

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/293714267>

Analysis of the impact of globalization on Nigerian agricultural output

Article · January 2007

CITATION

1

READS

4,887

4 authors, including:



Matthew Olaniyi Adewumi

University of Ilorin

64 PUBLICATIONS 601 CITATIONS

[SEE PROFILE](#)



Shehu Abdulganiyu Salau

Kwara State University

30 PUBLICATIONS 113 CITATIONS

[SEE PROFILE](#)



Opeyemi Ayinde

Tshwane University of Technology

14 PUBLICATIONS 218 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Economic analysis of cashew nuts marketing [View project](#)



Profitability and Technical Efficiency of Sweet Potato Production in Nigeria [View project](#)

EUROPEAN JOURNAL OF SOCIAL SCIENCES

ISSN: 1450-2267

**Volume 4, Number 2
January, 2007**

Editor-In-Chief

Adrian M. Steinberg, Wissenschaftlicher Forscher

Editorial Advisory Board

Leo V. Ryan, DePaul University
Richard J. Hunter, Seton Hall University
Said Elnashaie, Auburn University
Subrata Chowdhury, University of Rhode Island
Teresa Smith, University of South Carolina
Neil Reid, University of Toledo
Mete Feridun, Cyprus International University
Jwyang Jiawen Yang, The George Washington University
Bansi Sawhney, University of Baltimore
Hector Lozada, Seton Hall University
Jean-Luc Grosso, University of South Carolina
Ali Argun Karacabey, Ankara University
Felix Ayadi, Texas Southern University
Bansi Sawhney, University of Baltimore
David Wang, Hsuan Chuang University
Cornelis A. Los, Kazakh-British Technical University
Jatin Pancholi, Middlesex University
Teresa Smith, University of South Carolina
Ranjit Biswas, Philadelphia University
Chiaku Chukwuogor-Ndu, Eastern Connecticut State University
John Mylonakis, Hellenic Open University (Tutor)
M. Femi Ayadi, University of Houston-Clear Lake
Wassim Shahin, Lebanese American University
Katerina Lyrودي, University of Macedonia
Emmanuel Anoruo, Coppin State University
H. Young Baek, Nova Southeastern University
Jean-Luc Grosso, University of South Carolina
Yen Mei Lee, Chinese Culture University
Richard Omotoye, Virginia State University
Mahdi Hadi, Kuwait University
Maria Elena Garcia-Ruiz, University of Cantabria
Zulkarnain Muhamad Sori, University Putra Malaysia

Indexing / Abstracting

European Journal of Social Sciences is indexed in Scopus, Elsevier Bibliographic Databases, EMBASE, Ulrich, DOAJ, Cabell, Compendex, GEOBASE, and Mosby.

Aims and Scope

The European Journal of Social Sciences is a quarterly, peer-reviewed international research journal that addresses both applied and theoretical issues. The scope of the journal encompasses research articles, original research reports, reviews, short communications and scientific commentaries in the fields of social sciences. The journal adopts a broad-ranging view of social studies, charting new questions and new research, and mapping the transformation of social studies in the years to come. The journal is interdisciplinary bringing together articles from a textual, philosophical, and social scientific background, as well as from cultural studies. It engages in critical discussions concerning gender, class, sexual preference, ethnicity and other macro or micro sites of political struggle. Other major topics of emphasis are Anthropology, Business and Management, Economics, Education, Environmental Sciences, European Studies, Geography, Government Policy, Law, Philosophy, Politics, Psychology, Social Welfare, Sociology, Statistics, Women's Studies. However, research in all social science fields are welcome.

EUROPEAN JOURNAL OF SOCIAL SCIENCES

<http://www.eurojournals.com/EJSS.htm>

Editorial Policies:

1) The journal realizes the meaning of fast publication to researchers, particularly to those working in competitive & dynamic fields. Hence, it offers an exceptionally fast publication schedule including prompt peer-review by the experts in the field and immediate publication upon acceptance. It is the major editorial policy to review the submitted articles as fast as possible and promptly include them in the forthcoming issues should they pass the evaluation process.

2) All research and reviews published in the journal have been fully peer-reviewed by two, and in some cases, three internal or external reviewers. Unless they are out of scope for the journal, or are of an unacceptably low standard of presentation, submitted articles will be sent to peer reviewers. They will generally be reviewed by two experts with the aim of reaching a first decision within a two-month period. Suggested reviewers will be considered alongside potential reviewers identified by their publication record or recommended by Editorial Board members. Reviewers are asked whether the manuscript is scientifically sound and coherent, how interesting it is and whether the quality of the writing is acceptable. Where possible, the final decision is made on the basis that the peer reviewers are in accordance with one another, or that at least there is no strong dissenting view.

3) In cases where there is strong disagreement either among peer reviewers or between the authors and peer reviewers, advice is sought from a member of the journal's Editorial Board. The journal allows a maximum of three revisions of any manuscripts. The ultimate responsibility for any decision lies with the Editor-in-Chief. Reviewers are also asked to indicate which articles they consider to be especially interesting or significant. These articles may be given greater prominence and greater external publicity.

4) Any manuscript submitted to the journals must not already have been published in another journal or be under consideration by any other journal, although it may have been deposited on a preprint server. Manuscripts that are derived from papers presented at conferences can be submitted even if they have been published as part of the conference proceedings in a peer reviewed journal. Authors are required to ensure that no material submitted as part of a manuscript infringes existing copyrights, or the rights of a third party. Contributing authors retain copyright to their work.

5) Manuscripts must be submitted by one of the authors of the manuscript, and should not be submitted by anyone on their behalf. The submitting author takes responsibility for the article during submission and peer review. To facilitate rapid publication and to minimize administrative costs, the journal accepts only online submissions through EJSS@eurojournals.com. E-mails should clearly state the name of the article as well as full names and e-mail addresses of all the contributing authors.

6) The journal makes all published original research immediately accessible through www.EuroJournals.com without subscription charges or registration barriers. Through its open access policy, the Journal is committed permanently to maintaining this policy. All research published in the Journal is fully peer reviewed. This process is streamlined thanks to a user-friendly, web-based system for submission and for referees to view manuscripts and return their reviews. The journal does not have page charges, color figure charges or submission fees. However, there is an article-processing and publication charge.

Submissions

All papers are subjected to a blind peer-review process. Manuscripts are invited from academicians, research students, and scientists for publication consideration. The journal welcomes submissions in all areas related to science. Each manuscript must include a 200 word abstract. Authors should list their contact information on a separate paper. Electronic submissions are acceptable. The journal publishes both applied and conceptual research. Articles for consideration are to be directed to the editor through ejss@eurojournals.com. In the subject line of your e-mail please write “EJSS submission”.

Further information is available at: <http://www.eurojournals.com/finance.htm>

European Journal of Social Sciences

Volume 4, Number 2

January, 2007

Contents

Self-Actualization and Locus of Control as A Function of Institutionalization and Non-Institutionalization in the Elderly	1-6
Philip O.Sijuwade	
Methodological Issues in Importance–Performance Analysis: Resolving the Ambiguity.....	7-21
Jackson O. Olujide, Omenogo V. Mejabi	
Effectiveness of Extension Teaching Methods in Acquiring Knowledge, Skill and Attitude by Women Farmers in Osun State.....	22-30
Okunade, E.O	
Financial Liberalization in the Developing Countries: Failures of the Experiment and Theoretical Answers	31-45
Maazouz Mokhtar, Enayati Fatemah	
Personal Attributes Affecting Extension Managers and Supervisors Attitude Towards Information Technology in the Niger Delta Area of Nigeria	46-53
O.M. Adesope, C.C. Asiabaka, Edna C. Matthews-Njoku, E.L. Adebayo	
Case Report ‘ACUPHAGIA’- An Adult Nigerian Who Ingested 497 Sharp Metallic Objects.....	54-59
Augustus Mbanaso FRCS, FWACS, Charles Adeyinka Adisa FWACS, FICS, Denis Halliday, F. Iroegbu	
A Linear Goal Programming Approach to Food Security Among Agropastoralists Households in Giwa Area of Kaduna State, Nigeria.....	60-64
A.B. Lawal, H .Ibrahim	
Analysis of the Impact of Globalization on Nigerian Agricultural Output	65-71
Adewumi, M.O, Salau, S.A, Ayinde O.E, Ayodele Jimoh	
Revenue Allocation in the Nigerian Federation: An Examination.....	72-86
Akpomuvire Mukoro	
Enhancing Professional Standards of Public Relations and Communication Management: An Exploratory Study in Malaysia	87-105
Zulhamri Abdullah	
Staff Regulation and Disciplinary Procedures in Delta State Local Government.....	106-115
Akpomuvire Mukoro	

Agricultural Intensification and Efficiency of Food Production in the Rainforest Belt of Nigeria.....	116-126
<i>A.S. Oyekale</i>	
Graduate Research Student Policy: A Study of United Kingdom Universities' Practices	127-136
<i>Norhasni Zainal Abiddin</i>	
Influence of Leadership Role on Women Activities in Women based Rural Development Projects in Osun State	137-146
<i>Okunade, E.O</i>	
Causality and Price Transmission Between Fish Prices: New Evidence from Greece and UK	147-159
<i>Christos Floros</i>	
An Empirical Evaluation of Employees' Job Satisfaction in Public - Private Hospitals in Greece	160-170
<i>Nicholas Polyzos, John Mylonakis, John Yfantopoulos</i>	

Self-Actualization and Locus of Control as a Function of Institutionalization and Non-Institutionalization in the Elderly

Philip O.Sijuwade

*School Of Urban And Public Affairs
University Of Texas, Arlington,Texas*

Abstract

Adaptation to the aging process in the American Society would appear to present a problem for at least a portion of the elderly population. This research represents a limited attempt to bring additional insights to bear on the adaptive portion of the aging process. Both groups of the elderly (institutionalized and non-institutionalized) indicate an extremely oriented view of the social environment in which they exist. These results also provide some evidence in support of Hamilton's (1985) contention that institutionalized elderly individuals are less self-actualized than elderly persons living in the community.

Introduction

Old age is the final stage of the aging process. This process can be traced as far back as the work of Quetelet who in 1835 focused attention on the length and quality of the lives of elderly (Birren, 1964). Hall (1922) contributed to the field with insights referring to aging as the inverse process of development. By the 1930's, Buhler and Brunswick (Birren, 1964) noted differences in the values and goals of the elderly. From the late 1940's into the present time, government agencies and academic researchers have been involved in the physiological, psychological, and sociological aspects of the aging process and the implications concomitant to adaptation to the final stage of aging. Insights gleaned from these efforts, while helpful for understanding the process and adaptive efforts of an increasing number of Americans who encompass the gerontological segment of the American population, also hold important implications for all facets of society.

Approximately one-third of the United States' population is 65 or older (United States Bureau of Census, 2004). Given these conditions an ever increasing number of the elderly seemingly will be destined to live in an institutional setting. Maddox (1996) reported that nursing homes offer the elderly the "only formal type of treatment available". He also stated that institutions are primarily a place of residence for elderly who have nowhere else to live. This forced choice seems to have a negative implication not only on the elderly, but also on the family and relatives involved.

Stein And Ross (2005) implied that the elderly individuals in a nursing home viewed their lives with extreme pessimism and that "institutionalization is not in the best interest of the elderly". They indicated that the elderly seem to feel abandoned and useless, due to their lack of input into the surrounding environment. Also, Stein and Ross (2005) implied that the relatives of the institutionalized individuals "never have their parents committed without some remorseful feelings". Hamilton (1985) also implied that the elderly deem their situation as a misfortune due to the inability of the individual to live at home. The elderly individual not living in his own home may be inhibited from reaping any benefits he could acquire from his former familiar surroundings. Therefore, Hamilton (1985), suggested that the elderly are faced with a crucial decision; either adapt to the institutional setting or disengage oneself. Numerous studies have been accumulated, and many seem to indicate that institutionalized elderly, when compared to their non-institutionalized counterparts, demonstrated an impaired adaptation and adjustment.

Method

Subjects

The total number of male and female subjects was 48 with an age range between 65 and 90. Two groups of subjects were utilized, the first group consisted of 24 non-randomly selected subjects living in four nursing homes located in Northeastern Texas. The remaining 24 subjects consisted of non-institutionalized individuals. Both groups were interviewed on a volunteer basis. In essence, the sample of elderly individuals represented a non-probabilistic or an "availability" sample of elderly residents of two cities of about 10,000 and 25,000 in total population. The institutionalized groups consisted of persons residing for a minimum of two years in a nursing home. The second group, non-institutionalized elderly, had never resided in a nursing home. The subjects, comprised of 96% white and 4% black, were of predominantly rural backgrounds. For both groups, females represented the majority of subjects (83%), while the remaining 17% were males. Educational background levels ranged from having finished middle school (42%), to post high school and college (58%).

Measures

Levenson's (1983) modified internal-external locus of control measure was used. This measure breaks the locus of control concept into three dimensions, internal, powerful others, and chance. On each of these scales one item was omitted due to the inability of the elderly to identify with these items. In conjunction, the Levenson scale was chosen to measure internal-external locus of control because it purports to measure the degree to which individuals feel control over their own social and psychological environment. In addition, the three scales are statistically independent of one another. Levenson's three dimensional scale used the internal locus of control (ILC) as one dimension and the external scale subdivided into the other two scales, powerful others and chance. The rationale for differentiating the two types of externals, stems from the assumption that those who believe a world is ordered uphold the belief that powerful others are in control of that social order (Levenson, 1983). The Personality Orientation Inventory (POI) scale (Shostrom, 1996), a measure of self-actualization consisting of 150 items gives researchers the opportunity to measure more comprehensively wide ranging value and behavioral systems of self-actualizing persons. The POI consists of two major scales, time and support. The support scale purportedly measures inner-direction and other-direction as related to self-actualization (Shostrom, 1996). Inner-directed are guided by inner motivations and are more self-actualizing than are externally oriented individuals. Other-directed persons are more easily controlled by outward influence and react to external pressures (Shostrom, 1996). The time scale determines whether an individual perceives that they live in the present, past or future. Self-actualized individuals tend to tie all three in a coherent order. On the other hand, non-self-actualizers tend to be more oriented toward present goals. As such, non-self-actualizers tend to experience more feelings of guilt, resentment, and regret than do self-actualizers.

The Interviews

All interviews were carried out by a female graduate student. A pilot study prior to the actual study was run to gain experience and to determine if the elderly would cooperate in fulfilling the interviewer's expectations. In the present study, one problem was subject fatigue. Each subject was interviewed at the same time of day for both sessions. During the first session, administration of the 21-item Levenson scale was followed by the first half of the self-actualization scale. In the second session, administration for the last half of the self-actualization scale took place. Each session included a brief social exchange to establish rapport with the subject. Both interview sessions lasted between 30 and 45 minutes.

Results

The internal locus of control mean scores and standard deviations for the institutionalized elderly are reported in Table 1 along with the adult standardized norm score recorded by Levenson(1983).The data indicate that both institutionalized and non-institutionalized persons are less internal(or more highly external) in their world view than are the comparison groups.According to Levenson(1983),externally oriented individuals are less self-actualized than internally oriented individuals.Low self-actualization of the elderly may be due to many factors,some of which will be discussed in the following section.

Table 1: Mean Scores and Standard Deviations for Institutionalized and Non-Institutionalized Elderly, and Levenson's Adult Standardized Norm.

Source	Mean	Standard Deviation
Institutionalized elderly		
Internals	27.79	3.60
Externals		
Powerful Others	22.33	5.49
Chance	23.04	5.15
Non-Institutionalized Elderly		
Internals	28.54	6.99
Externals		
Powerful Others	22.75	8.39
Chance	20.20	10.17
Adult Standardized Norm		
Internals	35.25	5.90
Externals		
Powerful Others	18.04	7.90
Chance	14.79	8.37

Analysis of variance of Levenson's internal,powerful other,and chance,mean scores between institutionalized and non-institutionalized elderly resulted in a non-significant F value ($F=.23, p .05$) as indicated in Table 2.

Table 2: Analysis of Variance Reported for the Levenson, Internal Powerful others and Chance Scale

Chance Scale				
Source	Sum of Squares	d.f.	M.S.	F-Value
A (Residency)	11.11	1	11.11	.23
B (Scales)	1204.39	2	602.19	12.35
A X B	94.05	2	47.03	.96
W Cell	6730.67	138	8.78	
p<.001				

The self-actualization scores based on the time and support scales of the PersonalityOrientation Inventory are reported in Table 3.The data indicate that both the institutionalized and non-institutionalized groups scored below non-self-actualizers verified in previous Personality Orientation Inventory tests(Shostrom,1996).These results clearly suggested a lower degree of self-actualization among our total sample of elderly persons.When comparing the experimental and control groups,major differences are noted between these two.The lower mean scores reported for the institutionalized elderly are suggestive of the debilitating effect of nursing homes.

Table 3: Self-Actualization Means and Standard Deviations Reported for Institutionalized and Non-Institutionalized Elderly and Non-Self-Actualized Adults.

Source	Mean	Standard Deviation
Institutionalized Elderly		
Support	62.58	8.27
Time	11.45	2.43
Non-Institutionalized Elderly		
Support	73.46	7.81
Time	14.79	3.82
Non-Self-Actualizers		
Support	75.80	16.20
Time	15.80	3.60

Table 4: Analysis of Variance Reported for Time and Support Scale

Source	Sum of Squares	d.f.	M.S.	F-value
A(Residency)	1211.26	1	1211.26	32.30
B(Scales)	72,325.26	1	72,325.26	1928.83
A X B	341.26	1	341.26	9.10
W Cell	2449.71	92	37.49	
p<.001				

Analysis of variance of the time and support scales of self-actualization (POI) was used in providing an F value indicated significant difference ($F=32.30, p<.001$) between institutionalized and non-institutionalized groups.

Discussion

The internal, powerful others, and chance mean scores for both groups were below the average scores of the Levenson standardized adult norm. However, both institutionalized and non-institutionalized individuals scored high on the external scales (powerful others and chance), while scoring low on the internal scale. These data indicate an external world view or external locus of control for individuals constituting this sample. In conclusion, self-actualization of the elderly may be due primarily to an inability of elderly persons to adapt to the aging process. In essence, both the control and experimental groups indicated extremely high external orientation, an orientation inversely related to high self-actualization.

The F-value obtained between the mean scores recorded for the time and support scales for the institutionalized subjects are significant at the .001 level. These results provide some evidence in support of Lieberman, Prock, and Tobin's (1988) research conclusions which suggested that the institutionalized elderly have more negative psychological and physical problems than elderly individuals who live in the community. In accordance, Ames, Learned, Metraux, and Walker (1974), indicate a common denominator among nursing home residents which consistently demonstrated a distinct lack of adaptation to the nursing home milieu.

The F-value obtained between the mean scores of the external locus of control (powerful others, chance) scales of the institutionalized and non-institutionalized groups indicated no significant differences. These results, however, indicated that both groups scored high on the external (powerful others and chance) scales, and therefore were low on the internal end of the locus of control attitude continuum. In sum, both groups seem to indicate an externally oriented view of the social environment in which they exist. These results also provide some evidence in support of Hamilton's (1985) contention that institutionalized elderly individuals are less self-actualized than elderly living in the community.

A possible explanation for this externally oriented view is that an elderly person may adapt to an institutional environment only because he comes to accept that the control over all the aspects of his life is determined by the institutional staff. Such an adaptation would necessarily tend to cause one to sacrifice or lead one away from fulfilling inner-directed tendencies. Beatty (1992) indicated that the persons with inner-directed orientations were significantly more self-actualized than persons with an external locus orientation. Both groups in this study fit this condition in indicating a high external world view orientation which may, in turn, result in low self-actualization.

Conclusion

Adaptation to the aging process in American Society would appear to present a problem for at least a portion of the elderly population. This research represents a limited attempt to bring additional insights to bear on the adaptive portion of the aging process. It could well be the case that age differences, even within the elderly population, and city size are important factors for adaptation during the aging process.

Old age can be a satisfying period of life if the problem of the aging process is dealt with (Beatty, 1992). Many elderly individuals need assistance in maintaining their health and happiness. Beatty implied that if psychological, sociological, and physiological deterioration were retarded through normal community living, the elderly could uphold their internal locus of control and, as a result, retain their self-actualizing. It may be true that responsibility for the social, psychological, and physical determination of many older persons lies with the society, which promotes a negative stereotype of old age, a stereotype perpetuated by a youth-oriented society. What we would argue here is that individuals hold on to both strong dependency needs as well as a sense of personal power, and control their own lives. The external elderly then would seem to fit this description no less than would the strongly dependent elderly. The implications for institutionalization would seem apparent when we came to realize the boredom and stigmatization in rest homes for the aged. The sense of powerlessness (externality) is the primary existential state of such persons (Reynolds and Farberow, 1996).

Familial relationships diminish or dissipate totally. Friendships are strained through lack of frequency, whereas such contracts would enhance and maintain a semblance of self-determination and power. In this regard, institutionalized elderly would appear to hold much in common with those relegated to institutions for the mentally ill. Reynolds and Farberow (1996) suggests that mental patients should be accorded a higher degree of control over their lives. And in Lohman's (1997) research for college students, similar sentiments were expressed when application of behavioristic reinforcement principles for the internal-external locus of control concept were applied. Such thinking supports innovations which would humanize the hospital system. Could we suggest any less for the vastly growing number of senior citizens?

References

- [1] Ames, L.B., Learned, J., Jetraux, R., and Walker, R., Rorshach Response in old age. New York: Hoeber Harper, 1974.
- [2] Beatty, R., The Senior Citizens. New York: Charle C. Thomas, 1992.
- [3] Birren, L., Aging in America. Toronto, Canada: Beacon Press, 1994.
- [4] Hall, H.M., Process of Aging. Social and Psychological Perspectives. New York: Atherton, 1922.
- [5] Hamilton, C.H., Your rewarding Years. New York: Pantheon Press, 1985.
- [6] Levenson, H., Reliability and Validity of I.P. and C. Scales-A multi-dimensional view of Locus of Control, A.D.A. Convention, 1983.
- [7] Lieberman, M., Prock, U., and Tobin, S., Psychological Effects of Institutionalization. Journal of Gerontology, 23, 343-353; 1988.
- [8] Lohman, W., Correlation of Life Satisfaction Morale and Adjustment Measure. Journal of Gerontology, 32, 73-75; 1997.
- [9] Maddox, c., The future of Aging and the aged. Atlanta: Seminar Books, 1996.
- [10] Reynolds, D., and Farberow, N., Suicide Inside and Out. Berkeley: University of California Press, 1996.
- [11] Shostrom, E., Personal Orientation Inventory. San Diego: Educational and Industrial Testing Services, 1996.
- [12] Stein, E., and Ross, M., you and Your Aging Parents. New York: Harper and Row, 2005.
- [13] United States Bureau of Census. Current Population Reports. Washington, D.C: U.S Bureau of Census, 78, 61. 2004.

Methodological Issues in Importance–Performance Analysis: Resolving the Ambiguity

Jackson O. Olujide

*Department of Business Administration
University of Ilorin, P M B 1515
Ilorin, Nigeria
olujack52@yahoo.co.uk*

Omenogo V. Mejabi

*Doctoral research student
Department of Business Administration
University of Ilorin, Ilorin, Nigeria
ovmejabi@yahoo.com*

Abstract

As a tool for assessing perceptions of service quality and for developing marketing strategies to enhance customer satisfaction, importance – performance (IP) analysis has been found to be easily understood and effective for managerial action. However, there continues to be debate as to whether decisions regarding methodological procedures and interpretations from the analysis can affect the conclusions drawn and whether this is desirable or not. The issues so debated and reviewed in this paper, include the determination of what attributes to measure, how to obtain unbiased measures of importance and performance, what measure of central tendency to adopt, the construction of the IP grid crosshairs (or line of distinction), and interpretation of IP analysis outcome. Through application of service quality data collected from consumers at a teaching hospital in Nigeria, a case is made in this paper for the use of attribute data means for plotting the data in the conventional 4-Quadrant IP analysis, while overall attribute median values is recommended for the line of distinction. Also, an approach to the interpretation of the IP outcome, called “difference-based IP analysis”, is outlined, and is recommended for the unbiased information that it provides.

Introduction

Importance – performance analysis is the use of evaluations of importance and performance of a service or product attribute in a manner that allows conclusions of perceptions about an object to be made, usually by using perceptual type mapping or classification rules. It is a way in which researchers have measured service perceptions by combining the performance of the service with the importance of the service as rated by customers (or consumers). An outcome from importance-performance (IP) analysis is the rating of the various attributes or elements or facets of the service bundle or different types of services on offer, based on their IP combinations, and the identification of what actions are required. The method, which was popularized by Martilla and James (1977) in their landmark paper titled “Importance – Performance Analysis”, was operationalized using customer ratings of importance and performance obtained from a study of an automobile dealer’s service department.

This combination of importance and performance ratings has been applied in various ways, which include marketing research as in the paper by Martilla and James (1997), tourism and hospitality

(Oh, 2001), health care service assessment and marketing (Hawes and Rao, 1985; Kennedy and Kennedy, 1987; Whynes and Reed, 1994; 1995; DuVernois, 2001), for a professional association (Johns, 2001), and for student evaluation of teaching (Lewis, 2004).

According to Martilla and James (1977), IP analysis is a low-cost, easily understood technique, that can yield important insights into which aspect of interest a firm should devote more attention as well as identify areas that may be consuming too many resources, while offering other advantages such as being a tool for the evaluation of consumer acceptance of a marketing program or through results displayed on the IP grid which facilitates management interpretation of the data and increases their usefulness in making strategic decisions. Despite these advantages, Martilla and James highlighted some issues bordering on methodology in the section titled “Tips on using importance-performance analysis” (p.79). The methodological issues were *determination of what attributes to measure, obtaining measures of importance separate from performance, decision on measure of central tendency for plotting the data, positioning the vertical and horizontal axes on the grid, and analyzing the importance-performance grid*. To a large extent, these issues continue to be the gray areas of the IP analysis technique (Oh, 2001; Brandt, 2000).

The objective of this paper is to review these methodological issues and to have a basis for making recommendations for resolution where possible, by applying service quality data collected from consumers at a teaching hospital in Nigeria. The data is also used to outline an approach to IP analysis and interpretation, termed “difference-based IP analysis”, that is unbiased and unambiguous.

Methodological Issues

Determination of what attributes to measure

For most studies of service quality or satisfaction assessment for which a set of variables are chosen to represent the system and processes, an issue that always comes up for debate is justification for the choice of attributes to measure. According to Martilla and James (1977), determining what attributes to measure is critical because if any evaluative factors important to the customer are overlooked, the usefulness of IP analysis will be severely limited. Bearing in mind that their paper addressed how to apply IP analysis to features of a firm’s marketing program, they have suggested that development of the attribute list should begin with identifying key features of the marketing mix. They also suggest that previous research in the same or related areas, as well as various qualitative research techniques such as focus groups and unstructured personal interviews, and managerial judgment, are useful ways of identifying potentially important factors which might otherwise be missed, while providing guidance for screening the attribute list down to a manageable size in order to avoid low response rates and unnecessary data manipulation. These were found to be the approaches usually adopted for building the attribute list by most researchers (Kennedy and Kennedy, 1987; Whynes and Reed, 1995; Brandt, 2000; Olujide, 2000; DuVernois, 2001; Oh, 2001).

Oh (2001:625) opines that, “the level of abstraction in specifying attributes should be commensurate with the target level of follow-up management decisions. In essence, selection of attributes must be based on a *priori* judicious trade-off between exhaustiveness and practicality of the information to be obtained.” This was the case in the IP analysis of the assessment of satisfaction with the University Health Service (UHS) at Pennsylvania State University by Kennedy and Kennedy (1987). From the 33 attributes considered, it was clear the researchers were concerned with the different services offered by the UHS such as contraception education, nutrition counseling, athletic injuries, etc. DuVernois (2001) applied the method and scale as used by Kennedy and Kennedy to the UHS at East Tennessee State University, with a modification to the attributes used from 33 to 29. In another IP application, due to the effort of hospitals in Britain to win contracts from “fundholding” general practitioners, hospitals required information on that which these practitioners deemed important with respect to quality, and on how those purchasers assessed the quality of their current service performance. To answer these questions, Whynes and Reed (1994, 1995) applied IP analysis

for a study of hospitals in the Trent region of the United Kingdom, as rated by purchasers of hospital services, that is, the fundholders, using a five-point scale for rating 13 aspects of service quality and the quality of provision by the hospitals most frequently used by the consumers.

Obtaining measures of importance and performance

Another issue has been the manner of obtaining the measures of importance and performance from respondents. One way had been to place the scale for the measure of importance, and scale for the measure of performance, on the same line, or, as when in sentence – style questionnaires, the question on performance immediately following the question on importance, for a particular attribute. This approach has been criticized for leading to compounding and order effects, since the respondents answer to importance may influence his answer to performance.

The most commonly adopted approach is to separate the importance measures and the performance measures by grouping all of the importance measures in one section and all of the performance measures in a later section or by placing them on separate sheets. This arrangement allows the respondent to move in a natural progression with a distinct separation between the ratings for importance and those for performance.

Johns (2001) describes a study in which scores obtained from a previous survey was used as the ‘importance’ values, and scores on the more recent survey as the ‘performance’ data.

Oh (2001) raises the question of whether the concept of importance is unidirectional or bi-directional, since some researchers measured importance unidirectionally by using a scale anchored with ‘no importance’ to ‘very (or extremely) important’, while other researchers used a bi-directional measure anchored on ‘very unimportant’ to ‘very important’. According to him, provided that the concept of importance reflects the ‘level’ or ‘strength’, rather than evaluations of goodness or badness, of the attribute characteristics, the unidirectional scale seems to make sense more than the bi-directional one. In the studies by Kennedy and Kennedy (1987) and DuVernois (2001) a unidirectional seven-point Likert scale was used from 1 (not important or not satisfied) to 7 (very important or very satisfied).

Measure of central tendency for plotting or summarizing the data

According to Martilla and James (1977:79) “median values as a measure of central tendency are theoretically preferable to means because a true interval scale may not exist. However, the investigator may wish to compute both values and, if the two consistently appear reasonably close, use the means to avoid discarding the additional information they contain. Since tests of significance are not being used, distortions introduced by minor violations of the interval-scale assumption are unlikely to be serious”. However, as long as the type of data involved in the analysis is clearly explained, Likert type scales are generally accepted as interval measurements, and some applications of IP analysis use the mean values for plotting the data. Some researchers have examined the outcome from the use of mean or median values. For example, both mean scores and median scores were used by DuVernois (2001) for the quadrant analysis of data used to assess satisfaction with the UHS at East Tennessee State University, with the finding that using median scores, the majority of services fell into Quadrant B (“Keep up the good work”), while using mean scores, the majority of services fell into Quadrant D (“Possible overkill”).

Positioning the vertical and horizontal axes on the grid

Positioning the vertical and horizontal axes on the grid is sometimes described as determining the IP grid crosshairs or crossover point or the line of distinction. This has been done in several ways – either arbitrarily, or using the mean or median of the ratings across all attributes (data or grand mean, data or grand median), or using scale means.

According to Martilla and James (1977), determining the IP grid crosshairs, “is a matter of judgment”. They justify this by saying that the value of the IP approach lies in identifying relative, rather than absolute, levels of importance and performance. According to them, a five- or seven-point scale will yield a good spread of ratings, and the middle position will constitute a useful division for the grid (similar to the adoption of scale means). But if, as in their example, there is an absence of low importance and performance ratings, they suggest that it argues for moving the axes over one position on the scale. Thus, in their example where the measurement scales ranged from 1 to 4, they positioned the crosshairs at I(3),P(3). Similarly, in the studies by Kennedy and Kennedy (1987) and DuVernois (2001) in which the measurement scales ranged from 1 to 7, the line of distinction was positioned at I(5),P(5). A less arbitrary approach is to use either the scale mean or the data mean or median to position the vertical and horizontal axes.

The use of the mean of all attribute ratings to position the vertical and horizontal axes, a practice more common than the use of the data median, is described by Brandt (2000) as a “distribution-based approach”. The suggestion by Martilla and James (1977) that the middle position of the measurement scale will constitute a useful division for the IP grid is the same as using the scale mean for the crosshair positioning. However, different findings are likely to result when either the scale mean or grand mean are adopted for the same data set. For example, Oh (2001) reports a study in which about 74% of the attributes fell in quadrants B and C, while about 22% fell in quadrants A and D, when grand mean scores were used as the crosshair points. However, when the IP grid was reconstructed using the scale means as the crosshair points, all the attributes fell in quadrants B and C.

Because of these conflicting results, Oh (2001) recommends that “careful interpretations are necessary when using the actual means because the range of the original scale tends to be truncated, requiring different interpretations” and that “researchers need to caution readers and their research consumers about this hidden problem”. In addition, Brandt (2000) argues that a limitation of the distribution – based approach is that the results are guaranteed to produce both attribute strengths and areas for improvement because, by definition, some elements must fall below the average.

Comparison of the 4-Quadrant interpretation with other interpretations

Martilla and James (1977) recommended that analyzing the IP grid should be accomplished by considering each attribute in order of its relative importance, moving from the top to the bottom of the grid, while paying particular attention to the extreme observations since they indicate the greatest disparity between importance and performance. They proposed the conventional or traditional 4-Quadrant IP analysis with the associated interpretations of Quadrant A (Concentrate here), Quadrant B (Keep up the good work), Quadrant C (Low priority), and Quadrant D (Possible overkill).

DuVernois (2001) questioned the interpretation of “Possible overkill” for Quadrant D (low importance – high performance) attributes such as alcohol education, contraception education, and nutrition education, and suggests that awareness amongst the students about the importance of these low-valued services should be recommended rather than eliminating the services as the interpretation of “Possible overkill” will suggest, and argues for an alternative label.

The possibility of an attribute falling on the line of distinction when being interpreted graphically, resulting in an inability to classify it, was highlighted by Oh (2001). But the approach of Kennedy and Kennedy (1987) and DuVernois (2001) in adopting a line of distinction in addition to the graphical analysis takes care of this possibility. Using the seven-point measurement scale, they created lines of distinction, as follows:

- | | |
|--|-------------------------|
| 1. Quadrant A – High importance: ≥ 5 ; Low performance: < 5 | “Concentrate here” |
| 2. Quadrant B – High importance: ≥ 5 ; High performance: ≥ 5 | “Keep up the good work” |
| 3. Quadrant C – Low importance: < 5 ; Low performance: < 5 | “Low priority” |
| 4. Quadrant D – Low importance: < 5 ; High performance: ≥ 5 | “Possible overkill”. |

These lines of distinction ensure that no attribute defies classification.

Brandt (2000:3) also criticizes the conventional IP analysis as not necessarily reflecting “whether improved performance is truly needed, or feasibly can be achieved (given the current level of performance)”, and proposes alternative strategies that involve the use of performance comparisons (competitive) or performance target comparisons (outside-in) as possible basis for defining performance strengths and areas for improvement. According to him, unlike in traditional quadrant analysis in which an organisation’s perceived performance is looked at in isolation from the “marketplace”, a competitive quadrant analysis incorporates information on how that organization compares to one or more key competitors, so that “the un/favourableness of the comparison is the standard by which performance in the area of customer service / satisfaction is evaluated, and strengths or areas for improvement are defined”. He proposes 6 quadrants (or categories), rather than the conventional 4, graphically represented as shown in Figure 1.

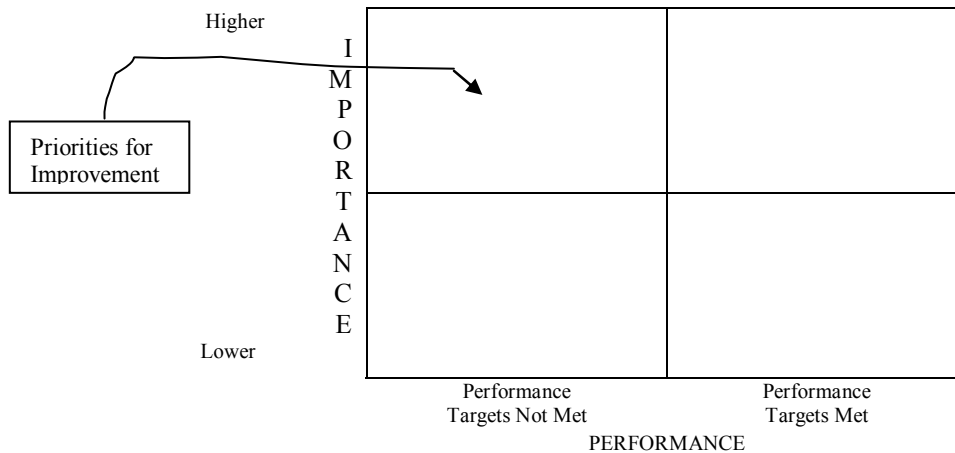
While this approach seems elegant, it does pose the difficulty of obtaining ratings where the respondent must compare the service being rated with that of a competitor.

Another approach suggested by Brandt (2000) is the “outside-in” approach, in which performance targets for quality or service issues are defined, so that the process of setting performance targets moves from outcomes to performance drivers. This approach is different from the conventional IP analysis, in that the basis for evaluating performance is whether targets are achieved or not. According to Brandt, “the rationale for this difference in procedure is that for an organisation’s most critical quality and service elements, if performance targets have been set in a way (and at a level) that is intended to maximize the chances of achieving downstream financial and market results, then it is essential that performance deficiencies be reduced / eliminated in connection with any of these critical elements or ‘key drivers’ of business results” (p.5). The associated quadrant chart proposed is shown in Figure 2

Figure 1: Competitive Importance – Performance Analysis

Higher	I M P O R T A N C E	Priorities for Improvement	Pre – emption Opportunities	Competitive Strengths
Lower				
		Significantly worse than Competitor	At parity with Competitor	Significantly better than Competitor
MEAN PERFORMANCE RATING				

Source: Brandt R.D. (2000). “An ‘outside-in’ approach to determining customer-driven priorities for Improvement and Innovation”, Burke White Paper Series, Vol. 2, Issue 2, p.4.

Figure 2: Outside-In Approach to Importance – Performance Analysis

Source: Brandt R.D. (2000). “An ‘outside-in’ approach to determining customer-driven priorities for Improvement and Innovation”, Burke White Paper Series, Vol. 2, Issue 2, p.6.

This approach depends on a simple difference between performance and the target importance, while forcing the user to draw a horizontal line of distinction – one of the controversies surrounding 4-Quadrant IP analysis.

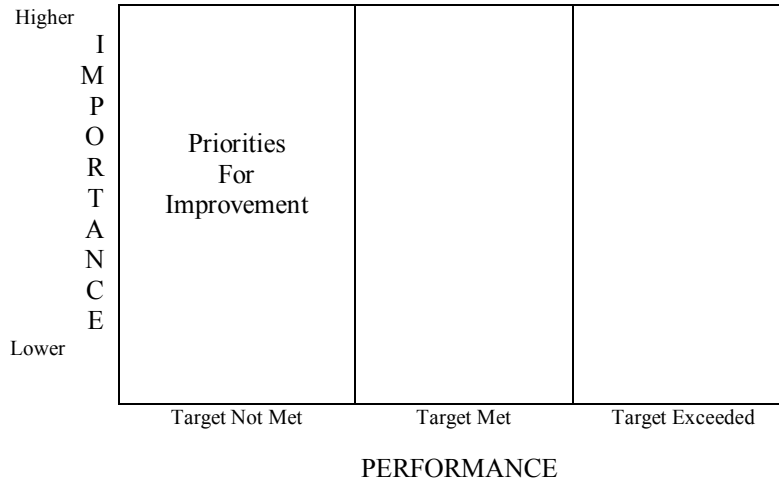
We suggest a combination of both the competitive and outside-in approaches into a single “difference-based” IP analysis, that allows for flexibility in setting the target criteria, while removing the necessity to mark a line of distinction with respect to importance ratings, so that there are only three categories – target not met, target met, or target exceeded; shown graphically in Figure 3. The target criteria could be internal to the organization, say, by using importance ratings as obtained from the direct users of the services, or, it could be external, as when the average of importance ratings obtained from respondents at several organizations is used as the target. It could also be the performance targets set by management as part of the period plan, or ratings from previous performance evaluations.

To operationalise the difference-based IP analysis, we assume a true interval scale, and carry out the T-test for significant differences. Attributes showing no significant difference between importance (could be the target) and performance ratings are classified under “target met”. Attributes showing significant differences between the target and performance ratings (performance minus target), are classified under “target not met” if the outcome is negative, but classified as “target exceeded” if the outcome is positive. Attributes for improvement could then be prioritized based on how wide the disparity is between performance and the target ratings. On the other hand, if the target is exceeded, then the action to be taken can be decided upon, relative to the desirability of maintaining the level of performance.

Application

In order to resolve the methodological issues discussed up to now and to operationalise the “difference-based IP analysis”, a subset of service quality data collected from consumers at a teaching hospital in Nigeria, is applied in this section. The selection of attributes to measure was predicated on the objective of the study, which was to assess service quality from the customer’s perspective, at teaching hospitals in Nigeria. For simplicity and ease of discussion, data for only 20

Figure 3: Difference based Importance-Performance Analysis



of the 39 attributes originally used in the data collection instrument, will be utilized in the relevant sections that follow. The twenty attributes are as shown in Table 1.

Obtaining unbiased measures of importance and performance

To obtain unbiased ratings of importance and performance on the battery of service attributes, rather than use sentence type style to present the 39 attributes, which would have resulted in an unnecessarily long questionnaire and attendant low response rates, a list of the attributes in a tabular form, with a main statement to guide the evaluation as the table heading, was adopted. The importance table was listed first and had the heading, “Kindly tick the cell which in your opinion best represents THE DEGREE OF IMPORTANCE of each of the listed attributes to YOU”. The performance table had the lead heading, “Choosing from Poor, Fair, Good, Excellent; kindly tick the cell which best indicates the HOSPITAL’S PERFORMANCE on each of the listed attributes”. For both importance and performance measures, a 4-point Likert scale was used. For importance, the options were 1-Not important, 2-Slightly important, 3-Important, and 4-Extremely important, while for performance it was 1-Poor, 2-Fair, 3-Good, and 4-Excellent. The list for the rating of attribute importance was placed on a page separate from the list for the rating of hospital performance. The option, 0-”Can’t judge” was provided in the measure of hospital performance to allow for respondents who were not familiar with attributes being rated, and were treated as missing values during analysis.

Mean and Median as measures of central tendency for plotting the data collected

The mean values of consumer ratings of attribute importance and performance collected at teaching hospital A, as well as the median values are shown in Table 2, along with the respective across the attributes measure of central tendency (grand mean and grand median). On inspection of the mean and median values for both importance and performance ratings respectively, it appears that the two measures of central tendency are not consistently close, and that the mean values carry more information as to the differences in respondent ratings.

Table 1: Subset of twenty attributes for assessing Teaching Hospital service quality

Code	Service Attributes
1	Availability of Doctors
2	Availability of Nurses
3	Availability of Drugs
4	Explanation of Problem
5	Clarity of Explanation of Prescription
6	Promptness of Response
7	Cleanliness of Ward / Clinic
8	Cleanliness of toilets & bathrooms
9	Adequacy of water supply
10	Aesthetics of clinic/ward e.g. furnishing
11	Ease of movement from point to point
12	Taste of food
13	Doctors – Politeness
14	Nurses – Politeness
15	Medical Records staff – Politeness
16	Waiting time to Process card at Medical Records
17	Waiting time to see the doctor
18	Waiting time to get results of laboratory tests
19	Waiting time to get attention for X-ray
20	Waiting time to get results of X-ray

Table 2: Mean and Median values of attribute importance and performance ratings

Code	Service Attributes	Importance rating		Performance rating	
		Mean	Median	Mean	Median
1	Availability of Doctors	3.47	4	3.51	4
2	Availability of Nurses	3.30	3	3.29	3
3	Availability of Drugs	3.45	3	3.29	3
4	Explanation of Problem	3.17	3	2.99	3
5	Clarity of Explanation of Prescription	3.13	3	3.04	3
6	Promptness of Response	3.17	3	2.99	3
7	Cleanliness of Ward / Clinic	3.33	3	3.26	3
8	Cleanliness of toilets & bathrooms	3.29	3	3.13	3
9	Adequacy of water supply	3.32	3	3.19	3
10	Aesthetics of clinic/ward e.g. furnishing	2.88	3	3.02	3
11	Ease of movement from point to point	3.09	3	2.97	3
12	Taste of food	2.88	3	2.79	3
13	Doctors – Politeness	3.19	3	3.10	3
14	Nurses – Politeness	3.13	3	2.86	3
15	Medical Records staff – Politeness	3.15	3	2.99	3
16	Waiting time to process card at Medical Records	3.19	3	2.97	3
17	Waiting time to see the doctor	3.23	3	2.85	3
18	Waiting time to get results of laboratory tests	3.16	3	2.80	3
19	Waiting time to get attention for X-ray	3.11	3	2.80	3
20	Waiting time to get results of X-ray	3.15	3	2.75	3
Across the attributes measure of central tendency		3.19	3	3.03	3

Positioning the vertical and horizontal axes on the grid

The IP grid is first constructed with crosshairs positioned using the grand means of importance and performance ratings, with plots of attribute data mean values as shown in Figure 4, and repeated with data median values as shown in Figure 5.

The IP grid is reconstructed with crosshairs positioned using the grand medians of importance and performance ratings, with plots of data mean values as shown in Figure 6, and data median values as shown in Figure 7.

The IP grid is also constructed with crosshairs positioned using scale means, with plots of data mean values as shown in Figure 8, and data median values as shown in Figure 9.

From the IP analysis constructions depicted in Figures 4 to 9, and summarized in Table 3, it can be seen that –

- (1) There are “dramatic” differences in the outcome of IP analysis resulting from the data mean or data median plots of the attributes.
- (2) Median values of the attribute data do not give much information to the outcome of IP analysis probably because of the loss of additional information from ratings falling on the edges of the distribution.
- (3) Across the attributes data mean or median crosshairs result in a spread of attributes over the 4 quadrants, compared to the outcome from the scale mean crosshairs. Although by definition, it is expected that some attribute strengths and areas for improvement are guaranteed to be produced when the grand mean or median is used to position the crosshairs (Brandt, 2000), this is actually desirable, especially in light of the known reluctance of consumers to express dissatisfaction, their penchant for selecting the positive end of the scale when rating satisfaction or service performance, and the current trend for service delivery that would exceed customer expectations.
- (4) From the summary in table 3 it can be seen that using attribute data mean values with crosshairs constructed from either the grand mean or grand median, also results in different outcomes – there are more attributes in Quadrant A (concentrate here), using grand median crosshairs.

Figure 4: IP Map of attribute data means for hospital A with overall data means as crosshairs.

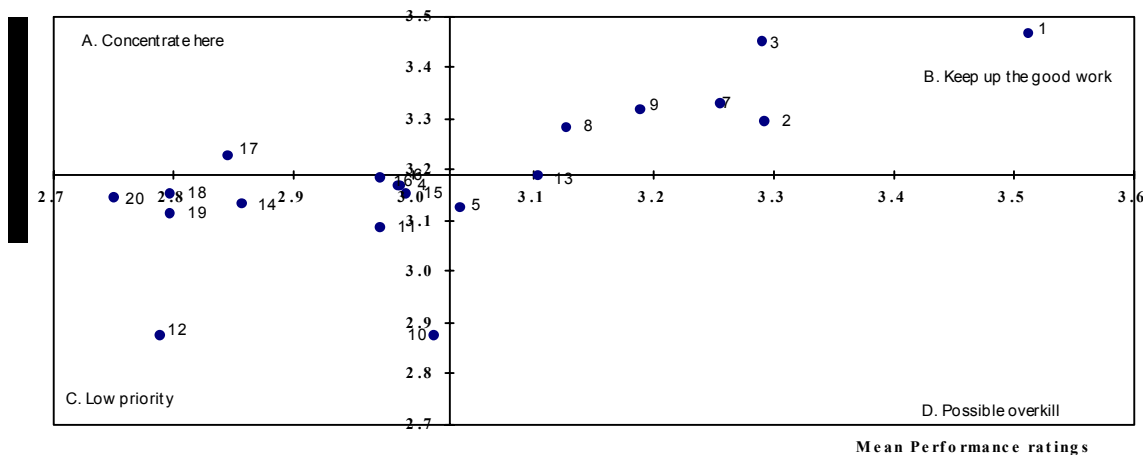


Figure 5: IP Map of attribute data medians for hospital A with overall data means as crosshairs

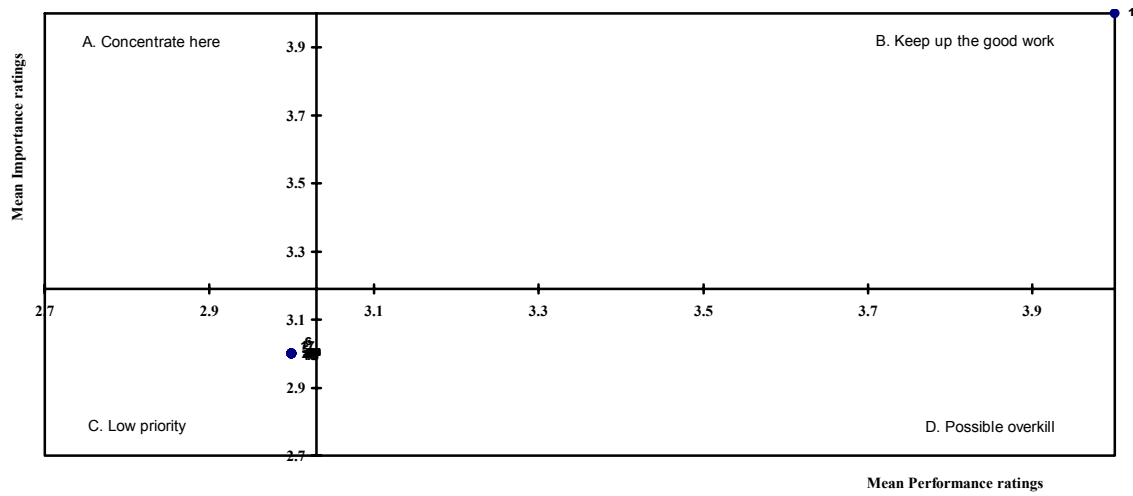


Figure 6: IP Map of attribute data means for hospital A with across the attributes data median as crosshairs

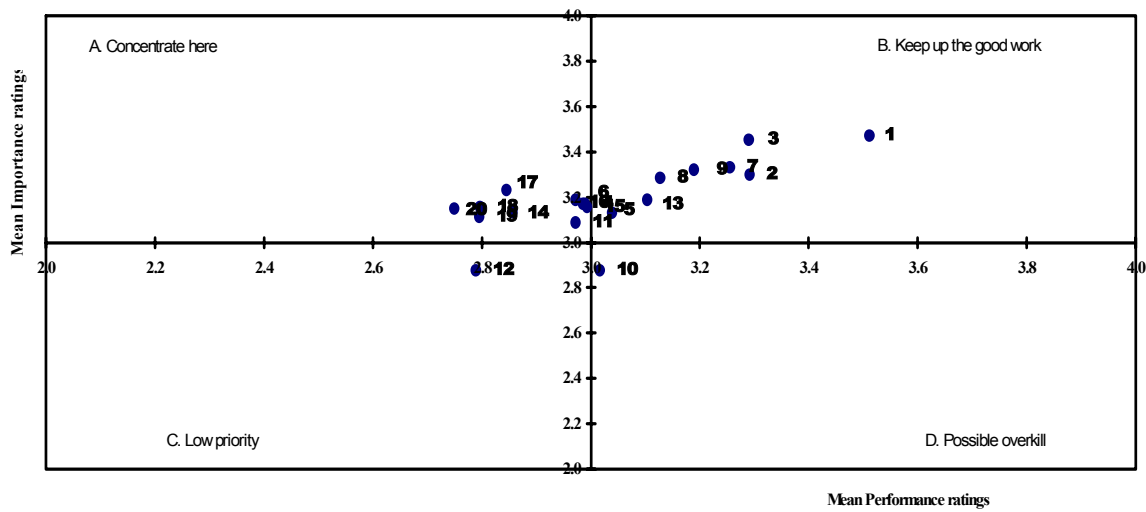


Figure 7: IP Map of attribute data medians for hospital A with across the attributes data median as crosshairs

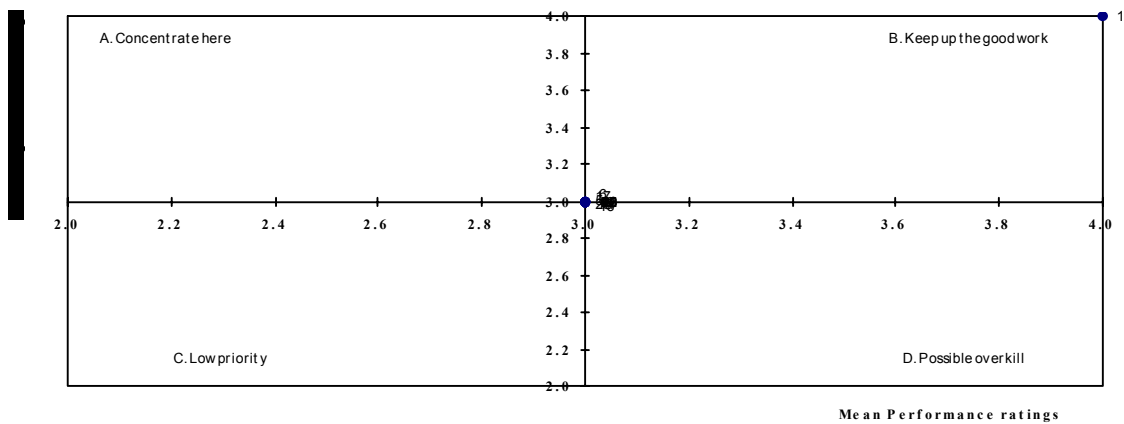


Figure 8: IP Map of attribute data means for hospital A with scale mean as crosshairs

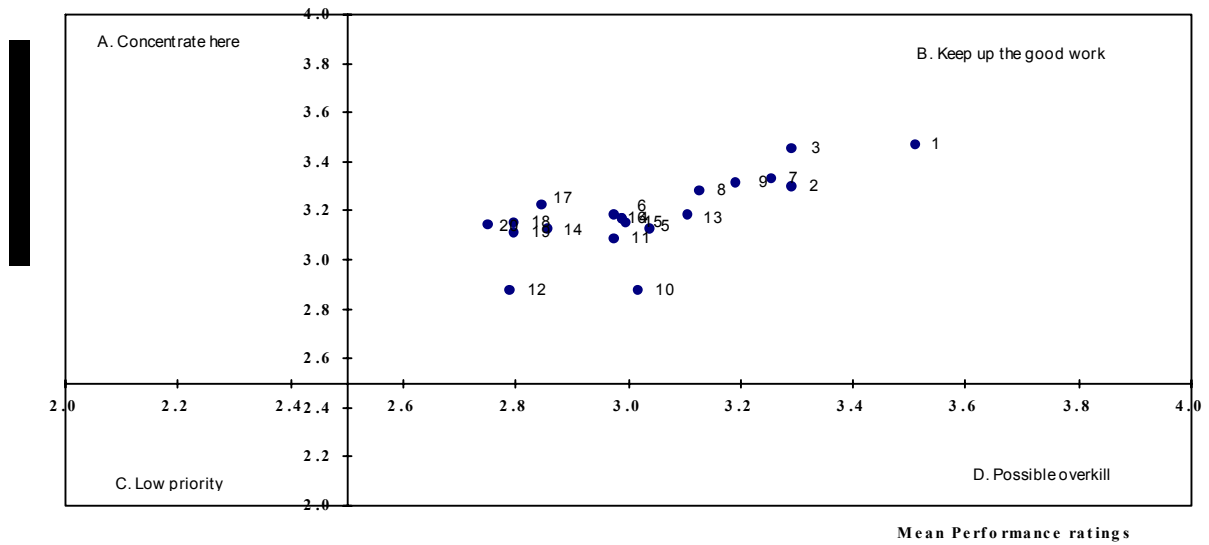


Figure 9: IP Map of attribute data medians for hospital A with scale means as crosshairs

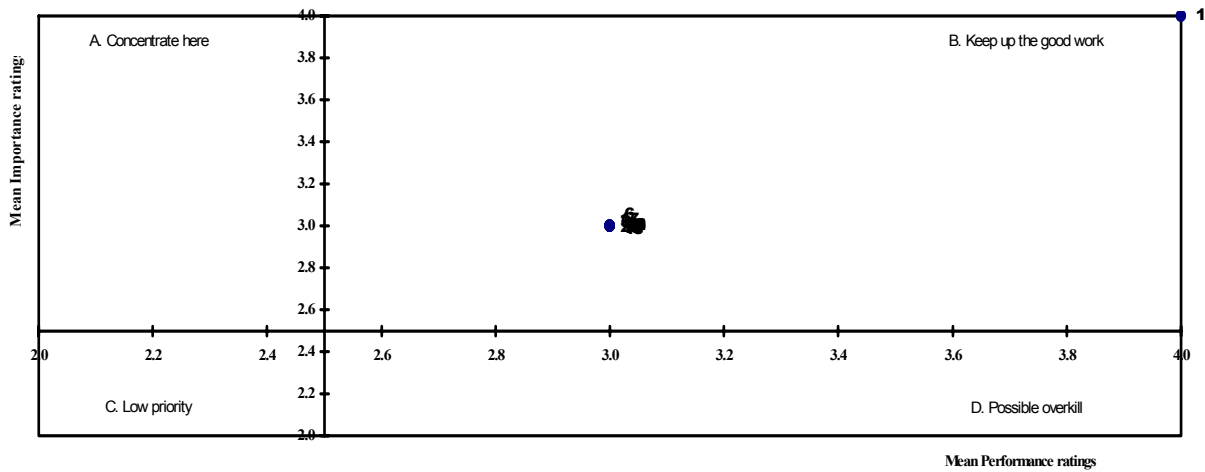


Table 3: Summary of conventional IP analysis from the various grid constructions

Code	Service Attributes	USING GRAND MEAN CROSSHAIRS						USING GRAND MEDIAN CROSSHAIRS						USING SCALE MEAN CROSSHAIRS					
		Data means			Data medians			Data means			Data medians			Data means			Data medians		
		I	P	Quadrant*	I	P	Quadrant*	I	P	Quadrant*	I	P	Quadrant*	I	P	Quadrant*	I	P	Quadrant*
1	Availability of Doctors	3.47	3.51	B	4	4	B	3.47	3.51	B	4	4	B	3.47	3.51	B	4	4	B
2	Availability of Nurses	3.30	3.29	B	3	3	C	3.30	3.29	B	3	3	B	3.30	3.29	B	3	3	B
3	Availability of Drugs	3.45	3.29	B	3	3	C	3.45	3.29	B	3	3	B	3.45	3.29	B	3	3	B
4	Explanation of Problem	3.17	2.99	C	3	3	C	3.17	2.99	A	3	3	B	3.17	2.99	B	3	3	B
5	Clarity of Explanation of Prescription	3.13	3.04	D	3	3	C	3.13	3.04	B	3	3	B	3.13	3.04	B	3	3	B
6	Promptness of Response	3.17	2.99	C	3	3	C	3.17	2.99	A	3	3	B	3.17	2.99	B	3	3	B
7	Cleanliness of Ward / Clinic	3.33	3.26	B	3	3	C	3.33	3.26	B	3	3	B	3.33	3.26	B	3	3	B
8	Cleanliness of toilets & bathrooms	3.29	3.13	B	3	3	C	3.29	3.13	B	3	3	B	3.29	3.13	B	3	3	B
9	Adequacy of water supply	3.32	3.19	B	3	3	C	3.32	3.19	B	3	3	B	3.32	3.19	B	3	3	B
10	Aesthetics of clinic/ward e.g.furnishing	2.88	3.02	C	3	3	C	2.88	3.02	D	3	3	B	2.88	3.02	B	3	3	B
11	Ease of movement from point to point	3.09	2.97	C	3	3	C	3.09	2.97	A	3	3	B	3.09	2.97	B	3	3	B
12	Taste of food	2.88	2.79	C	3	3	C	2.88	2.79	C	3	3	B	2.88	2.79	B	3	3	B
13	Doctors – Politeness	3.19	3.10	B	3	3	C	3.19	3.10	B	3	3	B	3.19	3.10	B	3	3	B
14	Nurses – Politeness	3.13	2.86	C	3	3	C	3.13	2.86	A	3	3	B	3.13	2.86	B	3	3	B
15	Medical Records staff – Politeness	3.15	2.99	C	3	3	C	3.15	2.99	A	3	3	B	3.15	2.99	B	3	3	B
16	Waiting time to process card at Med. Records	3.19	2.97	A	3	3	C	3.19	2.97	A	3	3	B	3.19	2.97	B	3	3	B
17	Waiting time to see the doctor	3.23	2.85	A	3	3	C	3.23	2.85	A	3	3	B	3.23	2.85	B	3	3	B
18	Waiting time to get results of laboratory tests	3.16	2.80	C	3	3	C	3.16	2.80	A	3	3	B	3.16	2.80	B	3	3	B
19	Waiting time to get attention for X-ray	3.11	2.80	C	3	3	C	3.11	2.80	A	3	3	B	3.11	2.80	B	3	3	B
20	Waiting time to get results of X-ray	3.15	2.75	C	3	3	C	3.15	2.75	A	3	3	B	3.15	2.75	B	3	3	B
	<i>Crosshair value (cv)</i>	3.19	3.03		3.19	3.03		3	3		3	3		2.5	2.5		2.5	2.5	
	Summary of IP outcome	10% in A 35% in B 50% in C 5% in D	5% in B 95% in C 5% in D		50% in A 40% in B 5% in C			100% in B			100% in B			100% in B			100% in B		

*Quadrant determination – Quadrant A: I ≥ lev and P < Pev

Quadrant B: I ≥ lev and P ≥ Pev

Quadrant C: I < lev and P < Pev

Quadrant D: I < lev and P ≥ Pev

Since one of the objectives of IP analysis is to identify areas that need improvement, it appears that a conventional IP grid constructed with across the attribute median values (grand median) of importance and performance, and attribute points plotted with mean values, provides the best outcome for management action toward overall service excellence.

