AN ANALYSIS OF COWPEA MARKETING MARGIN IN NIGERIA

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Abstract

Cowpea, a legume crop that has high protein content. It is an important economic crop especially in sub-saharan Africa. It is traded among many merchants across Nigeria. A well developed and efficient marketing system of cowpea is essential towards encouraging expansion of its production and consumption. An analysis of marketing margin (maximization of an output-input relationship) as a measure of market performance is a critical element of understanding how cowpea marketing functions. The study consolidates information on cowpea marketing routes across twelve Nigerian major markets that were purposively selected (Iddo-Lagos, Port-Harcourt, Enugu, Abuja, Sokoto, Zungeru, Dawanau, Maigatari, Gombe and Maiduguri). A total of 225 cowpea merchants, 175 selling agents, and 175 farmers were randomly selected and interviewed using structured questionnaires. The result of the analysis (using descriptive statistics and marketing margin analysis) revealed that largest component of the marketing margin for cowpea accrues to transportation and handling charges constituting 51 and 10 percentages respectively. In terms of market pair – wise analysis, Gombe – Enugu has the highest level of traders' profit of 20 percent, followed by Kano – Lagos route with 17 percent. Guarding expenses and road accidents or barriers encountered for the respective proportion of 0.83 and 1.26 percent. The complete circle of transaction takes between 1-3 weeks period. The study further revealed that cowpea marketing all over the country, especially inter-regional trade is a profitable undertaken that allow merchant to make a reasonable income to the tune of 15-21 percent of their total capital investment. Provision of public infrastructures will go along way in reducing marketing costs, increase merchants marketing efficiency and thus increasing traders' share of the marketing margin considerably.

Keywords: Cowpea, Marketing Margin, Analysis, Nigeria

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INTRODUCTION

Cowpea (*Vigna unguiculata* L. Walp) is a highly nutritive, valuable and relatively low cost protein content. The chief value of cowpea is the high proportion of protein it contains. In addition, cowpea is regarded as the cheapest source of protein to the poverty ridden populace of Nigeria (Langyintuo *et al*; 2000). Recently, following the interest of international communities in reducing hunger and malnutrition, and poverty in developing countries, including Nigeria, the prospect for reducing hunger, malnutrition and food insecurity through increase in cowpea productivity is significant (coulibaly and Lowenberg-Debber, 2000).

The crop is grown by small-scale farmers throughout the West and Central African region as both a cash and food crops (Fulgene *et al*; 2009).

Cowpeas are specifically important in the semi-arid areas principally due to their low moisture requirements and tolerant nature (Musa, 2003). It is also used as a grain crop, fodder for livestock or as vegetable (Hussaini *et al;*: 2004). Beside the provision of cash income to its growers, the seeds also doubled as the source of high quality protein, rich amino acid such as lysine and tryptophan, compared to cereal grains, thus, cowpeas especially in the semi-arid regions where cereals are the staple food and the menace of nutritional disorders and food insecurity is eminent (Hussieni *et al*, 2009; Fulgence *et al*, 2009). As production and consumption do not occur simultaneously, farmers and traders need efficient marketing system to ensure timeliness of cowpea availability to consumers (Langyintuo *et al;* 2002). Efficiency\ in the marketing system is also a very important factor for cowpea productivity and growth especially in developing economics where resources are meagre and opportunities for developing and adapting better technologies have started dwindling. Consequent of this, the production, trade and marketing of cowpea is a growing business with huge prospect for expansion in West African economies.

Worldwide business of cowpea is estimated at 3.7 million tones and is produced annually on about 8.7 million hectares, with about 87% of that area being in Africa (Langyintuo *et al*; 2002). Similarly, in the category of highest producing countries, Nigeria ranked first and followed by the Niger Republic.

Beyond doubt, concerted effort has to be made to increase the availability and consumption of protein in Nigeria as a whole as records have shown that Nigerians generally take insufficient proteinous foods like cowpea, meat, milk, fish, soybean and eggs in their diets. This shortage of protein is more pronounced in the southern part of the country where meat and milk production are less common and more roots and tubers are grown and consumed. For this development, the role of marketing and distribution of cowpea across the nooks and corner of this country becomes indispensable.

