Farmers' Perception and Willingness to Pay for Organic Fertilizer in Delta State, Nigeria

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Abstract

Farmers in Nigeria encounter myriads of unremitting challenges in the use of inorganic fertilizer, notwithstanding the efforts of Government at different times to ensure amelioration of the challenges. Against this background, the study assessed the willingness to pay (WTP) for organic fertilizer as an alternative to inorganic fertilizer with the specific objectives of determining the level of arable crop farmers' awareness and perception of organic fertilizer, determining farmers' willingness to pay (WTP) for the product, and identifying factors that influence farmers' WTP. It was hypothesized that socio-economic factors have no significant effect on farmers' WTP for organic fertilizer. Delta State, Nigeria was the study area. A multistage sampling procedure was used to collected data from 150 farmers across the State using copies of a structured questionnaire which were analyzed using descriptive statistics (frequency counts, mean and standard deviation), contingency valuation method and logistic regression to determine the factors which influenced WTP. Among the findings was the high awareness of farmers of what organic fertilizer is and its essential qualities. Thus, they were favorably predisposed to its use. The maximum average price farmers were WTP was 522.60 Nigerian Naira (₦522.60) given the contingency factor that "organic fertilizer increases yield and is cheaper". Finally, "Organic fertilizer use experience" and "household farm income" were significant determinants of WTP. It was concluded that farmers' WTP for organic fertilizer was adequately high to justify commercial production, and recommended that further sensitization campaigns be conducted to bridge whatever information gap still exists in the use of organic fertilizer in order to strengthen farmers' commitment.

Key words: Organic fertilizer, Willingness to Pay (WTP), Contingency valuation, determinants

Introduction

The Federal Government of Nigeria (FGN) subsidizes the sale of inorganic fertilizers because of the high prices of the various types of the commodity which put them beyond the reach of the average farmer and makes them almost unaffordable in the free market. Unfortunately, the effect of subsidy on inorganic fertilizer in the free market price has been far from noticeable over the years, notwithstanding the huge budgetary outlay (Mogues *et al*., 2008). Prices remain high, and continue to rise. Worse still, the products supply is inadequate and not timely. Nagy and Edun (2002) observed that only 30 percent of subsidized fertilizers gets to the smallholder farmers at the subsidized price. The balance finds its way to the parallel market to be sold at higher prices (Banful and Olayide, 2010). Meanwhile alternative investments in competing

components of agricultural production such as infrastructure, technology and development of organized markets for agricultural products, among others, suffer. Today, these forgone investments have become more appealing in terms of perceived payoffs to stakeholders in agriculture than subsidy on inorganic fertilizers.

While Nigeria keeps tinkering with how to get over this challenge, the world's taste for agricultural products is fast shifting from produce of conventional agriculture, in which inorganic fertilizer is an input, to those of organic agriculture which relies on organic fertilizer, among other non-synthetic inputs. Produce of organic fertilizer, that is, organic products, are reported to have health advantages over products from synthetic fertilizer. For this reason, the world market is experiencing an unusually high growth in the demand for organic products. The corollary of this is that the demand for organic fertilizer is on the increase. As awareness of the health benefits associated with organic food increases, the use and demand for organic fertilizer is very likely to increase further (Piyasiri and Ariyawardana, 2002). The foregoing imply that Nigeria, a developing county which is striving to be food secure and to be competitive in global markets for agricultural produce, is striving to perfect a technology which is in obsolescence instead of gradually switching over to emerging trends in global agriculture. OMAFRA (2016) puts it that to avoid the use of synthetic fertilizer is a step in the right direction towards organic farming which is aimed at achieving a sustainable and harmonious relationship with the environment.

Given the problems associated with the supply of inorganic fertilizer, organic fertilizer comes in handy as an alternative input to enhancing crop yields. Organic fertilizers, commonly called manure, are regarded as wastes. They are generated in the course of normal economic production processes. Sources include farm residues and waste materials, such as animal and poultry droppings, green leaves through compost making, among others. That these "by products" are largely regarded as wastes accounts for the non-development of markets for them and therefore the gross under pricing where there are users who are willing to pay a fee, since the alternative is to give them out free or dump them as wastes (Lyons and Burch (2007) and face the challenge of improper disposal. To recycle these wastes into productive use in agriculture will mean recycling soil nutrients with the additional benefits of improved soil structure and a healthier and friendlier physical environment of production.

