	0.0001
R ²	0.773			
ADJUSTED R ²	0.614			
F-VALUE	4.856			

Dependent variable PCE

Source: Field Survey (Jan. 2005)

* Significant at 1% level; ** Significant at 5%; *** Significant at 10%

Table 5: Test for Differences in Per Capita Expenditure

Descriptive statistics	Credit constrained	Credit non-constrained
Mean	27279	38202
Standard deviation	25001.63	42891.28

$$Z_{cal} = 1.434;$$

$$Z_{tab} = 1.28$$

$$\text{Hypothesis: } H_0: \bar{X}_1 = \bar{X}_2$$

$$H_1: X_1 \neq X_2$$

X₁ = credit constrained

X₂ = credit non-constrained

Hypothesis testing was carried out to test for difference in per capita expenditure of credit constrained and credit-non-constrained farmers. The result (table 5) shows that per capita expenditure of the credit non-constrained farmers is significantly different from credit constrained farmers. Therefore, mean per capita expenditure of credit unconstrained farmers is higher than that of credit unconstrained farmers.

Conclusion and Recommendations

The study was carried out to investigate the root cause of credit constraint condition of the farmers and how these causative factors determine the welfare of the farmers in the study area. The approach used was the two stage regression model in order to correct for possible biasness in single stage model estimation. The study revealed the key socio-economic and credit factors that constrained the farmers in having access to timely and adequate credit for their farming activities; and these factors directly or indirectly influence the welfare of the farmers in the study area. It therefore, becomes pertinent for the participants in the credit programme to examine and understand the roles of socio-economic and credit factors in credit utilization and repayment pattern or schedule. This may to large extent help in designing workable credit policy that could have positive impact on the borrowers' welfare, and, at the same time, meet the salient objectives of the lenders (Community Banks).

Based on the results of the analysis and notable critical observations, the following recommendations are made:

- There is the need for special education programme on credit utilization and repayment for the majority of the farmers who are credit constrained in the study area. This is pertinent because level of education has been regarded as a pivotal factor in granting credit to the borrowers and on the use of the credit (Freeman et al 1998).
- Farmers' contact with extension agents will be of importance to the welfare of the credit constrained farmers because such contacts may to a large extent catalyze farmers' understanding of conditions that surround the use of credit and also, re-orientates those farmer that do divert production credit to non-productive activities..
- Farmers' participation in local level organization or institution needs to be encouraged in order to facilitate spread of information on credit source, use and repayment.
- Welfare of the credit constrained farmers can be improved upon if most of these farmers that cultivated small farm size (less than 3 hectares) organized themselves into collective or cooperative farming system (with large farm size) in order to attract banks who normally, are disposed to commercial farms funding

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The Golden Mean Fallacy and Financial Market Forecasting

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Abstract

This experimental study presents evidence for the golden mean fallacy. It is the tendency of a considerable part of the subjects ($\approx 46\%$) to steer an irrational middle course when faced with two meaningful alternatives. A pointless middle course is often ($\approx 29\%$) also followed in cases where the subject is faced with a meaningful alternative on the one hand and a meaningless hint towards another alternative on the other. The golden mean fallacy can – among other things – make an important contribution towards explaining the largely closed ranks in time series of financial market forecasts.

Keywords: Experiments; behavioral anomaly; decision-making under risk; financial market forecasting; financial analysts

Introduction

Marshall Rooster Cogburn and the young Texas Ranger La Boeuf are pursuing Tom Chaney and his gang. The bandits already have a lead of several hours. La Boeuf reads their tracks in the sandy earth of the prairie. The pursuers come to a fork in the trail: The tracks reveal that the gang split up here. One half took the left fork heading in a north-westerly direction. The other half took the right fork and rode in a north-easterly direction. More than anything else, Cogburn and La Boeuf want to capture Chaney. Which group did he go with? Did he take the left fork or the right fork? Either possibility is equally probable. Cogburn and La Boeuf take a while to make their decision. Finally they choose the middle trail, which leads north.

This is extremely surprising. The decision is actually completely meaningless, because it is clear that none of the bandits has taken this trail. We would not have expected such non-sense from either Cogburn or La Boeuf. If this situation is transferred to an economic environment, however, it can be seen that this type of meaningless decision often occurs. Almost half of the subjects tend to choose the middle course in such a situation.

The golden mean fallacy (also known as the fallacy of moderation, fallacy of compromise or the fallacy of middle ground) has been familiar to psychologists for a long time (see Gula, 2002, p. 102, for example). In the field of behavioral finance, however, this behavioral anomaly has not yet been investigated. Particularly it was never examined if the subjects incline toward the golden mean fallacy in situations in which it obviously is irrational. In this study we show that subjects often follow meaningless middle courses when dealing with economic forecasting.

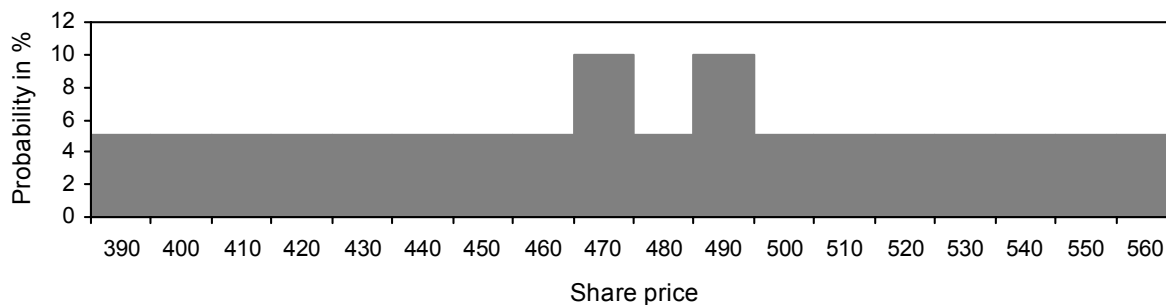
The next chapter describes the experimental design. The chapter after next presents the results. The golden mean fallacy can contribute towards explaining the largely closed ranks seen in financial market forecast time series. This is discussed in the last chapter but one. The last chapter contains a summary.

Experimental Design

Each subject has to solve four tasks. The goal is to make forecasts for two fictitious shares, a fictitious share index and a fictitious exchange rate. The subjects have between 9 and 19 price alternatives to choose from. They know that one of these alternatives will occur in each case. They have one or two forecast models at their disposal whose reliability varies between 9% and 20%. The other price alternatives each have lower and corresponding probabilities of occurrence. In two tasks, irrelevant additional information is provided. The subjects have to work their way through the four tasks consecutively. They only receive the next task when the previous one has been collected by the supervisor. There is no time limit. The use of a pocket calculator is allowed.

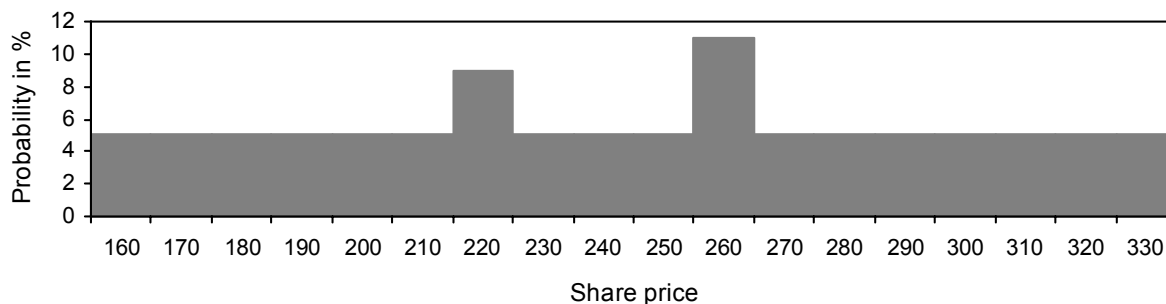
Task 1: The future price of the share XY has to be forecast. The future price lies between € 390 and € 560. The price alternatives are offered in steps of ten euros (390, 400, 410 ... 550, 560). The subjects have two forecast models at their disposal which each have a reliability of 10%. The first forecast model recommends a forecast of € 470. The second forecast model recommends a forecast of € 490. The 16 other alternatives each have a probability of 5%. If the subject decides rationally, he or she has to forecast either € 470 or € 490. All other forecasts have a significantly lower probability of success.

Figure 1: Distribution of probability for Task 1



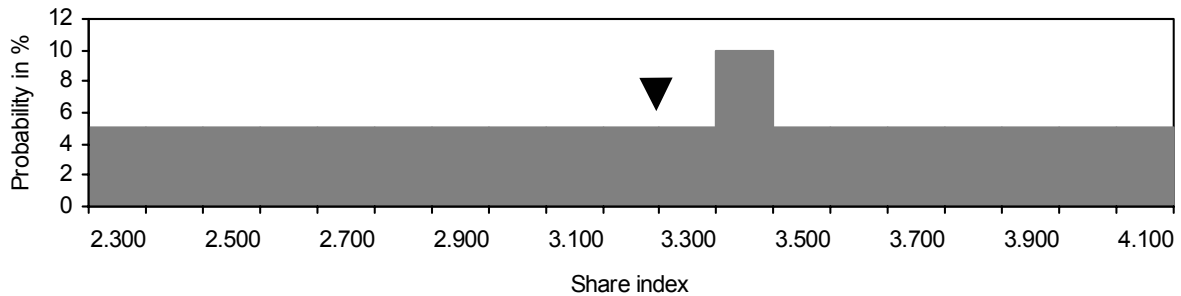
Task 2: The future price of share YZ has to be forecast. The future price lies between € 160 and € 330. The price alternatives are offered in steps of ten euros. The subjects have two forecast models at their disposal. The first forecast model has a probability of 9%, the second one a probability of 11%. The first forecast model recommends a forecast of € 220. The second forecast model recommends a forecast of € 260. The 16 other alternatives each have a probability of 5%. If the subject decides rationally, he or she has to forecast € 260. All other forecasts have a recognizably lower probability of success.

Figure 2: Distribution of probability for Task 2



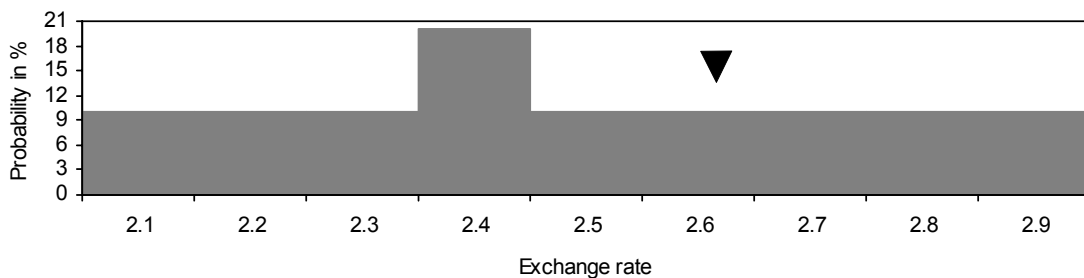
Task 3: The future level of a fictitious share index (PHANTAX) has to be forecast. The future index level lies between 2,300 and 4,100 points. The alternatives are offered in steps of one hundred points (2,300, 2,400, 2,500 ... 4,000, 4,100). The subjects have a forecast model at their disposal which has a reliability of 10%. The forecast model recommends a forecast of 3,400 points. The 18 other alternatives each have a probability of 5%. It is pointed out, however, that the index is currently at 3,200 points (see the black arrow in Fig. 3). However, it is recognizable that this information has no significance for the probabilities of occurrence. If the subject decides rationally, he/she has to forecast a level of 3,400 points. All other forecasts have a significantly lower probability of success.

Figure 3: Distribution of probability for Task 3



Task 4: The future level of a fictitious exchange rate (Piri Piri-\$/Kuru-Kuru \$) has to be forecast. The future exchange rate lies between 2.10 and 2.90. The exchange rate alternatives are offered in steps of ten cents (2.10, 2.20, 2.30 ... 2.80, 2.90). The subjects have a forecast model at their disposal which has a reliability of 20%. The forecast model recommends a forecast of 2.40 points. The 8 other alternatives each have a probability of 10%. It is pointed out, however, that an unknown banker is of the opinion that the exchange rate will reach the level of 2.60 (see the black arrow in Fig. 4). However, it is recognizable that this information has no significance for the probabilities of occurrence. If the subject decides rationally, he/she has to forecast a level of 2.40 points. All other forecasts have a significantly lower probability of success.

