

Farmers attitude towards commercialized extension system in Delta State, Nigeria

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Abstract

The need for an alternative extension service becomes very crucial when the public extension system has not yielded good result. The study therefore investigated farmers' attitude towards commercialized extension system and willingness to pay for extension services. Multi-stage sampling technique was adopted in the selection of 240 respondents. Frequency count, mean and percentage were used for data analysis while Correlation and Cochran test were used to test the hypotheses. Result revealed the respondents were fairly young (mean age was 46-years), majorly male (67.9%), married (67.9%), educated (99.2%) and experienced (19 years), had a family size of 6 persons and earned a mean annual income of ₦ 54,604.17. On the farmers attitude towards commercialized extension system, the farmers agreed that the commercialized extension system will be more timely in their delivery (mean=3.38), that payment pay for extension services is necessary for higher farm productivity (mean=3.35), that extension workers will be more effective under the system (mean=3.35), and that farmers stand to benefit more from this system in terms of income (mean=3.12). The farmers were willing to pay for improved planting materials (80%), linkage to farm input supplies (65%) and markets (64.2%). The study concludes that the respondents were positively disposed to commercialized extension service in arable crop production. It was recommended that commercial extension service providers should extend their services to the study area.

Key words: Farmers, Attitude, Commercialized, Extension, Delta State

Introduction

There is an increasing need for the provision of effective and sustainable agricultural extension services to majority of the resource poor farmers in whose hands the bulk of agricultural production is left. Rural farmers with poor resources are personnel prone high production risk but however, their activities support the survival of millions of people in Africa continent (Rivera and Alex, 2003). The need for a viable agricultural extension system therefore, remains imperative to enhance the ability of farm families to

respond to farmers' production problems in order to meet available new opportunities. Agricultural extension systems are known to be in conformity with the institution to which they belong. Rivera and Wheeler (2002) posited that extension is a component of the system operating with other agro-support systems in the context of agricultural and technology development. These are sector differ in institutional structure, socio-economic and political goals, and extension approach.

Agricultural extension programmes are

under pressure to change, because of growing fiscal pressures and questions about effectiveness (Rivera and Cary, 2000). In order to proffer solution to the setback of bureaucratic running, the public sector has been transferring its services to the private sector, sometimes completely as in Netherlands, New Zealand, Peru and in U.K, or partially through contractual, out-sourcing arrangements, adopting private sector practice such as cost recovery schemes or fee-based activities for services that were once freely provided. Thus, there is increasing involvement of the private sector in extension service. Lele (1999); World Bank (2000), Al-Rimawi and Al-Kaablleh (2001) observed that extension services offered by the private companies, though sales-oriented and spatially limited to area with commercial farming, are better in quality and more effective than the public system. In some empirically conducted studies by scholars, success of some private extension providers among small scale farmers in Nigeria is documented. Such studies include those conducted by Omotesho and Oladele (2000), Akinsorotan (2001), Kuponiyi, Ogunwale and Oladosu (2004), Adefarasin (2008) and Erie (2009).

In this study, the emphasis will be on extension activities implemented by Agricultural Development Programmes (ADP) in Delta State. In view of the numerous and diverse challenges facing farmers today, the structural transformation of agricultural extension system is unavoidable, more so, that many countries are faced with significant fiscal constraints. This study therefore attempts to determine the farmers' attitude towards commercialized agricultural extension system. The real concern here is that if commercialized extension system is to be effectively or successfully operated, there is need to understand the attitude of the potential targets of such an innovative system, i.e. the farmers. To this end the study seeks to

- i. examine the socio-economic characteristics of farmers' in the study area.
- ii. determine farmers' attitude towards commercialized extension system in the study area.
- iii. Examine farmers willingness to pay for extension services

Hypothesis of the study

Ho₁: There is no significant relationship between the farmers' socio-economic characteristics and their attitude towards commercialized extension system.

Ho₂: There is no significant difference among the extension services farmers are willing to pay for.

Methodology

The study was carried out in Delta State, Nigeria. The State is one of the States in the South-South geo-political zone with others Edo, Bayelsa, Akwa-Ibom, Rivers and Cross Rivers States. The state lies between Latitude 5°00" and 6°30"N of the equator and Longitude 5°00" and 6°45" of the Greenwich Meridian, and has inter-state borders with Edo, Ondo, Imo and Anambra, Rivers and Bayelsa States. The state has twenty-five local government areas (LGAs) with its administrative headquarters at Asaba. Agriculturally, Delta state is made up of three zones created in line with the senatorial zones viz; Delta North, Delta Central and Delta South Agricultural zones with their headquarters in Agbor, Effurun and Warri respectively. The ADP also has its administrative headquarters in Ibusa.

