Investigating the Interest of Farmers and Insurance Companies in Farm Insurance: The Case of Cocoa Farmers in Sekyere West Municipal of Ghana

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Abstract
The study examined interest of farmers and insurance companies in farm insurance. The sample consisted of 110 respondents; 100 farmers and 10 insurance companies. The Probit model was used to analyse the effect of factors affecting the willingness of cocoa farmers to accept farm insurance. All of the respondents had ever heard of one or more types of insurance whiles 32% had knowledge of farm insurance. About 87% indicated their interest in farm insurance. The t-statistic results showed that other occupation of farmer (-0.200, p=0.097), farm size (1.96, p = 0.050) and owner of land for farming (-0.41, p = 0.011) significantly affected willingness to accept farm insurance policies. For a realistic farm insurance policy, it is recommended that land availability for farmers must be largely considered.

Keywords: Cocoa, Farmers, Insurance, Interest, Willingness to accept

1. Introduction
Agriculture contributes an average of 36.1% to Ghana’s GDP, employs about 70% of the working force and contributes 50% of the country’s foreign exchange earnings (Ayis, 2008). The cocoa sector contributes about 3.4% to total gross domestic product annually. Its development is considered as the foundation of industrial development and consequently of the country’s overall economic development. Ghana’s export structure remains highly concentrated with cocoa and gold accounting for about 71% of exports of goods. This makes the country very vulnerable to external shocks, such as a decline in prices or export volumes.

Cocoa has been a commodity in the world market for nearly 400 years. The first exports were from Mexico to Spain. Soon Venezuela became the principal exporter and apparently held the position for 100 years. Ecuador became the principal exporter around 1830 and held the position for some 60 years. Brazil overtook Ecuador but 20 years later, the position was taken by a West African country. The Gold Coast (now Ghana) became the
principal exporter in 1911 and held this position for 66 years, only ceding it to Cote d’Ivoire in the late 1970s (Krishna, 2007).

Knowing all the tremendous contributions from the agricultural sector, it will be very prudent to safeguard its future against unforeseen circumstances, since a major failure in this sector will affect the country’s economy adversely. Quagrainie (2006) suggested that the financial consequences of many adverse events such as loss of life, medical expenses, auto accidents, casualty losses and weather damage can be reduced by using insurance.

The term insurance is where a contract is signed between two parties in which one party called insurer undertakes an exchange called premium to pay the other party a fixed amount of money on the occurrence of an unforeseen event (Adams, 1995). The uncertainty surrounding potential losses is known as risk. Insurance offers a way for people to replace risk with known costs (the costs of buying and maintaining insurance policies). Insurance pools (combines) risks shared by many people, thereby reducing the risks faced by a group. People pay to buy insurance coverage (protection from risk) which in exchange receives a promise that the group of policy holders as represented by the insurance organisation will pay when any policyholder experiences a covered loss.

Ghana has experienced two major natural disasters over the past years that have affected agricultural activities. These disasters have been both of a slow onset (agricultural drought) and rapid onset (flash flooding), these adverse conditions led to extensive damage of farm land and loss of life in the affected areas (Agyemang, 2010). In the 1983, there was a mass destruction of cocoa plants in and around the country due to the cocoa swollen shoot disease and bush fire. Cocoa farmers lost almost the value of their entire investments.

Generally, several factors induce a farmer to insure his or her cocoa farm. These factors can be categorised under natural occurrences (flood, drought and bushfires) and farmer’s socio-economic factors like income, education, land size etc. A farmer’s perception about insurance policies stems from the frequent occurrence of natural disasters. Farmers in disaster prone areas would always have the desire to insure their farms because cocoa yield is susceptible to several hazards especially in developing countries. These hazards when explained in terms of yield risk are identified with the factors affecting the willingness of cocoa farmers to insure their farms (Cohen and Sebstad, 2003; Duncan and Myers, 2000). This notwithstanding, the interest to insure a particular farm is ideologically linked with a farmer’s sensitization on farm insurance policies. That is, the likelihood of a farmer accepting to insure the farm depends on the farmer’s perception of already existing insurance policies (USDA, 2001).