Figure 4: Distribution of probability for Task 4



The experiments were carried out with students of the Wolfsburg University of Applied Sciences. They were students of business administration who were close to graduating and had a sound knowledge in the area of probability theory. The experiments (all four tasks) took just under an hour to complete on average. The success-related compensation for the students was 12 bonus points for a later examination. This is equivalent to a maximum possible compensation of just under € 58 (≈US\$ 80). The equivalent value of the bonus points in terms of money was estimated on the basis of an earlier survey (Spiwoks, Bizer and Hein, 2008). The subjects felt that this was a considerable incentive and

were obviously highly motivated. Selten, Abbink, Buchta and Sadrieh (2003) have underlined the effectiveness of bonus points as an incentive.

Results

The tasks can be solved without a great deal of reflection. The subjects have to choose between several alternatives. The alternatives exhibit varying probabilities of success. It is rational to select the alternative with the highest possible probability of success, because it has the highest expected value in terms of the pay off.

In Task 1 it is rational to forecast either € 470 or € 490. The probability of success – and thus also the expected value of the pay off – is twice as high here as in all the other alternatives. In spite of this, 60% of the subjects decided differently. 48.75% of the subjects chose the middle course – the golden mean. Just under half of the subjects obviously cherished the illusion that the forecast of € 480 would somehow combine the probabilities of success of € 470 and € 490. However, the formulation of the task makes it clear that the alternative of € 480 has a probability of success which is only half as high as € 470 or € 490.

A loaded dice is characterized by the fact that some numbers come up more often than others. If one observes that 3 and 5 come up particularly often ($>1/6$), whereas all the other numbers come up correspondingly seldom ($<1/6$), then it obviously makes no sense to bet on the 4. However, many subjects succumb to the temptation to do precisely that – at least in decision-making situations in connection with capital market forecasts.

Table 1: Overview of the results

Task	Rational decisions	Irrational decisions	
		Golden mean	Others
1	40.00%	48.75%	11.25%
2	48.57%	42.86%	8.57%
3	45.71%	25.71%	28.58%
4	51.43%	31.43%	17.14%
∅	46.43%	37.14%	16.43%

Task 2 has a somewhat different character. Once again there are two alternatives whose probability of success is clearly higher than that of all the other alternatives. However, in this case the two alternatives are further apart and their probabilities of success are different. The rational decision in Task 2 is to forecast € 260. The probability of success of this forecast is recognizably higher than for the alternative € 220. And it is more than twice as high as that of all the other alternatives. Just under half of the subjects (48.57%) succeeded in making a rational decision in this task. 42.86% of the subjects succumbed to the temptation of choosing a middle course (€ 230 – 250). However, the expected value of the pay off for this middle course decision is not even half as high as that of the alternative of € 260.

Task 3 is fundamentally different from the first two tasks. Only one of the alternatives has a higher probability of success than the others. A subject who acts rationally would have to forecast 3,400 index points. All of the other alternatives lead to an expected value of the pay off which is only half as high. The subjects are also informed that the current index level is 3,200 points. However, the formulation of the task makes it clear that this information has no significance for the probability of success of this alternative. In spite of this, about every fourth subject (25.71%) feels the need to choose the golden mean (3,300) between the meaningful forecast (3,400) and the current index level (3,200). This percentage is considerably lower than in the first two tasks. In spite of this, the result is remarkable. In the first two tasks, meaningless middle courses were chosen between two meaningful alternatives. It now becomes clear that a middle course between a meaningful alternative and an

alternative which is highlighted by an item of completely meaningless information also appears highly promising to many subjects.

The number 4 comes up particularly often ($>1/6$) when a loaded dice is thrown. All the other numbers come up equally more seldom ($<1/6$). The previous throw was a 6. It obviously does not make sense to bet on the number 5 for the next throw. Nevertheless, a quarter of the subjects act in this way in Task 3.

Task 4 is similarly structured to Task 3. The forecast alternative of 2.40 has a probability of success which is twice as high as that of all the other alternatives. A rational subject would thus have to select this alternative. Once again, an irrelevant piece of information is added. Somebody expresses the opinion that 2.60 is the correct forecast. An experiment by DiFonzo and Bordia (1997) showed that investment decisions can be significantly influenced by rumors. However, the formulation of the task makes it clear that the expression of this opinion does not result in an increase in the probability of the event occurring. In spite of this, just under a third of the test persons (31.43%) decide to take the middle course (2.50) between the rational solution (2.40) and the irrelevant information (2.60).

Subjects select the middle course particularly often when they are confronted with two alternatives whose probabilities of success stand out from the other alternatives (Tasks 1 and 2). They obviously imagine that a golden mean decision can combine the outstanding probabilities of success. The subjects involved are also not deterred from this strategy by the fact that the probability of success of the middle course is clearly low.

If the alternatives with a particularly high probability of success are close to each other, and if they additionally exhibit concurring probabilities (Task 1), then 48.75% of the subjects choose the meaningless middle course. If the alternatives are somewhat further apart and differ with regard to their probabilities of success (Task 2), 42.86% of the subjects then choose a meaningless middle course.

If only one alternative with an outstanding probability of success is presented and a further irrelevant item of information is added (Tasks 3 and 4), an average of 28.57% of the subjects still decides in favor of the meaningless middle course between the relevant and the irrelevant information.

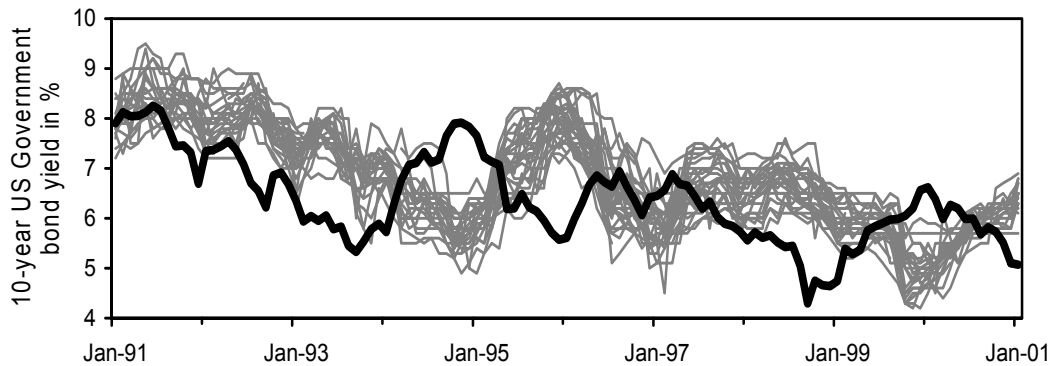
On average, 37.14% of all decisions are characterized by the golden mean fallacy. That is a considerable percentage, which can contribute towards explaining various economic phenomena. An example is examined in the following chapter.

Concurring behavior by financial market analysts

In capital market forecasts, it can often be observed that the forecast time series of different analysts exhibit very similar courses, although the forecasts are obviously not successful.

Considerable weaknesses are shown in forecasts for the US bond market (Fig. 5). The analysts did not expect the interest rate low of autumn 1993 to come about until the end of 1994. However, by that time there was already another interest rate high. The analysts, though, had not expected this interest rate high until the end of 1995. Similarly, the interest rate low in autumn 1998 was only forecast for the end of 1999.

Figure 5: Ten-year US Government bond yield (bold black line) and respective forecast time series with a forecast horizon of twelve months (thin grey lines) from January 1991 to January 2001;



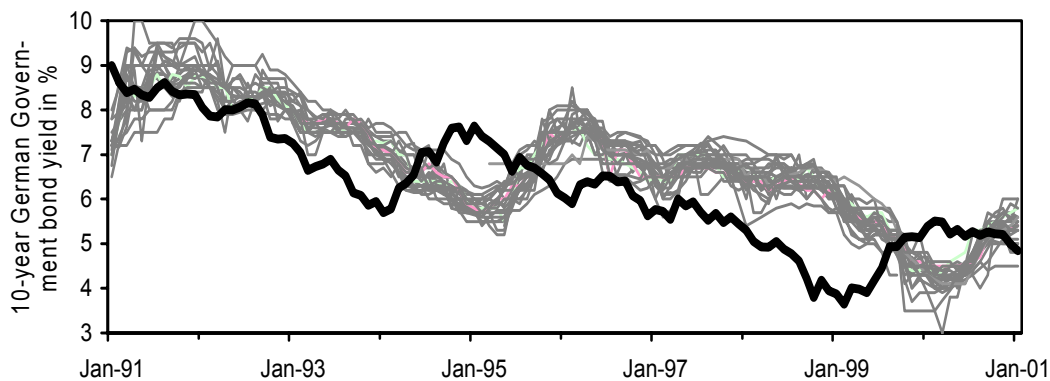
Source: Consensus Forecasts and Data Stream.

A very similar situation is also shown in the forecasts for the British and the German bond market (Figures 6 and 7). The same circumstances occur in forecasts for Japanese, Canadian, French, Italian, Spanish, Swiss, Dutch and Swedish interest rate trends: The forecasts have to be viewed as largely failed. In spite of this, they do concur on the whole. That is surprising because there are always many ways of coming to a mistaken forecast. The question thus arises as to why the analysts all fail in the same way.

It is undoubtedly a multi-dimensional phenomenon. Extensive evaluations of forecast data (Spiwoks, Bizer and Hein, 2005) and the results of experiments (Bedke, Bizer and Spiwoks, 2008) reveal that a major part of the agreements between different forecast time series can be traced back to rational herding behavior on the part of the analysts. However, part of these agreements are certainly also a result of the golden mean fallacy.

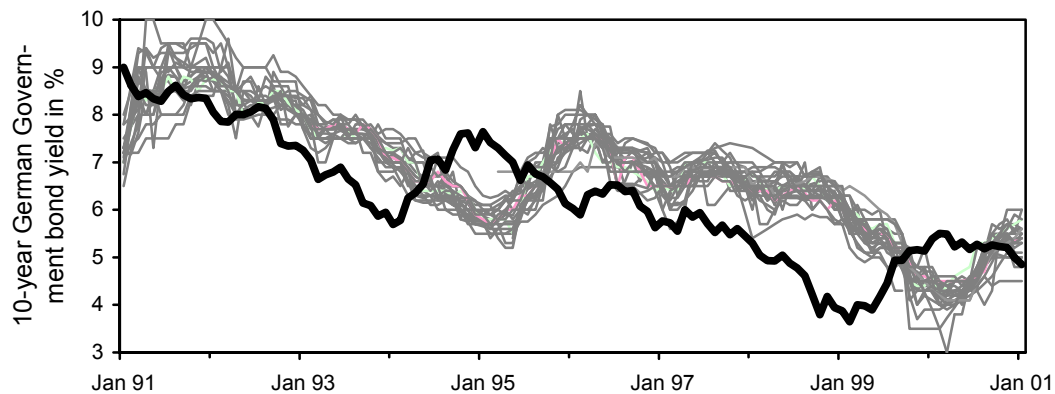
Let us assume, for example, that the analysts have two forecasting approaches at their disposal (e.g. fundamental analysis and technical analysis), which at least occasionally lead to differing estimations of the future (similarly to that in Tasks 1 and 2). This could lead to a split in the analysts' community. Whereas a part of the analysts expect increases in interest rates, the others predict the opposite. This type of split could not be observed in a single case in the above-mentioned bond markets. One of the reasons why it did not occur is presumably because part of the analysts succumb to the golden mean fallacy and take a middle course between the two sets of results.

Figure 6: Ten-year UK Government bond yield (bold black line) and respective forecast time series with a forecast horizon of twelve months (thin grey lines) from January 1991 to January 2001;



Source: Consensus Forecasts and Data Stream.

Figure 7: Ten-year German Government bond yield (bold black line) and respective forecast time series with a forecast horizon of twelve months (thin grey lines) from January 1991 to January 2001;



Source: Consensus Forecasts and Data Stream.

Or let us assume that many analysts not only take the result of their own forecasting model into consideration, but also the opinion of a colleague (as in Task 4). If the two assessments are different, the golden mean fallacy can contribute to the actual forecasts of the two analysts diverging significantly less than if they had only followed their own private signal.

Finally, many analysts compare the results of a forecasting process with the current situation in the financial markets (as in Task 3). If they succumb to the golden mean fallacy in the process, this not only contribute to their forecasts diverging less – it can also lead to forecasts being influenced by the current situation in the financial markets. The forecast time series is then to a considerable extent a delayed reflection of reality. This phenomenon is referred to as topically orientated trend adjustment behavior (Andres and Spiwoks, 1999; Bofinger and Schmidt, 2003). This situation is obviously present in all the forecast time series observed here (see Figures 5 to 7).