Multi-state sampling technique was adopted in the selection of respondents. The first stage involves the purposive selection of Delta North and Delta Central Agricultural extension zones because there is a higher concentration of arable crop farmers in these zones. The second stage involve a random selection of 5 (LGAs) each from the two

Agricultural zones giving a total of 10 LGAs.

The total population of farmers in the sampled LGAs is 41,912 with Delta North and Delta Central being 21,627 and 20,285 respectively. To get the size, a random sampling of 0.5% of registered farmers in the selected Local Government areas was carried out in the third and final stage. This gave a figure of 135 for Delta North and 105 for Delta Central, making a total of 240. The distribution is shown in Table 1. Questionnaire was the main instrument of data collection. Interview scheduled was also carried out for the illiterate farmers. To validate the data gathering

instruments, experts in the field of agricultural extension and rural sociology were presented with the instrument for face validity. Also, the test-re-test method of establishing reliability scale in the research instrument was adopted. A correlation coefficient of 0.811 as obtained indicating reliability of the instrument. Descriptive statistical tools such as frequency count, mean and percentage were used for data analysis while inferential statistics (correlation coefficient) was used to test the relationship between farmers socio-economic characteristics and their attitude commercialized extension system.

Table 3.1 Sample Distribution

S/n	L.G.As	DELTA NORTH		L.G.As	DELTA CENTRAL		Total Sample Size
		Population of Registered Farmers	Population Sampled (0.5%)		Population of Registered Farmers	Population to be Sampled (0.5%)	
1	Aniocha North	4316	22	Ethiope East	4205	22	44
2	Ika North	5465	28	Ethiope West	4420	23	51
3	Ika South	5787	29	Ughelli North	4025	21	50
4	Ukwuani	6223	32	Ughelli South	4122	21	53
5	Ndakwa West	5301	27	Isoko North	3513	18	45
	Total		135			105	240

Source: (DSAP, 2014)

Measurement of variables

Attitude of farmer's towards commercialized extension services. Respondents were asked to indicate their perception towards six (6) statements relating to commercialized extension services. Their response was obtained using 4 point likert scale, ranging from strongly agreed (code 4), Agreed (code 3), disagree (code 2), and strongly disagree (code 1). The mean benchmark of 2.50 was used to determine farmer's agreement or disagreement toward specific statement, with a mean score of 2.50 and above implying that the farmers agreed

with the statement or otherwise if < 2.50 . To determine the farmers' attitude, a composite score was obtained, by summing all scores on the different statements. The maximum and minimum score obtainable are 24 and 6 respectively. The weighted mean of these scores was taken i.e $(24+6 = 30/2=15)$. Thus, respondents whose aggregate score >15 are considered to have a favourable attitude or otherwise if less than 15.

Farmer's willing to pay for extension services. Farmer's were asked to indicate the extension services they are willing to make pay for.

Table 1: Socio-economic characteristics respondents (N=240)

Characteristics	Categories	Freq	%	Mean
Age (years)	<25	0	0	46.3
	25-29	21	8.8	
	30-34	4	1.7	
	35-39	38	15.8	
	40-44	62	25.8	
	45-49	2	8	
	50-54	58	22.9	
	55 & above	58	24.2	
Sex	Female	77	32.1	67.9
	Male	163	67.9	
Marital status	Married	163	67.9	20.0
	Single	24	10.0	
	Widow(er)	48	20.0	
	Separated	4	1.7	
	No formal education	2	.8	
Educational level	Primary education	2	8	30.8
	Incomplete secondary education	74	30.8	
	Secondary education	154	64.2	
	Post-secondary education	8	3.3	
Farming experience (years)	<5	28	11.7	19.5
	5-9	40	16.7	
	10-14	57	23.8	
	15-19	0	0	
	20-24	5	2.1	
	25-29	0	0	
	30-34	105	43.8	
	35 and above	5	2.1	
Household size	1-4	92	38.3	6.0
	5-8	82	34.2	
	9-12	66	27.5	
	<20,000	60	25.0	
Income Annual (N)	20,000-30,000	2	.8	N54,604.17
	30,001-40,000	2	.8	
	40,001-50,000	27	11.3	
	50,001-60,000	33	13.8	
	60,001-70,000	55	22.9	
	80,001-90,000	6	2.5	
	90,001-100,000	52	21.7	
	>100,000	3	1.3	