Farmers can either be motivated by prevailing insurance policies or be deterred by these policies from insuring their farms. Cocoa yield is susceptible to several hazards (diseases). These hazards when explained in terms of yield risk are identified with the factors affecting the willingness of cocoa farmers to insure their farms (Quagrainie, 2006; Christiansen and Boisvert, 2000).

All this while, very little has been done about protecting the future of the cocoa industry against future uncertainties. With this low or no farm insurance package (s), cocoa farmers and the entire country might not be secured because disaster of any type can happen at any time. The question to ask is “are insurance packages necessary to sustain Ghana’s agriculture particularly the cocoa sector”. Therefore in order to sustain the cocoa industry, a research of this type is very prudent.

2. Research questions

This study seeks to answer the following questions:

What are farmers’ general perceptions of farm insurance policies?
What factors influence farmers’ acceptance of farm insurance policies?
What are the effects of the factors affecting the willingness of cocoa farmers’ to insure their farms?
Are insurance companies interested in farm insurance?
What challenges are being faced by farmers in insuring their cocoa farms?

3. Methodology

3.1 Planning and Development of the Survey

The Sekyere West Municipal is located on the South Western part of Ghana and North East from Kumasi, Ashanti regional capital. It is bounded to the North by Atebubu District in nearby Brong Ahafo Region, East by Sekyere Central, Afigya Sekyere to the South and Ejura-Sekyere Dumasi to the West. It lies within latitude 0.50 degrees west and 1.30 degrees west and longitude 6.55 degrees north and 7.30 degrees north. (Meteorological
Station, Ashanti Mampong) It covers a total land area of 782 km² with 69 settlements, about 58% rural (Ghana Districts, 2010).

Cocoa farmers in the Sekyere West Municipality and Insurance Companies in the Kumasi Metropolis were selected for the selected. The reason was that, Sekyere West Municipality is a cocoa growing community whereas the insurance companies were mostly found in the Kumasi Metropolis. One hundred farmers in the Municipality and twenty insurance companies in the Kumasi Metropolis were sampled. Secondary information was sought about cocoa farmers and insurance companies in the various communities.

3.2 Research Design

The survey design was used for this study. The study needed to do more quantitative measurements so it was needful to use this design. Questionnaires were reviewed by experts in the field of agricultural economics. Appropriate corrections were effected so as to ensure the reliability of the research instrument (95% confidence level with +/-5% confidence interval. Both primary and secondary data were consulted to aid the study achieve its purpose.

3.3 Data Collection Procedure

The Ministry of Food and Agriculture in the Municipal had already clustered the communities into twelve operational areas. Based on these twelve operational zones, four communities were selected using the simple random sampling technique. A number pool of all the communities was created whiles a blindfolded member of the research team picked four out of the twelve. The same technique was used for selecting 25 respondents from each of the communities: Ninting, Benim, Kofiase and Asaam. This was done in order to give the various communities and respondents equal, independent and known chances of being selected for the study. Ten Insurance Companies from the Kumasi Metropolis were also selected for the study using the snowball sampling technique. This was done by relying on referrals from the initial respondent to generate other respondents. This technique was used because the total number of insurance companies in the Kumasi Metropolis was not definitely known.

3.4 Data Coding and Data-File Construction

Data was edited to eliminate data collection errors and subjected to analysis. The responses were entered into the Statistical Package for Social Sciences. Both descriptive and inferential statistics were used for the analysis. The Probit model was used to determine the factors influencing the cocoa farmers’ willingness to pay for insurance premium. The invention of the probit model is normally credited to Gaddum (1933) and Bliss (1934). Because of the dichotomous nature of the dependent variable, normal regression model cannot be used to estimate the unknown parameters of the factors influencing willingness to pay. The probit Model is the most appropriate model.

The general probit model is expressed as:

$$Y_i = C + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e_i$$

It is assumed that $\beta_i X_i$ is a normal distributed random variable and the estimated values of the dependent variables are converted into probabilities (for any given value of $X_i$) with the use of the cumulative normal distribution.

Where $Y_i$ is the dichotomous dependent variable expressed as

$Y = 1$, if farmers are willing to accept farm insurance

$Y = 0$, if farmers are not willing to accept farm insurance

$C$ is the intercept

$\beta_i$ = the regression coefficients that explains the probability to insure by cocoa farmers and insurance companies.