A better understanding of how the market for cowpeas function is essential towards sustainable development of its production. In Africa, information of cowpea marketing and trade is scanty or not readily available, and data on production economics is also relatively scattered (Musa, 2003 and Langyintuo *et al*; 2003). In explaining this scenario; the authors believed that it was in part because research into marketing has for a long time been figured on export crops such as cocoa, coffee, rubber, groundnut, cotton, Kenat, tobacco and to lesser extent cereals. Part of understanding the functioning of cowpea marketing is to examine marketing margin of regional shipment of cowpeas from the northern Nigeria (centre of production) to the southern Nigeria (major consuming centres) region. The differences in prices paid (or costs incurred in the course of spatial shipment) for a commodity at different stages of a marketing system has been often considered as its marketing margin (Adekanye, 1988; Kushwaha et al; 2001). Olukosi and Isitor, 2005; Ndanitsa, 1994 and Mohammed, 2006) also reported that marketing margin is the difference between what the consumer pay for agricultural product in the market and what the farmer receives from selling the product, and that is not unusual to encounter the view that the farmers' share of the retail price of products is too small and that the retail farm gate margins are excessive and include element of excess profit. The margin represents the price paid for all utility adding activities and functions performed by food marketing firms which includes expenses on performing market functions and the firm's profit. Time, place, form and possession utilities are among the most important factors that affect marketing margin of a particular crop. It is therefore, made up of different costs of performing marketing functions such as storage, transport, processing, grading, sorting and other marketing activities (Adekanye, 1998; Adegboye, 2008). The margin therefore represent returns to different factors, say transportation,

storage, preservation, processing and other value addition activities, capital and management (Musa, 2003).

One of the concerns in marketing margin analysis is maximization of output-input ratio, with output considered as consumers utilities created in the marketing system, while the input stands for different resources used in extending the commodity produced by farmers to the ultimate consumers. According to this reasoning, Musa (2003) considered marketing input as the costs associated with providing marketing services, whereas the output delineate benefits created by value addition to the commodity as it passes through the established channels of the marketing system.

In many instances, marketing margin has been used as a measure of performance (Musa, 2003). However, it is important to note that marketing margin differs from products to products; this is because the functions required to be performed on different commodities also differs, and it also differ from one marketing level to another. It is in the light of this that this paper consolidate information on cowpea marketing margin. Marketing of cowpea in Nigeria has a dynamic character in the sense that consumers will like to purchase the commodity at the cheapest rate while producers will like to obtain high rate of returns. Kohls (1995), stated that change is one of the general rules of marketing. Improved marketing programmes should make prices affordable to consumers. Improvement can be made in marketing by making corrections to the already existing knowledge on handling, transport, packaging, assembling, grading, sorting and storage. Marketing organization generally come to being very gradually and must be appropriate for background character and education of the people involved. Furthermore, it is hoped that the study will provide guidance to cowpea merchants in terms of post-purchase activities and routing to follow, guide public institutions in terms of policy intervention areas that will improve cowpea arbitrage in Nigeria, and will help in determining how much resources are used in cowpea marketing in Nigeria.

METHODOLOGY

The analysis of cowpea marketing margin covers all the geographical zones of the country. As a territorial expression on the world map, Nigeria is located within longitude 3E and 15E, and latitude 4N and 14N. Nigeria covers a total land area of about 92.4 hectares, 75 percent of which

is arable or suitable for agricultural productivity (Shaib *et al*; 1997). With its large expense of land, water and forest resources, human resources, in addition to its diverse climate and vibrant population, Nigeria has great agricultural potential (Gambo, 1997), therefore, may be very fittingly regarded as the epitome of West African economy.

