

Factors Influencing Adoption of Improved Farm Practices Among Women Farmers in Osun State

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ABSTRACT The study assesses the factors influencing adoption of improved farm practices among women farmers in Osun State. The study was conducted in the three agricultural zones of the state. 80 women farmers were randomly selected and information was collected through a pre-tested structured interview schedule. Descriptive statistical techniques like frequency counts, mean and percentages were used to analyse the data. The inferential statistics used was correlation which was used to determine the relationship between the variables. The study showed positive and significant relationship between adoption of innovation and credibility ($r = 0.470$), communication ability ($r = 0.241$), divisibility ($r = 0.251$) and relative advantage ($r = 0.235$). However, negative and significant relationship exists between adoption and religion ($r = -0.431$) complexity ($r = -0.401$), cost ($r = -0.351$), land tenure ($r = -0.320$), norms ($r = -0.311$), and belief ($r = -0.253$).

INTRODUCTION

Agriculture is the main pillar of any economy because of the many significant roles it play. It is a major source of food to the population, provides employment opportunities, foreign exchange earning as well as sources of industrial raw materials for the nation's industries. In the past, effort of government on agriculture was centred on export crops to the neglect of food production and hence low productivity in the area of food crops. There are other factors that could account for these low productivity since after independence. Among this is the "oil boom" of the seventies which resulted in the migration of labour from agricultural sector to other parts of the economy rendering many indigenous land owners landless and in some cases a reduction in the acreage farmed. There is rural-urban movement because of lack of social amenities. Many middle-aged men moved to the urban centers in search of white collar jobs because of the disparity in amenities that existed between urban and rural areas hence women and their children were left behind to carry on agricultural production activities which resulted in many households been headed by women. This situation thrusts on them responsibility of taking decisions on issues on the farm (Lily Hutjes et al., 2001). Apart from all these, the neglect of women from extension services in the past that made all efforts on agricultural development to be focused on women also add its own bit to the

low productivity of output in agriculture. Women were not seen as having any potentials to contribute to the economy of country but rather to play a supportive role to their husbands. Recently, population experts made it known that the proportion of men to women in any population is very close to being equal; For example Nigerian Population Census 1991 revealed that Nigerian women constituted 49.6 percent of the total population in the rural areas (Population Census, 1991). It becomes imperative that women have significant roles to play in increasing agricultural productivity in the country. The International Conference on Population Development Programme of Action (1994) also advocated equal involvement of men and women to have sustainable development.

This realization of the high potentials of women have made government to shift ground and focused them in development especially in agricultural sector.

For this reason, Programmes of development were focused on them: Better Life Programme in 1987, Women-in-Agriculture (WIA) established by Federal Agricultural Coordinating Unit FACU in (1991) Family Support Programme (FSP) and Family Economic Advancement Programme (1994). All these programmes were directed at them to improve upon the roles they have been playing in agriculture. Nnoyelu and Gadzama (1991) revealed that women are found working all the year round producing food crops while men perform only pre-planting tasks that

occupy small part of the agricultural year. They were also found to be active in rural development activities and were mostly food processors and marketers of agricultural produce (Siyanbola, 1995; Okunade, 1998).

It was reported that the programme succeeded in achieving the following among the agricultural environments (Nnoyelu and Gadzama, 1991).

- i. acquisition of farm land for rural women's group farms.
- ii. distribution of scarce input to women farmers.
- iii. mobilization of rural women into cooperative group focusing on agro-processing.
- iv. distribution of labour saving equipments to women cooperative groups. and
- v. promote the development and use of appropriate agricultural technologies which reduced drudgery among women.

Despite all these that were done among women farmers, agricultural production still remain subsistence and the food production can not cope with the teeming population of the country. Therefore this study found out what are the factors that could still be responsible for the low productivity of agricultural output among women farmers. The study provided answers to the following questions:

- i. What are the improved agricultural practices passed to women farmers?
- ii. What are the sources of information to the women farmers?

Objectives of the Study

The main objective of the study is to investigate the factors influencing adoption of improved farm practices among women farmers in Osun State.