$X_i$ = independent variables like education and income which might influence farmer’s willingness to accept.

$e_i$ = the error term.

Therefore for a study of this sort, the probit model is specified as:

$$Y_i = C + \beta_1 EDUC + \beta_2 INC + \beta_3 SIZE + \beta_4 VULN + \beta_5 OCCU + \beta_6 OWNSHP + e_i$$

The a-prior expectations are:

$$\beta_1 > 0, \beta_2 > 0, \beta_3 > 0, \beta_4 > 0, \beta_5 < 0, \beta_6 > 0$$

Educ: Education: literate or illiterate

Inc: Income farmer generates from the farm
Size: Size of the farmers’ farm
Vuln: Susceptibility of the farmer’s farm to natural disasters like fire, flood
Occu: Other occupation of farmer
Ownshp: Type of ownership of land

3.4.1 Description of variables

**Willingness:** This describes the willingness of the farmers to accept farm insurance schemes. It is a dichotomous dependent variable expressed as $Y = 1$, if farmers insure and $Y = 0$, if farmers do not insure.

**Educational level of farmer:** A farmer is considered either literate or illiterate. The a-prior expected sign is positive. This is because higher level of education can impact positively on a farmer’s willingness to insure his cocoa farm.

**Income farmer generates from the farm:** This measures the income the farmer obtains from the farm annually. It has a-prior expected sign of positive, the reason being that farmers who obtain higher income from their farms have a higher probability of insuring them and vice versa.

**Size of the farmer’s farm:** This is the acreage of the farm of the farmer. The a-prior expected sign is positive. Farmers with large acreage have a higher probability of insuring than those with smaller acreage. In times of misfortunes, those holding larger farms will lose huge investments and so will be prompted to insure.

**Susceptibility of the farmer’s site to natural disaster like fire, flood:** There are areas that are more prone to fire, flood than other areas. This was measured based on how prone the site or area the farmer works is to natural uncertainties like fire, flood, etc. This has a negative a-prior expected sign. If the farmer’s site is more susceptible, the farmer will want to insure. But if the site is not prone to disasters, the farmer will be unworried about farm insurance.

**Other occupation:** This measures the occupation of the farmer. That is whether the farmer is engaged in other occupations aside their primary occupation which is farming. It has a positive a-prior expected sign meaning that the more a farmer is engaged in other occupations aside farming, his income level will increase and hence his willingness to accept will be high.

**Type of ownership of land:** This measures the type of ownership of the land being used by the farmer: where farmer has absolute right over the land and where the farmer has no or little right over the land. Farmers using a share cropping, rented or inherited land have little or no entitlement over the land whereas those engaged in a fully purchased land have absolute right over the land. This has a negative a-prior expected sign. The more farmers are into share cropping, rented or inherited land for farming, the lower their willingness to accept.

4. Results and Discussion

4.1 Farmers’ Interest in Farm Insurance Policies

4.1.1 Farmers Awareness and Use of Other Insurance Schemes

The term insurance is not a new term for the farmers since all of them have heard of one or more types of insurance schemes before the study was conducted. The National Health Insurance Scheme (NHIS) was the most widely known insurance among the respondents. Out of the 100 farmers sampled, 72% have already used a type of insurance scheme whiles 28% have never used insurance schemes. About 61% out of the 72% who had ever used a type of insurance scheme used the NHIS. This was followed by life policies (6%) and car insurance (5%). Farmers were asked to indicate the reasons for using the insurance schemes: about 61% said they were using it to subsidise their medical expenses in times of sicknesses. Another 6% indicated risk management, 3% indicated the protection of their properties including family members whiles 2% indicated the protection of their cars in times of future uncertainties like accidents and theft.

4.1.2 Farmers awareness on farm insurance schemes

The respondents were assessed on whether they had ever heard of any farm insurance policy. Thirty-two (32%) of the respondents had knowledge of farm insurance policies whiles 68% were not aware of farm insurance policies. Out of the 32% who were aware of farm insurance schemes, 25% said farm insurance was a form of compensation in times of uncertainties whiles 7% indicated that farm insurance was a type of government support. The results indicate that farmers are aware of farm insurance schemes although the response is less than average. This agrees with Vandeveer (2001) who noted that developing countries have established crop insurance programmes not only to provide farmers with another risk management tool, but also to promote other
goals, such as improving farmers’ access to credit, promoting production of high value crops that might also have higher yield risk and providing more stability to agriculture and related industries.

