ANALYSIS OF INFORMATION AND COMMUNICATION TECHNOLOGIES UTILIZATION AMONG COWPEA MARKETERS IN JALINGO LOCAL GOVERNMENT AREA OF TARABA STATE, NIGERIA

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ABSTRACT
The study analyzed information utilization among cowpea marketers in Jalingo Local Government Area of Taraba State, Nigeria. A purposive sampling technique was used to select Five (5) out of 10 wards in the study area. A sample size of 64 marketers was randomly selected in the selected wards. Primary data were collected through the use of structured questionnaire and analyzed using descriptive statistics (frequency, percentage and mean) and inferential statistics (Cobb Douglas regression). The result obtained showed that 68.75% of the cowpea marketers were males, while 48.44% were between the ages of 36 and 45 years. It also reveals that 46.87% had non-formal education while 40.63% had household size of between 6 and 10 persons, 77.69% were married and 54.69% and had income ranges from ₦101,000 – ₦150,000. The result obtained showed that the sources of information from friends constitute 50% (mean of 2.56) of the respondents while for the extent of information utilization among the respondents the findings reveal that the information highly utilized by cowpea marketers include price (x = 2.63), available market (2.56) and transportation (x = 2.53). Lastly, all the variables were significant at P≤0.05 level except household size (X_4). It was recommended that, adequate relevant market information should be provided to enable them increase their production so as to earn more profit. Government and the marketers should collaborate together to ensure availability of transportation network so as to improve marketing efficiency.

Keywords: Cowpea, Communication, Information, Marketers, Technologies, Utilization.

INTRODUCTION
According to Agbogidi (2010), world production of cowpea was estimated to be 2.27 million tons of which Nigeria produces about 850,000 tones (FAO, 2002; and Adaji *et al.,* 2007). Cowpea is of major importance to the livelihoods of millions of relatively poor people in less developed countries of the tropics (FAO, 2002). Islam *et al.* (2006) emphasized that all parts of the plant used as food are nutritious providing protein and vitamins, immature pods and peas are used as vegetables while several snacks and main dishes are prepared from the grains.

Mtega (2012) stated that agricultural information is the cornerstone of successful socio-economic development, because it play a key role in access to utilization of agricultural inputs, market price, transportation by systems of yields, environmental protection techniques and practices, new agricultural technologies, food processing and preservation, decision making processes, thus small holder farmers require proper agricultural information in order to plan their activities, make choice of inputs, diffusing and adopting technologies and eventually on when and where to sell their products.

According to Daudu *et al.* (2009), the main sources of agricultural information used by small holder farmers in accessing agricultural information are extension agents, friends, radios

and libraries. Information utilization among cowpea marketers in the study area is affected by some barriers, which include language, illiteracy, culture and value, etc. The research on information utilization among cowpea marketers in the study area is to identify the major Marketers and sources of information utilization to improve in the production of cowpea in the study area.

The level of cowpea production in the study area is low, this could be because, the agricultural information utilization is grossly down, couple with poor channels of information dissemination, lack of trained extension officers and in adequate manpower. This possesses a serious threat to the lively hood of the cowpea producers. Weak farmers' organizations in many developing countries due to poor management, lack of marketing skills, distrust among the members, particularly with the management bodies, are problems that hinder effective use of marketing information (Donye, 2010).

The broad objective of the study was to analyze the information utilization among cowpea Marketers in Jalingo Local Government Area. The specific objectives were to: describe socio-economics characteristics of the respondents; identify the major sources of information utilized by the cowpea marketers; and determine the extent of information utilization among cowpea marketers. The hypothesis was that the Information Utilization among cowpea farmer in Taraba State is not strongly influenced by socioeconomics characteristics.

MATERIALS AND METHODS
The Study Area
This study was conducted in Jalingo Local Government Area of Taraba State. Jalingo is the capital city of Taraba State, which is located in the North Eastern part of Nigeria. The estimated population of 118,000, it covers a land area of about 195.071 km^2. It lies between latitude 8'54N and longitude 11^{0}22E in the northern part of Taraba State (Oruonyer, 2014). All small scale cowpea farmers in Taraba State constitute the population of this study.