Other IP analysis interpretations

Both the outside-in and difference-based approaches to IP analysis are operationalised in this section, using the data mean values shown earlier in Table 2.

For the outside-in quadrant analysis, it is assumed that management would like to set its performance targets to at least be at parity with consumer ratings of importance of the service attributes. Thus, the performance data mean values compared to consumer ratings of importance (performance targets), are shown in Table 4.

The outside-in IP analysis shows that performance targets were met on only two attributes (attribute 1 – availability of doctors, and attribute 10 – aesthetics of the clinic/ward). This outside-in approach as proposed by Brandt (2000) is based on a simple difference between the actual and the targeted performance, and does not consider if the differences are significant, and whether performance is at parity or exceeds the target.

These observations are taken care of in the difference-based IP analysis, and the results are shown in Table 5. By testing for differences at the 0.05 level of significance, one of the two attributes that met the outside-in target comparison had actually exceeded the target since it was significantly different in a positive direction. In addition, six attributes out of the eighteen from the outside-in approach that were classified as not having met the targeted level of performance, were found, based on the statistical test for significant differences, to have met the target. Of the twelve attributes that did not meet the target, those with the widest differences could be given priority for action. In any case, attributes for improvement could be decided upon without the imposition of a cut-off importance rating or line of distinction.

Table 4: Outside-In IP analysis

Code	Service Attributes	Mean ratings		Difference	Performance Target
		Target (I)	P		
1	Availability of Doctors	3.47	3.51	0.04	Met
2	Availability of Nurses	3.30	3.29	-0.01	Not met
3	Availability of Drugs	3.45	3.29	-0.16	Not met
4	Explanation of Problem	3.17	2.99	-0.18	Not met
5	Clarity of Explanation of Prescription	3.13	3.04	-0.09	Not met
6	Promptness of Response	3.17	2.99	-0.18	Not met
7	Cleanliness of Ward / Clinic	3.33	3.26	-0.07	Not met
8	Cleanliness of toilets & bathrooms	3.29	3.13	-0.16	Not met
9	Adequacy of water supply	3.32	3.19	-0.13	Not met
10	Aesthetics of clinic/ward e.g.furnishing	2.88	3.02	0.14	Met
11	Ease of movement from point to point	2.88	2.79	-0.12	Not met
12	Taste of food	3.19	3.10	-0.09	Not met
13	Doctors – Politeness	3.13	2.86	-0.09	Not met
14	Nurses – Politeness	3.15	2.99	-0.27	Not met
15	Medical Records staff – Politeness	3.23	2.85	-0.16	Not met
16	Waiting time to process card at Medical Records	3.16	2.80	-0.22	Not met
17	Waiting time to see the doctor	3.11	2.80	-0.38	Not met
18	Waiting time to get results of laboratory tests	3.47	3.51	-0.36	Not met
19	Waiting time to get attention for X-ray	3.30	3.29	-0.31	Not met
20	Waiting time to get results of X-ray	3.45	3.29	-0.40	Not met

Table 5: Difference based IP analysis

Code	Service Attributes	Mean ratings		Difference	Performance Target
		Target (I)	P		
1	Availability of Doctors	3.47	3.51	0.04	Met
2	Availability of Nurses	3.30	3.29	-0.01	Met
3	Availability of Drugs	3.45	3.29	-0.16*	Not met
4	Explanation of Problem	3.17	2.99	-0.18*	Not met
5	Clarity of Explanation of Prescription	3.13	3.04	-0.09	Met
6	Promptness of Response	3.17	2.99	-0.18*	Not met
7	Cleanliness of Ward / Clinic	3.33	3.26	-0.07	Met
8	Cleanliness of toilets & bathrooms	3.29	3.13	-0.16*	Not met
9	Adequacy of water supply	3.32	3.19	-0.13*	Not met
10	Aesthetics of clinic/ward e.g.furnishing	2.88	3.02	0.14*	Exceeded
11	Ease of movement from point to point	2.88	2.79	-0.12	Met
12	Taste of food	3.19	3.10	-0.09	Met
13	Doctors – Politeness	3.13	2.86	-0.09	Met
14	Nurses – Politeness	3.15	2.99	-0.27*	Not met
15	Medical Records staff – Politeness	3.23	2.85	-0.16*	Not met
16	Waiting time to process card at Medical Records	3.16	2.80	-0.22*	Not met
17	Waiting time to see the doctor	3.11	2.80	-0.38*	Not met
18	Waiting time to get results of laboratory tests	3.47	3.51	-0.36*	Not met
19	Waiting time to get attention for X-ray	3.30	3.29	-0.31*	Not met
20	Waiting time to get results of X-ray	3.45	3.29	-0.40*	Not met

*difference significant at the 0.05 level of significance using T-test analysis

Recommendations

Based on the review of methodological issues in IP analysis, and the findings from the application to data collected from teaching hospital consumers, it is recommended that:

- The conventional 4-Quadrant IP analysis be standardized in its application by the use of attribute data means for the evaluation of attribute IP outcomes, as well as the use of across the attributes data importance and performance median values for positioning the vertical and horizontal axes of the grid and setting the line of distinction.
- The difference-based IP analysis proposed in this paper should be adopted over the outside-in approach because of its use of statistically determined differences and grouping of attributes into the three categories of performance target not met, met, and exceeded; without imposing any line of distinction. If embraced, this approach will provide a good tool for evaluation of related performance targets set as part of an organisation's strategic plan.

Conclusion

Conventional 4-Quadrant IP analysis as popularized by Martilla and James (1977) will continue to be a powerful tool in service quality and customer satisfaction assessment, but requires uniformity in its application, as proposed in this paper. However, another approach is the difference-based IP analysis technique, which provides unambiguous information critical for organizational competitiveness and strategic management.

References

- [1] Brandt R. D. (2000) An ‘outside-in’ approach to determining customer-driven priorities for Improvement and Innovation. Burke White Paper Series, 2, 2, pp. 1-8.
- [2] Devlin, S.J. and Dong, H.K. (1994) Service Quality from the Customers’ Perspective. Marketing Research: A Magazine of Management and Applications, Winter, pp. 4-13.
- [3] DuVernois, C.C. (2001) Using an Importance-Performance Analysis of Summer Students in the Evaluation of Student Health Services. Master of Public Health thesis, East Tennessee State University, December.
- [4] Hawes, J.M. and Rao C.P. (1985) Using Importance-Performance Analysis to Develop Health care Marketing Strategies. Journal of Health Care Marketing, 5, 4, pp. 19-25.
- [5] Johns, N. (2001) Importance-Performance Analysis: Using the Profile Accumulation Technique. The Service Industries Journal, 21, 3, pp. 49-63.
- [6] Kennedy, D. & Kennedy, S. (1987) Using importance-performance analysis for evaluating university health services. Journal of American College Health, 36, pp. 27-31.
- [7] Lewis, R. (2004) Importance-Performance Analysis. Australasian J. of Engng. Educ., online publication.
- [8] Martilla, J.A. and James, J.C. (1977) Importance-Performance Analysis. Journal of Marketing, January, pp. 77-79.
- [9] Oh H. (2001) Revisiting Importance – Performance Analysis. Tourism Management, 22, pp. 617-627.
- [10] Olujide, J.O. (2000) An investigation into the determinants of commuter satisfaction with the urban mass transit services in Nigeria. Advances in Management, 1, 1, pp. 1-11.
- [11] Whynes, D.K. and Reed, G.V. (1994) Fundholders’ referral patterns and perceptions of service quality provision of elective general surgery. British Journal of General Practice, 44, pp. 557-560.
- [12] Whynes, D.K. and Reed, G.V. (1995) Importance-performance analysis as a guide for hospitals in improving their provision of services. Health Services Management Research, 8, pp. 268-277.

Effectiveness of Extension Teaching Methods in Acquiring Knowledge, Skill and Attitude by Women Farmers in Osun State

Okunade, E.O

Ladoke Akintola University Of Technology, Ogbomoso

Abstract

In this study effectiveness of extension teaching methods in acquiring knowledge, skill and attitude by women farmers in Osun State is investigated. Information was collected from randomly selected eighty women farmers from the three agricultural zones of the state using interview schedule. Analysis of data was carried out using frequency counts, percentages, means and weighted mean scores and correlation.

A positive and significant relationship existed between effectiveness of extension teaching methods and farming experience ($r=0.324$), age ($r=0.278$) and level of education ($r=0.235$). The result implied that age, farming experience and level of education had impact on effectiveness of extension teaching, methods which by implication is a determinant of acquiring knowledge, skills and attitude. Therefore it becomes imperative that.

Keywords: Effectiveness, Extension Teaching Methods, Knowledge, Skill, Attitude.

Introduction

Extension Education is the primary process through which the farmers can learn the reason for change, the value of change, the results that can be achieved through change. Extension is a type of education that is functional rather than formal and its main task is to convey meaningful information to the farmers. It is the major source to make farmers aware of alternatives from where they can choose the most desirable as well as how the different methods that exist for carrying out their farming and other operations (Williams *et al* 1984). Extension education is concerned with three basic educational tasks:

- i. dissemination of useful and practical information related to agriculture and home economics,
- ii. practical application of such knowledge to help farmers and house-wives analyse their problems,
- iii. assisting farmers and housewives in using the technical knowledge gained to better solve their own problems.

Since Extension is an on-going process of getting useful information to people it therefore assists the farmers to acquire necessary knowledge, skill and attitude to utilize this information or technology effectively with the ultimate aim of raising their efficiency and achieving higher level of living. In achieving this broad aim, extension uses a variety of teaching methods in training the rural people with the notion that the more the variety of ways a topic is presented and practised, the quicker the people tend to grasp the subject matter.

Extension teaching methods therefore are tools used by the extension workers/agents to achieve their set goals or objectives as a teacher. These are special tools needed to appeal to the desire of farmers to change (Saville 1965). Gaforth (1993) classified extension teaching methods into three broad classes in terms of area of coverage as follows: (a) Individual method (b) Group method (c) Mass method. Individual contact methods usually are superior for conviction and action because of

face-to-face relationship of teacher and learner, for example farm and home visits, office calls, telephone calls, correspondence and result demonstration.

Group contact methods are usually well suited to bringing specific information about practices, helping to move the individual through the desire for conviction and sometimes to taking action. Examples are method demonstration, Small Plot Adoption Techniques (SPAT), result demonstration, general meeting, lectures, group discussion and excursions .

Mass media methods attract attention and stimulate the interest and desire for further information. They are the methods used to reach many people at the same time at different locations. Examples are bulletins, circulars, letters, leaflets, radio, television and cinema.

The effectiveness of these methods is measured by their ability to change a static situation into a dynamic one. Farinde (1991) reported that group and individual contact methods were mostly employed in teaching farmers improved agricultural practices and that to create awareness of new farm technologies farm visits, radio and group meetings were employed. Many situations and factors affect the choice of extension methods to be used. Examples are nature of subject matter, amount of time the extension worker intends to devote to the method and the time the farmers can devote, reinforcement, steps in extension teaching, materials and possible teaching situation available, preference and ability of the extension worker to perform successfully the various methods, and evaluation performance. It is therefore imperative that agricultural extension agents cannot bring about any significant change in the knowledge, skill and attitude of the farmers without employing the right mode of these extension teaching methods. Ogunwale (1991) stressed that the effective extension workers must not only have at their finger tip a variety of tools and methods to do their job, they must also know where to use them. Jibowo (1997) identified eight factors that can affect the effectiveness of the teaching methods. Such factors include openness, linkage, structure, reward, capacity, proximity or nearness, synergy and feedback. Okunade (1999) found a positive and significant relationship between openness and effectiveness of extension teaching methods. However there are no significant relationships for other variables: cost, feedback, linkage, synergy, capacity, reward, proximity and structure.

An effective extension communication system is therefore a necessity for extension service to achieve its broad set goal of farmers acquiring knowledge, skill and attitude and in the overall, better their economic strength and hence their level of living. Therefore the focus of this study was to determine the effectiveness of extension teaching methods in acquiring knowledge, skill and attitude by the women farmers in Osun State. The study provided answers to the following questions:

- i. What are the extension teaching methods used by the Osun State ADP extension agents?
- ii. How effective are these methods in acquiring knowledge, skill and change attitude by the women farmers?

Objective of the Study

The main objective of this study was to determine the effectiveness of extension teaching methods in acquiring knowledge, skill and change in attitude by rural women farmers in the state.

The specific objectives are to:

- i. identify the socio-economic characteristics of the women farmers.
- ii. identify the improved agricultural practices introduced to the farmers.
- iii. identify the extension teaching methods used by Osun State ADP Extension Agents.
- iv. determine the effectiveness of the extension teaching methods in acquiring knowledge, skill and change in attitude.

Hypothesis of the Study

There is no significant relationship between effectiveness of extension teaching methods and personal and socio-economic characteristics.

Methodology

This study was carried out in Osun State of Nigeria. The state comprises three agricultural zones: Ife/Ijesa, Iwo and Osogbo zones. For the purpose of this study 7 blocks were selected out of the existing 12 blocks. sixteen villages were later selected from the blocks through a multistage sampling technique. Eight women farmers resident in the selected village normally reached by extension agents were randomly selected for the study. A well structured interview schedule was used to collect information from the farmers on their personal and socio-economic characteristics, extension teaching methods used, its effectiveness in acquiring knowledge, skill and change in attitude and improved farm technologies introduced to the farmers. Statistical techniques like frequency counts, mean, weighted mean scores, percentages and correlation were used to analyze the data.

The Measurement of Variables

The dependent variable was the effectiveness of extension teaching methods. It was measured on a four point Likert scale: Very effective (3 points), Effective (2 points), fairly effective (1 point) and Not effective (0 point). The maximum score points was 48 while the minimum point was zero

Results and Discussion

Personal and Socio-Economic Characteristics

The data in Table 1 show the distribution of women farmers by personal and socio-economic characteristics. Majority (81.25%) of the women farmers fell in the age range of 21-50 years, 12.5 percents were 20 years and below while 6.25 percent were 50 years and above. Majority (83.75%) of the women were married 6.25 percent were single and widowed respectively. Twenty five percent were divorced while only 1.25 percent were separated. About 48.75 percent of the women farmers had primary school completed, 15 percent had secondary school education while 13.75 percent of the women had adult literacy education. 12.5 percent had post secondary school education but 10 percent of the women farmers had no education at all. Majority (87.5%) had their farm size between 1 and 5 acres. About 6.25 percent had between size between 11-15 acres while 15 percent had between 6-10 acres but only 1.25 percent had farm size of 15 acres and above. About 73.75 percent of the women farmers had years of experience between 11-40 years, 22.50 percent had experience between 41-50 years. 56.25 percent were Christians while 43.75 percent were Muslims. Majority (93.75%) of the women were farmers, 3.75 percent were traders while 2.75 percent were civil servants. The result shows that majority of the Farmers are middle-aged, married, had one form of education or the other with average years experience. The result implies that

Table 1: Distribution of Women Farmers by their Personal and Socio-Economic Characteristics

Personal and Socio-Economic Characteristics	Frequency	Percentage
Age (Years)		
20 and below	10	12.5
21-30	15	18.75
31-40	35	43.75
41-50	15	18.75
50 and above	5	6.25
Marital Status		
Single	5	6.25
Married	67	83.75
Divorced	2	2.5
Separated	1	1.25
Widowed	5	6.25
Level of Education		
Illiterate	8	10
Adult literacy	11	13.75
Primary school	39	48.75
Secondary school	12	15.0
Post secondary school	10	12.5
Farm Size (acres)		
1-5	70	87.5
6-10	4	5.0
11-15	5	6.25
15 and above	1	1.25
Farming Experience (years)		
1-10	18	22.50
11-20	22	40.0
21-30	20	25.0
31-40	7	8.75
41-50	3	3.75
Religion		
Christianity	45	56.25
Islam	35	43.75
Primary Occupation		
Farming	75	93.75
Trading	3	3.75
Civil servant	2	2.75

Improved Farm Practices Introduced to the Farmers

A hundred percent each of the respondents are aware of improved maize seeds cassava cuttings, spraying of herbicides, application of fertilizer and use of herbicides respectively. About 98.75 percent were aware of improved storage technique of maize and processing technique of cassava respectively. Majority (97.5%) was aware of improved soyabean seeds, processing technique of maize, improved storage technique of maize respectively. Over ninety percent were aware of improved cowpea seeds (96.25%), improved vegetable seeds (95%), processing technique of soyabean (95%), processing technique of palm-oil (95%) improved storage technique of cowpea seeds, (95%) improved management practices of livestock (95.0) and control of ecto-parasite of livestock (95.0%), use of crop residue to feed livestock (93.75), improved storage technique of soyabean (93.75) improved storage technique of rice (90%) and intensive feed garden (90%) while 82.50 percent were aware of improved rice seeds.

Table 2: Distribution of Women Farmers by Improved Technologies Introduced to them.

Improved Farm Practises	Frequency	Percentage
Improved maize seeds	80	100
Improved cassava cuttings	80	100
Improved cowpea seeds	77	96.25
Improved soyabean seeds	78	97.50
Improved vegetables seeds	66	82.50
Processing techniques of maize	78	97.5
Processing techniques of cassava	79	98.75
Processing techniques of cowpea	76	95.0
Processing techniques of soyabeans	75	93.75
Processing techniques of rice	72	90.0
Processing techniques of vegetables	77	96.25
Processing techniques of palm-oil	76	95.00
Improved storage technique of maize	79	98.75
Improved storage technique of cassava	73	91.25
Improved storage technique of cowpea seeds	76	95.0
Improved storage technique of soyabeans	78	97.5
Application of fertilizers	80	100
Spraying of herbicides	80	100
Use of insecticides	80	100
Improved management practices of livestock	76	95
Control of ectoparasite of livestock	76	95
Intensive feed garden	72	90
Use of crop residue to feed L/S	75	93.75

Extension Teaching Methods Used

The data in Table 3 show the distribution of extension teaching methods used by women farmers. A hundred percent each of the farmers identified farm and Home visit, office call, result demonstration, field day, agricultural show, SPAT and method demonstration as the extension teaching methods used for them by the extension agents. About 96.25 percent identified posters while 93.75 percent identified exhibits. Other extension teaching methods identified are leaflets (87.50), radio programme (83.75%), video tapes (68.75%), slides (62.5%), audio-cassettes (62.5%) television programme (25%) and telephone call (12.5%).

Table 3: Distribution of Extension Teaching Methods by Women Farmers in Osun State

Extension Teaching Methods	Frequency	Percentage
Farm and home visit	80	100
Office call	80	100
Telephone call	10	12.5
Result demonstration	80	100
Radio programme	67	83.75
Television programme	40	50.0
Slides	20	25
Posters	50	62.5
Leaflets	77	96.25
Video tapes	55	68.75
Exhibits	75	93.75
Method demonstration	80	100
SPAT	80	100
Audio cassette	50	62.5
Agricultural show	80	100
Field day	80	100

Rank Order of Effectiveness of Extension Teaching Methods in Acquiring Knowledge

Data in Table 4 show the rank order of extension teaching methods by knowledge acquisition. Farm and Home visit ranked highest with a weighted mean score (WMS) of 2.35. Followed closely is office call (2.10) and radio programme (2.00). Other methods are in the following order: leaflets (1.98), videotape (1.98), audio-cassette (1.93) slides (1.89), Posters (1.83), result demonstration (1.80), method demonstration (1.77), SPAT (1.76), Agricultural show (1.70) field day (1.67), exhibit (1.60), television (1.55) and the least, telephone call (1.42).

Table 4: Rank Order of Effectiveness of Extension Teaching Methods by Knowledge

Methods	WMS
Farm & home visit	2.35
Office call	2.10
Radio programme	2.00
Video tape	1.98
Audio cassette	1.98
Slides	1.93
Posters	1.83
Result demonstration	1.80
Method demonstration	1.77
SPAT	1.76
Agricultural show	1.70
Field day	1.67
Exhibit	1.60
Television	1.55
Telephone call	1.42

Rank Order of Effectiveness of Extension Teaching Methods in Acquiring Skill

Table 5 shows the rank order of methods in acquiring skill. Method demonstration ranked highest with WMS of 2.43. Next is result demonstration with mean of 2.33. This is followed closely by SPAT (2.10), videotape (2.01) and slides (2.00). Others are in the following order: Farm and Home visit (1.99), field day (1.90), Agricultural show (1.86), Television programme (1.70) audio-cassette (1.64), office call (1.60), leaflet (1.56), posters (1.41), Telephone call (1.38), exhibit (1.33) and the least is radio programme (1.28).

Table 5: Rank Order of Extension Teaching Methods by Skill

Methods	WMS
Method demonstration	2.43
Result demonstration	2.33
SPAT	2.10
Video tape	2.01
Slides	2.00
Farm & home visit	1.99
Field day	1.90
Agricultural show	1.86
Television program	1.70
Audio cassette	1.64
Office call	1.60
Leaflet	1.56
Posters	1.41
Telephone call	1.38
Exhibit	1.33
Radio program	1.28

Rank Order of Effectiveness of Extension Teaching Methods in Acquiring Attitude

Table 6 shows the rank order of methods in acquiring attitude. SPAT (2.44) ranked highest in acquisition of attitude. Next in the order are exhibits (2.40). This is followed by field day (2.31), agricultural show (2.20), result demonstration (2.10) and method demonstration (2.15). Other methods are in the following order: farm and home visit (1.88), office call (1.85), videotapes (1.83), slides (1.80), television programme (1.75), radio (1.72) audio-cassette (1.69), Posters (1.63), leaflets (1.60) and the least 1.55.

Table 6: Rank Order of Extension Teaching Methods by Attitude

Methods	WMS
SPAT	2.44
Exhibits	2.40
Field days	2.31
Agricultural shows	2.20
Result demonstration	2.10
Method demonstration	2.05
Farm and home visit	1.88
Office call	1.85
Video-tapes	1.83
Slides	1.80
Television programme	1.75
Radio	1.72
Audio-cassette	1.69
Posters	1.63
Leaflets	1.60
Telephone call	1.55

Relationship Between Effectiveness of Extension Teaching Methods and Personal and Socio-Economic Characteristic

The data in Table 7 show the relationship between personal and socio-economic characteristics and effectiveness of extension teaching methods. The result showed that farming experience ($r = 0.324$), age (0.278) and level of education ($r = 0.235$) had positive and significant relationship with effectiveness of extension teaching methods. However, marital status ($r = 0.149$) farm size ($r = 0.147$) religion ($r = 0.067$) and occupation ($r = 0.015$) had positive but non-significant relationship with effectiveness of extension teaching methods.

Table 7: Relationship Between Effectiveness of Extension Teaching Methods and Personal and Socio-Economic Characteristic

Characteristics	Coefficient of Correlation (r)
Age	0.278*
Marital status	0.149
Level of education	0.235*
Farm size	0.141
Farming experience	0.324*
Religion	0.069
Occupation	0.015

r-value (0.05) = 0.232

Conclusion

Majority (81.75%) of the women farmers are in the age range between 21-50 years. About 83.75 percent are married while 90 percent had one form of education or the other. Majority of the women are small-scale farmers with mean farm size of 5.2 acres. Many of the farmers had years of farming experience ranging from 11-40 years with mean of 25 years. The result of the study showed that individual contact method and mass method of extension teaching methods ranked highest in the order of acquiring knowledge. This may be as a result of the characteristic nature of the methods of giving information and deeper understanding of the innovation concerned. The individual method enhances interaction which may enhance much emphasis on the technology thereby enhancing better understanding.

Also, the mass media methods will arouse the interest and the desire for more information which will enable the farmer to have better understanding of the innovation. It was also revealed that skill is better acquired through group contact methods. These methods have the nature of practical demonstration which will help the farmer from desire stage through conviction and probably into taking action. Group contact methods also ranked highest in acquiring attitude. This is also possible because the methods bring specific information about practices and proved that practice brings benefits locally. All these will prompt the farmer to take action which invariably leads to a change in attitude. The significant relationship between age, level of education and farming experience with extension teaching methods can be explained thus: the older the farmer, the more years of farming experience, the better the understanding of extension teaching methods used for them and the better the decision that the farmer will take in adopting improved farm technologies. Likewise, the higher the level of education, the better and quicker the understanding of the extension teaching methods and the better the decision that the farmer will take in adoption of innovations.

Recommendations

Based on the findings of this study, the following recommendations are made:

- i. Adequate training must be given to the extension agents as regards the proper manipulations of extension teaching methods to bring out the desired result.
- ii. Extension agents must have adequate knowledge of the characteristics of each of the extension teaching methods as well as know the characteristics of the respondents. These will enable them to use appropriate methods for appropriate group of farmers.
- iii. Appropriate extension teaching methods must be used to pass across appropriate technologies given the nature of the technology to disseminate.

References

- [1] Farinde, A.J. (1991): Effectiveness of Extension Teaching Methods Used in Disseminating Improved Agriculture Technologies in Lagos State. Unpublished M. Phil Thesis Obafemi Awolowo University Ile-Ife.
- [2] Gaforth, C. (1993): Extension Technique for Pest Management; In G.A. and Munllard, J.D. (eds). Decision Tools for Pest Management, A.B. International Walling land U.K. 247-264.
- [3] Jibowo, A.A. (1997): Factors Influencing Effective Communication: Unpublished Manuscript pp 86-89.
- [4] Ogunwale, A.B. (1991): Extension Communication Patterns in Oyo North Agricultural Development Project Unpublished M. Phil Thesis Obafemi Awolowo University Ile-Ife. pp 1-195.
- [5] Okunade, E.O. (1999): Characteristics of Extension Teaching Methods Used in Communicating Improved Farm practices to Women Farmers in Osun State. Journal of Agricultural Extension. Vol, 3. pp 57-65.
- [6] Saville, A.H. (1965): Extension in Rural Communities: A manual for Agricultural and Home Extension Workers, London-New York. Toronto.
- [7] William, S.K.T. (1984): Williams, S.K.T., Fenley, J.M, and Williams, C. Egun 1984: A Manual for Agricultural Extension Workers in Nigeria. pp 77-95

Financial Liberalization in the Developing Countries: Failures of the Experiment and Theoretical Answers

Maazouz Mokhtar

*Center of macro dynamic and International Finance (CEMAFI)
University of Nice- Sophia Antipolis
maazouz@unice.fr*

Enayati Fatemah

*Center of macro dynamic and International Finance (CEMAFI)
University of Nice- Sophia Antipolis
samira_enayati@yahoo.com*

Abstract

During the 1970s and 1980s, many developing countries tried some policies of financial liberalization. Governments like those of Argentina, Chile and Uruguay released the interest rates, decreased controls on foreign capital, abolished programs of management the credits, privatized the commercial banks, and facilitated the entry of several national and foreign banks on the domestic banking market. But the results were the opposite of our expectations; these three experiments had serious problems. These countries were in a situation of financial instability in the financial as well as non-financial sectors.

Key words: Financial liberalization, Reform Policy

Introduction

At the beginning of the 1980's, the Philippines also liberalized the interest rates and encouraged the installation of a universal banking system. The interest rates initially increased slowly. This experiment, however did not last a long time and the country passed through a serious financial crisis, due to the financial distress of the companies, political corruption and inadequate financial regulation. In the framework of the structural adjustment program launched in 1980, Turkey completely abolished controls on its financial system. Inflation passed from 100% in 1980 to 25% in 1982, and the growth rate became positive after a continuing decrease of the GNP between 1980 and 1982. Nevertheless, the substantial changes in the relative prices caused enormous difficulties for the companies. Moreover, the increase in unsuccessful financial investments in the portfolio of the banks led the later to be highly competitive on the interest rates. In addition the government intervened in 1983 by refinancing five banks which faced this major problem at a cost of the equivalent of 2,5 % of GNP. The government fixed a new interest rate and set up some careful rules to control the financial institutions.

Despite all these failures in experiments of financial liberalization policies, according to some analyses the financial crises are not always directly ascribable to financial liberalization policies. According to the World Bank (1989), the financial difficulties in the majority of the developing countries had their true causes on the one hand, in the international shocks of 1980s and, on the other hand, in the economic policies interventionists directed towards the interior carried out for 30 years by the governments. In other words, the application of a discriminatory taxation to the detriment of the financial intermediates can also be regarded as a source of instability of the financial sector. Hind

(1986) summarizes the reasons of the financial crises of the years 1980 in the following policies and facts: a heavy external debt followed by devaluation, local and domestic economic policies, expansionist monetary policies, an overvalued currency and financial policies concentrating the supply of credit in the hands of a limited number of borrowers. Corbo and Melo (1985) show that the phenomenon of financial distress is also the result of incompatible economic policies; in Argentina as in Uruguay, the budget deficits were enormous. In addition, Diaz Alejandro (1985) emphasizes that the problem lies mainly in the lack of confidence of the economic agents in liberalization policies.

Thus, as the difficulties faced by governments to stop these policies increase confidence in the local currency decreases and anticipation of new devaluations arises. All these last justifications indicate that financial liberalization supports the advent of financial crises, particularly for the periods of macroeconomic instability, and when the governments do not impose prudent rules on the whole of the financial system (Fry 1989). Indeed, the first followers of financial liberalization, by criticizing the negative interest rates prevalent in under developed economies, did not want to recognize that a free financial market, under some conditions, can lead to an unverifiable increase in the interest rates and cause financial crises. The revision of the “traditional” justifications by the neo-classic theorists constituted the first theoretical answer to the failure of policies of financial liberalization during the 1970s and 1980s. This revision consists of positive and normative analyses of the operation of the financial system in the developing countries. The second answer is somehow an answer to critics against the neo-classic approach of financial liberalization.

I. The difficulties of domestic financial liberalization

One of the insufficiencies of the traditional literature on financial liberalization is to neglect the microeconomic aspect of reforms in financial systems of developing countries (the World Bank 1989). In order to mitigate this insufficiency, certain authors moved away from the approach of “the elasticity of the interest rate” to the profit of a new “financial instruments” approach (Burkner 1980). In this new approach, according to McKinnon (1973), the problem is not related to the variation of interest rates or the rate of inflation, but rather relates to the probability of banks’ bankruptcies, the risk of no refunding of the loans, the insurance of deposits, the structure of the banking market or the problems of asymmetry of information in stock markets. Within this framework where one studies exclusively the domestic financial system, the stock market constitutes the only form of studied financial intermediation.

1. The dysfunction of the stock market: a microeconomic analysis

Two types of constraints block the competing operation of the stock market. The first are exogenic, whereas the seconds are endogenous. The exogenic constraints are primarily institutional and are often limited to the leveling off of the interest rates. But the endogenous constraints, they are inherent in the operation of the stock market. They are divided into 4 groups: problems of adverse selection and moral risk, concentration of the banking system and character of the “public good” of the financial system. The “traditional” literature on financial liberalization insisted on the elimination of the exogenic constraints in order to promote the allocative effectiveness of the capital. However, it completely neglected the endogenous constraints. Such constraints (in particular problems of information) can constitute significant barriers for effective allocation of credit, even if the exogenic constraints, like leveling off the interest rates, are eliminated.

This situation is particularly true in developing countries where capital is mainly affected by the instruments of the banking structure (the stock market). In this way, the approach «financial instruments» shows that the financial markets are obviously different from other markets and, therefore cannot be liberalized in the same manner. In other words, the representation of the stock market by conventional supply and demand curves is a debatable, starting point if necessary.

2. The question of the moral risk and the excessive rise of the interest rates

As we mentioned before, financial liberalization in the developing countries often implies a rise of the real interest rates. Such a rise is limited in theory by two factors: the increase in banking competition and the reduction in ratio of obligatory reserves. Nevertheless, the experiments of some countries of the Southern Horn of Latin America proved that financial liberalization generates an excessive rise in the interest rates, which is the principal factor of instability in financial systems and under optimal allocation of the capital. By taking into account the specificity of the banking system operation, some authors, like Diaz Alejandro (1985) and McKinnon (1988), tried to explain this phenomenon.

They showed that the excessive rise of the interest rates is the consequence of an imprudent management of some banks, resulting itself from the moral risk problem. Indeed, the activity of financial intermediation and that of monetary creation cannot be easily separated; it is obvious that banking liability is implicitly assured. Under these conditions, a bank, seeking to increase its incomes, can be encouraged to take risks and to increase the debtor interest rate beyond the balanced interest rate, thus creating the moral risk problem. This problem of moral risk is worsened by macroeconomic instability which reinforces the interdependencies of bankruptcy.

In such circumstances, the monetary authorities, concerned with the stability of the financial system, are obliged to give up sanctioning the imprudent banks. The anticipated assistance of government takes the form of deposit insurance and consequently encourages the banking institutions to increase interest rates and to take more risks. Macroeconomic instability is presented then in the form of an additional insurance for the banks and further worsens the problem of moral risk. It results in more increases in the interest rates; several investors cannot obtain any more credit. In addition, inefficient loans constitute an increasingly significant share in the portfolio of these banks. Consequently, bankruptcies of the banks are generalized and destabilized financial systems and worsened macroeconomic instability appear.

3. Adverse selection, voluntary rationing of the credit and allocative inefficiency of the banking intermediation

From here, we suppose the absence of moral risk in the banking structure and that all banks are managed perfectly by taking the minimum of risks. Under these conditions, even if we liberalize the banking market by dismantling the ceilings of interest rates and by ensuring free competition between the banking institutions, the allocative effectiveness of the capital cannot be improved because of the adverse selection phenomenon. We try to show here that the liberalization of interest rates does not necessarily imply the satisfaction of all the requests of the loans, nor financing of the majority of projects.

In fact, it is simplistic to think that when the ceilings of the interest rates are raised, the excess of application for credit is completely eliminated. Indeed, even if the application for credit is a decreasing function of its cost, the offer cannot increase indefinitely with the interest rate. In other words, each bank agrees to increase the credit supply only when the anticipated incomes of its loans continue to increase. Thus, in spite of interest rate liberalization, the banks voluntarily ration the supply of credit.

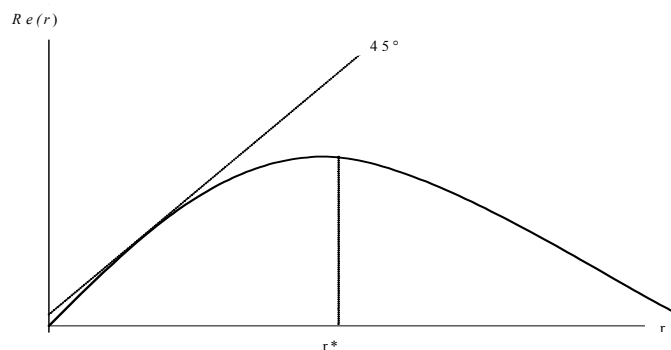
In order to analyze the determiners of the voluntary rationing of the credit by banks, Stiglitz and Weiss discussed the theory of adverse selection. They showed that such a rationing is the consequence of adverse selection problem arising from some inciting mechanisms. As the interest rate increases, the companies are directed towards the riskiest projects. Indeed, if the interest rates are very high, the return to investment of all projects drops and the least risky projects will not be advantageous. These inciting mechanisms involve a problem called adverse selection.

The asymmetry of information is a character of stock markets, where the borrowers have an informational superiority to the lenders (banks) with regard to the profitability of their projects. The banks are conscious of the fact that each borrower has a different probability of refunding the loan and

wish, to be able to identify their customers. If the banks use the interest rate as an indicator of the return on investment of the projects, they can attract only the risky borrowers who do not fear the prospect for non refunding of the credits. Under these conditions, if the actions of the borrowers can be perfectly controlled without any cost, then the interest rate can be used to evaluate the risk of each loan. However, information is neither perfect nor inexpensive.

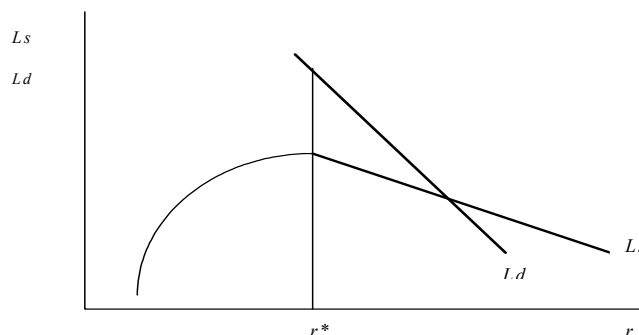
Consequently, the banking institutions are unable to distinguish the “good” from the “bad” borrowers. Therefore, the maximization of the return on investment of the bank cannot be ensured by the rise in the interest rates, but rather, by the rationing of credit. It is because of this problem of adverse selection rising from some inciting mechanisms (i.e. the investments become more risky with the rise of interest rates) that anticipated income by the bank can increase less quickly than the interest rate: beyond a certain rate R^* , it starts to decrease (figure 3.1). On the top of R^* , any increase in the interest rate is insufficient to compensate for the losses of the bank resulting from the insolvency of borrowers.

Figure 3.1: Interest rate and income anticipation of bank



Under these conditions, if the interest rate which equalizes supply and demand on the credit market is higher than the rate which maximizes the anticipated income of the bank R^* , the banking institutions will be obliged to ration the credit. Figure (3.2) illustrates this situation, where LS is the supply of loans, Ld is the demand, R^* is the balanced interest rate which maximizes the anticipated income of the bank, and where EPD represents the surplus demand for loans which appears in the situation of balance.

Figure 3.2: The voluntary rationing of credit in imperfect information case.



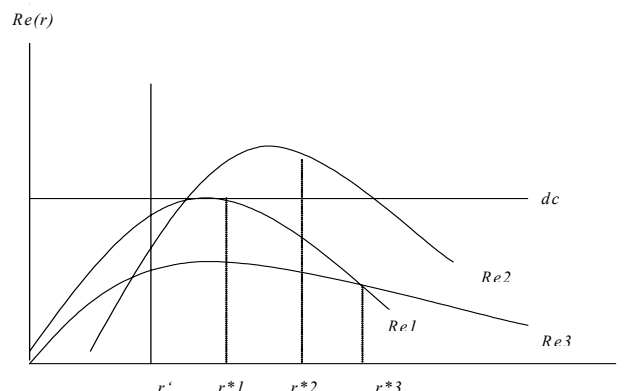
The bank refuses to grant credit to an individual willing to pay an interest rate higher than R^* because it judges that this loan is riskier than those which were granted at the R^* rate.

“The credit rationing of the thus appears as a rational behavior of the lenders when the costs of information are high”. Under such conditions, even if a surplus demand for loans emerges, a lender maximizing his anticipated income finds it more advantageous to ration the credit than to increase the interest rate. In this case, the anticipated return on investment of the excluded projects can exceed those projects obtaining the loans.

Consequently, credit will be badly affected. Let's suppose that the banks can distinguish between various groups from borrowers, but not between the borrowers within the same group. In this situation of incomplete information, the banks require the payment of an identical interest rate for similar borrowers (pertaining to the same group). At this interest rate, the investors of the same group choose to borrow or not. Among those who decide to borrow, one finds the investors characterized by a significant risk. When the number of risky projects is high within the group, the banks are unable to differentiate the borrowers and receive only a low return compared to the anticipated return of the projects. The difference between the output of the bank and the average output of the projects in the group widens as the information of the bank concerning the borrowers is insufficient.

Consequently, even if a group presents investment opportunities higher than those of another group, it can generate for the bank a weaker anticipated output and consequently be excluded from the loan. This idea is illustrated in figure (3.3) where the anticipated output of bank R^e in each of these three groups of borrowers is a function of the debtor interest rate (r). The most productive borrowers are those of group 3, and the least productive are those of group 1. Let's suppose that the government fixes a debtor interest rate in r' (see figure 3.3) and also limits the credit supply. Only some borrowers of group 1 (the group whose projects generate a lower productivity) will be able to obtain credit. If the levelling off is eliminated, the preferences of the bank will go initially to group 2, then to group 1 and group 3. The allocation of the credit is then improved even if it remains less than optimal. Indeed, although this allocation of credit is higher than the one corresponding to the situation of financial repression, it is not therefore optimal because it excludes the most productive projects (group 3) from the loan. As an example, if the credit interest rate of the market is at the level of dc , the loans are granted for all the investors of group 2 and some investors of group 1, whereas the members of group 3, having the most productive projects, are completely excluded.

Figure 3.3: The allocation inefficiency of the banking intermediation



In a situation of incomplete information, the abolition of the ceilings of interest rates is not a sufficient condition to achieve an optimal allocation of funds.

4. The “oligopolistic” structure of banking system in developing countries.

Galbis (1986) stressed another type of constraint in domestic financial liberalization, namely the oligopolistic structure of the financial markets in the developing countries. It admits that, in the

majority these countries, the banks are organized within the framework of qualified special institutional structures of banking holdings.

However, contrary to the situation in the United States, such institutional forms are rather informal in the developing countries and their name of “banking holdings» is little applied. The presence of these structures in the developing countries was noted mainly in a specialized literature which is interested in a general form of industrial organization and is commonly known under the name of “group”. This phenomenon of “banking holding,” is added as another characteristic of the financial markets in the developing countries, namely their concentration. In fact, the financial institutions (banking) attached to the groups have tendency, in the absence of adapted regulations, to be integrated in a horizontal way. This tendency to horizontal consolidation is explained particularly by financial institutions’ overdebt, translated by high ratios of debt/bonds. Under these conditions, it would be relatively easy for an individual who controls a financial institution, but is the owner of only one small fraction of the total resources, to use these resources of this institution to control other institutions. By repeating this process, he could possibly manage to control the totality of the financial system, even if such behavior can be limited as soon as several physical people simultaneously desire to control more financial institutions. The widening of concentration in the financial sector (banking) being added to the structure of the banking holding establishes the bases of an oligopolistic behavior in the financial sector.

According to the theory of oligopolistic competition, this form of market structure led to two extreme and undesirable solutions: ineffective collusion; and unstable prices, involving a bad allocation of financial resources (Clark 1988) and a reduction of quality and availability of the financial services (Spierings 1990). Collusion is usually the typical solution chosen by the companies of banking holdings. That is particularly true when they claim financial interventionist’s policies such as the leveling of the interest rates in order to grant credit to the companies and affiliated subsidized loans and consequently, to collect oligopolistic profits. By choosing this collusion solution, the holdings thus do not seek to increase the oligopolistic profits of the financial institutions (increase the banking margins), always lower than the profits obtained in the productive sphere.

Nevertheless, when the financial sector is liberalized, a price war between the banking holdings is the most probable solution. Competition between these holdings to attract the most possible funds can lead, as in the countries of Latin America during the 1970s, to an immoral rise in the interest rates. According to Galbis (1986), competition between the banking holdings constitutes a plausible justification of the rise of the interest rates over the long period (several years), contrary to the justifications in terms of inflationary anticipations and macroeconomic instability, whose explanatory capacity is limited to a short term horizon (the initial period of the reform). Thus, the persistence of high interest rates in a liberalized financial sector can be explained by the existence of banking holding companies (groups), which emerge often following a movement of denationalization affecting the financial institutions as well as the companies of the productive sector.

Under these conditions, the maintenance of the high real interest rates, for example in Chile during the 1970s, can contribute to bankruptcy in broad segments of the industrial sector narrowly integrated within banking holdings and consequently involve the proliferation of insolvent loans and a quasi generalized instability of financial system.

5. The character of public good in the financial system and the problem of negative externalities

The asymmetry of information on the stock market and the oligopolistic structure of banking environment, analyzed above, constitute a particular aspect of the negative externalities generated by the liberalization of the banking structure. This observation rises from a current theory which considers the financial system as a public good and which the use of a common currency like Unit of Account and means of exchange generates significant positive externalities (Tobin 1985, Diaz Alejandro 1985). Thus the government should specify the characteristics of the Unit of Account in the common national currency and organize the activity of financial intermediation. Or else, the positive

externalities can disappear following failures from a component or from the financial system totally. Particularly, the instability of the banking structure constitutes a negative externality of the financial system and an obstacle for the effective operation of the banking market. According to Park (1991), this instability is the result of two phenomena suitable for the operation of a banking market:

The first is associated to the banking activity for transformation of financial assets. Indeed, when a bank is obliged to transform an illiquid credit into a liquid liability, it can be exposed to crises of liquidity particularly resulting from the behavior of race to the deposits. Moreover, when the failure of a bank can involve the failure of other banks, this negative externality can just spread.

The second phenomenon of the instability of the banking structure is attached to the technology of intermediation which requires only one relatively weak physical or financial capital. The natural barriers at the entry being reduced, the capacity to lend thus constitutes the only condition required to enter banking activities (Greenbaum and Higgins 1983). This facility at the entry, also at the exit, is an additional source of undesirable externalities. It implies frequent adjustments of the banking output which can result in breaches of contract. Moreover, such adjustments are more disturbing than the adjustments which are done within the framework of a stable banking structure, characterized by entries of new and little frequent firms.

a) Problems of macroeconomic instability

It is commonly known that price stability and macroeconomic stability is the pivot of success in financial liberalization (McKinnon 1989, Cho and Khatkhate 1989). Indeed, the instability of prices and the level of activity increases financial fragility, creates a situation of uncertainty, increases interest rates and shortens the temporal horizon (Akyüz 1994). Macroeconomic stability itself is influenced by the financial policy (difficulty in determination of a suitable interest rate), but monetary and budgetary discipline does not remain less crucial. Thus in an inflationary environment, it is harmful to liberalize the financial system and it is necessary to reduce the budget deficit and to control the money supply. If these conditions are not met, financial reform will then be doomed to failure.

b) Inflation and perverse effects of financial liberalization

The inflation acceleration involves an immediate orientation of the financial sector towards liberalization. Indeed, financial repression worsens the social costs of inflation, whereas financial liberalization lets the financial sector improve its intermediation task and compensate the costs of inflation (Dornbusch and Reynoso 1993). In the event of no liberalization, the costs are certainly significant (capital flows), but the alternative of liberalization can be also perilous. One of the perverse consequences of financial liberalization consists in the fall in banking deposits and particularly, in the development of the monetary market.

Under these conditions, the monetary base (the demand for currency) is reduced, and especially governments will be obliged, in the countries in the first phases of stabilization, to quickly increase the monetary financing of their budget deficits. Indeed, in this situation, governments often wish to preserve the same level of seignorage or are unable to reduce instantaneously their budget deficits (Adam 1995). Thus, financial liberalization worsens inflation unless it is accompanied by a budgetary discipline. In other words, a period of strong inflation and budgetary crisis is incompatible with the implementation of a financial liberalization.

c) Budgetary discipline and the monetary policy

Budgetary discipline and monetary stability are two interdependent phenomena. Also, in the situation of controlled budgetary skids, the installation of a successful monetary policy becomes feasible (Fry 1988). In the majority of industrialized countries, the central Banks choose open market operations as the indirect instrument of monetary control. However, such markets are quasi non-existent in the developing countries where monetary control is exerted rather through rediscount mechanisms and control of the obligatory reserves. Generally, the central Banks of the developing countries use their

means of rediscount to support the policies of directed or selected credit. Hence, the mechanisms of rediscount cannot play the role of an instrument for controlling the increase of the money supply. In addition, even if such mechanisms are used for monetary control objectives, they are not effective. Indeed, instead of establishing a rediscount rate and satisfying the banks' demands at this fixed rate, the central Banks fix the rediscount rate lower than the market rate and consequently, ration the excess of application for credit. A more effective control can however be reached by fixing the volume of rediscounted credits. The fixed demand and supply of these credits will then be balanced by the means of the market interest rate.

Budgetary discipline and monetary control, being the two principal instruments of the stabilization policy, must intervene before starting liberalization policies (McKinnon 1991). Indeed, the simultaneous application of two types of reform proves to be expensive at the economic level as well as political (Edwards 1986). However, even if the developing countries can ensure price stability while following budgetary discipline and by adopting an adequate monetary policy, this stability can be caused by policies of incoherent exchange rates or simply by external shocks.

Generally, the majority of the developing countries encounter significant deficits of their payment balances which are metamorphosed in an inflationary period. In this context, a premature and complete opening of a capital account worsens the situation more and endangers the advantages of internal financial liberalization.

II. The difficulties of external financial liberalization

Among all the developing countries, only the countries of the Southern horn of Latin America have tried out external financial liberalization policies. For example, Latin American three countries of the , known for their restrictive controls on the movements of capital, chose to give them up. Uruguay started to do so in 1974 even before liberalizing its domestic financial system. Argentina liberalized its capital account at the time of its domestic financial reforms of 1977. As for Chile, it started external financial liberalization five years after the release of the process for domestic financial deregulation. For multiple reasons, all these experiments resulted in considerable failures which were blamed on the feasibility of the financial opening. These experiments taught the difficulties of external liberalization to the partisans of financial liberalization . Such difficulties being added to the structural problems can even waste the advantages of domestic financial liberalization and lead the country towards a durable economic recession.

1. External shocks

The neo-classic theory teaches us that a complete movement's capital liberalization by a country which succeeded in stabilizing its economy is completely beneficial. In this case, there would be neither escapes nor massive entrance of capital. On the one hand, the capital outflows encourage their entries and, on the other hand, the phenomenon of massive entries of capital will be obviously reduced if the country adopts monetary policies, coherent interest rates and exchange rates. However, the 1970s arose as the least favorable period for a liberalization of capital movements in the developing countries. In this period, international liquidity was abundant following the two consecutive oil crises of 1973 and 1979 and so the external opening which happened afterwards translated into massive entries of capital. This phenomenon caused two major problems, namely external overindebtedness and the capital flight.

a) External overindebtedness

During the 1970s, the international response to external liberalization in some developing countries was immediate and broad. The relative rise of real interest rates in these countries, as consequence of a internal financial liberalization and of the fall in the interest rates in the industrialized countries (in particular in the United States), attracted considerable flows of foreign capital. The financing by

obligations, the loans granted by foreign banks, foreign direct investment and official loans constitute alternative modes of capital entries. However, during the 1970s, the loans coming from foreign trade banks seemed to dominate the shape of capital entries in the developing countries, also contributing to their external overindebtedness. External overindebtedness resulting from financial opening can be explained by an alternate mechanism.

According to Cottani and Covallo (1993), when the budget deficit is significant, the liberalization of capital movements, by reducing domestic demand currency and by limiting the capacity of the government to collect inflationary tax, thus encourages the government to borrow from outside. Under these conditions, even if the budget deficit can be financed by the emission of the public fund, the entries of private capital will be stimulated and foreign debt will be worsened following a rise in the interest rates. In addition, some distortions on the international capital market can inform us about the problem of excessive foreign debt. On the one hand, by considering the risk of insolvency of a private borrower as an increasing function of country debt to which it belongs, the international backers are incited to grant funds to the least indebted countries, thus supporting their indebtiness.

In addition, as the governments guarantee the solvency of the private debtors implicitly, flows of external debt develop. However, the massive entries of capital in the short term, in the form of foreign loans, cause fluctuations in the exchange rate (initially the appreciation of domestic currency, then its depreciation) and worsen with the problem of foreign debt. Indeed, the debt makes some difficulties for the State budget and even the domestic financial system. On the other hand, when the government accumulates reserves in the form of foreign debt, the currency value will increase and the budgetary cost of debt servicing will be reduced. This increase encourages the banks to offer loans and to collect deposits made out in dollars. Under these conditions, if the external problems appear (i.e., worsen the deficit in balance of payments), the government refuses to adjust the exchange rate (devaluation) immediately in order to preserve the profits resulting from the increasing value of currency. But, with the stressing of the crisis, the government should assume its own costs as well as those of the domestic private sector. It results in higher inflation and less monetary stability.

b) Capital flight

According to Diaz Alejandro (1985), the massive entries of capital, by immediately involving a significant appreciation of the domestic currency, can only reduce the confidence of the public, in the capacity of the government to control exchange rates and worsen the problem of capital flight. In addition, the negative shocks, the fall in principal exportable good price, the rise in principal importable good price, the increase in international interest rates, or the increase in the taxes affecting the output resulting from entries of capital can encourage the foreign investors to leave their capital in these countries. That results in a fall of the general price index, a fall in exchange reserves, an increase in the domestic interest rates, and/or a depreciation of the domestic currency. All these price movements support the uncertainty of the investors and discourage domestic investment as well as foreign investment.

In the same way, these movements can be harmful for the whole of the economy if the interest rates, the price credits and exchange rates fluctuate enormously by involving the instability of the financial system (banking bankruptcies and hysteric effects). In order to face this problem of capital flight, some countries like Uruguay, Peru, Argentina and Mexico encouraged polarization while allowing the commercial banks and the nonbanking financial institutions to grant funds and to collect deposits made out in dollars.