Source: Field data, 2015

Result and Discussion

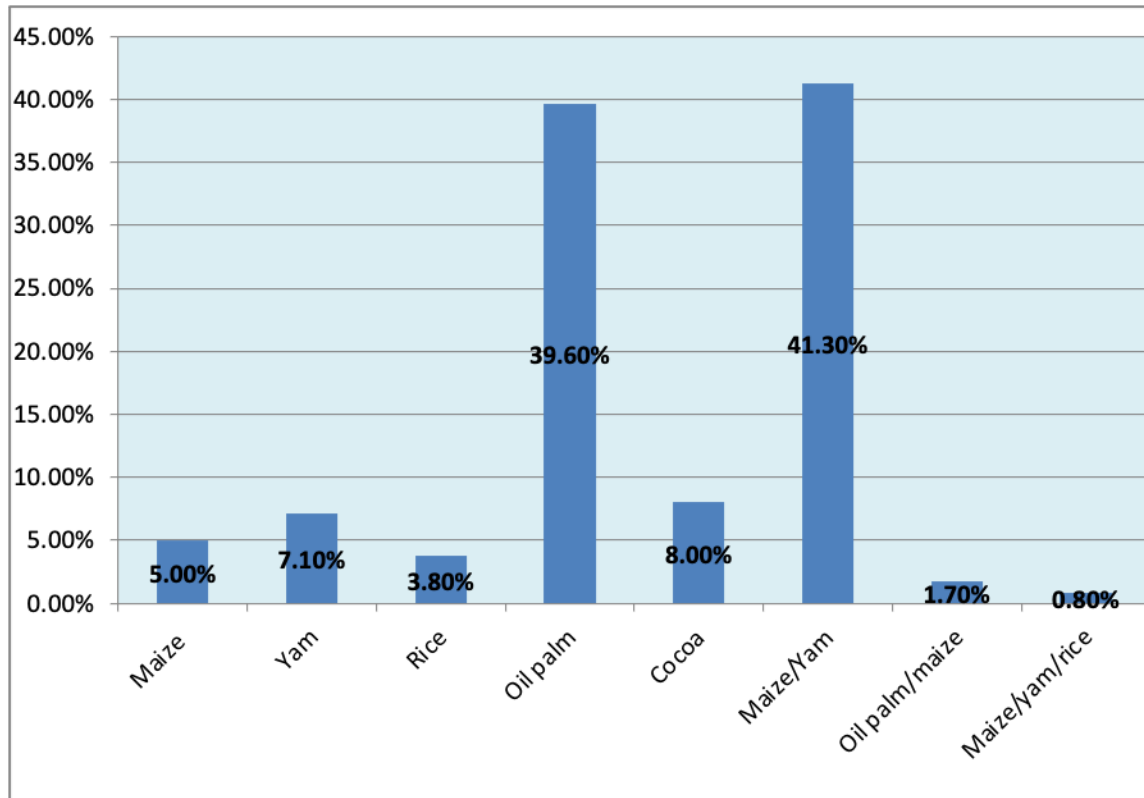
Socio-economic characteristics of respondents

The socio-economic characteristics of the respondents are presented in Table 1. The result revealed that a higher population of the respondents (25.8%) belongs to the modal class of 35-39 years with a mean age of 46 years. This result indicates that the respondents were of average age that can make their personal decision as regards the commercialization of extension services. Majority (67.9%) of the sampled farmers were male, married (67.9%) and had formal education (99.2%). That majority of the respondents were married could promote a good sense of responsibility that can enhance their production which can otherwise influence their attitude to commercialized extension system. The high level of formal education among the respondents will enhance their willingness to accept the commercialization of agricultural extension services which seems to be new in the study area. Oriakhi and Okoedo-Okojie (2013) affirmed that education ease farmer's capacity to work with new ideas that will promote their production. The result on farming experience shows that a higher proportion (43.8%) of the respondents belonged to the modal class of 30-34 years with a mean farming experience of 19 years. This is an indication that the respondents have gathered reasonable years of experience which places them in better opportunity to see the need for commercialized extension system. On the

respondent's household size, the result indicates that a higher proportion (38.3%) of the respondents fell into the modal class of 1-4 years with the mean household size being 6 persons. This suggests that the respondents had a large household size that could help them reduce the pressure of hired labourers. The annual income of the respondents shows that a higher proportion (25.0%) of them respondents earned less ₦20,000 with a mean annual income of ₦54,604.17. This suggests that the respondents' annual income is very low especially when compared to the adjusted national minimum wage of ₦30,000/month. The implication of this result is that if this trend is continued, farmers may be forced out of production.

