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Evaluation of the Agricultural Insurance Scheme in Edo and Delta States of Nigeria (1996-2001)

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Abstract: The study assessed the performance of the Nigerian Agricultural Insurance Scheme (NAIS) in Edo and Delta states between 1996 and 2001. Structured questionnaires were used to obtain information from the participating farmers, while structured interview schedule was used to obtain information from NAIC staffers. Both descriptive and inferential statistics were used for data analysis. The study revealed that farmers from Delta state benefited more (79%) from the insurance scheme than those from Edo state (21%) due mainly to the fact that Delta ecological zones is more prone to natural disaster and better awareness created than Edo state. The study further revealed a significant relationship between contact with extension agent and farmer's claims and also between educational level and the farmers' claim. It is suggested that efforts be made by NAIC to create more awareness in Edo state, and that NAIC liaises with Agricultural Development Project (ADP) of the two states by mounting an aggressive enlightenment campaign as a possible way of improving the farmers' response to the scheme.

Key words: Agricultural insurance company, participating farmers, farmers' claims, performance

INTRODUCTION

Agricultural insurance is a specialized branch of insurance. Pemberton (1984) defined it as insurance against natural hazards in farming. In a very broad sense, agricultural insurance is the stabilization of income, employment, prices and supplies of agricultural products by means of regular and deliberate savings and accumulation of funds in small installments by many in favourable time periods to defend same in bad periods.

Agricultural insurance is an important component of any agricultural development programme. The principal economic role of agricultural insurance can be reviewed from three alternative perspectives (Ray, 1981). The microeconomic aspect deals with the specific benefits derived by the insured farmers. These include the analysis of the effects of insurance on:

- Income generation and stability of farmers' investments.
- Encouraging farmers to accept greater risks especially in adopting innovative methods with a view to achieving greater production.
- Strengthening the general economic position of the farmers.

The macroeconomic perspective considers the role of insurance in eliminating or reducing food shortages, securing a stability of non-farm supplies and prices, ensuring a steadiness in non-farm employment, reducing trade gap, increasing the availability of foreign exchange, improving the distribution of income and alternating the burden on the government and the community of incurring large expenditures by way of relief to farmers in cases of disasters. Finally, the economic role of agricultural insurance is also viewed in terms of the associations' costs and benefits.

Ray (1981) noted that sustained and steady development of the agricultural sector in development economies is not possible without some form of agricultural insurance. Also, Pemberton (1984) asserted that Agricultural insurance significantly and positively influences the managerial approach of farmers by encouraging them to take all measures necessary to the attainment of the highest levels of technical and economic efficiency.

The Nigerian Agricultural Insurance Scheme (NAIS) was established in 1988 to remove the barrier of low productivity in agriculture due to occurrence of natural disasters in most parts of the country in the last two decades. The major financier of the scheme is Federal Government of Nigeria as advocated by Alli (1980). However, state governments, banks, insurance companies and oil companies contribute to the reserve fund of the scheme.

The main objective of the scheme is to protect the farmers from the effect of natural disasters and to ensure payment to keep the farmers in business. The scheme is designed specifically to:

- Promote steady agricultural production since it would enhance greater confidence in adopting new and improved farming practices and in making greater investments in the Nigerian agricultural economic sectors thereby increasing the total production.
- Provide financial support to farmers in the events of losses arising from natural disaster.
- Increase the flow of agricultural credit from lending institutions to the farmers.
- Eliminate or minimize the need for emergency assistance provided by government during periods of agricultural disasters.

From records and personal interaction from the officials of NAIS in Benin, it was discovered that the major areas covered by insurance scheme are crops and live stocks with varying coverage periods. Perils covered also include fire, drought, flood, windstorm, lightening, diseases and pests. This has to be reported within 24-48 h. There is no compensation however for losses due to negligence.

One of the most important requirements for the successful implementation of any development programme is regular evaluation of the programme against the pre-stated objectives. Greenfield (1986) Given the importance of agriculture to Nigeria economic development, such evaluation assures greater importance in agricultural development programme (Akinsorotan, 2005). For example evaluation will helps to identify constraints to programme implementation and evaluation on the performance of the programme. The agricultural insurance scheme in Edo and Delta states are yet unknown. The absence of an evaluation study for NAIS has created the problem of dearth of data required to assess performance and progress to enable policy makers and programme operatives adopt or amend policies and strategies that will ensure achievement of the objectives of the scheme.