It is true that polarization initially aims to prevent against capital flight. However, after a few years, it undoubtedly becomes a principal source of instability (Cottani and Cavallo 1993). Indeed, by exposing the financial system to the excessive risks of the exchange rate (appreciation), polarization delays the necessary adjustments of this rate. If the government finally decides to intervene, it faces a heavy task which consists in reducing the budget deficit to compensate the losers among the

depositors, and also to protect the solvency of the financial institutions and to rebuild the credibility of the monetary policy.

Capital flight and external overindebtedness are the direct consequences of the financial opening in the developing countries in a destabilized international context (external shocks). In both cases, the principal reason lies in currency appreciation following the massive and temporary entries of foreign capital. It is important to specify that during the 1990s, the most manifest problem of liberalization capital movements lay in the increase of capital entries in the form of foreign direct investments or of financing by obligations. However, this capital is less harmful than the external overindebtedness by causing intense financial crises such as the last Mexican crisis (Corbo and Fernandez 1996).

III. The optimal scheduling of financial reform

1. Economic analyses of an optimal and sequential nature of the reforms.

Partisans of financial liberalization attributed the failure of financial reforms at the beginning of the 1980's not only to the basic recommendations of McKinnon and Shaw and their disciples, but rather to the order in which measurements of liberalization had been applied. Thus, the optimal chronological sequence of liberalization became the first anxiety for this idea which seeks to fill a vacuum in the literature of financial liberalization (traditional and new), which implicitly recommends the simultaneous application of all the financial reforms. On the basis of the analyses of Lipsey and Lancaster (1956), showing that as long as there are some distortions on other market, the elimination of the distortions in one market inevitably do not improve welfare. Hence, partisans of the optimal sequential order try to establish a second level optimum. That means to find a gradual program of optimal routing of financial reforms which will be able to minimize the costs of welfare.

In other words, from a theoretical point of view, the literature of optimal sequential order of reforms tries, to fill a vacuum concerning the study of deregulation effects in a context of imbalance. Actually, the new theory faces two challenges: in addition to the establishment of order between the commercial and financial reforms, it is a question of defining the necessary sequences within each reform and also their rate/rhythm of application (slow or fast). Still, the literature has not dealt with this last problem.

As an example, according to the World Bank report (1989), the passage of a reform 1 to a reform 2 is often justified by a good advance of reform 1, without more precise details. The majority of the authors, with rare exceptions (Lal 1987), agree on the existence of four great sequences in the process of liberalization. It is generally shown that in a stabilized economy, domestic financial liberalization (sequence 2) must follow domestic real liberalization (sequence 1) and precede liberalization of foreign trade (sequence 3), like that of the capital movements (sequence 4). Table (3.2) summarizes the reforms of liberalization of the various sectors: the figure in each box indicates the order of reforms recommended by the majority of authors (Edwards 1986, 1990; McKinnon 1982, 1991b; Krueger 1986).

Secteur	Domestic	Extern
Real	- stability-oriented policy	- liberalization of current transactions (raised trade barriers)
	- liberalization of prices	
	- elimination of implicit and explicit taxes and subsidies	- creation of foreign currency exchange market and currency convertibility.
	- privatization	
	1	3
Financial	banking privatization and structure domestic	- control elimination on capital
	- restructuring /privatization of the domestic bank system	- mouvement
	- création /réactivation of the money market	- total currency convertibility
	2	4

2. The problem of causality between sequence 2 and sequence 3

If there is a great controversy around the order of stabilization policies and liberalization of the foreign trade (Funke 1993), the direction of causality between the latter and domestic financial liberalization is not less clear. On the one hand, if a country liberalizes the domestic financial sector before the foreign trade sector, then the credits will be forwarded to the sector of exchangeable goods which are advantageous only because of the maintenance of trade barriers (as for industries of substitution for the imports). In the opposite case, when the foreign trade sector is liberalized before the financial sector and when price distortions are eliminated, domestic industry, in lack of necessary financial resources, is probably unable to keep up with competition on the international markets. Therefore its collapse is certain (McKinnon 1991b).

Reconciling the two points of view, the world development report affirms that there is not only one optimal way of commercial reform, and also this way depends largely on the economic conditions which characterize each country (the World Bank 1987). In all cases, it is necessary for commercial liberalization to be compatible with the balance of current accounts (Michael 1986).

3. The liberalization of capital movements:

The liberalization of capital movements, known as the ultimate sequence of a total financial reform, and is the consensus object among the authors studied. If the process of external financial liberalization is started, while the domestic interest rates are lower than international levels, significant escape of capital is expected.

Moreover, the banks can enter in to competition with the foreign banks with difficulty; they are subjected to a panoply of controls and regulations which increase the costs of intermediation. Consequently, internal financial liberalization is presented as a precondition to external financial liberalization. Moreover, external liberalization without the complete stabilization of the economy is likely to generate entries of capital in the short term and make stabilization more difficult .

IV. The limits of the new approach to financial liberalization

At the end of reviewing the new analysis of financial liberalization, we can only realize the complexity of the financial reforms and appreciate the distress in which the literature was specialized. From a microeconomic point of view, we noted all the problems of information which characterize the banking markets, as well as the difficulties of controlling the financial system. From a macroeconomic point of view, the recommendations are often rather fuzzy and sometimes simplistic; we recommend coherence among various economic policies which sometimes present conflicting objectives. Realizing these difficulties, some more pragmatic authors focused on the problem of the chronological order of the reforms. However, this new aspect of the literature did not improve the

state of the new approach, particularly with regard to fixing a precise calendar for all the reforms. Also, such an aspect of the literature discusses the basic arguments of financial liberalization considered before merely as a strategy of development.

Indeed, when the new literature insists on the importance of the stability and the maturity of the economy before financial liberalization, the latter becomes an indicator and not an engine for development (Fanelli and Frenkel 1994). Thus current work has moved away from the fundamental work of McKinnon (1973) and Shaw (1973) while being to some extent devoted to determining the methods of a financial system management with a view to development. In other words, defining the economic conditions preliminary to financial liberalization. Consequently it becomes an extremely expensive luxury for the unstable countries. Moreover, if we consider the fact that the financial markets function in an imperfect way (Stiglitz and Weiss 1981), it seems not very probable that the optimal sequential order can eliminate this imperfection (Grabel 1994). From another aspect, some recommendations of this school of thought have become null, particularly in regard to external liberalization (ultimate sequence of liberalization).

Indeed, during the 1990s, the fear of external opening did not lie in the massive entries of capital, but rather in the deficiency thereof and the capital flight. Today, governments fear that the strict control of the outflows of capital will be responsible for a reduction in capital entries. The dynamic model of Bacchetta (1992) confirms these fears while evaluating the recommendations about the literature of the optimal sequential order particularly relating to the idea of gradualism. It was shown that in the long run, sequential implementation of the internal and external financial reforms, in a small open economy, leads inevitably to capital flight. However, in the opposite case of the simultaneous application of the two reforms, such a result seems much more mitigated; capital flight in the long term can probably be avoided and investment opportunities in the country become significant for foreign investors.

The role of the State in this literature also remains the subject of controversy. Some pioneer authors of the financial liberalization literature admitted the need for the intervention of the State in the financial system, but only in the event of macroeconomic instability.

Lastly, some more pragmatic specialists support the idea of a compromise between market and State in order to ensure, develop and stabilize the financial markets. Indeed, until now all the empirical studies did not draw the systematic statistical regularities in spite of the many experiments covered.

Whatever the country or continent or the various applied techniques, the results are at best ambiguous (Souissi, Martin and Decaluwe 1994). The often evoked reasons related to errors of specification in the various equations, of which the most significant resides in the significant number of the omitted variables (Gibson and Tskalatos 1994). Also, Giovannini (1985), DeMelo and Tybout (1986), Gupta (1987), Snowden (1987), Cho and Khatkhate (1990) and Warman and Thitlwall (1994) hardly find positive correlation between the interest rate and the total savings or the investment. As a result, the complementarities hypothesis of McKinnon (conduit effect) for example, called into question again. In addition, Dornbusch and Roynoso (1993) moderate the results which confirm the existence of a positive effect of the financial development (financiarisation) on the economic growth.

In sum, the various empirical verifications relating to the impact of financial liberalization on savings, investment and growth are evaluated more than ever. Today, many authors wonder about the validity of the new approach of liberalization which moved away from its theoretical aspect of the 1970s to become more pragmatic. Some authors, like Hergli and Belhareth (1993), think that the safety of financial liberalization theory probably lies in the reformulation of its three conventional bases, namely

- The positive effect of the financialization on development;
- Strong positive elasticity in the interest rate and savings;
- Perfect complementarities between monetary cashing and investment. The reformulation of such a hypothesis reduces their reductionist character while adapting them to realities of the under developed economies. The Recent work of Burkett and Vogel (1992) and Morisset

(1993) goes in this direction while trying to moderate certain results of the hypothesis of the financial liberalization theory; thus, the new approach of financial liberalization is still quite far from being able to propose the final necessary therapy to the stability and development of the financial system. The last Mexican financial crisis in 1994 or Asian crisis in 1997 and 2000 are an illustration.

Conclusion

In this paper, we have tried to study all the economic analyses which on the subject of financial liberalization. Theoretical justifications and their criticism are also presented. However, although they are significant in our opinion, these analyses often remain insufficiently normative. Indeed, even at the end of this study, we are unable to clearly understand why many developing countries well established one or those in the process of being established are turning to financial liberalization policies, on the one hand, and why some experiments failed and others succeeded, on the other hand. We have tried to note that the authors of these analyses were satisfied to criticize or justify the application of these reforms while bases themselves on the usual criteria of economic effectiveness and of growth and without seeking to explain the determinants of that adoption from financial reforms in developing countries. In addition, according to these reforms, the political component of their determinants was completely neglected; the normative analysis was limited to a narrow framework aiming to approve or disapprove the intervention of the State in the financial sphere. However, is it possible to believe that the governments simply seek economic benefit associated with such policies?

The response in the affirmative seems unsatisfactory, particularly in the absence of a broad consensus on the economic merits of financial liberalization and with the proliferation of failures in many experiments. On the other hand, McKinnon (1989), the head of liberalization partisans, even implied that the adoption and success of these policies, in spite of the theoretical justifications, have been reduced to a question of political will. That lets us think that the determinants of the implementation of financial liberalization programs are economic and political as well. And from the start, an economic analysis policy seems to be inevitable to compensate for the insufficiencies of normative analyses.

References

- [1] ABEBE Adere. (1990), “ Financial repression and its impact on financial development and economic growth in the African a least developed countries “, *Savings and development* N°1. p 55.
- [2] Adam, C. (1995), “Fiscal Adjustment, Financial Liberalization, and Dynamics of Inflation: Some Evidence from Zambia “. *World development*. Volume2.
- [3] AKYUZ .Yilmaz. (1994). “Libéralisation financière: mythes et réalités”, *Revue Tiers Monde* page: 521.
- [4] ALIEJANDRO .C. Diaz . (1985), “Good-bay financial repression, hello financial crash”, *Journal of development Economics*, P:190 .
- [5] ALIEJANDRO .C. Diaz . (1985), “Good-bay financial repression,hello financial crash”, *Journal of développement Economics*, P:190 .
- [6] AMABLE B. et CHATELAIN J.B (1995) “ Systèmes financiers et croissance : les effets de court-termisme “, *Revue Economique* 46(3), pp: 827-836.
- [7] BACCHETTA, Philippe.(1992), “Liberalization of Capital Movements and of the Domestic Financial System..”. *Economica*
- [8] BACCHETTA, Philippe.(1992), “Liberalization of Capital Movements and of the Domestic Financial System.. “. *Economica*.
- [9] BURKETT, Paul . LOTSPEICH, Richard, (1991). “Financial Liberalization, Development, and Marketization: A Review of McKinnon's The Order of Economic Liberalization: Financial Control in the Transition to a Market Economy (1991). *Comparative economic studies*.
- [10] BURKNER H, P (1980), “ Savings mobilization through financial development: a study of savings in the Philippines “, *Philippines Economic Journal* 19(3-4) pp 23-43.
- [11] CHO Y . j. (1990), “ McKinnon-Shaw versus the Neostructuralists on financial libéralization “ *World Development*, 18 (3), pp. 477-480.
- [12] CORBO V et DE MELO J (1986), “ Scrambling for Survival : Haw firms adjusted to the recent reforms in Argentina, Chile, and Uruguay”, *World Bank Staff Working Paper* 764 Washington D C.
- [13] CORBO V et FERNANDEZ L (1996), *Macroeconomic adjustment to capital flows : lessons from recent Latin American and East Asian Experiences “*, *The World Bank Research Observer*, 11(1), pp 61-85.
- [14] CORBO V. et HERNANDEZ L (1996), “ Macroeconomie ajustment to capital inflows : lessons from recent Latin American and East Asian Experience “. *the World Bank Research Observer* , 11(1),pp 61-85.
- [15] COTTANI J et CAVALLO D (1993), “Financial reform and liberalization”, in R. Dornbusch(ed) , *Policy Making in the Open Economy : Concepts and Case Studies en Economic Performance*, World Bank : Oxford University Press.
- [16] EDWARDS. S , 1990. *The Sequencing of economic reform : Analytical issues and lessons from Latin American experience*, *The Wold Economie*, Vol 13 1 p :1 14.
- [17] FRIEDMAN B. M, (1985), “ Monetary and regulatory policies for developing financial system “, in *Monetary Policy in a Changing Financial Environnement*, Seoul : Bank of Korea.
- [18] FRY M.J (1989), “ Financial development : theories and recent experience “, *Oxford Review of Economic Policy*, 5 (4) .
- [19] FRY M.J (1989), “ Financial development : theories and recent experience “, *Oxford Review of Economic Policy*, 5 (4) .
- [20] FRY, M.J (1986), “ Terms of trade dynamic in Asia: analyse of national savings and domestic investment responses to terms of trade 14 Asian LDCs” *Journal of International*.
- [21] GALBIS V (1986), “ Financial sector liberalization under oligopolistic conditions and a banking holding company structure “, *Savings and Development* 10 (2) p : 117 –141.

- [22] GELB .A , (1989), “ A cross-section Analysis of Financial Policies, efficiency and growth” , World Bank Working Paper N° 202, Washington DC.
- [23] GIBSON, H. and TSAKALATOS,E, (1994), “ The scope and limits of financial liberalization in developing countries: a critical survey “ . *journal of development studiies*, vol 30 N° 3 april p:378.
- [24] GUPTA. K.L (1986), “Financial development and economic growth in India and South Korea”, *Journal of Economic Development* , 11 (2) pp 41-62.
- [25] GUPTA. K.L (1987) , “Agregate savings, financial intermediation , and interest rate”, *Review of Economics and Statistics*, 69,(2)pp303-311
- [26] HINDS. M (1986), « Draft Paper on financial crises in developing countries », World Bank Working Paper. Washington, DC.
- [27] JHONSTON .B.R (1991), “Sequencing Financial Reform” , in P, Downes and R. Vaez-Zadeh (Eds), *The Evolving Role of Central Banks*, IMF.
- [28] JOHNSTON Barry (1998), “ Sequencing capital account liberalizations and financial sector réform”, *IMF Paper on Policy Analysis and Assessment. PPAA/98/8*.
- [29] JOHNSTON R. Barry (1998). “ La libéralisation séquentielle des mouvements de capitaux “ . *Finance et Développement*, Décembre 1998.p 20.
- [30] Lall, Ashish; LIU, Ming-Hua, (1997), “ liberalization of financial and capital markets : Singapore is almost there ! : “ . *Law and policy in international business*.
- [31] LLEN Grabel , (1995). “Speculation-led economic development: a post -Keynesian interpretation of financial liberalization programmes in the Third World”. *International Review of Applied economics*.
- [32] McKINNON R I (1991b) “ The order of Economic liberalization “ Baltimore and London , The John Hopkins University Press;
- [33] McKINNON, R, I (1988), “Financial liberalization in retrospect: interest rate policies in LDCs” in G. Ranis et T.R. Shultz (eds) . *The State of Development Economics*, New york – Basil: Blakwell.
- [34] MORISSET, J., (1993). “Does financial liberalization really improve private investment in developing countries? “ . *Journal of development economics*.
- [35] PARK J. C (1991), “Financial repression and liberalization “ in L.B Krause et K Kihwan (eds) *Liberalization in the Economic development*. Berkeley, Los Angeles, Oxford: University of California Press.
- [36] POLAK .J.J (1989) , « Politiques Financières et développement », Paris , Centre de Développement de l’OCDE.
- [37] STIGLITZ.J and WEISS .A (1981). “ Credit rationing in market with imperfect information “ . *American Economic Review*. vol 71.n° 3.pp393-410.
- [38] TOBIN, J (1965), « Money and Economic Growth », *Econometrica*, 33(4), pp: 671-684.
- [39] World Bank (1998) “ Private capital flows to developing countries “ . A World Bank Policy Research Report.

Personal Attributes Affecting Extension Managers and Supervisors Attitude Towards Information Technology in the Niger Delta Area of Nigeria

O.M. Adesope

*Department of Agricultural Economics/Extension
University of Port Harcourt, Rivers State, Nigeria
omadesope@yahoo.co.uk*

C.C. Asiabaka

*Department of Agricultural Extension
Federal University of Technology, Owerri, Imo State, Nigeria*

Edna C. Matthews-Njoku

*Department of Agricultural Extension
Federal University of Technology, Owerri, Imo State, Nigeria*

E.L. Adebayo

Federal University of Technology, Akure, Ondo State, Nigeria

Abstract

The study investigated the relationship between personal characteristics of Extension Managers/Supervisors and their attitude towards Information Technology in the Niger Delta area of Nigeria. Data were collected with the aid of questionnaire from 86 respondents in the study area. Findings revealed that respondents have mean working experience of 15.52 years, majority (89.7 percent) were married, and were males, had mean age of 42.4 years, had MSc degrees, and had adequate access to Information Technology. Findings also revealed that mobile phone, word processing, electronic mail, data generation from CD ROM, world wide web (www) were the most common types of IT used by respondents. Respondents generally have favourable attitude to IT. Adequate access, age, exposure and area of specialization were the significant determinants of attitude towards Information Technology among respondents. The need to put in place adequate enabling structures in the Extension service to able Extension personnel appreciate and further utilize Information Technology is inevitable

Keywords: Personal attributes, Extension Managers, Supervisors, Information Technology

Introduction

Information Technology (IT) is a recent innovation in the Nigerian agricultural environment. Agricultural extension has therefore experienced challenging situations since the introduction of IT. Information Technology can be described as computer - related mechanism through which information is obtained and shared with relevant users. Kerrigan, Lindsey and Novak (1994) noted that communication technologies such as electronic mail (e -mail) and electronic conferencing provide scientists, administrators and information staff with rapid and reliable communication, while increasing productivity and decreasing communication costs by reducing the physical means of communication

channels. These are some of the benefits of Information Technology. In the same vein, while discussing, information technology as a transfer, Metcalfe and Gilmore (1990) observed that because of the remarkable pace of development within the short time that computers were introduced, information technology now impinges upon virtually every aspect of society; and has developed dramatically.

The modern technologies have potentials for rural development especially in developing countries. According to Bie (1996) in Munyua (2000) the Internet, which is one of the modern information technologies, can open new communication channels that bring new information resources to rural communities. Meera et al (2004) stated that agricultural extension has to escape from the narrow mindset of transferring technology packages to transferring knowledge or information packages. If this can be achieved, with the help of Information and Communication Technology, extension will become more diversified, more knowledge-intensive, and more demand driven, and thus more effective in meeting farmers' information needs. Also, Adesope, et al (2005) noted that the introduction of information technology into the agricultural environment is one way by which agricultural scientists can be adequately equipped. Information and Communication Technologies (ICTs) are important in the contemporary agricultural extension system in Nigeria. Apart from meeting up the extension systems in other parts of the world, ICTs are a repository of information that can be used whenever desired. They provide a large volume of information which could not have been stored anywhere but a virtual laboratory-Type of mechanism like the Internet (Adesope, 2005).

One of the basic functions of agricultural extension remains the dissemination of useful agricultural information from research, to the end-users. The mass media have been greatly used in delivering this information. But the information boom of this century requires that worthwhile strategies of communication be developed and utilized. In order to meet up with the information explosion trend, agricultural extension needs to intensify efforts to acquire the necessary Information and Communication Technology facilities that are available. The Extension Managers and Supervisors as a matter of priority should have access to Information Technologies because they are important in influencing decisions in their organizations hence would be able to channel the decisions appropriately to their subordinates. Waldron, Vsanthakumer and Arulraj (1997) stated that an extension programme manager is the person that is vested with formal authority over an organization or one of its sub units. He or she has status that leads to various inter-personal relations, and from this comes access to information. Information enables the manager to devise strategies, make decisions, and implement action. The Extension Managers are important stakeholders in the Extension service. Their personal disposition to available Information Technologies and the types they have access to may likely influence they level of appreciation and utilization of IT. This study therefore investigates the Personal attributes affecting Extension Managers and Supervisors' attitude towards information Technology in the Niger Delta area of Nigeria

Methodology

The study area is the Niger Delta area of Nigeria which is made up of nine states comprising Rivers, Bayelsa, Imo Abia, Delta, Edo, Akwa Ibom, cross river and Ondo states. The Niger Delta region covers an area of some 70,000km² and consist of a number of distinct ecological zones which are characteristic of a large river delta in a tropical region which comprises of coastal ridge barriers, mangroves, fresh water forests and lowland rainforests (Niger Delta Environment survey, 1996).

The target population Comprised agricultural extension managers and supervisors in extension based organizations in the study area. The extension-based organization was stratified into private and public. The public organization chosen for the study was primarily Agricultural Development Programme (ADP) while the private organization chosen was the multinational organizations which include the Green River Project (GRP) of Nigerian Agip Oil Company (NAOC) and the Agricultural Programme of Shell Petroleum Development Company (SPDC). The ADP was chosen because it is the

main government organization responsible for extension work while the two multinationals were the most significant private extension – organization in the area.

Out of the 9 states that make up the Niger Delta region, 7 were involved in the study namely Imo, Rivers, Bayelsa, Delta, Edo, Ondo and Cross River. A purposive sampling technique was used to select respondents involved in the study. Directors, and their deputies, zonal managers, supervisors, extension Advisers and coordinators were the respondents involved in this study.

Seventy five Extension Managers/Supervisors were identified in the public organizations but 60 participated in the study. On the other hand 32 Extensions managers/supervisors were identified in the private organization while 27, participated in the study. On the whole 87 respondents were involved in the study. The instrument used for data collection was a structured questionnaire which contained information on socio- personal characteristics, adequate access to information technology, attitude towards Information Technology. The instrument was tested for reliability and a reliability coefficient of 0.72 was obtained using a split-half method.

Results and Discussion

Personal characteristics of respondents

Table 1 shows that majority of the respondents had working experience ranging from 5 to 15 years with a mean working experience of 15.52years. Most respondents were married, and were male. It was also found that majority of the respondents were between 40 and 45 years old, with mean age of 42.4 years. It was found that most respondents had on MSc degree.

Table 1: Personal characteristics of respondents

Personal characteristics	Frequency	Percentage
Working experience		
5 – 15years	56	64.37
16 –25years	25	28.74 mean = 15.52 years
26 –35years	6	6.89
Marital status		
Unmarried	8	9.20
Married	78	89.70
Widowed	1	1.10
Gender		
Male	77	88.50
Female	10	11.50
Age		
Less than 40years	16	18.40
40 –45 years	28	32.20
46 – 50years	24	27.60 mean =42.40years
51 – 55years	14	16.10
56 – 60years	5	5.70
Academic qualification		
BSc	36	41.40
MSc	43	49.40
PhD	4	4.60
Others (MPhil, PGD, HND)	4	4.60
Adequate access		
Yes	54	62.10
No	33	37.90

Also, 62.10% of the respondents indicated that they have adequate access to information Technology, while 37.90% indicated that they do not.

Types of information technology used

Table 2 show that mobile phone was the most common information Technology used by respondents. This was followed by word processing, then electronic mail, then data generation from CD. Findings revealed that world wide web ranked among the 12 types of information Technologies used respondents. Facsimile ranked 6th, followed by video conferencing, then newsgroups. E- conference workshop ranked 9th, chrome ranked 10th, e-magazine ranked 11th and e-library ranked 12th.

Table 2: distribution according to types of information technology used

Types	Frequency	Percentage	Ranking
Mobile phone	50	57.50	1st
Electronic mail	41	47.10	3rd
World wide web	18	20.70	5th
Data generation from CD	19	21.80	4th
Electronic library	2	2.30	12th
Chat room	5	5.70	10th
Newsgroups	10	11.50	8th
Electronic magazine	3	3.40	11th
Word processing	43	49.40	2nd
Video conferencing	13	14.90	7th
Facsimile	16	18.40	6th
Electronic conference/workshop	8	9.10	9th

The finding shows that mobile phone, word processing, electronic mail, data generation from CD and world wide web were the first five commonest information Technologies used by Extension, managers/ supervisors. Sticker, Emmel and pape (2003) observed that the web and e-mail are the most popular applications on the internet.

Attitude towards Information Technology

Information Technologies have great potentials information delivery in extension. This is expected to affect the duties of extension personnel. Table 3 reveals a generally favourable attitude among Extension managers/supervisors information Technologies (Grand mean= 4.22).

Table 3: Mean distribution of responses according to attitude towards information technology

	Statements	Mean
1.	Use of Information Technology will enhance agric. Derpt.	4.51
2.	Infor. Tech Usage will help to bridge comm. Gap in agriculture	4.55
3.	Infor. Tech will enhance information delivery in Ext work	4.59
4.	Info. Tech is very applicable for efficient feedbk in ext work	4.46
5.	Ext prog. Planning will now be more useful	4.32
6.	Monitoring of progress of ext. is more efficient in info. Tech.	4.23
7.	Infor. Tech. Will cause large scale displace	2.79
8.	Evaluate of prog. objvs is more meaningful is infor. Tech.	4.14
9.	Research Extensions linkage is more reliable	4.39
10.	Data management is appropriately done	4.22
11.	Comm. For agric research purpose will make more sense	4.06
12.	Knowledge awareness abt agric information is enhance	4.48
13.	Research needs can now be met	3.55
14.	Comprehensive information cam be effectively handled	4.16
15.	Keeping arrest with recent agric info is adequately ensured	4.34
16.	Infor. Tech. Is generally a welcome development	4.54
17.	Ext. mgers/supervisors have a lot of benefit from the use of it	4.49
18.	Organization efficiency is provided with the use of Info. Tech.	4.29
	Grand mean	4.22

NB: Strongly Agree =5, Agree =4, undecided = 3, Disagree =2, Strongly Disagree = 1

Any mean score less than or equal to 3.00 implies disagreement with the statement

Any mean score greater than 3.00 implies agreement with the statement

Out of the 18 statements that measured attitude towards information Technology, respondents agreed that information Technology will enhance information delivery in extension work. This ranked first indicating the overriding importance of IT to agricultural extension. Respondents also agreed that IT usage will help to bridge the communication gap in agriculture. This statement ranked second among the is statements. The third rank went to the statement that it is generally a welcome development. Respondents indicated that the use of IT will enhance agricultural development ranking, fourth. The fifth rank went to the statement that extension managers/supervisors have a lot benefit from the use of It the sixth ranking was for the statement that knowledge and awareness about agricultural information is enhanced with it.

Adesope (2005) had found positive attitude of extensions and researchers towards Information Technology (IT). This is a manifestation that extensionists and other scientists appreciate it for agricultural development endeavours.

Multiple regression analysis

The result of the regression analysis is presented in Table 4. Based or the appropriateness of signs, number of significant variables, and magnitude of F, the semi-log functional form was chosen as lead equation. The R^2 – value of 0.316 implies that 31.6% of variation in the attitude of respondents towards information Technologies could be explained by the explanatory variables in the equation.

Table 4: Multiple regression analysis of relationship between respondents' attitude and their personal characteristics

Variables	Semi log	Double log	Linear form	Exponential log
Constant	92.189 (15.749)	4.535 (57.802)	72.252 (13.564)	0.426 (59.812)
Adequate access	9.747 (4.378)**	0.128 (4.300)**	6.503 (4.087)**	8.57E-02 (4.020)**
Age	6.597 (2.447)*	8.482E-02 (2.328)*	3.731 (1.995)*	4.761E-02 (1.901)
Qualification	-4.616 (-1.143)	-4.8E-02 -1.000	-2.873 (-1.137)	-3.4E-02 (-0.996)
Experience	-7.094 (-2.888)*	-9.2E-02 (-2.804)*	-0.332 (-2.266)*	-4.3E-03 (-2.185)*
Area of specialization	5.186 (2.442)*	7.322E-02 (2.572)*	3.477 (2.316)*	4.916E-02 (2.445)*
R ²	0.316	0.308	0.290	0.283
Multiple R	0.562	0.555	0.538	0.532
F-ratio	6.151**	5.944**	5.444**	5.268
N	87	87	87	87

Figures in the first rows are regression coefficient

t-ratios are in parentheses; *t-ratios significant at 0.05; ** t-ratios significant at 0.01

Four (out of six) explanatory variables were found to contribute significantly to the predictor variables. They include adequate access, age, exposure and area of specialization. Adequate access to information Technologies correlated positively with attitude towards information Technologies (Its) and the relationship was significant at 0.01 level. The implication of this is that extension managers/supervision who had adequate access to Its were more likely to have favourable attitude towards Its and vice versa. This confirms the findings of Meera, Thamtani and Rao (2004) which reported that orientation towards information correlated, significantly with personal effectiveness.

Age of respondents positively correlated with attitude towards Its and the relationship was significant of 0.05 level. This implies that the older the respondents the more favourable their attitude towards IT. Gregg and Irani (2004) had reported significant difference between self – rated IT skills of Extension agents among older age groups.

Experience of respondents showed negative correlation with attitude towards information Technology, but the relationship was significant 0.05. The negative relationship implies that respondents with longer years of experience had less favourable attitude towards IT, while those with less years of experience had more favourable attitude towards it. This is not surprising especially so because information Technology is a recent development in Nigeria as the awareness of IT because serious only about five years ago. The respondents with less years of experience would likely appreciate the ideals of IT more than those with more years of experience because of the contemporary nature of IT and adaptability to their present situation, thereby creating a digital divide between those with more years of experience. Ernst (2003) stressed that personal attitudes influences business decisions related to the adoption of Information Technologies. Also observed that a digital divide exist between those who can effectively use new information/communication tools such as the internet, and those that cannot use it martin, Stewart, Daisy and Hillison (2001) found significant relationship between years of employment and computer Anxiety level in their study.

The relationship between area of specialization and attitude towards IT was positive and significant at 0.05 level. Areas of specialization where Its are used more regularly will likely have more favourable attitude towards IT from the findings of the study, respondents were mostly in Agricultural Extension, General Agriculture, crop science.

The overall analysis is that significant relationship existed between socio-demographic characteristic of extension Managers/Supervisors and their attitude towards information Technology. The F-ratio of 6.151 was significant at 0.50 and 0.01 level with a multiple R of 0.562 showing overall

moderate correlation between attitude of respondents towards IT and their socio- demographic characteristics.

Conclusion and Recommendations

Information Technologies are relevant to Extension Managers in the present era of global networking (Adesope, 2004). This study has found that Extension Managers have favourable attitude towards Information Technologies in the study area. This major variables that affected Extension Managers attitude include adequate access to IT, age of respondent, exposure to IT and area of specialization. Based on the findings of the study the following recommendations are made: Extension Managers should be given adequate exposure to Information Technology use through seminars and workshops. There should be provision of internet facilities in the Extension service to further enhance adequate access to IT.

References

- [1] Adesope O.M (2005) Professional competencies and skills needed in information and communication Technology among female extension agents and researchers in south Eastern Nigeria. Final report, World Summit on Information Society (WSIS), Gender Caucus, Ottawa, Canada.
- [2] Adesope, O.M., Matthews-Njoku, E.C. and Asiabaka, C.C. (2005) Awareness and utilization of Information Technology among Agricultural scientists in Nigeria. *The Information Technologist*, 2 (2), 1-8. www.ajol.info
- [3] Adesope, O.M. (2004) Information Technology needs of Extension managers and supervisors in the Niger Delta area of Nigeria. Unpublished PhD Thesis, Federal University of Technology, Owerri, Nigeria
- [4] Gregg, J.A. & Irani T.A. (2004) use of Information Technology by country Extension agents of the Florida cooperative Extension service. *Journal of Extension*, 42 (3), www.joe.org.
- [5] Kerrigan, K; Lindsey, G. and Novak, K. (1994) 'Computer networking in International Agricultural Research Experience of the CGNET. New Information technologies in Agriculture'. *Quarterly bulletin of the International Association of Agricultural Information Specialists*, XXXIX, (1&2), 182-193.
- [6] Meera, S. N., Jhamtani, A., and Rao, D. U. M. (2004) 'Information and communication technology in Agricultural development: a comparative analysis of three projects from India'. *Agricultural Research and Extension Network. Network Paper No. 135, 13pp*
- [7] Metcalfe, J. and Gilmore, J. (1990) 'Information Technology in Agricultural development'. In: Speedy, A (ed) *Development World Agriculture*. London: Grosvenor press international.
- [8] Niger Delta Environmental Survey (1996) *Terms of reference*. Lagos: NAL Towers
- [9] Waldron, M. W., Vsanthakumar, J. and Arulraj, S. (1997) 'Improving the organization and management of Extension'. In: Swanson, B. E. et al (eds) *Improving Agricultural Extension. A reference manual*. Rome: FAO

Case Report

‘ACUPHAGIA’- An Adult Nigerian Who Ingested 497 Sharp Metallic Objects

Augustus Mbanaso FRCS, FWACS

*Department of Surgery, Abia State University Teaching Hospital
Aba, Abia State, Nigeria*

Charles Adeyinka Adisa FWACS, FICS

*Department of Surgery, Abia State University Teaching Hospital
Aba, Abia State, Nigeria*

Denis Halliday

F. Iroegbu

Abstract

‘Acuphagia’, the compulsive ingestion of sharp objects is a rare form of Pica. A case of ‘Acuphagia’ is reported in an adult male Nigerian and the possible reasons for this abnormal behaviour explored.

A 22 year old man presented with a six month history of persistent vomiting after meals, cough, weakness, inability to walk and swelling of the legs and face.

He was found to be pale, with generalized edema and malnourished. Plain abdominal X-ray showed radio-opaque shadows of metallic objects in the upper abdomen. He was transfused with blood and prepared for surgery.

At Laparotomy, 497 metallic objects were found in the stomach without any perforation.

He did well subsequently and was referred for psychiatric evaluation.

This was rather an enigmatic case to us as we could not identify any reason why this young adult swallowed such a large amount of metallic objects. The patient vehemently denied swallowing or ingesting these objects, and none of his relations or neighbors saw him ingest these objects at any time. In our part of the world where magical arts (juju) is widely practiced and believed, this was the explanation most of his relations adduced for this illness. However, we are of the opinion that a combination of factors like Poverty, Isolation, Neglect and loneliness may have triggered such a bizarre behaviour.

Introduction

In its *Diagnostic and Statistical Manual*, the American Psychiatric Association defines pica as persistent eating of non-nutritive substances that is inappropriate to developmental level, occurs outside culturally sanctioned practice and, if observed during the course of another mental disorder, is sufficiently severe to warrant independent attention and must have occurred for at least one month (American Psychiatric Press, 1994).

The term *pica* comes from the Latin word meaning magpie, a bird which shows an indiscriminate preference for foods and nonfoods.

It is a worldwide problem that has no barriers of age, race sex or geography. The history of Pica is as old as mankind. Hippocrates, (460-377BC) described Pica in a textbook he compiled. Below is an excerpt from the textbook on Pica.

‘If a pregnant woman feels the desire to eat earth or charcoal and then eats them, the child will show signs of these things(Hippocrates, 1839).

Another Roman textbook, *De Medicina*, compiled by Cornelius Celsus during the reign of Emperor Tiberius (14-37 AD) also made reference to Pica (Geophagia).

‘People whose color is bad when they are not jaundiced are either sufferer from pains in the head or earth eaters (Celsus, 1971).

It occurs in women, men, blacks, whites, children or the mentally retarded. In the Eastern part of Nigeria, Pica is practiced during pregnancy when women eat chalk (nzu) or they have an unusual appetite for all types of food.

The range of reported items of consumption include clay, dirt, sand, stones, pebbles, hair, feces, lead, laundry starch, vinyl gloves, plastics, pencil erasers, ice, fingernails, paper, point chips, coal, chalk, wood, plaster, light bulbs, needles, string and burnt matches (Twenefour, 2003)

Case Report

Mr. C. O., a 22 year old man, from Abia State, Eastern Nigeria. He is a farmer, who voluntarily offered his services to other bigger farmers in his village, with a meager income. His education stopped at elementary school. He was the last in a family of four children; the other sibs being females. Both parents were dead.

He was well until six months before presentation to the Federal Medical Centre [Queen Elizabeth Hospital] Umuahia, Abia State.

The complaints were weakness, inability to walk, and swelling of the legs and generalized puffiness of the face and the body. He had cough and persistent vomiting after ingestion of any food material.

He was found grossly pale and ill looking, puffy all over the face, abdomen and legs, and was grossly malnourished. The physician who admitted him made a diagnosis of kwashiorkor (protein-calorie malnutrition), which was common during the civil war in Nigeria. Investigations were carried out, which included chest and abdominal radiographs. The hemoglobin was 5.5gram/dl. The abdominal X-ray revealed radio-opaque shadows of metallic objects at the left flank of the abdomen (Fig. 1 and 2).

Figure 1: Plain Abdominal X-ray showing several sharp objects

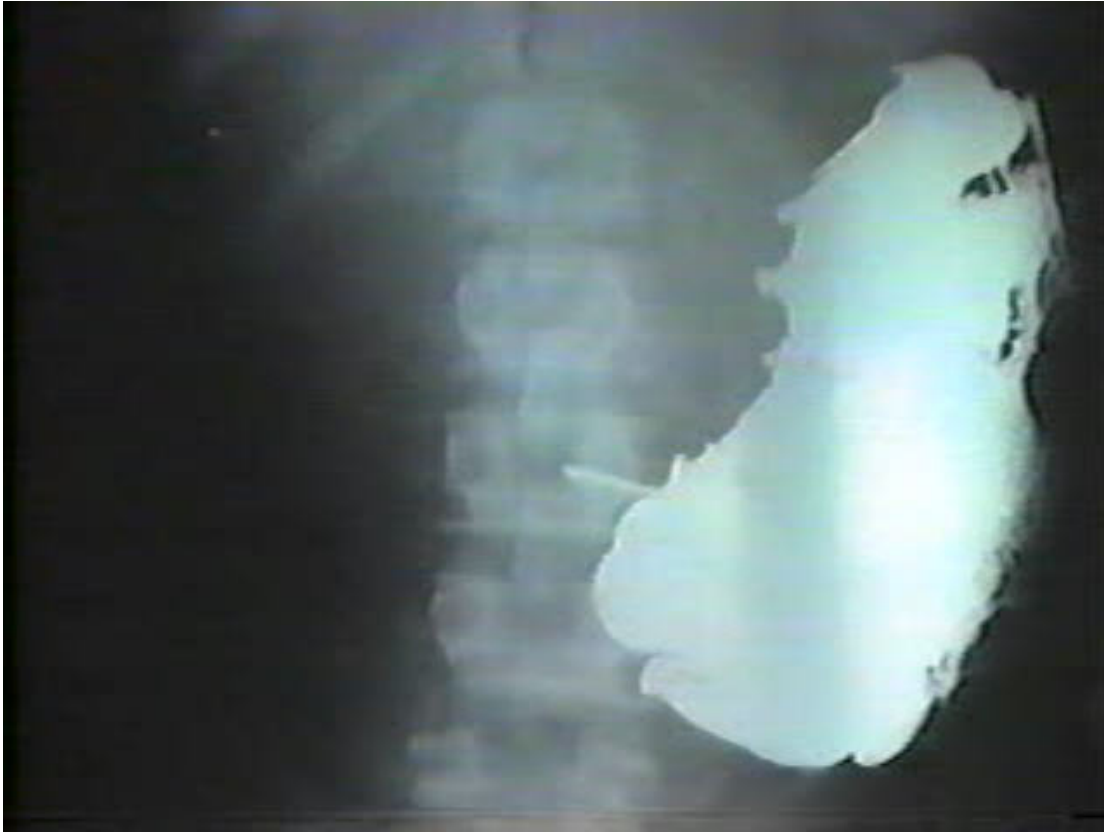
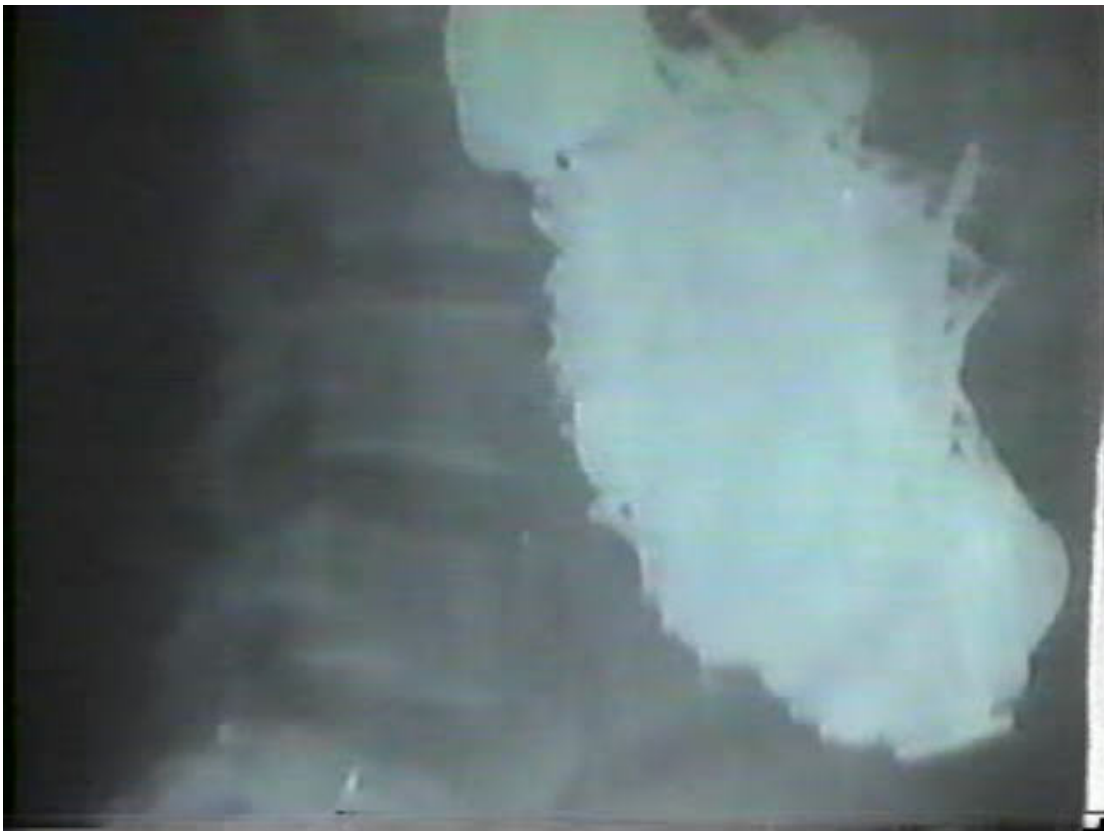


Figure 2: Plain abdominal radiograph showing several sharp objects



The patient was next transfused with several units of blood, and worked up for a possible laparotomy. This was possible after one month of care in the medical ward.

At laparotomy, the stomach was found to be full of metallic sharp objects. The stomach was thin walled like a cellophane plastic bag. A gastrostomy incision was made and the objects were carefully extracted, one after the other, taking care that the surgeon's hand was not perforated by the sharp objects. They were carefully preserved in a theatre tray for counting, identification and weighing (Fig. 3).

Figure 3: The retrieved metals in a tray



After the extraction, the rest of the gut was inspected to exclude any point of perforation. A naso-gastric tube was inserted into the stomach and the gastrostomy incision was closed in two layers. An X-ray of the abdomen was taken post operatively to be sure that there was no left over metallic objects.

The postoperative period was turbulent, but he eventually recovered very well.

A total of four hundred and ninety seven (497) metallic objects weighing 1.84 kilograms were found in the stomach. Below is a breakdown of the objects.

- Nails (2 inch type) ---three hundred and three pieces (303).
- Coins -----a total of one hundred and forty five (145).
- Office Pins -----twenty five (25)
- Razor Blades -----six pieces (6).
- Sewing needles -----eighteen (18)

Discussion

The cause of pica behavior has eluded researchers for centuries. Sayetta (Sayetta, 1986) describes several theoretical approaches that attempt to explain the etiology from nutritional, sensory, physiologic, neuropsychiatric, cultural, or psychosocial perspectives.

Pica is associated with pregnancy, poverty and childhood, iron deficiency anemia and zinc deficiency (Edwards, 1994).

The practice of Pica is widespread in Africa and is associated with medicinal treatment of spiritual and ceremonial behavior (Sule et al, 2001). Starvation and famine have also been associated with pica practice (Walker, 1997) in which case the substances function as a bulking agent to supplement insufficient food or a poor diet. Could this have been the reason in our patient? Crosby (Crosby, 1976) said that the practice of Geophagia is an obsessive – compulsive behavior, Could this have been the case in our patient? Although, both the patient and relations denied any psychiatric or psychological problem, we are of the opinion that this is a case of Acuphagia.

The complications of pica have been classified into five groups: (1) inherent toxicity, including direct toxic effects of substances such as lead or other heavy metals; (2) obstruction, due to Benzoars formation as may be seen in trichophagia (hair eating)); (3) excessive calorie intake, generally related to amylophagia (starch eating); (4) nutritional deprivation, such as eating clay instead of nutritive foods; and (5) other,

such as parasitic infections and dental injury(Perkins et al 1999). Others include gut perforation, ulceration and bleeding (Ilhan et al, 1999)

In our patient, we are not conclusive about why he ingested that magnitude of foreign metallic objects, weighing 1.84 kilograms. He remained alive, though malnourished, there was no gut perforation, and no person saw him picking up these objects to swallow. Further psychiatric evaluations are on going to determine the etiology of the illness.

References

- [1] Diagnostic and statistical manual of mental disorders (1994). DSM-IV. Washington, DC: American Psychiatric Press.
- [2] Hippocrates(1839). Oevres Complètes d'Hippocrate, Little E, transl. Paris: Baillière, 8:487.
- [3] Celsus. De Medicina. Spencer WG (1971). transl. Cambridge/Mass.: Harvard University Press.116 -17.
- [4] Twenefour D., koduah G. and Francis Tayie. History of Pica. [<http://www.public.iastate.edu/~ftayie/History of pica.htm>].
- [5] Sayetta RB. Pica(1986). An overview. Am Fam Physician . 33:181-5.
- [6] Edwards CH, Johnson AA, Knight EM, et al (1994). Pica in an urban environment. J Nutr 124: 954S-62S.
- [7] Sule S, Madugu HN(2001). Pica in pregnant women in Zaria, Nigeria. Niger J Med 10:25-7.
- [8] Walker A.R.P., Walker B.F., Sookaria F.I and Canaan R.J.(1997) Pica. J. Roy Health 117:280-284.
- [9] Crosby W.H(1976). When friends or patients ask about pica. JAMA. 235:2765.
- [10] Perkins M, Lovell J, Gruenewald S (1999). Life-threatening pica: liver abscess from perforating foreign body. Australas Radiol 43:349-52.
- [11] Ilhan Y, Cifter C, Dogru O, Akkus MA (1999). Sigmoid colon perforation due to geophagia. Acta Chir Belg 99:130-1.

A Linear Goal Programming Approach to Food Security Among Agropastoralists Households in Giwa Area of Kaduna State, Nigeria

A.B. Lawal

*Department of Agricultural Economics and Farm Management
University of Ilorin Nigeria*

H .Ibrahim

*Department of Agricultural Economics and Extension
Faculty of Agriculture Nasarawa State University
P.M.B.135 Lafia Nasarawa State,Nigeria*

Abstract

The study provides the information that a farm plan based on an efficient allocation of resources would ensure food security among Agropastoralists in Giwa area of Kaduna state. Goal programming model was used to analyze the data. The result shows that the optimal farm plan that ensures food security among Agropastoralists recommends that an average Agropastoralists household should devote 0.68 and 0.89 hectares of farm land to producing maize and maize/cowpea respectively.

Keywords: Agro pastoralist, Food security, Goal programming.

Introduction

A food secure country produces enough food and provides access to food for its population. Thus, the need for a study of household food security in Nigeria and among Agropastoralist in particular cannot be over emphasized. Food security exists when every person has physical and economic access at all times to a healthy and nutritious food in sufficient quantity to cover the needs of their daily ration and food preference in order to live a healthy and active life (Sengooba, 1992).

Prior to the 1970s, there was no clear food consumption problem in Nigeria. (Aromolaran and Aromolaran, 1999).The country's food problem became obvious when the contribution of Agriculture to the economy began to decline in the 1970s, coupled with the outbreak of civil war. The situation became worse with the advent of petroleum and by the outbreak of the 1972 – 73 Sahelian droughts. This resulted in the stagnation of agricultural production and increased dependents on import to meet basic food needs. The prevalence of food insecurity has been generally reported to be higher in the rural areas of Nigeria despite the fact that the bulk of agricultural activities take place in these areas (NPC,2001).The nutritional problems of the rural poor can be overcome by strengthening the household resource base or by enhancing their control and management of their resources.(Morris,2001).An effective management of the available resources will enable a rural farming household to get as much income as possible from its production and consequently improve its economic access to food required by its members(Muhammed-lawal and Omotesho,2001).

Livestock production in Nigeria is predominantly by the Agropastoralists. Agropastoralists are a group of people (Nomads) especially Fulani who are known for rearing animals and are now settled to cultivate land for subsistence(Lawal, 2005). This group of people practice mixed farming which is predominant in Northern Nigeria .However in terms of food consumption, Agropastoralist consumes only a little proportion of their livestock products. They rarely consume meat except during festive

periods. This practice obviously raises a lot of concern as to whether Agropastoralist are able to meet food nutritional needs from the consumption of crops and minimal consumption of livestock products. It is in light of this that this study was conducted to analyze the pattern of resource allocation for crop production among Agropastoralists with a view to suggesting an optimal farm plan for crop production that will ensure and improve food security among the Agro pastoralists in Giwa area of Kaduna state.

Methodology

The study was conducted in Giwa Local Government Area of Kaduna State. The LGA lies between latitude 11.2° to 11.5°N and longitude 7° to 7.5°E. It is located north west of Zaria between the northern guinea and the southern tip of the Sudan Savannah and about 640m above sea level. The annual rain fall is 1100mm and this spread from late April or early May to late October, while mean temperature is about 31°C. The major crops grown in the area include: Maize, cowpea, millet and sorghum. The major livestock species include cattle, sheep goat, and poultry.

Six research villages covered by National Animal Production Research Institute Shika, Zaria (NAPRI) were purposely selected for the study. The villages selected are Madara, Tsibiri, Biye, Gangara, Panhanya and Idasu. Eighty seven (87) Agropastoralist households were randomly selected for the study.

A Goal Programming Model was used to determine the optimum combination of household crop production activities that ensures food security among Agropastoralist households. The main aim of goal programming is to minimize the division between goal achievement and their aspiration level (Romero and Rehman, 1984).

The objective function is to minimize the negative deviations attached to the goals (household calorie and protein requirements). A weight of five was attached to each goal because both are equally important in meeting the minimum household food requirement that ensures food security. In addition, following Njiti and Sharpe (1994) and Adejobi (2004) the goal deviations as well as the costs of hired labour associated with each of the eight enterprises included in the goal programming model were also minimized.

The weighted goal programming model is specified as follows:

$$\text{Minimize } Z = \sum_{i=1}^j W_i^+ d_i^+ + W_i^- d_i^-$$

$$\text{Subject to: } \sum_{i=1}^j a_{ij} Q_j - d_i^+ + d_i^- = g_i$$

$$\sum_{i=1}^n a_{ij} \leq b_i$$

$$X, d^+, d^- \geq 0$$

Where,

Z=objective function which shows the cost of hired labour for production of each enterprise as well as the positive and negative deviation for the goals.

Q_j = crop production activity ranging from 1-8 as follows: maize, rice, soybean, millet, sorghum, maize/sorghum, sorghum/soybean, and maize/cowpea.

a_{ij} = amount of calorie/protein per hectares of J_{th} crop activity.

g_i = minimum level of calorie/protein requirement for the average Agropastoralist households.

a_{ij} = coefficient of the use of resources for the crop production.

d^+ = positive deviation from goals if over achieved.

- d^- = negative deviations from goals if under achieved.
 J = numbers of goals ranging from 1-2 as follows: calorie and protein.
 n = numbers of resource constraints 1-3 available
 b_i = level of land, labour and capital available.
 W_i = weight or relative importance attached to deviation d^+ and d^- .

Results and Discussions

Description of the farming system/cropping pattern

An average Agropastoralist household in the study area has an average of about 4.74 hectares of land. The most prevalent cropping patterns are cereal and legume base. The Agropastoralists are only involved in agricultural production. They are not engaged in any other type of economic activity. Both sole and mix cropping systems are practiced. The Agropastoralist household is composed of an average of seven persons and cultivates two or more crops as such the extent of crop diversification in the study area is high. A total of 14 cropping patterns were identified in the study area but only eight are widely practiced. Land in the study area is used for continuous cultivation, though, lands are large, and fragmentation of land holding is very pronounced. The major livestock species kept are cattle, sheep, goat and poultry. Family labour were used mainly for activities such as planting, fertilizer application, thinning, ploughing and rearing of animals, while hired labourers were used mostly for weeding, ploughing and harvesting.

Basic optimal farm plan from Goal programming result

The programme value of ₦12881.64 was obtained. This means that an average Agropastoralist household will incur a cost of ₦ 2881.64 in the production of the two crop enterprises that entered the optimum farm plan. Resources should only be allocated to the basic activities shown in Table 1 according to their hectare allocation. The result show that maize is the most important enterprise followed by maize/cowpea.

Table 1: Basic Cropping activity and their Hectarage Allocation

Basic activity	Hectarage(Ha)
Maize(Q_1)	0.68
Maize/cowpea(Q_8)	0.89

Source: Computer Print out of Goal Programming Model.

These non basic activities and their opportunity cost are presented in Table 2. The opportunity cost shows by how much the programme value will increase if a unit of the non basic activity which did not enter the programme were forced into the programme. That is the optimal cost of production will increase by the opportunity cost value of each excluded activity for each unit of the excluded activity forced in to the programme.

Table 2: Non Basic Activities and their Opportunity Cost

Excluded activities	Opportunity cost N
Rice sole	9488.72
Soybean	10118.29
Millet sole	2659.90
Sorghum sole	5089.14
Maize/sorghum	1658.49
Sorghum/soybean	323.03

Source: Computer print out of goal programming model

The non basic activities that did not enter the programme include rice, soybean, millet, sorghum, maize/sorghum and sorghum/soybean. The excluded activity with the highest and the least cost penalty are soybean and sorghum/soybean respectively.

Resource Allocation and Use Pattern

The resource used by the Agropastoralist households in its crop production activities includes land, labour and capital. The allocation and use pattern of these resources are presented in Table 3.

Table 3: Resource Allocation and use pattern

Resources	Use status	Slack\surplus	Shadow prices
Land	Not fully utilized	3.16 Ha	-
Labour	Not fully utilized	300man days	-
capital	Not fully utilized	₦ 247341.11	-

Source: computer print out of goal programming model

The study of the resources utilization pattern shows that all the resources were not fully utilized in arriving at the optimal solution. The none fully utilized resources include land (3.16ha), labour 300 (mandays) as well as capital (247341.11). This implies that the resources were in excess and above the needs of the Agropastoralist house holds in the study area. Hence the Agropastoralist should be advised to minimize the use of the aforementioned resources to avoid wastages.

Goal attainment by Agropastoralist Households.

Goal attainment shows the extent to which the basic consumption goals are satisfied given a definite structure and the amount of constraining resource available. The study revealed that (100%) of the goal components were achieved. This implies that following the recommended enterprises combination the Agropastoralist household in the study area would achieve their food security goal.

Table 4: Goal Attainment by Agropastoralists Households.

Goals	Target goal	Optimal plan value	Under achievement	Over achievement	Degree of attainment
Calorie	4949400kcal	4949400	0	0	Achieved
Protein	142350g	142350	0	0	Achieved

Source: Computer Printout of Goal Programming

Conclusion

It can be concluded from the study that an effective management of the available resources will enable an Agropastoralists household to meet its food security needs from only the consumption of the crops they produce. However, production incentives such as fertilizer, and improved seeds should be subsidized by the government and provided at the grass root level to the Agropastoralists to boost the production of the most important food security crops in the study area. Agropastoralists households should be further enlightened on the nutritional implication of various food items and encourage to consume meat and egg especially for growing children to increase protein intake in their diet.

