



**ANALYSIS OF SOCIO-ECONOMIC AND CONSTRAINTS OF SWEET MELON
(*CUCUMIS MELON*) AND WATERMELON (*CITRULLUS LUNATUS*) MARKETERS
IN GOMBE AND BAUCHI STATES OF NIGERIA**

¹Mohammed, S. Y., ²Murtala, N., ²Jibril, S. A. and ²Mohammed, S.

¹Department of Agricultural Economics and Extension,
Faculty of Agriculture, Federal University Kashere, Gombe State.

²Department of Agricultural Economics,
Abubakar Tafawa Balewa University Bauchi, Bauchi State, Nigeria.

Corresponding Author's E-mail: suleiyidi@gmail.com **Tel.:** 08036079433

ABSTRACT

The study examined the marketing institutions and channels for sweet melon and water melon in Bauchi and Gombe States, Nigeria. Multi-stage sampling procedure was used to select 300 sweet melon and water melon marketers from 18 markets, 135 marketers were selected from Bauchi State and 165 from Gombe State. Data were collected using structured questionnaires and analysed using descriptive statistics which include frequency, percentage and ranking method. The result revealed that majority (99%) of sweet melon and water melon marketers were men, married (67.7%), young and active with the mean age of 36 years and a mean family size of 6 people per household. Moreover, 63.3% of the marketers had one form of western education or the other with the mean marketing experience of 9 years. The result also indicated that majority of the marketers with majority being full time sweet melon and water melon marketers and sourced their marketing funds through family and friends. In conclusion, sweet melon and water melon marketers were found to be men, married, young and active with the small number of people per household. Moreover, the marketers had one form of western education or the other and had reasonable years of marketing experience with majority of them being full time marketers and sourced their marketing funds through family and friends. Inconsistence and poor price and poor transportation facilities constituted the major problems to sweet melon and water melon marketing in the study area. The study recommended that government, market' union leaders and other stakeholders should assist and encourage marketers in providing, procuring and utilizing marketing facilities.

Keywords: Gender, Macro, Micro, Retail, Wholesale.

INTRODUCTION

Mshelia *et al.* (2013) defined Agricultural marketing from the micro and as well macro point of view; the micro view point, it is concerned with the individual participants in the marketing, and be it the farmer or the business firm. From this perspective, agricultural marketing is defined as the performance of all business activities which direct the forward flow of goods and services from the initial point of production to ultimate consumers in order to accomplish their objectives. From the macro point of view, marketing examines the total



system of economic activities concerned with the flow of agricultural products from producers to ultimate consumers, the kinds of institutions and the price making mechanisms that guide those flows, the interactions among consumers, agribusiness firms, farmers and even governments that determines the level farmers and even governments that determines the level of expenditure and the sharing of those expenditure as income to market participants.

Fruit vegetables such as sweet melon and water melon are mostly cultivated in tropical countries and are important for both human and livestock consumption as they contains all the body nutritional requirements for a living. They provide essential nutrients that prevent human health problems like cancer, stroke, high blood pressure, heart attack and other cardiovascular diseases. Both could be eaten raw, fresh, sliced into bits for their sweet and juicy pulp and this juicy pulp could be mixed with sugar, water or milk. Nutritionally they supply body with low calories, lycopene which prevent cancer and other diseases, vitamin A, vitamin C , proteins, carbohydrates, fibre, potassium, calcium, iron, fats and Water which all are necessary for good health and development for both human and livestock needs (Onyemauwa, 2010). Socio-economic factors are most important and always remained responsible not only for the marketing procedures but also for marketing technology and efficiency system in a healthy and competitive environment. Socio-economic factors could either directly or indirectly affect the marketing of agricultural produce by influencing and controlling the storage, preservation as well as the disposal of marketing goods.

The broad objective of the study was to determine the socio-economics of sweet melon and water melon marketers in Gombe and Bauchi States, Nigeria. The specific of objective were to:

- i. examine the sources of finance of sweet melon and water marketers.
- ii. determine the respondents' occupation and type of commodity sold; and
- iii. describe the constraints associated with sweet melon and water melon marketing.