The forecasting efforts observed in figures 5 to 7 failed. There are innumerable different ways of making mistaken predictions of the future. In spite of this, the forecasts are highly similar. This can be presumably traced back to several factors. Rational herding plays a role, as do irrational factors (e.g. conformity preference or the golden mean fallacy). It is difficult to weight the individual influences, because they presumably fluctuate over the course of time. Arnold Gehlen pointed out that the orientation of subjects towards codes of conduct and rules of decision-making depends on the situation and is fundamentally instable. In any case, the golden mean fallacy is an important contribution towards a better understanding of frequently occurring agreements in the behavior of financial analysts.

Conclusion

This experimental study explores the golden mean fallacy. The subjects have to make forecasts for fictitious financial market situations. Tasks 1 and 2 each offer two alternative forecasts whose probability of success is significantly higher than that of the other alternatives. It is revealed that 46% of all the subjects choose a middle course between the two meaningful alternatives. The subjects clearly hope that by choosing a middle course they can combine the increased probabilities of success of the meaningful forecasts. They do this in spite of the fact that the formulation of the task makes it clear that this middle course leads to a clearly lower probability of success.

The golden mean fallacy also arises to a lesser extent if there is only one forecast alternative with an outstanding probability of success but at the same time an obviously meaningless item of information about another alternative is provided (Tasks 3 and 4). In this situation, around 29% of the

subjects still tend to choose a middle course between the meaningful alternative and the alternative which has been highlighted by irrelevant information.

This study highlights a further behavioral anomaly to the field of research of behavioral finance. Again it is revealed that even with an extremely simple task, only a part of the subjects (in this case around 46%) are prepared to use the available information in a meaningful way. The concept of homo economicus is repudiated once again.

In addition, it is shown that the golden mean fallacy can contribute towards explaining concurring behavior by financial analysts. Diverging results of different methods of analysis are leveled out. Differences between the results of one's own analyses and the assessments of colleagues also often lead to middle courses being chosen. The golden mean between the analyst's private information and the current situation in the financial markets can contribute towards typically orientated trend adjustment behavior. The golden mean fallacy occurs in around 37% of all cases. This is not sufficient for it to be considered the sole cause of the high degree of agreement in behavior among financial analysts. However, the golden mean fallacy undoubtedly contributes towards a better understanding of the synchronous nature of forecast time series.

Appendix: The formulation of the tasks using the examples of Task 1 and Task 4

Task 1:

Imagine you are a financial analyst and have to make regular forecasts about the development of the price of a specific share (XY). You have two forecasting models at your disposal. You know that you will make a correct forecast in exactly 10% of all cases when you follow FM 1, your first forecasting model. You also know that you will make a correct forecast in exactly 10% of all cases when you follow FM-2, your second forecasting model. The other forecast alternatives do not differ with regard to the probability of occurrence.

You should now forecast the price of the share XY for the end of December 2007. Your forecasting model FM-1 leads to the prediction that the price of share XY will be EUR 470 at the end of December 2007. Your forecasting model FM-2 leads to the prediction that the price of share XY will be EUR 490 at the end of December 2007.

If you make a correct forecast, you receive 3 bonus points for your examination!

Only the following forecast alternatives are available. One of these figures will actually be correct. Mark your forecast with a cross.

390 400 410 420 430 440 450 460 470
 480 490 500 510 520 530 540 550 560

Task 4:

Imagine you are a financial analyst and have to make regular forecasts about the development of a specific exchange rate (Piri-Piri dollar/Kuru-Kuru dollar). You have a forecasting model at your disposal. You know that you will make a correct forecast in exactly 20% of all cases if you follow your forecasting model. The other forecast alternatives do not differ with regard to the probability of occurrence.

You should now forecast the Piri-Piri dollar/Kuru-Kuru dollar exchange rate for the end of December 2007. Your forecasting model leads to the prediction that the exchange rate at the end of December 2007 will be 2.40 Piri-Piri dollars per Kuru-Kuru dollar. During a train journey you hear a banker mention in a conversation on his cell phone that the exchange rate at the end of December 2007 will be 2.60 Piri-Piri dollars per Kuru-Kuru dollar.

If you make a correct forecast, you receive 3 bonus points for your examination!

Only the following forecast alternatives are available. One of these figures will actually be correct. Mark your forecast with a cross.

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Circumstances and Choices: A Case of Treatment Alternatives for Malaria Diseases among Fishing Households in the Rainforest Region of Nigeria

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Abstract

This paper uses the multinomial logit model to estimate the factors that determine choice of malaria treatment sources among fishing households in Nigeria. The study reveals low patronage of conventional treatment source (modern health services) among the fishing households and high level of self-medication and herbal means as treatment options. The study also shows that the fisherfolk's socioeconomic characteristics affect their choice of health care services. Specifically, Sex, education, number of children and household income are important determinants for all the treatment options. Ownership status of fishing gears and consultation fees are important for self-medication and modern service options. Policy indications emerging from the paper suggest public health enlightenment programmes to both fisherfolks and health practitioners, and extensive control of drug market by National Agency for Food and Drug Administration and Control (NAFDAC).

Keywords: Malaria; Determinants; Treatment options; Fishing Households; Nigeria

Introduction

The ecology of poverty, ill-health and decline productivity presents a complex socio-economic relevance in the parlance of human capital development. This is primarily so to the extent that an individual with poor health may only attract low returns on a particular investment (Barlow, 1979, Gertler and Gaag, 1990). Also, low income earners who can not afford quality health care services stand the risk of declining productivity. Besides, high morbidity reduces the number of mandays available for agricultural activities. Therefore, the policy objective of government has been on the improvement of access to basic social services (health, education, water, and sanitation, etc). But the problem has been to what extent do people have access to these social services, especially the poor rural dwellers. Given the poor welfare status and sanitary condition of the rural dwellers, who are predominantly farmers, there is bound to be high incidence of diseases conditions. But on the premise of rationality and transitivity, sick farmers would seek medical attention that he/she have access to and would order his/her preference level according to the utility he/she hope to have. However, demand for and utilization of health-care services in case of sickness is conditioned by certain factors. The magnitude of these factors defers according to the welfare status of the sick person.

Economic literature is awash with studies on determinants of the demand for health-care service. These studies independently agreed that costs to access to health services, socio-economic factors and health status factors such as the seriousness of the illness, are the major factors (Action, 1975; Sindelar, 1982; Schwartz, 1988 and N'guessan, 1997). It is explicitly clear from these studies that demand for health-care services is derived demand since the desire for health leads to the search for health-care services.

In Nigeria, varieties of sickness that lead to high morbidity are documented. The necessity for prevention or cure cause people to sought medical attention from alternative sources. Malaria is an endemic disease in Nigeria and to greater extent the disease affects majority of people. The high incidence and frequency of occurrence makes malaria a common disease that attack both children and adult, especially those living in unprotected environment of rainforest region. In Akwa Ibom State, which is the area of study, malaria is noted to be the most frequent and critical disease incidence affecting people. According to the Report of the State Ministry of Health, over 70 percent of reported and diagnosed sickness recorded at different health centres are caused by malaria attack (AKSMH, 2002 & 2003). This report is collaborated by Bassey, 2005, which showed malaria (78%) and Typhoid fever (52%) to be the most common diseases affecting households in coastal communities.

Because of the prevalence nature of malaria, anti-malaria and anti-mosquito drugs and medications are freely retailed in the open market without any noticeable restriction. Patient medicine and pharmacy stores have wide range of malaria drugs that can prevent and cure malaria diseases. Ordinarily, malaria infested person is normally at liberty to adopt any treatment method without even consulting physicians. To greater extend, there have been situations of indiscriminate use of these drugs/medication. This has adverse health effect. Given prevailing circumstances and choices, malaria infested person has a discrete decision of recognizing inter independence and heterogeneous preferences. This will define the demand function for malaria treatment. The choice may be that of resorting to modern health service, traditional (herbal) means and/or self-medication.

The programme of Roll-Back-Malaria of both Federal and State Ministry of Health is packaged on the concept of modern health system. As such, the extent to which farming households would benefit from the program depends on their demand pattern for medical treatment of malaria. It is only when we understand the factors that streamline choice of medical media for malaria treatment that we can also understand ex-ante the popularity of the million-dollar health program.

This paper therefore seeks to identify the frequency of patronage given to treatment sources by malaria stricken fishing households; determine the factors that influence the choice of treatment in case of malaria attach in order to assess the impact of these factors on the choice of health services during malaria attach. The guiding hypothesis is that welfare status of individual farming households significantly affects the choice of treatment alternatives for malaria attack

Theoretical Basis

At a given time period, an individual possesses a stock of health, which deteriorates or deviates from normal in case of sickness. Following the sickness, the individual productivity is affected adversely and then the individual concern is that of restoring stock of his/her health by buying health services.

Accordingly, the benefit obtained from the consumption of the health-care services is an improvement of the health status and the cost of obtaining health-care is a reduction in the consumption of the other goods and services (Gertler and Gaag, 1990; N'Guessan and N'Guyassan, 2000 and Udoh et al,2005). The process of restoration of health status by the sick person requires making rational choice among a finite set of alternatives of health-care supplies, which include modern health service, traditional (herbal) means and/or self-medication. Each source is believed by consulting patient to offers an improvement of health according to its cost involvement. The cost of this alternative is made up of user fees, transport, opportunity cost of traveling time etc.

Therefore, taking into account vectors of factors, any malaria stricken person chooses the alternative that gives him/her the greatest utility subject to his/her ability to demand. Thus, the expected utility of the health case received from care provider i is given by:

$$U_i = u(H_i, \delta_i) \quad (1)$$

Where H_i is the desire health status from i th treatment source and δ_i represents the difference between the sick person's income and the cost of obtaining treatment from i th source.

The expected marginal product of health care defines the quality each sick person would derive from i th treatment source. This quality is expected to vary with the treatment sources and also vary according to the characteristics of the sick person.

Budgetary constraint defined utility function. Given the income of the malaria stricken person, he rationally spend it on non-medical goods, δ_i and on securing treatment from a particular source M_i

$$Y = M_i + \delta_i \quad (2)$$

Substituting (2) in (1) for δ_i gives,

$$U_i = u(H_i, Y - M_i) \quad (3)$$

Equation (3) is thus a semi-indirect utility function that can explain income effect on choice of alternatives for malaria treatment. Then, if we assume that a malaria stricken person has $i + 1$ alternatives, then the problem of utility maximization would be

$$U^* = \max (U_1, U_2, \dots U_i) \quad (4)$$

The solution of equation (4) gives the alternative that is chosen and, when random term is assumed in the equation, the equation would transform into the probability that a particular alternative will be chosen. Here income and other factors influence the decision of malaria stricken person to choose a particular treatment source and the preferences are ordered and transitive.

Methodology

Study Area and Sampling Procedure

The study area is Mbo Local Government Area of Akwa Ibom State, Nigeria. Over 90 percent of the villages in the local government area are coastal in nature where majorities of the people are either involved in subsistence fishing, commercial fishing and maritime trades. According to Akpadiaha (1996), over 60 percent of captured fish in Akwa Ibom State are from Mbo fishing communities. Judged from its location, the population of this area, especially those near water bodies, is threatened by malaria and other water borne diseases. Specifically, because of the high malaria incidence in the LGA, the State government launched the Roll-Back-Malaria programme and expanded campaigns are going on to sensitize people of the benefits of using insecticide treated mosquito nets and keeping surroundings cleans.

Two-stage sampling procedures was used in collecting data. The first stage involved purposive sampling of four clans that have major fishing communities. The clans are *Efiat*, *Enwang*, *Ebughu* and *Uda*. From these clans, two fishing settlements each were also purposively selected. These were the settlements that have access to, and near by government health care services. Because of lack of a comprehensive list of fishing folks in all the chosen settlements, a modified random sampling method, known as random walk method was utilized to select 60 fishermen from each of the fishing settlement. A total of 240 fishermen were then selected via structured questionnaire by way of cost itinerary survey.

