WILLINGNESS OF FARMERS TO PARTICIPATE IN FARMERS’ GROUPS

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ABSTRACT

This study was carried out in Delta State, Nigeria to determine the factors that influence the propensity of farmers to subscribe to farmers' groups. One hundred and fifty farmers were randomly selected and data were collected from them with the application of questionnaire and interview schedule. The data were treated with the use of description statistics and Tobit regression Analysis. Subscription to membership of farmers' groups was found to be poor as evidenced in the subscription index (0.427). Marital status of farmers, educational level, household size, farm size, farming experience, extension visits and contacts with other farmers were discovered to be correlates of propensity of farmers to subscribe to self-help groups. It is recommended that extension agencies sensitize the leadership of such groups about the need to satisfy members first; organize leadership training for such leaders; and re-orient farmers on the benefit of farmers' self-help groups.

Keywords: Self-help, Social capital, Delta State, Nigeria, Extension.

INTRODUCTION

Farmers' groups are regarded as instrumental social groups. Ofuoku and Chukwuji (2012) opine that these farmers groups may be regarded as socio-economic groups. These groups may be so regarded because they are formed to accomplish some common social and economic goals in relation to their farming activities. Farmers subscribe to such groups because they can use such membership to accomplish their social and economic goals. According to Iwala et al (2006), agriculture is a sure pathway towards poverty reduction improved income distribution, diversification and rapid industrialization.
Farmers subscribe to membership of farmers groups for access to credit facilities. In such groups, members harness their financial resources for the benefit of members (Ofuoku et al. 2008). These groups also create access to agricultural information for members. As a result of the small number of field extension agents, extension activities are current carried out in groups (Ofuoku and Urang, 2008). In their study, Ofuoku and Urang (2009) discovered that the most important reasons for subscription to such farmers' groups is access to credit facilities and extension information.

Ofuoku and Chukwuji (2012) observed that farmer' groups in Delta State experienced growth between 2002 and 2006, but between 2007 and 2011, they started experiencing a decreasing trend in the membership. This implies that they lost members either as a result of death or dissatisfaction. Individual members have needs which they want to satisfy through membership of such groups. Ofuoku et al. (2008), Ofuoku and Urang (2009) assert that farmers would like to remain in their various groups if their needs are satisfied by the group.

No reaction takes place in a vacuum. Lack of transparency on the part of group leadership is another factor that has discouraged people to subscribe to farmers' groups (Ofuoku et al. 2008). There are situations that prompt people into reacting in certain manner. Farmers, in reaction to their situations are motivated to take some decisions and act on them. The question to be asked now is on what moves farmers to subscribe to membership of farmers' groups. These groups are formed to promote economic activities of the members. Through these specialized groups the members are able to access information and ideas. This implies that the various groups are clearing houses for information and ideas among the members. They also have access to extension contact as there is inadequate number of field extension agents to have individual contact with farmers. Through these groups, farmers are able to access credit, since it is cumbersome for them to access such credit facilities from banks and other formal sources of credit.

Our society is made up of many groups and we function in groups. These groups include family, ethnic, religious, political clubs and national groups( Ofuoku and Chukwuji, 2012). Recent years have witnessed the formation of groups among farmers. These groups
include farmers' cooperatives, farmers association, farmers' unions, etc. These farmers' groups are considered as self-help groups. These farmers' groups may be regarded as socio-economic groups. They may be regarded as such because they are developed to accomplish some common social and economic goals in relation to their farming activities. The achievement of their common social and economic goals translates into enhancement of their standard of living.

Agriculture is a sure pathway towards reduction of poverty, improved income distribution, rapid industrialization and diversification of foreign exchange earnings (Iwala et al. 2006). There are some functions that cannot be carried out alone individually, but can be carried out in groups (Ofuoku and Chukwuji, 2012). For instance, these groups may represent a source of credit facilities for the members. According to Ofuoku et al. (2008), in such groups members harness their financial resource for the benefit of members. These groups also constitute access to agricultural information. Ofuoku and Urang (2009) found that the most important reasons for subscribing to such farmers' groups is access to credit facilities and information.