There exists hierarchy among markets (Jones, 1972; Gana, 1976; Hays, 1976; and Lutz; 1994). The study focused on formal urban and regional markets in the country. While the formal markets represents principal markets where prices for local products are determined (Anthonio, 1967), the urban and regional markets are considered as clearing houses at urban and regional levels, respectively. The prices for local products determined in such markets may be interpreted as indicators of the value of the products at a particular market level (Lutz, 1994). In addition, such markets (Formal, Urban and Regional) engaged in trade with other urban levels regional centres and are also strongly linked to the village market networks. They also serve as a commercial and informal centres for markets lower in the hierarchy (Olukosi and Isitor, 1990).

To assess the marginal of inter-regional and intra-regional arbitrage, a total of twelve (12) urban markets were purposively (based on dominance of cowpea volume of trading transactions) selected, with each of the six geo-political zones of Nigeria being represented at least by one market. Suffice it to say, however, the selection of these markets covered both producing and own assumption margin to capture details of cowpea marketing in Nigeria. Thus, Dawanau, Maigatari, Sokoto Central, Maiduguri, Gombe, Zungeru and Abuja were selected for the margin analysis from the producing areas, while Lagos, Port Harcourt and Enugu cowpea markets serve as representative locations from the consumption region. Table 1 show the distribution of sampled markets for the study.

Table 1: The Distribution of sampled cowpea markets in Nigeria

Zone	Market
North – Western	Kano, Maigarari and Sokoto
North – Eastern	Maiduguri and Gombe
North – Central	Abuja and Zungeru
South – Western	Lagos and Ibadan
South – Eastern	Enugu and Onitsha
South – Southern	Port Harcourt

Source: Field survey, 2012.

Data for the study were collected with the aid of a well-structured questionnaires accompanied by interview schedule, which were administered using face to face contact with cowpea merchants across the country. A total of 255 cowpea merchants formed the sample size of this study.

The synthesized data were analyzed using Descriptive Statistics and Marketing Margin Model. Descriptive statistics include means, frequency distribution tables, cumulative frequency tables, percentages etc. Descriptive statistics is one of the simplest and frequently utilized tools of analysis in most social sciences research. It is employed to organize and summarize observations for easy comprehension (Ejiga, 1977 and Edward *et al*; 1993). Therefore, the tool was used for the analysis of socio-economic aspect of objectives of the study.

The Marketing Margin Analysis: The study employed the modified form of marketing margin model adopted by Gilberto (1995) to determine the margin of the various actors in marketing system of fresh meat by taking into account individual actor's selling price. The model measures the share of the final selling price that is captured by a particular actor in the marketing channel (Gilberto, 1995 and Sidhu, 1994).

According to Gilberto (1995), Gross Marketing Margin

$$(GMM) = \frac{Consumer\ price - Producer\ Price}{Consumer\ price}$$

$$GMMw = \frac{RP - WP}{RP} \times 100$$

$$GMMR = \frac{CP - RP}{CP} \times 100$$

Where,

GMM = Gross Marketing Margin

RP = Retailer Price

WP = Wholesale price

CP= Consumer price

TGMm (Partial Supply Process)= GMMW + GMMR

RESULTS AND DISCUSSION

Socio-economic characteristic of Cowpea Merchants

Information on age limit, types of education, gender, marital status, household size and years of trading experience in cowpea marketing business is contained in table 2. Such information allows for good understanding of the trading system associated with cowpea arbitrage in both the production and consuming centres. The age distribution reveals that no trader was below the age of 20 years and equally none is above 60 years. Most cowpea merchants (69.02) were within the age brackets of 21 and 40 years. Therefore, the cowpea traders in the country were in their active age brackets and were able-bodied men that will enable them take more informed decision and also bear more risk and therefore less risk aversive. The mean age of the traders in Nigeria was 40.57 years.

Table 2 also reveals that most cowpea traders (87.84%) were male, and only 12.16 were female traders. However, the interesting feature here is that both males and females were engaged in cowpea trading across Nigeria. The low percentage of female traders may probably be because in some communities especially in the Northern Nigeria females were not allowed to go out for any outside socio-economic activities, for example women in purdae.