These organic wastes constitute a nuisance especially in the commercial cities where, ironically, clusters of commercial horticulture exist. Paradoxically, many horticulturists use inorganic fertilizer, a phenomenon which could imply either that farmers are not aware of the benefits associated with the use of these wastes or simply prefer the use of inorganic fertilizer for some other reasons. For the production of organic fertilizer to be at a commercial scale such that it can substitute for inorganic fertilizer effectively, it is necessary to ascertain farmers' attitude toward the product, what quantity they are likely to buy, at what price per unit, and the factors that will affect their purchase habit. These are the objectives of the study which have to do with the concept of Willingness to Pay (WTP). The determination of farmers' WTP for organic fertilizer will provide necessary input to prospective entrepreneurs to enable them reach decisions as to how the product can be made more users-oriented, and thus, facilitate the establishment and recognition of markets for the commodity. It was hypothesized that socio-economic factors do not have significant effects on farmers' WTP for organic fertilizer.

WTP may be defined as the amount of money a farmer is willing to give up in exchange for a specific quantity of organic fertilizer without affecting his utility (FAO, 2000). Freeman (2003) opines that WTP is the maximum amount of money that a farmer is willing to forgo in order to

obtain a given quantity of organic fertilizer. The concept of WTP assumes that the hitherto non-marketed organic fertilizer has an economic value which farmers would purchase, but because their perception of it is low and varies widely, it cannot be assumed that they attach any value to it, hence the need to determine the maximum amount individual farmers can forfeit in order to have the product to inform the decision of prospective entrepreneurs.

WTP may be altruistic, instrumental or induced (Leena, 2010). It is altruistic (or ethical) where the farmer has to buy the product to help sustain the business of the producer(s). The usual reason given for such purchases is "I am willing to pay because I care". It is instrumental where purchase decisions are predicated on the need to secure the private benefits imbedded in the product. The usual reason for WTP in this situation is "because I will benefit". Finally, WTP is induced where purchase is a result of pressure from the relevant environment or group. Such a buying decision would be founded on reasons such as "I am willing to pay because I am expected to". It needs to be stated, however, that these distinctions may not be water-tight as what initially may have been induced can become instrumental to achieving other goal(s). Notwithstanding the fact that instrumental WTP is obvious in this study, this type of WTP may not be an important consideration in a study, but may be useful in marketing the product.

Irrespective of what brings about the WTP for organic fertilizer, similar valuation methods apply in the determination of the price of the product, namely; the direct approach or contingency valuation method (CVM) and the indirect approach. In applying any of these two methods, the basis of pricing the product which in economics is usually the marginal value product (MVP) or opportunity cost, and the units of pricing are relevant. We applied the CVM in this study. In doing this, six different benefits from the use of organic fertilizer were presented to the farmers, one at a time, and were required to indicate their preference for organic fertilizer or inorganic fertilizer. The presentation was in two parts. The first part required a dichotomous answer of "Yes" or "No". One of such question was "Would you buy organic fertilizer, it increases yield and it is cheaper than inorganic fertilizer". If "YES", would you pay ₦1,500/50kg instead of N5,000/50kg for inorganic fertilizer? If "NO", how much are you willing to pay? I'm willing to pay ₦……. (at least ₦250). This method was patterned after Cameron and James (1987).

CVM has been widely used in similar studies. Gil *et al*. (2000) applied it in Spain to determine the WTP for organic fruits and vegetables. Misra *et al.* (1991) and Boccaletti and Nardella (2000), in that order, used CVM to analyze WTP for pesticide-free fruits and vegetables in Italy and the United States of America.

Materials and Methods

The study area, Delta State, Nigeria, is bounded by Longitudes 2^0 and 15^0 East and Latitudes 4^0 and 14^0 North of the equator. The State is divided into three agricultural zones, namely: Delta Central, Delta North and Delta South agricultural zones for administrative purposes. A multi-stage sampling procedure was used to randomly pick two Local Government Areas (LGAs) from each of the three agricultural zones. Five farming communities were thereafter randomly picked from each of the six LGAs, making a total of 30 farming communities. In the third and final stage, five farming households were randomly picked from each of the 30 communities to bring the total sample size to 150 respondents. However, due to errors in filling in the questionnaire by four (4) respondents, 146 questionnaires were used for the study.