MATERIALS AND METHODS

The Study Area

Gombe State lies between Latitudes $10^{\circ} 16'$ and $11^{\circ} 00'N$ and Longitudes $11^{\circ} 00'E$ and $11^{\circ} 11'E$. It has a land area of 20,265 km² and a projected population of 3,159,693 people (National Population Commission [NPC], 2006) census with a 2.8% annual growth rate of the population. The climatic condition of the state is characterised by two (2) distinct seasons dry and wet. The wet season begins from April and ends in October, and the dry season starts in November and last up to March. The mean annual rainfall ranges from 600mm to 1200mm, with the minimum and maximum temperatures of 22.7°C and 33.5°C, respectively (GOSEEDS, 2010). Bauchi State lies between Latitudes $10^{\circ} 17'$ and $11^{\circ} 00'N$ and Longitudes $9^{\circ} 45' E$ and $11^{\circ} 12'E$. It has a land area of 49,119 km² and a projected population of 6, 16496 inhabitants with a 2.8 percent annual growth rate of the population (NPC, 2006). The climatic condition of the State is characterized by two (2) distinct seasons dry and wet. The wet season begins from May and ends in September, and the dry season starts in October and lasts up to April with the mean annual rainfall that ranges from 600mm to 1300mm, while the temperature ranges from



18.5°C to 32°C as minimum and maximum, with April as the hottest and January as the coldest month, respectively (Bauchi State Agricultural Development Project [BSADP], 2009).

Sampling Technique and Data Collection

Multi-stage sampling procedure was used. Stage one involved the purposive selection of three (3) main local government Areas from Gombe and Bauchi States. The second stage involved purposive selection of three (3) markets from each Local government Area, making 18 markets and the last stage involved simple random selection of respondents from these markets. In all, 300 sweet melon and water melon marketers were randomly selected from a sample frame of 1,056 collected from the selected markets of the study area.

Method of Data Collection

The data were collected from wholesale and retail sweet melon and water melon marketers using structured questionnaires complemented with oral interview.

Method of Data Analysis

The analytical tool used in this study was descriptive statistics which include frequency, percentage, mean, standard deviation, standard error of the mean and ranking method.

RESULTS AND DISCUSSION

Socio-economics of Characteristics of Sweet melon and Watermelon Marketers

The result of socio-economic characteristics of Sweet melon and Water melon marketers in the study area which include age, gender, marital status, family size, educational level and marketing experience are presented in Table 1.

Age connotes the stage of development of an individual, either young or old; it is one of the important determinants for human reasoning, decision-making and responsibilities. Age is measured in years and expected to vary universally to adoption of new ideas. As shown in Table 1 the minimum age range for the Sweet melon and Water melon marketers was found to be 16-30 years whereas the maximum age was between 61-75 years with the mean age of 35.9. The standard error of the mean of 0.53 was also recorded in the study area. The result indicated that majority of Sweet melon and Water melon marketers in the study area were young energetic and in their economically productive, prime age and agile to effectively cope with the rigors and a great potential in marketing activities. The result is in line with findings of Adamu *et al.* (2015), Taphee *et al.* (2015) and Adamu *et al.* (2011) who all reported that majority of their respondents belong to the active population of 20 to 45 years.



Table 1: Socio-economic Characteristics of Sweet melon and Water melon Marketers (n = 300)

Variables	Frequency	Percentage	Mean	Std. Error of the Mean
Age (years)				
16-30	117	39.00	35.9	0.53
31-45	141	47.00		
46-60	39	13.00		
61-75	3	01.00		
Sex				
Male	297	99.00		
Female	3	01.00		
Marital status				
Single	94	31.30		
Married	203	67.70		
Widowed	3	1.00		
Household size				
1-5	146	48.67	6	0.31
6-10	99	33.00		
11-15	39	13.00		
16 above	14	5.30		
Education level				
Quran education	96	32.0		
Adult education	14	4.70		
Primary school	70	23.3		
Secondary school	98	32.7		
Tertiary	22	7.30		
Years of experience				
1-10	215	71.67	9	0.32
11-20	76	25.33		
Above 20	9	3.00		