Farmers’ source of information on farm insurance schemes was also assessed. About 19% had their source to be the radio. About 8% indicated that they heard it from their Agricultural Extension Agents (AEA) whiles 5% heard of it through Insurance Companies.

Farmers were then asked whether they were aware of the dangers associated with not having farm insurance policies. Majority of the respondents (76%) responded Yes whiles the rest (24%) responded No. A further probe over the dangers associated with not having farm insurance policies included reasons such as uncertainties of any kind can happen anytime, the farm can be gutted by fire, farmers can lose some properties through theft cases and no benefit can be obtained in times of uncertainties.

4.1.3 Farmers interest in farm insurance policies

The respondents were probed on whether they were willing to insure their farms against future uncertainties. Majority (87%) of the farmers indicated their positive interest in farm insurance. This shows that a very high proportion of the farmers are interested in carrying out farm insurance policies. If this is the case, then farmers are in a good stead for farm insurance as the United Nations has indicated possibility of initiating insurance schemes for crop failure due to climatic disasters such as flood and droughts in Asia, Africa and Latin America (Murray, 2009). A joint effort on a national and international level will be important for a fruitful result.

Respondents were further made to indicate the percentage of their annual income they were willing to pay as premium in order to insure their cocoa farms. About 67% of the respondents were willing to pay less than 11 percent of their annual income as premium in order to insure their farms. Another 12% were willing to pay between 11-20%. Relatively few (9%) of them were willing to pay between 21% and 40% in order to insure their farms. It can be realised that although most of the farmers sampled were peasants, they were still willing to pay some amount of their income (< 11%) to insure their farms. Still, an appreciable number (12%) were willing to pay between 11-20% of their income for the farm insurance. This shows the seriousness of farmers in the Municipality to accept farm insurance policies.

Reasons given by the cocoa farmers on why they will insure their farms included protection of their farm against uncertainties (48%), to get assistance from the government (33%) and so that it will serve as a buffer (6%). Cocoa farmers who were also not interested in insuring their farms also gave their reasons. According to them, their incomes are not enough to pay the premium (9%), some also asserted that they had never heard of it (2%) and finally some said that since they were operating share cropping, they needed to seek the consent of their business partners (2%).

4.2 The Effect of Factors Affecting the Willingness of Cocoa Farmers to Accept Farm Insurance

This section shows tests of whether socio-economic factors of farmers influence their willingness to insure their cocoa farm.

4.2.1 Other Occupation of Farmer

This was significant at 10% and negative. The reason is that as farmers engage themselves more and more in other occupations aside farming, their willingness to accept farm insurance becomes negative (declines). Thus, they either become more complacent or resist opportunities to insure their farms and this could be attributed to the feeling of security on the part of the farmers from receiving incomes from different sources.

4.2.2 Owner of Land for Farming

This was significant at 5% and negative. It means that the combined effects of share cropping and family land ownership that constituted the major types of ownership of land for farming in the study area have a negative effect on farmers’ willingness to accept. Thus as more farmers inherit their land for farming and also go into share cropping, their willingness to insure their cocoa farms will also decrease.

4.2.3 Farm Size

Farm size was significant at 5% and positive. This means that as farmers own more lands, they are likely to accept farm insurance policies. This is in line with the a-priori expectation that the larger the farm size of the farmer, the higher his willingness to accept farm insurance. This is true because the losses that are likely to occur due to fire outbreak or flood to a farmer with relatively larger farm size are enormous as compared to those with relatively smaller farm sizes. The fear of losing out in the event of uncertainties is likely to make a farmer willing to accept farm insurance policies.
4.2.4 Education

Education is positive but not significant. On the contrary, a similar work by Piyasiri et al., (2002) showed that education and farmers willingness to pay were both significant and positive.