Model Specification

Let us consider these alternatives (1 = self-medication alternative; 2 = modern health services i.e. consulting of physician; 3 = traditional means; 4 = divine intervention), and let us define latent variables L_1 , L_2 , L_3 and L_4 respectively for these alternatives. Following the probability distribution, $L_1 = 1$ if household resorts to self medication during malaria attack and 0 if otherwise, $L_2 = 1$ if the household

resorts to modern services and 0 if otherwise; $L_3 = 1$ if the treatment source is the traditional services and 0 if otherwise; $L_4 = 1$ if the treatment source is divine intervention and 0 if otherwise. Then the probabilities of choosing these alternatives are as follows:

Probability of Using Self Medication

$$C_1 = P(L_1 = 1) = \frac{\text{Exp}(V_1)}{1 + \text{Exp}(V_2) + \text{Exp}(V_3) + \text{Exp}(V_4)} \tag{5}$$

Probability of Using Modern Services

$$C_2 = P(L_2 = 1) = \frac{\text{Exp}(V_2)}{1 + \text{Exp}(V_1) + \text{Exp}(V_3) + \text{Exp}(V_4)} \tag{6}$$

Probability of seeking divine intervention

$$C_3 = P(L_3 = 1) = \frac{\text{Exp}(V_3)}{1 + \text{Exp}(V_1) + \text{Exp}(V_2) + \text{Exp}(V_4)} \tag{7}$$

Probability of Using Traditional (Herbal) Means

$$C_4 = P(L_4 = 1) = \frac{\text{Exp}(V_4)}{1 + \text{Exp}(V_1) + \text{Exp}(V_2) + \text{Exp}(V_3)} \tag{8}$$

The probability of choosing any of the alternatives is defined as the probability that the utility procured by this alternative is the highest. For instance, the probability of choosing C_2 rather than C_1 is such that

$$C_2 = P(U_2 > U_1) = P(U_2 + \varepsilon_2 - (U_1 + \varepsilon_1) > 0) = P(U_2 - U_1 < \varepsilon_1 - \varepsilon_2)$$

Assuming that the random terms ε_1 and ε_2 are independently and identically distributed, we proceed to using a multinomial logit model to dichotomize the choice in relation to determining factors. The explicit model is given as

$$\text{Ln}U_j = \beta_{j0} + \sum_{i=1}^k \beta_{ji} X_i + \alpha_1 S + \alpha_2 \ln(Y - P_j) + \alpha_3 \ln(Y - P_j)(Y - P_j) \tag{9}$$

where U_j could be any of the probabilities of choice; X_i are the demographic and socio economic factors; S is the type of service consulted; Y is the income of the household and P_j is the consultation/treatment fees of the treatment source. Equation (8) would be estimated via maximum likelihood presented as

$$\text{Ln}Li = \sum_{j=1}^j D_{ij} \ln C_{ij} \tag{10}$$

- i = individual; j = type of service sought; $j = 1$ for self medication,
- $j = 2$ for modern services, $j = 3$ for traditional means and $j = 4$ for divine intervention.
- D_{ij} = 1 if alternative j is chosen and 0 if otherwise
- C_{ij} = probability that individual i will choose alternative j in treating malaria.

To test the hypothesis, a chi-square statistics would be used to test if the welfare status of individual farming household has significant influence on the choice of the treatment sources during malaria attack.

Results and Discussions

Exploratory Statistics

Data collected showed that the various sources of malaria treatment patronized by the sampled fishing households in the area are sources with trained personnel (like hospitals, health centers and clinics), traditional methods (herbal practitioners), Divine intervention (church), and self-medication with percentage distribution of 25%, 27%, 15%, 33% respectively. The high patronage of self medication reported by the respondents may not be unconnected to ease and accessibility of anti-malaria drugs that are freely traded in open market outlets. As it is, there is no restriction on the sales of anti-malaria drugs in Nigeria despite the presence of NAFDAC- National Agency for Food and Drug Administration and Control, a regulatory government body on drugs administration. As a matter of fact, any feverish condition experienced by ruralities is believed to be symptom of malaria. As such, without any diagnosis anti-malaria drugs are taken, especially in remote areas where conventional medical services are lacking.

The results also showed that younger fishermen (16-25 age bracket) prefer self-medication more (51.2%) while the older ones (46-55 age bracket) prefer herbal practitioners more (42.9%). This result therefore collaborates the finding of Akwa Ibom State Ministry of Health that only 13 percent of the entire productive age in the State reported for health care services in public and private health provision centers. Single fishermen prefer to make use of self-medication more (54.6%), while the married would rather visit the hospitals, health centers and clinics more (45%) especially were children are involved. On the other hand, those separated, divorced and widowed prefer to visit the church and herbal practitioners more (13.4%). This may not be unconnected to the poor status of these people. The males practice self-medication more (48%), while the females prefer to visit modern health services more (39%). All levels of education visit modern health services, but more among those who have attended at least secondary education (32.5%). The traditional and divine interventions are patronized more by those with no basic education. Households with high dependency ratio practiced more of self-medication (64%) and less of modern health service patronage (12%). Increase in income does not guarantee increased visit to the higher priced sources like hospitals, health centers and clinics.

Determinants of choice of treatment sources

The demand for health care from various treatment sources was estimate using a multinomial logit model and the result is presented in Table 1:

Table 1: Multinomial Logit Estimates for Determinants of the Probability of Treatment Preference given other options.

Variable	Self-medication	Modern services	Traditional means
Age	-0.0594 -1.3286	0.0746* 1.8680	0.1809* 1.8288
Sex	4.8736* 1.7697	-3.4970*** -1.9759	0.0328*** 10.6383
Education	0.3972* 0.1870	0.1651*** 2.9540	-0.7624*** -11.5925
Marital Status	-0.4256 -1.0836	0.5415* 0.1870	0.4315 1.1316
Number children	2.1023*** 4.2053	-0.2465*** -4.4539	-3.7413* -1.8141
Number of Adult	0.6142*** 4.7897	0.6925 1.5885	0.0362* 1.8234
Household Income	0.1206** 2.0596	1.2736*** 7.6916	-0.8307* 1.8325
Consultation fee	-0.0325*** -4.0663	-0.3128*** -4.2956	-0.1212 -1.0138
Transport cost	0.0738 0.2353	-3.1562*** -5.6014	-0.0176 -1.1675
Ownership status of fishing gears	0.7911** 1.8908	1.8112*** 9.3734	-0.2018 -0.4985
No. of Obser	240		
Lr Chi2	461.5217		
L-Likelihood	-329.5129		

*, **, *** denote significant at 10 percent, 5 percent and 1 percent respectively

In the estimation, seeking of divine intervention as a treatment source was taken as the base for normalisation. The parameter estimates are presented in Table 1. The effects of changes in the independent variables on the predicted probability of choosing a particular treatment source is also estimated and presented in Table 2.

Table 2: Marginal Effects of Covariates on Probability of outcomes

Variable	Self-medication	Modern services	Traditional means
Age	-0.0675	0.0457	0.0382
Sex	-0.0381	-0.0032	0.0172
Education	0.0846	-0.0021	-0.0057
Marital Status	-0.0377	0.0592	0.0119
Number children	0.0114	0.2310	0.3210
Number of Adult	-0.0098	0.0041	0.0124
Household Income	0.0612	0.0741	-0.0081
Consultation fee	-0.0091	0.0012	0.0219
Transport cost	0.0751	0.0521	-0.0014
Ownership status of fishing gears	0.0590	-0.0061	0.0519

The positive significant coefficient on age for both modern service providers and traditional means suggest increase in patronage for these sources among older persons. This collaborates the findings of Kacou *et al* (1999) and Meyerhoefer *et al* (2003) that as individual becomes older, he/she utilizes hospital more. Furthermore, the choice of traditional means, which involves taking of herbs, is revealed to be more among older household heads. This suggests strong belief system among the aged. The coefficient for sex is statistically significant for all the options; positive for self-medication and traditional means but negative for modern services. This implies that fishing households headed by male prefer traditional means and self-medication treatment options, while female headed households

would rather seek medical attention in modern medical center. This result is in agreement with the study carried out by Schwartz *et al* (1988) that non-economic factor like sex affects the choice between modern and traditional practitioners.

Some level of education increases the likelihood of seeking medical attention for malaria treatment at modern health centers and resorting to self-medications as indicated by the positive significant coefficients of education for modern services and self-medication. However, the magnitude of likelihood is more for self-medication (0.3972) than modern health centers (0.1651). This therefore suggests that the educated fisherfolks resort more to self-medication than visiting modern health centers. The ease to which any person could have access to any anti-malaria drugs that are freely traded in an open market could account for such. But on the contrary, increase education is estimated to reduce the likelihood of the fisherfolks to patronage traditional means of treating malaria. This result on education agrees with the findings of Sahn *et al*, 2003 that revealed increase in demand for conventional health care services with increase in educational level and high level of decrease in demand as education increases in the case of traditional healers. Marital status is estimated to have positive effect only on those patronizing modern health care centers. Accordingly, married persons have high level of likelihood of visiting hospitals for treatment of malaria.

The coefficients for number of children are statistically significant for all the options. It is positive for self-medication, implying that having more children in a household increases the probability of fisherfolks resorting to self-medication. The result for modern health services, which shown inverse relationship agrees with the finding of Hallman (1999) that the larger the children in a household, the less the likelihood of household to visit perceived higher priced modern health provider. This may not be unconnected with the poverty status of the fisherfolks. The large but negative magnitude of the coefficient for traditional mean is an indication that the fisherfolks rarely expose their children to traditional treatment of malaria. The coefficient on the number of adult is statistically significant for self-medication and traditional means and it shows positive relationship. These results are in agreement with the finding of N'guessan (1997) that the number of adults in a household affects the choice of health care services positively. Expectedly, household income is estimated to have significant impact on the choice of treatment for malaria as in the case of other forms of illness. In this case, household income positively influence the probability of choosing either self-medication or modern health services, but negatively influence the choice of traditional means of treatment. Household income is therefore a good determinant of the demand for health care, especially for the choice of public or private health centers. Studies carried out by Meyerhoefer, *et al* (2003); N'guessan and N'guessan (2001); Mwabu (1991) and Dor and Gaag (1988) collaborate the finding.

A consultation fee, which constitutes access cost to the user, is shown to be negatively related to choice of all the treatment sources. It is however significant for self-medication and modern health services not for traditional means. The result agrees with the works of Dor and Gaag (1988) and Lavy and Quigley (1993) but in contrast with the finding of Mwabu (1991), which revealed that access cost of health services have a positive impact on the decision to seek for health care and that the cost of treatment has a positive impact on the decision to seek for health services. Accordingly, increasing the price of public or private clinics will result in a decline in the probability of their use. Transportation cost is more likely to affect decision of fisherfolks to visit public or private hospitals/clinics as shown by the significance of the estimated coefficient. Accordingly, the farther away the health center from fishing communities the less likelihood of visitation, hence low patronage. For self-medication and traditional means, transport cost is not a major determinant. The result collaborates the finding of Gertler and Gaag (1990) that travel cost has an important role in the demand for health care in rural Cote d' Ivoire with poorer individuals demand being significantly more travel cost elastic than that of richer individuals. Ownership of fishing gear increases the likelihood of self-medication and visiting of modern health centers by the fisherfolks for treatment of malaria. This is shown by the significant positive coefficients of the variable for the two options. Worthy of note is that ownership of fishing gears, especially the motorized equipment requires substantial capital investment. As such, those

fisherfolks who can afford such investments are considered rich fisherfolks who then could afford the highly priced medical services. This suggests the elastic nature of the demand with respect to the variable in the case of modern health care services.

Concluding Remarks

This paper presents an attempt to analyze the determinants of choice of treatment sources for malaria attack using survey data from fishing households. Multinomial logit techniques is used to explain empirically what define circumstance and choice of seeking medical/treatment in case of malaria attack, which incidentally is believed to be the most frequent sickness among the fisherfolks in the area. Exploratory result shows that overwhelming proportion of the fisherfolks (75 percent) patronized unconventional treatment sources. This is an indication that majority of the fisherfolks do not receive proper malaria treatment. The results further indicate that the determinants of seeking treatment differ for the various options, suggesting that there is heterogeneity in treatment sources. Sex, education, number of children and household income are important determinants for all the treatment options. Ownership status of fishing gears and consultation fees are important for self-medication and modern service options, while number of adult in a household is a major factor for seekers of traditional means and self-medication. Apparently, transport cost is only an important factor in modern health services option, while number of adults in household is a much more important factor for both self-medication and traditional means of treatment than for modern health service sources. Our findings point to a rather precarious health care situation in the sampled area.

A right policy option would thus be to organize public health enlightenment programmes to sensitize the fisherfolks of the inherent danger of seeking medical attention from unconventional sources, especially resorting to self medication. National Agency for Food and Drug Administration and Control (NAFDAC) should intensify effort in checking production and distribution of drugs to ensure that only genuine drugs are traded. Conventional medical training should be given to herbal practitioners to enhance their capabilities in drug administration.