References

- [1] Adejobi, A.O (2004). Rural Poverty, Food Production and Demand in Kebbi State Nigerian Unpublished Ph.D.Thesis, Department of Agricultural Economics, University of Ibadan, Nigeria.
- [2] Aromolaran S.A and A.B. Aromolaran (1999) “Poverty Reduction in Nigeria through sustainable food policies” *Poverty alleviation and food security in Nigeria* Fabiyi Y.L. and E.O. Idowo (eds.) NAAE pp 220-224.
- [3] Morris, S.S. (2001)”Measuring Nutritional Dimension of Household Food Security” *Food Security in Practice, Methods for Rural Development Projects*, International Food Policy Research Institute-IFPRI, Washington D.C.pp 11-29
- [4] Muhammad-Lawal, A. and Omotesho, O.A. (2004) “Resource allocation in food crop Production and Farming Household Food Security in Kwara Nigeria”*Agrosearch* 6(1):15-21
- [5] National Planning Commission (2001). *National policy on food and nutrition in Nigeria Abuja*: NPC.
- [6] Njiti, CF, and Sharpe, D.M (1994).A Goal Programming Approach to The Management of Competition and Conflict among Land Uses in the Tropic: The Cameroon Example. *Ambio*.23 (2): 112-119.
- [7] Romero C. and Rehman T. (1984) Goal Programming and Multiple Criteria Decision Making in Farm Planning: An Expository Analysis. *Journal of Agricultural Economics*.35(2):177-190
- [8] Sengooba, T. (1992): *Root Crops for Food Security in Africa*. M.O Akorode (ed.) Proceeding of The 5th Triennial Symposium of International Society For Tropical Root Crop Held in Kampala, Uganda pp 23-24.

Analysis of the Impact of Globalization on Nigerian Agricultural Output

Adewumi, M.O

*Department of Agricultural Economics and Farm Management
University of Ilorin, Ilorin, Nigeria
matolade@yahoo.co.uk*

Salau, S.A

*Department of Agricultural Economics and Farm Management
University of Ilorin, Ilorin, Nigeria*

Ayinde O.E

*Department of Agricultural Economics and Farm Management
University of Ilorin, Ilorin, Nigeria*

Ayodele Jimoh

Department of Economics, University of Ilorin, Ilorin, Nigeria

Abstract

This study provides an empirical evidence on the impact of globalization on Nigeria's Agricultural output and also highlights the implications for rural development. The data used covered 1981 – 2000 and were obtained from secondary sources. The descriptive and multiple regression analyses were used to ascertain the extent and direction of relationship between Agricultural production in Nigeria and openness, GDP growth rate, inflation rate and population growth rate. The study revealed that agricultural share of the GDP was highest (41.00 percent) in the first quarter of liberalization. The crop sub sector remained the dominant contributor to agriculture's share of GDP, followed by livestock, fishery and forestry in that order. The study revealed that the economy is still mono-dominated by the oil sector. The study revealed that about 60 percent of the variation in the ratio of agriculture to GDP was explained by degree of openness or globalization, exchange rate and inflation. These three explanatory variables are negatively related to the ratio of agriculture to GDP. The study revealed that it is unlikely for Nigeria to be fully integrated into the global economy given its peculiar features and state of the economy. Nigeria cannot afford to fully liberalize trade in the face of poor export performance. Nigeria has to restructure her economy, liberalize, deregulate and democratize her institutions. This calls for a redefinition of the government roles, and liberalization of the private sector which is at the center of globalization. The government are to provide the basic infrastructure especially in the rural areas, efficient and transparent administration, good governance friendly investment environment, macro-economic and political stability and level playing ground for economic activities in order to realize the positive impact of globalisation on Nigerian agricultural output and the diversification drive of the economy.

Key words: National Security, Stability, Openness, Economic Development.

Introduction

Nigerian agricultural sector and the rural economic scene had always exhibited an atmosphere of depression and the situation remained the same if not even worse, during the oil boom era of the 70s (Akinyosoye, 2000). The traditional sources of food were not forthcoming and economic activities in the rural communities were at their lowest level. The social ills associated with high population growth rate, rising urban population due to large rural emigration, coupled with a disproportionately large rural population plagued the nation. Agricultural activities in the 70s were contributing only 25 per cent to the national income but remained employer of labour engaging 60 per cent of the labour force. Nigeria's agriculture remained as archaic in the 70s as it was in the previous decade. Nigeria became a net food importer since the seventies, and this has been a matter of great concern to all her governments. This has necessitated numerous policy measures to reverse the trend and make agriculture remain the mainstay of the economy. There was the National Accelerated Food Production Programme (NAFPP, 1973). Operation Feed the Nation (OFN, 1976), Green Revolution (GR, 1979), Operation Grow More Food (OGMF, 1979), and the Land Use Decree (1978). Other programmes included National Rice Production (NRP, 1980), the River Basin and Rural Development Authorities (RBDA, 1973) the Agricultural Development Project (ADPs 1980), the Cattle Breeding Programme (CBP, 1980) and the Directorate of Food, Road and Rural Infrastructures (DFRRI, 1985), which aim at integrated rural development.

According to Ukpong (1993), the success of all the various agricultural programmes have been minimal, hence the country has not been able to achieve a sustained rate of growth in the agricultural sector. The world oil glut of the 1980s affected the country's revenue base adversely. The foreign exchange base was punctured, hence the country's inability to honour its foreign financial obligations on schedule. In 1986, Nigeria's domestic as well as international credit worthiness became questionable. The economy needed a major surgical operation and the Structural Adjustment programme (SAP) was introduced in July, 1986.

The introduction of SAP has been described as the boldest step ever adopted by government to revamp the Nigeria economy. SAP also represents the concrete policy enacted by the government aimed at thoroughly moving the nation towards a liberalized economy (Ahmed, 1987).

This study attempts the assessment of the impact of globalization on Nigerian agricultural output. This main objective is accomplished through the following specific objectives:- exploring the degree of openness of the Nigerian economy over the last two decades; examining whether or not Nigeria can be fully integrated into the global economy; analysing the impact of globalization on the Nigerian agricultural output; and making recommendations based on the findings of the study.

Methodology

Data used for this study were mainly of the secondary form. The data were obtained from government publications such as the Central Bank of Nigeria (CBN) Annual Reports and Statement of Account, CBN Economic and Financial Review and CBN Statistical Bulletin. Other sources included Federal Office of Statistics (FOS) Annual Publications, as well as journals. Data were collected on Nigerian Agricultural Output, Export earnings, values of imports among others.

The data for the whole period were analysed on quarterly basis. In this instance, 1981 to 2000 was divided into four sub-periods: 1981-1985, 1986-1990, 1991-1995, and 1996-2000. While the first quarter represent pre-liberalization years, the last three sub-quarters represent the period of economic liberalization which were also the different phases in the implementation of Structural Adjustment Programme in Nigeria.

The model specified would permit us to ascertain the extent and direction of the relationship between the percentage contribution of agriculture to GDP and the following independent variables:- Total Trade- GDP ratio (a proxy for openness and globalization) (Obaseki, 2000), rate of inflation and

exchange rate. The model included a random error term to accommodate all other factors. The model in its implicit form is,

$$Y = F(X_1, X_2, X_3, U) \quad (1)$$

Where

Y = percentage contribution of agriculture to GDP

X₁ = degree of openness (%)

X₂ = rate of inflation (%)

X₃ = nominal effective naira exchange rate

U = statistical error term

Three functions were fitted, these are linear, semi-log and double-log. The magnitude of the co-efficient of multiple determination (R²), the significance of the individual explanatory variables as expressed by the t-values, the significance of the overall production function as judged by F-value as well as the appropriateness of the signs of the regression co-efficient were some of the criteria used in choosing the best fitting equation

Results and Discussion

The tempo of Nigeria's integration with the global economic system intensified with the policy shift from trade and exchange controls to economic liberalization from 1986. Nigeria is highly dependent on external trade, while rapid inflow of capital has been hindered largely as a result of the relatively underdeveloped state of the financial markets.

To determine the extent of openness of the Nigerian economy, therefore, trade flows involving the country and the rest of the world were analyzed. Following Obaseki (2000), the ratio of total trade to total Gross Domestic Product was used to measure the openness of the Nigerian economy.

Table 1: External Trade, Growth and Openness (1981-2000)

Periods	Import N Million	Export N Million	Total Trade	Gdp N Million	TT/GDP
1981-1985	772.45	1627.88	2400.3	5271.6	0.46
1986-1990	2053.87	6356.24	8410.1	13649.0	0.64
1991-1995	5221.04	12121.99	17343.0	18536.9	0.94
1996-2000	50214.48	123454.31	173668.8.8	349265.0	0.50

Source: Computed from CBN Statistical Bulletin 2001.

GDP values were at current market prices

Table 1 shows that Nigeria's economy recorded increase openness in the 1981-1985 and 1986-1990, sub-periods, reflecting a movement from 46 percent to 64 percent during the period. The higher the openness index, the more the economy is open to outside world. The implication of this for Nigeria's development aspiration is that, the private sector has to shoulder the responsibility of making efforts to actively participate in the global markets by producing commodities that are competitive and by their ability to manage both domestic and foreign investments. In the same vein, the public sector also has some roles to play in terms of providing the framework for innovations, as well as the necessary infrastructures and healthy environment for development. The trend mirrored adequately the performance of Structural Adjustment Programme introduced in 1986. A further improvement was recorded in the 1991-1995 sub-period where 94 percent was recorded. This reduced sharply to 50 percent in the 1996-2000 sub-periods.

The extent of openness required for the purpose of attaining full integration into the global economy, for whatever reasons, is one issue while the extent of liberalization of the trade regime that may be feasible, given the economy's basic features is another (Oyejide 2001). Thus, there is an emerging issue of whether Nigeria can afford to meet globalization requirement, especially in terms of greater economic integration with the global economy, given the state of the economy and its peculiar characteristics.

Some factors which could limit the extent of trade liberalization, which is a major vehicle for globalization are therefore highlighted in this section.

To put Nigeria's trade performance in proper perspective, especially as regards its ability to push up growth rates, one needs to consider the structure of output. It is important to note that not all products have the same trade induced growth potential. The structure of world merchandise trade has changed substantially during the twentieth century with a huge decline in the importance of primary products and a rise of manufactured goods (Crafts, 2000). Amidst the changing pattern of world trade, countries that have been able to benefit the most from globalization are those that were able to break into the world market for manufactured goods. While the prices of manufactured goods have generally been on the increase, there have been substantial declines in the prices of most primary commodities over the last couple of decades. In addition, substantial barrier remain to trade in primary products, particularly in the agricultural sector.

Table 2: Comparative Analysis of the Structure of Real Output in 2000 (%)

Regions	Countries	Agriculture	Manufacturing	Other activities
Africa	Nigeria	41.0	6.0	54.0
	Cote d'Ivoire	29.0	19.0	52.0
	Kenya	20.0	13.0	76.0
	South Africa	3.0	19.0	78.0
Asia	Indonesia	17.0	26.0	57.0
	Malaysia	11.0	23.0	56.0
Latin America	Mexico	4.0	21.0	75.0
	Venezuela	5.0	14.0	81.0
Developed countries	Germany	1.0	23.0	76.0
	Japan	1.0	22.0	77.0

Sources: Federal Office of Statistical (FOS), National Account of Nigeria, 2000, World Bank, World Development Indicator, 2002.

The structure of output presented in Table 2 makes it unlikely for Nigeria to take advantage of greater liberalization and openness to achieve trade-induced growth. Nigeria presents a special case where the contribution of the manufacturing sector to GDP is the lowest (6.0 percent) compared with Kenya (13 percent), South Africa (19 percent) and Coted' Ivorie (9 percent). The table also reveals that among the oil producing countries (Indonesia, Mexico, Venezuela and Nigeria) it is only Nigeria which has a different structure of output dominated by agriculture and other primary activities. Thus, the structure of production in Nigeria suggests that the private sector (industrial sector) is weak especially when we look at the level of manufacturing activities.

The survival of trade liberalization programme seems to be related to a favourable export performance while the collapse of the programme is strongly connected with poor export performance (Oyejide, 2001). This implies that revenue that is lost in the event of import liberalization should be regained through increased revenue from exports. In other words, revenue obtained from export promotion or orientation should be more than offset the revenue lost through import liberalization.

Table 3: Nigeria Degree of Export Orientation and Structure

Export components	1981-1985	1986-1990	1991-1995	1996-2000
(A) Export-GDP Ratio (%)	16.0	29.3	38.1	26.9
(B) Share of oil total exports (%)	96.7	95.1	97.5	97.6
© Share of non-oil in total exports (%)	3.3	4.9	2.5	2.4
(D) Share of Agric. In total non-oil exports (%)	66.7	75.1	73.2	70.6

Source: Computed from CBN Statistical Bulletin, 2001.
GDP values were at current market prices.

Table 3 reveals that the contribution of the non-oil exports to total exports has been declining from 3.3 percent in the 1981-85 sub-period to 2.4 percent in 1996-2000 sub-periods; consequently, the share of oil in total export has been growing from 96.7 percent to 97.6 percent in 1981-85 and 1996-2000 sub-periods respectively. This implies that the economy is still highly mono-dominated in the export scene by the oil sector. The share of agriculture in total non-oil exports rose from 66.7 percent in the 1981-85 sub-period, to 75.1 percent and fell to 73.20 and 70.6 per cent in the 1986-1990 and 1996-2000 sub-periods respectively.

The major reason adduced for the poor performance of non-oil exports has been its non-competitiveness in the international markets. This implies that more efforts and time are needed to achieve competitiveness of non-oil export in Nigeria. Therefore, this suggests that Nigeria cannot afford to fully liberalize trade in the face of poor export performance.

Another major issue is the attractiveness, credibility or otherwise of macro-economic policies to investment. This is because of the linkage between trade and investment as well as growth. In order to expand the level of export, there is need to attract both the domestic and foreign investment into the export sector, and the economy as a whole.

Table 4: Profiles of National Savings and Investment Rates 1981-2000

	1981-1985	1986-1990	1991-1995	1996-2000
A. Saving GDP ratio	15.9	13.5	8.8	7.7
B. Investment GDP ratio	9.5	6.4	6.5	4.5
C. Investment gap GDP ratio (%)	6.4	7.1	2.3	3.2

Sources: computed from CBN Statistical Bulletin 2001
GDP values were at current market prices.

Table 4 shows that national savings rate (savings GDP ratio) was 15.9, 13.5 and 7.7 percent in 1981-1985, 1986-1990, and 1996-2000 sub-periods respectively. These savings ratios are considered too low for any productive activities, while the domestic investment rate (investment GDP) ratio reduced from 9.5 percent in the 1981-1985, sub-period to 4.5 percent in the 1996-2000 sub-period. Also, the investment gap GDP ratio was highest (7.1%) in the 1986-1990 sub-period. The implication is that low savings here could not be completely transformed into investment. The major cause of this problem is the trends of macro-economic fundamentals that discourage investment and savings in Nigeria.

Regression Results

In order to ascertain the extent and direction effect of openness, inflation and exchange rates on percentage contribution of Agriculture to GDP , the semi-log production function was selected.

Table 5: Regression Results

Funct. Form.	Const.	Variables			R ²	F-Value	DW
		Openness (X ₁)	Inflation (X ₂)	Exch rate (X ₃)			
Linear	41.248	-0.035 (-0.608)	-0.038 (-2.164)*	-0.022 (-2.330)*	35.6	2.948	0.950
Semi-log	1.680	0.067 (-03.810)*	-0.014 (-1.817)	-0.059 (-4.162)*	60.1	8.032	1.104
Double-log	0.198	-0.0062 (-2.168)	-0.0005 (-0.060)	0.0013 (0.108)	96.8	20.426	3.094

Source: computer printout data. Figure in parenthesis are t-values

*Significance at 5 percent level.

The function revealed that about 60.1 percent of the total variation in percentage of Agriculture to GDP was explained by degree of openness (X₁), inflation rate (x₂) and exchange rate (X₃). The remaining 39.9 percent not explained is attributed to the variables not included in the model.

This result shows that total trade to GDP ratio used as proxy for openness and globalization (X₁) and exchange rate (X₃) are not only negatively related to the percentage contribution of agriculture to GDP but are also statistically significant at 5% level. Furthermore, the results indicate that a 10% rise in the total trade to GDP ratio reduce the percentage contribution of agriculture to GDP by 0.014%. It is equally seen that inflation rate (X₂) has no significant influence on the contribution of agriculture to GDP.

By observation, the Durbin-Waston figure of 1.104 is low and because it falls between the lower and upper critical values of dl = 0.10 and du = 1.68, for three independent variables and sample size of twenty, a conclusive test for serial correlation cannot be affirmed.

Conclusion

The world has become a global village that is driven by strong forces of change principally from technology, economic liberalization and democracy. Globalization offers Nigeria the chance to improve its economic performance and raise the living standard of its populace. The present structure of the Nigeria economy may however preclude its being able to derive growth benefits from increased integration in to the global economy if appropriate economic reforms are not undertaken. This is because of Nigeria over dependence on the oil sector to the detriment of other sectors of the economy especially agriculture. In addition, the country lacks the requisite infrastructure, institutions and technical capabilities that are required to promote growth through integration into the global economy.

Nigeria has to restructure her economy, liberalize, deregulate and democratize her institutions. This does not call for abdication of roles by Nigerian government, it call for a redefinition of the roles and liberalization of the private sector, which is at the center of globalization. It calls for government to provide the basic infrastructure especially in the rural areas, efficient and transparent administration, good governance, friendly investment environment, macro-economic and political stability, and level playing field for economic activities in order to realize any positive impact of globalization on Nigerian agricultural output and the diversification drive of the economy.

References

- [1] Adeolu. O.A (2003) “Can Nigeria benefit from Globalization: constraints, opportunities and challenges.” *A paper presented at the 44th annual conference of NES, on Globalization and Africa’s Economic Development held at Premier Hotel between 27-29th August, 2003.*
- [2] Ahmed, A. (1987): “The Structural Adjustment Programme: The Journey so far.” *An address presented at the 10th*
- [3] Akinyosoye V.O. (2000) “Agricultural Development \projects(ADPs) and Food Crops Preoduction in Nigeria Since the 70s” *Nigerian Agricultural Development Studies* 1 (1): 100 - 117. *Anniversary Dinner of the Nigerian Institute of Bankers, Lagos.*
- [4] Obadan, M.I. (2003): “ Globalization and Economic Management in Africa”. *A paper presented at the 44th Annual conference of the Nigeria Economic Society, Ibadan. 27th –29th August.*
- [5] Obaseki, J.P. (2000): “ Globalization and the Nigeria Economy”. *CBN Economic and Financial Review.* 38(2): 23-30 Obaseki, J.P. (1999): “ Policies and Strategies for Dealing with problems of Globalization”. *A paper presented at the one-day seminar of Nigeria Economic Society of the N11A, Lagos.*
- [6] Ojo, M.O. (1994): “Agricultural performance and policy under the Structural Adjustment Programme in Nigeria”. *Journal of Economic & Social Studies.* 36 (1,2,3): 335-339.
- [7] Ojo, M.O.E.D Balogun & G.O. Evbonwan (1993): “ Sustaining Agricultural Production in a Deregulated Economy”. *CBN Economic and Financial Review.* 31(2): 71-75.
- [8] Ojo, M.O. and P.J Obaseki (1998): “ Challenges of Globalization for Macro Economic policy and Management in Nigeria”. *CBN Economic and Financial Review.* 36(4): 7-10
- [9] Oyejide, T.A (2001): “Nigerian Trade Policy in the context of Regional and multi-lateral Trade Agreements”. *Research Report, No.27, Development policy center (DPC) Ibadan, Nigeria.*
- [10] Ukpogon and Peter, U.I (1994): “The impact of Structural Adjustment Programme on Nigerian Agriculture”. *Journal of Economic and Social Studies.* 36 (1,2,3): 353-359.
- [11] Ukpogon, G.E (1993): “ Some Strategies for the Development of Nigeria’s Agricultural sector in the 1990’s”. *CBN Economic and Financial Review.* 31(2): 86-90
- [12] Yusuf, S,A and Falusi, A.O (2000): Trend Analysis of the performance of Agriculture in Nigeria (1970-1998). *Nigerian Journal of Agricultural Development Studies.* 1(2): 1-15.
- [13] Yusuf, S.A (2000): “ An Analysis of the Effects of Liberalization Trade and Exchange Rate Policy on Agriculture in Nigeria”. Unpublished PhD Thesis, Department of Agricultural Economics, University of Ibadan, Ibadan.

Revenue Allocation in the Nigerian Federation: An Examination

Akpomuvire Mukoro
*Department of local government
Studies, obafemi awolowo
University ile-ife
cmmukoro@yahoo.com
Tel: 036-230086; 08034027624*

Introduction

In political/economic considerations, the management of responsibilities without authority and capacity is an invitation for failure. Matured democratic societies practicing federalism according to Ola Vincent (2002:32) “have somehow managed to evolve a satisfactory balance among the federal, state and local tiers of government and the sharing of the available resources among them to fulfill the respective functions prescribed for each tier in their countries constitution”. This exercise operates in the spirit of equity, justice and fairness in a polity that aspires for progress, stability, peace and egalitarianism within its human community.

In political/economic considerations, the management of responsibilities without authority and capacity is an invitation for failure. Matured democratic societies practicing federalism according to Ola Vincent (2002:32) “have somehow managed to evolve a satisfactory balance among the federal, state and local tiers of government and the sharing of the available resources among them to fulfill the respective functions prescribed for each tier in their countries constitution”. This exercise operates in the spirit of equity, justice and fairness in a polity that aspires for progress, stability, peace and egalitarianism within its human community.

A general problem amongst federating units in a nation in the view of Eme Awa (1976:62) is that of “how to allocate revenue between the levels of government and among the units so that each government may have the financial capacity to perform the functions assigned to it”. Fiscal policy is used to achieve the desired objectives of allocation, redistribution, stabilization and economic growth. It is a useful tool employed in the pursuit of social and political objectives, especially those which aim to reduce inequalities of wealth and opportunity (komolafe 1999:1).

The inchoate state of democratic governance in Nigeria, makes the operation of fiscal federalism to be fraught with a lot of problems. It is the position of this paper that fiscal policies in Nigeria have been used indiscriminately to alter the allocation of resources which has resulted into the promotion of inequality of wealth, opportunities, injustice and lack of fairness amongst the federating units. The government can therefore use its instrument of fiscal policy to alter the shape of Revenue Allocation to promote growth, equity in the redistribution of resources and stabilization within the polity.

Fiscal Federalism and Revenue Allocation

Extemporically, Nigeria operates a federal system of government with inter-relationships at the federal, state and local levels. Each of these units of government have their statutorily assigned sphere of responsibilities and influence. These levels of government therefore require a stable and dependable sources of revenue with which they can prosecute their responsibilities to the citizens and participate in the act of governance.

The underlying demand of federal system of government ensures that each political subunit of a sovereign state should possess the constitutional guarantee to operate independently within the state.

But as a member of a National body, each unit or level of government (infra-sovereign units) should remain co-ordinate and interdependent with one another within the national scheme of things or nation (wheare 1963:183). Relatedly, Bello Imam (1992:250) posited that

the federal government has exclusive constitutional responsibility for some functional subjects under the exclusive legislative list, while the state government have control over the concurrent legislative list of functional subjects...the fourth schedule of the 1979, 1989 and 1995 (draft) constitutions outlined the functions that should be performed by the local government.

In a federal system of government, there are usually different levels of government that are assigned different constitutional responsibilities. These responsibilities create different expenditure obligations on each of these units of administration which leads to the allocation of tax powers. However, there is always a mismatch between the expenditure obligations and the revenue sources of these levels of government. This is the reason why revenue allocation has been evolved as a mechanism for redressing this imbalance or mismatch between expenditure obligations and revenue sources. In this light, we can refer to the allocation of the country's financial resources among the different tiers of government in the Federation as Revenue Allocation. This is with the overall objective of enhancing economic growth and development, minimising inter-governmental tension and promoting national unity. On his own part, Komolafe avered that fiscal policy is used to achieve the desired objectives of allocation, redistribution, stabilization and economic growth. It is a useful tool employed in the pursuit of social and political objectives especially those which aim to reduce inequalities of wealth and opportunity (Komolafe 1999:1)

Having expressed these opinions, what must not cease to agitate the minds of concerned federalists is the question of the impact of a given revenue allocation structure on the nature of Nigerian federalism. Since it is federalism that creates the need for revenue allocation, it is appropriate to worry about what a revenue allocation system does to the federation. A particular revenue sharing formulae adopted at any one particular point in time may appear antithetic to the desires of a particular group of people. Note for example, the recent clamour, court cases and political tension over resource control mounted by the Southern Governors of Nigeria. Those in the oil producing States are laying claim to natural resources located offshore which the sharing formulae allocates to the Central Government and as enshrined in the 1999 constitution Section 162, sub-section 2 (Constitution, 1999). From the position of the presidency to abandon the ruling of the supreme court and seek a political solution means that the laws of the land need to be reviewed.

In a Federal System of Government, three reasons are usually given for allocating revenue from the Federal to the other units of government at the State and local levels. The first reason according to Olaloku (1979:109-110) is balancing. That is transfer that is necessitated by an imbalance between revenues and responsibilities. It then becomes the duty of the higher level of government to make good such an imbalance by making transfers of financial resources which are referred to as deficiency transfer or balancing. The second reason according to the same scholar is equalisation transfer necessitated by variations in the revenue-raising capacities of the lower levels of government, such that heavier tax burden in the lower levels of government is eliminated. The third reason adduced by Olaloku but similar to the opinion expressed by Maxwell (1969: 67) is that of stimulation, incentive or promotional transfers made with specific directions as to their disbursement. They are, therefore, of necessity conditional upon their being spent for the purpose for which they are meant. In the subsequent part of this paper, we shall adopt a framework of analysis and see how fiscal federalism has and should fare in Nigeria.

Framework of Analysis

Nigerian federalism behoves that decentralisation must become an inevitable ingredient of governance. This is so as to ascertain the extent to which power sharing amongst the three levels of government determines the adequacy (public good) or otherwise (public bad) of the funds allocated, and its relationship to whether such funds are judiciously allocated or whether they match sub-regional or local government responsiveness to participation in the process of governance. That is whether local governments or the States or the communities for that matter are getting enough funds from the system based on their overall contribution to it.

The main idea of public good or public bad means that things which are good for some persons may simultaneously be bad for others. This elementary fact of life provide the starting point for any meaningful discussion of collective or group action, including that of individuals who organise themselves into political units. According to a commentator, Adam Smith's legitimate claim to being the founder of scientific economic theory and as expounded in his *Wealth of Nations*, Smith's thought lied precisely in his convincing demonstration that the self interested, independent behaviour of individuals in a competitive market process produces socially desired results. 'Socially desired' in this sense is defined strictly in terms of the mutually attainable benefits for all members of the community (Buchanan, 1970: 51).

Put more simply, the theory of public good in politico-economic consideration, provides that a fiscal system will be said to be relatively decentralised if lower tiers of government exercise a relatively high degree of freedom in raising taxes or revenue required to carry out their expenditure responsibilities, since such responsibilities expand over time (Orubu, 1999: 45). A decentralised system of Revenue Sharing in the views of Anyanwu (1997:81), means that the other tiers of government becomes empowered and responsible for the management of huge financial resources that would have gone to the centre under a regime of faulted fiscal practices as it obtains in Nigeria.

In a federal structure, the powers to perform certain functions should be regarded as assigned agency functions. The revenues or resources concerned belong to the community and the taxing cum collecting agency is acting on behalf of the community. Therefore the National Assembly should seriously consider the allocation of revenue to be collected by the federal and other tiers of government on behalf of the communities. The states and local governments should not be made to go cap-in-hand to collect donations from the Federal Government.

The Federal Government does not own the revenues. It belongs to the Nigerian federation and all the tiers of government have a stake in it. The assignment of the responsibility to collect revenue should not be taken as making the collecting agent the exclusive owner of such resources. According to Ola Vincent (2002:31) "It is all a matter of administrative convenience".

History of Revenue Allocation in Nigeria

The effective period from where we can refer to as the starting block for revenue sharing in the Nigerian federation began with the Richard's Constitution of 1945. Governor Richard declared certain revenues as regional and instituted an ad-hoc expert Commission to draw up a workable method of fiscal administration (Adebayo, 1987: 2). According to Olaloku in Akinyemi et. al. (1979:115), the development of federal finance in Nigeria is nothing but the history of the various attempts made to contain the financial consequences that accompanied all the constitutional changes, which took place in the country since World War II. A graphical representation of these fiscal reviews are presented in table 1 below.

Table 1: Revenue Allocations in Nigeria and their Principles

<i>S/N</i>	<i>Statute</i>	<i>Year</i>	<i>Principles & Bases</i>
1.	Sir Sydney Phillipson Commission	1946-50	Derivation
2.	Professor J.K. Hicks and Sir Sydney Phillipson Commission	1950-53	(a) Derivation (b) Needs (c) National Interest
3.	Sir Louis Chicks Commission	1953-58	Derivation
4.	Sir Jeremy Raisman - Tress	1959-65	(a) Derivation (b) Distributable Pool Account (D.P.A.) Based: (1) Continuity (2) Minimum responsibility (3) Population (4) Balanced development
5.	K.J. Binns Commission	1965-68	Adopted the Raisman-Trees Report but had to enlarge funds to the Distributable Pool Account.
6.	Dina Interim Report	1968-69	(a) States Derivation Account. (b) States Joint Account. (c) Special Grant Account (S.P.A.)
7.	Federal Military Government Decrees due to Military Intervention	1970-78	(a) Equality of States (b) Population
8.	Aboyade Commission Report. Not accepted and was therefore modified by the Constituent Assembly.	1978	(a) Equality of States (b) National Minimum Standard for Development. (c) Absorptive Capacity. (d) Independent Revenue (e) Fiscal Efficiency.
9.	Okigbo Pius N. Commission	1982-1986	(a) Equality of States (b) Population (c) Social Development Factor (d) Internal Revenue Effort.
10.	National Revenue Mobilisation, Allocation and Fiscal Commission for reviewing revenue allocation formulae and principles from time to time. A fall out from the Okigbo Report.	1986 to date	The principles have been changing and responding to the desires of the government in power.
11.	Constitutional Review of sharing formulae by the National Assembly. Bill sent by presidency	2001 & 2002	Comprehensive report and white paper not yet out.

Source: Review of all Revenue Sharing Formula's in Nigeria compiled by A. Mukoro.

The Phillipson Commission report divided regional revenues into the declared and non-declared revenues. Declared revenues being those locally collected by regional authorities. These included Direct Taxes, Licences, Fees, Income from property, mining rents etc. Non-declared revenues were those collected by the Central Government. The Phillipson Commission applied the principle of derivation as the bases of revenue for the simple argument that in using it, financial responsibility will be inculcated in the regions (Review of Revenue Allocation in Nigeria, 1992:9). Each of the regions was to share from the non-declared revenues in a ratio of 46% for the Northern Region, 30% to the Western Region and 24% to the Eastern Region. The derivation formulae allowed for a lot of room for the regional governments to manage their own resources together with what comes from the declared revenues.

After four years of the Phillipson scheme, the Macpherson Constitution of 1951 introduced a quasi-federal structure. Macpherson then appointed the John Hicks and Sydney Phillipson Commission to develop a new formulae of revenue sharing in order to achieve a progressively more equitable sharing of the nation's wealth. The Commission adopted four general principles based on independent revenue (internal sources), derivation, need and national interest. By this scheme the regions started enjoying some degree of autonomy. The fall out of this was that agitation soon built up from the west to push the derivation principle to the limit by applying it to all items of federally-

collected revenues, the east pressed for the extension of the principle of national interest, while the north pressed for the deepening of the application of the need principle (Review of Revenue Allocation in Nigeria: 14).

With the Constitutional Conference of 1953, Sir Louis Chick was appointed to review the Hicks-Phillipson proposals on revenue sharing. The Commission recommended derivation and virtually ignored other principles. This defect now led to the inauguration of the Raisman Commission in 1958. To avoid allocation system that depended too much on derivation and to take into account differing needs of the regions, the Commission created a Distributable Pool Account into which would be paid 30% of revenue from mining rents and royalties and 30% of the revenue from other import duties. The Raisman Commission recommended the following percentages as being equitable for the sharing of the Distributable Pool Account. Northern Region 40%, Western Region 24%, Eastern Region 31% and Southern Cameroons 5%.

The Binns Commission report of 1964 focused on the Distributable Pool Account and rejected sharing among the regions on the basis of derivation. It however increased the share of revenue that should be paid into the distributable pool account of the Central Government.

When the Military came to power, they created 12 States from the four existing regions and promulgated the Financial Provisions Decree of May, 1967. Though this decree was intended to be temporary, the civil war extended it to last till 1970 - when the war ended. During the Civil War, the Military made use of the Dina Interim Committee Report which renamed the distributable pool account as "States Joint Account". The Committee reduced the weight given to derivation and concentrated on basic needs, balanced development, minimum national standard etc.

With the end of the civil war, the Federal Government promulgated decree No. 13 of 1970 with the effect that the bulk of federally-collected revenues shifting to the centre thus reducing the distributable shares to the States. Accordingly, in 1971, the Federal Government decreed the transfer of rents and royalties of off-shore petroleum mines from the States to the centre. This move accelerated a trend set by Decree 13, 1970 of transferring greater revenues from the States to the Federal Government. Monies from the federation account were to be shared on the bases of 50% population and 50% equality of States (Review of Revenue Allocation in Nigeria, 27).

As part of the transition programme to the Second Republic, the Military Government appointed the Aboyade Technical Committee on Revenue Allocation in 1977. The report of this Commission was turned in, in 1978. The government did not feel comfortable with it and therefore sent it to the Constituent Assembly for ratification. The formular recommended for revenue sharing was 57% for Federal Government, 30% for States, 10% for Local Government and 3% for Special Grants Account. The principles to be used were based on equality, national minimum standard, absorptive capacity, independent revenue and fiscal efficiency.

For the first time, Local Governments became involved in the share of national revenue as well as their respective States Revenues. However, the idea of paying federally collected revenue into the federation account to be shared by the three tiers of government owes its origin to the Aboyade Commission Report.

By 1979, the Civilian Government in power decided to institute the Okigbo Revenue Allocation Commission to review the existing revenue sharing formulae and to come up with a workable modality. The Commission submitted its report on June 30, 1980. It came up with the share formular of 53% for the Federal Government, 30% to the States, 10% to the Local Government and 7% for Special Fund. This approach was hinged on the principle of population, minimum responsibilities of government, social development and internal revenue efforts. It was the Okigbo Commission that recommended the discontinuation of ad-hoc commissions on Revenue Allocation and averred that a permanent fiscal commission with well-defined function be established. This was what gave birth to the National Revenue Mobilisation, Allocation and Fiscal Commission by the Babangida Government. Although this commission is still functioning, its imperfections and bureaucratic tendencies has made

the presidency to recommend a bill to the National Assembly for the operating revenue formulae to be reviewed to calm the frayed nerves of the lethoral states.

An Analysis of Nigeria's Fiscal Management

An examination of the Nigerian fiscal management experience displays a high degree of unevenness, distortions and inequality. The earlier experience show a high degree of centralisation because Nigeria was under colonial rule. And the distribution of revenue among the regions was based mainly on the principle of derivation. As a result of nationalist agitations, the colonial power decided to introduce measures of rapid transition which gave the regions considerable autonomy between 1952 to 1959. This is shown by the fiscal decentralisation which became apparent in the dealings of the colonial masters (Olaloku, 1979: 116).

The Raisman Commission Report formed the basis for playing down the principle of derivation and instead placed great emphasis on population. This period incidentally coincided with when emphasis on crude petroleum products became the mainstay of the nation's economy. Inadvertently, the people in the oil producing communities became short-changed in the scheme of things. Since such an arrangement suited the non-oil-producing States, the government in power controlled mainly by majority of people from non-oil producing States stuck to the principles of revenue sharing based on population and need. The military that has been in power for a greater part of the nation's history believed and operated on the basis that the federal military government owned the country, her resources and all that dwell in the land. They centralized and concentrated the country's revenue in the hands of the federal military government which facilitated the plundering of the national coffers thereby denying the oil bearing states the wherewithal to carry out the development of their devastated communities (Vincent 2002: 21). This is the reason why agitation for resource control by the oil producing communities and States is becoming more and more intense with the passage of each day.

What must not stop agitating the minds of many Nigerians are these questions: -

1. What lessons has been learnt from the various revenue allocation scheme that have been adopted?
2. Have the objectives for revenue allocation meant the same thing to the various Commission and government that set them up?
3. What yardstick for arriving at a workable formular must be adopted?
4. What criteria for revenue allocation, formular for sharing among the different tiers of government, the principles for inter-state and inter-local government sharing, and the formula for the disbursement of special funds can be considered workable?

When the volume of money that has so far been disbursed to local governments since she became a formal player in the exercise of national revenue sharing arrangement is put together, it will be discovered that it (money) has been on the increase. From a share of 5% in 1975 to 10% in 1982. And from 15% in 1989 to 20% in 1992. Consequently, between 1995 to the year 2001, the percentage allocation to local government hovered between 23% to 25%. Also, actual allocation was ₦100 million in 1976, by 1996, total allocation to local governments from the federation account has gone up to ₦180 billion.

Also, a look at the federation account between 1995 and 2000 shows an upward trend in the amount of fund distributed to the tiers of government. Table II presented below explain this more explicit.

Table 2: Distribution of Revenue from the Statutory Allocation and VAT from 1995 to 2000 in ₦ Billion

Year	Statutory Bill	VAT Bill	Total Bill
1995	153.975	19.411	173.384
1996	171.908	31.345	203.253
1997	207.865	33.707	241.572
1998	266.851	37.585	304.436
1999	509.730	47.636	557.366
2000	1174.163	58.029	1232.192

Source: Accountant General's Office.

The states and local governments selected from the six geo-political zones of Nigeria are presented in table III for clarity. This is to represent the geographical spread of Nigeria.

Table 3: Geo-Political Composition, Chosen States and Local Government

S/N	Geo-Political Zone	States Covered	Local Government
1.	North	Borno	Yola/Girei
	East	Adamawa	Bama/Jere
2.	North	Kano	Dala/Sumaila
	West	Zamfara	Gusau/Gummi
3.	North	Kogi	Okene/Ajaokuta
	Central	Plateau	Jos North/Wase
4.	South	Lagos	Apapa/Epe
	West	Osun	Osogbo/Egbedore
5.	South	Imo	Owerri Municipal/Oguta
	East	Enugu	Nsukka/Enugu East
6.	South/South	Edo	Oredo/Etsako West
		Delta	Ughelli South/Warri Central
		Bayelsa	Brass/Yenagoa
		Rivers	Eleme/Port-Harcourt
		Cross Rivers	Bakassi/Calabar Municipal
		Akwa Ibom	Eket/Uyo
Total	6	16	32

Source: Study Survey

Also Tables IV and V show in specific terms what quantum of money has been leaving the centre to the local governments between 1999 and 2000. A close look at the tables show that actual allocation to the Councils have been on the upward swing. But this is disproportionately apportioned when the actual amount that each State get from the federation account is matched with their total contribution to the central purse. Table V for example show that Adamawa, Kano and Zamfara States get far higher allocation to their local governments than Bayelsa, Rivers and Delta State, that are oil producing.

Table 4: Gross Statutory Revenue Allocation and V.A.T., to State Governments, May - December, 1999 and January - December 2000

S/N	States	Volume of Fund Allocated		Distribution of V.A.T.	
		May - Dec. 1999	Jan. - Dec. 2000	May - Dec. 1999	Jan. - Dec. 2000
1.	Adamawa	2,456,103,000.08	6,458,325,839.99	352,077,081.21	1,228,664,103.88
2.	Akwa Ibom	3,110,754,296.81	19,483,601,203.93	367,516,575.60	1,270,958,841.55
3.	Bayelsa	2,438,206,132.15	15,741,831,854.69	318,872,762.40	1,058,307,473.90
4.	Borno	2,886,996,176.14	7,563,668,858.96	383,096,319.03	1,322,463,827.76
5.	Cross Rivers	2,392,916,171.12	6,270,425,229.86	350,181,811.91	1,188,361,748.05
6.	Delta	3,390,631,631.04	24,310,170,636.88	500,100,352.28	1,925,202,824.77
7.	Edo	2,420,127,988.36	6,638,761,170.22	373,707,975.18	1,314,003,320.09
8.	Enugu	2,093,360,331.81	5,484,695,129.18	376,314,046.09	1,281,738,252.09
9.	Imo	2,332,325,476.66	7,406,322,616.66	374,287,188.86	1,311,471,033.19
10.	Kano	3,557,200,216.82	9,319,584,228.20	633,962,577.03	2,148,490,266.80
11.	Kogi	2,280,281,717.78	6,192,168,647.86	348,310,326.63	1,224,642,280.09
12.	Lagos	3,543,261,426.92	9,283,085,070.62	2,316,959,296.22	7,313,355,536.55
13.	Osun	2,355,919,625.35	6,172,216,634.62	354,966,268.05	1,207,610,645.33
14.	Plateau	2,291,479,024.78	6,002,582,937.80	377,819,131.49	1,207,610,645.33
15.	Rivers	3,101,717,104.16	17,480,174,746.24	686,169,428.78	2,333,029,564.64
16.	Zamfara	2,152,777,237.98	5,640,066,561.36	338,139,337.11	1,160,001,754.70

Source: Office of Accountant General of the Federation, Abuja.

Table 5: Net Statutory Allocation to Local Government on State Bases

S/N	Local Government	May - Dec. 1999	Jan. - Dec. 2000
1.	Adamawa	1,294,434,092	3,698,054,853.33
2.	Akwa Ibom	1,447,398,776.75	4,119,100,419.72
3.	Bayelsa	538,629,791.81	1,474,841,870.25
4.	Borno	1,905,058,223.34	5,259,883,603.07
5.	Cross rivers	1,103,194,803.16	3,084,921,216.26
6.	Delta	1,266,723,858.35	2,950,866,383.01
7.	Edo	1,066,375,370.39	3,051,339,083.21
8.	Enugu	592,508,570.72	1,926,750,357.92
9.	Imo	1,087,307,241.95	3,672,865,788.85
10.	Kano	2,727,072,686.92	7,671,891,606.81
11.	Kogi	796,052,598.45	2,421,359,253.98
12.	Lagos	1,093,316,141.05	4,016,510,194.58
13.	Osun	1,050,114,170.53	3,363,542,622.77
14.	Plateau	721,757,028.02	2,153,206,189.67
15.	Rivers	1,271,705,092.40	3,313,709,658.20
16.	Zamfara	1,050,197,325.54	2,867,690,702.09

Source: Office of the Accountant General of the Federation, Abuja.

A look at the volume of net statutory allocation to individual local government (Table VI) from the federation account shows that in 1999 and 2000 financial years, Bama and Jere Local Governments of Borno State respectively received more than twice what Eket and Uyo in Akwa-Ibom State, received from the federation account for the financial years of 1999 and 2000. Also, compare what was allocated to Yola and Gerei Local governments of Adamawa State and Brass and Yenegoa of Bayelsa State, it will be noticed that the figures are tilted in favour of the non-oil producing States in the North than the oil producing States in the South.

Table 6: Net Statutory Allocation to Local Governments from May - Dec. 1999 and Jan.- Dec. 2000

S/N	Local Government	Total Allocation	
		May - Dec. 1999	Jan. - Dec. 2000
1.	Bama	102,924,826.94	294,829,529.35
2.	Jere	121,682,944.06	350,325,218.35
3.	Eket	45,849,898.27	124,992,416.43
4.	Uyo	19,025,195.57	56,024,820.56
5.	Brass	87,983,095.25	237,532,634.41
6.	Yenegoa	27,978,636.01	86,231,712.72
7.	Yola	61,082,833.51	14,966,203.36
8.	Girei	79,937,443.61	230,223,011.98
9.	Bakassi	73,095,525.71	1988,529,494.05
10.	Calabar Municipal	67,812,097.96	178,539,705.90
11.	Ughelli South	56,711,558.56	14,376,461.98
12.	Warri Central	40,635,695.48	80,617,207.94
13.	Oredo	3,793,084.24	34,153,859.79
14.	Etsako West	56,772,036.62	169,879,360.77
15.	Nsukka	16,111,601.89	81,420,117.86
16.	Enugu East	32,939,485.81	95,029,935.42
17.	Owerri Municipal	32,991,553.80	59,717,054.75
18.	Oguta	55,223,232.21	150,553,084.12
19.	Dala	78,631,637.15	206,968,312.40
20.	Sumaila	80,887,086.70	224,337,381.82
21.	Okene	44,761,790.07	135,875,485.60
22.	Ajaokuta	50,033,636.46	136,124,608.95
23.	Apapa	0,892,909.46	195,101,869.28
24.	Epe	83,369,387.06	248,103,486.76
25.	Osogbo	17,041,531.13	70,900,384.53
26.	Egbedore	49,706,063.29	139,668,140.30
27.	Jos North	49,423,082.00	169,089,656.44
28.	Wase	62,489,668.29	190,932,182.77
29.	Eleme	50,265,427.85	115,061,316.01
30.	Port-Harcourt	31,270,590.55	92,719,721.75
31.	Gusua	81,341,90.05	226,633,540.30
32.	Gummi	100,651,802.24	275,844,880.37

Source: Study Survey.

Just as table VI above points out, table VII below speaks of the disproportional allocation of resources to the different tiers of government, and favouring the federal government at the disadvantage of the state and local government. This is particularly worrisome because the revenue bearing communities are predominantly located in the local governments. Therefore, creating special fund which is then channeled to the states for the sake of fighting pollution and environmental degradation affecting the communities is wrong.

Table 7: Gross Statutory Allocation to all Tiers of Government, Special Fund and Value Added Tax - May - Dec. 1999 and Jan. - Dec. 2000.

S/N	Beneficiary Summary	Total Gross		Total VAT	
		May - Dec. 1999	Jan. - Dec. 2000	May - Dec. 1999	Jan. - Dec. 2000
1.	Federal Government	179,116,353,425	469,255,686,101.30	4,899,821,515.60	8,701,262,978.
2.	State Government	91,612,056,155	291,422,573,187.71	16,332,738,385.34	29,025,997,148
3.	Local Governments	73,862,413,782	193,534,216,502.04	11,432,916,869.73	-
4.	Special Funds	82,556,208,532	219,924,242,155.32	91,966.00	-
5.	Total	428,147,208,532	1,174,13,747,946.47	32,665,568,756.67	37,727,260,126

Source: Extracted from Accountant General's Office, Abuja.

The conclusion one can draw from this imbalance is that the issue of revenue allocation in Nigeria is not apportioned according to what each state or community contribute to the national coffers. Instead, other extraneous factors like population, land mass, needs etc. are used as yardstick for the allocation of revenue. When the amount of degradation, poverty, primary school enrolment and development needs are taken into consideration, we see the amount of injustice and neglect that accompany the issues of revenue allocation in Nigeria. See table III and compare the gross statutory revenue allocation to Kano and Zamfara States for the period of 1999 and 2000 fiscal year against that of Delta, Bayelsa and Rivers States respectively. Also, compare the net statutory allocation to local governments on state bases for the year 1999 and 2000 fiscal year on Table V above and the gross allocation to all tiers of government in Table VI, it will be discovered that the net share of allocation to oil and non-oil producing States has no bases for comparison. The question has to arise again that what degree of justification can be adduced to explain these palpable inequity in the nation's revenue allocation posturing?

The Revenue Allocation Act passed by the National Assembly in 1982 provided these formulae for revenue sharing:-

- (1) Federal Government - 55%
- (2) State Governments - 35%
- (3) Local Governments - 10%

A slight amendment to the 1982 Act came up in Amendment Decree 1984 which stipulated 2% revenue to be paid to mineral producing areas on the basis of derivation and 1.5 percent of revenue to be set aside for the development of mineral producing areas. This provision has survived several administrations and apart from little tinkering here and there, the formulae for revenue sharing has remained comparatively the same. Even the setting up of the National Revenue Mobilisation, Allocation and Fiscal Commission by the Babangida Administration is made hamstrung because it can not go beyond the limit of the provisions of the constitution. It took persistent agitation, strife and threat to national peace for the 1999 Constitution to now allocate 13% of national revenue to oil-producing States on the basis of derivation. Between 1999 and 2003, the obtaining revenue formulae is presented in table VIII below.

Table 8: Revenue Sharing between 1999 to 2003

Year	Federal %	State %	Local Govt.%	Ecological %	Others %
1999	48.5	24.0	15.5	7.0	5.0
2000	41	31	16	--	12
2001	„	„	„	--	„
2002 to May 2003	48.5	24.0	20.0	--	7.5
June to Dec. 2003	46.63	33	20.37	--	--

Source: Collated from Annual Budget 1999-2003.

However, by the realities on ground and the need to pacify the oppressed people of the Niger Delta, this recommended formulae could not hold. That is the reason why the bill sent by the Presidency to the National Assembly emphasized the principle of Derivation. See year 2002 and 2003 in table VII for emphasis.

Now, there is a loud cry from the local government level over shortfalls in the monetary allocation that comes from the federation account. This therefore goes to show that the issues of fiscal management in Nigeria do not suit the federal arrangement that Nigeria is supposed to be operating. The National Assembly has to without delay revisit the constitution and review the existing formulae for revenue sharing in the nation. This is with the view to compensating States and Communities that contribute highest to the national purse, empower oil and mineral or agricultural producing States and to ensure that the polity operates what can be termed as true federalism. The system of governance in Nigeria seems to imply that neither the legislation nor the constitution can be amended, as if they are immutable. What then is the purpose for having a legislature?

Noticeable problems with the system

All along, revenue management matters have been subjected to ad-hoc commissions. This is especially the case because of the centralised system of administration used to govern the nation. The assignments that most of these commissions carry out are based on estimates rather than actual data. It would have been more objective to use a base selected from the five most recent years for which proper data were available. The government in power normally do have an over bearing influence on the Commission. This attitude obviously affects the end result of the Commission's efforts.

Population as a factor is being given undue importance. In Nigeria, population figures are most unreliable. Even the figures in use swings between the figures of 1963 census and that of 1991 which are subjects of controversy. Although population is important for the provision of certain basic amenities and for political purposes, it hardly warrants the excess weight assigned to it in the revenue sharing formulae.

The issue of primary school enrolment is making many local governments to get zero allocation from the federation account. Using this measure as a solo indicator of social development is grossly inadequate. Data on other elements of social development which are available are ignored. The same goes for the principle of need and even development.

In many of the ad-hoc Commissions that have been set up by government, the principle of derivation for revenue sharing has been handled with ambivalence. Instead they have often proposed a kind of special fund to tackle problems of mineral producing areas. And rather for this measure to calm frayed nerves, it has rather been inflaming anger from affected communities.

There appears to be controversy about what actually constitute the totality of federally - collected revenue. All that States and Local Government know is that either monthly, quarterly or yearly, money is allocated to them from the centre. What volume of contribution comes from the states and local governments to the pool account is shrouded in mystery. An arrangement built on transparency should be worked out where every party is made aware of individual contributions to the national coffers and what is expected back in return through allocation. In Canada for example, the central government has no access to natural resources. They are collected by the provinces (Ola Vincent: 2002).

On the issue of assigning weights to the sharing formulae on the volume of money to be disbursed for particular purposes, a lot of bias and arbitrariness is adduced. The criteria or yardstick adopted has to be well defined, has to be realistic and scientific. Some States argue that they are relatively under-developed and newborn, hence they would require greater proportion of Federal Revenues to catch up. The logic behind this argument is lost to reason because such a stand is only an excuse to be lazy and continue to depend on the centre.

Tax powers should be assigned in such a way as to reflect proper fiscal federalism rather than lopsided arrangements that create administrative problems and make States and Local Governments greatly dependent on the centre.

A last and final problem is that attention has always been focused on revenue sharing to the neglect of revenue generation or mobilisation. People tend to neglect baking of the national cake and concentrate on sharing the national cake. Sharing can not take place if nothing has been generated. The National Assembly must of necessity consider these lapses while trying to come up with workable legislations.

Conclusion and the way forward

There is no longer arguing the fact that statutory allocations from the federation account continue to account for between 75 and 90 percent of total local government revenue (Ikhide, 1999: 180). This phenomenon has negatively impacted on the internal revenue generation efforts of local governments. The criteria for allocating revenue from the federation account to local governments depend on minimum responsibility, population, social development factors, land mass and contingencies. These

criteria when applied, yield different amounts to local government and could severely impact on the ability of some local governments to implement their policies (Ikhide, 1999).

The main objectives for allocating revenues to the local governments, from the standpoint of the various Commissions that had been constituted derive from the needs to correct the imbalances in the system, to provide for merit or required services, to enable society reap the advantages of central taxes over local taxes and to internalise external costs and benefits (Taiwo and Afolabi, 1986: 18).

Research have shown that local governments in most of the developed countries do not depend on external sources of funds. Atoyebi and Odedokun (1986: 10) stated categorically that while the U.S. local governments rely more on internally generated revenue, Nigerian Local Governments rely heavily on financial charity from the higher level governments.

A comparative survey of international fiscal federalism carried out by Bade Onimode is quite revealing. In his contribution to Sunday Tribune Newspaper on Resource Control in World Federations, he contended that most of the federations share revenue and expenditure between Federal and sub-national governments in a decentralised way (Onimode, 2001: 16). He went further to State that in some federations, expenditure sharing is done through the sharing of constitutional powers e.g. over education at different levels, health, roads etc. It is also essential that expenditure sharing should synchronise with revenue sharing so that a healthy balance can be maintained between both.

Fiscal federalism in Nigeria is heavily distorted on the account that most of the principles applied for revenue sharing have been wrongly implemented. This has resulted into the distorted and uneven development of the country. It has even led to large-scale agitation, strife and mutual suspicion amongst the citizenry. This is inspite of the various changes that have been introduced into the management of revenue in the Nigerian federation. When these factors are considered, one can not help but to advise that the federal government should have a rethink on the pattern of revenue management presently in operation in Nigerian, so as to ensure even development of the country.

Another serious flaw is that sufficient efforts have not been committed to address the issue of the real purpose and manner of using special funds. These funds are meant to achieve a national minimum standard in some essential services, to correct fiscal imbalance among different geographical areas, to redistribute wealth for balanced growth, to compensate for adverse effect of national policies in some areas, to encourage uniformity in the polity and respond to proven cases of emergency and disaster in parts of the country. It therefore makes sense to advocate for concrete efforts on the part of government so as to eliminate arbitrariness, partiality, discrimination and inequality in the distribution of resources in the economy.

Again, the criterion of derivation principle has to be revisited and organised to favour mineral producing communities. This will help to dampen tension, reduce agitations by States for resource control and put an end to the activities of militia groups especially in the Niger Delta regions.

The government should as a matter of urgency adopts a comprehensive policy aimed at fiscal equalisation that would incorporate both the resource element and the need element of each State. This is so as to practice fairness and equalisation to the federating States. It would not be healthy for a section of the nation to feel being milked to fatten other sections that contribute little or nothing into the national coffers.

The National Assembly should learn to become flexible and dynamic. A major portion of their job is for them to be able to change or amend policies that have become anachronistic. For them to be able to make laws that would foster harmony amongst the federating units that make up Nigeria. This call is very important and urgent because the National Assembly needs to divest itself of the military tango of authoritarianism and centralisation that characterized governance for the past 29 years when the country was under military rule before 29th May, 1999.

Lastly, it is being advocated here that the weighting system for each of the criteria adopted should be modified for them to become more equitable, just and fair so that all will have a sense of belonging. In matters of proper governance, political considerations should not be allowed to becloud economic objectives and the welfare of the people. These recommended measures will not only bring

fiscal relief to the system of fiscal management, they will also provide the vital missing ingredients to revive the smooth operations of the nation's fiscal federalism.