Farmers' willingness to subscribe to groups is expected to be influenced by certain factors that are more or less socio-economic in nature. Jensen et al. (2012) observed positive significant relationship between poultry farmers' willingness to participate in energy audit and their socio-economic characteristics. Previous studies show that farm size positively affects farmers' willingness to adopt, for example, environmentally beneficial practices (Chang and Boisvert 2005; Fernandez-Cornejo, Beach and Huang 1994; Hua, Zulauf and Sohngen 2004; Ladue, Miller and Kwiatkowski 1990; Upadhyay, Young, Wang and Wandschneider 2002). Willingness to adopt best management practices on poultry operations is positively influenced by farm income (Paudel and Devkota 2007). Educational attainment also influences farmers' willingness to apply best management practices (Chang and Boisvert 2005; Drost, Long and Hale, 1998; Ladue, Miller and Kwiatkowski 1990; Obubuafio, Gillespie, Paudel and Kim, 2008; Paudel and Devkota 2007). These socio-economic factors are very important in the life of farmers as the afore mentioned dependent variables have revealed. The same way, they will influence farmers'
willingness to subscribe to farmers' groups. Farmers are engaged in decision making on a daily basis to settle questions which arise from the day-to-day and season to season operations of the farm (Agbamu 2006). Similarly they are involved in decision making as a result of their daily experiences on their farms (Ofuoku et al. 2011). This implies mental confrontation with the structure of ideas, problems and the settlement of these issues into concrete action guidelines or actionable opinions (Ofuoku et al. 2008). This entails taking into consideration all factors, whether the farms' production and social environment; making choices, discriminating on the basis of feasibility, and have identified consequences for alternative actions.

Farmers' propensity to subscribe to farmers' groups is influenced by the challenges they confront in their farming business. In the course, the farmer's sources of information fundamentally determine their decisions. According to Agbamu (2006), the sources of information and acquired knowledge from those sources constitute the bedrock on which farmers base their decisions. Consequently the sources of information which farmers rely on to improve their production level gird the theoretical issues in decision making of the farmers.

The socio-economic characteristics of the farmers are very important as they contribute enormously to propensity to subscribe to farmers' self-help groups. The benefits of subscribing to farmers' groups will be attained if the farmers do not encounter challenges in decision making. The conceptual framework for analyzing decision making is therefore gender, marital status, educational level, household size, farm size, farming experience, extension contact, and contact with other farmers. A farmer's decision for or against subscription to farmers' group can be described as a mental process, consisting of several stages. Such activity will provide firm knowledge on which action could be based, with regard to persuading farmers (Ofuoku et al. 2011) to try group membership, to provide the information necessary for actual action, and provide information needed to access results of decisions and hopefully to confirm it.

**METHODOLOGY**

This study was conducted to determine the factors that influence the propensity of farmers to subscribe to membership of farmers'
groups in Delta State, Nigeria and specifically to determine the group's membership status of farmers and identify the factors that influence farmers' propensity to subscribe to farmers' groups. It is therefore hypothesized that the socio-economic characteristics of farmers do not significantly influence their propensity to subscribe to farmers' groups. The three agricultural zones of Delta State Agricultural Development programme (DTADP) were used. A multi-stage random sampling technique was used to select the sample size.

First, two local government areas were selected from each of the three zones resulting in the selection of six local government areas for the purpose of this study. Secondly, 25 farmers were randomly selected from the list of registered farmers in the selected local government area. The list was accessed at the three DTADP zone offices. This resulted to the selection of 150 farmers.