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Effects of Micro-Credit on Egg Productivity: An Empirical Evidence from Osun State, Nigeria

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Abstract

Towards assessing the impact of credit on egg productivity, the credit constrained condition of the farmers and how it affects egg output supply must be estimated and clearly understood so as to determine the effects of credit on egg productivity in the study area. This study employed the use of a two stage switching regression model to estimate the determinants of farmers' credit constrained condition and the determinants of egg output supply. In the first stage a logit model was used to estimate the credit constrained condition of the farmers while in the second stage a multiple regression using weighted least squares approach was used to estimate the determinants of egg output supply. The significant variables that determined the output supply of credit constrained farmers are age of farmers, sex of farmers, dependency ratio, extension access, total cost, gross margin and stock size while total cost, stock size and gross margin determined output supply for credit unconstrained farmers in the study area.

Introduction/Problem Statement

The smallholders who own most of the livestock have an identified need for credit, in order to maintain production at current levels. Nigeria has 13.9 million cattle, 34.5 million goats, 22.1 million sheep, 3.4 million pigs and 200 million poultry (Federal Department of Livestock and Pest Control Services, 1990). Out of these more than 99 percent of the ruminants, 97 percent of the pigs and 89 percent of the poultry are owned by smallholder traditional livestock producers (FDLPCS, 1990). These animals supply meat, milk and eggs for human consumption, hides and skins for the leather industries, dung for manure and fuel, offal and bones for the agro allied processing industries. In addition, the livestock sub-sector contributes significantly to economic growth through the earnings from export of hides and skins to the international market. Most significantly, it provides employment for a large number of Nigerians who are actively involved in the production and marketing of livestock commodities. The overall value of Nigerian traditionally managed livestock resources as at July, 1991 was estimated at 60 billion Naira (FDLPCS, 1990), a contribution of more than 20 percent of the agricultural GDP and above 5 percent of the country's GDP. Akande (1992) states that adequate production of poultry products has become a major national objective for some reasons: poultry products (meat and egg) are expected to ameliorate the protein deficiency in the Nigerian diet. The total animal protein required per person on a daily basis is 35 grams per caput per day as recommended by food and agriculture organization. However, animal protein production in Nigeria is about 4.5 gram per caput per day (Olutayo, 1998). Poultry is therefore expected to bridge the gap between protein deficiency and protein

supply because poultry products have been shown to have a higher energy and protein conversion ratio than other animal species. The role of credit in poultry/egg production can never be overemphasized. Credit allows producers to satisfy the cash needs induced by the production cycle which characterize agriculture (Feder *et al* 1990). Various institutional/formal sources (commercial banks, parastatals, mainstream government ministries etc) and non-institutional/informal sources (money lenders, friends and relatives, etc.) exist for the small farmer in Nigeria to obtain credit (Soyinbo 1994). Credit from non-institutional sources though easier to obtain is unavailable in sufficient volume and mostly at an interest rate higher than that charged on loans from institutional sources. Institutional credit sources however have their own share of problems such as excessive bureaucracy and time consuming loan processes, political considerations, subsidies etc., which make the quest for credit through them tedious and sometimes unattractive. Several studies (Freeman *et al*, 1998 in Kenya and Ethiopia, Okorie and Obeta 1990 in Nigeria, Feder *et al*, 1990 in China, Anjini, 1997 in India) have concluded based on their investigations and empirical findings that most traditional small farmers are poor and lack access to formal credit because credit schemes discriminate against small holders who are the majority. The reasons these various researchers gave for farmers lack of access to formal credit include among others information problems, low saving in financial institutions which make them unworthy of credit, unattractive bureaucratic processes and political considerations, inadequate collateral security and high cost associated with processing of small loans. Although, a lot of work has been done on micro credit and its impact on productivity by various researchers, none has provided empirical evidence on the determinants of the credit constrained condition of farmers, and relationship with egg output supply in the study area. This study as a result focus attention on the determinants of credit constrained condition of farmers and the determinants of egg output supply in the study area using farm level data collected from randomly selected poultry farmers across Osun State in Nigeria. The major objective of the study was therefore to show the relationship between farmers credit constraint condition and egg productivity. The specific objectives are to:

- (i) estimate the determinants of credit constrained condition of farmers
- (ii) assess the effect of credit constrained condition on egg productivity.

Research Methodology

The study area was Osun State. The area is currently being administered under three agricultural zones namely: Osogbo, Iwo, and Ife/Ijesa zones. The climate of the state favours poultry production and many commercial poultry farmers reside and establish their farms in the area. The target population for this study was the small and medium scale poultry farmers. A multistage random sampling technique was employed in selecting the 104 poultry farmers used as sample for the analysis. Using structured questionnaire, primary data were collected to achieve the objectives. Data were collected on household demographic characteristics, resource endowments and credit variables. Both descriptive and inferential statistics were used to analyze the data. Budgetary technique was used to analyze costs and returns in poultry production and gross margins for the farmers were calculated. Also, a switching regression model using logit technique was used to estimate the determinants of farmers' credit constraint conditions and its impact on productivity.

Switching Regression Model of Effects of Credit on Egg Productivity

Many of the poultry farmers selected have benefited from agricultural development interventions that promoted commercial poultry production and credit activities such as improved inputs and loans, extension services and organized livestock training programmes. Since the selection criteria used in the sample did not exclude farmers who were likely project beneficiaries and invest in improved technology that enhance farm output and increase productivity; a switching regression model was therefore used to correct for possible sample selection bias which may arise from other interventions

that provide multiple services to farmers in addition to credit (Lee, 1978; Madalla, 1983). Empirical applications of this model to agriculture include studies by Feder et al (1990) and Freeman et al (1998).

The two stage switching regression model applied in this study uses a Logit model in the first stage to determine the relationship between farmers' credit constraint condition and a number of socio-economic and credit variables. In the second stage separate regression equations are used to model the production behaviour of groups of farmers conditional on a specified criterion function. The credit constraint condition of the j th farmer is described by an unobservable excess demand function for credit, J^* , that is postulated to be a function of a vector of exogenous household socio-economic, stock characteristics and credit variables.

Econometric Specification

The relationship between excess demand for credit and the vector of explanatory variables is specified as (Freeman et al, 1998).

$$J^* = \delta'z_j + u_j \quad (1)$$

Where z is vector of exogenous variables described in the table above, δ is a vector of parameters and u_j is a random disturbance term that is distributed with zero mean and variance α^2 .

The excess demand function for credit is not observed but responses from the survey is used to determine those household whose productive activities are constrained or not constrained by credit. Households are credit constrained if the demand for credit exceeds the supply of credit. These responses are used to define a criterion function which is an observable dichotomous variable j^* , where $J^* = 1$

$$\begin{aligned} &\text{if } J^* = \delta'z_j + u_j \geq 0 \\ &J = 0 \text{ otherwise.} \end{aligned} \quad (2)$$

Probit maximum likelihood estimation is used to estimate the parameter δ in Eq (2). It is assumed that $\text{var}(u_j) = 1$ since δ is estimable only up to a scale factor. Following Feder et al (1990) the production behaviour of the two groups of farmers is modeled by reduced form equations specified by

$$\text{and } \left. \begin{aligned} Y_{1j} &= B'_1 X_{1j} + u_{1j} \text{ if } J = 1 \\ Y_{2j} &= B'_2 X_{2j} + u_{2j} \text{ if } J = 0 \end{aligned} \right\} \quad (3)$$

Where X_{1j} and X_{2j} are vectors of exogenous variables, B_{1j} and B_{2j} are vectors of parameters and u_{1j} and u_{2j} are random disturbance terms. Y_{1j} and Y_{2j} represent output supply functions for credit constrained and credit non-constrained farmers respectively.

A two stage estimation procedure was used to estimate the system of equations in equation (2) and (3). The conditional expected values of the error terms u_{1j} and u_{2j} in equation (3) are:

$$E(u_{1j}/u_j \leq \delta'z_j) = E(\sigma_1 u_j / u_j \leq \delta'z_j) = \frac{\sigma_1 \phi(\delta'z_j)}{\Phi(\delta'z_j)}$$

and

$$E(u_{2j}/u_j \geq \delta'z_j) = E(\sigma_2 u_j / u_j \geq \delta'z_j) = \frac{\sigma_2 \phi(\delta'z_j)}{1 - \Phi(\delta'z_j)}$$

Where ϕ and Φ are the probability density function and the cumulative distribution function of the standard normal distribution respectively. The ratio ϕ/Φ evaluated at $\delta'z_j$ for each J is the inverse mill ratio for convenience define as

$$\text{and } \left. \begin{aligned} \lambda_{1j} &= \phi(\delta'z_j)/\Phi(\delta'z_j) \\ \lambda_{2j} &= \phi(\delta'z_j)/[1 - \Phi(\delta'z_j)] \end{aligned} \right\} \quad (4)$$

These terms are included in the specification of equation (3) to yield.

$$\text{and } \left. \begin{aligned} Y_{1j} &= B'_1 X_{1j} + \sigma_{1u} \lambda_{1j} + e_{1j} \quad \text{if } J = 1 \\ Y_{2j} &= B'_2 X_{2j} + \sigma_{2u} \lambda_{2j} + e_{2j} \quad \text{if } J = 0 \end{aligned} \right\} \quad (5)$$

Where e_{1j} and e_{2j} , the new residuals have zero conditional means. These residuals are however, heteroscedastic. λ_{1j} and λ_{2j} were included to test the efficiency of parameter estimate. When λ_j is significant, using ordinary least square will not yield efficient parameter estimate. Therefore, estimating equation (5) by weighted least squares, WLS, rather than OLS would give efficient parameter estimate.

Results and Discussions

Determinants of Credit Constrained Condition

Maximum likelihood probability technique was used to estimate the determinants of credit constrained condition of farmers. The logit model was used to estimate the probability of a farmer being constrained by binding liquidity status. The relationship between credit constrained condition of farmers (dependent variable), socio-economic variables, household resources endowments variables and credit variables were estimated. A farmer was classified as being credit constrained if he already had a loan and applied for more at the going interest rate but could not secured the whole amount specified or the farmer could not secure credit though he desired it because he was risk averse, not credit worthy or fear borrowing and as a result distant himself from the credit market.

Table 1: Logit Model Result for Farmers' Credit Constrained Condition.

Variable name	Estimated Coefficient	Marginal probability
Age	0.019114 (.435)	.00446 (.434)
Sex	-.705451 (-.966)	-.16475 (-.973)
Experience	.058937 (.797)	.01376 (.804)
Dependency Ratio	.832793 (1.482)	.19449 (1.498)
Education	-.597466 (-.501)	-.13953 (-.501)
Extension	-3.141295** (-2.072)	-.73364 (-2.105)
Training	-.486601 (-.598)	-.11362 (-.598)
Stock size	-.008421* (-3.284)	-.00196 (-3.682)
Total Cost	.000004** (2.956)	.000001 (3.215)
Gross margin	-.000002*** (-1.836)	-.0000006 (-1.858)
Credit obtained	-.000041* (-3.421)	-.000009 (-3.786)
Credit Repaid	.000049* (3.617)	.00001 (4.035)
Constant	-2.678972 (-1.183)	
X^2	55.43	
Pseudo R^2	0.385	

Figures in parenthesis are asymptotic t- ratio

* - significant at 1 percent

** - significant at 5 percent

*** - significant at 10 percent

The marginal effects were an indication of the effect of one unit change in an exogenous variable on the probability that a farmer was credit constrained. The chi-square measures the significance of the model and the value shows that the model fit the data reasonably well. The Mc Fadden pseudo R^2 measures the goodness of fit of the data and a value of 0.385 shows that the data was well fitted.