Primary data were collected by using copies of a structured questionnaire for socio-economic characteristics of respondents, farmers' awareness of the use of organic fertilizer using a four point Likert type scale of not aware = 1, not very aware = 2 aware = 3, and very aware = 4. The mean value of the scale of 2.0 was then used to divide responses into aware and not aware. Responses above 2.0 were considered as "aware" while responses below 2.0 were classified as "not aware". The perception of farmers on the use of organic fertilizer was measured on a five point Likert scale of Strongly Disagree = 1, Disagree = 2, Uncertain = 3, Agree = 4 and Strongly Agree = 5. Data were analyzed using descriptive statistics (frequency counts, mean and standard deviation) and inferential statistics of logistic regression, to identify the factors that influence farmers' preferences, and WTP for organic fertilizer. Households were offered a single bound dichotomous choice question to indicate their willingness to pay by answering "Yes" or "No" to the specified prices.

The dependent variable was a discrete dummy variable (Willing to Pay = 1, Otherwise = 0). Logistic regression was used to identify the determinants of farmers' WTP for a specified quantity of organic fertilizer. It uses the maximum likelihood estimation (MLE) method to estimate how likely the observed values of the explained variable can be predicted from the observed values of the explanatory variables. Following Gujarati (2005), the logistic model for farmers' WTP for organic fertilizer was expressed as:

$$P(WTP) = \frac{e^{zi}}{1+e^{zi}}$$ ----------equation 1.

Or $$P(Notwilling\,topay)1 - P(WTP) = \frac{1}{1+e^{z1}}$$ ----------equation 2.

Where e = the base of the natural logarithms

Z_i = the linear combination of explanatory variables written as

$Z = \beta_0+\beta_1X_1 + \beta_2X_2 +\ldots\ldots\ldots\ldots.+ \beta_nX_n$

Equation (1) represents the (cumulative) logistic distribution function and varies between 0 and 1 as Z varies from positive infinity to negative infinity. The intercept (β_0) designate the value of WTP when all explanatory variables have zero value. The β_1 to β_n are the additive power of the odd ratio for a unit change in the n^{th} explanatory variable holding all other explanatory variables constant. The logistic model for this study was specified as follows:

$$WTP_1 = B_0 + B_1Age + B_2HHS + B_3EDU + B_4FS...B_{13}DSAT$$ ----------equation 3

Where:

Age = Age of the household head

HHS = Household size

EDU = Educational level of the household head

FS = Farm size

CTP = Dummy of crop type

FERTI = Dummy for fertility of the farm plot

INC = Last year's income of the household

EXVI = Frequency of extension visit in a year

FER = Amount of fertilizer used last year

CREA = Access to credit in the last three years
EXP = Organic Fertilizer use experience (binary)
SCA = Perception of household head about organic fertilizer use
DSAT = Dummy for Dissatisfaction with existing fertilizer distribution scheme

Results and Discussion

Socio-economic characteristics of farmers

Out of the 146 respondents, 58.20% were male, about 68.50% were married and 96.60% were farm owner-manager (see Table 1).

Table 1: Socio Economic Characteristics of Respondents

Variables	Frequency	Percentage
Marital Status:		
Married	100	68.5
Divorced	16	11.0
Widow/Widower	30	20.5
Total	**146**	**100**
Age		
37 – 41	6	4.1
42 – 46	9	6.2
47 - 51	37	25.3
52 – 56	62	42.5
57 – 61	24	16.4
62 – 66	7	4.8
67 – 71	1	7
Total	**146**	**100**
Position in the farm		
Owner non-manager	2	1.4
Owner manager	141	96.6
Supervisor	3	2.1
Total	**146**	**100**
Educational Qualification		
Non formal education	28	19.2
Primary school	55	37.7
Secondary school cert	40	27.4
NCE/ND	20	13.7
Degree/Equivalent	3	2.1
Total	**146**	**100**
Household size		
2 – 5	96	65.8
6 – 9	50	34.2
Total	**146**	**100**
Farm Income		
185,000 – 284,999	24	16.4
285,000 – 384,999	66	45.2
385,000 – 484,999	38	26.0
485,000 – 584,999	16	11.0
585,000 – 684,999	1	0.7
685,000 – 784,999	1	0.7
Total	**146**	**100**

Source: Field survey, 2016

Farmers' ages ranged from 37 to 70 years with a mean of 52 years and a standard deviation of 5.71 years. This is to say that the farming population is ageing. The implication is that policies directed at this age bracket may not subsist for too long, hence the need to re-strategize with

more emphasis on younger farmers. Concerning education, 19.20% of the farmers had no formal education. Respondents with primary school leaving certificate were in simple majority (37.70%). Ferrante and Sabatini (2007) opine that low level of education is not fit to enable the adaptation and advancement in technology in any industry. Only 15.80% (13.70% plus 2.10%) of the respondents had tertiary education.