Table 2: Distribution of respondents according to socio-economic characteristics (N=255)

Characteristics	Traders Frequency	Percentage (%)	Cum.%

Age range (years)			
21-30	76	29.80	29.80
31-40	100	39.22	69.02
41-50	78	30.59	99.61
51-60	1	0.39	100.00
Above 60	-		
Gender :			
Male	224	87.84	87.84
Female	31	12.16	100.00
Level of Education:			
Primary	93	36.47	36.47
Secondary	74	29.02	65.49
Qur'anic/Islamic	67	26.27	91.76
Tertiary	21	8.24	100.00
Marital Status:			
Single	48	18.82	18.82
Married	187	73.33	92.15
Widow	10	3.92	96.07
Divorce	6	2.35	98.42
Separated	4	1.58	100.00
Household size:			
1-5			
6-10	110	43.4	43.14
11-15	60	23.53	66.67
16-20	49	19.23	85.90
21-25	26	10.20	96.10
25-30	7	2.74	98.84
X = 7	3	1.16	100.00
Years of Experience (Years)			
1-10			
11-20	210	82.35	82.35
21-30	40	15.69	98.04
X = 7.79 years	1	0.39	100.00
Level of Involvement			
Full time	208	81.57	81.57
Part time	47	18.43	100.00

Source: Field survey, 2012.

In table 2, it was revealed that most cowpea traders in Nigeria had modern education (73.73%) which is due to primary, secondary and tertiary education stitches. This implies that cowpea merchants were largely literate and this may explain the nature and scale of their trading activities as well as their managerial capability as confirmed by Ayoola (1990) and Okojie (2000) in their separate studies. According to Biswanger *et al*; (1993), the implication of being literate is the willingness to acquire skills to improve on their performance which translates to increased income. However, in spite of the high literacy rate, traders have little or no record kept.

The result of the analysis of table 2 also reveals that most of the cowpea traders in Nigeria (72.33%) were married couples still staying together with their spouses. Others were either single (18.82%) window (3.92%) divorced (3.25%) or separated (1.58%) incidentally, the married couples, therefore, posses strong ability for matured and articulate decision for the benefit of his household members and business transactions. Married couples are also likely to have family members (labour force) that will assist them in carrying out certain marketing functions (Ndanitsa, 2013).

The distribution of traders according to household sizes is also shown in table 2. It reveals that most of the traders (43.14%) had family sizes of 1-5 people in their households. The mean for household size was 7 people per household. The availability of labour to carry out economic activity depends on size of respondents household. Evidently, somewhat large, family size of traders was obtained and this lend further credence to the assertion that traders have relative access to family labour, thus, less involvement of hired labour to carry out marketing activities (Eboh, 1995). However, Baba and Etuk (1993) and Baba and Wando (1998) explained that, the implication of the large family sizes is that it tends to draw more on family income so that only a meager sum is saved and invested eventually on business.

On the major occupation of the cowpea merchants in Nigeria, the results revealed that about 82 percent were full time cowpea traders and this result tallies with Olarinde *et al* (2008), that one of the important factors which determine technical efficiency in entrepreneurship is the major occupation of the entrepreneurs.

Majority of the cowpea merchants (82.35%) have 1-10 years of experience in the trade, with an average of 7.7% years. Although, experience may not count in risk taking, it is however, known to have considerable influence on production efficiency and profitability, as it will allow participant to adjust to changing economic conditions and to adopt ideas that will be relevant to usher in efficient activity (Olomola, 1998). The categorization of cowpea merchants in Nigeria also reveals that none of the traders had experience trading spanning over 40years. By the reasoning of Musa (2003) who considered 5 years of experience as a reasonable age bracket, then one may conclude that almost all the cowpea traders in Nigeria were experienced. The implication of this finding is that the cowpea merchants have very high propensity to adjust to changing economic conditions to enable them attain higher profit level in cowpea arbitrage in the respective markets merchants engaged in business. More so, Osuntogun (2000) had noted that several factors are known to affect the credit needs of entrepreneurs (including marketing credits for merchants), prominent among these factors are due to their part experience.