Source: Field survey (2016-2017)

The famines and maleness of a person is described as sex, therefore people are classified biologically as men and women. Sex is one of the most important factors that determine individual's role and position in the communities that are controlled by cultural norms and values. The gender of Sweet melon and Water melon marketers in the study area is presented Table 1. The result revealed that 99% of marketers were male with only 1% as female. This indicated that there is low participation of female gender in Sweet melon and Water melon marketing in the area, hence male dominated the markets. The result is similar to the findings of Adamu *et al.* (2015); Sajo (2015); Adamu *et al.* (2011) and Atman *et al.* (2007) in their separate studies, that marketing of fruits and vegetables in their study areas were dominated by male respondents with 100%; 95.3%; 90.8% and 99.4%; respectively. Thus, is contrary to the findings of Taphee *et al.* (2015) which indicated that 51.3% of fresh okra marketers in Jalingo metropolis of Tarabra State were dominated by females.



Marital status in most cases is considered important in household decision making, where married people usually succeed in wise decision making. As shown in Table 1, majority of Sweet melon and Water melon marketers in the study area were married which constituted about 67.7% of sweet melon and water melon marketers, 31.3% were single with only 1% widowed. This indicated that respondents had high level of maturity and responsible' in taking marketing decisions. Such result is also expected as marriage is considered important to matured adult people in African setting. This agreed with the findings of Haruna *et al.* (2012); Adamu *et al.* (2015); Mohammed *et al.* (2014) and Taphee *et al.* (2015) that more than 50% of fruits and vegetables marketers in their study areas were found to be married people, hence very responsible in taking good marketing decisions.

Household size of the respondents is very important therefore was identified among the socio-economic variables considered as paramount in the marketing of Sweet melon and Water melon in the study area. The result in Table 1 show that majority (81.7%) of the marketers had between 1-10 persons in their domain while only 18.3% of them had 11 and above number of people in their homes with the mean household of 6 people. Though the research was conducted in Northern Nigeria where polygamy is predominant but still the marketers are having slightly small to medium number of household in their domain, hence will assist them in carrying out some marketing activities thereby reducing the marketing cost such as labour. The result is in line with the studies of Adamu *et al.* (2015); Mohammed *et al.* (2014); Sajo (2015); Taphee *et al.* (2015) and Haruna *et al.* (2012) who separately reported that majority of the respondents had family size of 1-10 person in their study areas. The less number of household may perhaps not be unconnected with few numbers of wives in the marriage institution, despites the area was predominated by Muslims faithful whose religion permitted polygamy. The implication of small household size is that there is less man power for economic activities which may likely discourage the exploitation of economic opportunities.

Education is one of the key to foster productivity in any profession which has a significant influence on profitability in production and marketing of Fruits and Vegetables. As cited by Adamu (2014) that formal education has positive influence in adoption of new innovations. Result in Table 1, showed that majority (63.3%) of Sweet melon and Water melon marketers in the study area had one form of formal education or the other, while 32.0% had Qur'anic education with only 4.7% that acquired informal (Adult) education. This means that the marketers have every chance and advantage of utilising any new innovation brought to them, thereby improving their marketing knowledge hence increase their profit in returns. The result is in agreement with the findings of Adamu *et al.* (2011) and Atman *et al.* (2007) which indicated that their respondents had formal education as 56.2% and 57.8% as against those acquire non-formal education with 43.8% and 42.2%, respectively. Thus, this is contrary to the findings of Taphee *et al.* (2015); Adamu *et al.* (2015); Mohammed *et al.* (2014) and Mshelia *et al.* (2013) who reported that more than 50% percentage of fruits and vegetables marketers in their study areas were found to acquire a form of non-formal education and constituted 66.3%; 56.2%; 58.3% and 51%, where respondents with formal education were found to be less and constituted 33.8%; 47.4%; 41.7% and 49%, respectively. The highest percentage level



of formal education among the respondents in the study area provided a measure of managerial ability and enhances the adoption of new marketing ideas. Hence, this new experience could push into new direction of marketing growth and development as well as human capital development of the marketers.