4.2.5 Susceptibility

Susceptibility is positive but not significant. This measured the susceptibility of farmers’ site to natural disaster. It was positive implying that the higher the susceptibility, the higher the farmer will accept and vice versa. However this was not critical in determining willingness to accept farm insurance.

4.2.6 Farm Income

Farm income is negative and not significant. The a-priori expectation was positive; farmers who obtain higher income from their farms have a higher probability of insuring them and vice versa. From the analysis of the data obtained, the coefficient of farm income did not confirm the a-priori expectation. It was negative and statically insignificant. Meaning, a surge in income is likely to lead to a fall in the willingness to accept whereas a fall in income is likely to lead to an increase in the willingness to accept.

4.3 Insurance Companies’ Interest in Farm Insurance Policies

4.3.1 Insurance Policies carried out by the Insurance Companies

The insurance policies carried out by the Insurance Companies were also investigated. It was realised from the study that motor (vehicles, death, injury, damages) and fire and allied perils (loss due to fire, lightning, explosion, flood, earthquake) were covered by all the insurance companies whiles about 90% of the insurance companies were operating burglary (loss of property through theft cases). This was followed by goods-in-transit (loss from the transport of goods) with 70%. The least covered policies included life (personal injuries, death), marine (loss or damage of goods on sea), public liability (legal and injury expenses), asset all risk (covers loss of property as a result of fire, burglary, theft) (20% each) and bond (10%).

4.3.2 Awareness on farm insurance policies

The companies were asked to indicate whether they had ever heard of farm insurance policies. Out of the twenty insurance companies, 60% of them indicated yes whiles 40% indicated no. With this level of awareness, it is relatively easier to encourage insurance companies to pursue farm insurance policies.

The insurance companies were asked whether they had farm insurance policies as part of their operations. All of them (100%) indicated no. They were asked to further indicate the reasons for not having farm insurance policies. The reasons included: the risk involved is too much (30%), it is not practised in Ghana (30%), it is not part of our business plan (20%), the proposal to undertake farm insurance is awaiting approval (10%) and dependent on nature for farming (10%).

4.3.3 Interest in farm insurance policies

Insurance companies were asked to indicate their interest to pursue farm insurance policies. Although insurance companies had earlier shown that they did not have farm insurance policies in place, the responses in their interest concerning farm insurance give some level of hope for cocoa farmers. The responses showed that only 30% were willing to carry out farm insurance policies. About 70% were reluctant to undertake farm insurance. These were asked to give reasons for not being interested in farm insurance policies. They indicated that the risk involved in insuring the Agriculture industry in Ghana is too high. The others indicated that farmers in the country were too dependent on farming and that there was no diversification in the activities of the farmers. They also indicated that agricultural produce were highly perishable and therefore it was too much of a risk to pursue farm insurance policies.

4.4 Challenges of insuring cocoa farms

The views and concerns of the insurance companies were sought concerning embarking on cocoa insurance schemes in the country. Notable among their opinions were the fact that farming in Ghana is on subsistence level and that there should be adequate actuarial studies which could be used to determine which factors to consider in arriving at the premium. Some also said that it is a good policy but serious regulations need to be introduced first to ensure that farmers do not deliberately burn their farms because of insurance. Others also said that it will be a good policy only if farmers embark on modern method of farming whiles some others noted that it will be a lucrative policy if most farmers are willing to buy and that much education should be made on how to reduce losses.

From the cocoa farmers’ perspective, they noted that investments in farms will be difficult and most financial institutions will not risk to engage peasant farmers for fear of investment loss and that most farmers will have
difficulties in going back to farming if uncertainties strike. Finally, some others noted that farmers may not be able to pay back borrowed funds and it will affect the country as a whole.