The specific objectives are to:

- i. identify the socio-economic characteristics of the women-farmers.
- ii. determine the improved farm practices passed to farmers.
- iii. examine sources of information of improved farm practices.
- iv. determine the adoption of improved farm practices.
- v. investigate the factors influencing adoption of farm practices.
- vi. determine the characteristics of the improved farm practices.

Hypothesis of the Study

There is no significant relationship between factors affecting innovation and adoption of improved farm practices.

METHODOLOGY

This study was carried out in the three agricultural zones of Osun State. A multistage sampling technique was employed to select the blocks, cells and villages used for the study. Simple random sampling technique was used to select 80 farmers in all. A well structured pre-tested and validated interview schedule was used to collect information from the women farmers. Information was collected on the demographic characteristics of the farmers, various sources of information available to them, factors influencing adoption and adoption of improved farm practices.

Measurement of Variables

The dependent variable is the adoption of improved farm practices among women farmers which was measured using the stages of adoption. Adoption was measured using 5 point scale. Awareness 1 point, interest (2 point) Evaluation (3 points), Trial (4 points) and adoption 5 points. The minimum score for adoption was 11 points while maximum score is 55 points. The independent variables are demographic characteristics of the women farmers, sources of information and factors affecting adoption of improved farm practices.

RESULT AND DISCUSSION

Socio-economic Characteristics of the Women Farmers: Data in Table 1 show the distribution of women farmers by demographic characteristics. The data showed that majority (81.25%) of the women were in the age range of 21-50 years, 12.5 percent were less than 20 years old while 6.25 percent were 50 years and above. About 83.75 percent were married, 6.25 percent were single and widowed respectively, 2.5 percent were divorced while 1.25 percent were separated.

About 48.75 percent of the women farmers had primary school completed, 15 percent had

Table 1: Distribution of women farmers by demographic characteristics

Characteristics	Frequency	Distribution
<i>Age</i>		
Less than 20 years	10	12.5
21-30 years	15	18.75
31-40 years	25	43.75
41-50 years	15	18.75
50 years above	5	6.25
<i>Marital Status</i>		
Single	5	6.25
Married	67	83.75
Divorced	2	2.5
Separated	1	1.25
Widowed	5	6.25
<i>Level of Education</i>		
Illiterate	8	10
Adult literacy	11	13.75
Primary school	39	48.75
Secondary school	12	15.0
Post-secondary school	10	12.5
<i>Farm Size (acres)</i>		
1-5	70	87.5
6-10	4	5.0
11-15	5	6.25
15 and above	1	1.25
<i>Farming Experience</i>		
1-10 years	18	22.50
11-20 years	22	40.0
21-30 years	20	25.0
31-40 years	7	8.75
41.50 years	3	3.75
<i>Religion</i>		
Christianity	45	56.25
Islam	35	43.75
<i>Occupation</i>		
Farming	75	93.75
Trading	3	3.75
Civil servants	2	2.75

Source: Field Survey 1998.

secondary school education while 13.75 percent of the women had adult literacy education. Also 12.5 percent had post-secondary school education but 10 percent of the women farmers had no education at all. Majority (87.5%) had their farm size between 1 and 5 acres. About 6.25 percent had farm size between 11-15 acres while 5 percent had between 6-10 acres but only 1.25 percent had farm size of 15 acres and above.

The mean years of experience is 25 years. Majority (73.75%) of the women farmers had years of experience between 11-40 years, 22.50 percent had experience between 1-10 years while 3.75 percent had experience between 41-50 years. About 56.25 percent were Christians while 43.75 percent were Muslims. Majority (93.75%) of the women were farmers, 3.75 percent were traders while 2.75 percent were civil servants.

Improved Farm Practices: Data in Table 2 show the distribution of improved farm practices passed across to women farmers. A hundred percent each identified application of fertilizers, improved management practices of livestock, processing techniques of maize, cassava, cowpea, soyabean and palmoil respectively. About 93.75 percent, identified spraying of herbicides, while 75 percent identified improved planting spacing of crops. About 56.25 percent identified use of crop residue to feed livestock but 50 percent acknowledged intensive feed garden.