Marketers that stayed long in the business usually were expected to acquire more experience in their marketing activities than those that stayed less, as this will assist them in decision making toward attaining higher profit in the trade. The result in Table 1 indicated that 71.7% of the respondents had 1-10 years experience in Sweet melon and Water melon marketing in the study area. The result further revealed that those respondents who acquired experience of 11 and above years constituted 28.3% of the marketers' with a mean experience and standard error of the mean of 9 years and 0.32, respectively. This showed that majority of the marketers had not stayed long in the business; perhaps this might not be unconnected with facts that the production and marketing of Sweet melon and Water melon has not long been started in the study area compared to other fruits and vegetables marketed, hence acquired less experience in the business. The result agreed with studies of Adamu *et al.* (2015) and Haruna *et al.* (2012) which showed that 100% and 70% of their respondents had experience of 1-10 years, respectively, whereas Taphee *et al.* (2015) indicated that 50% of the respondents had 1-10 years' experience in the marketing of okra while the remaining 50% had 11 and above years. Thus, it is contrary to the findings of Atman *et al.* (2007) which revealed that respondents with 11 years and above experience were the majority (65.6%) while those with 1-10 years of experience constituted only 34.4% of the respondents.

Respondents' Occupation and Type of Commodity Sold

The type of commodity sold and the occupations of respondents were presented in Table 2. As shown in the table, 83.30% of sweet melon and water melon marketers in the area were engaged in the selling of both the two (2) commodities. Where 11.30% of them were engaged in selling only sweet melon, and only 5.30% engaged in water melon marketing alone. The mean commodity sold of 2.72 and the standard error of the mean of 0.38 were recorded from the result. This agreed with the finding of Mohammed *et al.* (2014). The table further presented the primary and the secondary occupations of the Sweet melon and Water melon marketers. The result indicated that majority 82.30% of the respondents' primary occupation in the study area was found to be sweet melon and water melon marketing, followed by farming which constituted about 7.70% of the respondents. About 5.00% of the respondents were civil servants, while 2.30% of them were labourers of different kind. 1.30% of the respondents' primary occupation was found to be driving where 1.00% of them were students, with only 0.30% as photographers. The mean occupation and the standard error of the mean of 1.74 and 0.10, respectively, were recorded. This is in line with the study of Sajo (2015).

Similarly, the result in Table 2 on secondary occupation of respondents also revealed that majority 43.00% of the marketers are only engaged in Sweet melon and Water melon marketing with no other form of business. This is followed by 29.30% of the Marketers that consider crop farming as their alternative occupation. 17.70% of the respondents consider



Sweet melon and Water melon marketing as their secondary business. 5.00% of the respondents were engaged in selling other fruits in case their is scarcity of Sweet melon and Water melon in the markets, where 3.70% of them took livestock farming as an alternative to Sweet melon and Water melon marketing. Students constituted 0.70% of the marketers' secondary occupation with only 0.30% of the respondents took grain marketing and civil service as their secondary occupation each in the study area. This is in line with the findings of Mohammed, (2010).

Table 2: Distribution of Respondents' Occupation and Type of Commodity Sold

Variables	Frequency	Percentage	Mean	Std. Error of the Mean
Commodity sold				
Sweet melon	34	11.30	2.72	0.38
Water melon	16	5.30		
Both sweet and water melon	250	83.30		
Primary occupation				
Marketing of SM and WM	247	82.30	1.74	0.01
Driving	4	1.30		
Civil servant	15	5.00		
Photographing	1	0.30		
Students	3	1.00		
Labourer	7	2.30		
Farming	23	7.70		
Secondary occupation				
Marketing of SM and WM	53	17.70	4.78	0.21
Grain marketing	1	0.30		
Civil servant	1	0.30		
Livestock farming	11	3.70		
Students	2	0.70		
Other fruits marketing	15	5.00		
Crop farming	88	29.30		
None	129	43.00		

