

## **Constraints to Adoption of Agricultural Innovations among Women Farmers in Isokan Local Government Area, Osun State**

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### **Abstract**

*Women play indispensable role in agriculture and in improving the quality of life in rural areas. However, their contribution often remains concealed due to some social barriers and gender bias. This study assessed the adoption of Agricultural Innovations among rural women farmers in Isokan Local Government Area of Osun State. To achieve this major objective, the study identified the socio-economic characteristics of the respondents as well as agricultural innovations introduced and their extent of use. Also the study determined the effects of technologies used on agricultural production. Purposive sampling technique was used in selecting eighty (80) women farmers from eleven villages in Isokan Local Government Area based on the registration of the women farmers in the local Government headquarters. Information was collected through structured interview schedule. Percentage and frequency distribution were used for the descriptive analysis while Pearson product moment correlation was used to determine the relationship between the variables. The result of findings revealed that a positive and significant relationship exists between the constraints encountered and adoption level of Agricultural Innovation. It was also revealed that late adoption of innovations was due to irregular visits of extension agent. The major constraint revealed in the study was unstable market price, which has seriously affected the women's activities. Therefore the study recommends that the government should enforce price stabilization policies which will control market prices so as to reduce shortage and losses.*

### **Introduction**

Women being an integral part of farming household provide 60 and 80 percent of all agricultural labour (Mahmood, 2001). According to Ukpongson and Mathews-Njoku (2003), women form the backbone of rural development and represent a major force that could boost rural economy, higher growth rate and increased food production. Over the years, reports across different societies of the world including those of Nigeria clearly gave evidence to the productive capability of women in National development in relation to their men folks. Women actually constitute the bulk of the world's food producers by predominating the agricultural sector in terms of numbers and tasks performed. Eboh (1988) is of the view that despite women's major responsibility in household, health and nutrition, their role in agriculture covers all facets of agro-business, including food production, livestock production, fishing as well as farm management.

The importance of improved technology to agricultural development especially in less developed countries is widely recognized. This is predicated on the observed impact of these innovations and its potentials and actual contributions to the development of agriculture. In developing countries like Nigeria where a greater proportion of the population lives in rural areas, agricultural technologies could also provide a potential means of increasing production and subsequently raising incomes of farmers as well as their standard of living. The acceptance of improved agricultural production practices in any locality at any given time is as a result of the interaction of various factors including certain personal characteristics (Jibowo, 1992). Women play indispensable role in agriculture and in improving the quality of life in rural areas. However, their contribution often remains concealed due to some social barriers and gender bias. Also, government programs often fail to focus on women in agriculture. It is a common knowledge that women in Nigeria contribute more than 50 percent of the Nation's population; also the bulk of the rural women partake in agriculture (Ajayi, 1989). As a result of all these, the need for the adoption of innovation in agricultural production is paramount as this will aid in the reduction of drudgery and time spent on agricultural activities which will invariably increase productivity and efficiency.

Consequently, there are some constraints facing the rural women's adoption of agricultural innovation which include failure of extension workers to reach them, lack of incentive for adoption of innovation, limited access to credit inputs and lack of access to membership in cooperatives and other rural organizations. Empirical study have shown that some women because of their habit and apathy are resistant to change, that is, they cannot agree to accept any agricultural innovation which may definitely change or affect their agricultural system. Introducing improved agricultural practices to rural women is not easy and adoption of innovation is very essential. It is based on this background that this study has investigated the constraints encountered by women in adoption of agricultural innovations in the study area. To achieve this main objective, the study identified the socio-economic characteristics of the women farmers, Examined the different agricultural innovations introduced to the area and their extent of use. The study further determined the relationship between the socio-economic characteristics of rural women and constraints to the adoption level.

### **Study area**

The study was carried out specifically in Isokan local government area of Osun state. Most of the people in the area are subsistence farmers who grows both arable crop such as maize, cowpeas, vegetable, rice, beans e.t.c and cash crops like palm trees and vegetation. They are also rearing animals like poultry sheep and goat. The area is a forest zone and also a climatic condition characterized by two distinct seasons which are rainy season and dry season. The rainy season has two marked peaks in March/April and September/October. The rainy season last for 6months and the type of soil founded in the area include loamy soil, clay soil, and sandy soil, which suitable for arable crops and livestock production. The women involved in agricultural production in Isokan local government area constitute the population of the study. There are 36 villages in the study area, purposive sampling techniques was used in selecting eleven villages based on the registration of women farmers in the local government head quarters. In all there are 80 registered women farmer from eleven villages as sample size for the study. Structured Interview schedule was used in collecting information from the respondents and information collected were based on the objective of the study which are socio economics characteristics, Agricultural innovations introduced, extent of use of the innovations and the effects of the used innovations on Agricultural production. Frequency distribution, percentages and mean values were used for the descriptive statistics, while Pearson product moment correction was used to determine the relationship between variables. The dependent variable is the level of adoption which was determined by the extent of use of the innovations. While the independent variables are the constraints to adoption level

### **Data Analysis and Discussion**

#### **Socioeconomic characteristics of respondents**

The socioeconomic characteristics of the sampled women farmers are shown in table 1. The table shows that 47.5 percent of the respondents were in their active age (31-40 years) while majority (92.5 percent) of the respondents were married, and about 66 per cent of the respondents had one form of formal education or the other. So also 56.3 per cent of the respondent had maximum number of four members in their household while 71.3 percent of the respondent practice farming as their primary occupation. Another 96.3 percent of the respondent had farm sizes between 1 and 5 hectares while most (52.5 per cent) of the women obtain information from market places. From the findings of the study, the high literacy level might help in faster adoption of farm innovations.