References

- [1] Adebayo, A.G. (1987). Revenue Allocation: A Historical Analysis of Nigerian Experience. Being a paper presented at the National Conference on Federalism in a Changing World. Department of History, Obafemi Awolowo University, Ile-Ife. December 7 - 8.
- [2] Aluko, A. Sam (1987). Financing the Federal System. Suggestions for Revenue Sharing. Being a paper presented at the National Conference on Federalism in a Changing World held at the Obafemi Awolowo University, Ile-Ife, December 7 - 8.
- [3] Anyanwu, C. John (1997). Nigerian Public Finance, Onitsha, Joanne Educational Publishers Limited.
- [4] Atoyebi, G.O. and Odedokun, M.O. (1986). A Comparative Examination of Local Government Revenue Structure and Lessons for Nigeria. National Conference on Local Government Administration in Nigeria since Independence. September 22 - 25, University of Ilorin.
- [5] Buchanan, S. James (1970). "What Governments try to do" in John P. Crecine (ed.). Financing the Metropolis Vol. 4, Urban Affairs Annual Reviews.
- [6] Ekpo, H. Akpan and Ndebbio, E.U. John (1998). Local Government Fiscal Operations in Nigeria. Nairobi, Kenya, The African Economic Research Consortium.
- [7] Eme O. Awa (1976) Issues in Federalism. Benin City, Ethiope Publishing House.
- [8] Federal Republic of Nigeria, 1999 Constitution. Federal Ministry of Information, Lagos.
- [9] Gboyega Alex (1989). Local Government and its Role in National Development in Training Programme on Economic Management for Local Government Officials, NCEMA, Ibadan.
- [10] Guidelines for Local Government Reform. Government Printer, Kaduna, 1976.
- [11] Ikhide Sylvanus (1999). "Local Government Finance and Accountability: A Case Study of Selected Local Governments in Nigeria." In Dele Olowu, Adebayo Williams and Kayode Soremekun (ed.) Governance and Democratisation in West Africa. Dakar, Senegal. CODESRIA.
- [12] Insider Weekly Magazine - May 28, 2001.
- [13] Komolafe S. Oluranti (1999) "An Overview of Issues in Fiscal Policy Planning and Management in Nigeria" in Kololafe S.O, Hossein Jalilian and Mark Hiley (ed) Fiscal Policy Planning and Management in Nigeria. Ibadan, NCEMA.
- [14] Maxwell, A. James (1967). Financing State and Local Governments: Washington D.C. The Brookings Institution.
- [15] Mukoro, A. (2000). Institutional Administration: A Contemporary Local Government Perspective from Nigeria. Lagos, Malthouse Press Limited.
- [16] Musgrave, R.A. and Musgrave P.B. (1976). Public Finance in Theory and Practice. McGraw-Hill, Koga Musha.
- [17] Olaloku, F. Akin (1979). Nigerian Federal Finances: Issues and Choices in Akinyemi, A.B.; Cole, P.D.; Ofonagoro, W. (ed.). Readings in Federalism, Lagos, N.I.I.A.
- [18] Oluranti S. Komolafe (1999) "An Overview of Issues in Fiscal Policy, Planning and Management in Nigeria" in O.S. Komolafe, Hossein Jalilian, M. Hiley (ed) Fiscal Policy Planning and Management in Nigeria. Ibadan, NCEMA.
- [19] Onimode, Bade (2001). Resource Control in World Federations in Sunday Tribune, 8th April.
- [20] Orewa, G.O. and Adewumi, J.B. (1975). Local Government Administration in Nigeria: The Changing Scene, Benin City, Ethiope Publishing Company.
- [21] Orubu, O. Christopher (1999). "Decentralisation of Local Government Finance in Nigeria: Some Reflections on the Nigerian Experience" in Critical Issues in Nigeria's Development. Faculty of Social Sciences, Delta State University, Abraka.
- [22] Oyelakin, O.O. (1996). "Issues in Local Government Finance in Nigeria." This was a paper presented delivered at a Workshop of two decades of Local Government in Nigeria at the Administrative Staff College, Topo, Badagry, Lagos.

- [23] Revenue Allocation in Nigeria, a review by the National Revenue Mobilisation, Allocation and Fiscal Commission, 1992.
- [24] Taiwo, I.O. and Afolabi, J.A. (1986). “A Critique of the Formula for the Allocation of Revenue to Local Governments in Nigeria”. Paper presented at the National Conference on Local Government Administration in Nigeria since Independence, University of Ilorin, September 22-25.
- [25] Vincent Ola (2002) “Fiscal Federalism: The Nigerian experience” in The Nigerian Tribune Tuesday January 29.
- [26] Wheare K.C. (1963) Federal Government. London, Oxford University Press.

Enhancing Professional Standards of Public Relations and Communication Management: An Exploratory Study in Malaysia

Zulhamri Abdullah

*Department of Communication
University Putra Malaysia*

Abstract

This paper aims to determine perceptions of PR practitioners and academics on the status and standard of the professionalism of public relations from perspectives of the sociology of the profession and strategic management. The research is conceptualised based on Weber's notion of rationalisation and Wilensky's model of professional development with the purpose of increasing professionalism for a public relations profession. Exclusive jurisdiction, the standardisation of professional services, the regulation sanction, and the role of professional associations are seen as critical elements in developing the professional standards. In-depth interviews and document analysis were employed, describing academics and practitioners' perceptions on the several key themes of communication management. They were the meaning of public relations and corporate communication, the knowledge and skills acquired, the current functions of profession, continuous professional development, accreditation and licensing. This findings revealed that although public relations has low recognition from top management, there is a growing interest in studying and practising this field at the technical and managerial levels. Most informants rejected that public relations is about entertaining clients or indulging in a 'dine and drink' activity only. Instead, many stressed on a transition of public relations from technical function (media relations) to managerial functions focusing on strategic management. Specifically, practitioners were more likely to see that public relations moves from grasping knowledge of journalism focusing on media relations and events management to holistic knowledge of business acumen to access boardroom for their managerial participation. The future of public relations is largely depended on recruiting the new talents and calibre of practitioners whose distinctive knowledge and skills of this profession are well grasped in venturing the globalisation challenges.

Introduction

Purpose

This study mainly aims to conceptualise the standards of professionalism of public relations from two perspectives: the sociology of the profession and strategic management¹. Based on Weber's notion of rationalisation and Wilensky's model of professional development (Wilensky, 1964: 142-146), adapted by Neal and Morgan (2000: 12), it is believed that this study will develop a 'professional project'² for public relations with the purpose of increasing professionalism. Wilensky's model of a way to achieve

¹ Strategic management here refers to creating a systematic and proactive strategic planning and implementation is crucial for corporations in light of harnessing their strategic and financial performance and contributing to social responsibility.

² The term 'professional project' is conceptually borrowed from the literature of the sociology of profession. Professional project refers to how to institutionalise the process of professionalisation for a particular occupation with the aim of becoming a profession like medicine, law, or accounting.

professional status is quite influential. Wilensky (1964: 142-146 adapted by Neal and Morgan, 2000: 12) proposed four pillars of professional development. Exclusive jurisdiction, the standardisation of professional services, the regulation sanction, and the role of professional associations are seen as critical elements in developing the desired 'professional project'. Nurturing professionals is a long and complex process of educational and professional developments and depends on two core elements: (1) determining the distinct domain of expertise for public relations, and (2) identifying levels of practice and competencies among PR practitioners.

Professional Standards Literature

Although public relations has been widely practised in developed and developing countries, there is firstly still a conceptual debate and some confusion concerning the standards of PR professionalism, and secondly there is a vital gap between the standard of professional practice that is desirable and requisite, and existing professional practice. These phenomena may have not only diminished professional abilities among practitioners but also directly or indirectly confused the general public, who simply view public relations as an 'occupation' rather than as a serious 'profession'.

In European countries, especially Britain, as well as the United States of America, many PR scholars have studied the standards of the PR industry with regard to its professional status. Arguably, there are four main requirements in the form of interdisciplinary guidelines to identify a 'profession'. It must have:

... a well-defined body of knowledge, completion of some standardized and prescribed course of study, examination and certification by a state, and oversight by a state agency which has disciplinary powers over practitioners' behaviours (Sallot et al., 1997: 198).

To these guidelines, Nelson adds that there are:

... five important characteristics of professionalism: professional values, membership in professional organizations, professional norms, an intellectual tradition, and development of technical skills (in Sallot et al., 1997: 198).

Notably, Nelson's (1999) procedure has been applied by PR scholars over the past 20 years to determine the standards of professionalism within public relations (Cameron et al., 1996). Therefore, these concepts are among the most influential in measuring the basic level of professionalism in public relations. In order to gauge professional attributes among PR academics and practitioners, Sallot et al. (1997: 199) discuss eight major dimensions of public relations identified by: 'knowledge and skills in managing PR activities (particularly objectives and goals); communication strategies; research; salary; role in the organisation; ethical guidelines for self-regulation; education/training; and accreditation/licensing'.

Although many PR practitioners agree the importance of accreditation (registration) and technical competencies, they ignore the importance of licensing in determining the standards of professionalism in this field (Cameron, et al., 1996: 51). However, it is arguable that Sallot, Cameron and Lariscy's studies are viewed narrowly, as the standards of PR professionalism can be increased by acquiring technical expertise such as media production skills. From a strategic management perspective, today's PR practitioners require not solely technical expertise but also managerial competencies in managing their work in a complex business environment. This is the reason why this study attempts to examine the standards of PR professionalism from two perspectives (the sociology of the profession and strategic management).

Parkinson (2001) argues that PR practitioners have to adopt a code of ethics which is focused on professional rather than personal ethics, and, in addition, Grunig (2000) maintains that PR practitioners must uphold core professional values in order to alter organisational behaviour. The core values identified by Grunig (2000: 23) are 'collectivism, collaboration and societal corporation and communal relationships'. Besides discussing professional ethics, accreditation and core values, Elmer

(2000: 190) finds that there is no consistent level of functional professionalism in PR practitioners' performances. Kruckeberg (1998: 235), on the other hand, argues that the field of public relations must be viewed as 'an occupation that requires its own identity as well as clearly defined professional parameters'.

It has been said that academic education is an ultimate instrument in attaining a professional status for public relations (L'Etang, 1999; Ehling, 1992; Singh and Smyth, 2000; Stacks et al., 1999). In contrast, top management officers of the IPR, UK, Doug Smith (1990 in L'Etang, 1999) and Peter Walker (1993 in L'Etang, 1999), along with a PR academic, Mallison (1996 in L'Etang, 1999), who are opposed to such academic ideas, believe that PR professionals crucially need to possess sufficient vocational training in the field (L'Etang, 1999). Nonetheless, PR practitioners and academics have agreed that special elements such as training, experience and expertise outcomes are important for career development in public relations (Stacks et al., 1999).

There are a few local studies regarding the profile of public relations practitioners in Malaysia. Iddid (in Sriramesh, 2004), who conducted research on the profiles of PR practitioners, found that 23% of respondents reported having bachelor's degrees and only 4% had master's degrees. In 1994, a second study by Iddid revealed that there was a sharp increase in the number of PR practitioners holding academic qualifications. The results showed that 44% of respondents had bachelor's degrees and 9% master's degrees. Additionally, evidence from in-depth interviews conducted by Kaur (2002 in Sriramesh, 2004: 220) indicates that 80% of the heads of PR departments possessed university degrees and 17% had a diploma in public relations. Apparently, the majority of Malaysian PR practitioners now possess university degrees, believing that having a degree enhances the professionalism of their practice. However, there is no previous studies have examined qualitatively public relations educators and practitioners' views on professional standards. Thus, this study seeks to fill that gap.

Research Methodology

In this study, the qualitative research method is designed to explore the key themes/issues raised by the results of the questionnaire survey in greater detail rather than to test a particular hypothesis about the perceptions of a group of informants concerning PR professionalism. The research entailed a qualitative survey using in-depth interviews with a number of senior PR practitioners from various business industries and with PR academics from public and private universities to explore in greater depth the standards of PR professionalism in the light of the establishment of a 'professional project' for public relations.

This study is organised around eight key themes about public relations professionalism: (1) the meaning of public relations and the diversity of the terms; (2) the maturity of the PR profession: producing qualified PR practitioners; (3) PR education: the status and development of training schools; (4) specialised knowledge and skills of public relations; (5) PR accreditation and licensing: the role of a professional association; (6) continuous professional development; and finally, (7) the current functions of public relations. There are commonalities and distinctions regarding the discussion of these key themes of public relations between PR academics and practitioners.

In-depth Interviews & Document Review

These interviews took place between March and May 2004. Due to the cultural diversity in Malaysia, the interviews included the three main races: Malay, Chinese and Indian. Of 20 selected PR academics and practitioners, only 14 of them replied and agreed to be interviewed. First, a cover letter noting the purpose of this interview was delivered to informants via email. Then all the interviewees were contacted by telephone or email to set an appointment. With the permission of interviewees, a cassette recorder was used to record the conversations, which helped the researcher to conduct the interview smoothly and efficiently. All interviews were undertaken at the interviewees' places of work. The

interviews were conducted in English and/or Malay - depending on which language the interviewees preferred. During the interviews, a set of questions was used to guide the conversation and, importantly, the researcher also posed probing or follow-up questions to stimulate the conversation on the topics discussed. Having flexibility to discuss the topics of interest with interviewees and encouraging an interactive process between interviewer and interviewee may enhance the quality of interview (Daymon & Holloway, 2002: 166). After the interview, the researcher himself transcribed all the interview data.

A summary of the interviews that were conducted with two groups, respectively PR academics and practitioners, is presented in Table 1, which provides a brief profile of informants to support the reliability and validity of this method.

Table 1: Interviews

Group A: Interviews – PR Academics³						
Academic institution	Job Designation	Size of Institution	Faculty/school	Expe-rience in function	Qualifi-cations	Professiona l affiliation
A1	Professor/Dean	Big/Public	Faculty of Art & Social Science and Research Centre	38 years	PhD, MA, & BA (Hons)	Fellow of IPRM
A2	Senior lecturer	Big/Public	Faculty of Modern Languages/ Dept. of Communication	10 years	MA, BA (Hons) & Diploma	none
A3	Lecturer	Big/Public	Faculty of Social Science/Dept. of Media Studies	5 years	MA & BA (Hons)	none
A4	Lecturer	Big/Private	Faculty of Art/Dept. of Communication	4 years	PhD, MA & BA (Hons)	none

Group B: Interviews – PR Practitioners						
Company	Job Designation	Size of company & Sector	Year listed in KLSE⁴	Qualifications	Expe-rience in function	Professional Affiliation
C1	Managing Director	Big/Global firm	-	-MA & BA (Hons)	30 years	- A former member of IPRM
C2	Head/Director	Big/ Banking	-	-MBA, MA & BA (Hons)	25 years	- Member of PRCAM
C3	Head/ Director	Big/ Property	1961	-MSc & BSc (Hons)	17 years	- Member of IPRM
C4	Head/ Director	Big/ Energy	1990	-MA & BA	23 years	- Member of IABC
C5	Manager	Big/Oil & refinery	1994	-BA (Hons)	13 years	none
	Senior Executive Manager			-BA (Hons)	6 years	none
C6	Manager	Big/ Gaming	1970	-MBA & BA (Hons)	12 years	- Member of IPRM
						-Associate member of MIM
C7	Manager	Big/Auto-mobile	1990	-SPM (GCE -O level)	22 years	Member of IPRM
C8	Head/ Director	Big/ Food & Beverage	1989	-MA & BA (Hons)	19 years	Member of IABC
C9	Officer	Big/Sport	-	-BA (Hons)	10 years	none

³ Those participants selected are full-time PR lecturers and/or have earned a formal qualification in communications/public relations and also have demonstrated their contribution to the PR industry. There is an extreme shortage of PR academics teaching and conducting research specifically in public relations in Malaysia (Khattab, 2000). Although there is a number of PR subjects are offered by universities, PR subjects are always taught by part-time lecturers from other institutions.

⁴ KLSE – Kuala Lumpur Stock Exchange

In order to supplement the in-depth interviews used in this study, the researcher gathered and reviewed the desired information as well as possible information about how PR is practised in the selected organisations in the Klang Valley. This technique involved the analysis of two sets of documents: organisational documents emerging from PR practitioners' work, such as business plans, key performance indicators, annual reports, as well as operational reports, letters, press releases, organisational newsletters, bulletins and relevant documents; whilst academic documents included course outlines, journal papers, conference papers, publications, news releases regarding the PR curriculum and relevant documents.

In order to access academic documents, all the data were gathered by visiting the selected universities in the Klang Valley: the National University of Malaysia, the *Universiti Putra Malaysia*, the University of Malaya, the Islamic International University, Monash University of Malaysia and the Mara Technology University. The visits were also made between March and May 2004. The researcher also visited the websites of most universities and private colleges in the Klang Valley to gain additional comprehensive data, including the programmes of study, course outlines, the academic department/school offering the PR degree, the PR textbooks used for teaching, as well as journals, research papers, and other relevant publications. Reviewing documents as a supplementary research tool may produce extensive results.

Daymon and Holloway (2002) pointed out that such documents, a rich source of data for qualitative research, record the organisational activities from the early establishment of an organisation to today's operational activities, as well as their exceptional contributions to society. This approach helped the researcher to analyse and interpret the day-to-day public relations activities.

Results

Meaning of Public Relations and the Diversity of the Terms

One of the objectives of this study is to define the scope and limitations of public relations (an exclusive jurisdiction of public relations). Thus, it is central to ask interviewees about the definition of public relations and the issue of diversity of the terms.

Generally, most informants (four PR academics and ten PR practitioners) understood the typical definition of public relations, which is building mutual understanding between an organisation and its public in order to project a favourable image of an organisation. This notion is similar to the definition initiated by leading US PR scholars, such as Cutlip et al. (2000) and, Grunig and Hunt (1984).

Interestingly, in the United States, European countries and Asian countries (Sriramesh & Vercic, 2003: 70, 204 & 343), PR practitioners use different terms to describe their function in an organisation. In the wave of globalisation, Malaysia has followed a similar trend. Specifically, Malaysian corporations are more likely to use substitute job titles to describe public relations functions, such as 'corporate communications', 'public affairs', 'information', 'marketing communications', 'corporate public relations', and 'corporate affairs'. However, academic informants made a distinction between 'public relations' and 'corporate communications' by stating that 'public relations' is the old term, whilst 'corporate communications' is a new term, indicating a more demanding and complex environment. However, they preferred to use 'public relations' because, in a broader concept, it includes all corporate communication functions, whilst 'corporate communications' is more geared towards specific corporate-oriented communication. In the process of PR development, this changing trend may also underpin the profession, but it will not change the current functions of public relations.

Importantly, most informants (academic and practitioners) argued that people, including some PR practitioners, are still confused about what constitutes public relations. Many practitioners prefer to use the terms 'corporate communications' and 'corporate affairs', as the term 'public relations' is linked to negative connotations. As one managing director of a leading PR firm said:

“Many do not understand what PR is. In fact, I don’t consider myself as a ‘PR practitioner’ any more. I am a corporate communication specialist. In Malaysia, the word somehow really means something that people tend to look down on. ‘Oh! woman’s work. Well, pretty face’. I asked someone who is a PR officer, ‘Why do you like to be a PRO?. Oh! I like meeting people’. No! It is not just about that. It is about meeting your clients for business here. It is how you may contribute to the management of your client’s objectives. They need to think of how PR may support their business”.

It seems that there is a contrasting perception of the meaning of public relations between PR educators and practitioners. From a holistic and broader approach, most PR practitioners defined public relations as strategic corporate communications, which incorporates public relations, public affairs, marketing communications, financial communications, and corporate branding. Some PR practitioners argued that public relations focuses only on media relations and event management.

The majority of PR practitioners interviewed argued that the term ‘public relations’ is used to describe typical functions of communication such as public information, especially dealing with public services and NGOs, whilst the term ‘corporate communications’ focuses on projecting organisational identity and image.

Indeed, according to a top PR consultant, the scope and responsibility of public relations depend largely on several factors such as the size of organisation, the core business of an organisation, and the corporate strategy development. Some large corporations can afford to develop two divisions of public relations to harness their corporate strategy: they are the division of corporate affairs and the division of corporate communications. Corporate affairs is responsible for formulating strategic planning and communication policies normally setting corporate branding, whilst corporate communications is involved in strategic implementation.

Thus, this study found two reasons why PR practitioners use diverse terms in their practice. First, PR practitioners want to avoid the negative connotation of ‘public relations’. Second, there is also diversity of functions in public relations management: ‘public relations’ is involved in publicity and media relations, ‘public affairs’ deals with public policy development, and ‘corporate affairs’ is concerned with the development of communication policies and brand statements (corporate branding). Furthermore, the result is consistent with the conclusions of Varey and White (2000: 10), that there are different meanings in defining managing relationships, as described by the terms ‘public relations’, ‘corporate communications’, ‘corporate affairs’ and ‘public affairs’.

Indeed, public relations is regarded as *a complex and distinctive management discipline* which is comprised of corporate communications, corporate affairs, public affairs, marketing communication, information, and media relations. All of these functions are used ‘to influence the behaviour (of various stakeholders), through the management of reputation and relationships’ (White & Murray, 2004: 120).

The Maturity of the Public Relations Profession: Producing Qualified PR Practitioners

Neal and Morgan (2000: 17) argue that ‘the occupation became full-time’ (‘terminal’ occupation) is one of the most important criteria for the process of professionalisation. There is a need to ensure that well-qualified PR practitioners have a clear view what public relations really is and what knowledge and skills are required for them to practise the profession.

Generally, many PR educators and practitioners argued that the profession of public relations has not matured yet, but it is becoming a growing and competitive profession in Malaysia. A top PR practitioner from a major PR firm argued that:

“We need to improve the PR industry. This industry is very young. It is a place where there are people who are not qualified (but are practising public relations). They do not understand what constitutes PR. I think they should call themselves event managers instead because they are only

arranging events. They are not real PR practitioners. But I don't mind working with them. The PR industry has not matured yet. We can say it is still developing. But it is better than it was".

According to a senior PR educator, nowadays, many Malaysian corporations have realised the importance of public relations to their business as compared to the past. In addition, the impact of government policies like '*Dasar Ekonomi Baru*' (New Economy Policy) and the privatisation of government bodies may also bring a great interest in practising this profession. As one of the PR academics from the public university pointed out that:

"Public relations was introduced as the PR curriculum in the University of Technology Mara in 1970s. In 1980s, more PR curricula were developed extensively, although at that time, PR was introduced to be a 'counter clerk' or a 'customer relation officer' only. PR was seen as 'pretty face' for ladies only. PR orientation in 1990s was shed the light on due to the impact of government policies such as '*Dasar Ekonomi Baru*' (New Economic Policy) and the privatisation of government bodies. The government of Malaysia has promoted and encouraged more business policies for corporations. So that, many corporations have been set up and that corporations have also affiliated with foreign consultancies. Thus, corporate leaders are aware of the importance of public relations to their business. You will see that major Malaysian corporations like Telekom Malaysia⁵ and Petronas⁶ have become role models to other corporations. From this point, we see that there is a rapid development in the PR industry. Although many PR consultancies have been set up here, their orientation is still event management such as publicity, media relations, and PR launches. But not at the higher level of PR services such as image management and PR research development".

Emphasising the importance of ethics and transparency to corporations, a PR academic from the private university noted that:

"The PR industry has now grown, and helps the international corporations operate their business locally. The role of public relations is very, very important in today's corporate world. Let's see what happened to Enron (a major international company) case, which collapsed due to the prosecution of their unethical behaviour. Actually, this is happened because the company did not take care of their PR. I think a SWOT (Strength, weakness, opportunity, and threat) model should be considered when handling issues like this. PR officers should advise management to be more ethical and transparent".

In education, many PR academics believed that more PR graduates have been produced to fill the growing market within the PR industry. However, the practice is still far from the ideal public relations, which would include image management and research development. Currently, the PR orientation in Malaysia almost solely involves event management such as media relations and publicity, due to a lack of PR professionalism among practitioners. Specifically, academics believed that obtaining a proper PR academic qualification is more important for PR practitioners than work experience alone. Nowadays, many practitioners possessing no proper qualification in public relations practise this profession. A senior PR academic from the international university said:

"The PR industry has matured and it is more competitive. More PR graduates we produce have filled the job market. However, it has not matured in the field. Importantly, we need to increase PR professionalism

⁵ A national telecommunication company

⁶ A national oil company

as many PR practitioners now practice this profession without proper PR qualification. I think an academic qualification is more important than working experience. However, talking about achieving professional status, public relations in the US has also not yet being accredited due to some issues such as the diversity of the names/titles used by PR practitioners. Other issue is professional associations such as the PRSA, IABC, and many more have different policies in setting universal accreditation for this profession. For example, the IABC supports corporations selling cigarettes. This is an ethical issue we cannot tolerate. These issues may create 'war' in the industry, but not enhance the maturity of this field".

In contrast to the perceptions of PR academics, most PR practitioners in this study argued they are now more sophisticated and they practise two-way symmetrical communication due to the rise of consumerism. Depending on the situation, although they still practise publicity and media relations, they assume that these functions are only PR tools. A senior PR practitioner from the banking institution argued that there is also a clear distinction between public relations, as a reputation management function, and advertising, as a propaganda function (one-way communication only). Importantly, practising public relations is vital for organisations in achieving their desired outcomes, and it also helps to drive a bottom-line strategy in order to develop a company's positive reputation: however, in the future, the function of advertising will decrease to appeal to the strategic constituencies.

Unsurprisingly, most informants, whether academics or practitioners, have rejected the notion that public relations is about a 'dine and drink activity'. Instead, they treat this profession as a strategic function of organisational communication. As a PR director from the banking institution said:

"Many corporations are now aware of the importance of public relations to their business. In June 2000, KLSE⁷ proposed a new guideline for companies, which wanted to be listed as public listed companies, and the implementation of this guideline may improve the role of public relations. In order to be listed in the KLSE, a proposal should be managed by three top managers: a managing director, a company secretary and a head of public relations. So that, we do research, then, we set an annual meeting, and finally, we publish annual reports. You see how important PR is to a company. Our unit of PR is one of the top divisions in this organisation. We report to the executive boards. We have two general managers who manage PR functions in our unit".

Indeed, although PR practitioners understand the importance of public relations and their core PR functions, public relations still has low recognition from the top management in Malaysia. As one PR practitioner from the commercial corporation noted:

"Public relations must gain respect as much as other professional occupations such as a doctor, lawyer, or accountant. We have to tell top management how important PR is to our organisation. I think many managers working in other departments do not understand what PR is. They think that PR is only about entertaining clients and arranging press conferences".

One of the key issues that require attention is a shortage of qualified PR practitioners and a lack of expertise, which might hinder the development of public relations. A PR practitioner from the government body said that:

"It is important to differentiate between practising PR in the public and private services. Here, we are still practising media relations, whilst, in the private sector, they may have advanced PR functions. In the public

⁷ Kuala Lumpur Stock Exchange

services, top management doesn't understand the importance of PR to their organisation. Here, I am the only PRO who runs all of the PR programmes. For big events, we have to hire PR services from local PR firms. Recently, we hire a PR firm to run our programmes because we don't have manpower and expertise. In fact, here, PR is housed in a Unit of Administration and Finance. Our task is very limited. The problem is we report to the head of unit who doesn't understand PR functions, so our superior always overrules our work. I think that this problem is also happened in the most public services. We needed) to separate a PR division from the management unit to give more authority, so that, we can manage our tasks effectively”.

Emphasising that public relations having ‘a seat’ at the executive board might enhance the value of this profession, noted by one of the heads of public relations from the major corporation. Further, although PR academics and practitioners agreed that the PR industry is still developing in Malaysia and realised the importance of this field in today's competitive business environment, they still have different views on how best public relations can be practised and what knowledge and skills PR practitioners should acquire.

PR Education: The Status and Development of Training Schools

The system of training for a public relations profession must be refined and formalised based on the global and national practices. There is a need to formalise academic and professional qualifications that are delivered by higher learning institutions (e.g. a University) and the professional association (e.g. CIPR, PRSA and IPRM).

In general, based on the findings of this study, PR education in Malaysia can be interpreted as being at ‘an adolescent stage of development’ and having a long way to go to achieve excellent public relations practice. Further to the existing PR knowledge in both the public and private university, some PR academics argued that it seems Malaysian PR education has been too much influenced by Western PR education, especially from the United States of America and the United Kingdom. Most academics realised that the curriculum should be set up in accordance with local needs and norms as well as to deal with cultural values and diversity. Importantly, it is true that concerning cultural values and diversity, it is important to develop multicultural public relations, but the structure and context of the PR curriculum must be developed based on the global and international theory of public relations. Moncur (2006) noted that it is vital that developing theoretical frameworks as learning tools enhance the quality of PR practice. In fact, this study found that public relations in Malaysia has gone global, as there are also influences from Middle Eastern countries such as Saudi Arabia, Turkey, and Egypt, as well as from Northeast Asian countries such as Japan and Thailand.

With great concern about cultural sensitivity among PR practitioners, one PR academic thought that there is a need to have cultural diversity in the PR curriculum. Apart from emphasising the importance of adapting Malaysian culture to PR knowledge, most PR academics are also concerned about the shortage of qualified PR scholars in this field.

By arguing that local PR academics have only delivered purely Western PR knowledge, a professional informant suggested that there is a need for a Malaysian PR paradigm to practise public relations.

Apart from the awareness of international public relations in Malaysia, apparently, there is no agreement regarding the perception of PR education between academics and practitioners. Academics thought that many practitioners do not have proper qualifications in public relations, though they are practising public relations, whilst practitioners questioned the quality of local PR education by arguing that academics solely deliver fundamental knowledge of public relations rather than teach students how best it can be practised in the real world.

Professional informants also emphasised the importance of knowledge of business operation (e.g. basic accounting: budget calculation) to the local PR curriculum. Furthermore, most academic and professional informants agreed that PR graduates are largely working within the private sector, rather than the public sector. There are a limited number of PR vacancies in the government sector because no in-house public relations department has yet been established. However, some argued that Malay graduates chose to work within the public sector, whilst Chinese and Indian PR graduates preferred to look for a job in the private sector. This trend might occur due to poor communication skills in English among Malay PR graduates compared to their counterparts. Most private sectors use English as a principal language of administration, while it is government policy to use the Malay language as an official language. In fact, both academics and practitioners also stressed the importance of mastering the English language and other foreign languages because Malaysian corporations have strong international relations with multinational companies throughout the world.

In Malaysia, poor communication skills in English among university graduates has become a key issue of communication competency; hence, it may hinder the business relationships with international clients, as foreign investors are increasingly keeping an eye on the growing market of Asian countries, including Malaysia (e.g. Walter, 2001 & Newell, 2004).

As part of the issue of competencies among PR graduates, professional informants argued that the PR curriculum should be housed in the business school, rather than in the media and communication school. One of the reasons why they wanted to see the transition from the media school to the business school was PR students should be equipped with in-depth knowledge of business acumen (e.g. corporate strategy, general management and basic accounting) to prepare them to work in the rapidly changing business environment. Unlike in the developed countries, where there are many media and communication schools in privileged universities such as Cardiff University, Stirling University, Bournemouth University, Lancaster University and many more, in Malaysia, of 13 universities, there are only two schools of media/journalism located in the University of Technology Mara and the University of Sciences Malaysia. The rest of the universities in Malaysia have the media department under the school of social sciences or the school of languages and linguistics. Another reason given by informants was, generally, business students are more likely to achieve excellent performance than are media students in Malaysia. In fact, the best possible students who chose to study business and management can be interpreted as ‘first-class students’; they also have a good command of English prior to starting their first semester at university.

Besides stressing the need for a transition of the PR curriculum from the media school to the business school, an academic informant also stressed an accredited PR curriculum should be developed. This is important for the PR industry, as the PR curriculum that is being taught at universities has not yet been accredited by any PR professional body. In contrast, a number of academic informants stressed that the PR curriculum should be housed in the Media School, as grasping in-depth knowledge of mass media and cultural studies and journalism enables students to act like activists rather than being profit-oriented business students. However, it is difficult to find a philosophical and cultural studies curriculum in any Media School in the Klang Valley, Malaysia. Thus, in the media school, the students are only trained technically to prepare them to become potential journalists and broadcasters, but rarely PR professionals. As one PR educator pointed out, the PR curriculum might be ‘varnished’ in the media school and then would be re-developed in the business school, as this would give strong awareness among top business leaders of the importance of the role of public relations in their organisation (Khattab, 2000).

The notion of turning non-professional people into highly skilled professional staff can be daunting. However, the focus lies on how the universities propose programmes of study. There is a need to have a double major or multidisciplinary course to allow PR students to excel. The thought of ‘first-class and second-class students’ may jeopardise the future careers of students regardless of whether they are studying in the business or media school. Importantly, a responsible department which offers a PR curriculum should review and modify the pedagogy of the curriculum based on

research development. Coombs and Rybacki (1999) argued that there is a need to improve the pedagogy of public relations, as there are a number of US PR academics lacking competency in delivering an effective PR curriculum.

In fact, it is not enough to say that the media school has only delivered a fundamental knowledge of public relations to students. Indeed, schools and universities have a huge responsibility to educate the students by offering curricula that are more structured, coupled with student development programmes facilitated by professional companies specialising in training and development, such as PricewaterhouseCoopers. Indeed, the best suggestion here is that the PR curriculum should be housed in its own school. Alternatively, media schools that offer a PR curriculum should collaborate with business and management schools by developing joint programmes; hence, PR students would be able to take appropriate business and management courses such as marketing strategies, strategy management, corporate strategy, investor relations and suchlike.

Surprisingly, many practitioners and academics agreed that the private universities offered better PR curriculum to potential PR practitioners than public universities. This finding is probably due to the changing demands of the PR workforce in the growing Malaysian PR industry. It is claimed that private universities have designed a more structured and interesting PR curriculum, which is more competitive, based on the high market demand. The more PR graduates are employed by major corporations, the more students may study in public relations in their universities, as one of private universities' ultimate goals is profit maximization.

For example, a private university like the University Tunku Abdul Rahman (UTAR) is, it seems, able to afford to offer an undergraduate degree in public relations, while many public universities can only offer a major in public relations as part of an undergraduate degree in mass communications in general. In addition, many public universities which offer a PR curriculum in their mass communication programme need to follow rigid procedures to obtain approval from the senate of the university to remove or modify the curriculum. Thus, these procedures may result in a slow process of updating the curriculum, as it is difficult to propose a revised curriculum to the senate of the university without having concrete reasons. It has frequently happened that the heads of the schools of mass communication who chair the senate meetings are not specialists in public relations.

Due to the shortage of PR academics, it is very difficult to defend a revised curriculum in a senate meeting. Therefore, a professional body like the IPRM should play an important role in accrediting the PR curriculum; hence, this association should propose high standards for the PR curriculum to be taught in public universities. The associations proposals, which would be rigorously developed based on PR research, can be discussed with the heads of school and would be presented to the senate of the university to obtain official approval.

Further to this discussion, it is worth noting how PR academics and practitioners view PR publications and research development. Clearly, this key theme is rather lacking, as PR academics have published a limited number of academic publications about public relations. Surprisingly, it seems that practitioners neither value local PR research nor use academic research as a key reference in performing their duties. Apparently, the perceptual gap between scholarship and practice seems to be increasing, as new generations are more likely to work in professional practice rather than becoming PR academics. In fact, many PR academics are considered busy working as the 'typical teacher' who is responsible for delivering fundamental knowledge to students but not educating them with appropriate and rigorous practical knowledge with which each student may practise in the real world. Moreover, this 'typical academic' may not be interested in producing research articles, particularly in the public relations field. Thus, there is a dire need to improve PR education and research development, as it may directly impact on the standards of PR professionalism in Malaysia.

Specialised Knowledge and Professional Skills of Public Relations

In order to attain greater PR professionalism, it is important for practitioners to identify and justify the knowledge and skills required for public relations. Overall, most informants (academics and

practitioners) pointed out confidently the specialised knowledge and the professional skills which practitioners should acquire in order to venture into today's business environment. It seems that most PR practitioners and academics are in complete agreement that public relations is a part of strategic communication management. As a PR manager from the commercial corporation argued:

“PR should go beyond traditional function that is media relations and publicity. Today's PR practitioners should master *mass customisation* (marketing), *customer relations management*, *database management* and new technology. A communication strategy is a key for successful PR programmes. I like new PR function, *financial communication*. We must know how to read financial statements and discuss this with other managers. We work here as a team to meet the department objectives. When you know about management aspects, then, people will recognise you as a good manager”.

A PR practitioner from the banking institution, emphasising the importance of a PR degree for competent PR practitioners, confidently pointed out:

“First, we should develop a body of PR knowledge. The PR degree is very important for PR practitioners. Then, PR practitioners should master core PR skills such as writing skill, presentation skill, research skill and other communication skills. On top of that, practitioners need to be trusted and ethical, which are intangible skills. They should help their organisation to manage trust to the publics. Our skills should be aligned with our cultural diversity”.

The key knowledge that informants suggested was:

- a) Knowledge of business operation (corporate strategy, business units, core products/services, and basic accounting)
- b) Knowledge of information technology
- c) Knowledge of government policies
- d) Knowledge of political communication
- e) Total Quality Management
- f) Crisis management
- g) Marketing (customer relations)
- h) Advertising
- i) Journalism (media relations)
- j) Finance (financial communication)

The professional skills that informants pointed out were:

- k) Communication skills
- l) Writing skills
- m) Leadership skills
- n) Being ethical
- o) Research skills
- p) Good personality (personal competencies)
- q) Strategic thinking

Apparently, there is consensus regarding the importance of the public relations knowledge and skills which practitioners should gain to practise public relations. However, there is a perceptual distance between the desired outcomes of the PR knowledge and skills which current practitioners have acquired in the real world and the mode of delivery of PR knowledge and skills which current academics utilise in the academic world. This finding is closely related to the theoretical framework of this study, which needs to match the professional practice that is desirable among PR academics and the professional practice that exists in the real world. Thus, universities and the IPRM should be responsible for providing the knowledge and skills required for PR practitioners.

When asked about the unique knowledge and skills PR practitioners should acquire, a PR academic from the public university said:

“PR practitioners are required to master in a wide range of knowledge such as journalism, advertising, business, government policies, and ethics, and also the professional skills such as writing skills, research skills, communication skills, and computer skills. They should also undergo PR professional trainings to master those knowledge and skills”.

Indeed, PR practitioners need to master additional complex technical and managerial tasks such as online public relations and crisis management, not only media relations and event management. In order to standardise the unique knowledge and skills required for PR practice, strengthening PR accreditation would be a key solution for empowering practitioners towards a greater standard of professionalism in public relations.

PR Accreditation and Licensing: The Role of the Institute of Public Relations Malaysia

PR accreditation and licensing is central to the development of professionalisation for the PR profession. Specifically, the role of a professional association is very important in developing accreditation and licensing. The regulatory body is responsible for setting membership for the PR fraternity. Membership is granted to well-qualified PR practitioners who might then have a higher status and gain more prestige, which might result in higher income/fee earning possibilities (Neal & Morgan, 2000: 17)

Almost all informants agreed that there is a need to improve the accreditation of public relations; hence, this profession may gain better recognition from the general public. Informants also stressed that having proper accreditation gives many advantages to the PR industry. Currently, this profession has suffered from having a bad reputation with the general public, as there are still many non-qualified practitioners practising public relations. Therefore, informants felt that offering accredited certificates to practitioners might project a better profile for the PR industry as a whole. Some also emphasised the importance of licensing to improve the value of this growing field by arguing that licensing would legitimise members who had become competent PR professionals. It seems that the role of a professional body such as the IPRM is central to develop better accreditation and licensing for a public relations profession.

Although a majority of informants were not impressed with the role of the IPRM in shaping accreditation and licensing, there was no agreement between academics and practitioners regarding the perception of the professional status of PR: some suggested viewing this profession in the same way as ‘learned’ professions such as medicine, law or engineering, while others suggested that it should become a serious profession focusing on strategic management. In order to realise these aspirations, informants emphasised that professional bodies like the IPRM, PRCAM and IABC should govern a great deal of the efforts to improve the accreditation and licensing. Thus, practitioners should seriously adhere to a code of ethics developed by a professional association such as the IPRM. Informants argued that there are two reasons why the IPRM has not yet established proper accreditation nor made a substantial contribution to the Malaysian PR industry. First, the IPRM is led by PR academics, not by senior PR practitioners who possess higher PR qualifications and substantial practical experience in this field. Second, there seems to be internal politicking around council members of this association. Thus, the membership of this association is open to the public, not to specific practitioners who have proper PR qualifications and practical experience.

Compared with established professional occupations such as medicine and engineering, the IPRM may play a unique role to improve the PR industry. A PR academic from the established public university noted that:

“In terms of accreditation, the IPRM is supposed to evaluate and accredit the PR curriculum in local universities. But this association is not really effective to increase the memberships and strengthen the accreditation. I

think there is internal politicking among council members. In fact, there is no networking between PR academics and practitioners to create better accreditation. I think we should learn from other established professional bodies like the MMA⁸ or IEM⁹, they have a ‘strong’ accreditation for their members. I think the IPRM should consult this matter with the Ministry of Education to gain proper accreditation, as the National Accreditation Board may help this association to tackle this issue seriously. Apart from accreditation, PR practitioners should practise self-regulation when they make decisions to get their work done”.

Concerning the international benchmarking standards, a senior PR practitioner in a big food and beverage corporation disclosed that:

“The IPRM should get international accreditation. It is only then we can compare if our practitioners are truly world class. Meaning, if we are accredited in Malaysia, we should be able to also work in similar capacity in New York or London. Otherwise, ‘How can Malaysian practitioners benchmark themselves?’”

Besides reinforcing proper regulation, the importance of self-regulation among academics and practitioners cannot be ignored. Sriramesh and Vercic (2003) pointed out that practitioners are urged to regulate themselves in a good manner such as being ethical, being credible and making the right decisions in performing their duties. Practising public relations in the Malaysian context, informants stressed that practitioners should be more sensitive and cautious with Malaysian culture and norms. This sensitivity and caution can be built up through self-regulation and self-learning. Therefore, to be successful, it is important for practitioners to move away from the notion that their superior is keeping an eye on them when practising public relations and instead to manage their work professionally and with full dedication and commitment. As one managing director of the global PR firm pointed out:

“In terms of self-regulation, we should be more ethical. Here, we are no longer working for cigarette companies. But we still have clients from alcohol companies, but as a Muslim, I am not handling this part. We’ve non-Muslim employees to run that business. We can’t say ‘no’ when our clients asked us to do that. However, here, there is a diversity of working staff consisting the Malay, Chinese and Indian. I am very cautious about the sensitivity of our work. I’ve got to balance between business and cultural sensitivity. We should respect our culture, as that is our identity. Our culture and religious activities do not hinder the way we manage our work”.

In order to see an improvement in increasing the standards of the professionalism of public relations, academics and practitioners should work hand in hand to produce an excellent body of PR knowledge. Besides teaching the PR curriculum, PR academics should be more committed to producing more research focusing on the real-world effect and they should then build appropriate academic theories. At the same time, practitioners should help the universities by actively supporting applied PR research. Practitioners must actively participate in seminars and debates on bridging theory and practice in public relations. In fact, by developing a ‘Centre for Excellence in Public Relations and Communication Management’, a professional body such as the IPRM may provide more room for practitioners to participate in this applied research rather than focusing on arranging social gathering activities.

Furthermore, senior PR practitioners can be described as managerial strategists, and there should be more enthusiasm among them for conducting applied research regarding national and international PR practices using appropriate academic theories as a key reference in managing the

⁸ Malaysian Medical Association

⁹ Institute of Engineers, Malaysia

communication policies for their organisations. Through this process, where everyone plays a specific role, the IPRM may propose proper accreditation based on applied PR research projects carried out by practitioners and academics. Therefore, this effort directly and indirectly would improve the profiles of the Malaysian PR industry. This could be followed by developing strategic alliances with the established international PR educational and professional bodies such as the Chartered Institute of Public Relations (CIPR), the Public Relations Society of America (PRSA), the European Public Relations Education and Research Association (EUPRERA) and the Global Alliance of Public Relations and Communication Management (GA).

Continuous Professional Development

One of the prime purposes of the establishment of the Institute of Public Relations Malaysia is to offer a range of professional qualifications, which might differ slightly from the academic qualifications that are taught in a university, to enhance holistic understanding and practical knowledge of public relations. This process is known as continuous professional development.

Most informants are in absolute agreement regarding the importance of continuous professional development among practitioners to practise their knowledge and skills for their career development. Academic informants said that nowadays, many practitioners who work for large corporations value higher education and have also been trained in a multi-disciplinary system. In fact, attending professional training may increase the knowledge practitioners have of public relations by updating them with the latest trends in the PR industry. Professional informants found it extremely important that practitioners should be provided with continuing education for the rest of their life. Besides having a professional degree, participating in seminars, forums and workshops is essential for practitioners and academics. Although many organisations have a staff professional development plan for their employees, continuous professional development, which should be provided by the IPRM, would offer the exclusive knowledge and the skills required in the public relations profession to prepare practitioners to become PR professionals. As a PR academic from the private university said:

“To be successful, PR practitioners should undergo professional trainings developed by the PR professional body to polish their knowledge and skills. The IPRM should develop better professional trainings for PR practitioners. So that, PR practitioners are capable to be involved in a decision-making process, and will voice their concerns regarding the PR functions to the top management”.

By stressing the importance for practitioners of projecting self-reputation, a senior PR practitioner from the national banking institution noted that:

“Continuous professional development is very important for PR practitioners. PR practitioners should have a lifelong education. Apart from a degree they hold, they should participate in professional trainings, seminars, public forums, and workshops. They need to be forum leaders and also write conference papers. It is important for them to project their personal reputation”.

Emphasising acquiring academic and professional qualifications for PR practitioners, a head of public relations from the electricity company pointed out that:

“To be top PR practitioners, first, you must hold a first degree. Second, you have to further your study to have a master’s degree. Third, you have to participate on-going professional programmes. These three criteria are very important for PR practitioners”.

It has been said that the IPRM have offered a number of professional diplomas and certificates in public relations (Raman, 1999). However, some practitioners have argued that the professional certificates and diplomas offered by the IPRM do not follow global benchmarking standards.

Therefore, the IPRM, in collaboration with the universities, should strengthen its professional diplomas and certificates to enhance the quality of PR education.

The Key Functions of Public Relations

Further discussion about continuous professional development, identifying the key functions of public relations, is especially significant for the growth of the PR industry. Academics and professional informants reported that two key functions of public relations need to be paid considerable attention when practising public relations. These key functions can be described as the technician role and the managerial role.

The key technician roles are:

- a) Publicity
- b) Media relations
- c) Event management
- d) Organisational publications

At an advanced level, the key managerial roles are:

- a) Image/reputation management
- b) Corporate branding
- c) Financial PR
- d) Issue management
- e) Political communication and legal relations

It seems informants realised that the technical and managerial roles mentioned are important and that they need to be rigorous to manage their work effectively. However, it is arguable whether PR practitioners fulfil the complex and sophisticated technical and managerial tasks, as there is a lack of formal measurement techniques to measure intangible benefits to organisational strategy development. A senior PR practitioner from a leading food and beverage company disclosed that:

“We don’t have the ‘hard evidence’ as we don’t have a formal measurement system. Our success factors are based on results/outcomes expected from each PR activity/campaign as well as the sustainability of each programme. Most of the PR works we execute don’t have ‘tangible’ outcomes except for media coverage, a number of people attending events, key messages being repeated, etc. We had suspended our corporate image survey a couple of years ago, as the results were positive and hardly changed year after year. We will probably invest in another reputation survey in 2006/2007”.

It is understood that public relations always delivers intangible outcomes, but it is useful to seek some benchmarking standards to measure its intangible benefits to organisational business performance. Importantly, the involvement of public relations in policy making requires attention and becomes one of the key modes of easily accessing the boardroom or the top management level. Thus, improving these identified technical and managerial roles can enhance the standards of PR professionalism and may also open new opportunities for future PR strategists. As a PR practitioner from the banking institution pointed out:

“PR is a part of management, whilst communication is only a tool. An effective PR programme requires strategic management. We build objectives of the programme. Then, we do action plans based on the budget given by top management. Then, we run the PR programme. Once the programme is done, we evaluate and measure our reputation of organisation to see the outcomes of the PR programme we have implemented”.

In the light of becoming a ‘true’ profession, the future technical and managerial functions of public relations would be more complex and sophisticated. Importantly, Forman and Argenti (2005:

261) argued that corporate communication programmes should be quantifiable using formal measurement techniques and complex strategic PR tools, such as primary stakeholder surveys, media content analysis, readership surveys and focus groups.

Conclusion

Thus, the Institute of Public Relations Malaysia (IPRM), the national PR professional association, once fully established, will represent the industry's voice in Malaysia and will serve to dispel the bad image of the industry, which is it is dying. The truth is there is an urgent need to propose a radical change to its leadership and management, and then this association might empower its members to focus strategically on high professional management. Thus, under the new leadership of Shameem Abdul Jalil, it is hoped that the revolutionary momentum of her team will improve the emergence of this industry.

In conclusion, fostering the role of the IPRM, enhancing the quality of PR education, as well as developing the body of rigorous PR knowledge should be prime goals amongst PR academics and practitioners. As part of this aim, focusing on the strategic management process and appreciating diversity and multicultural values would be key benchmarks toward higher standards of professionalism in public relations in Malaysia. Thus, the future of public relations lies in the innovative role of the current generation of public relations practitioners who may become new talented PR professionals.

The research seeks to offer an in-depth and thorough exploratory study with regard to the professional and educational standards of public relations. Both professional and educational development are important to produce key PR leaders to improve the industry. Indeed, although most academics and practitioners agreed that public relations should be regulated with emphasis on two key elements, accreditation (registration) and licensing, and training and qualifications, there is no agreement on the desired knowledge and skills the 'real' PR practitioners require.

However, some of the data gathered relating to the knowledge and skills (e.g. management, marketing, finance, and journalism) required for public relations are rather disappointing, as they are neither unique nor even distinctive. Thus, it is difficult to determine the scope and limitation of public relations. It seems that there is no perception of a clear exclusive jurisdiction of public relations among the PR practitioners and academics interviewed.

References

- [1] Cameron, G., Sallot, L. & Weaver-Lariscy, R. (1996). *Developing Standards of Professional Performance in Public Relations*. Public Relations Review Vol. 22, No. 1, pp. 42-62. JAI Press Inc.
- [2] Coombs, W. T. & Rybacki, K. (1999, Spring). *Public Relations Education: Where is Pedagogy?*. Public Relations Review. Vol. 25, No.1, pp. 55-63. JAI Press Inc.
- [3] Cutlip, S. M., Center, A. H. & Broom, G. M. (2000). *Effective Public Relations*. London: Prentice Hall International, Inc.
- [4] Daymon, C. & Holloway, I. (2002). *Qualitative Research Methods in Public Relations and Marketing Communications*. London: Routledge.
- [5] Ehling, W. (1992). *Public Relations Education and Professionalism*. In Grunig, J. Excellence in Public Relations and Communication Management. New Jersey: Lawrence Erlbaum.
- [6] Elmer, P. (2000). *Beyond Professionalism: A Government Relations Model*. Corporate Communication: An International Journal. Vol. 5. No. 4, pp.190. MCB University Press. Available online (<http://www.emerald-library.com>). Accessed on 10 April 2003.
- [7] Forman, J. & Argenti, P. (2005). *How Corporate Communication Influences Strategy Implementation, Reputation and the Corporate Brand: An Exploratory Qualitative Study*. Corporate Reputation Review. Vol. 8, No. 3. Henry Stewart Publications.
- [8] Grunig, J. E. & Hunt, T. (1984). *Managing Public Relations*. Forth Worth, Unites States. Harcourt Brace Jovanovich College Publishers.
- [9] Grunig, J. E. (2000). *Collectivism, Collaboration, and Societal Corporatism as Core Professional Values in Public Relations*. Journal of Public Relations Research. Vol. 12, (1), pp. 23-48. Lawrence Erlbaum Association, Inc.
- [10] Idid, S. A. (2004). Public Relations in Malaysia its Colonial Past to Current Practice. In Sriramesh, K. (2004). *Public Relations in Asia*. Australia: Thomson Learning Pte Ltd.
- [11] Kruckeberg, D. (1998, Summer). *The Future of Public Relations Education: Some Recommendations*. Public Relations Review. Vol. 24. No. 2. pp.235-248. JAI Press Inc.
- [12] L'Etang, J. (1999, Fall). *Public Relations Education in Britain: A Historical Review in the Context of Professionalisation*. Public Relations Review, Vol. 25, (3), pp. 261-289. Elsevier Science Inc.
- [13] Mallison, B. (1996). Public Lies and Private Truths: An Anatomy of Public Relations: London. In L'Etang, J. (1999, Fall). *Public Relations Education in Britain: A Historical Review in the Context of Professionalisation*. Public Relations Review. Vol. 25, (3), pp. 261-289. Elsevier Science Inc.
- [14] Kaur, K. (2002). Public Relations Professionalism in Malaysia. In Sriramesh, K. (2004). *Public Relations in Asia*. Australia: Thomson Learning Pte Ltd.
- [15] Khattab, U. (2000). *Perhubungan Awam dalam Iklim Panas: Nama Baru, Wajah Lama; Pindah Randah, Papa Kedana?* (Public Relations in Malaysia: New Name, Old face). Journal of Communication. Department of Communication, National University of Malaysia.
- [16] Parkinson, M. (2001, Fall). *The PRSA Code of Professional Standards and Member Code of Ethics: Why They are Neither Professional nor Ethical*. Public Relations Quarterly. Vol. 46. No. 3. United States. Available online (<http://search.epnet.com>). Accessed on 10 April 2003.
- [17] Raman, P. (1999, 25 May). *Programmes to Develop PR Professionals*. New Straits Times. Appointments Career and Training: 29. Available online: <http://adtimes.nstp.com.my> on 24/1/2005.
- [18] Moncur, C. (2006). *Debate Paper. Embracing PR theory: An Opportunity for Practitioners?*. Journal of Communication Management. Vol. 10, No. 1, pp. 95-99. Emerald Group Publishing Limited.

- [19] Neal, M. & Morgan, J. (2000). *The Professionalisation of Everyone? A Comparative Study of the Development of the Professions in the United Kingdom and Germany*. European Sociological Review, Vol 16, No. 1, pp. 9-26. Oxford University Press.
- [20] Nelson, R. A. (1994). The Professional Dilemma. PR Update. In Sallot, L. M., Cameron, G. T., & Weaver-Lariscy, R. A. (1996, Spring). *Developing Standards of Professional Performance in Public Relations*. Vol. 22, No. 1. pp.43-61. JAI Press Inc.
- [21] Newell, S. (2004, 20 August). *Looking East*. Corporate Reputation Management. PR Week. London: Haymarket Business Publications Limited.
- [22] Sallot, L., Cameron, G., & Weaver-Lariscy, R. (1997, Fall). *Professional Standards in Public Relations: A Survey of Educators*. Vol. 23, No. 3, pp. 197-216. JAI Press Inc.
- [23] Singh, R. & Smyth, R. (2000, Winter). *Australian Public Relations: Status at The turn of the 21st Century*. Vol. 26, Issue 4, pp 387-401. Public Relations Review. Available online (www.sciencedirect.com). Accessed on 29 March 2003.
- [24] Smith, D. (1990). Public Lies and Private Truths: An Anatomy of Public Relations: London. In L'Etang, J. (1999, Fall). *Public Relations Education in Britain: A Historical Review in the Context of Professionalisation*. Public Relations Review. Vol. 25, (3), pp. 261-289. Elsevier Science Inc.
- [25] Sriramesh, K. & Vercic, D. (2003). *The Global Public Relations Handbook*. New Jersey: Lawrence Erlbaum Associates.
- [26] Stacks, D. W., Botan, C. & Turk, J. V. (1999, Spring). *Perceptions of Public Relations Education*. Vol. 25, Issue 1, pp. 9-28. Public Relations Review. Available online (www.sciencedirect.com). Accessed on 29 March 2003.
- [27] Varey, R. & White, J. (2000). *The Corporate Communication System of Managing*. Corporate Communications: International Journal. Vol. 5, No. 1, pp. 5-11. MCB University Press.
- [28] Walker, P. (1993). Careers in Public Relations – The European and International Dimension. London. In L'Etang, J. (1999, Fall). *Public Relations Education in Britain: A Historical Review in the Context of Professionalisation*. Public Relations Review. Vol. 25, (3), pp. 261-289. Elsevier Science Inc.
- [29] Walter, N. (2001, 3 August). *Global Ranking: Asia*. PR Week. London. Haymarket Business Publications Limited.
- [30] White, J. & Murray, K. (2004). *Chief Executive Officers' Expectations of A Changing Public Relations Practice*. Proceeding of BledCom 2004. New Concepts and Technologies for Public Relations, Public Affairs and Corporate Communication. Paper presented in the special session at the International PR Research Symposium, at Lake Bled.
- [31] Wilensky, H. L. (1964). *The Professionalisation of Everyone?* American Journal of Sociology. Vol. 70, (2), pp. 137-158.

Staff Regulation and Disciplinary Procedures in Delta State Local Government

Akpomuvire Mukoro

*Department of Local Government Studies
Faculty of Administration Obafemi Awolowo University
Ile-Ife, Osun State, Nigeria
cmmukoro@yahoo.com*

Abstract

The staff regulation (scheme of service) is an embodiment of operational rules and regulations meant to guide the performance of employees in the local government service. As a repository for managing personnel matters, the local government service commission uses the staff regulation to guide and sanction workers in the councils in the course of conducting government business, such that the overall performance of employees become enhanced.

Through the Weberian postulate of legal/rational process, this paper argues for the fact that management must be dispassionate with the exercise of operational regulations and the discipline that should accompany a breach of the process. It advocates for leadership by example and the need for all statute to be made available and understandable to workers. Most especially, this paper recognizes the need for stake holders to be involved in the design of existing statute so that the influences of the environment would become reflected in its appearance and with its functioning.

The general conclusion arrived at in this paper is that majority of the council workers in Delta State, are in service without a sufficient knowledge of the scheme of service. Therefore, there is the need for extensive staff training and development and constant appraisal of the workings of the local government system itself.

Keywords: Staff Regulation, Discipline, Local Government, Nigeria.

1. Introduction

Every organization that is established for the sole purpose of fulfilling its set goals and objectives must operate with a body of rules and guidelines that constitutes staff regulation. In the local government system, staff regulation comprises the rules and regulations guiding all employees (both junior and senior) in all the local governments in the federation. The present situation is that the necessary portions of the approved scheme of service, guidelines for local government operations, hand book on local government administration and the various reform measures embarked upon by the federal government are extracted to form the staff regulation for each state of the federation. Staff regulation can aptly be described as the Ten Commandment which must be religiously followed and with strict and abiding adherence by every civil servant. Egbo (1992: 167 – 168) describe it as “the guide for all civil servants in the course of conducting government business, as well as rules governing their conditions of service”.

The civil service rules in Nigeria is an offshoot of the British “Establishment Code”. By dint of history, the establishment code of the British civil service was transferred to Nigeria and remodeled into what became known as the “General Orders”, used to define the conditions of service of civil

servants in Nigeria. After the attainment of independence in 1960, the first indigenous civil service rules and regulations that replaced the General orders of the British Colonial government came into being in 1964.