Cowpea Marketing Margin in Nigeria

The marketing margin for agricultural produce have been a contentious area of discussion among several contributors (Musa, 2003). While some view it more or less as a sole profit of merchants, it must however, be recognized that various post-purchase activities that add to cost and the value to the produce remain very essential toward achieving consumer utility. Beside value addition, post purchase activities and other services are necessary to increase geographical coverage and other essential activities in marketing of agricultural produce. In this case the consumer price must therefore be raised to cover the cost of post-wholesaler purchase activities.

Table 3 contains the results of cowpea marketing assessment from seven selected northern, markets (Kano, Maigatari, Gombe, Maiduguri, Zungeru, Abuja and Sokoto) (table 1). Full trucks of white cowpea (counting of 350-400bags) move from these northern markets to the southern markets of Enugu, Onitsha, Port Harcourt, Benin, Lagos, Ibadan. The summary of route of movement of cowpea is thus:

- Kano - Lagos
- Kano – Port Harcourt
- Maiduguri – Benin

- Gombe – Enugu
- Sokoto – Ibadan
- Maigatari – Port Harcourt

In addition to these routes, Aloko (cowpea variety mostly shipped from Niger Republic to Nigeria also moves through these routes, especially through smuggling of goods.

Marketing margin along with share of marketing costs and profit margin of cowpea movements along these routes were computed. The emphasis on the market pair selection in the computation analysis was in consideration on value of cowpea share between the market pairs. It is to be noted that the process takes 1-3 weeks to complete a circle.

From table 3, it is evident that re-bagine, transportation and holding expenses constituted the largest component of the margin in all the cases of pair-wise comparisons. More specifically, transportation accounted for 50.00%, 57.14%; 46.61%; 54.59% and 50% in the respective comparison of Kano-Lagos; Maigatari-Port Harcourt, Gombe-Enugu; Maiduguri-Benin and Sokoto – Ibadan routes. Ndanitsa (2005) in his study of Fadama crop production in Niger State of Nigeria also reported that transportation alone accounted for more than 60 percent of the total cost of production. Meanwhile, following the same respective order of arrangement above, re-bagging accounted for 9.44%; margin, while the holding component of the margin were obtained as 9.17%; 5.17%; 7.82%; 5.63% and 7.88% respectively. Similarly, in order of descending importance, the cost of loading and feeding and offloading as well as commission fees have also been recognized as other outstanding components of the margin with respective proportions of 3.33%; 2.86%, 2.55%; 2.50% and 2.88%. More often than not, the component of the margin with least cost combination is guarding (security) expenses which accounted for the respective percentages of 0.83; 0.71; 0.83; 0.94; and 0.83. In terms of assessment of traders component share of the margin, table 3 also reveals the result of the assessments, namely Kano-Lagos (16.16%), Maigatari-Port Harcourt (14.75%); Gombe-Enugu (20.17%); Maiduguri-Benin (15.29%) and Sokoto – Ibadan (14.65%). Evidently from table 3 and from a superficial view point the margins may seem somewhat large, but when the cost component were segregated and computed then the profit component of the merchants becomes drastically reduced. These

findings concur with Ndanitsa (2005) who submitted that profit margin of entrepreneurs is being eroded by the variable costs of production such as transportation. Furthermore, table 3 also revealed that cowpea merchants necessary incurred additional costs that were desirably necessary to give time and place utilities to cowpea producers and for consumers, after which merchants seek for their profit, which make up the total value of the marketing business. This got to show that cowpea marketing is therefore, highly competitive.