Major Crops Grown

Table 2 shows the major crops grown by the respondents. The result indicates that the major crops grown in the area were maize/yam (41.3%) and oil palm (39.6%). Other crops grown were yam (7.1%), rice (3.8%) and cocoa (0.8%). These crops are within the mandate of the agricultural extension agency in the state. It equally points to the fact that any commercialized extension system must target maize/yam as well as oil palm. The findings reveal that arable crop production is predominant in the study area. This result agrees with Oyesola and Obabire (2011), who reported noted that arable cropping is the prevailing system of farming in Delta State.



Source: Field, Data, 2015

Farmers Attitude toward Commercialized Extension Services

Table 3 shows the farmers attitude towards commercialized extension service system. The result reveals that the farmers agreed that the commercialized extension system will be more timely in their delivery (mean=3.38), that payment pay for extension services is necessary for higher farm productivity (mean=3.35), that extension workers will be more effective under the system (mean=3.35), that farmers stand to benefit more from this system in terms of income (mean=3.12), and that what farmers will pay under commercialized extension is nothing compared

to what they will gain from the system (mean=2.88). The respondents equally agreed that farmers will be charged exorbitant fees for extension services under the commercialized system (m=2.66). The result suggests that farmers are aware of the benefit of commercialized extension service. Some concerns were also expressed such as the fact that farmers will be charged exorbitant fees (m=2.66). The worry of some of the farmers is that farmers may not be able to afford the fees. However, they did note that what farmers will gain in the long run will more than compensate for cost they may invest in the commercialized extension system.

Table 3: Farmers Attitude toward Commercialized Extension Service

Statements	Mean	SD
Extension services will be timely	3.38	0.61
Payment for extension services is necessary for higher productivity	3.35	0.70
Extension workers will be more effective under commercialized extension system	3.35	0.67
Farmers' stand to benefit more from commercialized extension services	3.12	0.69
What farmers will pay under commercialized extension services is nothing compared to what they will gain from this system	2.88	0.76
Farmers' will be charged exorbitant for extension services under commercialized extension services	2.66	1.01

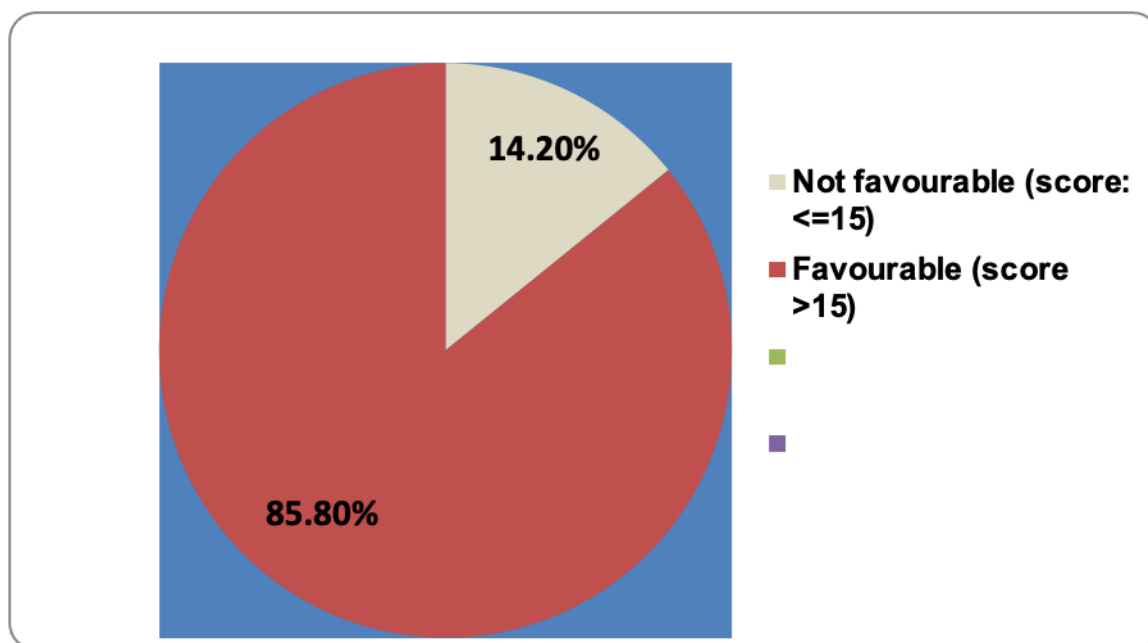
*Agreed (mean >2.50)

