SOCIO-ECONOMIC CHARACTERISTICS INFLUENCING ADOPTION BEHAVIOUR OF WOMEN CO-OPERATORS AND NON-CO-OPERATORS IN OJU LOCAL GOVERNMENT AREA OF BENUE STATE

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Abstract

This paper focuses on the influence of selected socio-economic characteristics on adoption of agricultural innovations among women co-operators and non-co-operators in Oju Local Government Area of Benue State. The socio-economic characteristics of the women studied are age, household size, farm income, agricultural credit, possession of durable goods and services, membership of co-operative, non-farm income, level of formal education, farm size, length of membership and contact with extension.

For the purpose of this study, 60 women were selected and interviewed from three women co-operative societies, namely Ainu Women Co-operative, Oju Women Co-operative and Oboru Women Co-operative. Also 60 non-co-operators were selected and interviewed from the three villages.

T-test was used to determine the significant difference between the means of the two groups. Coefficient of determination (R^2) showed the amount of variation explained by the independent variables.

For co-operators, the study shows a significant relationship between the household size, level of formal education, farm size, farm income, non-farm income, agricultural credit, membership of co-operative, possession of durable goods and contact with extension. While for non-co-operators, the study shows a significant relationship between age, household size, farm size, farm income and non-farm income. Step-wise regression shows that for co-operators all the characteristics accounted for 49% of the variance in adoption whereas for non-co-operators all the variables accounted for 28%.

1.0 Introduction

A glaring aspect of the Nigerian agricultural production system is the predominance of small-scale farmers using simple technology. They depend essentially on farming for their domestic consumption, income and the overall welfare of their family members. To meet these numerous needs, the small holders must increase production higher than and above the level possible with traditional farming techniques. This requires the use of improved methods through effective co-operative societies.

Successive governments in Nigeria seem to have recognised the importance of co-operative societies to the survival of the small-scale farmers in particular and agricultural development in general. Thus various agricultural development programmes have been evolved with the aim of modernizing and improving the farmers technical knowledge and skills for greater output and higher standard of living.

One of such programmes is the call on women by the federal government to form co-operative societies, which are channels for mobilization towards modernized agricultural development. Also, because, co-operatives provide suitable organisational framework for accelerated rural development and are useful instruments for mobilization and sensitization of women.

1.1 The objectives of the study are:

1. to describe the socio-economic characteristics of women co-operators and non-co-operators and

2. to determine factors that distinguish the adoption of agricultural innovations among co-operators and non-co-operators.

Studies carried out in Nigeria and else where have shown that there exists close relationships between socio-economic characteristics, awareness and adoption of newly recommended farm techniques. Those variables are level of education, membership of associations, household size, age, income, cosmopoliteness and social status (Akanya, 1989 and Akanya, 1990). Voh (1984), in a study of farm technology adoption among farmers in Gusau Agricultural Development Project, reported a positive relationship between level of education, socio-economic status and adoption. Similarly, Voh (1982), reported a positive relationship between level of education, awareness and adoption. Nweke (1981), found a positive correlation between number of years of education and agricultural progressiveness. He stated that an educated farmer is less sceptical of a new idea and is more able to evaluate available information on improved practices. Wilson and Gallup (1981), found education, size of farm, contact with an extension agent and socio-economic status as significant factors in America. Marsh and Coleman (1989), also found socio-economic status, education and personal contact with the agency representatives as important characteristics of farmers in relation to the adoption of new farm practices. Ogunfiditimi (1981); Monu and Omle (1984); Obinne and Anyanwu (1992); and Obasi et al (1994), found that relative economic advantage, profitability, compatibility and complexity of innovation appropriateness of technology, farm size, educational level also affect adoption of agricultura innovations.

2.0 Methodology

The study was carried out in Oju Local Government Area of Benue State with headquarters at Oju Three villages and three women co-operative societies were purposively selected. Random sampling method was used in the selection of the respondents. The selected villages were Ainu, Oju and Oboru. From these villages three women co-operatives were selected. The co-operatives were Ainu Women Co-operative Society. Twenty members of each women co-operative were selected and interviewed from the three co-operative societies. Similarly, 60 non-members were sampled from the three different villages in the ratio 20:20:20. A total of 120 respondents were interviewed.