Data were collected from the respondents with the use of structured interview schedule administered to less formally educated respondents and those who had no formal education, while questionnaire was used for those who had reasonable level of formal education. The data collected were treated with the use of descriptive statistics such as frequency counts and percentages. The hypothesis was addressed with the application of Tobit model to estimate the propensity of farmers to exhibit farmers' group membership subscription behavior. Group membership index was computed by dividing the grand mean (overall) membership score by the number of membership stages.

The decision to subscribe to farmers groups embodies both the socio-economic characteristics of the farmers, the endogenous (the characteristics and benefits of group membership) and the exogenous (institutional characteristics of the farmers' groups) such that the observed subscription to farmers group is hypothesized to be and result of these farmers' socio-system continuum.

In order to achieve the objectives of this study, the Tobit model was used to estimate farmers' propensity to exhibit subscription behavior. The Tobit model originally developed by Tobit (1958) is expressed thus:

\[ Y = X\beta + E \]
Where $\beta$ is a vector of unknown coefficients, $X$ is a vector of independent variables, and $E$ is an error term that is assumed to be independently distributed with mean zero and a variance of 52. $Y$ is a latent variable that is observable. If data for the dependent variable is above the limiting factor, zero in this case, $Y$ is observed as a continuous variable. If $Y$ is at the limiting factors, it is held at zero. This relationship is presented mathematically in the following two equations:

$$Y = Y^* \text{ if } Y^* > Y_0,$$
$$Y = 0 \text{ if } Y^* < Y_0$$

Where $Y_0$ is the limiting factor.

These two equations represent a censored distribution of the data. The Tobit model can be used to estimate the expected value $Y_1$ as a function of a set of explanatory variables ($X$) weighted by the probability that $Y_1 > 0$ (Tobit, 1958; Long and Freese, 2006). The expected intensity of subscription to farmers' group, $E(Y)$ is:

$$E(Y) = X\beta F(Z) + 6F(Z) \text{ and } Z = X\beta/6.$$

Where $F(Z)$ is the cumulative normal distribution of $z$, $f(z)$ is the value of the derivative of the normal curve at a given point (unit normal density), $z$ is the z-score for the area under normal curve, and is the standard error of the error (Oladele, 2005). The coefficients for variables in the model, $\beta$, do not represent marginal effects directly, but the sign of the coefficient will give the researcher with respect to the direction of the effect. The definition of variables utilized in the estimation of the Tobit model is as follows:

$Y =$ farmers' propensity to subscribe to farmers' groups (Yes = 1, No = 0)
$X_1 =$ Gender (Married = 1, female = 0)
$X_2 =$ Marital status (married = 1, otherwise = 0)
$X_3 =$ level of education (tertiary = 3, secondary = 2, primary =1, none = 0)
$X_4 =$ household size (7-9 people =2; 4-6 =1; 1-3=0)
$X_5 =$ farm size (>6ha=3; 5-6ha = 2; 3-4ha =1; <3ha = 0)
$X_6 =$ farming experience (>20yrs =4; 16 -20 = 3; 11-15=2; 6-10 =1, 5 and below =0)
$X_7 =$ Extension visit (yes = 1; no =0)
$X_8 =$ contact with other farmers (Yes = 1; no =0)

RESULTS AND DISCUSSION
Group Membership Status of Farmers

Many farmers had not subscribed to farmers' groups yet (Table 1), while some had withdrawn their membership. The subscription index of 0.427 implies that 42.7% of the farmers subscribed to groups. The subscription rate is poor, considering the benefits farmers could have to gain from such groups. The low subscription levels, according to the respondents, were prompted by the experience of those who withdrew from the groups. Members became dissatisfied because the leadership of many of the groups was not transparent and as such, subscribed to alternative groups. Other reasons given include lack of access to credit when needed and inadequate dissemination of notice of meetings of the groups and group meetings with extension agents. This is congruent with Ofuoku and Chukwuji (2012) who observed that most groups experienced loss of members due to dissatisfaction. Farmers would like to remain in their various groups if their needs are satisfied (Ofuoku and Urang 2009). Once the individual farmers' needs are satisfied the group remains cohesive. Cohesiveness is the extent to which members of a group want to continue as members of the group. Members of these farmers' groups subscribe to them for the reason of accessing credit, cheap inputs and extension information. The reason for dissatisfaction and less of membership is attributed to weakness of the leadership. Ogionwo and Eke (1999) suggest that democratic leadership which facilitates group's performance and attainment of group and individual goals enhance group cohesiveness.