The coefficients of the following were not significant in explaining the credit constrained condition of farmers; age, sex, experience, dependency ratio, education and training. The significant variables are extension access, stock size, total cost, gross margin, credit obtained and credit repaid. Stock size was significant at 1 percent and one percent increase in stock size will decrease the probability of a farmer being credit constrained by 0.2 percent. Stock size had the highest marginal impact on the credit constrained condition of farmers in the study area and as it increases, the credit constrained condition of farmers' decreases. Total cost was also significantly related to the credit constrained condition of farmers at 1 percent. A unit increase in total cost increases the probability of a farmer being credit constrained by 0.0001 percent. This implied that as total cost increases, the marginal effect on the credit constrained condition of farmers' increases in the study area. Gross margin was significantly related to the credit constrained condition of farmers at 10 percent. One unit increase in gross margin has a negative marginal impact on the credit constrained condition of farmers. This implies that a unit increase in gross margin decreases the probability of farmers being credit constrained by 0.00006 percent in the study area. This is so because increase in gross margin is likely to encourage savings in financial institutions and make farmers credit worthy. Credit obtained was significantly related to the credit constrained condition of farmers at 1 percent. A unit increases in credit obtained decrease the probability of a farmer being credit constrained by 0.0009 percent. This implies that as the amount of credit obtained increases, the credit constrained condition of farmers' decreases. Extension access was significantly related to credit constrained condition of farmers. It reduces the probability of those farmers who has access to extension being credit constrained because of the positive effect of extension on productivity and income. Credit repaid was significantly related to the credit constrained condition in the study area. One unit increase in amount of credit repaid will increase the probability of farmers being credit constrained because the amount repaid is no longer available for use.

Determinants of Egg Output Supply

The reduced form of the weighted least square coefficient estimates of the second stage switching regression model was used to determine the causes of the variation in egg output which was the dependent variable as explained by the exogenous variables. Separate equations were estimated for the credit constrained and unconstrained farmers. The adjusted coefficient of multiple determination of 99 percent for both farmers implied a good fit and this means 99 percent variation in egg output was explained by the significant explanatory variables. Durbin – Watson statistic of 2.0 and 2.32 for constrained and unconstrained farmers respectively implied that autocorrelation of the variables was absent according to the view of Olayemi (1998) that d-statistic values close to 0 or 4.0 suggests the presence of auto correlation. Double log function was used because it provided a dimensionless measure of the responsiveness of egg output to changes in the level of input use.

Table 2: Estimated Coefficients of Egg Output for Credit Constrained and Unconstrained farmers.

Variable name	Credit Constrained Farmers	Credit Unconstrained Farmers
Age	-10.1351** (-2.474)	-25.0015 (-1.532)
Sex	142.8481** (2.123)	384.1182 (-1.317)
Experience	.1631 (.024)	-14.9357 (-.684)
Dependency Ratio	149.0725** (3.047)	194.3727 (1-101)
Education	39.0385 (.385)	241.9238 (.522)
Extension	413.0724** (2.129)	-484.6279 (-1.139)
Training	-86.4702 (-1.027)	117.31.51 (.492)
Stock size	+.2152** (+1.162)	+1.2073** (+2.108)
Total Cost	.0038 (32.650)	.0038* (12.209)
Gross margin	.0031* (39.790)	.0048* (14.943)
Lambda	-3427.6303** (-3.248)	4484.1712 (1.308)
Constant	-361.0759 (-1.429)	1094.3336 (1.235)
Adjusted R ²	.99842	.99458
DW	2.0002	(2.3231)

The output supply of credit constrained farmers was determined and 99 percent of variation in output was explained by the significant variables namely; age of the farmers, sex of the farmers, dependency ratio, extension, total cost and gross margin. However, lambda was significant for credit constrained farmers which means estimation of the coefficients by using ordinary least square would have yielded biased estimates however the use of weighted least square was a means of correcting possible bias and it yielded efficient parameter estimates. Age of farmers was significantly related to output supply at 5percent level of significance. As age of farmers increases output decreases. One percent increase in age of farmers decrease egg output by 10 percent. This is so because as age of farmers increase production capability decreases due to inability to cope with the demand of such a labour intensive enterprise in the study area. Sex of farmers also significantly affects output supply at 5 percent level of significance. The poultry enterprise in the study area is dominated by males and result shows that 1 percent increase in the population of male will increase egg output by 142 percent. Dependency ratio had a significant positive effect on egg output at 5 percent level of significance. One percent increase in dependency ratio will increase egg output by 149 percent. This could be explained by the fact that credit constrained household utilized family labour because it is readily available in abundant quantity because of the large size of the family. Also most credit constrained farmers utilize family labour on their poultry farms so as to reduce labour cost. Extension access significantly explained egg output supply at 5 percent level. Extension had a positive effect on output and would increase output of those farmers who had access to extension. One percent increase in extension access would increase egg output by 413 percent. This showed how important improved management practices are. Adoption of improved management practices such as preventive medication recommended by the extension agents in safeguarding the health of the stocks enhance productivity since mortality is reduced. Total cost on improved poultry production outputs had a positive significant effect on output of credit constrained farm and this is explained by the major items of total cost such as

feeding and health services. This is so because egg productivity depends largely on health status of stock and quality and quantity of feed given to the layers. Gross margin also significantly affect output because it described the liquidity position of the farmers. As a priori expected, it was positive for credit constrained farmers. It determined the amount of cash expended on productive inputs such as feeds, drugs and so on. The higher the margin the better the chances to utilize identified investment opportunities for increase in productivity. The effect of stock size on output was significant on credit constrained farms. As a priori expected it was positive and 1 percent increase in the stock size of credit constrained farmers will increase egg output by 0.2 percent. This implied marginal increase in egg output as stock sizes increases. The significant variables that explain egg output variation on credit unconstrained farms are stock size, total cost and gross margin. Age of farmers, sex of farmers, experience, dependency ratio, education, extension and training were not significant in explaining variations in egg output on unconstrained farms.

For credit unconstrained farmers, lambda was not significant which means estimation procedure using OLS would have yielded efficient parameter estimates. Stock size as a priori expected was significant in explaining output supply of credit unconstrained farmers. One percent increase in stock will increase egg output by 1.2 percent. This implied that as stock increases, egg output also increases. Total cost had a significant positive effect on egg output at 1 percent level of significance. It constitutes the cost of feeding, cost of health services and other costs on improvement. The level of feeding and health status of stock largely determined the level of production or productivity. One percent increase in total cost would increase egg output by 0.003 percent. Gross margin was also positively significant at 1 percent. It was a reflection of the income status of farmers which determined the amount of cash expended on productive inputs 1 percent increase in gross margin would increase egg output by 0.04 percent on credit unconstrained farms. The differences in the variables that explain variation in the output of credit constrained and credit unconstrained farmers was as a result of differences in household resource endowments level, management and liquidity status of the farmers which dictate their production behaviour in terms of input demand at various levels of possible combination and output supply.

Conclusion and Recommendations

Estimation of the credit constrained condition of farmers and assessment of the impact of micro-credit on egg productivity showed that credit had a significant positive effect on productivity. However, credit should be targeted to credit constrained farmers whose output is low compare to their credit unconstrained counterparts. This would have significant impact on their welfare and made consumption and production decisions independent of each other. Also, the average margin of those farmers could be increased through effort to increase output facilitated by credit and this will encourage saving towards further investments. Based on the findings of this study in regard to the liquidity status of majority of the farmers, it is recommended that government should try and review credit policy in terms of collateral and other security requirement and altered this policy to favour smallholders who are risk averse and those who are not credit worthy. This could be done through risks sharing arrangements, reduced interest rate, reduced lending deposit and guaranteed fund from government lending institutions. Since credit alone cannot increase productivity and income of farmers from the findings of this study, it is suggested that other necessary services which would have significant impact on productivity of farmers such as extension, veterinary services, input supply scheme and cost control of input prices through adequate storage and availability of inputs in the right quantity must be provided to ensure proper utilization of credit under credible management.

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Determinants of Rural Households' Water Demand in ADO Local Government Area of Ekiti State

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Abstract

The study analyses the determinants of rural households' water demand in Ado local government area. The findings show that an average household in the study area lives below poverty line of \$1 per capita per day, and hence does not have the capacity to pay for water of good quality. The most important government intervention in the provision of water in the rural areas is the sinking of boreholes. This still needs to be improved upon as the relative availability of this water source determines its use by households. The multinomial logit model also reveals that household income is an important factor that determines whether rural household will drink water from truck or water vendor. Household's educational status is also seen to influence its decision of whether or not to drink water from untreated sources.

1.0. Introduction

The role of infrastructure especially safe water in promoting development is not new. It increases the efficiency of production and contributes to standard of living. Alaba and Alaba, 2001 submit that infrastructure impacts welfare in three basic respects: first it has basic consumption value, and as such affects utility derivable from existing and budgeted income. Second its availability affects productivity and capacity to earn income. Third it affects households and national stock of real wealth both in the rural and urban economies.

Some authors have variously pointed out that individuals are poor because they do not have access to infrastructure services of necessary quality (e.g Kessides, 1993; Nadeem and Grimard, 2000; Alaba and Alaba, 2001). This shows that infrastructure and poverty are closely related. In many communities in Nigeria inadequate or low quality infrastructure has been known to have serious implication for welfare and persistence of poverty. Availability of infrastructure also affects people's time allocation and has multiple effects on health and quality of life (Alaba and Alaba, 2001).

Binswanger et al (1993) provides evidence that better infrastructure improves agricultural investment and output decisions of farmers in India. Also Levy et al (1996) and Thomas and Straus (1992) documented the role of infrastructure in improving the health and nutritional status of children in Ghana and Brazil respectively. Of all basic infrastructure water seems to be the most important. The literature reveals the unique importance of water on production and welfare, (Briscoe et al (1990); Esiri, 1999).

Water has become a problem of human survival, health and economic development. At the global level, plenty of water is available. But to meet the demand, water has to be supplied where and when needed. These spatial, temporal, and qualitative characteristics pose the greatest challenge to meeting the rising demand in all sectors. Meinzen-Dick and Rosegrant, 2001 observe that access to

clean water for drinking, cooking, bathing and other household needs is fundamental, but over 1 billion people still lack safe domestic water supplies and 2.4 billion lack adequate sanitation. Hence water and sanitation related diseases are widespread. Breaking the 1 billion figure of Meinzen-Dick and Rosegrant, 2001 down, official World Health Organisation (WHO) figure suggests that at least 170 million people in urban areas lack access to portable water close to their homes. Evidence from rural areas reveals that more than 855 million are still without safe water, the figure which estimates suggests may have increased dramatically by the turn of the century (World Bank, 1993). This shows that rural dwellers are more vulnerable to water related diseases and this will obviously affect their productivity.

Expanding access to safe drinking water is one of the “Millennium Development Goals” which was reaffirmed with funding commitments at UN world summit for Sustainable Development in September 2002. The optimism expressed is that the proportion of people without access to safe drinking water and basic sanitation will be halved by year 2015. In spite of hardwork and laudable progress, the number of people without access to both water supply and sanitation in developing countries remained practically the same throughout 1990’s. The increase in population served was just enough to keep pace with population growth Van Damme, 2001. The governments at various levels have though boasted of successful rural and urban provision of potable water close to homes, in many parts of rural and urban Nigeria many families spend substantial part of their income and productive time looking for water and in most cases from distant places.

FOS 1999 shows that only half of the sources of water available for consumption in Nigeria can be categorized as safe. In the rural areas, only 39% of the sources are safe and about 80% in the urban areas are safe. Alaba and Alaba, 2001 also analyse the differences by source of water in rural and urban Nigeria. About 25% of urban consumers used in house system. About 31.1% of rural water consumers use borehole and over 50% use unsafe sources such as ponds and unprotected well and stream. This differential in water access is consistent with productivity and poverty in rural and urban Nigeria. FOS 1999 shows that percentage of rural population living below poverty line is about 28.3% in 1980 and 69.8% in 1996. Urban poverty however increased from 17.2% in 1980 to about 55.2% in 1996.

Going by the submission of Nauges and Strands, 2004 sources of water for households can be grouped into 2, tap and non-tap sources. Unconnected households need to obtain their water from available untraditional sources (also called coping sources) where supply can be either free or involve a monetary cost and where the relevant sources are located at varying distances from the households’ residences. In most cases if the water is not delivered “at the door” it also needs to be hauled. Since it has been established in the previous section that no rural household in Nigeria has in house connection it is then safe to conclude that all rural households in the country rely on some of these “coping” sources for their daily need. Consuming water from non-tap sources imposes hardship on a household, when compared to taking the water directly from tap. Pecuniary costs of non-tap water are far higher for most non-tap sources than for tap water. Besides, water from most non-tap sources involves substantial hauling costs.