Sampling Techniques
Sampling techniques was used to select five (5) out of the 10 wards in the study area. This was due to their prominence in cowpea marketing. Therefore, the respondents numbering 64 were randomly selected from the five (5) wards for the study.

Analytical Techniques
The study used descriptive statistics (frequency, percentage and mean) and inferential statistics (Cobb Douglas regression and t-test). The implicit form of the model specified in Cobb Douglas functional form is:

$$Y = f(X_1+X_2+X_3+X_4+X_5+\ldots\ldots+u) \qquad \ldots(1)$$

The explicit form of the model specified in Cobb Douglas functional form is

$$Ln\ Y = \beta o + \beta_1 LnX_1 + \beta_2 LnX_2 + \beta_3 LnX_3 + \beta_4 LnX_4 + \beta_5 LnX_5 + (Vi-Ui) \qquad \ldots(2)$$

where;
Ln = the natural logarithm
Y = Extent of information utilization by cowpea marketers
βo = constant term
$\beta 1$- $\beta 5$ = Regression coefficients
X_1 = Sex (male or female)
X_2 = Age (years)
X_3 = Educational background (years)
X_4 = Household size (number)
X_5 = Marital status

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Vi = random error accounting for measurement errors and other random factors
Ui = random error associated with technical inefficiency.

RESULTS AND DISCUSSION
Socio-economic Characteristics of the Cowpea Marketers

The sex distribution of Cowpea marketers in Table 1 reveals that 68.75% majority of the marketers interviewed were males while 31.25% were females this this could be women that are deficient in acquiring capital than men which hindered their participation in cowpea marketing than their females counterpart. The result is in consonance with the findings of Asogwa *et al.* (2012) on a study on marketing information usage among soya bean marketers in Nigeria. He reported that 75.21% of the marketers were male.

The age distribution of cowpea marketers in Table 1 also shows that 48.44% of the marketers fell within the age range of 36 – 45. Only 4.68% fell within 18 – 25 years. This means that large proportions of the marketers were still within the economically active age. The result is in line with the findings of Fahad (2017) who conducted a study on perceptions regarding the use of information and communication technology in Parkistan and founds that 33.3% of the respondent belong to the age group of 30-45years.

The educational background of the farmers as shown in Table 1, reveals that 46.87% of the cowpea marketers interviewed had non-formal education while 3.13% had tertiary education. This means that majority of the marketers were not educated. Thus, they will be slow in adopting new technology. The findings disagreed with the report of Bite *et al.* (2017) on a study on role of social media in Agricultural marketing and concluded that 94% of the marketers were educated

The result on household size shows that 40.63% had household size between 11–15 people and 12.5% had household size of 16 and above. This implies that the marketers have high family responsibility which demands them involving in this business in order to meet their need.

The result obtained on marital status revealed that, 79.69% were married while 20.31% were single. This implies that Cowpea Marketers engaged themselves in the business to meet family demand. The result is in line with the findings of Fahad (2017) who reported that 87.29% of the respondents were married.

The annual income of cowpea marketers in Table 1 indicates that, 54.69% had annual income ranging from ₦101,000 - ₦150,000 while 23.44% had annual income of between ₦151,000 – ₦200,000 about 14.06% had annual income of ≤ ₦100,00 only 7.81% had annual income greater than > ₦200,000. This implies low annual income which could affect expansion of the business, thus reducing the level of production. The findings disagreed with the report of Mawazo *et al.* (2014) who reported that 59.63% of the respondents has annual income less than ₦100,000.00.

Sources of Marketing Information

The sources of marketing information in Table 2 shows that half 50% of the cowpea marketers sourced their information from friends, and only 1.56% from internets. This means that cowpea marketers do not have access to modern sources of information which could be as a result of their low level of education and inability to access it. The result is in line with the findings of Asogwa *et al.* (2012) who reported that 83.33% of the marketers obtained marketing information from other producer/friends.