Note: n = 300; SM = sweet melon; WM = water melon

Source: Field survey (2016-2017)

Sources of Finance of Marketers

Goods cannot pass through the marketing system without financial support. The owner of goods at any stage must either sacrifice the opportunity to use his own capital elsewhere or he must borrow the necessary capital from other sources. Thus, wholesalers must spend money to buy the produce they handle, they must also finance the marketing facilities, such as processing storage plants transport equipment and office premises needed for their business. Retailers also must pay for their sales premises, storage, etc. which wholesalers will not carry and in some cases their customer's purchases. All these finances involved interest cost. As



shown in Table 3, majority (60.00%) of the respondents sourced their marketing funds through family and friends, 21.70% sourced finance from their personal savings. The result further indicated that 13.30% of the marketers obtained co-operatives loans with only 4.30% and 0.67% were able to obtain banks and governmental loans respectively in the study area. This implied that Sweet melon and Water melon marketers had less access to credit facilities in the study area, thus can affect their effort to boost their marketing activities to a larger scale for economic development. The study is in line with the findings of Sajo (2015) and Mohammed *et al.* (2014) that respondents sourced their marketing finance though family and friends which is contrary to findings of Taphee *et al.* (2015) and Haruna (2011) that respondents used their personal savings as source of financing their marketing activities.

Table 3: Distributions of Respondents According to Sources of Marketing Funds

Sources of funds	Frequency	Percentage
Bank loan	13	4.33
Government loan	2	0.67
Cooperatives loan	40	13.33
Family and friends	180	60.00
Personal savings	65	21.67
Total	300	100.00

Source: Field survey (2016-2017)

Constraints to Sweet Melon and Water Melon Marketing

The problems associated with Sweet melon and Water melon marketing in the study area were presented in Table 4. These problems include inconsistency and poor prices; inadequate credit facilities; inadequate storage facilities; inadequate processing facilities; poor marketing arrangement and information; pilfering and theft; lack of uniform weight and measures; poor transportation facilities; perishability of the products and inadequate research and extension services:

The inconsistency and poor price of the products was found to be the major problem associated with the marketing of Sweet melon and Water melon as its ranked 1st and have a mean score of 2.31. Majority of the marketers faced this problem as a result of perishability and bulky nature of the products as well as high level of competition due to free entry and exit of the participants in the market. This may result to fluctuation and poor prices of the commodity as the marketers offered their products to buyers at any given price in order avoid the stated problems as the commodity is seasonal, perishable and bulky in nature. This is in line with the findings of Yohanna (2006) that commodity price fluctuation (ranked 3rd.) was found to be among the constraints affecting the marketing of Orange in Bauchi metropolis, Bauchi State of Nigeria.

Poor marketing arrangement and inadequate information may lead to lower prices of Sweet melon and Water melon, which sometimes makes marketer loss market for their produce. This loses may be as a result of perishability and bulky nature of the commodity which



discourage the traders from increasing quantity of goods they purchase for their market investments. The result in Table 4 indicated that, nearly all the respondents viewed poor marketing arrangement and inadequate information as the 2nd most important problem facing the Sweet melon and Water melon marketing in the study area. The result further recorded the mean score of 2.20 with respect to the problem, implying that without proper marketing arrangement and adequate information on commodity prices, marketers are likely to be cheated as some middlemen will capitalize on these short comings to offer less attractive prices, hence may result to disincentive towards boosting the marketing of Sweet melon and Water melon in the study area. The result is contrary to the findings of Taphee *et al.* (2015); Adamu *et al.* (2015); Sajo (2015); Mohammed *et al.* (2014); Adamu *et al.* (2011) and Yohanna (2006) as none of them reported this as part of his/her respondents' problems in their separate studies.