It is useful to distinguish between six main sources (1) private well (belonging to household) (2) external or public well (3) private tap (4) public tap (5) water vended from tank trucks or other water vendors (6) others (including lakes, rivers and streams). The availability of a water source for a particular household depends mainly on its location. Depending on the place of residence a household can have easy access to a public tap or a public well or there could be a water truck regularly passing through the neighbourhood. Truck water may be delivered by government agencies but it is also sometimes delivered privately by profit maximizing businesses. Then the willingness to pay for truck water and convenience of supply both play role in establishing supply. The availability of sources is thus in many cases likely to depend on household’s characteristics (eg income, and family size, whether the household reads and writes)

Three sets of factors can therefore be said to jointly influence a household’s willingness to use or to pay for improved systems of water supply. (1) The socio economic and demographic

characteristics of the household. This includes education of family members, family size, income and location of the household). (2) The characteristics of the existing or traditional source of water (coping source) and those of improved water supply, which include the cost, time required collecting water, and the quality of water source.

2.0. Materials and Methods

The data used for the study was obtained from respondents randomly selected in the rural settlements of Ado Local Government Area of Ekiti State. Forty respondents in all provide the data. A detailed household survey instrument (questionnaire) was administered to the respondents who are household heads. The household information sought include among others education (i.e whether the respondent reads and writes), major source of water, cost in terms of money and time, household size, and income. Socioeconomic characteristics of the household are analysed using descriptive statistics. Tools like percentages, frequency, and data means and standard deviation are used

Multinomial logit model is used to analyse the determinants of household demand for water. The model is of the form as stated below

$$\Pi_{jk} = \frac{\exp(\beta'_k X_j + \theta' Z_{jk})}{\sum_{l=1} \exp(\beta'_l X_j + \theta' Z_{jl})}$$

Π_{jk} is the probability that individual j chooses alternative k . X_j represents the characteristics of individual j while Z_{jk} represents the characteristics of the k th alternative for individual j . $\beta_1 \dots \beta_m$ are m unknown regression parameters explaining the household characteristics while θ represent regression coefficient explaining the characteristics of water sources.

3.0. Results and Discussion

There is need to examine at a glance households' socioeconomic characteristics especially as regards their use of water, vis-à-vis water source, consumption rate, cost e.t.c. All these are explained in this section.

Table 1: Basic Descriptive Statistics on Household Characteristics

	Mean	Standard Deviation
Household size	5.89	2.33
Monthly income (₦)	9, 100	7, 900
Whether respondent reads and write	0.31	0.25

Source: Field survey 2006

An average household in the study area has about six members and an average monthly income of ₦9, 100. Hence per capita monthly income in the study area is ₦1516.7, which amounts to ₦50.55 per capita per day. This falls short of the \$1 (₦ 130) per day poverty mark recognized by the United Nations. This therefore means that an average household in the study area lives below poverty line and does not have the capacity to pay for high quality water supply. Besides the average household is illiterate and may not be fully aware of the danger in consuming water from unhygienic/untreated sources.

Table 2: Number of households getting water from the various sources (including multiple users)

Source	Frequency	Percentage
Private Well	12	30
Private Tap	0	0
Public Well/Borehole	18	45
Public Tap	0	0
Truck/water Vendor	3	8
Others (rivers, lakes, streams e.t.c)	20	50
Total (including multiple users)	48	
Total number of household	40	

Source: Field survey 2006

Table 2 shows that none of the respondents in the study area have access to either private tap or public tap which can be said to be the safest of all the sources considered in this study because it is treated. Important alternatives to private/public tap in the study area are public well/borehole and truck/water vendor. While 45% of the respondents make use of or have access to public well/borehole, only 8 percent have access to water from truck/water vendor Thirty percent of the respondents have access to wells dug in their compound or their neighbour's. As high as 50% still use water from rivers, lakes and streams, which are all untreated.

Table 3: Source of water for households and the uses to which it is put

Source	Frequency	Percentage
Private Well	12	
Drinking	9	75
Washing	12	100
Bathing	12	100
Cooking	12	100
Public well/borehole	18	
Drinking	18	100
Washing	7	39
Bathing	10	56
Cooking	14	78
Truck/water vendor	3	
Drinking	3	100
Washing	-	-
Bathing	-	-
Cooking	1	33
Private tap	-	-
Drinking	-	-
Washing	-	-
Bathing	-	-
Cooking	-	-
Public tap	-	-
Drinking	-	-
Washing	-	-
Bathing	-	-
Cooking	-	-
Others	20	
Drinking	2	10
Washing	20	100
Bathing	20	100
Cooking	16	80

Source: Field survey 2006

Respondents who have access to well water use it for cooking, to take their bath and for washing. Seventy five per cent of this group drinks water from the source. Though 50% of the respondents have access to or make use of other sources of water like river, streams, lakes e.t.c but only 10 percent of this drink the water while 80 percent use it to cook. All the 50 percent use the water to take their bath and for washing (Table 3). This source of water can be said to be the poorest.

Table 4: Average water consumption in litre per capita per month by source across the local government

Source	L/capita/month
Private Well	350
Private Tap	0
Public Well/Borehole	346
Public Tap	0
Truck/water Vendor	75
Others (rivers, lakes, streams etc)	635

Source: Field survey 2006

Table 4 shows that the most utilized of the water sources in the study area is the “others” category, which includes rivers, lakes, streams while the least utilized is the water from truck or water vendor. Private tap and public tap are not available at all.

Table 5: Multinomial Logit Estimates for the rural/suburb dwellers

	Estimated coefficient	Standard Value	P- value
Private Well			
Constant	-16.570***	0.3795	0.003
Characteristics of household			
Household income	0.4382	0.5664	0.543
Household size	0.0657	0.0700	0.382
Education of head	0.0034	0.0590	0.329
Characteristics of water sources			
Haul time	0.0016**	0.0060	0.071
Relative availability	0.0056	0.0001	0.397
Truck/ water vendor			
Constant	-12.682***	3.0051	0.000
Characteristics of household			
Household income	0.0013**	0.0000	0.006
Household size	-0.0252	0.0860	0.977
Education of head	0.5780	0.5110	0.624
Characteristics of water sources			
Haul time	0.0176	0.0570	0.637
Relative availability	0.3310***	0.0001	0.000
Others			
Constant	-19.494***	0.9150	0.000
Characteristics of household			
Household income	2.7990	0.0818	0.765
Household size	0.0134	0.0843	0.299
Education of head	-3.460	0.0275	0.001
Characteristics of water sources			
Haul time	0.2448**	0.0671	0.062
Relative availability	0.1015	0.0827	0.220
Public well/borehole			
Constant	1.8752***	0.0368	0.005
Characteristics of household			
Household income	0.2315	0.6113	0.885
Household size	1.8453	0.2799	0.331
Education of head	1.6192	0.6531	0.582
Characteristics of water sources			
Haul time	-0.0319***	0.0024	0.002
Relative availability	0.2114**	0.1357	0.050
Log likelihood	258.45		
Chi squared	46.98		

***, **, * indicates significance at the 1%, 5%, and 10% level respectively

4.0. Estimation Results

The dependent variables in this study consist of the alternative sources of water for household. Public tap and private tap are not found in the suburb/rural area of Ado Local Government, which is the study area. Hence the dependent variables for the study area include private well, truck/water vendor, public well/borehole and others. Independent variables include 1) socioeconomic determinant such as household income, household size and education variable (whether household head reads and write) and 2) characteristics of water sources, which include haul time (a proxy for distance), and relative availability

Household income is important in explaining the use of water from truck/water vendors. The positive sign shows that the higher the income, the more willing the households are in using water from the source. Education of household head determines whether household will use water from sources categorized as “others”. Relative availability of water from the various sources is not an important

factor except for water from truck/water vendors and public well/borehole while haul time determines whether household will use water from private well and source categorized as others

5.0. Conclusion

The study investigates determinants of household demand for water in rural settlements of Ado Local Government Area of Ekiti State. The households live below poverty line of N130 (\$1) per capita per day. They therefore tend not to have the capacity to pay for water especially in times of scarcity. They rather rely mainly on free sources of water.

The most commonly utilized sources of water in the suburb areas are rivers, lakes streams. However households in these areas do not normally drink water from these sources. The water from these sources is mainly used for cooking, washing and bathing. Public well/borehole is the most important source of water for drinking in the rural areas of ado Local government followed by private well and water from trucks/water vendors. It is also the most important government intervention in the provision of water in the Area.

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Mediated Cyber-Crime: An Investigation into the Role of Internet Access Points in the Facilitation of Cyber Crime in South Western Nigeria

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Abstract

The identification of Information and Communication Technology (ICT) as an essential tool for sustainable development has proved to be worth every investment. As a result of this, Internet usage in Nigeria has grown rapidly resulting in the explosion of Internet Service Providers (ISPs) and Internet access points. This has had several positive impacts on the socio-economic and educational developments in the country. Unfortunately, the country's image has also suffered as a result of the nefarious activities of some Nigerians, that has now turn the Internet into a cheap channel for the perpetration of criminal spamming activities known as the 'Advanced Fee Fraud (AFF)'. This paper investigated the level of involvement and the roles of Internet access points in the facilitation of fraudulent cyberspace activities in Nigerian. A self-designed questionnaire titled "The Role of Internet Access Points in the Facilitation of Cyber crimes in Nigeria" was administered in selected locations in South Western Nigeria. Statistical analysis of data using the Smith Statistical Package (SSP) showed that spamming activities remain prevalent among Nigerian Internet users. Our findings also revealed that Cyber cafés, more than any other Internet access points, have facilitated most cyber crimes. Recommendations were made based on our findings.

Keywords: Spam, Nigeria, Cybercrime, 419, Fraud, Cyber cafes, "Yahoo Boys".

Introduction

Advancements in Information and Communication Technology (ICT) has led to the representation of different types of information in electronic formats. The consequent today is that text, pictures and voice can all be digitised. Along with these geometric changes in information presentation and distribution are tandem demands in user expectations for more rapid, open, and global access to information than has been available in the past. However, this migration from traditional communication medium to the new mediat seem to constitute a threat to the existence of a number of traditional print institutions and has provided a platform for fraudulent internet activities. Computers are increasingly more affordable and Internet connectivity is also becoming commonplace. The introduction and embracement of the Global System for Mobile Communication (GSM) in Nigeria and the influx of digital and online services such as the MP3 players, Ipod, cell phones with internet access and blogs (instant news reporting on personal and corporate web pages).

Apart from the issue of piracy, other worrisome dimensions in cyberspace are pornography and SPAM mails. The Internet, aided by technology-induced anonymity has popularized the sex business more than any other means of advertisement. With unlimited access to a variety of websites, and the impediment of needing to enter a brothel physically removed, immoral gratification is just the click of a mouse away from any intending customer (Sackson, 1996). Anonymity has been an aid to most crimes perpetuated on the Internet and other IT applications. For instance, immoral contents can be viewed in the closet, on a laptop, on a palmtop etc without the reservation that any other person will know about the content being consumed. In the same vein, piracy of digital contents and spamming activities (Spamming is the act of sending unsolicited messages to many users at a time) can be carried out in the comfort of ones home.

While technological advancements have produced radical shifts in the ability to reproduce, distribute, control, and publish information, the Internet in particular has radically changed the economics and ease of reproduction. Reproduction costs are much lower for both rights holders (content owners) and infringers alike. One consequence is an erosion of what were once the natural barriers to infringement, such as the expense of reproduction and the decreasing quality of successive generations of copies in analogue media. Acquiring equipments for analogue reproduction are quite expensive, for example the printing press. Also digital copies produced using computers and Internet facilities are perfect replicas, each a seed for further perfect copies. The average computer owner today can easily do the kind and the extent of copying that would have required a significant investment and perhaps criminal intent only a few years ago. Computer networks have also radically changed the economics of distribution. With transmission speeds approaching a billion characters per second, networks enable sending information products worldwide, cheaply and almost instantaneously. As a consequence, it is easier and less expensive both for a rights holder to distribute a work and for individuals or pirates to make and distribute unauthorized copies.

Cyber Crime & Criminality In Nigeria

Crime remains elusive and ever strives to hide itself in the face of development. As measures and techniques for detecting crimes and criminals advance, criminals also look for means of hiding from these measures – the Internet currently serve as a hiding place for fraudsters who has simply migrated from the streets to an electronic platform offered by the world wide web. Different nations have adopted different strategies to contend with crimes depending on their nature and extent. Certainly, a nation with high incidence of crime cannot grow or develop. That is so because crime is the direct opposite of development. It leaves a negative social and economic consequence (Sylvester, 2001). For Nigeria, a nation in the process of saving her face regarding cyber crimes, efforts are now being directed at the sources and channels through which cybercrimes are being perpetuated – the most popular one being Internet access points.