Table 1 - Distribution of farmers (%) according to group membership subscription

<table>
<thead>
<tr>
<th>Stages</th>
<th>Cassava Association (n = 38)</th>
<th>Yam Association (n = 38)</th>
<th>Fish Association (n = 37)</th>
<th>Poultry Association (n = 37)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness</td>
<td>14.2</td>
<td>10.4</td>
<td>3.4</td>
<td>6.6</td>
</tr>
<tr>
<td>Interest</td>
<td>7.4</td>
<td>22.6</td>
<td>18.2</td>
<td>13.4</td>
</tr>
<tr>
<td>Evaluation</td>
<td>29.0</td>
<td>24.6</td>
<td>22.6</td>
<td>18.0</td>
</tr>
<tr>
<td>Trial (probation)</td>
<td>33.1</td>
<td>10.2</td>
<td>16.4</td>
<td>22.8</td>
</tr>
<tr>
<td>Subscription</td>
<td>16.3</td>
<td>15.0</td>
<td>18.6</td>
<td>30.4</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>0</td>
<td>12.8</td>
<td>12.8</td>
<td>6.2</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>95.6</td>
<td>92.0</td>
<td>97.4</td>
</tr>
<tr>
<td>Mean adoption score</td>
<td>2.63</td>
<td>2.50</td>
<td>2.49</td>
<td>2.63</td>
</tr>
</tbody>
</table>

Mean of means (Grand mean) membership score = 2.56
Membership index = 0.427
Estimation of farmers' willingness to subscribe to farmers' group

The results of the Tobit model of farmers' propensity to subscribe to farmers' groups (Table 2) indicate that seven of the socio-economic variables significantly influence the propensity of farmers to subscribe to farmers' groups. These include marital status, educational level, household size, farm size, farming experience, extension contact and contact with other farmers.

Marital status ($X_2$) is correlated with the propensity of farmers to subscribe to farmers' groups at 0.05 level of significance. This is in consonance with a priori expectation. This implies that one of the factors that enhance the propensity of farmers to subscribe to farmers' groups is marital status. Marriage means added responsibilities. With this added responsibility, the average farmer seeks for ways to enhance his farming business through regular extension contact and access to farm related information, credit, exchange of ideas and access to cheap input.

Educational level ($X_3$) positively and significantly correlated with propensity of farmers to join farmers' groups. This is congruent with a priori expectation. Educated farmers reason progressively and they behave progressively also. Formal education enhances the farmer's comprehension of the importance of farmers' self-help groups. According to Agbamu, (2006), formal education enables farmers to obtain useful information from bulletins, agriculture newsletters and other sources. Once farmer access groups related information, they understand the functioning of such groups. This understanding of the groups helps the decision of farmers to subscribe to such groups. In other studies, educational attainment was also found to influence farmers' willingness to apply best management practices (Chang and Boisvert 2005; Drost, Long and Hale 1998; Ladue, Miller and Kwiatkowski 1990; Obubuafo, Gillespie, Paudel and Kim, 2008; Paudel and Devkota, 2007). This implies that education is an important variable in the farmers' decision making process.

Also household size ($X_4$) significantly influences the propensity of farmers to join farmers' groups at 0.01 level of significance. Smaller the household size, the lower the propensity of farmers to join farmers' groups and the larger the family size is, the higher the propensity to join a groups. With the responsibility to the family
that the farmers bear, they are bound to subscribe to farmers’ groups in order to enhance their productivity. The larger the household size, the higher the income required to cater for the family.