5. Conclusions and Recommendations

Other occupation of farmer (-0.200, p = 0.097), farm size (1.96, p = 0.050) and owner of land for farming (-0.41, p = 0.011) were found to influence farmers’ willingness to accept farm insurance policies. About 87% of the farmers indicated their interest in carrying out farm insurance. This shows that majority of the farmers are willing to insure their cocoa farms to serve as a guarantee for their farms. Unfortunately the level of interest by insurance companies does not match up as they are afraid of loss of investment capital. Even though diversification is a means of pooling risks, farmers should be more particular about the significance of farming as an occupation. Significantly, farmers’ engagement in other activities other than farming as their main occupation had a significant effect on their willingness to insure their farm. It is therefore acceptable to develop key interest (in terms of both financial and input subsidies) in farmers with multifarious occupation and yet consider farming first on their occupational preference scale to any other activity. The empirical evidence indicates that there existed a positive significant correlation between the size of a farm and farmers' behavioural responses to risk. Following this discourse, farmers should be assisted financially by the Government and other corporate institutions to be able to commercial farming. Comparatively, it is economically feasible to give much credence to the concept of permanent land ownership. It is practically possible to insure a farm where the owner of the land is the same as the caretaker as compared to a situation where the owner of the land is different from the caretaker. Therefore for easy and realistic farm insurance policy, land availability in addition to farmers owning their own land must be largely considered. Educating farmers on the significance and merits associated with insurance in a broad sense, by specifically laying emphasis on farm exigency factors that ultimately stimulate the farmer’s willingness to accept farm insurance policies must be largely considered. Since majority of the farmers expressed their ready acceptance of farm insurance and are willing to insure their cocoa farms, attractive packages on the part of insurance companies to farmers in terms of flexible insurance policies, formation of farmers insurance association that will enable them communicate effectively with the insurance companies and execute supervision on the part of the government to ensure that the interest and objectives of the farmers are of paramount concern. The Government of Ghana through Cocoa Board must readily agree to offer any financial assistance or provide a platform which will guarantee financial safety to any emerging insurance company that will undertake farm insurance policy as most of them were not ready to undertake farm insurance. This financial assistance must be available to the company anytime there is financial inconvenience such as loss of investment capital to the insurance company. Government should subsidize the premium to be paid by farmers since majority of the farmers showed they can pay less than 11% as premium.

References


Ayisu, S. (2008). An analysis of factors influencing credit default, a case study of maize farmers in Agogo, Department of Agricultural Economics, Agribusiness and Extension, Faculty of Agriculture, KNUST.


Table 1. Farmers’ awareness and use of other insurance schemes

<table>
<thead>
<tr>
<th>Whether farmers have used any insurance scheme</th>
<th>Type of insurance farmers have used</th>
<th>Reasons for the use of the insurance schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>72.0</td>
<td>For subsidized medical care</td>
</tr>
<tr>
<td>No</td>
<td>28.0</td>
<td>For the protection of my properties</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Protection of cars</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For risk management</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>Total</td>
</tr>
<tr>
<td>Source: Field Data, 2010</td>
<td></td>
<td>Total</td>
</tr>
</tbody>
</table>

This table describes farmers’ awareness and use of other insurance schemes. It seeks information about whether farmers have ever used any insurance scheme before, the type of insurance farmers had used and the reasons for the use of the insurance schemes.

Table 2. Farmers’ awareness on farm insurance schemes

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Definition of farm insurance schemes</th>
<th>Source of Information</th>
<th>Dangers of not having farm insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>32.0</td>
<td>Radio</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>68.0</td>
<td>Insurance Companies</td>
<td>No</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>AEA</td>
<td>Total</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

This table describes farmers’ awareness of farm insurance schemes. It contains information on awareness of farm insurance schemes, farmers’ definition of farm insurance schemes, their source of information and whether farmers’ are aware of the dangers of not having farm insurance.
Table 3. Farmers interest in farm insurance policies

<table>
<thead>
<tr>
<th>Interest</th>
<th>Annual income willing to pay as premium for insurance</th>
<th>Reasons for willingness to insure</th>
<th>Reasons for not willing to insure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>87.0</td>
<td>67.0</td>
<td>48.0</td>
</tr>
<tr>
<td></td>
<td>&lt; 11%</td>
<td>To protect my farm against future uncertainties</td>
<td>Income not enough to pay for premium</td>
</tr>
<tr>
<td>No</td>
<td>13.0</td>
<td>12.0</td>
<td>33.0</td>
</tr>
<tr>
<td></td>
<td>11-20%</td>
<td>To get some assistance from the Government</td>
<td>Have not heard of it</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>9.0</td>
<td>6.0</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

This table describes farmers’ interest in farm insurance policies, the percentage of annual income the farmers are willing to pay as premium for insurance, reasons for willingness to insure and the reasons for not willing to insure cocoa farms.