Table 2: Level of farmers' awareness of the use of organic fertilizer

Awareness	Very aware	Aware	Not very aware	Not aware	Mean
(i). Are you aware that organic fertilizer can be used in farming?	64(43.8)	17(11.6)	63(43.2)	2(1.4)	3.29
(ii). Are you aware that organic fertilizer like inorganic fertilizer can positively improve the yield of your crops?	13(8.9)	63(43.2)	54(37.0)	16(11.0)	2.44
(iii). Are you aware of how to use organic fertilizer in farming?	23(15.8)	46(31.5)	7(4.8)	70(47.9)	1.88
(iv). Are you aware of the various types of organic fertilizer?	58(39.7)	6(4.1)	18(12.3)	64(43.8)	2.48
(v). Are you aware of the differences between the types of organic fertilizer?	15(10.3)	61(41.8)	25(17.1)	45(30.8)	2.07
(vi). Are you aware of the sources of information on the use of organic fertilizer?	74(50.7)	11(7.5)	52(35.6)	9(6.2)	1.69
(vii). Are you aware of the types of crops in which organic fertilizer can be applied?	1(0.7)	72(49.3)	23(15.8)	50(34.2)	1.83
(viii). Are you aware that organic fertilizer are more readily available than inorganic fertilizer?	22(15.1)	117(80.1)	4(2.7)	3(2.1)	2.31
(ix). Are you aware of the various sources in which organic fertilizer can be purchased for use in the farm?	32(21.9)	78(53.4)	10(6.8)	26(17.8)	2.33
(x). Are you aware of the quality differences between crops cultivated with organic fertilizer and crops cultivated with inorganic fertilizers?	12(8.2)	9(6.2)	27(18.5)	98(67.1)	1.68
(xi). Are you aware that people prefer crops frown with organic fertilizer to crops grown with inorganic fertilizer?	6(4.1)	38(26.0)	65(44.5)	37(25.3)	2.27
(xii). Are you aware that organic fertilizer can be bought and sold like inorganic fertilizer?	99(67.8)	20(13.7)	17(11.6)	10(6.8)	3.40
(xiii). Are you aware that some farmers consider organic fertilizer as waste and as such are not prepared to buy it?	73(50.0)	5(3.4)	1(.7)	67(45.9)	2.55
(xiv). Are you aware that it will cost you less to use organic fertilizer than inorganic fertilizers?	51(34.9)	21(14.4)	10(6.8)	64(43.8)	2.33
(xv). Are you aware of the qualities of a good organic fertilizer?	7(4.8)	7(4.8)	57(39.0)	75(51.4)	1.97
Grand mean					**2.30**

Source: Field survey, 2016

Note: Figures in bracket are percentages.

Table 1 also revealed that household size ranged from two to nine persons with a mean of five persons. Farm income ranged from ₦185,000 – ₦784,999 per annum, with a mean of

₦363,000. The lowest farmers' income of ₦15416.67 per month (₦185000/12) fell short of the national minimum wage of N19, 500.00 per month.

Arable Crop Farmers' Awareness of the Use of Organic fertilizer

Table 2 contains 15 items by which farmers' awareness of the use of organic fertilizer was assessed. Farmers scored above a simple average of "2" in 10 of the 15 items. Scores in item "i" (Are you aware that organic fertilizer can be used in farming) and item "xii" (Are you aware that organic fertilizer can be bought and sold like inorganic fertilizer?) were particularly high. These indicate that there is a good foundation for the commercial production of organic fertilizer. However, awareness on the application (item iii) and source of information on its use (item vi) were particularly low (Table 2). This points to the need for extension services to educate farmers in these particular items where level of awareness were low.

Farmers' Perception of the use of Organic Fertilizer

Scores on farmers' perception of the use of organic fertilizer are generally high (Table 3). The mean scores of the negative questions (questions ii, iii and iv), which are low in terms of value are in favour of the use of organic fertilizer. For item (ii), it suggests that cash crunch is not the reason for farmers not using organic fertilizer. Farmers have the desire to use organic fertilizer irrespective of financial position. Hence the reason(s) for farmers not using the product should be traced to other factors. The relatively low average score in item (iv) has a similar implication.