Concerning the local government proper, the present Delta State was governed by the laws governing the old western region. There was an elected council in place, but as a result of the problems arising from the improper use of personnel, a local government service Board was established and charged with the control of personnel administration of the senior staff (Orewa and Adewumi 1983: xiii), while the individual local governments had their junior staff management committees (JSMC) for junior officers. On the creation of the mid-western region that later became Bendel State, the development Administration system was introduced which later became very problematic. During this period, the local government service ‘lacked qualified staff partly because it could not guarantee the security of tenure of its own staff and because it had no workable regulation over its staff’ (Adamolekun and Rowland 1979: 145).

By 26th May, 1976, the Development Administration type of local government system was abolished in favour of the new local government reform measures instituted by the Federal government (Adamolekun and Rowland, 1979: 147). The 1976 reform introduced a unified system of local government administration nationwide. Also, it had as one of its objectives the need for local governments to maintain sustained progress, become forward-looking, development oriented and cost conscious. Importantly, the 1976 guidelines on local government reform went ahead to prescribe for a local government service board that would be responsible for all “employment, postings, discipline e.t.c of all members of the combined local government service’ (guidelines 1976: 11). In addition, the board is empowered to delegate minor disciplinary matter to Establishment committees of local governments subject to the right of appeal to the local government service board which should also serve in an appellate capacity in respect of disciplinary matters over staff of the local government councils.

Arising from the 1976 reform, is the provision for the local government Edict (Laws). In line with the nation’s constitution, the then local government laws of Bendel State laid down the foundation for:

1. The making of financial memoranda.
2. The making of staff regulation.
3. The need for taking proper steps when awarding contracts.
4. The collection of adequate revenue for the local government
5. The proper utilization of funds to the benefit of the citizens.
6. The need for proper auditing of the local government accounts.

(Bendel State of Nigeria 1977).

Staff regulation deals with appointment, salaries, promotion and transfer, discipline, termination of appointment, duties and responsibilities of the service, leave etc. Nowadays however, instead of the staff regulation, we now have the scheme of service which came into operation after the 1988 civil service reform. The scheme of service or staff regulation are one and the same thing. What matter to us however in this paper is why there is laxity and poor performance of staff over assigned responsibilities in the local government when there are standing regulations and disciplinary measures to put workers on check? It is also pertinent to find out why disciplinary measures have not effectively served the purpose for which it was meant in the local government system.

2. Study questions

Contrary to the erroneous belief that the civil service rules and staff regulations at the local government level are hindrance machinery to productivity and efficiency, they are rather a body of rules and regulations put in place to govern and regulate the conditions of service and conduct of public officers.

Regulations, rules and disciplinary procedures are meant to control behaviour, ensure orderliness and achieve organizational goals. Nonetheless, what is noticeable is that many of the employees of local government are hardly aware of the existence of staff regulation and what it entails. Also, there is the observed preponderance for instituted sanctions and disciplinary procedures not to carry the necessary weight that they deserve. Another critical question that has to be answered is why the major guidelines and regulations that should determine the performance of personnel and that of the councils have to be articulated and designed by the central (federal) government for the local governments.

These questions together with the desire to proffer solutions to the nagging problems of poor performance and low productivity in the local governments form the kernel of this study.

3. Study Assumptions

Arising from the observed problems mentioned above, some basic points of analysis are propounded hereunder to guide the study.

1. The level of education of a staff has no direct bearing on his level of discipline.
2. Sex will have no significant influence on the obedience of the order of staff regulation.
3. The longer a staff stays on a job, the more conversant he becomes acquainted with the staff regulation.
4. The status of staff has no bearing on the contravening of staff regulations.

4. Theoretical Framework

The civil service plays a very vital role in shaping the social, economic and political development of a country. As a governmental organization set up for the purpose of actualizing some contractual obligations between governments and the governed, the idea of staff regulation and disciplinary procedures in local government would be analyzed in this paper against the backdrop of the 'Bureaucratic Theory'.

The chief exponent of bureaucratic theory is Max Weber. As a sociologist, Weber's main contribution to organization theory is a classification of organizations by reference to their types if internal authority system and in particularly the basis upon which authority within an organization establishes a claim to legitimacy (Weber 1947:328). Weber classified authority into

1. The charismatic.
2. The traditional.
3. The rational/legal.

The first classification is located in an individual (leader), whereby he demands for obedience through his claim to moral authority. This claim can not last long given the relative fragility of man.

The second authority classification rests purely on the strength of custom with the location of authority being determined by tradition, like from father to son. In this, rationality cannot work as compliance is based on blind obedience.

The rational/ Legal authority according to Weber is far more superior. In this, authority is vested in an impersonal order, or body of impersonal rules, to which all who fall within its sphere of jurisdiction are equally subjected. This to Weber forms the basis of an ideal bureaucratic organization because of its nature of 'impersonal abstraction'. (Mukoro, 2000: 33). The clear essence of bureaucratic organization is the well-designed machine within which all the component parts work efficiently and without distraction towards the maximum attainment of some clearly defined goal or goals. The main features of bureaucracy according to Henry (2002: 54 –55) amounts to;

1. Hierarchy.
2. Promotion based on professional merit and skill.
3. The development of a carrier service in the bureaucracy.

4. Reliance on and use of rules and regulations.
5. Impersonality of relationships among career-professionals in the bureaucracy and with their clientele.

The presentation of Henry above derived from the position of Weber, and it emphasizes the fact that because of the preponderance of rules and routine procedures, the ideal bureaucracy impact rationality and efficiency in the attainment of organizational objectives. This means that the exercise of authority does not depend upon the strength of traditional association, or on the charismatic qualities of an individual, but rest instead upon the general recognition of the legitimate right of a particular office within the hierarchy to exercise such authority.

This is what Weber termed 'spirit of formalistic impersonality', when he said;

The dominant norms are concept of straightforward duty without regard to personal considerations. Every one is subject to formal equality of treatment; that is, everyone in the same empirical situation. This is the spirit in which the ideal official conducts his office (Weber, 1947: 340).

Weber's discussion of bureaucracy brought about immense interest amongst scholars of the classical school on how to ensure organizational efficiency. Principal amongst these scholars are Frederick Taylor, L.P. Urwick, J.D. Mooney, Henri Fayol etc. The position of these scholars was that wherever men have work together for common purpose, there have to be a centre of energy who represents the chief executive, who in turn exercises control over employees. The ultimate objective being to contribute meaningfully towards bringing about efficiency (Mouzelis, 1975: 16- 18).

5. Discussion/Review

The staff regulation lays down the procedure for staff appointment, posting, transfer, promotion and discipline. It also deals with what an employee should do or should not do in connection with his official duties when in service. The staff regulation is one of the major instruments used by the local government service commission in each state as the agency for personnel management at the local government level (Sule 1992: 11)

By 1974 when the Udoji Commission report came into force, it lamented that; 'There is a lack of clear definition of authority and responsibility for the overall management of the civil service' (Public Service Review Commission 1974). This lamentation largely accounted for a recommendation for the establishment of the civil service commission to handle the functions of recruitment, promotion, maintaining moral and efficiency, discipline, termination of appointment etc.

As a corollary to the Udoji report, the Federal government came up with a local government reform in 1976 that drew extensively on the Udoji Commission report. The 1976 reform initiated a unified system and prescribed for the setting up of local government service commission for each state. This board or commission is made 'responsible for all employment, posting, discipline etc of all members of the combined local government service' (Guidelines for local government Reform 1976: 11)

From the standpoint of personnel management for which the civil service and the local government service commission's were charged, their duties towards more effectiveness and efficiency is hampered greatly because they do not have power to determine conditions of service, formulate or review workers condition of service, make civil service rules, formulate wage administration etc. This practice negates the Fayol's classical prescription of responsibilities being matched with authority (Fayol, 1971: 20).

Although, the local government service commission feels more comfortable with the usage of the term staff regulation, what is really being used to manage its personnel is the scheme of service. The present scheme of service which originated from the 1988 local government reform, is an update of the review exercise carried out by Allison Ayinda's Committee of 1996, to review the entire civil service. The high points of the scheme of service is to "attract, retain and motivate the vast majority of

local government employees to maximum efficiency, creativity and productivity” (scheme of service, 1999: 11). The major areas of the service that the scheme poised itself to handle are

1. The job description which outlines clearly the scope and nature of work which employee is to perform.
2. The entry qualifications and experience required for appointment.
3. The salary scale and
4. The conditions for carrier progression.

The scheme of service has undergone periodic reviews by the federal and the state governments. This document which is fashioned and designed by the central government and reviewed by the state government is meant for the use of the local government. For one, this method of decision-making undermines the bottom-up process where stakeholders are supposed to be involved in deciding issues that directly affects them. Rather, it employs the top-bottom approach that gives too much latitude for the central (federal) government to decide the fate of the operations of local government without having to involve the principal and primary beneficiaries. This goes to explain why the implementation of these imposed policies are always very problematic to implement and why there is general laxity, inefficiency in job performance and why disciplinary procedures do not carry the authority and enforcement that should be there.

Another major handicap preventing the staff regulation from engendering the pursuit of efficiency, discipline and work ethics among local government staff is that the document is very scarce and many staffers in the field do not know whether such an important document exist apart from the senior officers at the local government service commission and very few in the field.

Oguafor at a public forum had to comment that;

The new entrant into the service is handicapped and sees staff regulation as strange. Nearly all the local governments in the federation are being run more or less like railway stations in India where everybody commands and nobody obeys. Indiscipline is rife, graft and venality are on the increase and no one is there to apply the brakes for decency (Oguafor 2001: 10).

As at 1996, the local government service commission highlighted its functions to amongst others involve;

- (I) Set up general uniform guideline for appointment, position, promotion and discipline especially of senior staff.
- (II) Monitor the activities of each local government on appointment, discipline and promotion of local government employees on grade level 01-06 in order to ensure that the guidelines are strictly and uniformly applied (Annual report, Local Government Service Commission, 1996:2).

These duties and responsibilities covered total staff strength of 6, 038 comprising 1,784 senior staff and 4, 254 junior staff. From this total, the commission disciplined one senior staff and 63 junior staff. The senior staff nature of discipline was warning, while for the junior cadre 16 were dismissed, 28 terminated, 1 interdicted, 8 suspended, 9 warnings and 1 for others (Annual report 1996: 6-7).

Starting from 1991, the staff strength of all the local governments in Delta State stood at 3, 721. Of this number, only five junior staff in Bomadi local government were reprimanded (Annual report of local government service commission 1991).

By 1992, the staff strength had risen to 5, 370, comprising 1, 099 senior officers and 4,271 junior staff. From this number only 8 erring officers were disciplined. Dismissal claimed 1 staff, termination 2, interdiction 3 and reprimand involved 4 staff (Annual report 1992). As of 2003, the staff strength of twenty- five local governments in the state is slightly lower than 7,000. The machinery for staff discipline has not been known to be brought under sharp focus in the service.

Clearly, the foundation for exercising a reasonable disciplinary procedure is when there are good motivational factors in place. There should also be an unfettered communication flow. Essentially, discipline can be obtained both through reward and through punishment. But punishment is only expected if accepted norms of behavior are not upheld. Therefore, behaviors expected from

workers must be made known to them. This is unlike the situation presently where most employees in the local government service are ignorant of existing rules and regulations and also where these regulations are not available for the staff in the councils.

Again, discipline should be exercised fairly with no favouritism or excessive penalties. This is so as not to create fear in the minds of workers, which in turn will encourage them to be more productive (Edokpa, 1989:158).

Arising from the Weberian theorem as applied above, it is expedient to understand that senior officers or management that are meant to enforce rules, regulations and discipline should not break same. Leadership by example is what is being advocated here. Also, disciplinary procedures should not be too rigid. Therefore, management should be able to understand the root cause of certain behaviour and the type of punishment that is expected. By this, more application of rationality, fairness and workers encouragement would be ensured (Weber 1947, Simon 1957, 38-39 and Parsons 1964).

The way the Nigerian local government system is presently being run especially concerning staff regulation and its relationship to performance enhancement, justifies the thinking of Fowler (1988:43) who said that;

1. Employees may eventually reach an acceptable standard but will take far longer to do so.
2. The standard which becomes the norms, may well be below the level which could be achieved, given positive action.
3. Employees response to changes in organization's need may be very slow.
4. The performance of some employees will deteriorate as they lose interest or fail to adjust to changing circumstances.

One last comment on the disciplinary procedure carried out by the commission is that members of the local government service commission exercises too much of discretionary powers. The laws do not tell us the exact punishment the commission should give to a particular case. Members can pronounce punishment unilaterally or with a combination of laws demanded by the scheme of service. In this regard, there is no guarantee that justice will be done as a lot of factors has to come to play, ranging from favouritism, biase, bribery, corruption and victimization. This is where it is suggested that section 42 of chapter IV of the 1999 constitution should be thoroughly re-examined so as to nip possible problems with the system at the bud.

6. Methodology and Analysis

In addition to an extensive use of secondary materials that comprised already published and documented sources, was the collection of samples from five local government councils, constituting the three senatorial districts of Delta State. The original intention was to use two local government councils from each of the senatorial districts, but serious problem was encountered at the Warri South West local government (Delta South Senatorial District) due to ethnic and communal feud and the exercise had to be abandoned there.

Questionnaires, sectionalized into two parts were used. Twenty questions were asked in each section made up of staff regulation (section one) and Disciplinary procedures (section two). Through the inferential method, the questionnaires were administered on purposively selected staff in each of the council. The design of the questionnaire was closed ended and responses were restricted to a choice of very low, low, average, high and very high for section A and an option of Yes or No for section B for disciplinary procedures. See Table I below for rate of returns.

Table 1: Rate of returns

S/N	Senatorial District	Local Governments	No Distributed	No returned	%
1	Delta North	Oshimili North	60	50	83
		Ndokwa West	45	25	55.56
2	Delta Central	Ughelli South	45	20	44.04
		Ethiope East	50	25	50
3	Delta South	Bomadi	40	30	75
		Warri South	-	-	-
4	3	6	240	150	62

7. Computation and Analysis

The collation and grouping of data obtained was conducted according to sex, year of experience and qualification. This is based on the earlier adopted basic assumptions. The Pearson Product Moment Correlation (P.P.M.C) and Sample Percentage were employed for the analysis.

For P.P.M.C, these abbreviations were used

SP - Sum of products of the data
 SSF - Sum of squares of data in respect of Female employees
 SSM - Sum of squares of data in respect of Male employees

$$R = \frac{SP}{\sqrt{SSM \cdot SSF}}$$

Where

$$SP = \sum E X Y - \frac{\sum E X \sum E Y}{N}$$

$$SSM = \sum EX^2 - \frac{(\sum EX)^2}{N}$$

R = Correction Coefficient

X = Male employees

Y = female employees

If R = 1,000, it implies perfect positive

If R = - 1,000, it implies perfect negative.

0.00 < r ≤ 0.20, the Correlation is very low and negligible

0.21 < r < 0.40, the Correlation is low

0.41 < r < 0.60, the Correlation is moderate.

0.61 < r < 0.80, the Correlation is high

0.81 < r < 1.00, the Correlation is very high and perfect.

The simple percentage was calculated based on the response by adding all the figures collected per stratum while the numerator is arrived at by multiplying the number of each situation by 5. Example, 40 for primary education i.e, the expected highest option multiplied by 20 being total questions answered. The chi-square was used to translate the second section of the questionnaire where responses were Yes or No. The formulae is;

$$X^2 = \sum_{1=E}^n \frac{(O_1 - E_1)^2}{E_1}$$

Where O = The observation frequencies.

E = The expected frequencies

See tables below for results of questionnaire retrieval result on the basic assumptions.

Table 2: Qualifications

S/N	Qualification	No of employees	Response	%
1	Pry. Six	40	120	3%
2	WASC	50	3,000	60%
3	OND/NCE/HND	30	2,400	80%
4	BA/BSC/BED/MSC	30	2,100	70%
	TOTAL	150		

Table 3: Sex

S/N	SEX	SP	SS	RCAL	RCRI
1	Male	6140	86700	0.19	0.16
2	Female		12020		

Ot = 150, < 0.05 = 0.16

Table 4: Tenure (years)

S/N	Year of Experience	No of employees	Response	Percentage
1	Less than 10 years	42	3360	80
2	10 – 9 years	80	5600	70
3	20 and above	28	2520	90

Table 5: Status

S/n	Status	Yes		No		Total
		O	E	O	E	
1	Junior staff	300	256	600	644	900
2	Senior staff	20	43	130	107	150
3	Senior staff without duty post	320	341	880	859	1200
4	TOTAL	640		1610		2250

DF = 5, X^2 cri = ii.¹, X^2 cal. = 29.558

Source: All tables above derived from field survey.

8. Analysis

When the results in the tables are looked at critically, it is discovered that the highest percentage of response came from OND/NCE/HND holders in table II. This shows that the level of education has direct impact on staff discipline. This supports the assertion of Bilineer (1996: 146- 165), that higher education reinforces a positivistic view on employees. The null assumption is rejected here, while an alternative assumption that the level of qualification of an employee will have significant influence on his level of discipline is upheld.

As for table III, it is discovered that sex has significant influence on staff regulation as the female staff has less propensity to change things than their male counterparts. The real > rcric implies that it falls into the critical region hence the null assumption is rejected. Therefore, sex has significant influence on obedience of the order of staff regulation.

In table IV, it is discovered that the number of years in service has no direct bearing on the need to be compliant with staff regulation. However, those who have put in above twenty years of service would not want to lose all entitlements through carelessness hence the high adherence to staff regulation. On status, table V shows that the position of a staff has great impact on his respect for regulations. This is informed by the tendency not to mislead others and to aspire to greater heights. See X^2 cal. (29.558) > X^2 cri as in Table.

The general conclusion of the analysis is that staff regulation in the Delta State local government service is still faced with a lot of problems and therefore needs to be reviewed to suit the

peculiarities of the environment. Also, the existing laws do not spell out the exact punishment that should go with particular offence. This is left to the discretion of members of the local government service commission. This wide power may not be judiciously applied as other extraneous factors may be brought into play when the need to enforce the law arises.

9. Conclusion and recommendations.

A path that may possibly lead us out from the quagmire is that employees in the local government councils need to be trained for them to be able to appreciate existing rules and regulations and for them to comply. It was Ubeku (1995), who opined that a staff should be helped to grow into more responsibility by systematic training and development. Results produced by a worker would only become acceptable if they effectively and efficiently contribute to the attainment of goals of an organization. This is what Etzioni (1964; 8), described as the degree to which set goals are realized. Therefore, staff regulations should be taken as important tolls of cheeks and balances.

In the light of the forgoing, all local government staff should be provided with the relevant handbooks and documents containing rules and regulations and the type of discipline that should be expected when these regulations are breached. Also, there should be constant review of the scheme of service where all stakeholders would be involved in the process of the review. Lastly, for improved performance, management in each local government together with the local government service commission should device a means to provide adequate motivation and reward for competent and result oriented staff while erring ones should be sanctioned accordingly.

References

- [1] Adamolekun, L and Rowland, L. 1979. *The New Local Government system in Nigeria: Problems and Prospects for Implementation*. Ibadan, Heinemann Educational Books Nig. Ltd.
- [2] Bendel State of Nigeria. 1977. *Gazette*. Benin City, Government Printer, Minister of information.
- [3] Bilinear, A. L. 1996. The impact of Education on occupation and physical therapy. *Occupation therapy journal of research*. Vol. 10 No 16.
- [4] Delta State of Nigeria. 1996. *Annual Report of the local government service commission*. Jan – Dec.
- [5] Delta State of Nigeria. 1992. *Annual Report of the local government serviced commission*. Jan Dec.
- [6] Delta State of Nigeria. 1991. *Annual Report of local government service commission*. Sept. – Dec.
- [7] Edokpa, J. 1989. Performance in the civil service: The case of Bendel State in Sanda A. O, Olowu D. and Ojo S. (ed) *Managing performance in Nigeria's public sector*. Ile-Ife, faculty of Administration Series.
- [8] Etzioni, A. 1964. *Modern organization*. New Jersey, prentice hall Inc.
- [9] Egbo, A.S.N. 1992 The Basic rules and principles of the civil service Rules in Yahaya A.D and Akinyele C.I (ed) *Effective leadership*, Ibadan, Spectrum Books Limited.
- [10] Federal Republic of Nigeria. 1976. *Guidelines for local government Reform*, Kaduna, Government Printers.
- [11] Fayol, H. 1971. *General and Industrial management*, London Pitman Publishers.
- [12] Federal Republic of Nigeria. 1999. *Approved Scheme of service for local government Employees in Nigeria*. Abuja, State and local government Affairs Office.
- [13] Federal Republic of Nigeria. 1974. *Public Service Review Commission: main Report*. Lagos, Federal Ministry of Information.
- [14] Mukoro, A. 2000. Bureaucracy and the Administration of local government in Nigeria in Mukoro A. (ed) *Institutional Administrative: A contemporary Local Government Perspective from Nigeria*. Lagos, Malt house Press Limited.
- [15] Mouzelis, P. N. 1975. *Organization and bureaucracy: An Analysis of Modern Theories*. London, Ronttedge and Kegan Paul.
- [16] Nicholas, H. 2002. *Public Administration and Public Affairs*. New Delhi, Prentice Hall of India Private Limited.
- [17] Orewa, G.O and Adewumi J.B. 1983. *Local Government in Nigeria: The changing scene*. Benin City, Ethiope Publishing Corporation.
- [18] Oguafor, O. A. 2001 The Unified Local Government service (staff) Regulation in an orientation and Management Training workshop manual for Newly Appointed Senior staff on G.L. 07 and above for the unified local Government service of Delta State. June 5th to 7th 2001, Federal College of Education, Technical Asaba.
- [19] Parsons, T. 1960. *Structure and Process in Modern societies*. Glencoe, Illinois: Free Press.
- [20] Sule, J.Y 1992. *Recruitment Policy and Selection Tolls*. Lagos Ascon Publications.
- [21] Simon, H. A. 1957. *Administrative Behaviour*. New York, Macmillan Press.
- [22] Ubeku, A. K. 1975 *Personnel Management in Nigeria*. Benin City, Ethiope Publishing Corporation.
- [23] Weber, M. 1947. *The Theory of Social and economic Organization*, Translated by A.M. Henderson and T. Parsons New York, Free Press.

Agricultural Intensification and Efficiency of Food Production in the Rainforest Belt of Nigeria

A.S. Oyekale

Department of Agricultural Economics
University of Ibadan, Ibadan, Nigeria
asoyekale@yahoo.com

Abstract

In this paper, an attempt was made to model the effect of agricultural intensification on food production efficiency. Data from Ogun and Delta States in the rainforest belt of Nigeria were used. Results show that land and labor use intensities are high, and soil conservation practices are not widely used. Maximum Likelihood Estimation (MLE) shows inelastic variable input parameters. Farming experience, education, environmental degradation, and fertilization affect production efficiency ($p \leq 0.10$). Development of research in line with the challenges of agricultural intensification and increase in the use of sustainable soil conservation practices are essential for increasing agricultural production.

Key word: Sustainable, land use intensity, labor use intensity, efficiency

Introduction

Agricultural intensification in many sub-Saharan African nations is one of the major threats to sustainable agricultural production. This will be the case for the 21st century and beyond because of increasing population pressure, declining agricultural land frontier, declining agricultural productivity, environmental degradation, food insecurity and widespread rural poverty (Eswaran, *et al.*, 2001). Policymakers are now confronted with the challenges of increasing agricultural production to feed a rapidly growing population, and finding a way of stimulating economic growth and reduce poverty, while the issue of natural resource degradation requires an urgent attention. Although these goals cannot be abandoned, the welfare of future generations is seriously threatened because resources are not managed in sustainable ways (Vosti, 1992; Vosti, 2001).

Intensive agricultural production can be expressed as increase in the use of inputs of labour or capital on a smallholding in order to increase output per hectare (Tiffen *et al.*, 1994). Theoretically, land use intensity, which tells about the allowance farmers give their farmland to fallow is a widely used indicator of intensification (Ruthenberg, 1980; Okike *et al.*, 2001). Okike *et al.*, (2001) noted that labor use intensity, manure use intensity, fertilizer use intensity, and intensity of animal traction are other indicators that could be used. It is expected that some African farmers resolve to continuous cropping as family size increases and agricultural land becomes scarcer. There may also be an increase in the use of seeds where agricultural extension officers are not readily available to give specification about crop spacing. In practice, therefore, the intensification process results from an increase in gross output in fixed proportions due to proportionate expansion in inputs without any technological change (Okike, 2001). In Nigeria, persistent stagnation in agricultural production is now a matter of serious concern. Although outputs in some crops have recently increased, it had been realized that most of these increases resulted from increase in land areas cultivated (Falusi, 1997). Increasing crop production is therefore putting a lot of pressure on the forest, and it is not unlikely that this will not be sustainable as population further increases.

Moreover, low productivity of Nigerian agriculture is a reflection of its comparatively low input use. Reardon (1998) noted that low use of fertilizer across African countries is a major cause of concern, both from the food production and environmental perspectives. FAO (1998) submitted that shortage of good quality agricultural land for smallholder is a problem in many regions of the world. Payment of compensation in cash or in kind for the use of land no doubt affects land use intensity (Adegboye, 1986). The government of Nigeria has been acquiring large tracts of land for agricultural and non-agricultural purposes (Nwosu, 1991). Therefore, access to land through ownership or secure tenure is a *sine qua non* for improving agricultural productivity. Without secure land rights, farmers have little or no access to credit or the benefits of membership in rural organizations. Moreover, with no stake in the land or assurance of access to it, farmers have few incentives to engage in sustainable agricultural practices or to consider the long-term environmental impact of over-exploitation of the land's nutrients.

The major issues of concern to sustainable agricultural production in Nigeria include the problems of soil vis-à-vis human induced soil degradation, bush burning, soil compaction (FAO, 2000). The need to ensure adequate management of land becomes crystal clear from the fact that, despite that Nigeria becomes highly dependent on oil revenue since the 1970s, the land remains the most important long term resource base for the direct and indirect support of plants and animals which man uses (NEST, 1991).

Given the level of agricultural technology development in Nigeria, there are 40-50 million people in excess of the land's supporting capacity at present who are just mining the soil nutrients to support themselves (FAO, 2000). In addition, widespread poverty and income inequality influence the households' decisions for any investment in soil conservation practices (Barbier, 2001). Therefore, decline in the welfare of people could degenerate into serious ecological crises, with serious implications on the environment (WCED, 1987). Sustainable development would therefore be compromised under a situation where short-term survival takes precedence over long-term productivity.

The rainforest belt of Nigeria contributes significantly to the production of both export and food crops. Because of relatively good soil and moderately good rainfall, the farmers can afford to cultivate their lands continuously due to decline in forest stock. The basic question is, has this practice contributed positively to resource use efficiency? If this is so, will intensive agricultural production have any long-term negative consequences on yields thus making it unsustainable? We try to answer these questions in this study. The basic working hypotheses are that use of soil conservation practices does not significantly influence intensification and agricultural intensification does not significantly affect technical efficiency of food crop farmers. In the remaining parts of the paper, section 2 discusses the theoretical framework, while section 3 explains the methods of data collection and analytical models. Section 4 presents the results and findings and the conclusion is in section 5.

2. Measurement of Efficiency

The modeling and estimation of stochastic frontier production functions, originally proposed by Aigner et al (1977), Battese and Corra (1977) and Meeusen and Va den Broeck (1977) has been an important area of economic study in the last few decades. The linear convex hull approach to the estimation of production frontier was proposed by Farrel (1957). More specifically, he distinguished between technical and allocative efficiency and this kindled interest in the measurement of economic efficiency. The stochastic frontier developed by Coelli (1994) is one of the available and most widely used methods. Generally, measurement of efficiency is advantageous because it accounts for the presence of measurement errors in the production and exogenous factors that could have been beyond the control of the production unit, in addition to the efficiency components. The model estimated in this study can be stated as:

$$\ln Z_i = f(X_i; \beta) + \exp(v_i - u_i) \quad i = 1, 2, \dots, n \quad (1)$$

Where Z_i is output of crop by i th farmer, L_i is the vector of input used by i th farmer; β is a vector of parameter to be estimated; and $v_i - u_i$ are stochastic error terms. The u_i component is a non-negative variable that represents in production relative to the stochastic frontier, while v_i is a symmetry error accounting for random variation due to factors beyond the control of farmers (e.g. weather). In this model, Z_i is bounded above by the stochastic quantity $f(x_i; \beta) \exp(v_i)$. The random error v_i are assumed to be independently and identically distributed $N(0, \sigma_v^2)$ random variables independent of the u_i 's, which are assumed to be non-negative truncations of the $N(0, \sigma^2)$ distribution or have exponential distribution.

Technical efficiency of an individual farmer is expressed as the ratio of the observed output to the corresponding frontier output, given the available technology. This shows that the frontier will vary with the technology. Mathematically, technical efficiency could be expressed as $Z_i/Z_i^* = f(X_i; \beta) + \exp(v_i - u_i) / f(X_i; \beta) + \exp(v_i) = \exp(-u_i)$. Where Z_i is observed output and Z^* is the frontier output. The farmers who are technically efficient are those operating on the production frontier and the gap between the farmers' output and frontier measures their index of technical efficiency.

3. Data and Analytical Models

The study area and sampling procedures

The rainforest belt is characterized by high rainfall and low temperature during the raining season. The dry season lasts for about 5 months (November to March). The vegetation cover ranges from deciduous and hard wood where the forest is preserved to shrubs and grasses where the land had been used for agricultural production. Data were collected from household surveys conducted in Ogun and Delta States. Delta state is in southeastern part of Nigeria, and the land is rich in oil resources. The activities of oil industries often lead to oil spillage with some other environmental problems like soil erosion and increasing demographic pressure. Ogun state is in the southwestern part, and most of the farmlands only suffer from sheet erosion.

The data were collected with structured questionnaires addressed to land use issues and crop production activities of the small farmers. Multi-stage stratified random sampling was used. The states were first stratified into zones based on the classification by the Agricultural Development Projects. A random selection of 4 villages in one selected zone in each of the states was done. A total 100 farmers were interviewed in Ogun state, but only 95 were good for analysis, while 122 respondents from Delta state were used for the analysis. The sample size was determined based on available cost, and sampling was done in proportion to the population of the villages. Therefore, a total of 217 respondents were used. The data were collected in July 2002. The Agricultural Development Project extension officers in the chosen villages assisted in the data collection, which took about 3 weeks. The farmers were generally not keeping records, but since the enumerators had been working with them over the years, we did not have much problem getting the needed information, although not with 100 percent accuracy.

Production and Inefficiency models

The FRONTIER 4.1 statistical package developed by Coelli (1994) was used to estimate the Maximum Likelihood Estimates of the stated Cobb Douglas production function. This method incorporates the hypothesized determinants of efficiency into the inefficient error components. The model is stated as:

$$\ln Z_i = \beta_0 + \beta_1 \ln FL_i + \beta_H \ln HL_i + \beta_3 \ln FC_i + \beta_4 \ln LD_i + (v_i - u_i)$$

$$V_i \sim N(0, \sigma_v^2)$$

Where:

$\ln$ = natural logarithm.

Z_i = grain equivalent of farmers output computed from Olayemi *et al* (1986).

FL_i = family labor used by i th farmer (Man day)

HL_i = hired labor used by i th farmer (Man day)

FC_i = fertilizer /chemical inputs by i th farmer (Kg)

LD_i = Land are cultivated by i th farmers (Ha)

v_i = symmetry error

u_i = inefficiency

The inefficiency model can be stated as follows:

$$|u_i| = \phi_0 + \phi_1 \ln CD_i + \phi_2 \ln CD_i^2 + \phi_3 \ln LI_i + \phi_4 \ln LI_i^2 + \phi_5 \ln LA_i + \phi_6 \ln LA_i^2 + \phi_7 \ln AG_i + \phi_8 \ln EX_i + \phi_9 \ln FS_i + \sum_{i=1}^8 \phi_i D_i + e_i \quad (2)$$

where:

$|u_i|$ = inefficiency of i th farmer

$$CD_i = \text{crop diversification index measured by the Herfindal Index which is } \sum_{i=1}^{13} \left(\frac{C_i}{\sum_{i=1}^{13} C_i} \right)^2 * 100$$

with C_i being the area of land planted to i th crop.

CD_i^2 = Diversification square

LI_i = land use intensity of i th farmer measured by the Rutherberg's index (Rutherberg, 1980)

$$LI_i = \frac{A_i}{Li} \quad \frac{x 100}{I} \quad .3$$

A_i = Number of seasons the land was cultivated by i th farmer,

Li = Total number of seasons before land was left to fallow for long time.

LI_i^2 = Land use intensity square of i th farmer

LA_i = Labor use intensity of i th farmer measured as total labor used divided by number of hectares cultivated (%)

LA_i^2 = Labor use intensity farmer (years)

AG_i = Age of i th farmer

EX_i = Experience in farming of i th farmer (years)

FS_i = Family size of i th farmer

D_1 = Dummy variable for education (attended at least primary school = 1, otherwise= 0)

D_2 = Dummy variable for using mulching (Yes = 1, otherwise = 0)

D_3 = Dummy variable for using crop rotation (Yes = 1, otherwise= 0)

D_4 = Dummy variable for using organic manure (Yes = 1, otherwise= 0)

D_5 = Dummy variable for using minimum tillage (Yes = 1, otherwise = 0)

D_6 = Dummy variable for using fertilizers (Yes = 1, otherwise = 0)

D_7 = Dummy variable for using cover crops (Yes = 1, otherwise = 0)

D_8 = Dummy variable for no serious environmental degradation (Ogun state = 1, 0 otherwise)

e_i = error term

4. Results and Discussions

Table 1 shows the indicators of agricultural intensification in the rainforest belt of Nigeria. Land use intensity shows the way farmers give allowance for their land to fallow. In the study, farmers indicated how many seasons their farmlands were cultivated between 1998 and 2001, which add up to 8 cropping seasons. Average land use intensity is 58.58 percent. Table 1 reveals that 40.55 percent of the farmers had the highest average land use intensity of 72.80 percent, implying that they allow their land to fallow for about 2 seasons after being cultivated for 6 seasons. Also, average household size and age

increased with increase in land use intensity up to where the value is < 70 percent, after which the two variables decline.

Table 1: Indicators of Agricultural Intensification in the Rainforest Belt of Nigeria

Indicator	Frequency	Average (%)	Average Farm Size (ha)	Average age of farmer (yr)	Average house size
Land use intensity					
<30	38	20.56	1.97	47.21	4.58
30 < 50	20	40.31	1.39	52.05	8.20
50 < 70	71	58.54	2.71	55.80	10.30
≥ 70	88	72.80	1.69	39.43	5.22
Labor use intensity					
< 5	107	3.20	3.26	47.60	6.41
5 < 10	57	6.51	1.64	54.02	7.84
10 < 20	33	12.48	0.85	55.21	9.45
≥ 20	20	31.82	0.79	60.55	9.65

The rationale for labor use intensity comes from the fact that marginal productivity of labor may first increase as more labor input is used until a level is reached where diminishing marginal productivity sets in. The drive to increase intensity of labor use therefore forms part of agricultural intensification due to farmers' tendency to increase output from a given plot of land. Table 1 shows that average labor use intensity decreases with increase in farm size, but increases with increase in farmers' age and family size. Older farmers were therefore using more labor than the younger ones. The need to increase agricultural output for household food consumption increases with increase in the size of the households. Thus, families with small size had lower intensity for labor use.

Table 2: Land Management Practices in the Rainforest Belt of Nigeria

Cultural Practices	Frequency	Percentage of Total
Mulching	105	48.39
Crop Rotation	18	8.29
Organic Manure	89	41.01
Minimum Tillage	27	12.44
Fertilization	80	36.87
Cover Cropping	11	5.07

Agricultural intensification could be sustainable only if land management practices used by the farmers could compensate for nutrient loss and environmental stress induced by improper use of land. In most states in the rainforest belt of Nigeria where population growth leads to scarcity of arable land, small-scale farmers are using different soil conservation practices. The method of tillage is paramount for sustainable crop production especially if it is large mechanized farming (Couper, 1995). Table 2 shows that not all the farmers were using soil conservation practices. Farmers that were using mulching on their farms are 48.39 percent. This is the use of crop and plants residues to cover the topsoil before or after planting for the protection of the soil from direct sun and raindrops. The use of this practice may make much impact in Delta State where erosion problem is more pronounced.

Crop rotation could be a good land management practice if the choice of crops is properly done for enhancing soil nutrient rejuvenation. However, only 8.29 percent of the farmers were using it. Rotating crops would not be the option where farmers are trying to maximize returns from available small portion of land through intensification and crop diversification. Despite the fact that all the farmers indicated that their land have somehow degraded, only 36.87 percent used fertilizers. Also, addition of organic manure to crops was not widely used with 41.01 percent. The low use of organic manure and fertilizer could be traced to their low availability in the region. The average price of fertilizer in 2001 was N1200.00, which not many farmers could afford. Since majority of the farmers

were not keeping livestock, getting organic manure was difficult. The issue of fertilizer is a major problem in the States. Only 5.07 percent of the farmers were using cover crops to protect the soil from erosion.

The use of minimum tillage is also low with only 12.44 percent users. This can be attributed to prevalence of land degradation. When land is not too good for agricultural production, its performance in crop production becomes more affected if not tilled before crops are planted.

Food Crop Production and Efficiency

Table 3: Summary statistics of variables

Variable	Mean	Standard deviation
Food output (grain equivalent)	198.94	144.85
Family labor (man day)	3.10	2.63
Hired labor (man day)	6.88	7.97
Fertilizer/chemicals (kg)	44.32	80.89
Seed (kg)	7.58	70.10
Land (ha)	2.24	2.71
Crop diversification index	23.40	8.80
Land use intensity	58.58	28.81
Seed use intensity	15.25	48.47
Labor use intensity	8.06	9.26
Age	51.31	10.61
Farming experience	27.17	14.88
House size	7.51	5.52

The summary statistics of some variables used are contained in table 3. The table clearly reveals that average farm size for food crop is low (2.24 ha). The farmers were also using more of hired labor than family labor. This could result from clumsy operations during planting season that may necessitate that some helping hands be employed. On the whole 14.78 kg of fertilizer was applied per hectare of farmland cultivated. This cannot support the current intensification process without the development of better soil conservation practices.

Table 4 shows the maximum likelihood estimates (MLE) of the frontier production function specified as equation 1, given the specifications of the inefficiency relationship expressed as equation 2. The diagnostic statistics reveal that the efficiency effects jointly estimated with the production frontier function are not simply random errors. The gamma is the ratio of the errors in equation (1). If $\gamma = 0$, inefficiency is not present, and if $\gamma = 1$, there is no random noise. The estimated value of γ is 0.7839 and is

significantly different from zero, thereby, confirming that food crop farmers in the rainforest belt of Nigeria are grossly inefficient. The parameter of gamma is not the same as the ratio of the variance of the efficiency effects to the total residual variance because the variance of u_i is equal to $[(\pi-2)/\pi]\sigma^2$ not σ^2 . The relative contribution of the inefficiency effect to the total variance term is measured by γ^* (Coelli *et al.*, 1998). Therefore, the corresponding variance-ratio parameter γ^* implies that 56.74 percent of the differences between observed and the maximum frontier output for the food crop farmers is due to the existing differences in efficiency levels among them. Also, the generalized likelihood ratio test reported in table 4 is highly significant. This suggests the presence of one sided error component, and implies that the effect of technical inefficiency is significant and a classical regression model of production will be inadequate for the model.

Table 4: Maximum Likelihood Estimates (MLE) and Determinants of Efficiency

Variable	Parameters	t-ratio
Constant	5.5006	44.281*
Family labor	0.0376	0.8055
Hired labor	0.1603	2.771*
Chemicals	0.0137	0.724
Land area	0.1038	2.292**
Inefficiency model		
Constant	11.463	3.058*
Crop diversification	-3.445	-1.499
Crop diversification square	0.4132	1.020
Land use intensity	0.0361	0.1373
Land use intensity square	-0.085	-1.834***
Labor use intensity	-0.5897	-1.303
Labor use intensity square	0.1742	0.1606
Age	-0.0235	-0.041
Experience	-0.3022	-2.055**
Household size	0.09784	0.419
Use of mulching	0.0521	0.273
Educational status	-0.9941	3.56*
No environmental degradation	-3.204	4.99*
Use of crop rotation	0.0822	0.285
Use of organic manure	-0.0835	-0.4447
Use of minimum tillage	-0.3197	-0.9642
Use of fertilizer	-0.4016	-2.452*
Planting of cover crop	-0.5043	-1.374
Diagnostic statistics		
Sigma squared	0.4521	6.295*
Gamma $\gamma = \sigma_u^2 / (\sigma_u^2 + \sigma_v^2)$, $\gamma^* = \gamma / [\gamma + (1-\gamma)\pi / (\pi-2)]$	0.7839	12.62*
Log likelihood	0.5674	
LR test	-144.34	
n=217	288.48	
Average technical efficiency	52.92	

Note: * Statistically significant at 1 percent level.

** Statistically significant at 5 percent level

*** Statistically significant at 10 percent level

The elasticity coefficients are presented in the upper segment of the table. These show that hired labor and land areas are statistically significant at least at 5 percent level. The coefficient of hired labor is with the highest elasticity of 0.1603 followed by land area with 0.1038. Increasing the hired labor by 1 percent will result in 0.163 percent increase in output. This implies that in economic sense, increasing quantity of hired labor may not be good for increasing output. Land areas expansion by 1 percent would only lead to about 0.16 percent increase in the output. This could be so because most of the farmers do not have virgin land with high fertility on hand any more. Expansion of crop production would therefore be done on marginal land with low fertility. The option for rapidly increasing agricultural production is technology shift, which most Nigerian Research Institutes are too primitive to cope with.

The equation reveals that land use intensity square, experience, education, fertilization, and ecological state of the land were statistically significant at least at 10 percent level. Average technical efficiency is 52.92 percent, which portrays low agricultural productivity. Okike *et al* (2001) and Udoh (2000) computed 61.98 and 77 percents respectively for some regions of Nigeria. Intensity of land use, at the present level contributes to inefficiency. However, when it is squared, it enhances efficiency and statistically significant at 10 percent level. Squaring the variable makes us to see what the long-term implication of the increasing intensification could result to. Increasing farmers' experience also contributes to efficiency. Farmers who have gained experience were performing better than those are

just entering the farming business. The educated farmers have lower inefficiency than the illiterate ones. Increased education would ensure the right use of fertilizer and other chemicals. Those who were using fertilizer are also less efficient than those not using it. This must have stemmed from the degrading nature of most of the farm plots. The farmers in Ogun state, where ecological degradation is minimum were also more efficient than those in Delta state where oil spillage and other environmental problems affect agricultural production.

Table 5: Distribution of Farmers' Efficiency in Rainforest Belt of Nigeria

Range of efficiency	Frequency	Mean
<0.20	56	0.1241
0.20 < 0.40	29	0.2810
0.40 < 0.60	29	0.5057
0.60 < 0.80	27	0.6880
0.80 – 1.00	76	0.8749
State		
Delta state	122	0.2951
Ogun state	95	0.8300
Land area		
Small (<1.00 ha) {0.4338}*	34	0.5997
Medium (1<2) {1.1833}*	63	0.6117
Large (≥ 2.0) {3.3}*	120	0.4660

* Mean land area.

Table 5 presents the distribution of farmers' efficiency. The least efficient farmer has efficiency of 2.12 percent, while the most efficient has 93.67 percent. Distribution of efficiency groups reveals that the highest proportion (35.02 percent) of the farmers falls between the efficiency range of 0.80 - 1.0 with average efficiency of 87.49 percent, while the lowest proportion (12.44 percent) falls in the efficiency group 0.60 < 0.80.

The table further shows that average efficiency of farmers in Delta state is 29.51 percent, while that of Ogun state is 83 percent. These means show significant difference at 5 percent level. Therefore, it could be concluded that food crop farmers in Ogun state are more efficient than those in Delta state. This can be attributed to several environmental problems like oil spillage, gully erosion, air and water pollution etc. that are more rampant in Delta state. Further analysis shows that increase in land area cultivated does not mean increase in efficiency. The most efficient farmers were those holding land areas 1.00 < 2.00 hectares, while those with land areas ≥ 2.00 hectares are the least efficient. This goes in line with the expectation that small farmer should be able to judiciously manage available resources for maximum profitability.

5. Recommendations

Agricultural intensification in Ogun and Delta States of the rainforest belt of Nigeria will continue to increase due to scarcity of fertile arable land and decline in fallow periods. This study investigates the intensification processes in the use of land and labor, and concludes that farmers are overexploiting the land nutrients by using continuous cropping and the agricultural production process is somehow labor intensive. The land use pattern of the farmers need to change for less soil degrading options, and the Government needs to revisit the Land Use Act to ensure that restrictions on ownership of land is less restrictive.

The use of fertilizer is essential for sustainable intensification. However, this study clearly reveals that rural farmers no longer apply fertilizer in the right quantity to their crops. There is need to ensure timely provision of the input to farmers in all the geopolitical zones. Encouragement of fertilizer production by indigenous industries will also help to ensure the supply of the materials. Most of the problems are related to inefficient distribution channel that makes some government officials trade in

what belongs to the poor farmers. Use of mulching and organic manure encourages agricultural intensification, and the farmers should be advised to use them. The extension arms of the Agricultural Development Projects in all the states need to be strengthened for this to be achieved. The use of media (especially local radio) can also assist in creating awareness about some environmental implications of agricultural intensification.

Elasticities of production inputs in the MLE are too low. Farmers would therefore need an upward shift in technology in order to substantially increase output given their input levels. Expansion in land and use of more labor would not help much more so that most agricultural land expansion is on marginal land. Since education affects efficiency positively, the Nigerian government should integrate the rural farmers into the current education program tagged Universal Basic Education. The analysis revealed that Delta state farmers are less efficient than their counterparts from Ogun state. This cannot be unconnected with the growing problem of environmental degradation coupled with increasing demographic pressure in the state. The need for developing appropriate action plan for managing the land resources in the Niger Delta can therefore not be overemphasized. The farmers, who are mostly women would have to be assisted in safeguarding their land from oil spillage that often destroys crops and agricultural land.

References

- [1] Adegboye, R.O. (1986). Land Tenure and Land Use Pattern. A Final Report on Oyo State Feasibility Study of Statewide Agricultural Development Project. Federal Military Government of Nigeria/ FACU.
- [2] Aigner, D. C.A.K. Lovell and P. Schmidt (1977). Formulation and Estimation of Stochastic Frontier Production Functions Models. *Journal of Econometrics* 6: 21-37.
- [3] Barbier, E.B. (2001). "The Economics of Tropical Deforestation and Land Use: An Introduction to the Special Issue" *Land Economics* 77(2): 155-171.
- [4] Battese, G.E. and G.S. Corra (1977). Estimation of A Production Frontier Model: With Application to Pastoral Zone of Eastern Australia. *Australian Journal of Agricultural Economics* 21:169-179.
- [5] Coelli T J. (1994). Recent developments in frontier estimation and efficiency measurement. *Australian Journal of Agricultural Economics* 39:219-245.
- [6] Couper, D.C (1995). *No-till Farming in the Humid and Subhumid tropics of Africa*. IITA research Guide 3. Training program, International Institute of Tropical Agriculture (IITA) Ibadan, Nigeria 26 p. Third edition.
- [7] Eswaran, H., R. Lal and P.F. Reich. (2001). Land degradation: an overview. In: Bridges, E.M., I.D. Hannam, L.R. Oldeman, F.W.T. Pening de Vries, S.J. Scherr, and S. Sompatpanit (eds.). Responses to Land Degradation. Proc. 2nd. International Conference on Land Degradation and Desertification, Khon Kaen, Thailand. Oxford Press, New Delhi, India.
- [8] Falusi A O. (1997). Agricultural development and food production in Nigeria: problem and prospects. In: B Shaib, N O Adedipe, A Aliyu,. M M Jir (eds.) Integrated Agricultural Production in Nigeria: Strategies and Mechanisms for Food Security. Monograph No.5. Abuja: National Agricultural Research Project.
- [9] Farrel, M.J. (1957). The Measurement of Production Efficiency. *Journal of Royal Society*. 120:253-281.
- [10] FAO (1998). *Rural Women and Food Security: Current Situation and Perspectives*. Rome.
- [11] FAO (2000). Land and Water Constraints to Sustainable Agriculture www.fao.org/waicent/faoinfo/agricult/agl/swlwpur/nigeria/e_bright.htm
- [12] Meeusen, W. and J. van den Broeck (1977). Efficiency Estimation from Cobb-Douglas Production Function with Composed Error. *International Economic Review* 18:35-44.
- [13] NEST (Nigeria Environmental Study Action /Team) (1991). *Nigeria's Threatened Environment: A National Profile*. Nigeria: NEST.
- [14] Nwosu, A.C. (1991). "Issues in African Rural Development" Arlington (USA): Winrock International Institute for Agricultural Development pp 196-217.
- [15] Okike I, Jabbar M A, Mayong V, Smith J W, Akniwumi J A, Ehui S K . (2001). Asgricultural intensification and efficiency in the West African savannahs: evidence from northern Nigeria. Socio-Economic and Policy Research Working paper 33. International Livestock Research Institute.
- [16] Olayemi, J.K. S.O. Titilola, M.S. Igben (1986). Nigerian Food Balance Sheet 1985-1995. Final Report Submitted to Agricultural Division, Federal Ministry of National Planning, Ikoyi, Lagos.
- [17] Reardon, M.J. (1998). The Role of Tenure Security and Private Time Preference in Neotropical Deforestation. *Land Economics* 74 (May): 162-170.
- [18] Rutherberg H. (1980). Farming System in the Tropics. Oxford University Press, London. 424 pp.
- [19] Udoh E J. (2000). Farm management and resource use efficiency among farmers in south-eastern Nigeria. PhD Thesis in the Department of Agricultural Economics, University of Ibadan, Ibadan, Nigeria.

- [20] Vosti S A. (1992). Linking sustainability to agricultural growth and the alleviation of poverty the critical triangle food policy statement No. 15. International Food Policy Research Institute.
- [21] Vosti, S. (2001). 'The Role of Agriculture in Saving the Rain Forest' In: Pinstup-Andersen, P. and Pandya-Lorch, R (eds.) *The Unfinished Agenda*. Washington, D.C.: International Food policy Research Institute (IFPRI).
- [22] WCED (World Commission on Environment and Development) (1987). *Our Common Future - The Brundtland Report*. Oxford : Oxford University Press.

Graduate Research Student Policy: A Study of United Kingdom Universities' Practices

Norhasni Zainal Abiddin

*Department of Professional Development and Continuing Education
Faculty of Educational Studies, Universiti Putra Malaysia, Selangor, Malaysia
nonie@ace.upm.edu.my
Tel: (603) 89468240*

Abstract

In every university, there is code of practice or policy for graduate research student which contained in the student handbook. Every student will be given this handbook during their registration at the university. Part of this policy was designed to protect the student's interest and welfare by stating the responsibility of the student, supervisor, school and effective ways of supervision. The question is how far this policy has been practiced and implemented effectively? Hence, there were 40 graduate research student policies have been studied from 40 universities in the United Kingdom. There were also 110 foreign graduate students had involved in order to obtain the information needed. It was found in the research that 74% of the respondents had agreed that the policy is very helpful and worked. This paper will identify the most effective ways in practicing this policy towards the effectiveness in graduate research student supervision.

Key words: Graduate Student Policy, Research student, Supervision, University, University practices

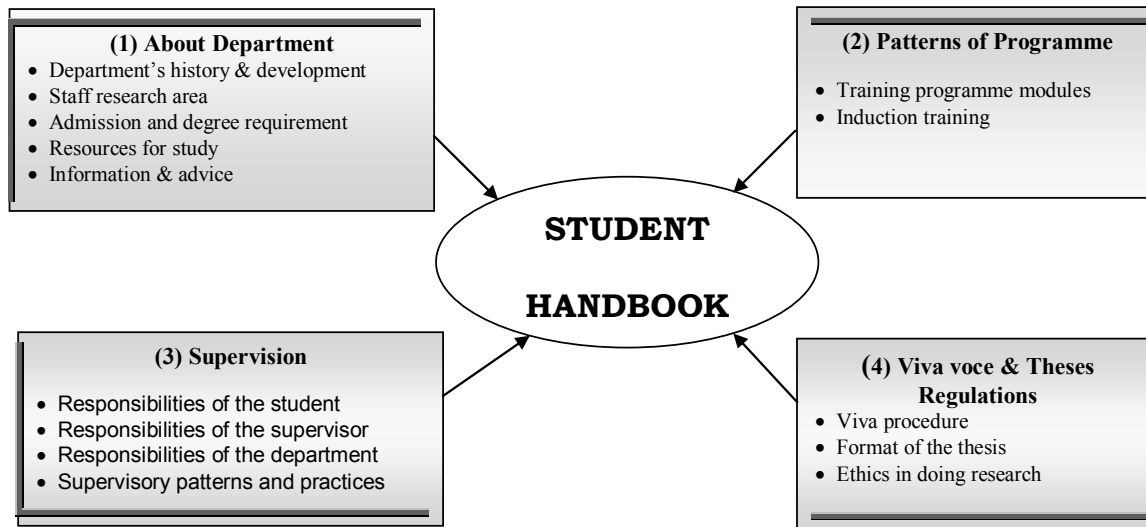
Introduction

PhD students should aim to complete their degrees within the time given, which is the period of most studentship awards. This is the reason why research student policies are designed as a guideline to enable students to complete their degrees successfully within the time limits. The research student policies typically also defines the responsibilities of students and supervisors, suggesting what each can reasonably expect of the other, and gives examples of good supervisory practice. Basically, the research student policies can be used as a guideline by the supervisor, student and department. The policies are intended to provide a framework for research in an atmosphere of scholarship and collegiality.

Research student policies can be found under many different names, such as code of practice for research students, quality assurance in research degrees, research degrees regulations, code of conduct, ethical principles and guidelines, postgraduate procedures or memoranda to graduate students. Generally, research student policies are one of the main topics highlighted in the Student Handbook. These topics were: about the department, patterns of the programme, supervision and regulations relating to theses. They are referred to as a code of practice for the purpose of this research. Some of the universities have elaborated these four topics in detail, whereas others say relatively little about them. In practice, different universities have different ways of presenting their Student Handbooks. Generally the purpose of the Student Handbook is to introduce student to the school as well as university-wide procedures, facilities and services for research degree students. It is compiled from a range of sources and serves a variety of purposes. Figure 1 has been developed to clarify the contents of the handbooks, summarising the relevant aspects. However this research will concentrate on the

supervision section or research student policies even though it is useful to discuss other sections as they are related to each other.

Figure 1: The Main Topics Listed in Student Handbooks



Note: (1) to (4) = Code of practice
(3) = Research student policies

The researcher has to study this policy in order to understand the benefits of systematic policies regarding the supervision of research students and to identify their impact on practice. Generally, the students are given the Student Handbook on their admission day so they should be aware of it and understand its contents clearly. In this way, they can get to know many things related to their life as a PhD student and how to manage their research throughout their programme. The guidelines in the handbook about the responsibilities of the student, the responsibilities of the supervisor, the responsibilities of the department and supervisory patterns and practices that appear in research student policies can be very supportive to the students during their study.

Methodology

All the policies were collected from the handbooks of the universities. Getting the data was quite a complicated task, as the researcher had to search through particular universities websites one by one in order to find it. The reason for choosing to study the policies of established British universities in this research due to the fact that they have a high reputation and are well-known for teaching and research. Therefore, it is useful to get information on the policies as it may benefit students if they are aware of them before deciding to pursue their PhD studies in the United Kingdom. Hence, there were 40 graduate research student policies have been studied from 40 universities in the United Kingdom. Besides getting the data from the Student Handbook, this research also used the survey approach to 110 Malaysian PhD students studying in universities in United Kingdom. The questionnaire was sent by e-mail which could be obtained by main sponsors of Malaysian students studying abroad. In giving general information to respondents about this policy, the researcher gave a general account of research student policies by stating at the top of the questionnaire that 'Research student policies consist of information about the rights and responsibilities of the student, the supervisor and the school'.

The important topic that is featured in the handbooks is supervision. This comprises four main aspects, which are much related to this research, namely: responsibilities of the research student, responsibilities of the supervisor, responsibilities of the department and supervisory patterns and practices. In synthesising these four main aspects in forty universities reviewed as mentioned in Table

1, the researcher had to read the whole of the handbooks to find the main subjects mentioned above and other interesting aspects highlighted there in. Some universities emphasised these four aspects in general whereas, others deal with them in detail or more deeply. So, supervising practice is broken down into the four main aspects, namely the responsibilities of the research student, the responsibilities of the supervisor, the responsibilities of the department and supervisory patterns and practices, which constitute research student policies.

Results and Discussion

Table 1 shows the synthesis of research student policies in forty selected universities in the United Kingdom. As already mentioned, there are four main aspects that the researcher has decided to discuss under the topic of supervision (Figure 1). After studying the handbooks of all the universities reviewed, the researcher was able to determine whether or not the selected aspects listed in the Table 1 are referred to in them. As mentioned above, the researcher has decided to review induction training as an important aspect in research student policies. Induction training is the selected aspect because the researcher believes that by attending this, students can get to know at least basic information about supervision. This is why induction training is included in Table 1. However induction training will be discussed as part of the responsibility of the department.