The margin of moving full truck of cowpeas (350-400 bags) from Kano-Lagos; Sokoto-Ibadan and Maigatari – Port Harcourt were found to be N180,000.00; N169,000.00 and N210,000.00 respectively (table 3). The three routes dominantly represent white cowpea market comparison. Similarly, the margin for shipping both white and brown cowpea from Gombe-Enugu was obtained as N153,456.00. Nonetheless, the margin of moving predominantly brown varieties from Maiduguri market to Benin market was computed to be N162,650.00. Importantly, the margin between pair of markets and even cowpea types were all somewhat similar in magnitude and even direction. Further to this, the cost components of the margin accounted for 83.24%; 79.93%; 84.71% and 85.35% in the respective cases of Kano-Lagos, Maigatari-Port Harcourt; Gombe-Enugu; Maiduguri – Benin and Sokoto – Ibadan. The cost component of margin on a segregated note comprised of re-bagging (which in turn included knitting, handling, labour, insecticide and its application costs), guarding expenses; loading and offloading costs, commission fees (Broker assistantships and selling agents); government taxes, transportation, road impassable; holding expenses and other associated costs (costs of feeding and accommodation). On the average, for all the market pairs, these cost components were accounted by 9.06%, 0.83%; 3.40%; 2.82%; 0.94%; 51.79%; 1.42%; 7.24%; 2.06% and 4.6%, respectively. In terms of merchants' share of the margin (profit), the average was established to be N31,558.00 representing 16.18% of the total margin.

Although, the profit margin may seem somewhat large, but it must be acknowledged that merchants by and large encounters high level of risk due to uncertainty in the market and marketing constitutions; and the difficulty in assessing the direction of government as per marketing policies directions and pronouncements that have direct or indirect bearing with inter-regional cowpea arbitrage activities, e.g the effects of structural adjustment program (SAP) and the scrapping of the commodity boards in the 1980s (Ndanitsa, 1994). In addition, delays in

reselling of cowpea in regional markets in non-producing area may ensue in increasing the holding cost components of the margin which might increase by day.

Other associated factors may as well include risk associated to road accidents, armed robbery; lost of bags in transmit and tying down of capital by merchants in cowpea businesses.

The encompassing analysis per cowpea marketing margin and cost components clearly proved wrong the criticism about marketing intermediaries as believed by Festus (1984) and Okoro (1985) whom in their separate studies submitted that marketing middlemen exploit the farmers and consumers to their undue advantages. It is the considered view of research effort as supported by empirical analysis of cost components and marketing margin that the merchants in particular provides essential utilities of place and time to cowpea consumers in Nigeria, and the world at large.

Post Purchase Activities	Kano – Lagos		Maigatari–Port Harcourt		Gombe – Enugu		Maiduguri – Benin		Sokoto – Ibadan	
	Amount (N)	%	Amount (N)	%	Amount (N)	%	Amount (N)	%	Amount (N)	%
Initial price paid to farmers	930,000.00		870,000.00		1,024,000.00		992,000.00		990,000.00	
Re-bagging (cost of bags, knitting and insecticide	17,000.00	9.44	17,000.00	8.10	18,000.00	9.38	16,000.00	8.33	19,850.00	10.03
Guarding	1,500.00	0.83	1,500.00	0.71	1,600.00	0.83	1,800.00	0.94	1,900.00	0.83
Loading	6,000.00	3.33	6,000.00	2.86	6,400.00	3.33	6,400.00	3.33	8,250.00	4.17
Commission fees (assistantship and selling agent)	6,000.00	3.33	6,000.00	2.86	4,896.00	2.55	4,800.00	2.50	5,700.00	2.88
Transportation	90,000.00	50.00	120,000.00	57.14	89,500.00	46.61	105,600.00	54.69	100,000.00	50.50
Road barriers	2,500.00	1.39	3,000.00	1.43	3,000.00	1.56	2,850.00	1.48	2,500.00	1.26
Holding expenses	16,500.00	9.17	12,000.00	5.71	15,000.00	8.82	10,800.00	5.63	15,600.00	7.88
Uploading	3,000.00	1.67	4,500.00	2.41	4,500.00	2.34	3,200.00	1.67	4,950.00	2.50
Other associated costs (logging and feeding)	5,600.00	3.12	7,500.00	3.57	8,600.00	4.48	9,200.00	4.79	8,600.00	4.34
Final price received	1,080,000.00		1,080,000.00		1,216,000.00		1,184,000.00		1,188,000.00	