Field data, 2015

Categorization of the respondents based on attitude to commercialized extension system

The general results suggest that the farmers were in favour of commercialized extension system. This point is shown in Table 4.5. It shows that only 14.2% of the respondents were not in favour of commercialized extension service, while majority of the respondents (85.8%) were in

favour of it. The implication of this result is that commercialized extension system, if introduced in the study area, may likely succeed since the farmers realize the importance of such a system. This result is in line with Erie (2009), who reported that 71% of his respondents indicated that they would like an alternative agency to provide extension service to them.

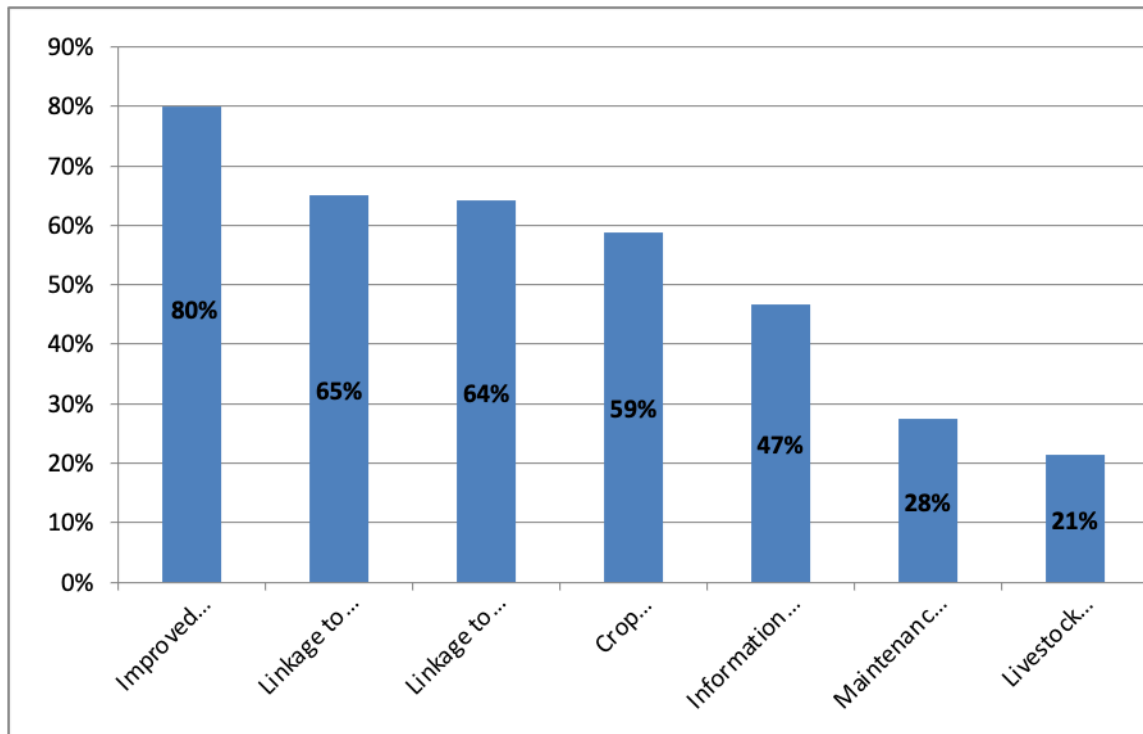


Source: Field data, 2015

Extension Services Farmers are Willing to Pay For

Fig. 3 shows the extension services the farmers are willing to pay for. The result showed that 80% of the respondents were willing to pay for improved planting materials, 65% were willing to pay for linkage to farm input supplies, 64.2% were willing to pay for linkage to markets, 58.8% were willing to pay

for crop production training, 46.7% were willing to pay for information delivery, 27.5% were willing to pay for maintenance of demonstration plots while 21.3% were willing to pay for livestock production training. The result reveals that the major services the farmers are willing to pay for are improved planting materials and linkages to input suppliers as well as potential markets.



Field data, 2015

Test of Hypothesis

Relationship between farmers' socio-economic characteristics and attitude towards commercialized extension system.