Pilfering and theft of Sweet melon and water melon was found to be among the major problems faced by the marketers in the study area. The result revealed that nearly all the marketers complained on the problem of theft and pilfering of products especially during off marketing hours like in the night and on special days such as festivity periods. This problem may be attributed to lack of provision of proper and good security personnel in the markets especially during off market time or holidays. The problem was ranked 4th with mean score of 2.10. This is also in line with study of Adamu *et al.* (2015), but contrary to the findings of Taphee *et al.* (2015), Sajo (2015); Mohammed *et al.* (2014); Adamu *et al.* (2011) and Yohanna (2006) as none of them reported this as part of his respondents' problems in their separate studies.

Table 4: Constraints to Sweet Melon and Water Melon Marketing

Constraints	Constraint levels				SD	Rank order
	Very serious 1	Serious 2	Not serious 3	Total		
Inconsistence and poor prices	20	166	114	694	2.31	1st
Poor marketing arrangement and information	48	144	108	660	2.20	2nd
Pilfering and theft	61	147	92	631	2.10	4th
Lack of uniform weight and measures	80	143	77	597	1.99	5th
Poor transportation facilities	40	186	74	634	2.11	3rd

*Multiple response were recorded; SD = Standard deviation

Source: Field survey (2016-2017)



Most markets use different type of measures for fruits and vegetables marketing, which ranges from bags, baskets, and tins. Other measures include estimation by size, number (quantity) and grades (quality) to determine the produce price. Weights are rarely used especially in marketing of fruits and vegetables except in few cities of Nigeria and other developed countries (Mohammed *et al.*, 2012). Prices are usually determined by haggling and price paid depends upon the bargaining power of the buyer, or his/her social status. Thus, the result showed that sweet melon and water melon marketers face the problem of uniform weights and a measure in quantifying and fixing price for their produce and were found to rank the 5th with a mean score of 1.99. This result agrees with the findings of Taphee *et al.* (2015), who reported that lack of standard unit of measurement which ranked as 3rd was among the major problems faced by okra marketers in Jalingo metropolis of Taraba State, Nigeria. The result is contrary to the works of Adamu *et al.* (2015); Sajo (2015); Mohammed *et al.* (2014); Adamu *et al.* (2011) and Yohanna (2006) as none of them reported this as part of his respondents' problems in their separate studies.

An efficient transport system is critically important to efficient agricultural produce marketing. If transport facilities or services are of poor quality or extensive, then marketers will be at a disadvantage when attempt to sell their produce. This may lead to increase in the marketers cost of transport which invariably increase his marketing cost and this increase will lower his total revenue and net profit at the end. Poor transport facilities such as impassable roads or slow and poor transport services can lead to produce loses as a result of perishable and bulky nature of sweet melon and water melon especially if the commodity is going to be transported to distance place.

Table 4 indicated that majority of the respondents faced the problem of poor transportation facilities (ranked 3rd) and recorded the mean score of 2.11. The result is also similar to the studies of Adamu *et al.* (2015); Taphee *et al.* (2015), Sajo (2015); Mohammed *et al.* (2014); and Yohanna (2006), who reported that Fruits and Vegetables marketers identified lack of good transportation facilities as part of the major problems faced by their respondents.

CONCLUSION AND RECOMMENDATIONS

In conclusion, the study indicated that majority of sweet melon and water melon marketers were men, married, young and active with the small number of people per household. Moreover, the marketers had one form of western education or the other with reasonable years of marketing experience and majority of them being full time sweet melon and water melon marketers who sourced their marketing funds through family and friends. Inconsistence and poor prices; poor transportation facilities and perishability of the products constituted the major problems to sweet melon and water melon marketing in the study area. The study therefore, recommended that government, market' union leaders and other stakeholders should assist and encourage marketers in providing, procuring and using such.