Total Marketing	150,000.00		210,000.00		192,000.00		192,000.00		198,000.00	
Total cost	150,100.00		179,000.00		153,456.00		162,650.00		169,000.00	
Traders' profit	29,900.00	16.61	31,000.00	14.76	38,544.00	20.07	29,350.00	15.29	32,650.00	14.65

Table 3: Marketing Shipment costs of Cowpea from Northern Cowpea Markets to Southern Cowpea Markets in Nigeria

Source: Field survey Data Analysis, 2012

CONCLUSION AND RECOMMENDATION

It was evident that the marketing costs of cowpea depend on the frequency of change of hand. In decreasing order of importance, the actual expenses (costs) incurred as cowpeas moves from northern to southern markets included cost of transportation, re-bagging, holding, other logistics cost, loading, commission fees and offloading expenses. Others included road barriers, government taxes and guarding expenses. It is worth noting that all the costs identified in cowpea shipment businesses extends the margin and therefore shrinks the farmers share and lead to increased consumers price. Therefore, consumers' price must necessarily therefore be raised to cover all these cost elements and any other associated component of marketing costs. In addition to this, if the merchants are to continue to provide essential utilities of place and time to consumers they must add a financial mark up as their profit margin.

REFERENCES

Adekanye, T.O. (1998). **Readings in Agricultural Marketing.** Department of Agricultural Economics University of Ibadan, Longman Nigeria Limited, 215pp.

Anthonio, Q.B.O. (1967). The Marketing of Food Staples in Nigeria: A case study in pricing efficiency, Ph.D thesis, University of London, London.

Ayoola, J.B. (1999). Economics Analysis of Women Entrepreneurship in Low Income Households of Benue State, Nigeria, Unpublished Ph.D Thesis, Abubakar Tafawa Balewa University, Bauchi, 243pp.

Baba, K.M and Etuk, E.G. (1993). Resource use efficiency and constraints in Irrigated agriculture: Empirical evidence from Bauchi State Nigeria. *Journal of Agriculture Technology*. 7:1-6

Baba, K.M. and Wando, M.A. (1998). "Impact of membership of Fadama Users

Associations on Resource use, crop field and Farm Incomes: A case study from two Local Government Area in Niger State". Nigeria *Journal of Basic and Applied Sciences* 7:31-41.

Biswanger, H.P; Khandker, S.R and Rosezweig, M. (1993). How Infrastructure and Financial Institutions Affect Agricultural Output and Investment in India. *Journal of Development Economics* 41:337-366.

Coulibaly, O. and L. Lowenbergy-Debber (2000). The economics of cowpea in West Africa. In: **challenges and opportunities for enhancing sustainable cowpea production.** Proceedings of the World Cowpea conference. III held at the International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria, 4-8 September, 2000.

Eboh, E.C. (1995). Constraints to increasing agricultural productivity in Nigeria. International Food Policy Research Institute, Brief No. 29, 57pp.

Edward, W.M; M.K. Bruce and B. Garden (1993). Statistical Reasoning in Psychology and Education. John Willey and Sons Inc; New York, U.S.A.

Ejiga, N.O. (1977). Economic Analysis of Storage Distribution and Consumption of cowpeas in Northern Nigeria. Unpublished Ph.D thesis, Cornell University, Ithaca, New York, U.S.A.

Festus, I. (1984). Menace of Middlemen. Times International Magazine, February, volume 5, number 20.