Farm size ($X_1$) had positive correlation with propensity of farmers to subscribe to farmers’ groups at 0.01 level of significance. The farmers with larger farms more readily subscribe to farmers groups.

Farming experience ($X_6$) also influences propensity of farmers to subscribe to farmers' groups. More years of farming experience of the farmer results in better understanding of the intricacies of farmers' groups, thus a better appreciation of farmers' groups. With experience farmers are more likely to perceive the benefits and importance of farmers' group membership. In another way with increased experience in the business of farming, farmers appreciate the need to join farmers group in order to mitigate some challenges they contend with better.

Extension visit ($X_7$) significantly influenced the propensity of farmers to join farmers groups at 0.05 level of significance. This emanates from the fact that the more extension agents visit farmers and educate them on the need to subscribe to membership of farmers' groups, the better they understand and take decision to subscribe to such groups. Eze et al. (2006), Ofuoku et al. (2008) suggest that the frequency of extension contact influences the behavior of farmers.

Contact with other farmers ($X_8$) had significant relationship with the propensity of farmers to subscribe to farmers groups. This is in agreement with a priori expectation. It implies that increase in contact with other farmers would result to increased likelihood to subscribe to membership of farmers' groups and the need to join one. Ofuoku and Urang (2009), Ofuoku et al. (2008) observed that farmers subscribe to various farmers' groups for the reasons of accessing extension service, credit, exchange of ideas/experiences and access to inputs. More frequent contact with these other farmers made these farmers to have great influence on their thoughts and attitude towards farmers' self-help groups.
Table 2 - Estimated Tobit Model of farmers' propensity to subscribe to groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Z-statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.59864</td>
<td>0.767</td>
</tr>
<tr>
<td>Gender (X₁)</td>
<td>0.21316</td>
<td>1.418</td>
</tr>
<tr>
<td>Marital Status (X₂)</td>
<td>-0.00082</td>
<td>-2.100**</td>
</tr>
<tr>
<td>Educational level (X₃)</td>
<td>0.06985</td>
<td>1.852*</td>
</tr>
<tr>
<td>Household size (X₄)</td>
<td>-0.14641</td>
<td>-3.326***</td>
</tr>
<tr>
<td>Farming Size</td>
<td>0.25512</td>
<td>2.732***</td>
</tr>
<tr>
<td>Farming experience (X₅)</td>
<td>0.81512</td>
<td>1.817*</td>
</tr>
<tr>
<td>Estimation visit (X₆)</td>
<td>0.54851</td>
<td>2.978**</td>
</tr>
<tr>
<td>Contact with other farmers (X₇)</td>
<td>0.83522</td>
<td>2.526***</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-52.13552</td>
<td></td>
</tr>
<tr>
<td>Standard error of regression</td>
<td>0.00103</td>
<td></td>
</tr>
</tbody>
</table>

CONCLUSIONS AND RECOMMENDATIONS
Subscription of farmers to self-help groups is still low. This is confirmed by the low subscription index of 0.427. Marital status, educational level, household size and farm size of farmers were found to be correlates of farmers' propensity to subscribe to farmers' self-help groups. Other variables positively correlated were farming experience, extension visit and contact with other farmers. Gender did not prove to be a correlate of the propensity of farmers to subscribe to farmers' self-help groups.

Farmers with little or no formal education should be encouraged to improve themselves through formal education taking advantage of the adult education programme of the state as education is found to be a correlate of farmers' willingness to subscribe to farmers' groups.

Group extension visit and contact with other farmers should be encouraged since they are determinants of farmers' willingness to take part in farmers' groups.

Since the poor quality of leadership has emerged as one of the major complaints of the respondents, though not captured as an objective by this study, it should be considered in future studies.
REFERENCES


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