Ho₁: There is no significant relationship between farmers' socio-economic characteristics and their attitude towards a commercialized extension system.

Pearson correlation was used to test the relationship between farmers' socio-economic

characteristics and their attitude towards commercialized extension system. The results are presented in Table 4.8. The result revealed that the educational level ($r=0.449$), farming experience ($r=0.361$), income range ($r=0.298$) and sex ($r=0.605$) were significant variable or characteristics affecting the farmers attitude towards a commercialized extension system since their computed correlation values are greater than the critical r-value (0.179). The result for education ($r=0.449$) is positive,

implying that the more educated farmers were more favourable dispose towards Commercialized Extension System than the less educated farmers. This may be because educated farmer may have known the relevance of commercialized extension by virtues of education.

The result for farming experience ($r=0.361$) is positive, implying that the more experienced farmers were more favourable disposed towards commercialized extension system than those with less experience. This may be as a result of the experience their have gather from the existing extension service of the A.D.P which has not really catered for their needs.

The result for income range ($r=0.298$) is

positive. The implication is that the farmers with higher income were more favourable disposed towards commercialized extension system than farmers with less income. The result implies that farmers with higher income might be more committed to their farming activities and as a result of the higher income they are making, they tend to develop positive attitude towards commercialized extension system.

The result for sex ($r=0.605$) was positive, this implies that female farmers are more favourable disposed to a commercialized extension system than men. Male farmer may have taken their farming activities as a part-time job leaving the bulk of the farming activities in the hand of their wives.

Table 5: Relationship between farmers' socio-economic characteristics and attitude towards commercialized extension system (Correlation)

Independent variables	Attitude score		Decision
	Coefficient (r)	Prob. Level	
Age	0.082	0.208	Not significant
Educational level	-0.449**	0.000	Significant
Farming experience	0.361**	0.000	Significant
Household size	-0.064	0.320	Not significant
Income range	0.298**	0.000	Significant
Sex	-0.605**	0.000	Significant

*Significant at 5% (critical $r=0.179$)

Field data, 2015

Test of Difference in Extension Service Farmers is willing to Pay For

Ho₂: There is no significant difference among the extension services farmers are willing to pay for.

Cochran's test was used to determine the significance of the differences among extension services that the farmers are willing to pay for (Table 4.10). The Cochran's test result, which is 297.56, is significant at the 5% level. This means that significant difference existed among the extension services that the farmers are willing to pay for. The result showed that improved planting material (80%) was the

technology the farmers are significantly more willing to pay for. There is no significant difference in the farmers' willingness to pay for linkage to input supplies (65%), market linkage (64.2%) and crop production training (58.8%). Also, crop production training (58.8%) and information delivery (46.7%) showed no significant difference. However, the farmers were significantly more willing to pay for these 2 services than for maintenance of demonstration plot (27.5%) and livestock production training (21.3%). These last 2 services were the significantly least services the farmers were willing to pay for.

Table 6: Test of difference in extension service farmers are willing to pay for

Extension services	Yes	%(yes)
Improved planting materials	192 ^a	80.0
Linkage to input supplies	156 ^b	65.0
Linkage to market	154 ^b	64.2
Crop production training	141 ^{bc}	58.8
Information delivery	112 ^c	46.7
Maintenance of demonstration plots	66 ^d	27.5
Livestock production training	51 ^d	21.3

Cochran's Q-($X^2=297.56$; $df=6$; $p<0.050$)

Field data, 2015

Conclusion

The study revealed that arable crop farmers in the study area were positively disposed to commercialized extension service in arable crop production; the farmers were willing to pay for extension services presented to them. Although there were significant differences among the extension services that the farmers were willing to pay for. However, there the concern that farmer will be charged exorbitant fees which farmers may not be able to afford. Also farmers' level of educational, farming experience, income range and sex were significantly influence farmers attitude towards a commercialized extension system.

Recommendation

Based on the finding of the study, the researchers recommended that;

- Commercial extension service providers currently providing extension service on arable crop should be encouraged to extend their services to the study area. This will help to boost farmers production since the public extension services provided by the ADP has been highly criticized.
- Farmers should be encouraged to increase their production scale and embrace commercialized extension services. This will help to improve the farmers' production output interns of yield and income since the farmers' income have been revealed to be grossly low.

- Commercial extension service provider should first target extension services such as linkage to improved planting materials, linkage to farm input supply, linkage to market, crop production training, information delivery and maintenance of demonstration plot as these were the extension services the farmers were willing to pay for.

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