Of particular importance and relevance are item (i) which showed farmers' preference of organic fertilizer to inorganic fertilizer, and item (vii) which indicated the relative ease with which organic fertilizer could be applied. The implication is that with proper sensitization and education, there is good prospect for the commercial production of organic fertilizer in Delta State.

The relatively low mean score of 2.45 on item (iii), which is that organic fertilizer is used where the availability of inorganic fertilizer is doubtful, implies the rejection of that statement. In other words, farmers who use organic fertilizer would do so notwithstanding the availability of inorganic fertilizer. Hence the type of fertilizer a farmer uses is not determined by circumstance, but by preference. Put differently, farmers will go for organic fertilizer even when the supply of inorganic fertilizer is guaranteed. Farmers' response to statement (iv) again is in consonance with the intent and spirit of statement (iii). Apparently, farmers already have some good knowledge of the merits and demerits of organic fertilizer. This is implied by the relatively high mean scores for statements (v) to (viii). It is therefore likely that with some enlightenment and education by relevant agents, farmers would become advocates of the use of organic fertilizer.

Contingency Factors and Willingness to Pay

Table 4 shows that most farmers (91.10%) already used organic fertilizer, though at different frequencies. To expect 100% usage will be to expect too much. There should be room for individual differences. This notwithstanding, it is expected that with commercial production of organic fertilizer and every supporting facility put in place, a good number of the responses in Table 4 could improve to higher frequencies of use such as "Always" .

Table 3: Perception on the use of organic fertilizers

Perception	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Mean
(i). I prefer organic fertilizer to inorganic	10(6.8)	14(9.6)	8(5.6)	36(24.7)	78(53.4)	4.08
(ii). Organic fertilizer is an alternative to inorganic fertilizer where farm income is low.	58(39.7)	42(28.8)	29(19.9)	10(6.8)	7(4.8)	2.08
(iii). Organic fertilizer is a substitute where the availability of inorganic fertilizer is doubtful	18(12.3)	88(60.3)	14(9.6)	9(6.2)	17(11.6)	2.45
(iv). Organic fertilizer is used where the farm is too small to justify additional cost by way of inorganic fertilizer	40(27.4)	78(53.4)	3(2.1)	4(2.7)	21(14.4)	2.23
(v). Organic fertilizer is readily available compared to inorganic fertilizer	10(6.8)	14(9.6)	7(4.8)	27(18.5)	88(60.3)	4.16
(vi). Organic fertilizer is bulkier than inorganic fertilizer	6(4.1)	15(10.3)	17(11.6)	35(24.0)	73(50.0)	4.05
(vii). Organic fertilizer is easier to apply than inorganic fertilizer	13(8.9)	14(9.6)	18(12.3)	46(31.5)	55(37.7)	3.79
(viii). Organic fertilizer is more friendly environmentally than inorganic fertilizer	15(10.3)	23(15.8)	5(3.4)	37(25.3)	66(45.3)	3.79

Table 4: Level of use of Organic fertilizer by Crop Farmers

Level	Frequency	Percentage
Very often	35	24.0
Often	47	32.2
Not very often	11	7.5
Not often	40	27.4
Does not use	13	8.9
Total	**146**	**100**

Source: Field survey, 2016

Table 5 shows the contingency factors which influence farmers' WTP for organic fertilizer using the valuation methods. All the farmers indicated ("Yes") that they would buy organic fertilizer given all the six factors, but they were not willing to pay the asking price in any. These questions were asked to enable the researchers identify factors that would attract farmers the most, and for which he/she would be willing to pay a premium or maximum price.

As expected, the maximum price individual farmers were willing to offer varied widely, ranging from four hundred to six hundred Nigerian naira (₦400.00 to (₦600.00). The contingency factors (i) "increases yield and cheaper than inorganic fertilizer" and (ii) "it is readily available and as effective in crop production" attracted the highest price farmers were willing to pay. A close look at these responses will reveal that they indicate solution to the key challenges to the use of inorganic fertilizer namely, those of prohibitive high cost and non

availability. Hence these two factors could be adopted as the winning features of organic fertilizer. Farmers attached relatively low importance to technical issues statements such as "vi", "easier to use" which could reflect the fact that they were familiar with the product as suggested in Table 4. Responses to other contingency factors appear in Table 5.