Structured questionnaire was used for data collection. Statistical tools used in data analyses include percentages, mean, t-test, Pearson Product Moment Correlation analysis and stepwise regression.

The variables of the study were measured as follows:

Age was measured as the number of years of the respondent from birth at the time of the study.

Farm size was measured in hectares as the total number of land under cultivation as reported by the respondents or the total acreage reported by the respondents.

Education was measured by the number of years the respondents had spent in formal education.

Household size was measured by adding up the total number of people that were living and feeding from the same pot with the respondents at the time of data collection.

Contact with extension agent was measured as the total number of visits by the extension agents to the farmers and the number of visits by the respondents to extension agents as reported by the respondents.

Agricultural credits refer to borrowing done in cash or in kind for farming activities from lending agencies, relatives and money-lenders as reported by the respondents.

Farm income was measured as the amount of money realised from the sale of all farm produce.

Non-farm income was measured in terms of the average income the farmer earned from non-farm activities.

Possession of durable goods was calculated in monetary value using the minimum market values at the time of interview.

Membership of co-operative was measured by scoring one for membership and zero for non-membership.

Length of membership in co-operative was measured as the years a farmers has remained in co-operative societie(s).

3.0 Results and Discussions

3.1 Respondents socio-economic characteristics

Table 1

Mean Distribution of Socio-economic Characteristics of Women Co-operators and Non-co-operators

Variable	Members $\bar{x}$	Non-members $\bar{x}$	Calculated t-value	Level of significance
Age	37 years	39 years	1.33	NS
Household size	8	7	2.45	S*
Formal education	11 years	8 years	4.04	S*
Farm size	4.32 ha	2.63 ha	9.43	S*
Farm income	₦9,858.33	₦3,360.00	9.52	S*
Non-farm income	₦9,707.80	₦2,433.90	6.29	S*
Agricultural credit	₦2,138.00	₦1,366.00	5.51	S*
Value of durable goods	₦69,301.70	₦3,296.74	4.10	S*
Extension contact	3	1	2.55	S*

*Significant at 0.05 level of probability.

Table 1 indicates that apart from age, all other socio-economic characteristics show significant difference between the means of the two groups. The mean age of the groups is predominantly of middle age with 37 years for members and 39 years for non-members. This could be attributed to the tendency for younger people taking to farming as vocation in recent years.

The mean household size for members is 8 and 7 for non-members. Members with large farmland also have more farm labour. Though, members use more of hired farm labour, children also help respondents on the farm.

The members are more educated than the non-members with 11 and 8 years spent on formal education respectively. The lack of formal education or low level of it may make many women to be ignorant of the existence of agricultural innovations and their benefits.

The mean size of farm land for members is 4.32 hectares while that of non-members is 2.63 hectares. Traditionally, women neither owned or inherited land but the land in use is owned by their husbands. The need to farm large areas of land which may necessitate seeking financial assistance might be one

of the factors motivating women to join co-operative societies. The smaller size of farm lands for non-members may be as a result of lack of capital or absence of modern innovations.

The mean agricultural credit for members is ₦2,138.00 and ₦1,366.00 for non-members. The higher credit for members could be as a result of easy access to banks and availability of co-operative credit which may be one of the reasons for joining co-operative societies.

The mean farm income for member is ₦9,858.33 and ₦3,360.00 for non-members. The mean non-farm income for members is ₦9,707.80 and ₦2,433.90 for non-members. The means for the two variables are higher for members than non-members. Farm and non-farm incomes are used as indicators of economic status or level of living which could have partial reflections of the actual state of living of the women farmers. The mean value of durable goods for members is ₦69,301.70 and ₦3,296.74 for non-members. The wide gap between the members and non-members could be explained by the women's access to agricultural innovations which have led to wide spread adoption and increased productivity which in turn led to higher family income and ability to purchase more durable goods and services. The mean extension contact is 3 for members and 1 for non-members. One of the reasons for joining co-operative societies may be for easy access to agricultural innovations and this is done mostly by extension contacts.