Fulgene J.M; Joan, F; Musa S; Saket, K; Kofi, M., Mustapha, J., Alpha, K and Lowenberg-DeBoer (2009). Consumer Preference for Quality Characteristic Along the cowpea value chain in Nigeria, Ghana and Mali, Agribussiness: *An International Journal*, 25 (1): 16-35

Gambo, M.A. (1997). Forward. In: Shaib, B., A.Aliyu J.S. Bakshi (eds). Nigeria Agricultural Research Strategy Plan, 1996-2010. Department of Agricultural Sciences, Federal Ministry of Agricultural Sciences, Federal Ministry of Agriculture and National Resources, Abuja, Nigeria

Gana, J.A. (1976). The Locational Pattern and Fund of Periodic Markets in Zaria Division, Nigeria. Savanna 5(2): 163-174

Hays, H.M. (1976) Rural Markets and Development. Agricultural Marketing in Northern Nigeria. *Savanna Journal* 5(2): 139-148

Husseini, M.A; M.K. Othman; M.F. Ishyaku and A.M.. Falaki (2004). Response of Cowpea

(Vigna unguiculata L.Walp) to Methods and levels of Irrigation

Jones, W.O. (1972). **Marketing of Staple Food Crops in Tropical Africa**, Cornell University Press, Ithace, In: Abbort, J.C. and Makehem, J.P. (1986). Agricultural Economics and Marketing in the Tropics, Longman group (FE), Ltd, pp 45-55

Kohls, L.R. (1995). **Agricultural Marketing**, 6th edition, Mcmillan Company New York, pp 70-71

Kushwaha, S., S.A. Musa; Singh, B.B. and J. Lowenberg-Deboer (2002). Problems Militating Against Effective Cowpea Marketing in Nigeria. *Journal of Scientific Research*, Banaras Hindu University

Lutz, C. H.M. (1994). The Functioning of Maiza Market in Benin. Spatial and Temporal arbitrage on the market of a staple food crop. Department of Regional Economics (section AGRO), University of Amesterdam, Amsterdam, 11,1081, WB Amsterdam, 255pp.

Mohammed, U. (2006). Problems of Marketing Agricultural Products in Nigeria: a case study of Sugar cane Marketing in Mokwa Local Government Area of Niger State. B. Tech Project (unpublished), Department of Agricultural Economics and Extension Technology, School of Agriculture and Agricultural Technology, Federal University of Technology, Minna, Nigeria. 53pp

Musa, S.A. (2003) Marketing of Cowpea in Nigeria: Econometric Studies of Quality factors and Market integration. A Ph.D Dissertation, Abubakar Tafawa Balewa University, Bauchi, Nigeria, 396pp.

Ndanitsa, M.A. (1994). Problems of Marketing Agricultural Products in Nigeria: a case study of Fish Marketing in Niger State. Unpublished B.Sc Project, Department of Agricultural Economics and Extension, Faculty of Agriculture Usmanu Danfodiyo University, Sokoto, Nigeria. 97pp

Ndanitsa, M.A. (2005). Economics of Fadama crop production in Niger State of Nigeria, M.Sc. Thesis, Department of Agricultural Economics and Farm Management, University of Ilorin, Ilorin, Nigeria (Unpublished). 144pp.

Ndanitsa, M.A. (2013). Impact of Microfinance Providers on Poverty alleviation of Farm

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73

households in North-Central Nigeria, Ph.D dissertator, Department of Agricultural Economics and Extension, Faculty of Agriculture, Bayero University, Kano, Nigeria. 255pp.

Okojie, J.O. (2000). Food Production and Nutrition in Nigeria. In integrated Agricultural Production in Nigeria: Strategies and Mechanisms for food security, Shaib, B; Adedeye N.O., A. Aliyu and M.M. Jnr (eds) National Agricultural Research Project, Monograph 5, 189-198.

Olarinde, L.O., Ajao, A.O; and Okunola, S.O. (2008). Determinants of Technical efficiency in bee keeping farms in Oyo State, Nigeria: A stochastic production frontier approach, Research *Journal of Agriculture and Biology Sciences*, 4(1): 65-69

Olukosi, J.O and S.U. Isitor (1998). "**Introduction to Agricultural Marketing and Prices: Principles and Application.** Living Book series, G.U publications, Abuja, 116p

Osuntogun, A. (2000). Some aspects of Farm level credit use in Nigeria: Savings and Development, Quarterly review No. 1, pp360.