Table 5. WTP for organic fertilizer per 50kg by contingency factors Nigerian Naira (₦)

Contingency factor	*Call price	Lowest price	Highest price	Average price	Standard deviation
(i). It increases yield and it is cheaper than inorganic fertilizer.	1500.00	400.00(4.80)	600.00(27.40)	522.60	52.22
(ii). It is readily available and as effective in crop production.	1300.00	400.00(14.40)	600.00 (1.40)	486.99	37.63
(iii). Its produce are in higher demand than those from inorganic fertilizer.	1100.00	400.00(36.30)	500.00(63.70)	463.70	48.25
(iv). More friendly environmentally and it increases farm profitability.	900.00	400.00(86.30)	500.00(13.70)	413.70	34.50
(v). Cheaper than inorganic fertilizer and reduces production cost.	700.00	400.00(98.60)	500.00(1.40)	403.42	18.24
(vi). Easier to use and increases farm productivity.	700.00	400.00(96.60)	500.00(3.40)	401.37	11.66

Source: Field survey, 2016
*Call Price/50kg as against N5000.00/50kg for inorganic fertilizer

Figures in bracket are percentage of farmers. They do not add up to 100% since there were responses in between the lowest and highest WTP.

The price response to all six contingency factors indicate that famers have some idea of the price range of organic fertilizer, since all the WTP ranged from four hundred naira (₦400.00) to five or six hundred naira (₦500.00 or ₦600.00). This has implication for the pricing strategy that may be adopted for the product by way of floor and ceiling prices. In any case, policy instruments can be used to push up the maximum price farmers are willing to pay

Determinants of WTP for Organic fertilizer

Apart from contingency factors, socio-economic factors were also applied to identify factors that can influence the WTP for organic fertilizer using logistic regression. The result is shown in Table 6. The logistic regression results had a pseudo R^2 of 0.38, that is, 38% of the variation in farmers' WTP for organic fertilizers was explained by the explanatory variables. Age, marital status, distribution system were inversely related to the WTP for organic fertilizer while sex, household size, educational level, religion, fertilizer use experience, farm household income and access to credit had a positive relationship with the WTP for organic fertilizer, only two of these explanatory variables were significant and positively related to WTP for organic fertilizer namely; organic fertilizer use experience and household farm income. Both of which were significant at 5% critical level. Experience brings knowledge and understanding.

Table 6: Factors influencing Willingness to Pay for organic fertilizer

Explanatory variables	β	S.E	Wald	df	Sig.	Exp (β)
Constant	-1.76	3.498	.254	1	.62	.172
Age	-.039	.082	.230	1	.06	.961
Sex	0.309	.544	.322	1	.57	1.362
Marital Status	-.026	.671	3.117	2	.10	2.468
Household size	.011	.233	.002	1	.96	.989
Educational level	.625	1.425	1.053	4	.24	.902
Religion	.743	.954	1.049	2	.59	2.079
Organic fertilizer use experience	.099	.073	1.814	1	.03*	1.104
Household farm income	1.036	1.393	.553	1	.02*	2.676
Access to credit	.342	.434	.621	1	.43	.710
Dissatisfaction with fertilizer distribution system	-.136	.578	.055	1	.81	1.146

Number of observations = 146; Pseudo R^2 = 0.38; *Significant at 5% level
Log likelihood = 148.80

The implication is that households which have experience in the use of organic fertilizer are in a better position to know the benefits derivable from the application of the input and are in a better position to tell whether to use it again or not. This finding corroborates that of Liu *et al*. (2009) who pointed out that WTP is positively impacted by the level of knowledge consumers have of food safety. In other words, the testimony of users of organic fertilizer will be essential in the promotion of the use of the product. That income is positively related to the WTP for organic fertilizer indicates that organic fertilizer is not an inferior good and may also suggest that farmers are in increasing search of ways to reduce cost of farm production as much as possible. This stands together with the basic economic principle of cost minimization.

Conclusion

There are indications that organic fertilizer is not new to farmers in the study area since awareness was above average on a four points scale and perception on the use of the product was also above average on a five point likert scale. Awareness on source of information on the use of organic fertilizer is however low. A hundred per cent (100%) of the farmers were willing to buy the product but not at the price offered. Contingency factors such as "it increases yield and it is cheaper than inorganic fertilizer" attract the highest mean WTP. Organic fertilizer use experience and income were positive significant determinants of organic fertilizer use. Taking cognizance of the fact that the demand for organic produce is on the increase worldwide coupled with farmers preference for organic fertilizer irrespective of income level we concluded that the production of organic fertilizer on a commercial scale has good prospect and recommend that further awareness campaign should be conducted to bridge whatever information gap there might be in the use of organic fertilizer in order to strengthen farmers' resolve.

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