The broad objective of the study is to evaluate the performance of the Nigerian Agricultural Insurance Scheme in Edo and Delta states from 1996-2001.

The specific objectives of the study are to:

- Determine selected personal characteristics of the participating farmers.
- Determine the type of farm enterprises covered by the respondents.
- Identify the beneficiaries of the scheme from 1996-2001 in both states.
- Determine the level of adoption of improved farm practices by the farmer participants.
- Determine the effects of selected personal characteristics on claims by the insured.

MATERIALS AND METHODS

The study locations were Delta and Edo States of Nigeria. For administrative convinience, the two states were divided into six zones, namely: Delta North, Delta Central, Delta South, Benin, Abudu and Uromi. Their agricultural activities involve mainly food and tree crops cultivation. For example, Delta North, South and Central zones cultivate predominantly cassava, yam and maize. Benin zone produces mostly rubber and oil palm, while Uromi and Abudu zones produce rice and cassava. Some quantity of livestock farming is also practiced in each zone.

The list of registered farmers in the two states by the Nigerian Agricultural Insurance Scheme office at Benin City for the period 1996-2001 contained 285 participants. This list constituted the accessible population for the study. Eighty five respondents, representing approximately 30% of the sampling frame (285) were selected from the 6 zones, using proportional random sampling technique.

Data collection was through the use of structured questionnaires that were subjected to validity and reliability tests and administered to the farmers.

The data collected were analyzed using the Statistical Package for the Social Sciences (SPSS). Both descriptive (frequency, percentages) and inferential (Chi-square) analyses were used to interprete the results.

RESULTS AND DISCUSSION

Gender: Majority of the respondents (85%) are males as shown in the company's pattern of registration (Table 1). Emphasis was placed on male probably because of the socio-cultural norm that a female farmer would need a male cosigner before credits are offered. Most often, decision making, like that of an insurance policy rests only within the male as head of the family.

Age: About two thirds of the farmers (68%) were between 21-40 years old, while less than 21 years constitute 2%. (Table 1). This is an indication that the risk of insurance is only taken by farmers in their full active years, when they are full of vigour and energy. It is also reflected that teenagers and farmers above 50 years are not strongly considered in the scheme as they are very few in this study (2 and 5%, respectively).

Table 1: Selected personal characteristics of respondents

Characteristics	Frequency	(%)
Gender: Male	72	85
Female	13	15
Total	85	100
Age (years): Less than 21	2	2
21-30	14	16
31-40	44	52
41-50	21	25
Above 50	4	5
Total	85	100
Farming Experience (years): Less than 6	10	12
6-10	20	23
11-20	34	40
21-25	18	21
Above 25	3	4
Total	85	100
Farming Systems: Sole Farming	7	8
Mixed Cropping	60	71
Livestock Farming	10	12
Fishery Farming	3	3
Tree/Commercial Crop	5	6
Total	85	100
Educational Level: No Formal Education	32	38
Adult Literacy	18	21
Primary School	10	12
Secondary School	7	8
Teacher Training College	12	14
NCE/Polytechnic/University	6	7
Total	85	100

Source: Field Survey, 2002

Table 2: Respondents Farming Practices

Farming practices	Frequency	(%)
Sole cropping	7	8
Mixed cropping	60	71
Livestock farming	10	12
Fishery farming	3	3
Tree Crop/commercial crop farming	5	6
Total	85	100

Source: Field Survey, 2002

Farming experience: About two thirds of the respondents (65%) have between 11 and 25 years of experience. Less than 22 years accounts for only 35%. This may be due to the fact that experience is one to the registration requirements used by the insurance management to determine the farmers' competence in being listed farming activities. Experienced farmers can easily adjust and adapt to any newly introduced farming practice or technology and take more precautions against failures. This is advantageous to the management because less claims are paid to the insured.

Education: Education determines to a large extent the access to various agricultural inputs, technical know-how, extension agents and adoption of improved farm practices. In this study, almost three quarters of the respondents (71%) had very little or no education (i.e., informal education, adult literacy and primary school) (Table 1). Secondary school and Teacher Training College (Intermediate) accounts for just 22%, while tertiary institution accounts for only 7%. The results showed that farmers in the study area are educationally low.

Farming practices: Despite the fact that the various farming practices under the coverage of the Nigeria Agricultural Insurance Scheme include mixed cropping, livestock farming, fishery, and tree/commercial crop, farmers predominantly practiced mixed cropping system (71%) (Table 2).