Table 4. The Effect of Factors Affecting the Willingness of Cocoa Farmers to Accept Farm Insurance

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficients</th>
<th>t - value</th>
<th>p- value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>0.18</td>
<td>1.02</td>
<td>0.307</td>
</tr>
<tr>
<td>Other occupation</td>
<td>-0.20</td>
<td>-1.66</td>
<td>0.097 *</td>
</tr>
<tr>
<td>Susceptibility</td>
<td>0.02</td>
<td>0.15</td>
<td>0.879</td>
</tr>
<tr>
<td>Type of ownership of land</td>
<td>-0.41</td>
<td>-2.53</td>
<td>0.011 **</td>
</tr>
<tr>
<td>Farm size</td>
<td>0.17</td>
<td>1.96</td>
<td>0.050 **</td>
</tr>
<tr>
<td>Farm income</td>
<td>-0.39</td>
<td>-0.02</td>
<td>0.988</td>
</tr>
</tbody>
</table>

Number of observations = 100  Log pseudolikelihood = -30.490465  Wald chi² (6) = 13.41  * - significant at 10%  Prob > chi² = 0.0370  **- significant at 5%  Pseudo R² = 0.2109

Source: Field Data, 2010

This table presents results on the effect of factors affecting the willingness of cocoa farmers to accept farm insurance.

Table 5. Insurance Policies carried out by the Insurance Companies

<table>
<thead>
<tr>
<th>Insurance policies</th>
<th>Extent of coverage</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor (third party, comprehensive etc)</td>
<td>Vehicles, death, injury, damages</td>
<td>100.0</td>
</tr>
<tr>
<td>Fire and allied perils</td>
<td>Loss due to fire, lightning, explosion, flood, earthquake</td>
<td>100.0</td>
</tr>
<tr>
<td>Goods-in-transit</td>
<td>Loss from the transport of goods</td>
<td>70.0</td>
</tr>
<tr>
<td>Burglary</td>
<td>Loss of property through theft cases</td>
<td>90.0</td>
</tr>
<tr>
<td>Contractors all risks</td>
<td>Loss or damage to properties in construction</td>
<td>20.0</td>
</tr>
<tr>
<td>Life</td>
<td>Personal injuries, death</td>
<td>20.0</td>
</tr>
<tr>
<td>Bond</td>
<td>Construction of bridges</td>
<td>10.0</td>
</tr>
<tr>
<td>Marine</td>
<td>Loss or damage of goods on sea</td>
<td>20.0</td>
</tr>
<tr>
<td>Public liability</td>
<td>Legal and injury expenses</td>
<td>20.0</td>
</tr>
<tr>
<td>Asset all risk</td>
<td>Covers loss of property as a result of fire, burglary, theft</td>
<td>20.0</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

This table presents data on the insurance policies carried out by the insurance companies and their extent of coverage.
Table 6. Awareness on farm insurance policies

<table>
<thead>
<tr>
<th>Awareness</th>
<th>Existence of farm insurance</th>
<th>Reasons for No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes 60.0</td>
<td>The risk involved is too much 30.0</td>
</tr>
<tr>
<td></td>
<td>Yes 0.0</td>
<td>It is not practised in Ghana 30.0</td>
</tr>
<tr>
<td>No</td>
<td>No 40.0</td>
<td>It is not part of our business plan 20.0</td>
</tr>
<tr>
<td></td>
<td>No 100.0</td>
<td>The proposal to undertake farm insurance is awaiting approval 10.0</td>
</tr>
<tr>
<td>Total</td>
<td>Total 100.0</td>
<td>Dependent on nature for farming 10.0</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

This table presents results on the awareness of insurance companies on farm insurance policies, whether or not they have such policies in their companies and the reasons why they do not have any farm insurance policy.

Table 7. Interest in farm insurance policies

<table>
<thead>
<tr>
<th>Interest</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>6</td>
<td>30.0</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>70.0</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Field Data, 2010

Table 7 presents results on the interest of insurance companies in delivering farm insurance policies or schemes to farmers.