Table 2: Improved farm practices

Improved technologies	Frequency	Percentage
Improved planting spacing of crops	60	75
Application of fertilizers	80	100
Spraying of herbicides	75	93.75
Improved mgt practices of L/S	80	100
Intensive feed garden	40	50
Use of crop residue to feed L/S	45	56.25
Processing Techniques of Maize	80	100
Processing Techniques of cassava	80	100
Processing Techniques of cowpea	80	100
Processing Techniques of soyabean	80	100
Processing Techniques of palm oil	80	100

* Multiple response

Source: Field Survey 1998.

Sources of Information: The data in Table 3 show the distribution of respondents by sources of information available to them. A hundred percent each of the women farmers acknowledge Osun State ADP WIA agent, farmers organization meeting, mass media and village head respectively, as the source of information to them. About 93.75 percent identified demonstration plot, 87.5 percent mentioned contact farmers. About 75 percent each identified

Table 3: Distribution of women by sources of information

S.No.	Sources of Information	Frequency	Percentage
1.	Osun State ADP WIA Agent	80	100
2.	Farmers organization meeting	80	100
3.	Contact farmers	70	87.5
4.	Friends and neighbours	60	75
5.	Salesman	45	56.25
6.	Agricultural shows	35	43.75
7.	Demonstration plot	75	93.75
8.	Village head	80	100
9.	Mass media	80	100
10.	Bulletins	60	75

* Multiple response

Source: Field Survey 1998.

bulleting and friends and neighbours respectively. About 56.25 percent identified salesman while 43.75 acknowledged agricultural shows as their source of information.

Adoption of Improved Farm Practices: Data in Table 4 show the distribution of women farmers by adoption of improved farm practices. A hundred percent each have adopted application of fertilizer, improved processing techniques for cassava, soyabean and palm oil respectively. About 93.75 percent each adopted intensive feed garden and use of crop residue to feed livestock and 83.75 percent adopted improved processing technique for cowpea. About 56.25 percent adopted improved planting spacing of crops while 37.5 percent adopted processing techniques of maize. Only 25 percent adopted spraying of herbicides and 18.75 percent were found to have adopted improved management practices.

Table 4: Distribution of women farmers by adoption of improved farm practices

Improved Technologies	Frequency	Percentage
Improved planting spacing of crops	45	56.25
Application of fertilizers	80	100
Spraying of herbicides	20	25
Improved management practices of livestock	15	18.75
Intensive feed garden	75	93.75
Use of crop residue to feed livestock	75	93.75
Processing techniques of maize	30	37.5
Processing Techniques of cassava	80	100
Processing Techniques of cowpea	67	83.75
Processing Techniques of soyabean	80	100
Processing Techniques of palm oil	80	100

* Multiple response

Source: Field Survey 1998.

Factors Influencing Adoption of Improved Farm Practices: The data in Table 5 show the distribution of respondents by factors influencing adoption of improved farm practices. The data is classified into groups: characteristics of the innovation, characteristics of adopters, cultural factors, characteristics of the change agent, government policy and environmental factor.

Characteristics of Innovation: A hundred percent each identified cost relative advantage and technical appropriateness respectively. About 93.75 identified complexity while 87.75 percent picked divisibility.

Characteristics of Adopters: A hundred percent each of the women farmers identifies technical skill, attitude towards change, attitude towards taking risk, farmers exposure, religion, educational level and labour respectively. About 93.75 percent identified farmers exposure, 83.50

Table 5: Distribution of women farmers by factors influencing adoption of improved farm practices

Factors Affecting Adoption	Freq- uency	Perce- ntage
A. <i>Characteristics of Innovation</i>		
i. Cost	80	100
ii. Relative advantage	80	100
iii. Technical appropriateness	75	93.75
iv. Simplicity of application		
i.e. complexity	70	87.50
v. Divisibility		
B. <i>Characteristics of Adopters</i>		
i. Technical skill	80	100
ii. Attitude towards change	80	100
iii. Attitude towards taking risk	80	100
iv. Income level	80	100
v. Farmers exposure	75	93.75
vi. Land tenure system	80	100
vii. Years of farming experience	60	75
viii. Religion	70	83.5
ix. Educational level	80	100
x. labour	80	100
C. <i>Cultural Factors</i>		
i. Belief	80	100
ii. Norms	80	100
iii. Taboo	80	100
D. <i>Characteristics of Change Agents</i>		
i. Communication ability.	65	81.25
ii. Competency	80	100
iii. Credibility	80	100
iv. Confidence	75	93.75
E. <i>Government Policy</i>	80	100
F. <i>Environmental Factors</i>		
Weather condition	80	100

Source : Field Survey 1998

percent identified years of farming experience while 75 percent identified land tenure system.