Majority of the cybercrimes perpetrated in Nigeria generally are targeted at individuals and not necessarily computer systems, hence they require less technical expertise. The damage done manifests itself in the real world. Human weaknesses such as greed and gullibility are generally exploited. The damage dealt is largely psychological and financial. These crimes are similar to theft, and the likes that have existed for centuries offline even before the development of high-tech equipment. Through the internet, the same criminals or persons with criminal intents have simply been given a tool which increases their potential pool of victims and makes them all the harder to trace and apprehend (Aghatise, 2006).

The challenge in fighting cybercrimes today relates to the fact that cybercrimes have been in existence for only as long as the cyber space exists. This explains the unprepared ness of society and the world in general towards combating them. Numerous crimes are committed daily on the Internet with Nigerians at the forefront of sending fraudulent and bogus financial proposals all over the world. Criminals involved in the advance fee fraud schemes (419) are now popularly referred to as “yahoo

boys' in Nigeria. The nation has therefore carved a niche for herself as the source of what is now generally referred to as '419' mails named after Section 419 of the Nigerian Criminal Code (Capp 777 of 1990) that prohibits advance fee fraud.

Among categories of fraud identified by Peter & Grace (2001) are fraud committed against a number of individuals through print or electronic media, or by other indirect means. This would include Nigerian advance fee frauds (Smith, Holmes & Kaufmann 1999), share market manipulation, and deceptive advertising or investment solicitations pitched at a relatively large number of prospective victims. The following categories of crime are the most common ones in the Nigerian Internet landscape.

- (a) Hucksters:** The hucksters are characterized by a slow turnaround from harvest to first message (typically at least 1 month), a large number of messages being sent to each harvested spam-trapped addresses, and typical product based Spam (i.e. Spam selling an actual product to be shipped or downloaded even if the product itself is fraudulent).⁴ Email addresses are obtained from Internet access points using e-mail address harvesting software (web spiders) such as E-Mail Extractor Lite1.4. These tools can automatically retrieve e-mail addresses from web pages. They are therefore referred to as harvesters.
- (b) Fraudsters:** The fraudsters are characterized by an almost immediate turnaround from harvest to first message (typically less than 12 hours), only a small number of messages are sent to each harvested addresses (e.g. phishing, "advanced fee fraud"-419 from the Nigerian perspective). Fraudsters often harvest addresses and send only a message to them all at a particular time. The tool for getting addresses are mailing address extractors (Longe & Chiemeké, 2006).
- (c) Piracy:** Piracy involves the illegal reproduction and distribution of software applications, games, movies and audio CDs. (Longe, 2004). This can be done in a number of ways. Usually pirates buy or copy from the Internet an original version of a software, movie or game and illegally make copies of the software available online for others to download and use without the notification of the original owner of the software. This is known as Internet piracy or warez. Modern day piracy may be less dramatic or exciting but is far subtler and more extensive in terms of the monetary losses the victim faces. This particular form of Cyber crime may be the hardest of all to curb as the common man also seems to be benefiting from it.
- (d) Hacking:** Young Nigerians can be observed on daily basis engaging in brainstorming sessions at Cybercafés trying to crack security codes for e-commerce, ATM cards and e-marketing product sites. The surprising thing is that even with their low level of education or understanding of the intricacies of computing techniques, they get results! Phishing is also becoming popular as criminals simulate product websites to deceive innocent Internet users into ordering products that are actually non-existent. Phishing refer to imitating product and e-commerce web pages in order to defraud unsuspecting users. This method is used mostly to obtain credit card numbers.

Mediums For Perpetrating Cybercrimes In Nigeria

The Cyber criminals apart from the mentality and the strength of their motivations, needs to see the path of crime ahead of him clear of obstacles. If every single individual were to put up obstacles of their own, no matter how small, the crime path will seem to be far less lucrative in the eyes of even the most desperate criminal (Aghatise, 2006). Progress is observable in the fight against Internet pornography (except in few cyber cafes) content filters are downloaded and installed to filter unwanted Internet content (Longe & Longe, 2005). On the other hand, even in Cybercafés with notices warning

against spamming activities, bulk tickets are sold, obviously meant for the purpose of sending Spam mails.

Apart from the availability and usage of Internet facilities in cyber cafes for scam mails and other cybercrimes, the evolution of fixed wireless facilities in the Nigerian network landscape has added another dimension to the cybercrimes problem. Fraudsters who can afford to pay for Internet connection via fixed wireless lines can now perpetrate their evil acts within the comfort of their homes. In some cyber cafes, a number of systems are dedicated to fraudsters (popularly referred to as “yahoo boys”) for the sole purpose of hacking and sending fraudulent mails. Other cyber cafes share their bandwidth (popularly referred to as home use) to some categories of customers who acquire systems for home use in order to perpetuate cybercrimes from their homes.

Efforts at preventing financial Cyber crime in Nigeria are on both at entrepreneurial, private and public pedestal. For café owners, notices are pasted on walls warning of possible arrests of scammers who send fraudulent mails. Individuals can only take precautions within the limit of the knowledge of the dynamics of the Internet and the e-mail system. Generally, users are learning not to respond to scam mails or mails presenting financial bogus proposals. For the government, the Economic and Financial Crimes Commission (EFCC) has been given powers to arrest and prosecute individuals and organisations suspected to be involved in the promotion of cybercrimes. The bill on cyber crime has also been passed by the National Assembly and it is not unusual to see bill boards donning Nigerian roads warning cyber criminals that the “hands of the law will soon get to them”. As at the period of writing, there are virtually no known technical measures implemented for combating cyber crime in Nigerian cafes. Hopefully, the EFCC is working on something along this line.

Methodology

The intention of the research is two-fold. One is to study the usage profile of online facilities while the other is to determine the contributions of various Internet access points, within the research area, to the perpetration of Cyber crime in Nigeria.

Research Questions

Based on the foregoing, we intend to address the following questions that have emanated.

- (1) What are the main preoccupations of Internet users in Nigeria?
- (2) What are the perception of Internet users regarding the role of Internet access points in the facilitation of fraudulent cyberspace activities in Nigerian.

Study Population and Sampling Technique

A total of 50 Cybercafés satisfied the stratification for availability of computer facilities, speed, patronage and consistency for the first objective. For each of the café, 10 systems were selected randomly for observing user activities. The survey method employed for the second objective is the use of questionnaire, which solicits information from respondents selected for the research. The questionnaire titled “*The Role of Internet Access Points in the Facilitation of Cyber crimes*” was administered to respondents in ten locations in South Western Nigeria. Confidentiality of personal information was guaranteed as respondents were asked to specify their age, gender and occupation. The respondents were encouraged to provide honest answers and items in the questionnaire involving some Internet technicalities were explained to assist the respondents in understanding each question.

A total of 270 questionnaire were administered over a 3 months period cutting across four locations in Southwestern Nigeria. 241 questionnaires were returned out of which 232 satisfied the statistical stratification for age, gender and occupation.. The sampling technique used is the stratified sampling method in combination with simple random sampling. The simple random sampling

technique is a method employed in selecting a sample of considerable size from a given population of data used in the survey.

Research Instruments

The research instrument titled The questionnaire titled “*The Role of Internet Access Points in the Facilitation of Cyber crimes*” was administered to respondents to evaluate their views regarding the role of internet access points regarding the research question. The research instrument was administered by trained research students under the researchers and the researchers. Responses were on a five point Lickert Scale.

Validation and Reliability of the Instrument

The face-validity and content-validity of the instrument were verified by experts in the subject area. The various suggestions made were used to modify the instrument. The Alpha reliability measure for research data was 0.84. for the first questionnaire.

Data Presentation

Table 1 reports users activities as observed in the selected cyber café. Tables 2 and 3 gives a summary of the responses and analysis obtained from 324 respondents on Internet Access Points at which cybercrimes are perpetrated.

Table 1: Internet Activity Profile

Internet Usage	Total Observation	% of Total Response
News	25	5.0%
Entertainment (audio music & video)	15	3.0%
Sports	32	6.4%
Pornography	13	2.6%
Spamming	195	39%
Academic research	67	13.4%
Electronic Mailing	94	18.8%
Internet Phoning	21	4.2%
Travel Information	36	7.2%
Piracy	2	0.4%
Total	500	100%

Table 2: Cyber Crime Perpetration Points

S/No	Items	Strongly Agree	Agree	Indifferent	Disagree	Strongly Disagree
1	Government Offices	44	33	28	50	45
2	Homes & Home Use	53	76	12	31	28
3	Private Organization Networks	43	34	26	52	45
4	Cyber cafes	71	68	6	32	23
5	Others	41	51	20	56	32
6	Tertiary institutions Networks	67	62	7	22	10
	Total	319	324	99	253	183
	Mean	53.16	54	16.5	42.16	30.5

Table 3: Chi-Square Analysis

x	f	f'	(f - f')	(f - f') ²	$x^2 = \frac{(f - f')}{f'}$
Strongly Agreed	319	235.6	83.4	6955.56	29.52
Agreed	324	235.6	88.4	7814.56	33.16
Indifferent	99	235.6	-136.6	18659.56	79.20
Disagree	253	235.6	17.4	302.76	1.28
Strongly Disagreed	183	235.6	-52.6	2766.76	11.74
Total	1178	1178			154.90

X^2 value = 154.90; Degree of freedom = 5 - 1 = 4
 X^2 at .99 at 4 d.f = 13.277 X^2 at .95 at 4 d.f = 9.488
 X^2 value = 240.6
 Degree of freedom = 5 - 1 = 4
 X^2 at .99 at 4 d.f = 13.277 X^2 at .95 at 4 d.f = 9.488
 240.6 > 13.277 > 9.488

From the analysis above, the difference between the actual and the theoretical distribution is significant and not due to chance.

Discussion of Findings

Table 1 revealed a number of interesting findings regarding the usage of Internet facilities in Nigeria:

- (a) The fact that piracy activities come last agrees with the fact that piracy is not something that takes place in open Cybercafés. CDs, VCDs and DVDs etc are copied and pirated in the confines of offices and homes of the criminals, at times in commercial quantities. Arrests have been made in places such as Lagos and Onitsha in Markets where electronic products such as tape recorders, CD and DVD players are sold.
- (b) There is a steady increase in the usage of the Internet for news, travel information and sports. This is not unconnected with the migration of most Nigerian newspapers online. Readers prefer to pay for Internet time (N60-N100 for one hour) as compared to buying newspapers for as much as N150 or N200 (Longe, 2006)
- (c) Pornography has been combated to a large extent. Content filters are obviously working for most Cybercafés.
- (d) Electronic mailing and academic research also occupy a pride of place, as they constitute appreciable percentage of Internet usage activities within the research area.
- (e) However Internet phoning is on the decrease (Longe, 2006). This may not be unconnected with the fact that there are many alternatives such as fixed wireless and GSM systems.
- (f) The dark side of this data depicted below is that spamming activities take the larger share of usage profile in the investigated terrain. A casual visit to cyber cafes in Cities such as Lagos, Benin City and Ibadan, Nigeria, from which data are gathered will confirm this positions.

From Table 2 the following can be inferred:

- (a) Respondents conceded to the fact that most cybercrimes are perpetrated in cybercafe
- (b) This is followed by networks within academic institutions.
- (c) Users on the home front comes next.
- (d) Cybercrimes are however less prevalent in private organizations and government offices.

The Chi square analysis (Table 3) showed that the differences in perception are not due to chance.

Conclusion

The embracement of the Internet culture in Nigeria has come with a lot of mixed feelings. Apart from the quest among users asking for local service providers to improve their quality of service, Internet etiquette regarding positive and constructive usage of electronic mail system remains a challenge as far as the issue of fraudulent Spam messages are concerned. The incredible volume of Spam emanating from Nigeria continues to be an issue of great concern to the nation and the world at large. These activities tax the bandwidth of the Internet resulting into slower speed of operation. It all bounces back on the service providers in terms of operating costs and more access cost for consumers of services.

Unfortunately, Cyber crime seems to be yielding much to criminals in the developing nations, so it is not going to be curbed that easily. Offline crime rates have reduced because the offline criminals have gone high-tech and are making “huge money” from the business. In fact, it is highly likely that Cyber crime and its perpetrators will continue developing and upgrading to stay ahead of the law. The Internet community must therefore engage in a collective effort to curb the Internet of the demeaning crimes it is helping to fuel. For Nigeria, the EFCC and of course ICT professionals will have to take decisive steps and formulate policies that will help in drastically reducing (if not eliminate) this menace at Internet access points. A combination of sound technical measures tailored to the origin of Spam (the sending ends) in conjunction with legal deterrents as currently being pursued by the EFCC will be a potent remedy.

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