Therefore the researcher has decided to examine whether the universities reviewed have presented their research student policies in their handbooks. In fact, there are some universities that cover aspects in the handbook that others do not. Accordingly, the researcher has added an 'other' column for the purpose of pointing out anything that is found interesting in one particular university but not in the others. However, all the 'other' aspects are related to supervision.

Table 2 shows that amongst the respondent who attended the training, 62.7 percent enrolled in the period September to October and 20.9 percent in the period of January to April. The result shows that there is a strong possibility that respondents who register for their study as part of the January to April and September to October intakes attend the training programme. This is because within these intakes, there are quite a lot of newcomers to the university, so the school has arranged and organised proper meetings or Induction Training Programme. Those who register outside those particular months, are assumed to do it all on their own with only a little assistance from faculty members because only a few students enrol within the periods May to August and November to December.

Table 1: Synthesising Research Student Policies in Forty Selected Universities

University	Student's Responsibilities	Supervisor's *1 Responsibilities	Department's *2 Responsibilities	Supervision Practices	Induction Training	Code of Practice*	Others
1. Aberdeen	✓	✓	✓	✓	x	✓	Important events from years 1- 3 Responsibility of mentor
2. Bath	✓	✓	✓	✓	✓	✓	
3. Birmingham	✓	✓	✓	✓	✓	✓	
4. Bristol	✓	Adviser	✓	✓	x	✓	
5. Brunel	✓	✓	Head of Department	✓	x	✓	Internally/externally registered student Women advisers & graduate tutor
6. Cambridge	✓	✓	✓	✓	x	✓	
7. City	✓	✓	Research Director	✓	✓	✓	
8. College London	✓	✓	✓	✓	x	✓	
9. De Monfort	✓	✓	✓	✓	✓	✓	Good supervisory practice checklist, management of overseas students PhD year plan from 1st to 3rd year Assistant and co supervisor's role Peer support & mentor
10. Dundee	✓	✓	✓	✓	✓	✓	
11. Durham	✓	✓	Postgraduate Director	✓	✓	✓	
12. Edinburgh	✓	✓	✓	✓	x	✓	
13. Exeter	✓	✓	✓	✓	✓	✓	Mentor's role
14. Glamorgan	✓	Director of Study	✓	✓	✓	✓	
15. Glasgow	✓	✓	Head of Department	✓	✓	✓	
16. Greenwich	✓	✓	School Director	✓	x	✓	
17. Heriott-Watt	✓	✓	✓	✓	x	✓	Technical support Special problems that international students could experience
18. Keele	✓	✓	✓	✓	x	✓	
19. Kent	✓	✓	✓	✓	X	✓	
20. Lancaster	✓	✓	✓	✓	X	✓	
21. Leeds	✓	✓	✓	✓	X	✓	Women's adviser
22. Leicester	✓	✓	✓	✓	✓	✓	
23. Liverpool	✓	✓	✓	✓	✓	✓	
24. London Goldsmiths	✓	✓	✓	✓	✓	✓	
25. Loughborough	✓	✓	Director of Research	✓	x	✓	Collaborative supervisor Collaborative & independent distance student Technician role
26. Manchester	✓	✓	✓	✓	✓	✓	
27. Middlesex	✓	✓	✓	x	x	✓	
28. Nottingham	✓	✓	Head of School	✓	✓	✓	
29. Oxford	✓	✓	X	x	✓	✓	Guidelines on stage of PhD research from year 1-3
30. Reading	✓	✓	✓	✓	✓	✓	
31. Salford	✓	✓	X	✓	x	✓	
32. Sheffield	✓	✓	✓	✓	x	✓	
33. Southampton	✓	✓	✓	✓	x	✓	Guidelines on stage of PhD research from year 1-3
34. St. Andrews	✓	✓	✓	✓	✓	✓	
35. Surrey	✓	✓	Head of School	✓	✓	✓	
36. Sussex	✓	✓	✓	✓	✓	✓	
37. UMIST	✓	✓	✓	x	✓	✓	Guidelines on stage of PhD research from year 1-3
38. Wales Cardiff	✓	✓	Head of Department	✓	✓	✓	
39. Warwick	✓	✓	✓	✓	✓	✓	
40. Westminster	✓	✓	Director of Study	✓	✓	✓	

Note:

*Code of practice consists of:

- Information about the department; information, advice & support
- Patterns of the programme/ research & induction training
- Supervision
- Regulations relating to theses

*1 and *2:

some universities use different terminology, as stated in the column

Table 2: Induction Training Programme in Relation to Registration Month

Registration month	Attended the Induction Training Programme (N=67)	
	Frequency	Percentage
	(N)	(%)
September –October	42	62.7
November-December	5	7.5
January-April	14	20.9
May-August	6	8.9
TOTAL	67	100

Table 3: Respondents' Awareness of Research Student Policies (N=110 respondents)

Awareness about Research Student Policies	Total	
	Frequency (N)	Percentage (%)
Are there any policies in the school concerning research student supervision?	107	97.3
If 'Yes': (N=107)		
Do the policies work?	74	69.2
Are the policies helpful?	72	67.3
Please give your opinion regarding the Policies (N=107)		
Research student policies are compiled in a written document and are available to everyone in the school	97	90.7
Research student policies are explicitly stated	81	75.7
Research student policies are presented to students by their supervisor	41	38.3

(Scale: Yes or No)

For those who answered 'Yes' to question: 'Are there any policies in the school concerning research student supervision?' had to answer all questions about those policies. Table 3 shows the frequency of student awareness of research student policies. The results show that 107 respondents (97.3%) said that they are aware of the policies in the school concerning research student supervision. Of this total, 69.2 percent said the policies worked and 67.3 said they were helpful.

The policies worked on many occasions and, for example, could be used to resolve problems (mostly about the relationship with a supervisor if that went wrong). If the policies work, students have the right to choose a new supervisor if necessary. The policies are helpful to students as well as supervisors, because they can be used as a guideline for both their responsibilities. The result also indicates that 90.7 percent out of 107 respondents said that the research student policies are compiled in a written document and are available to everyone in the school. This is followed by 75.7 percent of respondents who said that the policies are explicitly stated. However, only 38.3 percent of respondents stated that the policies are presented to students by their supervisor. This means that most respondents who are aware of the policies have not been told about them by their supervisor. Those who did not agree with the statement, had to answer question which is about the appropriate person responsible for presenting the policies to them. They had to pick one answer from the list provided to represent their choice.

Table 4 shows the results regarding the person responsible for making them aware of the policies. As stated in Table 3, only 38.3 percent of respondents stated that their supervisor was the person who should tell them about the policies. Accordingly, 62.7 percent of them do not agree with the statement that 'Research student policies are presented to students by their supervisor'. Of these, 38.2 percent agreed that the faculty administrator or graduate coordinator is the person most responsible for making the student aware of the policies, whereas 14.5 percent of respondents stated that they are responsible for making themselves aware of the policies. Only 7.3 percent of respondents chose adviser and 2.7 percent chose the postgraduate tutor as the person responsible for making the students aware of policies.

Table 4: Respondents' Perception of the Person Responsible for Making them Aware of Research Student Policies
(N=110 respondents)

The most responsible person for making the students aware of the policies	TOTAL	
	Frequency (N)	Percentage (%)
Faculty administrator/Graduate coordinator	42	38.2
Myself (student)	16	14.5
Postgraduate tutor	3	2.7
Student adviser	8	7.3
Supervisor	41	37.3
TOTAL	110	100

In response to questions which respondents stated that they thought the policies did not work or were not helpful, those who chose the answer 'No' (representing the fact that they do not agree with the statements) had to give their reason. Only five respondents who chose to answer 'No' to questions that they thought the policies did not work or were not helpful gave their reason or responded to the open-ended question by jotting down their reason in the box provided. It is common that very few respondents are willing to answer open-ended questions, and this is what happened in this case. The five respondents' comments are as follows:

- 1: The departments' policies and procedures are not in line with graduate supervision. The supervisor doesn't know the policies. The department doesn't give a good welcome to new overseas students on the overall policies and procedures of the graduate student programme.
- 2: The policy needs commitment from the people involved to make them succeed. All the people involved, the students, technicians and supervisors must have understood and made the policy workable.
- 3: Often, during the course of study, supervisors and students do not refer to the policies.
- 4: Very difficult to keep up with the policies as each student's project is different and as a result the supervisory level is different. The most important thing is for the supervisor to be aware of these policies and tailor them to each student's need. Without this, the policies will never work at all.
- 5: Most matters that deal with research students are at the prerogative of the supervisor in charge. Available policies are not adhered to, in most instances, whereas students are responsible for knowing by themselves any procedures that are required of them.

The discussion of the four main aspects covered in research student policies is summarised in Table 5.

Table 5: Summary of Four Main Aspects Frequently Referred to in Research Student Policies in Forty British Universities

Responsibilities of the Supervisor	Responsibilities of the Student	Responsibilities of the Department	Supervisory Patterns and Practices
1. Advice and guidance on the nature of research	1. Define the research	1. Allocate an appropriate qualified supervisor	1. Decide supervisory arrangements
2. Advise on planning of the thesis	2. Provide written work	2. Ensure supervisor and student are issued with safety instructions	2. Agreement on the timetable is important
3. Request written work; return it with criticism of the content	3. Discuss the type of guidance agreed	3. Prepare Induction Training Programme and provide students with training in research techniques	3. Frequency of meeting depends on the research stage and disciplines
4. Provide expert knowledge	4. Provide annual formal reports on progress	4. Provide care for overseas students who may need frequent contact and advice	4. Length of meetings vary but an hour is usual
5. Encourage students to attend conferences and seminars	5. Take the initiative in raising problems	5. Provide substitute supervisor in the absence of the main supervisor from the university for more than six weeks	5. Starting meeting with questions about the student's personal life
6. Give personal academic support	6. Maintain progress	6. Provide good departmental facilities	
7. Ensure that students are aware of the university regulations	7. Ensure formality and compliance with regulations	7. Prepare the admission procedure	
8. Put student in touch with other experts in the field	8. Develop own work	8. Allocate an adviser	
9. Monitor the students progress	9. Raise any training needs	9. Provide information on the complaints procedure	
10. Maintain regular contact with students	10. Observe the safety precautions	10. Provide information and guidance on regulations	
11. Arrange English support services	11. Decide when to submit the thesis	11. Arrange examination or viva voce	

Conclusion

Students may be treated differently in terms of supervision, as some may require more attention and help, while others may like as much freedom as they can have. The nature of this supervision should depend on the student's subject area and background, and the work patterns and personalities of the student and supervisor. Nevertheless, both student and supervisor have certain responsibilities that must be fulfilled in some way. It is agreed in research student policies throughout British universities reviewed that the responsibilities of the supervisor and department range from giving assistance in academic matters to providing, supporting for the student's welfare. However the student should work hard towards completion of the PhD by taking into account the department and university regulations. As a mature student, one should work independently although the supervisor is there to provide guidance, advice, support and encouragement where appropriate. Supervisors are also human beings who usually have their own characteristics and style of supervision. The research student policies seem to be guidelines on paper and may not be followed by them at all. This also happens to a student when he has a timetable, however very often a student can follow and work on the basis of the agenda and due date stated in the timetable. Those who think the policies are very useful and helpful may see the handbook as a place of reference if something goes wrong or the student needs more explanation in relation to supervision or studies.

References

- [1] City University (2004). *Research Studies- Role and Responsibilities*. Available at: <http://www.city.ac.uk/researchstudies/roles.htm> (Accessed Dec. 15, 2004).
- [2] Goldsmith College, University of London (2004). *Information for Staff-Research and Postgraduate Research Students*. Available at: <http://www.gold.ac.uk/staffinfo/hb6-5.html> (Accessed Dec. 15, 2004).
- [3] Heriot-Watt University (2004). *Quality Assurance Procedures and Good Practice*. Available at: <http://www.hw.ac.uk/quality/QRM2001/contents.html> (Accessed Feb. 06, 2004).
- [4] University of Aberdeen (2004). *PhD Handbook*. Available at: <http://www.abdn.ac.uk/management/phd8.hti> (Accessed Feb. 05, 2004).
- [5] University of Bath (2004). *Postgraduate Research Student Handbook 2002-2003*. Available at: <http://www.bath.ac.uk/psychology/pg/pghandbook2002and3.cfm> (Accessed Feb. 05, 2004).
- [6] University of Birmingham (2004). *Code of Practice on Admission, Monitoring and Assessment of Research Students*. Available at: <http://www.ao.bham.ac.uk/aps/regs/co295-3.htm> (Accessed Feb. 05, 2004).
- [7] University of Birmingham (2004). *Code of Practice on Admission*. Available at: <http://www.ao.bham.ac.uk/regs/co295%2D3.htm> (Accessed Feb. 05, 2004).
- [8] University of Bristol (2004). *Graduate Handbook 1999-2000*. Available at: <http://www.bris.ac.uk/Depts/ArtsPGC/agchb99.htm> (Accessed April 21, 2004).
- [9] University of Brunel (2004). *Course Handbook*. Available at: <http://www.brunel.ac.uk/faculty/tech/faculty/engd/handbook/super.htm> (Accessed Feb. 05, 2004).
- [10] University of Brunel (2004). *Guidelines on Supervision*. Available at: <http://www.brunel.ac.uk/admin/registry/blakbook/HandbookofProcedures/hbofproc8.shtml> (Accessed Feb. 05, 2004).
- [11] University of Cambridge (2004). *Guidelines for PhD Supervisors and Supervisees*. Available at: <http://www.sps.cam.ac.uk/gradstudies/SUPERV.html> (Accessed Feb. 05, 2004).
- [12] University of Cambridge (2004). *PhD Handbook-Studying for a PhD Degree*. Available at: <http://www.sps.cam.ac.uk/gradstudies/phdhandbook.html> (Accessed Feb. 05, 2004).
- [13] University College London (2004). *Handbook for Graduate Students 2002-2003*. Available at: http://www.phon.ucl.ac.uk/dept/student_information/pghb2002.pdf (Accessed Feb. 05, 2004).
- [14] University of De Monfort (2004). *Responsibilities of Supervisors and of Students*. Available at: http://www.dmu.ac.uk/research/regs_and_procedures/Res_Deg_Regs.jsp?ComponentID=3937&SourcePageID=1358#1 (Accessed Feb. 05, 2004).
- [15] University of Dundee (2004). *Code of Practice for Supervised Postgraduate Research*. Available at: <http://www.dundee.ac.uk/learning/qau/qualindex/newcode.htm> (Accessed Feb. 05, 2004).
- [16] University of Durham (2004). *Postgraduate Supervision Procedures*. Available at: <http://www.dur.ac.uk/~dcs0www/postgrad/PgradProcedures.html> (Accessed Dec. 13, 2004).
- [17] University of Edinburgh (2004). *Relationship Between Student and Supervisors*. Available at: <http://www.roe.ac.uk/ifa/internal/handbook/node28.html> (Accessed Dec. 13, 2004).
- [18] University of Edinburgh (2004). *Supervisors*. Available at: <http://www.postgrad.ed.ac.uk/RESCODE/Supervisors.htm> (Accessed Dec. 13, 2004).
- [19] University of Exeter (2004). *Responsibilities of Supervising*. Available at: <http://www.ex.ac.uk/pgms/research/> (Accessed Dec. 07, 2004).
- [20] University of Glamorgan (2004). *Policies and Handbooks*. Available at: <http://www.glam.ac.uk/research/policies/> (Accessed Feb. 05, 2004).
- [21] University of Glasgow (2004). *Guidance Notes For Research Students*. Available at: <http://www.medicine.gla.ac.uk/rstu/Guidelines.htm> (Accessed Feb. 05, 2004).
- [22] University of Glasgow (2004). *Guidelines and Forms*. Available at: <http://www.gsah.arts.gla.ac.uk/html/guidelines.html> (Accessed April 21, 2004).

- [23] University of Greenwich (2004). *Information for Current Postgraduate Students*. Available at: http://www.gre.ac.uk/schools/cms/postgraduate/entry%20requirements_continuing.htm#t009 (Accessed Feb. 05, 2004).
- [24] University of Greenwich (2004). *Code of Practice for Postgraduate Research*. Available at: <http://www.gre.ac.uk/students/office/RRP/codes/research.htm> (Accessed April 21, 2004)
- [25] University of Keele (2004). *Code of Practice on Postgraduate Research Degrees*. Available at: <http://www.keele.ac.uk/depts/aa/postgraduate/cop/> (Accessed Feb. 05, 2004).
- [26] University of Kent (2004). *Orientation Handbook for Postgraduate Students in the Department of Psychology 2002-03*. Available at: <http://www.ukc.ac.uk/psychology/handbooks/pg/index.htm#code> (Accessed Dec. 07, 2004).
- [27] University of Lancaster (2004). *PhD By Research-Student Handbook 2002-2003*. Available at: <http://www.psych.lancs.ac.uk/pg/PhDResHB.html> (Accessed Feb. 05, 2004).
- [28] University of Leeds (2004). *Code of Practice for Postgraduate Research Study*. Available at: <http://www.psyc.leeds.ac.uk/docs/PGCodeofPrac.pdf> (Accessed Feb. 05, 2004).
- [29] University of Leicester (2004). *A Handbook for Research Student*. Available at: http://www.le.ac.uk/education/research/research_student/research_student_handbook/contents.html (Accessed Feb. 05, 2004).
- [30] University of Liverpool (2004). *Code of Practice for Postgraduate Research Students and Supervisors*. Available at: <http://www.qaa.ac.uk/public/COP/cop/contents.htm> (Accessed Dec. 01, 2004).
- [31] University of Liverpool (2004). *Code of Practice- Quality and Standards in Higher Education*. Available at: http://www.qaa.ac.uk/public/COP/cop/guid7_12.htm#super (Accessed Feb. 05, 2004).
- [32] University of Loughborough (2004). *Research Student Handbook 2002-2003*. Available at: http://www.lboro.ac.uk/departments/ss/postgrads/pg_student_handbook.htm (Accessed Feb. 5, 2004).
- [33] University of Manchester (2004). *Graduate Handbook*. Available at: <http://www.gssem.man.ac.uk/graduate/graduatehandbook.htm> (Accessed Feb. 05, 2004).
- [34] University of Middlesex (2004). *Research Degree Regulations*. Available at: <http://www.mdx.ac.uk/research/docs/rdreg.pdf> (Accessed Feb. 05, 2004).
- [35] University of Nottingham (2004). *Statement on Responsibilities and Duties*. Available at: <http://www.cs.nott.ac.uk/Prospectus/PG/appendixb.html> (Accessed Dec. 07, 2004).
- [36] University of Nottingham (2004). *Postgraduate Handbook 2003*. Available at: <http://www.maths.nottingham.ac.uk/postgraduate/pghandbook/yoursupervisor.htm> (Accessed April 21, 2004).
- [37] University of Oxford (2004). *Guidelines for Graduate*. Available at: <http://www.lingphil.ox.ac.uk/postgrad/general.html> (Accessed Feb. 05, 2004).
- [38] University of Reading (2004). *University Code of Practice on Research Students*. Available at: http://www.rdg.ac.uk/Handbooks/Teaching_and_Learning/Code_of_Practice.html (Accessed Feb. 05, 2004).
- [39] University of Salford (2004). *Code of Practice for the Conduct of Postgraduate Research Degree Programmes*. Available at: <http://www.academic.salford.ac.uk/aqa/apps/Appendix21.pdf> (Accessed Feb. 05, 2004).
- [40] University of Sheffield (2004). *Responsibilities of the Supervisor*. Available at: <http://www.shef.ac.uk/~gradsch/InfoForStudents/Responsibilities/Supervisor.html> (Accessed Dec. 06, 2004).
- [41] University of Southampton (2004). *Handbook for Research Students*. Available at: <http://www.socstats.soton.ac.uk/teach/research-handbook.pdf> (Accessed Feb. 05, 2004).

- [42] University of St. Andrews (2004). *A Code of Practice for Supervisors and Students in Taught and Research Postgraduate Programmes*. Available at: <http://www.standrews.ac.uk/services/registry/pgcodind.htm> (Accessed Feb. 05, 2004).
- [43] University of Surrey (2004). *Code of Practice for Research Degrees*. Available at: <http://www.open.mis.surrey.ac.uk/admin/registry/qaeo/ASG/coprd.pdf> (Accessed Feb. 05, 2004).
- [44] University of Sussex (2004). *Research Handbook*. Available at: <http://www.sussex.ac.uk/Units/academic/academicoffice/committees/graduate/handbooks/GRCDirectors-hdk.pdf> (Accessed Feb. 05, 2004).
- [45] UMIST (2004). *General Policy*. Available at: <http://www2.umist.ac.uk/Materials/depment/Safety/2.0%20General%20Policy.htm> (Accessed Feb. 05, 2004).
- [46] University of Wales, Cardiff (2004). *Quality Assurance in Research Degrees: Code of Practice*. Available at: <http://www.cf.ac.uk/areg/quality/aqsm/part4/> (Accessed Feb. 05, 2004)
- [47] University of Warwick (2004). *Code of Practice- Quality and Standard in Higher Education*. Available at: http://www.qaa.ac.uk/public/COP/cop/guid7_12.htm#super (Accessed Feb. 06, 2004).
- [48] University of Westminster (2004). *Research Students Guide*. Available at: <http://www.wmin.ac.uk/csd/Research%20Student%20Guide%2099-00.htm> (Accessed Dec. 15, 2004).

Influence of Leadership Role on Women Activities in Women Based Rural Development Projects in Osun State

Okunade, E.O

Ladoke akintola university of technology, ogbomoso

Abstract

This study determined the Influence of leadership role on women activities in rural women-based development projects. The study was conducted in 6 purposively selected Local Government Areas (LGA) of Osun State. Structured interview schedule was used to collect information from 108 each of women local leaders and non-leaders who are randomly selected from women groups participating in women rural development projects. Frequency counts, percentages and analysis of variance were used to analyse the data. The results showed that the respondents participated in 12 rural development projects and were found to participate actively in all activities. The respondents did not take part in activities that are tedious in nature.

Also, there was significant difference in the performance of specific activities between the women local leaders and women non-leader such as identification of problems ($r=3.07$) decision making ($r=3.05$), planning ($r=16.06$) project implementation ($r=2.89$), arrangement of meeting ($r=10.12$), participation in discussion ($r=3.26$). contribution to resources ($f=26.42$) and marketing ($f=5.09$).

*** It was also revealed that women leaders were into some activities than women non-leaders probably because of the first hand information always received from either the extension agents/rural development agencies. It is recommended that local leadership should be encouraged among groups since their active participation in group activities could enhance its growth and thereby sustain the group goal and development.

Introduction

Nigerian Women account for almost 50 percent of the population in the rural areas, (Population Census 1991). They have been found to be responsible for the production of agricultural produce to sustain the population (FAO, 1996). Many of them serve multiple roles of holding forth for their husbands who have left for the urban centres in search of white collar jobs, and at the same time carry out their normal duties of child bearing and household maintenance. (Kpohazoinde 1994)

It has been established that women of Osun state are producers, processors and marketers of agricultural produce who are actively involved in rural and agricultural development projects carrying out different activities. (Siyanbola, 1995; **Okunade**, 1998).

As a result of the women proportion in population as well as their active role, efforts are concentrated on them by making them a focus of rural development projects. Projects that are women-based like Better Life Programme (BLP). Women in Agriculture (WIA), Family Support Programme (FSP) and Family Economic and Advancement Programme (FEAP) were introduced by the government to cater for the women in the rural areas. These projects were funded by local government (LG), State and Federal Government as well as some international organizations like United Nations Development Programme (UNDP) and some Non-Governmental Organizations (NGO's). These projects were targeted on women groups for their empower as well as enhancing the sustainability of the projects after the withdrawal of government or rural development agencies. The activities of groups were coordinated by the local leaders selected from the group. This study found out the influence that

local leaders could have in the performance of group activities and the impact of a leadership role on rural development projects. The study provides answers to the following questions:

Measure of variables

- (i) What are the rural development introduced to women?
- (ii) What are the specific activities carried out at different stages of development by women?
- (iii) What is the difference in the performance of activities among leaders and non-leaders

Objectives of the study

The main objective of the study is to determine the influence of women leadership role on women-activities in women-based rural development projects in Osun-State the specific objectives are to

- (i) identify the rural development projects introduced to the respondents;
- (ii) determine stages of participation in rural development projects; and
- (iii) determine the specific activities carried out by the leaders and non-leaders in the different stages of rural development projects.

Hypothesis

There is no significant difference in the performance of selected specific activities between women local leaders and non-leaders.

Methods and Data Collection

This research was conducted in Osun state of Nigeria. The state consists of 6 administrative zones and 6 Local Government (LG) were purposively selected based on LG participating in the program with one LGA per zone. In the LGA selected, 18 groups were purposively selected based on the groups with the highest number of registered projects. In the groups, leaders were selected based on the use of combination of methods (reputation, positional and social) while non-leaders were chosen using simple random technique. In all, 108 leaders and non-leaders respectively were chosen for the study using stratified sampling technique. Data were collected using structured interview schedule to collect information from the farmers.

Analysis of data was carried out using frequency counts percentages, analysis of variance (ANOVA) to find out significant differences.

Results and Discussion

Rural development project

Data in table 1 showed the distribution of respondents by projects available in their area and those they were participating. Leaders and non-leaders identified a total of twelve rural development projects 7 were agricultural projects and 5 were non-agricultural projects.

Table 1: Distribution of respondents by projects identification and participation

LEADERS	Leader		Non-leaders	
Projects	Frequency	Percentage	Frequency	Percentage
Group farming	18	16.6	2	1.85
Animal rearing	4	3.7	2	1.85
Soap making	28	25.9	31	28.7
Pottery making	5	4.6	8	7.4
Tie \$ Dye making	6	5.5	7	6.5
Mat \$ Bag weaving	19	17.5	25	23.1
Cloth weaving	6	5.5	7	6.5
Vegetable production	16	14.8	7	6.5
Crop production	4	3.7	1	0.93
Total	106	98	90	83.3
Processing Projects				
Oil-palm processing	52	48.1	31	28.7
Cassava processing	54	50	26	24.0
Soyabean processing	16	14.8	7	6.5

Source: Field survey, 2001

Multiple response.

Participation of respondents in the various stages of rural development

Participation was measured based on their involvement at different stages of rural development: identification of problem, decision-making, planning, implementation and evaluation. Data in Table 2 showed that about 78.7percent of leaders and 40.1percent of non-leaders were involved in problem identification. All leaders (100%) were involved in decision making, planning and implementation while 98.1 percent were involved in evaluation but non-leaders had 89.8% involvement in decision making, 93.5% in planning and 100percent at implementation and 91.7% at evaluation stages.

Table 2: Distribution of respondents by stages of participation in women-based rural development projects

	Leaders		Non-leaders	
Stages of Participation	Frequency	Percentage	Frequency	Percentage
Problem identification	85	78.7	44	40.1
Decision making	108	100	97	89.8
Plan of action	108	100	101	93.5
Project implementation	108	100	108	100
Project evaluation	106	98.1	91.7	

Source: Field survey 2001.1

Activities carried out by respondents at various stages of development.

Problem identification stage

Data in Table 3 showed that leaders (38.9%) participated more as initiator in problem identification. Responses were rather low in other types of activities for the two groups of respondents Leaders were more of Originator than non-leaders; this is more visible by the no response of non-leaders (59.2%).

Table 3: Distribution of respondents by activities carried out at problem identification stage.

Problem identification activities	Leaders		Non-leaders	
	Frequency	Percentage	Frequency	Percentage
Initiator	42	38.9	1	0.93
Opinion giver	7	6.48	9	8.3
Opinion seeker	5	4.6	7	6.48
Information giver	12	11.1	16	14.8
Information seeker	19	17.6	11	10.2
No response	2.3	21.3	64	59.2

Source: Field survey, 2001.

Decision making

Data in Table 4 showed that decisions were reached by leaders mostly by balloting (40.7%) and debating till consensus (45.5%) while a negligible part (less than 10%) of the decision was reached from outside by influential leaders and opinion poll. On the other hand, decisions from non-leaders were also from balloting (37%) and debating till consensus (27.8%) while (22.2%) were decisions made by influential leaders.

Table 4: Distribution of respondents by decision-making stage

Decision making Activities	Leaders		Non-Leaders	
	Frequency	Percentage	Frequency	Percentage
Decision from Outside	1	0.93	2	1.85
Influential leader	4	3.7	24	22.2
Opinion poll	10	9.3	12	11.1
Balloting	44	40.7	40	37
Debating till consensus	49	45.4	30	27.8

Source: Field survey 2001.

Plan of action

In Table 5, the result showed that 93.5% of the leaders were sources of information, 87% suggested project site and participated in discussion while 59.3% were involved in the arrangement of meeting and 47.2% in provision of inputs. Majority of the non-leaders (87.9%) participated in discussion, 31% sharing of proceeds (15.7%), responses for provision of inputs and site location were rather low.

Table 5: Distribution of respondents by specific tasks carried out at the plan of action stage.

Plan of acting activities	Leaders		Non-leaders	
	Frequency	Percentage	Frequency	Percentage
Arrangement of meeting	64	59.3	14	12.9
Site location/selection	94	87	2	1.85
Sources of information	101	93.5	40	37.0
Participate in discussion	94	87	95	87.9
Provision of input	51	47.2	8	7.4
Division of proceed/ out put	2	1.85	17	15.7

Multiple response

Source: Field survey, 2001.

Implementation stage

Findings in Table 6 showed that the contribution of personal labour and funds featured prominently among the specific contributions made by women towards project implementation with 97.2% of the respondents. Next is contribution of hired labour (77.8%) for leaders. This is followed by contribution of funds by 65.7% of leaders and 58.3% of non-leaders. 13.9% of leaders and 5.6% of non-leaders provided Land. However hired labour ranked least for non-leaders (0.93%).

Table 6: Distribution of respondents by their contribution to project implementation

Contribution	Leaders		Non-leaders	
	Frequency	Percentage	Frequency	Percentage.
Funds	71	65.7	63	58.3
Personal labour	105	97.2	105	97.2
Hired labour	84	77.8	1	0.93
Land	15	13.9	6	5.6

Source: Field survey, 2001.

Evaluation stage

Data in Table 7 showed the respondents activities carried out at the project evaluation stage. Giving advice on the use of input (88.9%) ranked highest among leaders, next was the giving of suggestion by 72.2% of the leaders. This is followed by visitation to the project site (71.3%) and follow- up exercises (50.9%). There was no response by 1.85 of the leader.

The non-leaders' participation was above average for advice on the use of input (69.4%) while other participatory exercise recorded below average.

Table 7: Distribution of respondents by activities carried out at evaluation stage.

Activities	Frequency	Percentage	Frequency	Percentage
Visit sites	77	71.3	40	37.0
Advise on the use of input	96	88.9	75	69.4
Give suggestion	78	72.2	37	36.1
Follow up exercise	55	50.9	6	5.5
No response	2	1.85	9	8.3

Source: Field survey, 2001.

Specific activities carried out by women in rural development projects

Specific activities carried out by women were viewed as agricultural (production and processing) projects and non-agricultural projects

Activities carried out on processing projects

Data in Table 8 show that in oil palm processing about 28percent of leaders participated in boiling, sterilization, reconditioning and packaging, 37percent took part in fetching water, 9.7% engaged in grinding while non-participated in chopping of fruits. However, for non-leader, low participation was observed for all the activities, 28percent participated in boiling and fetching of water 27.7% took part in reconditioning and packaging, 26.9percent in sterilization, 23.7% were involved in grinding and none took part in chopping of the fruits.

In cassava processing, 50percent of the leaders were involved in peeling, sieving and frying. About 46.3% took part in final sieving, 27.7% were engaged in fermentation and 18.5% in dewatering while none took part in grating. About 24.1% of the non-leaders participated in peeling, fermentation, sieving and frying, 18.5% were involved in dewatering and final sieving while none took part in grating.

In Soyabean processing, the participation of the respondents was generally low. This may be because of the newness and unpopularity of the Soyabean in this part of the country. it was discovered that all the series of activities involved were essential and crucial None of the steps could be skipped or omitted without affecting the next step. Because of its necessity. I.e a step leads to the next. The proceeding steps is a prerequisite to the next step.

Table 8: Distribution of respondents by activities carried out in Processing activities.

Processing activities	Frequency	Percentage	Frequency	Percentage
<u>Palm oil processing</u>				
Boiling	52	48.1	31	28.7
Fetching of water	40	37	31	28.7
Grinding	10	9.7	25	23.1
Sterilization	52	48.1	29	26.9
Deconditioning	52	48.1	30	27.7
Packaging	52	48.1	30	27.7
<u>Cassava Processing</u>				
Peeling	54	50	26	24.1
Grating	-	-	-	-
Fermentation	30	27.7	26	24.1
Dewatering	20	18.5	20	18.5
Sieving	54	50	26	24.1
Frying	54	50	26	24.1
Final Sieving	50	46.3	20	18.5
<u>Soyabean processing</u>				
Picking of stone	16	14.8	7	6.5
Blanching/parboiling	16	14.8	7	6.5
Dehusking	16	14.8	7	6.5
Milling	16	14.8	7	6.5
Sieving	16	14.8	7	6.5
Boiling	16	14.8	7	6.5
Packaging	16	14.8	7	6.5

Source: Field survey 2001

Specific Activities carried out on agricultural production projects.

Table 9 shows the distribution of respondents by activities carried out on agricultural production projects. Only a few of the respondents participated in feeding of animal (3.7%) and marketing activities (3.7%) while they neglected other activities e.g. construction of housing watering breeding, deworming and clearing of their houses

The result showed a low participation of respondents in all the agricultural production activities. There is low participation in clearing and ridging of land, The respondent were found active planting, weeding, fertilizer application harvesting and marketing. in other activities which women found easy and less stressful, all of them were found active e.g.

Table 9: Distribution of respondents by activities carried out on agricultural production.

Cropping activities	Leaders						Non-leaders					
	Group farming		Vegetable production		Crop production		Group farming		Vegetable production		Crop production	
	F	%	F	%	F	%	F	%	F	%	F	%
Land clearing	-	-	-	-	2	1.85	2	1.85	6	5.5	1	.93
Ridging	-	-	-	-	4	3.7	2	1.85	7	6.48	1	.93
Planting	18	16.6	16	14.8	2	1.85	2	1.85	7	6.48	1	.93
Weeding	18	16.6	16	14.8	2	1.85	2	1.85	7	6.48	1	.93
Fertilizer application	18	16.6	16	14.8	2	1.85	2	1.85	7	6.48	1	.93
Harvesting	18	16.6	16	14.8	2	1.85	2	1.85	7	6.48	1	.93
Marketing	18	16.6	16	14.8	4	3.7	2	1.85	7	6.48	1	.93

	Leaders		Non-leaders	
Animal Production	F	%	F	%
Construction of housing	-	-	-	-
Feeding	4	3.7	2	1.85
Watering	1	0.93	-	-
Breeding	-	-	-	-
Deworming	-	-	-	-
Cleaning	2	1.85	-	-
Marketing	4	3.7	2	1.85

Source: Field survey 2001.

F = Frequency

% = Percentage.

Specific activities carried out on non-agricultural production

Data in Table 10 shows that nearly all the respondents that took part in each of the various projects participated in all the activities involved under each of the projects. In soap making, about 26% of the leaders participated in all the activities while 28.7 percent of non-leaders participated in all the activities. Except mixing (23.1%) and fermentation (27.7%). In pottery making 4.5% of leaders took part in all the activities except digging of clay soil with no participation while 7.4% of the non-leaders participated in all activities except digging of clay soil (3.7%). In tie & die 5.5% of leaders were involved in all the activities except ironing of clothe (3.7%) while 6.5% of non-leader were involved in all the activities participated in mat & bag weaving about 17.6 percent of the leaders were involved in tying & scrapping respectively while 9.3 percent each of the leader were involved in cutting & drying where as 23.1% of non-leaders were involved in all the activities exept cutting (13.8%) and scraping (1.85%)

Table 10: Distribution of respondents by activities carried out in non-agricultural production

Non-agricultural activities	Frequency	Percentage	Frequency	percentage
<u>Soap making</u>				
Measurement of chemical	28	25.9	31	28.7
Soaking	28	25.9	31	28.7
Mixing	28	25.9	25	23.1
Fermentation	28	25.9	30	27.7
Stirring	28	25.9	31	28.7
Solidification	28	25.9	31	28.7
Cutting to sizes	28	25.9	31	28.7
<u>Pottery making</u>				
Digging of clay soil	-	-	4	3.7
Collection of clay soil	5	4.5	8	7.4
Pounding	5	4.5	8	7.4
Moulding	5	4.5	8	7.4
Drying	5	4.5	8	7.4
Burning	5	4.5	8	7.4
Marketing	5	4.5	8	7.8
	5	4.5	8	7.8
<u>Tie & Dye</u>				
Washing of cloth	6	5.5	7	6.5
Tie/Wax the cloth	6	5.5	7	6.5
Preparation of dye solution	6	5.5	7	6.5
Soaking of cloth	6	5.5	7	6.5
Drying of cloth	6	5.5	7	6.5
Removal of wax/tie	6	5.5	7	6.5
Ironing of cloth	4	3.7	7	6.5
<u>Mat/bag weaving</u>				
Cutting	-	-	15	13.8
Drying	10	9.3	25	23.1
Tieing	10	9.3	25	23.1
Scrapping	19	17.6	2	1.85
Cleaning	19	17.6	25	23.1
Rolling	19	17.6	25	23.1
Weaving	19	17.6	25	23.1
<u>Cloth weaving</u>				
Looming	6	5.5	7	6.5
Dyeing	6	5.5	7	6.5
Washing of thread	6	5.5	7	6.5
Mixing of thread	6	5.5	7	6.5
Separation of thread	6	5.5	7	6.5
Weaving	6	5.5	7	6.5
Marketing	6	5.5	7	6.5

Source: Field survey 2001.

Hypothesis Testing

Data in Table 11 showed the significant difference between the performance of specific activities of leader and non-leader

The analysis showed that significant differences exist in the performance of specific activities between women and non-women local leaders. Such activities include identification of problem (F=3.07), decision making (F= 3.05), planning (F= 16.06), project implementation (F=2.89), arrangement of meeting (F= 10.12) participation in discussion (F=3.26). Contribution of resources (F=

26.42) and marketing ($F = 5.09$). However, there was no significant difference in the performance processing activities. The significant difference recorded in the performance of specific activities between leaders and non-leaders especially in the managerial activities showed that leaders have potential to allow them manage projects-----

The implication of the managerial activities which means that they have the potential to manage projects if given the opportunity. This means that rural projects can be sustained after the withdrawal of the external agencies

Table 11: Result of ANOVA test carried out on performance of specific activities between women leaders and non-leaders in rural development projects.

Specific activities	F-value
Identification of Problem	3.07
Decision making	3.05
Project planning	16.06
Project implementation	2.89
Arrangement of meeting	10.12
Participation in discussion	3.26
Contribution of resources	26.42
Processing	2.24
Marketing	5.90

* Significant at 0.05 level

** Significant at 0.01 level

Source: Field survey 2001.

Conclusion and Recommendation

The respondents were between the ages of 26 and 55 years. Majority of them were married and belong to the two orthodox religions i.e. Christianity and Islam. They engaged in multiple occupation varying from farming, trading and civil service. The respondents acquired formal education ranging from primary to post secondary. The respondents participated in 12 rural development projects and were active in the activities involved in the stages of rural developments. The result shows that the respondents do not take part in activities that substitutes can be used e.g. fetching of water and grinding in agricultural production projects, Fewer respondents took part because of the tedious nature of the operation and In non-agricultural projects, the respondents carried out all the activities under each project because they are all important and necessary.

The significant difference in the performance of specific activities between leaders and non-leaders as revealed in this study showed the women leaders have potential that could enable them manage group activities as well as enabling them to sustain rural development project even when the development agencies would have gone. Therefore, programme implementers should give more opportunity to women to their potential to an advantages

References

- [1] Food and Agricultural Organization (FAO 1996): Women Agriculture and Rural Development. Sustainable Development Department, June 1996
- [2] **Okunade, E.O (1998):** Effectiveness of Extension teaching methods in communicating improved farm practice to rural women in Osun state: M.Sc Thesis, Obafemi Awolowo University, Ile-Ife pp 47-100 **(2002)** Participation of women local leaders in women –based rural development project in Osun State, A PhD Thesis, Obafemi Awolowo University, Ile-Ife. pp 120-180.
- [3] Siyanbola, A.T (1995): “Participation of Women in Agricultural and Rural Development Projects in Osun State. An unpublished Ph.D Thesis Obafemi Awolowo University, Ile-Ife PP 1-75.
- [4] NPC census 1991
- [5] KPO -----1994

Causality and Price Transmission Between Fish Prices: New Evidence from Greece and UK

Christos Floros

*University of Portsmouth, Department of Economics
Richmond Building, Portland Street, Portsmouth, PO1 3DE, U.K
Email: Christos.Floros@port.ac.uk
Tel: +442392844244, Fax: +442392844037*

Abstract

This paper re-examines the evidence of causality and price transmission between fish prices of main species landed into Piraeus (Greece) and Cornwall (UK). To complete the analysis of cointegration and causality, we use the data of Floros and Failler (2004) and Avdelas (2004). Our paper uses the Bivariate Generalised Autoregressive Conditional Heteroscedastic (BGARCH) model. The Bivariate cointegration model (with GARCH error structure) incorporates a time varying conditional correlation coefficient between fish prices and generates time-varying covariances. The results from BGARCH show evidence of volatility clustering in the change of fish prices, and report that most species lead Hake (this is stronger for Greece). Furthermore, the estimates of price transmission indicate that the rate of change of Shrimp/Dentex partially adjusts to the rate of change of Hake prices. Our results suggest significant imperfect price transmission between species (this is stronger for Greece).

Keywords: Fish prices, price transmission, causality, Cornwall, Piraeus, BGARCH.

1. Introduction

This paper analyses price relationships using weekly and monthly data from fisheries. We examine causality and price transmission between top species landed into Piraeus (Greece) and Cornwall (UK). The purpose of this paper is twofold. Firstly, we identify short- and long-run dynamics and causality between fish prices. Secondly, we examine the degree of price transmission across prices. According to Rezitis (2003), the presence of causality implies that markets use information from each other when forming their own price expectations (indicating market integration), while imperfect price transmission alters the welfare of market participants because it causes changes in relative prices. Price volatility examines the relative uncertainty of prices in markets (see Rezitis, 2003; p. 381).

Yet, to our knowledge, there has been a limited research in the past to analyse the price transmission and causality effects. Rezitis (2003) explains the causality and price transmission between Greek producer-consumer meat prices (lamb, beef pork and poultry) using the bivariate Generalized Autoregressive Conditional Heteroscedastic (GARCH) model. The results indicate significant price effects in the markets.

A number of studies investigate the price flexibilities/linkages in the fishing industries of Europe, Japan and U.S (Jaffry *et al.*, 1999; Floros and Failler, 2004). Recent papers consider cointegration methods to study the long-run equilibrium between prices and market delineation (Jaffry *et al.*; 1999, Bose and McIlgorm; 1996, Gordon *et al.*; 1993). Recently, Floros and Failler (2004) examine the evidence for seasonal effects and cointegration between fisheries prices of main species landed into Cornwall. The results show significant cointegration (long-run relationship) between

prices, and also reveal that Granger causality is unidirectional in fourteen cases and bi-directional in six cases. Avdelas (2004) examines cointegration analysis using data from Greece (Piraeus) covering the period 2000-2003. The results provide little evidence of market segments. There is evidence that all species (except pandora) form part of a system of fish prices, while European hake and Pandora are cointegrated. Furthermore, the maximum eigenvalue test does not reject the null hypothesis on no cointegration between European hake and large eye dentex.

The aim of this paper is to explain the movement of fisheries prices using a new method, the bivariate GARCH (BGARCH) model. We use a BGARCH model because fisheries prices have been associated with varying degrees of volatility (i.e. the conditional variances are not constant). Therefore, it is reasonable to use an appropriate model to capture the behaviour of conditional variance. The paper follows the previous work of Reztis (2003) and extends the recent works of Floros and Failer (2004) and Avdelas (2004).

The paper is organised as follows: Section 2 describes the data, while Section 3 shows an overview of econometric models employed. Section 4 presents empirical results. Finally, Section 5 concludes the paper and summarizes our findings.

2. Data

Cornwall is the most important county in the South West England. The SW fishing industry is estimated to be worth £244 million and accounts for approximately 3,350 jobs. A total of £72.4 million worth of fish was landed in SW ports in 2001. This is equivalent to 0.11% of the GDP of the region. The SW fishing fleet is made up of 1,149 vessels. The main species can be divided into the following groupings: pelagics 7%, prime fish 32%, non-quota shell 33% and medium value fish 28%. Newlyn (the main port in Cornwall), accounts for the great majority (64%) of landings.

The UK data employed in this paper comprise 132 monthly observations on the main species landed into Cornwall covering the period from January 1992 to December 2002. Monthly average prices (£/tonne) for main species were obtained from Defra¹ (UK). We consider the following six species (based on two main fish types): Anglerfish, Cod, Dogfish, Hake, Saithe, Whiting (Demersal fish), and Crabs (Crustacea fish).

Furthermore, the Greek data consist of weekly transactions (quantity and value per species) for the years 2000 to 2003 for the fish landing site based at Piraeus (Keratsini), which is considered the biggest fish market in Greece serving mainly the Metropolitan area of Athens. During the four-year period 95,460,727.77 Kg of 136 species were soled at the Keratsini fish market. While the total quantities sold for 35 species were below one tone, the quantities sold for 20 species are about 82% of the total quantity sold during the four-year period. In this paper species are ranked by their total value of the period and the first nine species were selected. We consider the following species: Hake, Anchovy, Dentex, Pandora, Picarel, Seabass, Seabream, Gilthead and Shrimp. The Greek data is obtained from the database of ETANAL S.A. (www.etanal.gr).

A necessary condition for stable relationship is that each of the variables should be integrated of the same order. The Augmented Dickey-Fuller (ADF) test is performed on both the levels and first differences of the log-series. The results of ADF tests for both markets indicate that each series is nonstationary in levels and stationary in first differences, see Floros and Failer (2004), Floros and Avdelas (2004) and Avdelas (2004). As a result², the series are individually integrated of order one, I(1). Therefore, all series are correlated, and regression techniques can be used to confirm whether there exists significant price effects in the markets under consideration.

¹ DEFRA stands for Department for Environment Food and Rural Affairs.

² The results from ADF tests are available upon request.

3. Methodology

To derive variances and covariances, we employ BGARCH model accommodating time-varying conditional second moments. BGARCH models have been used to explain causality and price transmission in Greek meat prices, see Rezitis (2003), and in agricultural prices, see Apergis and Rezitis (2003). To the best of our knowledge, this is the first empirical investigation on price transmission and causality effects between fish prices using the method of BGARCH.

In BGARCH modelling, we assume that conditional mean equations are somehow modelled, no details are given now. When the variables are logarithms to the price $Y1_t$ and the logarithms to the price $Y2_t$, we have:

$$Y1_t = Model(Y1_t) + \varepsilon_{Y1,t} \quad (1)$$

$$Y2_t = Model(Y2_t) + \varepsilon_{Y2,t} \quad (2)$$

The error terms are then used in the building of conditional variance and covariance equations. In the simplest version, these equations take the form

$$Var(Y1_t) = c_1 + a_1(\varepsilon_{Y1,t-1})^2 + b_1Var(Y1_{t-1}) \quad (3.1)$$

$$Var(Y2_t) = c_2 + a_2(\varepsilon_{Y2,t-1})^2 + b_2Var(Y2_{t-1}) \quad (3.2)$$

$$Cov(Y1_t, Y2_t) = c_3 + a_3\varepsilon_{Y1,t-1}\varepsilon_{Y2,t-1} + b_3Cov(Y1_{t-1}, Y2_{t-1}) \quad (3.3)$$

In building this model we use nine GARCH parameters plus any parameters from the mean models. Estimation is by maximum likelihood. Considering two species, S and F . More specifically, we can estimate variances/covariance using weekly/monthly fisheries prices by the following model in log-prices form:

$$\begin{aligned} Y_t^{Y1} &= \mu_{Y1S} + \varepsilon_{Y1t} \\ Y_t^{Y2} &= \mu_{Y2F} + \varepsilon_{Y2t} \end{aligned} \quad (4)$$

$$\varepsilon_t | \Psi_{t-1} \sim BN(0, H_t)$$

$\varepsilon_t = [\varepsilon_{St}, \varepsilon_{Ft}]'$. The form of H_t for a BGARCH(p,q) model is written as

$$vech(H_t) = vech(C) + \sum_{i=1}^q A_i vech(\varepsilon_{t-1}\varepsilon_{t-1}') + \sum_{i=1}^p B_i vech(H_{t-1}) \quad (5)$$

where C is a 2x2 positive definite symmetric matrix and A_i and B_i are 3x3 matrices. However, the parameterisation in eq. (5) is difficult to estimate, since positive definiteness of H_t is not guaranteed. Also, the model contains too many parameters. The *vech* model allows for a very general dynamic structure of the multivariate volatility process. This specification suffers from high dimensionality of the relevant parameter space, which makes it intractable for empirical work. In the diagonal VEC formulation, it is assumed that the conditional variance of the index is not affected by the errors or by the conditional variance of the index, nor by the conditional covariance. A similar assumption is made for the conditional variance of the future. It is also assumed that the conditional covariance is not affected by the conditional variances. For this, 12 extra parameters are required for the full VEC formulation:

$$\begin{bmatrix} Var(\Delta S_t) \\ Cov(\Delta S_t, \Delta F_t) \\ Var(\Delta F_t) \end{bmatrix} = \begin{bmatrix} c_1 \\ c_3 \\ c_2 \end{bmatrix} + A \begin{bmatrix} (\varepsilon_{S,t-1})^2 \\ (\varepsilon_{S,t-1}\varepsilon_{F,t-1}) \\ (\varepsilon_{F,t-1})^2 \end{bmatrix} + B \begin{bmatrix} Var(\Delta S_{t-1}) \\ Cov(\Delta S_{t-1}, \Delta F_{t-1}) \\ Var(\Delta F_{t-1}) \end{bmatrix} \quad (6)$$

where A and B are 3 x 3 matrices.

The computational burden, introduced by more than doubling the number of parameters to be estimated, is very significant. Moreover, neither the diagonal VEC Bollerslev, Engle, and Wooldridge (1988), nor the full VEC formulation of bivariate GARCH enforce positive definiteness of the covariance matrix. This can be remedied, without using too many parameters, by the *BEKK*

formulation, see Engle and Kroner (1995). Positive definiteness is easily guaranteed by the BEKK model (named after Baba, Engle, Kraft, and Kroner (1990)). The generic version of the model is given by

$$H_t = C^T C + A^T E_{t-1} E_{t-1}^T A + B^T H_{t-1} B, \quad (7.0)$$

$$H_t = \begin{bmatrix} \text{Var}(S_t) & \text{Cov}(S_t, F_t) \\ \text{Cov}(S_t, F_t) & \text{Var}(F_t) \end{bmatrix} \quad (7.1)$$

$$E_t = \begin{bmatrix} \varepsilon_{S,t} \\ \varepsilon_{F,t} \end{bmatrix} \quad (7.2)$$

and where A, B and C are matrices of parameters:

$$C = \begin{bmatrix} C_{11} & C_{12} \\ 0 & C_{22} \end{bmatrix} \quad (7.3)$$

The BEKK parameterisation requires estimation of only 11 parameters in the conditional-covariance structure, and also, guarantees H_t to be positive definite. Compared to the diagonal model, the BEKK model allows for convenient cross dynamics of conditional variances.

In addition, Bollerslev (1990) introduces another way to simplify H_t . He presented the ‘constant-correlation specification’ by assuming that the conditional correlation between $\varepsilon_{S,t}$ and $\varepsilon_{F,t}$ is constant over time. He defines H_t as

$$\begin{bmatrix} h_{ss,t}^2 & h_{sf,t}^2 \\ h_{fs,t}^2 & h_{ff,t}^2 \end{bmatrix} = \begin{bmatrix} h_{s,t} & 0 \\ 0 & h_{f,t} \end{bmatrix} \begin{bmatrix} 1 & \rho_{St} \\ \rho_{St} & 1 \end{bmatrix} \begin{bmatrix} h_{s,t} & 0 \\ 0 & h_{f,t} \end{bmatrix} \quad (8)$$

In this case, positive definiteness is assured if $h_{S,t} > 0$ and $h_{F,t} > 0$. The above (constant correlation) model contains only 7 parameters compared to 21 parameters encountered in the full VECH model. Notice that estimation of all multivariate GARCH models above is carried out by using conditional quasi maximum likelihood estimation. The conditional log-likelihood function for a single observation can be written as

$$L_t(\theta) = -(n/2) \log(2\pi) - (1/2) \log(|H_t(\theta)|) - (1/2) \varepsilon_t(\theta)' H_t^{-1}(\theta) \varepsilon_t(\theta) \quad (9)$$

where θ represents a vector of parameters, n is the sample size, and t is the time index.

4. Empirical Results

Our approach, for estimating time-varying covariances, is by employing a restricted version of the bivariate BEKK of Engle and Kroner (1995). The Bivariate cointegration model, with GARCH error structure, BGARCH, incorporates a time varying conditional correlation coefficient between fish prices and generates time-varying covariances. We apply several BGARCH models (not reported in detail) to our data, so we can model the variance of each series. In particular, to account for cointegration, we model the mean equations (first moment) with a bivariate error correction model, see Engle and Granger (1987). In addition, we take into account time-varying variances and covariances, by modelling the second moment with a bivariate GARCH(1,1) model as proposed in Engle and Kroner (1995). For estimation, a BHHH algorithm with the Marquardt correction is used. We also use Akaike’s information criterion (AIC) to select the best model (representation). Accordingly, the lower AIC value selects the model with the better fit to the data.

The selected bivariate cointegration GARCH(1,1) distributions of log-specie1 (s) and log-specie2 (f) with 1 lag in the mean equation are given by:

$$\begin{aligned}
\Delta s_t &= a_0 + a_1(s_{t-1} - \mathcal{J}_{t-1}) + a_2\Delta s_{t-1}^s + a_3\Delta f_{t-1}^s + \varepsilon_{st} \\
\Delta f_t &= \beta_0 + \beta_1(s_{t-1} - \mathcal{J}_{t-1}) + \beta_2\Delta s_{t-1}^f + \beta_3\Delta f_{t-1}^f + \varepsilon_{ft} \\
\varepsilon_t &= \begin{bmatrix} \varepsilon_{st} \\ \varepsilon_{ft} \end{bmatrix} \mid \Psi_{t-1} \sim N(0, H_t) \\
h_{st}^2 &= c_s + a_s \varepsilon_{s,t-1}^2 + b_s h_{s,t-1}^2 \\
h_{ft}^2 &= c_f + a_f \varepsilon_{f,t-1}^2 + b_f h_{f,t-1}^2
\end{aligned} \tag{10}$$

where Ψ_{t-1} is the information at time $t-1$, and $s_{t-1} - \mathcal{J}_{t-1}$ is the error term obtained from the OLS equation $s_t = \delta + \mathcal{J}_t + e_t$, a_1 and β_1 are the adjustment coefficients of s and f respectively, and ε_{st} and ε_{ft} are the residuals of the prices. h_{st}^2 and h_{ft}^2 are the conditional variances of s and f , respectively. The coefficients b_s and b_f capture volatility in s and f , respectively. The sum of $a_s + b_s$ and $a_f + b_f$ measure persistence. If the sum is less than one, then the BGARCH(1,1) is valid, otherwise the volatility is infinite (Rezitis, 2003).

Table 1 reports the AIC and Log Likelihood (LL) values obtained from several BGARCH (1,1) models, with 1 lag in the mean equation, for Greek and UK fish markets. Correlation coefficients are also reported to show the relationship between series. Most of the species landed into Piraeus have positive correlation coefficients, while the Cornish fish species show negative coefficients.

Table 1: AIC, LL values and Correlation coefficients

Market	Piraeus		
Species	AIC	Log Likelihood	Correlation coefficient
<i>Hake-Bogue</i>	-2.237164	247.5465	0.342039
<i>Hake-Dentex</i>	-0.984641	117.9103	0.609500
<i>Hake-Anchovy</i>	-1.365048	157.2824	0.147515
<i>Hake-Red Mullet</i>	-2.195733	243.2584	0.264198
<i>Hake-Striped</i>	-1.741415	196.2365	0.005674
<i>Hake-Pandora</i>	-1.968669	219.7572	0.476104
<i>Hake-Octopus</i>	-2.618168	286.9804	0.664993
<i>Hake-Picarel</i>	-1.690026	190.9177	0.682268
<i>Hake-Seabass</i>	-2.821969	308.0738	0.009231
<i>Hake-Gilthead</i>	-4.301753	461.2315	-0.161638
<i>Hake-Bluespotted</i>	-1.293980	149.9269	0.255952
<i>Hake-Shrimp</i>	-0.273180	44.27409	0.666898
Market	Cornwall		
<i>Hake-Cod</i>	-0.973220	79.25932	-0.398551
<i>Hake-Anglerfish</i>	-1.7486841	129.6642	-0.279002
<i>Hake-Crabs</i>	-0.975512	79.40826	0.209748
<i>Hake-Dogfish</i>	0.325388	-5.150239	-0.062619
<i>Hake-Haddock</i>	-0.479125	47.14314	-0.583064
<i>Hake-Lemonsole</i>	-1.257937	97.76591	-0.286937
<i>Hake-Mackerel</i>	1.182670	-60.87355	-0.278740
<i>Hake-Plaice</i>	-0.805550	68.36077	-0.215050
<i>Hake-Saithe</i>	-0.293487	35.07664	-0.225911
<i>Hake-Sole</i>	-1.617567	121.1418	-0.458130
<i>Hake-Whiting</i>	-0.446018	44.99118	-0.254558

Notes: AIC and LL stands for Akaike and Log likelihood, respectively. Correlation coefficient between series in logarithm.