Table 2

Relationship between Socio-economic Characteristics and Adoption of Agricultural Innovations among Women Co-operators and Non-co-operators

Variables	Correlation Coefficient (r) (Co-operators)	Correlation Coefficient (r) (Non-co-operators)
Age	0.17	0.24*
Households size	0.21*	0.27*
Level of formal education	0.38*	0.17
Farm size	0.37*	0.20*
Farm income	0.59*	0.37*
Non-farm income	0.46*	0.56*
Agricultural credit	0.42*	0.17
membership of co-operative	0.48*	0.00
Possession of durable Goods	0.29*	0.18
Contact with extension	0.32*	0.17
Length of Co-operative membership	0.12	0.00

*Signifificant at 0.05 level of probability.

The findings on Table 2 show that nine of 11 variables are positively and significantly related to adoption of agricultural innovations by women co-operators and significantly at 0.05 level of probability. Length of co-operative membership is positively related but insignificant while age is negative and have insignificant relationship with adoption. It is not surprising that age is negatively related as this could be explained by the fact the younger ones are often more prepared to take the risk of adopting innovations than the older ones.

Table 3

Stepwise Regression Analysis of the Relationship between Women Co-operators Socio-economic Characteristics and Adoption of Agricultural Innovations

Variables Cross Classified	Coefficient of Determination (R^2)	
	(R^2)	(R^2) Change
Membership of co-operative	0.13	0.13
Contact with extension	0.24	0.10
Farm size	0.33	0.09
Farm income	0.39	0.06
Non-farm income	0.45	0.06
Agricultural credit	0.47	0.02
Households size	0.48	0.01
Level of formal education	0.49	0.00
Length of co-operative membership	0.49	0.00
Possession of durable goods	0.49	0.00
Age		

The results of the stepwise regression analysis on Table 3, shows that the independent variables accounted for 49% of the variance in adoption of agricultural innovations by women co-operators. Six of these variables accounted for 47% of the variance. The variables are membership of co-operative society (13%), contact with extension (10%), farm size (9%), farm income (6%), non-farm income (6%) and agricultural credit (2%). The least contributions are made by age, possession of durable goods and services and length of co-operative membership. These variables may be assumed not to be too critical in women co-operators adoption behaviour.

The correlation analysis of socio-economic characteristics of women non-co-operators and adoption of agricultural innovations on Table 2, shows that five out of nine variables are positively and significantly related to adoption at 0.05 level of significance. The variables are age, household size, farm size, farm income and non-farm income. Others like level of formal education, agricultural credit,

possession of durable goods and extension contact are insignificant, though positive relationships are indicated too.

Table 4

Stepwise Regression Analysis of the Relationship between Non-co-operators Socio-economic Characteristics and Adoption of Agricultural Innovations

Variables	Coefficient of Determination (R^2)	
	(R^2)	(R^2) Change
Households size	0.10	0.10
Farm income	0.19	0.08
Non-farm income	0.23	0.04
Age	0.25	0.02
Farm size	0.27	0.01
Possession of durable goods	0.27	0.01
Contact with extension	0.27	0.00
Agricultural credit	0.28	0.00
Level of formal education	0.28	0.00
Membership of co-operative	0.28	0.00
Length of co-operative membership	0.28	0.00

The stepwise regression analysis indicates that the independent variables account for about 28% of the variance in adoption. Household size accounts for (10%), farm income (8%), non-farm income (4%) and age (2%). These variables account for 25% of the variance. The most important being household size. This may mean that women non-co-operators still rely on family as their source of farm labour against women co-operators who can pool their resources together, and work on members farms on rotational basis.

4.0 Summary and Conclusion

The study reveals the importance of certain socio-economic characteristics of farmers such as age, household size, level of formal education, farm size, farm income, non-farm income, contact with extension, co-operative membership, value of durable goods and agricultural innovations. The study also reveals that women co-operators have higher socio-economic characteristics than non-co-operators. The gap may be as a result of using co-operative societies as channels through which innovations are disseminated to the women and the process to adopting them.

Women agricultural co-operatives are unquestionably agents of social and economic change. They provide positive changes in the socio-economic status of the less privileged by means of pooling resources together and working for the mutual interest of all. Such an organisation having "change" as its watch-word is more disposed to accepting positive changes as envisaged in the process of technology transfer. Agricultural development in Oju in particular and Nigeria as a whole depends to a great extent, on the willingness and ability of farmers to make use of innovations. New farm practices are of little value until they can be put to some practical use for the economic and social well-being of the people involved.

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