This may be attributed to the fact that mixed cropping is the natural and conventional means of ensuring household food security in the study area. Also the problem of land scarcity and the consequence of land fragmentation might have encouraged such farming system.

Participation in the insurance scheme by farmers in Edo and Delta states: The data obtained from NAIS office revealed that farmers from Delta state benefited more (79%) from the insurance scheme than those from Edo state (21%). This may be due to the fact that Delta state is more prone to natural disaster due to increase activities from oil workers and the environmental disturbance by the oil exploration. Also there was better awareness created in Delta than Edo state.

Level of adoption of improved farm practices determination: Beneficiaries from the scheme who are engaged in crop production practices were requested to indicate the techniques learnt, utilized and were still utilizing during the survey. The results showed that most of them (between 70 and 94%) learnt, utilized and were still utilizing fertilizer application, cultivation of improved maize and cassava during the period under investigation. (Table 3). The reason is that these are the crops with relatively short gestation periods that may escape calamities and that can yield quick returns especially if there is no claim.

The effect of contact with agents on claims: The calculated chi-square value (6.65) is greater than the tabulated chi-square value (5.99) (Table 4). This then implies that the hypothesis earlier stated will be rejected. It then suggests that there is significant relationship between contact with extension agents and farmers claims. The more farmers have contact with extension agents, the less the claims made by the farmers to the insurer. This may not be unconnected with the dissemination of information and useful suggestions that may be open to the farmers through the agents, which gave the farmers better management practices.

Table 3: Level of adoption of improved farm practices determination

	Had learnt		Had utilized			
	Fe	(%)	Fe	(%)	Were still being utilized	
Construction of Crop Dryer	10	12	5	6	5	6
Use of Maize Sheller	45	53	25	29	20	24
Construction of Maize Crib	40	47	20	24	20	24
Application of Fertilizer	80	94	70	82	70	82
Application of Insecticide	78	82	61	72	70	82
Cultivation of Improved Maize	78	92	75	84	72	84
Cultivation of Improved Cassava	78	92	75	84	72	84
Cultivation of Cowpea	40	47	30	35	30	35
Use of Minimum Tillage	20	24	10	12	10	5
Use of Cassava Lifter	4	5	1	1	0	0
Use of Cassava Planter	4	5	1	1	0	0
Use of Tractor	7	8	3	4	0	0

Source: Field Survey, 2002

Table 4: Relationships of selected variables with insured claims

Items	Education	Contact with extension agents	Farmers' experience
X^2 calculated	10.49	6.65	0.625
X^2 tabulated	5.99	5.99	5.991
Df	2	2	2
Probability level	<0.05	<0.05	>0.05
Remarks	Significant	Significant	Not significant

Relationship between farmers' educational level and farmers claim: Calculated chi-square value (10.49) is greater that tabulated value of 5.99 (Table 3). Thus the hypothesis of no relationship is rejected to establish that the relationship between farmers educational level of the insured significantly affect their claims with the insurer. This may be due to the fact that education is one of the means of accelerating claims. This also agreed with Greenfield (1986) who stated that education affects entrepreneurship traits.

Relationship between farmers experience and their claims: Calculated chi-square is less than the tabulated value (Table 3), thus the null hypothesis of no relationship between experience and claims is upheld. It then suggests that farmers' claims from the insurer are not affected by farmers' experience. It is surprising that experience did not affect claims in this study. Under normal condition, it is expected that the more experienced a farmer is, the less claim he/she would likely make.

CONCLUSION AND RECOMMENDATIONS

The study showed that there were more beneficiaries in Delta than Edo state, more male participants than female, participants were mostly between 21 and 50 years, i.e. rarely less than 21 or more than 50 years and with farming experience of between 5 and 25 years. Mixed cropping was practiced by most of the respondents. Only contact with extension agents and educational level significantly affect claims by the insured, while farming experience did not. Only fertilizer application, cultivation of improved maize, cassava and cowpea techniques were learnt, utilized and were still being utilized by most respondents in the study area.

Based on the results conclusion of this study, the following recommendations are proffered:

- The insurance company should create more awareness of the scheme to non-participants in both states.
- Follow-up visits should be made by project staff in order to sustain adoption of improved practices.
- Monitoring and evaluation units should be created within the organization as this will promote the coordination and unification of both human and material resources. It will also indicate clearly areas of high or low risks within the farming enterprises.

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