Cultural Factors: A hundred percent each identified belief, norms and taboos respectively.

Characteristics of Change Agents: A hundred percent each identified competency and credibility as factors of change agents that influence adoption of innovation. About 93.75 percent identified communication ability of the agent as one of the factors.

Other Factors: A hundred percent each acknowledged government policy and weather condition respectively as factors influencing adoption of improved farm practices among women farmers.

Relationship Between Factors Influencing Adoption and Adoption of Innovation: The data in Table 6 show the relationship between factors influencing adoption of innovation and adoption rate. The data showed that credibility ($r = 0.470$), cost ($r = 0.345$), land tenure ($r = 0.320$) divisibility ($r = 0.25$), communication ability ($r = 0.241$) and relative advantage ($r = 0.235$) had positive and significant relationship with

adoption of innovation. However, religion ($r = -0.431$), technical appropriateness ($r = -0.401$) and belief had a negative but significant relationship with adoption. Other factors with positive but insignificant relationship are confidence ($r = 0.197$), weather condition ($r = 0.117$), attitude towards change ($r = 0.125$), farmers exposure ($r = 0.124$) income level ($r = 0.187$), level of education ($r = 0.111$) competence ($r = 0.067$) technical skill ($r = 0.061$), government policy ($r = 0.091$) and years of farming experience ($r = 0.037$). Only Taboo ($r = -0.123$) had a negative but insignificant relationship with adoption.

Table 6: Relationship between factors influencing adoption of innovation and adoption

Factors Affecting Adoption	Percentage
A. Characteristics of Innovation	
i. Cost	-0.345*
ii. Relative advantage	0.235*
iii. Technical appropriateness	-0.401*
iv. Simplicity of application i.e. complexity	0.251*
v. Divisibility	
B. Characteristics of Adopters	
i. Technical skill	0.061
ii. Attitude towards change	0.125
iii. Attitude towards risk taking	
iv. Income level	0.187
v. Farmers exposure	0.124
vi. Land tenure system/years of farming experience	-0.320*
vii. Religion	0.037-
viii. Level of education	0.431*
ix. Labour availability	0.111
x.	
C. Cultural Factors	
i. Belief	-0.253*
ii. Norms	-0.311*
iii. Taboo	-0.123
D. Characteristics of Change Agents	
i. Communication ability.	0.241*
ii. Competency	0.067
iii. Credibility	0.470*
iv. Confidence	0.197
E. Government Policy	0.091
F. Environmental Factors	
Weather condition	0.117

Source: Field survey 1998.

CONCLUSION

Majority (81.75%) of the women farmers are in the age range between 21-50 years. About 83.75 percent are married while 90percent had one form of education or the other. Majority of the women farmers are small scale with mean farm size of 5.2 acres. Many of the farmers had years of farming experience ranging from 11-40 years with a mean of 25 years from the report of the study, a number of factors influenced

adoption of improved farm practices hence the extension agent should critically look at all these factors especially those that had significant relationship with adoption and make sure that those variables were used to the advantage of the farmers.

Innovations which are costly and complex for the farmers to apply will not receive the good will of the farmers hence their rejection. So the extension agent or agencies of agriculture should make sure that the innovations taking to farmers must be relatively cheap so that it would be within the economic reach of the farmers. It should also be simple for the farmer to use by themselves without much external assistance. Also innovations to be introduced must conform with norms and the belief of the people and should not run counter to the existing religion of the people.

RECOMMENDATIONS

Based on the result of the findings, the following recommendations are made.

- (1) The characteristics of the extension agents goes a long way to affect the decision of the adopters hence they must be given adequate training before and on the job to improve upon their characteristics e.g. communication ability and credibility.
- (2) The innovations to be passed on to the farmers must have good relative advantage and should not be expensive for the farmers to afford.
- (3) Agencies of agricultural development should be very conscious of the existing culture when designing innovation for development.

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