Table 1: Socio-economic Characteristics of the Cowpea Marketers (n = 64)

Variables	Frequency	Percentage
Sex	44	68.75
Male	20	31.25
Female		
Age		
18-25	3	4.68
26-35	10	15.62
36-45	31	48.44
46-55	15	23.44
56 and above	5	7.81
Level of education		46.87
Non-formal	30	46.87
Primary	17	26.56
Secondary	15	23.44
	2	3.13
Household size		
1 – 5	20	31.25%
6 – 10	26	40.63%
11 -15	10	15.63%
16 – above	8	12.5%
Marital status		
Single	13	20.31%
Married	51	79.69%
Total	64	100%
Income range (₦)		
> ₦200,000	5	7.81%
₦151,000 – ₦200,000	15	23.44%
₦101,000 – ₦150,000	35	54.69%
≤ ₦100,000	9	14.06%

Source: Field Survey, 2018

Table 2: Sources of Information of the respondents

Sources	Frequency	Percentages
Radio	14	21.87%
friends	32	50.00%
Extension agents	4	6.25%
Television	10	15.53
Internet	1	1.56
Newspaper	3	4.06
Total	64	100

Source: Field survey, 2018

Extents of Information Utilization

The level of information utilization was analyzed using three (3) points rating of a likert scale by obtaining their mean. The result in Table 3 indicated the various level of information utilized by cowpea marketers. The findings reveals the information highly utilized by cowpea marketers include Price (x = 2.63), available market (2.56) and transportation (x = 2.53). This

result is in consonants with that of Tsegay (2009) who opined that market information is involved with the collection of information on market prices on regular basis and in some cases, quantity of widely traded agricultural products for rural assembly market, wholesale and retail markets, and appropriate dissemination of this information on a timely and regular basis through various media to farmers, traders, government officials, policy makers and consumers.

Table 3: Mean rating of Extent of Information Utilization

Information	Frequency	Mean (x)	Remarks
Price	164	2.56	High utilization
Available market	168	2.63	High utilization
Storage techniques	121	1.89	Low utilization
Transportation	162	2.53	High utilization
Demand/supply	120	1.87	Low utilization
Security	104	1.78	Low utilization

Source: Field Survey, 2018

The inputs-output Relationship

The result of the analysis in Table 4 showed that all the variables in model had positive regression coefficients indicating direct relationship between the socio-economic characteristics of cowpea marketers and the extent of information utilization. The coefficients of multiple determination $R^2 = 0.74$ which means that 74% of the variation of the extent of information utilizations was accounted for by the variable inputs in the model. This indicates that all of them are the major factors considered for information utilization in cowpea marketing. All the variables are significant at 5% level except household size (X_4).

Table 4: Socio-economic Factors that influenced Extent of Information Utilization

Variable	Coefficient	Standard Error	T-value	Probability
Constant	2.688	1.032	2.774	0.0000
Sex (X_1)	0.124	0.462	0.269	0.0012**
Age (X_2)	0.262	0.982	1.112	0.0029**
Educ. Back (X_3)	0.404	0.517	0.781	0.0004**
Household size (X_4)	0.390	0.381	1.023	0.098^{NS}
Marital status (X_5)	0.713	0.211	1.242	0.0025**
$R^2 = 0.74$				
Probabilty (Statistics) 0.000**				

** denotes significance of 5%; NS = Not significant
Source: Field Survey, 2018

CONCLUSION AND RECOMMENDATIONS

The study showed that Cowpea marketers get marketing information mainly through Radio, Friends and television. Price, available market and transportation were the major information that was highly utilized among the respondents. The study also indicates that there is a significant relationship between socio-economic characteristics of Cowpea marketers and their level of information utilization. The major determinants of information utilization in Cowpea marketing in the study area are age, gender, marital status, and education. Based on

the findings of this research work the following recommendations are made with a view to increasing the use of information in the study area and the state at large.

1. Adequate relevant marketing information should be provided to enable them increase their production so as to earn more profit.
2. Government/Non-Governmental Organization (NGO) should provide the marketers with ICT tools programmed with market based information.
3. Government and the marketers should collaborate together to ensure availability of transportation network so as to improve marketing efficiency.

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