The results from BGARCH models are presented in Table 2 (Piraeus) and Table 3 (Cornwall). The ARCH coefficients are all positive and significant thus implying volatility clustering both in Cornwall and Piraeus change of fish prices. The ARCH coefficients are also less than unity in all cases. The sign and significance of the covariance parameters indicate significance interaction between the

two prices. Furthermore, the coefficient of the error correction term, a_1 , is not positive and significant, indicating that Hake does not lead the fish prices, in both markets. Also, the coefficient of the error correction term in Hake equation, β_1 , is positive and significant (in six cases), indicating that the change of other fish prices lead Hake (the hypothesis is stronger for Greece). Hence, the results from BGARCH show evidence of volatility clustering in the change of fish prices, and suggest that most species lead Hake. Furthermore, Appendix 1 and Appendix 2 shows the plots of variances and covariances between the species for Cornwall and Piraeus, respectively. It is obvious that variances and covariances obtained from restricted version of Bivariate BEKK (BGARCH (1,1) model), are time-varying, in both the Cornish and Greek markets. Also, variance and covariances are clearly able to recognise the trend in the price changes.

Table 2: BGARCH(1,1) model for Piraeus (Greece)

PART A.	Method: Maximum Likelihood (Marquardt)					
Fish Equation	Estimates	Estimates	Estimates	Estimates	Estimates	Estimates
Specie 1 (s):	Dentex	Red Mullet	Pandora	Gilthead	Anchovy	Shrimp
c_s	0.216370*	0.054096*	0.076568*	0.012954*	0.089480	0.294794*
Δs_{t-1}^s	-0.187185*	-0.273047*	-0.378015*	-0.385566*	-0.153007*	-0.26066*
Δf_{t-1}^s	0.308051*	-0.103198*	0.062602	0.008586	0.105464	0.580362*
$s_{t-1} - \mathcal{H}_{t-1}$	-0.138525*	-0.134192*	-0.016080	0.000375	-0.387966*	0.022595
a_0	0.287927	0.099532	-0.014241	0.021634	0.280746*	0.238538
GARCH(s)	0.412815	0.714829*	0.741208*	0.859555*	0.885906	0.515890
ARCH(s)	0.525002*	0.675809*	0.477385*	0.430242*	0.020218	0.296645*
γ	-0.490468	0.494580*	1.063457*	34.86035	-0.106174	6.318731*
Specie 2 (f):	Hake	Hake	Hake	Hake	Hake	Hake
c_f	0.104044*	0.094480*	0.115185*	0.128883*	0.118417	0.120051*
Δs_{t-1}^f	0.085374*	-0.015483	-0.061176	0.078438	0.109219*	0.021429
Δf_{t-1}^f	-0.140574	-0.050607	-0.024007	-0.012764	-0.101037	-0.032496
$s_{t-1} - \mathcal{H}_{t-1}$	-0.059809*	0.184269*	0.177889*	0.004481	-0.067079	0.037321
β_0	0.128730	-0.130020*	0.109262	0.283529*	0.046682	0.389104*
GARCH(f)	0.071652	0.341219	-0.099849	-0.216891	0.000854	0.034837
ARCH(f)	0.522383*	0.306282*	0.383322*	0.407739*	0.485539*	0.335439*

PART B.	Method: Maximum Likelihood (Marquardt)					
Fish Equation	Estimates	Estimates	Estimates	Estimates	Estimates	Estimates
Specie 1 (s):	Bogue	Octopus	Seabass	Picarel	Striped	Bluespotted
c_s	0.049058*	0.072959*	0.057675*	-0.020929	0.052794*	0.073730*
Δs_{t-1}^s	-0.053246	-0.22942*	-0.338673*	-0.150349	-0.40082*	-0.411381*
Δf_{t-1}^s	-0.016112	-0.022689	0.090931	0.146692	-0.19533*	0.356401*
$s_{t-1} - \mathcal{H}_{t-1}$	-0.59483*	-0.16468*	-1.59e-06	-0.18857*	-0.025454	0.004000
a_0	0.148871*	-0.027655	-0.003570	-0.24941*	-0.023069	0.042209
GARCH(s)	0.874902*	0.584009*	0.726266*	0.992125*	0.867685*	0.591464*
ARCH(s)	-0.32648*	0.465756*	0.314375*	0.015357	0.396463*	0.917445*
γ	0.090459	0.910498*	95.16265	1.064404*	1.385979	7.203314
Specie 2 (f):	Hake	Hake	Hake	Hake	Hake	Hake
c_f	0.059804	0.126248*	0.127169*	0.002665	0.129685*	0.141442*
Δs_{t-1}^f	0.157382*	-0.064524	-0.103708	0.064624	-0.090193	-0.087998*
Δf_{t-1}^f	-0.13665*	0.027709	-0.001307	-0.083899	-0.020525	-0.036640
$s_{t-1} - \mathcal{H}_{t-1}$	-0.22451*	0.236373*	0.001448	0.092950*	0.116906*	0.023423
β_0	0.056665	0.043677	0.253614*	0.122607	0.088250	0.266949*
GARCH(f)	0.013294	0.102255	-0.038139	0.516586	-0.148132	-0.020474
ARCH(f)	-0.43109*	0.365480*	0.435987*	0.339666*	-0.40799*	0.259002*

* Significant at 5% level.

Table 3: BGARCH(1,1) model for Cornwall (UK)

PART A.	Method: Maximum Likelihood (Marquardt)					
Fish Equation	Estimates	Estimates	Estimates	Estimates	Estimates	Estimates
Specie 1 (s):	Cod	Crabs	Dogfish	Haddock	Plaice	Saithe
c_s	0.053496*	-0.086105*	0.227640*	0.029845	0.143193*	0.118316*
Δs_{t-1}^s	-0.288068*	-0.460545*	-0.126917	-0.344956	0.085667	-0.31056*
Δf_{t-1}^s	0.124279	0.057233	0.054125	-0.069562	-0.021961	0.039458
$s_{t-1} - \mathcal{H}_{t-1}$	0.000559	0.002450	-0.560206*	-0.045633	-0.052887	-0.000405
a_0	0.298686	0.390298	3.375754*	-0.118931	-0.056425	-0.230273
GARCH(s)	0.893797*	0.646902*	-0.342477	0.969820*	-0.014825	0.707896*
ARCH(s)	0.292398*	0.671799*	-0.424772	0.174577	0.547915*	0.481220*
γ	67.08001	20.63144	0.065360	1.206482	1.080067	67.43293
Specie 2 (f):	Hake	Hake	Hake	Hake	Hake	Hake
c_f	0.152106*	-0.160209*	0.166523	-5.5e-06	-0.030201	-0.17211*
Δs_{t-1}^f	-0.034164	-0.060304	-0.054184	-0.124617	-0.242229*	0.034692
Δf_{t-1}^f	0.093517	0.126970	-0.059719	-0.013871	0.039323	0.086803
$s_{t-1} - \mathcal{H}_{t-1}$	0.004427	0.017588	-0.032911	0.095248	0.181562	0.004745
β_0	2.362212**	2.812509*	0.195738	0.247510	0.244275	2.548898*
GARCH(f)	0.550422	0.261959	0.602626	0.999348*	0.955314*	0.430752
ARCH(f)	0.351389**	-0.431586*	0.339776	0.008479	-0.022000	0.432067*

PART B.	Method: Maximum Likelihood (Marquardt)				
Fish Equation	Estimates	Estimates	Estimates	Estimates	Estimates
Specie 1 (s):	Anglerfish	Lemonsole	Mackerel	Sole	Whitting
c_s	0.074960*	-0.006272	0.23215*	0.092748	0.050774
Δs_{t-1}^s	-0.372479*	0.003791	0.176551	-0.047378	-0.183344*
Δf_{t-1}^s	0.054604	-0.000359	-0.11593	-0.099975*	0.021435
$s_{t-1} - \mathcal{H}_{t-1}$	0.001014	-0.003304	0.089149	-0.034736	0.095201
a_0	0.351751	0.006158	0.203919	0.006318	0.375898
GARCH(s)	0.598515*	0.993409*	0.57862*	0.477592	0.945116*
ARCH(s)	0.359555*	0.002182	-0.35313*	-0.009414	0.176611
γ	43.91714	1.068943	1.019082	1.082517	1.293940
Specie 2 (f):	Hake	Hake	Hake	Hake	Hake
c_f	0.173696	-0.000169	6.79e-05	0.020414	0.000174
Δs_{t-1}^f	-0.138659	-0.020007	-0.20200	-0.216023	-0.113236
Δf_{t-1}^f	0.094451	-0.006208	-0.07834	0.030755	0.065660
$s_{t-1} - \mathcal{H}_{t-1}$	0.007000	0.132557	0.23601*	0.185714	0.208601
β_0	2.426303	0.064595	0.548023	-0.011591	0.822607
GARCH(f)	0.477840	0.999678*	0.99439*	0.995227*	0.998261*
ARCH(f)	0.271486	0.014223	-0.08908	-1.22e-05	-0.022009

* Significant at 5% level.

Furthermore, we estimate the price transmission (impact) between prices following the study by Rezitis (2003). The price transmission is estimated as follows: from specie1 to specie2 prices, $a_3 / (1 - a_2)$, while from specie2 to specie1 as $\beta_2 / (1 - \beta_3)$. The results are reported³ in Table 4. The impact is stronger for Piraeus, where the price transmission for Shrimp-Hake is 46%, while for Dentex-Hake is 26%. For Cornwall, the estimated impact varies from 9.6% to 3% only, which is not high significant (i.e. the impact is low). So, the estimates of price transmission for Greece indicate that the rate of change of Shrimp/Dentex partially adjusts to the rate of change of Hake prices. These results suggest significant imperfect price transmission between fish markets in Greece only.

Table 4: Price transmission

Market	Piraeus
Species	Estimated Impact
Hake-Dentex	0.07485
Dentex-Hake	0.25948
Hake-Anchovy	0.09919
Anchovy-Hake	0.09146
Pandora-Hake	0.04542
Hake-Shrimp	0.02075
Shrimp-Hake	0.46036
Market	Cornwall
Cod-Hake	0.09648
Crabs-Hake	0.03918
Dogfish-Hake	0.04802
Hake-Saithe	0.03799
Saithe-Hake	0.03010

Notes: We report positive, different from zero, price transmission estimates.

³ Table 4 reports the estimates of price transmission (impact) between prices that are positive and different from zero.

5. Conclusion

This paper analyses price relationships using weekly and monthly data from fisheries. We re-examine causality and price transmission between top species landed into Piraeus (Greece) and Cornwall (UK). The purpose of this paper is twofold. Firstly, we identify short- and long-run dynamics and causality between fish prices. Secondly, we examine the degree of price transmission across prices. We explain the movement of fisheries prices using a new method, the bivariate GARCH (BGARCH) model. We use a BGARCH model because fisheries prices have been associated with varying degrees of volatility (i.e. the conditional variances are not constant). The results from BGARCH show evidence of volatility clustering in the change of fish prices, and report that most species lead Hake (this is stronger for Greece). Furthermore, the estimates of price transmission indicate that the rate of change of Shrimp/Dentex partially adjusts to the rate of change of Hake prices. Our results suggest significant imperfect price transmission between species (this is stronger for Greece).

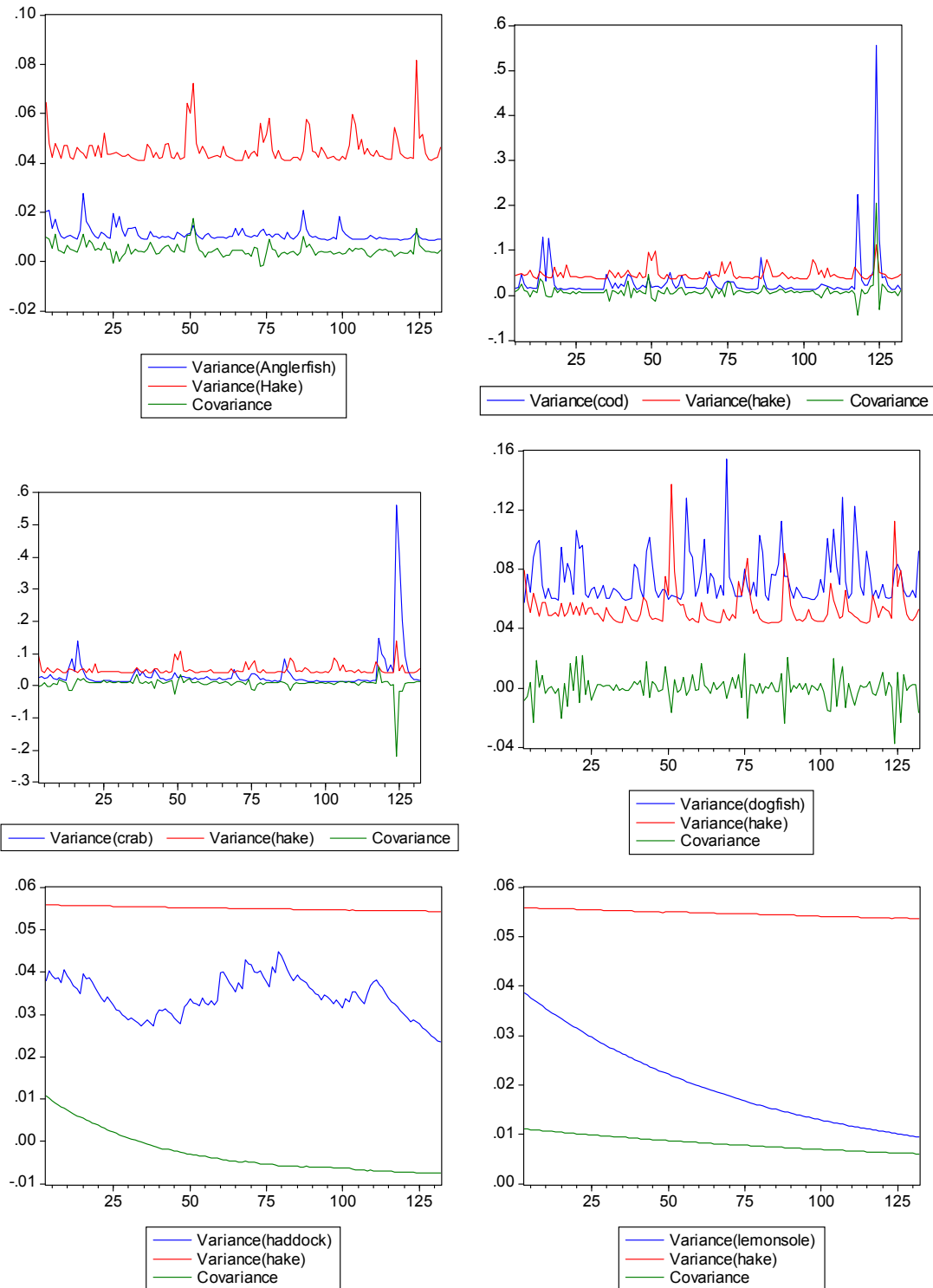
Future research should investigate causality, price transmission and volatility spillover effects between fresh and frozen prices in fisheries markets in Europe, using the methodology of BGARCH.

References

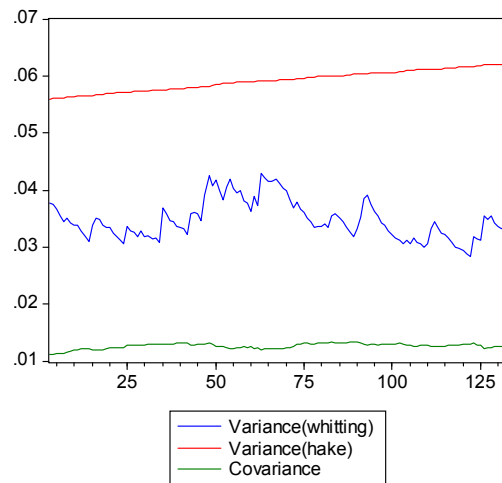
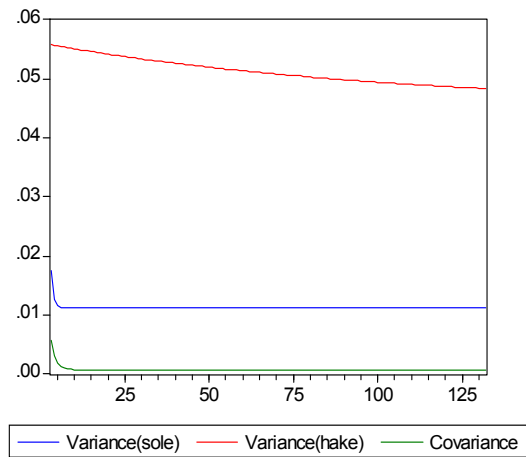
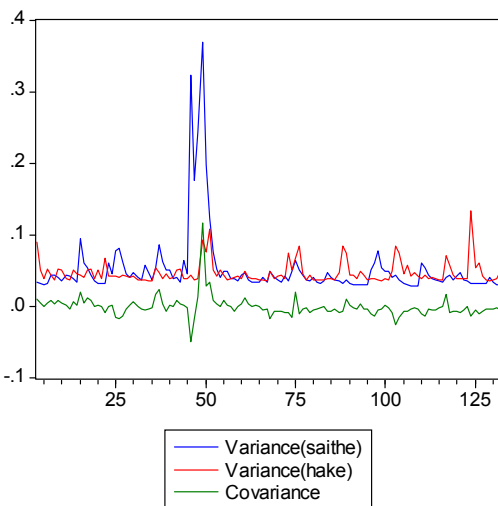
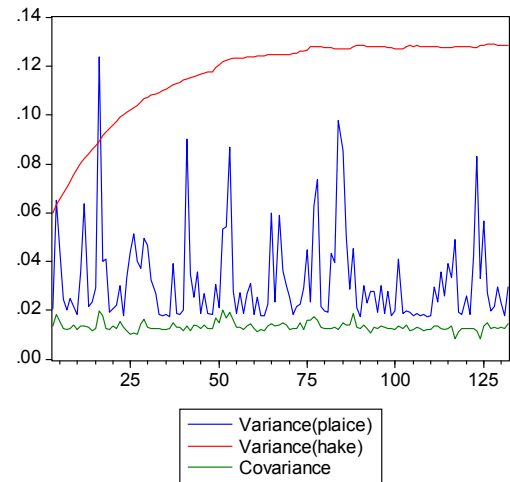
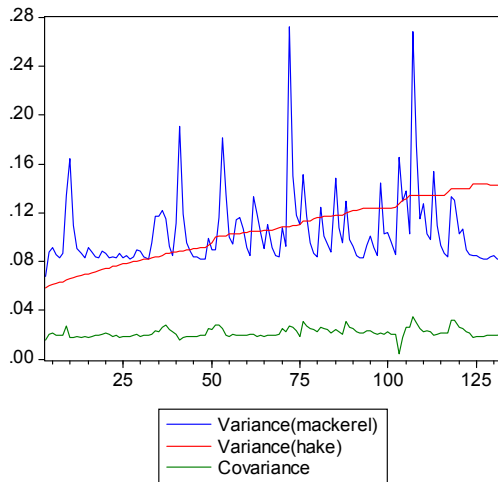
- [1] Apergis, N. and A. Rezitis (2003) Agricultural price volatility spillover effects: the case of Greece *European Review of Agricultural Economics* 30:389-406.
- [2] Avdelas, L. (2004) Quantitative analysis of fisheries prices in Greece *MSc Dissertation, University of Portsmouth*, 106 p.
- [3] Baba, Y., R. F. Engle, D. F. Kraft and K. F. Kroner (1990) Multivariate Simultaneous Generalized ARCH. *mimeo, Department of Economics, University of California, San Diego, CA*.
- [4] Bollerslev, T. (1990) Modelling the coherence in short-run nominal exchange rates: a multivariate generalized ARCH model *Review of Economics and Statistics* 72:498–505.
- [5] Bollerslev, T., R. F. Engle and J. M. Wooldridge (1988) A capital asset pricing model with time-varying covariances *Journal of Political Economy* 96: 116–31.
- [6] Bose, S., and A. McIlgorm (1996) Substitutability among species in the Japanese tuna market: A cointegration analysis *Marine Resource Economics* 11:143-155.
- [7] Engle, R. F. and C. W. J. Granger (1987) Cointegration and error correction: representation, estimation and testing *Econometrica* 55:251-276.
- [8] Engle, R. F., and K. F. Kroner (1995) Multivariate simultaneous generalized ARCH *Econometric Theory* 11:122-150.
- [9] Floros, C., and L. Avdelas (2004) Seasonality in Fisheries Prices: The Case of Greece *Paper presented at AquaMedit 2004*, 18-19 June 2004, Athens, Greece.
- [10] Floros, C., and P. Failler (2004) Seasonality and Cointegration in the Fishing Industry of Cornwall *International Journal of Applied Econometrics and Quantitative Studies* 1-4:27-52.
- [11] Gordon, D.V., K.G. Salvanes, and F. Atkins (1993) A fish is a fish? Testing for market linkages on the Paris fish market *Marine Resource Economics* 8:331-343.
- [12] Jaffry, S., S. Pascoe, and C. Robinson (1999) Long run price flexibilities for high valued UK fish species: a cointegration systems approach *Applied Economics* 31:473-481.
- [13] Rezitis, A. (2003) Mean and volatility spillover effects in Greek producer-consumer meat prices *Applied Economics Letters* 10: 381-384.

Appendix

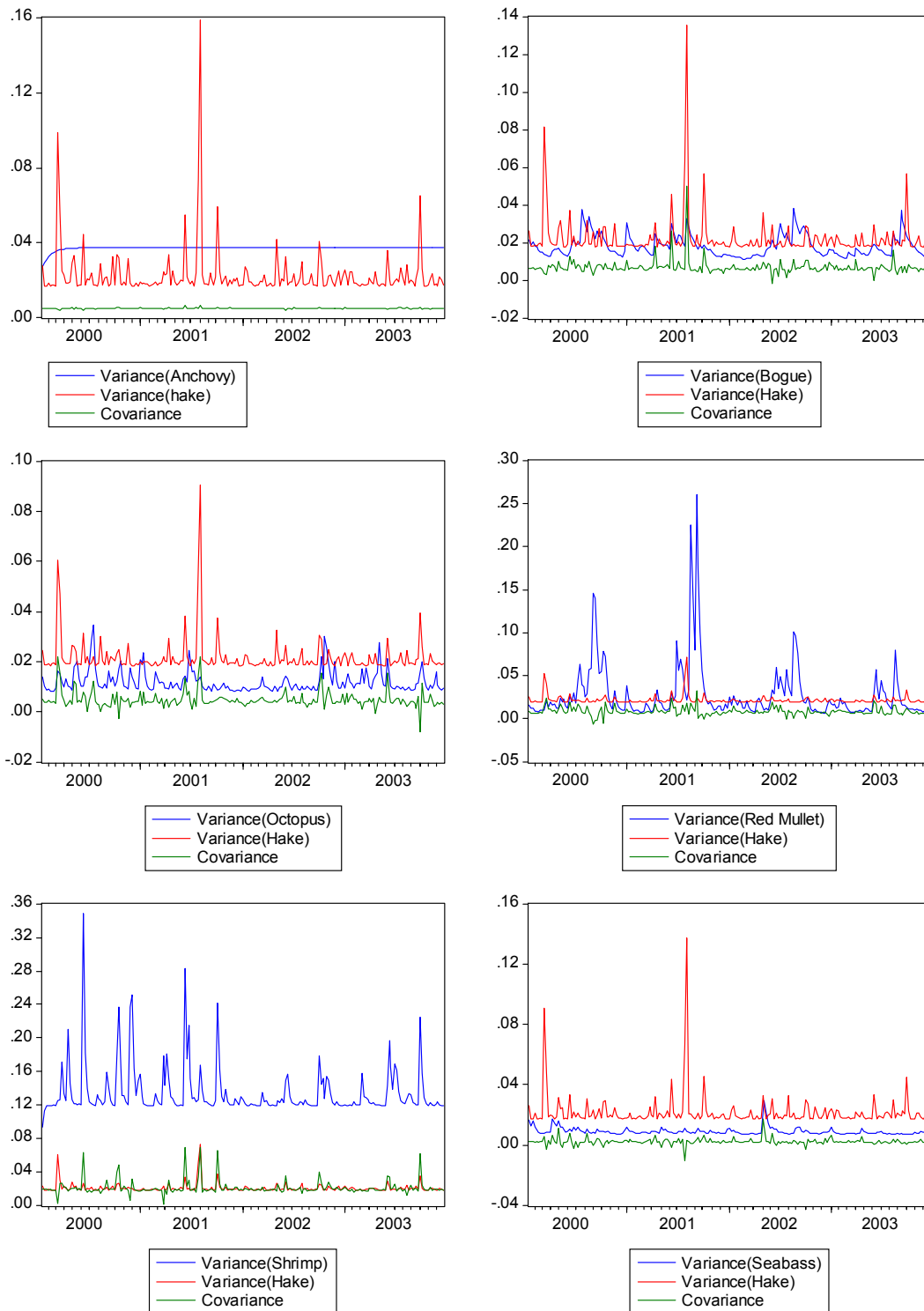
Appendix 1: Plots of Variances and Covariance (Cornwall)



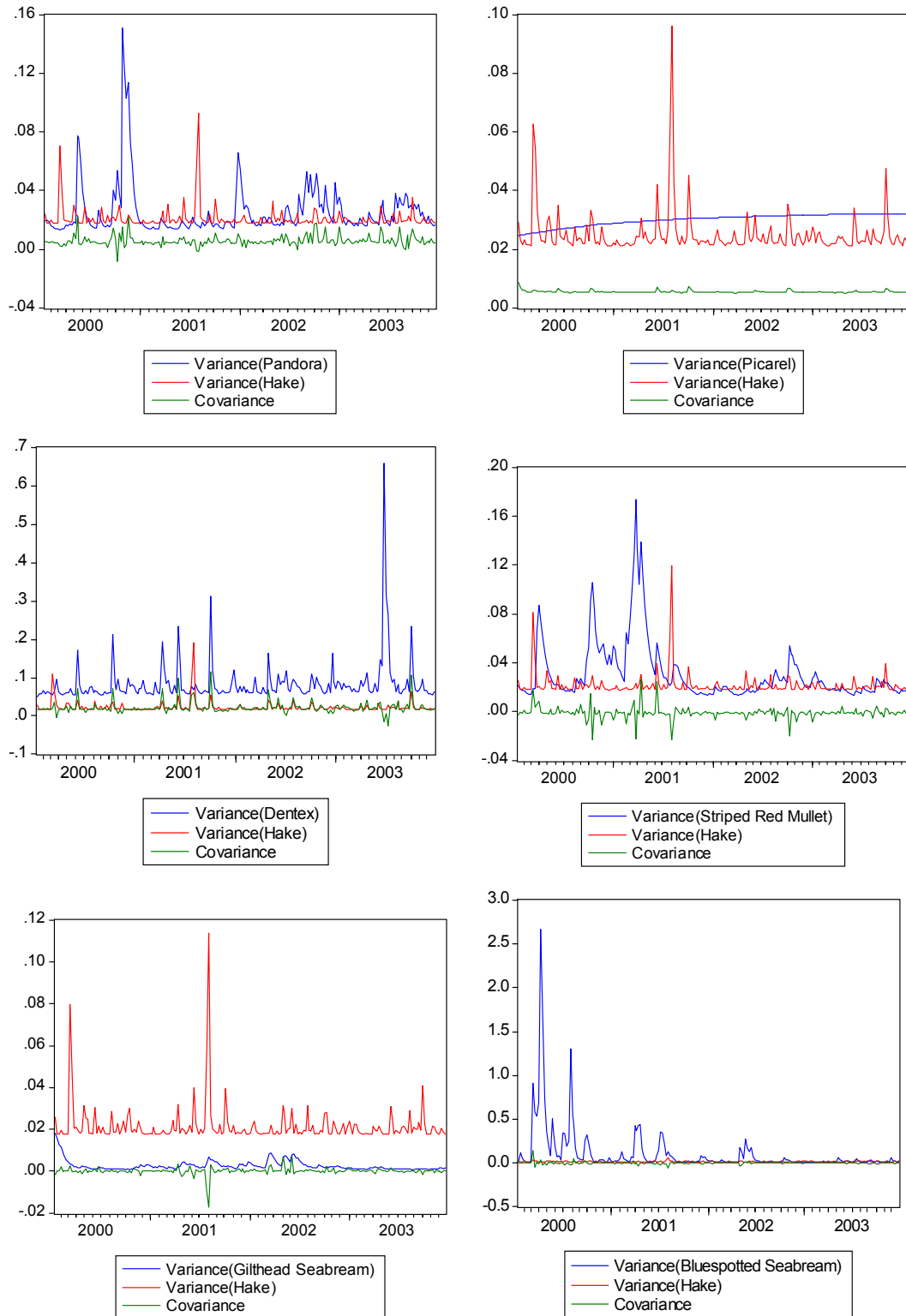
(appendix 1 contd.)



Appendix 2: Plots of Variances and Covariance (Piraeus)



(appendix 2 contd.)



An Empirical Evaluation of Employees' Job Satisfaction in Public - Private Hospitals in Greece

Nicholas Polyzos

1-3 Triantafyllopoulou str., 104 43, Athens, Greece
npolyzos@hol.gr

John Mylonakis

10 Nikiforou str., Glyfada, 166 75, Athens, Greece
imylonakis@panafonet.gr

John Yfantopoulos

6 Pandoras str., 145 78, Ekali, Athens, Greece
yyfa@otenet.gr

Abstract

The healthcare services sector in many countries is characterised by acute imbalances with regard to human resources. The aim of the survey is to evaluate the views and the job satisfaction factors of the Nursing and Administrative manpower, in different hospitals in Greece, comparing their attitudes. A structured questionnaire method was used for data collection from a sample of hospital employees in a major Public and a Private not-for-profit hospital. Research showed that Nurses and Administrative Staff evaluated with low score their payment conditions, while employees in Public hospitals feel more satisfied with the Administration and their superiors than those in Private hospitals. Both feel proud working in the healthcare sector. Employees in Private hospitals feel that Hospital Administrations reward their good performance much better than relevant Administrations in Public hospitals. Information technology and quality assurance programs are, also, considered as important factors in their daily work.

Key words: Health manpower, job satisfaction, working motivation, staff nurse empowerment, healthcare system, hospital administration, employees associations.

JEL Classification: I 110, I 180, M 120

1. Introduction

An effective health care system depends mainly on the efficiency, the quality and the rational distribution and the management of health personnel. The production of health manpower, especially in healthcare services that are 'labour-sensitive', requires long-term planning that takes into consideration the equal distribution by category and geographical position, in parallel with the internal process of the employees' motivation and rational management. On the other hand, hospital employees' job satisfaction depends on several internal organisational factors and rather individual criteria like, satisfaction with their superiors & colleagues, satisfaction with salaries and payment conditions, personal expectations, as well as, human resources development and education and training system. As Baker [1] pointed out 'a hospital can be built in a few months, but staff (including doctors) need a decade of training'.

The balanced development of human resources in healthcare worldwide is directly related to the establishment of the healthcare target and priorities that need to be achieved [2] in each country and the employees' level of job satisfaction and working conditions [3]. Labour occupation in health is directly related to the quality improvement of the population's health [4].

The healthcare services sector in Greece is characterised by acute imbalances with regard to manpower, which determine the need for fundamental intervention in order to strengthen the role of the aforementioned services in the development of social well being [5]. There are 130 NHS public hospitals with a capacity of 35.000 beds and about 200 private hospitals and clinics with a capacity of 15.000 beds. Hospital human resources are numbered over 100.000 employees, 80% of them are occupied in the public sector.

The situation of healthcare with regard to manpower is idiomorphic [6,7]. On the one hand, there is surplus of manpower, with regard at least to the medical personnel, and on the other hand there is considerable lack of other healthcare professions (hospital managers, ICU nurses, IT Consultants, Biomedical Engineers). Compared to corresponding European Union figures, Greece depicts the smallest percentage of people working in the healthcare system (especially in the public sector) with a considerable improvement during the last decade. In that respect, the percentage of manpower (of the total workforce) estimated to be occupied in healthcare in Greece is a little over than 3.5%, while the corresponding E.U. figure exceeds 4.5% [8].

In many countries, the problems of development of human resources in healthcare are quantitative and qualitative, dealing mainly with problems in healthcare planning, problems in the targets and the requirements of health care services and problems in the health care units management [9,10,11]. Present researches deal mainly with the later.

2. Research objectives and methodology

In the present paper different researches are comparatively presented that were carried out at two different and comparable hospitals. One of the hospitals is Public and the other is Private not-for-profit hospital (Table 1). The research was carried out with the method of structured questionnaires. It started in February 2003 and was completed in August 2003. Both Public and Private Hospitals were of medium capacity (300 and 150 beds respectively) and employment.

The selection of the two hospitals is considered representative of the country's health care system. The selection was based on certain factors like, years of operations, similarity of health services provided, nursing and non-medical staff level, manpower management and locality (both are situated in Athens). Additionally, the public hospital has, also, been chosen by the government as a pilot hospital, in order to impose current managerial and structural reforms that should be immediately followed by other NHS hospitals. The private not-for-profit hospital acts as an example hospital to the whole not profit sector.

The aim of the research is to create a guide based on the findings, so as to further improve the relations among the Staff, their Superiors and the Administration, taking into account factors that motivate health personnel according to Herzberg [12] and other scientists. In that way, this study is the first ever carried out in Greece in that field and aspires to become a reference point for the establishment of a system for regular assessment of the staff's tendencies and views (at least once a year) and in total of the staff's effective management, within the health care system. A summary of the research findings has been a matter of discussion among University Nurses.

The Public Hospital started its operation in July 2002. At the period of the survey it employed 500 employees, 102 out of those replied (a percentage of over 20%) our questionnaires. The Private hospital is owned by the largest Bank in Greece (National Bank) and it was rebuilt in 1999 in order to be also used by other banks and insurance companies, employing, approximately, 250 employees, 115 out of those replied (a percentage of 45%). Not surprisingly, in both hospitals, doctors denied answering the research questionnaires.

Staff	Private not-for profit hospital		Public hospital	
	No	%	No	%
Nursing	60	52,2	51	50,0
Administrative	10	8,7	23	22,6
Paramedical	15	13,0	14	13,7
Technical-Auxiliary	30	26,1	14	13,7
Total	115	100,0	102	100,0

Closed questions were used and the choices of the answers had been fixed. The method of the collection of the primary data was structured – it was direct, it included standardised questions and answers and was characterised by a considerable degree of easiness with regard to the completion and analysis of data. The satisfaction levels were scored in a 1-10 scale (10 is the perfect situation). The personnel was handed questionnaires that can be analysed in two large sections:

1. The Staff's opinion with regard to the Administration and their Superiors. In that part of the Administration, mainly closed questions were used (e.g. can you trust the Administration?). Furthermore, there are questions that try in an indirect way to bring out the staff's views with regard to the administration (e.g. are you proud of working for the Hospital). In the part of the Superiors, there is a clear denotation of the staff's view with regard to their superior through cross checking questions.
2. Staff's satisfaction with regard to the level of salary and social benefits provided by the employer. In the final section of the questionnaire the employees of the Hospital are asked whether or not they find their salaries to date and the social benefits acceptable and whether they want something additional or something different. The research refers, mainly, to nursing and non-medical staff. The results record the views of the staff towards administration and their superiors, as well as, the staff's satisfaction in regard to their labour relations (e.g. salary, working conditions), roles, responsibilities, etc. (Table 1 & 2).

Table 1: Research Results in the Public Hospital

VARIABLES - STATEMENTS	Nursing	Administrative	Auxiliary	Technical
	Scales			
	1-10	1-10	1-10	1-10
I feel that I can trust the Administration and that it supports me	7,7	8,8	9,6	9,6
The Administration rewards my good performance	6,3	7,1	9,6	10,0
My salary is satisfactory in relation to my skills and my competencies	5,1	6,5	7,6	6,6
I consider information technology as a tool for my work	9,1	10,0	6,0	10,0
I consider quality as a first priority at my work environment	9,5	9,6	10,0	9,8
The working conditions are good	8,9	8,5	9,2	9,8
My direct superiors treat me with respect and as a human being not as a number	8,9	9,0	8,4	10,0
My direct superiors take into account my opinion in decision-making	7,3	7,5	8,8	9,2
My direct superiors take proper decisions	8,2	8,7	9,6	9,8
My direct superiors advise and instruct me with regard to the implementation of my duties	8,1	8,1	9,2	9,2
I am satisfactorily informed with regard to the Public Hospital's progress	4,6	6,1	7,6	8,8
I feel satisfied with the duties assigned to me	7,7	7,9	9,2	9,8
I would like for the productivity to be rewarded in a (moral) way	9,7	9,9	10,0	8,8
I feel that I am a member of a group with common goals	8,0	8,7	10,0	9,8
There is spirit of cooperation at the department	7,6	8,1	8,8	9,4
I feel that I offer work & that I am useful to the Public Hospital	9,1	9,1	9,6	9,8
I feel proud to be working for the Public Hospital	9,1	9,1	9,2	9,6

Table 2: Research Results in the Private Hospital (Not-For-Profit)

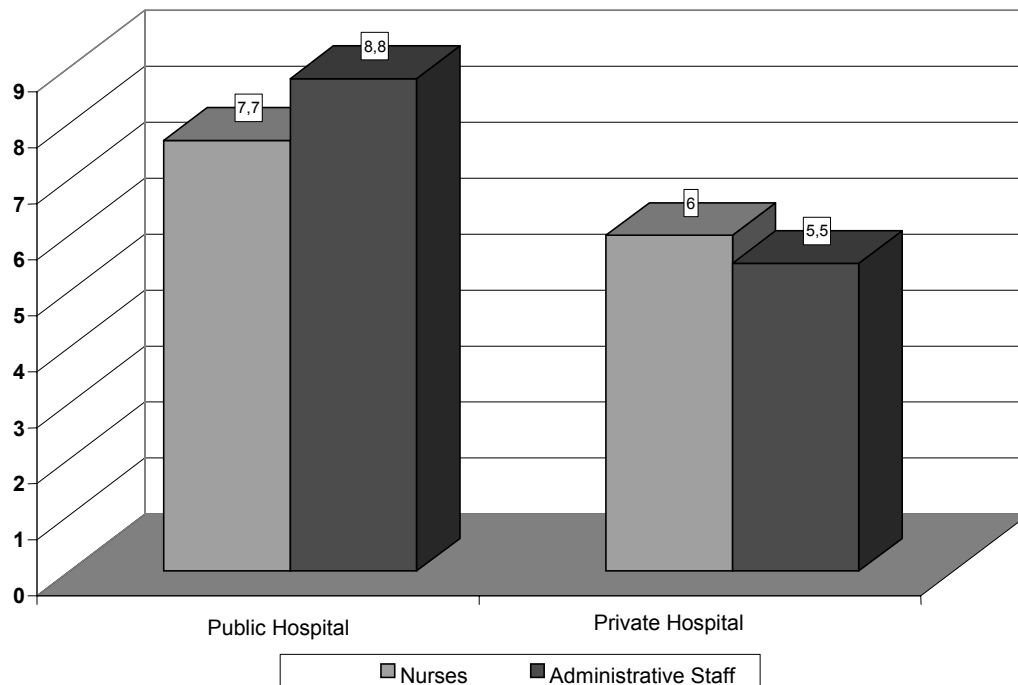
VARIABLES - STATEMENTS	Nursing	Administrative	Paramedical	Auxiliary
	Scales			
	1-10	1-10	1-10	1-10
I feel that I can trust the Private Hospital's Administration	6	5,5	4,75	6,25
The Private Hospital reward my good performance	6,75	8	7,75	7
My salary is not satisfactory in relation to my skills and my competencies	7,75	8,25	8	7,5
I consider the quality in the provision of services as the first priority of my working environment	7,75	8,25	5,25	7,5
The working conditions are good	6,25	5	5,25	5,25
My direct superior treats me in a fair way	6,75	7	6,5	6,75
My direct superior takes into account my opinion in decision-making	6,25	7,25	6,25	6,25
My direct superior takes proper decisions	6,25	4	5,5	5,25
My direct superior advises me when my work needs to be improved	7,25	7	6,75	7,75
I am satisfactorily informed about what's happening at the Private Hospital	5	5,25	3,75	4,75
I am satisfied with the duties that have been assigned to me	6,5	6,5	7,25	6,5
I believe that the Private Hospital evaluates me in a proper way	5,25	5	5,25	5,5
I feel that I am a member of a group working towards a common goal	7,25	6,25	5,25	7
I believe that there is spirit of cooperation	6,5	7,25	6,5	6,25
I feel that I am useful to the Private Hospital	8,5	8,25	7,5	8,75
I am afraid that I might lose my job at the Private Hospital	6,5	5,25	6	5,5
I feel proud to be working for the Private Hospital	6,5	6	5,25	6,5

3. Research Results

Overall, the personnel feel satisfied both with the Administration (Chief Executive and Directors of Services) and their Superiors (Departmental Managers). Let us take for example, the statement: 'I feel that I can trust the Hospital's Administration?' In the case of the Public Hospital, the employees at the Nursing Services sector rated the question with 7,7 out of 10, while the employees at the Administrative Services sector rated the question with 8,8 out of 10. Respectively, in the case of the Private Hospital, the employees at the Nursing Services sector rated the question with 6 out of 10, while the employees at the Administrative Services sector rated the question with 5,5 out of 10 (Diagram 1). It is apparent that in the Public Hospital the nurses rated their trust towards the Administration higher than in the Private Hospital (test = 4.0, statistical importance 95%, points of freedom = 217). It was, also, found that, there is a higher degree of trust towards the administration by the employees of the Public Hospital rather than by the employees of the Private Hospital. At this point, we have to take into consideration that:

- The pressure characterising the employees in Private Sector healthcare, since researches in Great Britain have shown that although employees in the NHS have higher workload, it is actually the employees of the Private Sector that experience higher stress [13].
- The Public Hospital studied in the present research is a totally new hospital not damaged by time and without having received a large number of patients as yet.

Figure 1: Answers to the factor “I feel that I can trust the Hospital’s Administration?”



In the question of whether they believe that the Hospital rewards good performance, the employees of both the Public and the Private Hospitals seemed to be quite satisfied. At this point we observe that a higher number of employees at the Public Sector replied that they felt quite satisfied, probably because there was a lower degree of flexibility at the Private Sector for rewarding the employees.

In the question relating to their income, the employees in the Nursing Services of the Public Hospital were asked to *positively evaluate* their salary with the phrase ‘my income is satisfactory in relation to my skills and my responsibilities’. Thus, Nurses replied with 5,1 and the Administrative Department employees with 6,5.

At the Private Hospital the employees were asked to *negatively evaluate* their salary with the phrase ‘my income is not satisfactory in relation to my responsibilities’. The Nursing Department employees evaluated the question with 7,75, while the Administrative Department employees with 8,25. We observe that the employees’ satisfaction with regard to their income whether they were asked to evaluate it positively or negatively, ranges in moderate levels both in the Public and Private Sector; this should be a matter of consideration for the administration, as well as the employees’ collective bodies, in particular with regard to Nursing Staff, especially in the Private Hospital.

With regard to Information Technology (IT) as a tool, the employees of the Public Hospital consider it as one of the most important tools for their work; the Nurses evaluated IT with 9.1 out of 10 and the Administrative Department employees with 10 out of 10.

A relevant question was raised regarding quality (“I consider quality as a first priority at my work environment”), with high indicators at the Private Hospital (7,5 – 8,25) and very high indicators at the Public Hospital (9,5 – 10). These indicators are justified by the implementation of a Quality and Certification Programme in the Public Hospital, in which the entire personnel participate voluntarily. Similar programme has just been introduced in the Private Hospital too.

A similar point is raised in the question regarding ‘working conditions’, in which the Public Hospital employees responded in very high percentages that the working conditions are ‘good’ (8,5 – 9,8), while in the case of the Private Hospital, the levels of a similar response were lower (5 – 6,25), despite the fact that the buildings of both hospitals were new. The explanation for such a deviation

probably derives from the fact that in the Public Hospital there is widespread enthusiasm among the employees for the commencement of the hospital's operation in contrast to the Private Hospital, where organisational changes and motives for personnel development were examined, mainly due to the 'decline' of the same enthusiasm.

In four (4) important questions posed to the personnel of both hospitals in relation to their superiors, it was found a satisfactory rating in at least in 3 out of 4 questions in the Public Hospital (8,1 – 10), as well as, in the Private Hospital (6,25 – 7,75). A problem that has to be examined in the case of the Public Hospital is probably the consideration of the inferiors opinion, in both the Nursing (7,3) and the Administrative (7,5) personnel, with regard to the decision-making process, for which the superiors are responsible. By the same token, the problem in the Private Hospital is pertained to decisions taken especially by the superiors of mainly the administrative and auxiliary personnel, which have to be considerably improved (4 – 5,25).

Finally, in the important question regarding the extent to which the personnel is informed with regard to the development progress of the hospital (Public Hospital) or generally with regard to what is happening or how the hospital is progressing (Private Hospital), the percentages are low in the Nursing Personnel of the Public Hospital (4,6), as well as, in the personnel of the Private Hospital (3,75 – 5,25). After the surveys and the publication of the results, the personnel were informed about those results, in order to improve the latter problem as well. After all, it should be noticed that a company's good reputation and the respective 'in-house' publications – announcements was an important element of human resources management [14]. However, most of the staff feels that everyone is a group-member with common goals, more in public (8-10) and less in private (5-7) hospitals. The belief of the spirit of co-operation and the feeling of employees' usefulness is even higher in both hospitals. The fear of loosing their job appears only in the private sector.

Concisely, in the Tables 2 & 3 the overall results are illustrated comparatively, at the scale 1-10. Using the data as a basis, it becomes clear that there is a considerable difference in the way that the staff of the Public Hospital and the staff working in an environment with private sector characteristics deal with work environment. A common problem for employees of both hospitals relates to the issue of salary. The employees do not seem particularly satisfied with their salary, and that has a considerable effect in their overall satisfaction with the work environment, since the basic target of personal development is becoming difficult to be implemented [15].

Finally, it has to be taken into account that rewards to the Staff (both financially and morally) is a matter that seems to have been treated differently in the two hospitals. In the Private Hospital there is greater flexibility and that is the reason why the employees are more satisfied than the employees at the Public Hospital (even though their total salary is not better).

By further examining certain demographic and other variables, it can be noted that:

- Women, and in general personnel with a higher level of education are more dissatisfied than men with regard to the extent to which they are informed and rewarded (t-test analysis is 2.4% for women and 3.6% for men, and 3.2% and 4.3% respectively).
- The technical and auxiliary personnel would like more social events to be organised.
- Except from the auxiliary, the rest of the personnel consider information technology and quality as very important working tools.
- Men (especially those of secondary and primary education) are extremely satisfied with their duties and with the administration in general.
- The feeling of the personnel that they really participate as a member of a team relates to the working conditions and the performance, and finally
- The female nurses pay more attention than everyone else to the issue of salary as well as to the issue of other material motives and bonuses.

4. Latest Research Developments

It is worth mentioning that a similar research was repeated in the Public Hospital in May 2004 [16]. A number of 231 out of 420 questionnaires handed out were filled in (a response rate of 55% - 202 of them were valid). 76% of the sample was women, 69% had a college and / or university degree, 55% was nursing personnel, while 75% of the sample was between 26 - 45 years. The main and similar to the above results, which were generally categorised on the basis of Herzberg's factors [17], were:

A. Motivation Factors:

- The implementation of common objectives, the quality and the outcome of work are considered as immediate priorities irrespective of sex, age and education, by-passing the formalism as well as the methodology of the implementation process.
- The recognition of the efforts done by the administration and by superiors is an extremely important element (a moderate dissatisfaction by the whole personnel is expressed in this particular area). Some of our suggestions regarding this particular issue are to send a congratulating letter to the best employee per department each month, to organise annual accolades of employees etc.
- All the categories of personnel anticipate to a great extent, their personal progress and development, which will be based on productivity rewards systems and bonuses, while at the same time they believe that they are satisfied by the scope of their work, when they all share the responsibility of that work.

B. Hygiene Factors:

- Two (2) years after the commencement of the hospital's operation, the employees are concerned with its 1/3 to 1/2 development and not with its full development (this should be noted by both the regional authorities and the political leadership), thus affecting the organisation's authority and administration.
- Supervision, superintendence and trust towards the superiors, as well as working conditions continue to be on good levels, thus providing a sense of security to the personnel.
- There is a considerable room for improvement regarding the interpersonal internal relations in the organisation, as well as the salaries, but also the rewards in general (a point which the administration of the NHS has to take very carefully into consideration after the publications of the results).

5. Conclusions

Overall, the employees feel proud working for their hospital especially in the Public Hospital. They indicatively suggest (especially in the Private Hospital) for the improvement of the satisfaction indicators:

- A different salary system with a productivity bonus.
- Low prices regarding examinations or admission concerning the members of their own families.
- Possibility to transfer paid holiday that has not been used within the year, to the next year.

On the contrary, social events, insurance – retirement and the provision of food are not so high amongst their priorities.

As far as the Public sector is concerned, the legal framework does not allow yet the provision of economic motivation (bonus) and the connection of productivity with salary, target-oriented management, or employees' participation in the positive or negative performance of the organisation, all of which constitute the most usual tactics of empowerment globally. There are, however, alternative methods of supporting and empowering the staff, which can be directly implemented e.g. the

empowerment of the superiors' role has been shown to positively affect the staff by empowering it and increasing the effectiveness and perception [18].

Generally, the factors that could particularly increase the satisfaction of hospital manpower (especially nurses) are [19]:

- the reduction of the night shift hours on a monthly basis,
- the increase of the number of staff, in order to reduce staff shortage,
- the increase of the staff's active participation in decision-making matters,
- the adequacy of healthcare material, and
- the establishment of a brighter and more pleasant work environment.

It would have been useful to point out the respective positive relation between occupational stress and reduced occupational satisfaction [20]. The increase of the employees' autonomy, the improvement of the communication level, the increased and comfortable time for communication between the employee and the patient, the overall work environment, as well as the satisfactory salaries, are all positively contributing factors for the employees' empowerment and the improvement of their satisfaction level [21,22].

With regard to nurses, methods of organisation and management have to be pursued, which will promote team spirit and enhance the Nurse's initiative in the work environment. Such an objective will be achieved through the gradual renewal of the Nursing Care procedures in Greece, as well as through operational systems of nursing administration [23]. Administration methods of Nursing Services, such as the full usage of all nursing members and auxiliary staff improve also the satisfaction of the patients. The efficient performance of nurses' work increases their satisfaction in the benefit of patients' condition [24].

IT in the Public Hospital has been integrated in the daily routine of the employees, thus helping them in their work (both for nurses and administrative employees). As it becomes clear, the time has come for the integration of IT in every Hospital given that the 'tools' and 'interfaces' have become friendly and simple for the user at last. Similar results were found when quality assurance practices are taken into account.

Following our results, it could be noticed that, respective surveys examining also the empowerment of human resources, categorise that concept in the framework of daily decision-making, so as to improve human behaviour, to be improved in order to maintain everything satisfactory for that behaviour, and finally to identify the flaws in order to take the prospective corresponding actions [25]. The aim is to increase the internal power of each employee [26], in order for him to be able to materialise his personal, but more importantly his organisational objectives.

Finally, although the ultimate purpose of the paper was to contribute to a better understanding of the healthcare staff in Greece and their job satisfaction criteria, it has certain limitations. The research is limited to two medium capacity and number of staff Public & Private hospitals mainly for reasons of comparability and high research cost. Therefore, the sample size, although representative, is not including all nursing and administration staff categories, as it has been developed the period after the researches. The difficulties concerning the carrying out and the evaluation of the two separate surveys led, also, to limited statistical analysis and techniques. Despite this fact, it is encouraging that later studies showed quite similar results.

Note: The authors would like to express their acknowledgements to K. Poulou, G. Pierrakos, S. Koutalianos, D. Bartzokas and V. Mougia for their contribution to the discussion of the research topics and results.

References

- [1] Baker T. D., (1988), "Health personnel planning", in Reinke W.A. (ed), 'Health Planning for Effective Management', Oxford University Press. Ch. 10.
- [2] Mejia A.,(1980), "World trends in health manpower development: a re-view", World Health Statistics Quarterly, Vol.: 33, pp.112-126.
- [3] Fullop T., (1976), "New approaches to a permanent problem-the integrated development of health services and health manpower", WHO Chronicle, Vol. 30, pp. 433-441.
- [4] Hoare G, Lee K., (1984), "Towards a new model of health manpower planning", Health Services Manpower Review, Vol. 1, pp.4-8.
- [5] Polyzos N., Yfantopoulos I., (2000), "The development of Human Resources in health and the recruitment of the National Health System", Archives of Hellenic Medicine, 17(6), November-December, pp.627-639.
- [6] Dervenis Chr., Polyzos N., (1995), "Proposal for the Organization and Management of the NHS and the development of the Health Human Resources", Ministry of Health, Athens.
- [7] Yfantopoulos I., Soulis S., Papaalias Th., Maniadakis N., (1993), "The necessities of Human resources in the Health sector in Greece: 1980-2000". Report to DG V, Commission of the European Union, Brussels.
- [8] Roupas Th., Polyzos N., (1994), "Human Resources" in 'Research for the Planning and the Organization of Health Services', Ministry of Health and National Insurance, Athens.
- [9] Abel-Smith B., Calltrop J., Dixon M, Dunning At., Evans R., Holland W., (1994), "Report on the Greek Health Services", Ministry of Health and Social Welfare, Athens.
- [10] Abel-Smith B., (1986), "The world economic crisis, part 2: Health manpower out of balance", Health Policy and Planning (1), pp.309–316.
- [11] Mejia A., (1987), "Health Manpower out of Balance: conflicts and prospects", Council for International Organization of Medical Sciences, Geneva.
- [12] Herzberg F., (1968), "One more time: How do you motivate employees", Harvard Business Review, Massachusetts.
- [13] Tyler P.A., Carroll D., Cunningham D., (1991), "Stress and well-being in nurses: a comparison of the public and private sectors", Int. Journal of Nurse Studies, Vol. 28(2), pp.125-30.
- [14] Kanter R. M., (1997), "Rosabeth Moss Kanter on the frontiers of Management", Harvard Business Review, Massachusetts.
- [15] Pasti M.J., Gir E., Dela Coleta J.A., (1999), "Hospital das Clinicas da Faculdade de Medicina", Ribeirao Preto, Universidade de Sao Paulo, Review Latin American, Enfermagem, Dec., Vol.7(5), pp.33-41.
- [16] Koutalios S. (2004), "The Employees' Motivation in Public Institutions: The case of Hospitals", Hellenic Open University, June, MSc Thesis.
- [17] Herzberg F., (1968), op. cit.
- [18] Laschinger H. K., Wong C, McMahon L, Kaufmann C., (1999), "Leader behavior impact on staff nurse empowerment, job tension, and work effectiveness". Journal of Nurse Administration, May, Vol. 29(5), p.4.
- [19] Brokalaki H, Matziou V., Thanou J., Ziogiannis P., Dafni U., Papadatou D., Edtna Erca J., (2001), "Job-related stress among nursing personnel in Greek dialysis units", Advances in Nursing Science, Oct-Dec., Vol.27 (4), pp.181-6.
- [20] McGowan B., (2001), "Self-reported stress and its effects on nurses", Nursing Standard, July 4-10, Vol.15 (42), pp.33-8.
- [21] Edgar L., Sir Mortimer B., (1999), "Nurses' motivation and its relationship to the characteristics of nursing care delivery systems: a test of the job characteristics model", Davis-Jewish General Hospital, Montreal, Quebec, Canadian Journal Nurse Leadership, Jan-Feb., Vol. 12 (1), pp.14-22.

- [22] Tzeng H. M., (2002), “The influence of nurses' working motivation and job satisfaction on intention to quit: an empirical investigation in Taiwan”, *Int. Journal of Nurses Studies*, Nov., Vol. 39(8), pp.867-78.
- [23] Lanara B., (1993), “Systems of Health Care”, University Notes in the Department of Nurse, University of Athens.
- [24] Five Regional Consortium in Conjunction, (1994), “Human resource management” in ‘Using information in managing the nursing resource’, Greenhalg & Company Limited.
- [25] Marcovic G., (2002), “Human Resources Management – Motivation and Power”, U.S.P., Thessalonica.
- [26] Lindner J. R., (1998), “Understanding Employee Motivation”, *Journal of Extension*, June, No.3, Vol. 38, No3.