REFERENCES

- Adamu, Y., Babawuro, A. and Kubura, H. (2011). *Profitability of Water melon Production and Marketing in Kirfi Local Government Area of Bauchi State, Nigeria*. Proceedings of 25th Annual National Conference of FAMAN held at Federal College of Agriculture Akure, Ondo State, Nigeria. Pp.231-236.
- Adamu, Y., Mohammed, S. Y. and Hamidu, K. (2015). Analysis of Profitability of Sweet Melon marketing in Gombe Metropolis, Gombe State, Nigeria. *Journal of Agricultural Economics and Social Sciences*, 1(2): 144-150.
- Atman, F. M., Haruna, U. and Sani, R. M. (2007). *Profitability of Tomato Production and Marketing in Yamaltu-Deba LGA, Gombe State Nigeria*. Proceedings of the 9th Annual National Conference of Nigerian Association of Agricultural Economics (NAAE), November 5th – 8th, ATBU Bauchi; Pp. 185-188.
- BSADP (2009). Progress and Achievement in Agriculture. Bauchi State Agricultural development Project. Ramadan Press Ltd. 55Pp.
- GOSEEDS (2010). Gombe State Economic Empowerment and Development Strategy: Handbook, Abuja, Dandafid Nig. Ltd; 48Pp.
- Haruna, D. (2011). *Economics of Groundnut Marketing: A Case Study of Bogoro and Tafawa Balewa Local Government Areas of Bauchi State, Nigeria*. Unpublished M.Sc. Thesis submitted to the Department of Agricultural Economics, Abubakar Tafawa Balewa University of Technology Bauchi, Bauchi State, Nigeria. 84Pp.
- Haruna, U., Sani, M. H., Danwanka, H. A. and Adejo, E. (2012). Economic Analysis of Fresh Tomato Marketers in Bauchi Metropolis of Bauchi state, Nigeria, *Nigerian Journal of Agriculture, Food and Environment*, 8(3): 1-8.
- Mohammed, S. Y. (2010). *Economic Analysis of Orange Marketing in Gombe metropolis, Gombe State, Nigeria*. Unpublished M. Sc. Thesis submitted to the Department of Agricultural Economics, Abubakar Tafawa Balewa University of Technology Bauchi, Bauchi State, Nigeria. 89Pp.
- Mohammed, S. Y., Salawu, J. A. and Adamu, Y. (2014). Socio-economic Characteristics and Marketing Margin of Orange Marketers in Gombe Metropolis, Gombe State-Nigeria. *Journal of Scientific Research*, 1(2): 36-42
- Mshelia, S. I., Dia, Y. Z. and Ahmed, M. A. (2013). Profitability Analysis of Honey Marketing in Ganye and Toungo Local Government Areas of Adamawa State, Nigeria, *Middle-East Journal of Scientific Research*, 13(2): 207-212.
- NPC (2006). Annual Statistical Abstract on Nigeria Population Census, Abuja, NPC; 22Pp.
- Nnamdi, A. (2000). *Research Methodology in the Behavioural Sciences*, Lagos, Longman Nigeria Plc, 194Pp.
- Onyemauwa, C. S. (2010). *Marketing margin and efficiency of watermelon marketing in Niger Delta Area of Nigeria*. *AgriculturaTropica Et Subtropica*, 43:196-201.
- Osuji, U. S. A., Aiyedun, J. O. and Femi, A. A. (2006). Statistical Methods II, Lagos, Gold Print (SS) Ltd; 181Pp.



- Sajo, I. A. (2015). *Economic Analysis of Onion Marketing in Gombe Local Government Area, Gombe State, Nigeria*. Unpublished M. Sc. Thesis submitted to the Department of Agricultural Economics, Abubakar Tafawa Balewa University of Technology Bauchi, Bauchi State, Nigeria. 79Pp.
- Taphee, B. G., Reuben, J., Mshelia, S. I. and Jongur, A. A. U. (2015). Economic Analysis of Fresh Okro Marketing in Jalingo Metropolis, Taraba State, Nigeria, *American Advanced Journal of Agricultural Sciences*, **1**: 1-7.
- Yohanna, D. (2006). *Profitability Analysis of Mobile Mango and Orange (Vendors) in Bauchi metropolitan Area of Bauchi State, Nigeria*. Unpublished Undergraduate Project, submitted to Agricultural Economic and Extension Department, ATBU Bauchi, Nigeria; 39Pp.