#### **Extent of use of innovations**

The agricultural innovations still in use as shown in Table 2 include regular weeding (6.3%), disease control (10.0%), fertilizer application (5.0%) and crop spacing (8.8%). Others are planting techniques (15.0%), adequate disease control (3.8%) hybrid seed (8.8%), tools and equipment (5.0%) and processing/storage facilities (8.8%). It can be observed that the percentages of the respondents still using of these innovations are low. It therefore justifies the need to investigate the constraints to the adoption of the innovations in the study area.

#### **Effects of adoption of innovation**

Table 3 shows the effect of the adoption of innovations such as increased productivity, increased output, increase income, health security, environmental security, food security, improved varieties, adequate control measure and improved seed. The table also ranks the extent to which the respondents accept these effects from the use of the innovations as strongly accepted, accepted, and not accepted. The table reveals that adequate control measure was ranked first (2.13) as the major effect of adoption of the innovation introduced.

This was followed by improved varieties (2.11), increased income (1.9), environmental security (1.88), Health security (1.85), increased productivity (1.37), increase output (1.18), food security (1.17) and finally improved seed (1.10) as the least effect that resulted from the use of innovation. This implies that majority of the respondents accepted that the use of the introduced innovations had impacted positively in areas highlighted.

### **Constraints to adoption**

Table 4 reveals the constraints encountered by women in the adoption of innovations. It also ranks the level of constraints encountered by the respondents as serious constraint, mild constraint and not a serious constraint. The table ranks unstable market price as the most serious constraints (2.40), closely followed by insufficient finance (2.30), inadequate supply of innovation (2.20), high cost of innovation (2.20), like of production skills (2.20). Other constraints as their seriousness declines are inadequate agricultural input (2.10), shortage of land for farming and disease attack (2.00) as the least constraint encountered by the women. This implies that shortage of land for farming and disease attack are the least constraints to adoption in the study area.

H01: There is no significant relationship between the constraints to adoption and the adoption level of agricultural innovations.

The results of the analysis revealed that a negative but significant relationship was found between unstable market prices and the adoption level (-.041\*). Also a positive and significant relationship was found between high cost of innovations and the level of adoption.

### **Conclusion and Recommendation**

This study revealed that the rural women in the study area were introduced to new technologies such as Hybrid seed, adequate crop spacing, planting techniques, processing and storages facilities. The percentages of the respondents still in use of the innovations are low and the major source of information to the women is market places. Also majority of the respondents strongly accepted that adequate control measure, improved varieties and increased income are the major effects resulting from the use of Agricultural innovations introduced. Most of the respondent agreed that unstable market price, insufficient finance and inadequate supply of innovation were the most serious constraints encountered. Therefore, government should try as much as possible to stabilize market prices to reduce shortage and losses encountered by the farmers.

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## Tables

**Table 1: Distribution of Respondent by socioeconomic characteristics**

Variable	Frequency	Percentages
<b>Age</b>		
21-30	11	13.75
31-40	38	47.5
41-50	26	32.5
51-60	2	2.5
Above 60	3	3.75
<b>Marital status</b>		
Single	3	3.75
Divorced	3	3.75
Married	74	92.5
<b>Level of education</b>		
No formal ed	27	33.75
Pry education	38	47.50
Secondary edu	10	12.50
Tertiary	5	6.25
<b>Household size</b>		
0-4	45	56.25
5-9	22	27.5
10-14	13	16.25
<b>Primary occupation</b>		
Farming	57	71.25
Others	23	28.75
<b>Farm size</b>		
1-5	77	96.25
6-10	3	3.75
<b>Sources of information</b>		
Mass media	8	10.0
Extension agents	20	25.0
Market	42	52.5
Other farmers	10	12.5

**Table 2: Distribution of Respondents according to Extent of Use of the Technologies**

Extent of use	Use & discontinue	Not all the time	Some of the time	All the time	Still in use	Total
Regular weeding	6(7.5)	29(36.3)	11(13.8)	29(36.3)	5(6.3)	80(100.0)
Disease control	7(8.8)	29(36.3)	20(25.0)	16(20.0)	8(10.0)	80(100.0)
Fertilizer application	4(5.0)	35(43.8)	22(27.5)	15(18.8)	4(5.0)	80(100.0)
Crop spacing	10(12.5)	30(37.5)	20(25.0)	13(16.3)	7(8.8)	80(100.0)
Planting techniques	14(17.5)	29(36.3)	16(20.0)	9(11.3)	12(15.0)	80(100.0)
Adequate disease control	9(11.3)	31(38.8)	18(22.5)	19(23.8)	3(3.8)	80(100.0)
Hybrid seed	9(11.3)	29(36.3)	28(35.0)	7(8.8)	7(8.8)	80(100.0)
Tools and equipment	12(15.0)	28(35.0)	30(37.5)	6(7.5)	4(5.0)	80(100.0)
Processing and storage	14(17.5)	31(38.8)	23(28.8)	5(6.3)	7(8.8)	80(100.0)

Source: Field survey, 2011

**Table 3: Distribution of Respondents according to Effect of Used Innovations on Agricultural production**

<b>Effect</b>	<b>Not accepted</b>	<b>Accepted</b>	<b>Strongly accepted</b>	<b>WMS</b>	<b>RANK</b>
Adequate disease control	14(17.5)	38(47.5)	27(33.8)	2.13	1 <sup>st</sup>
Improved varieties	9(11.3)	50(62.5)	20(25.0)	2.11	2 <sup>nd</sup>
Increased income	6(7.5)	56(70.6)	17(21.3)	1.9	3 <sup>rd</sup>
Environmental security	15(18.8)	53(66.3)	10(12.5)	1.88	4 <sup>th</sup>
Health security	18(22.5)	53(66.3)	8(10.0)	1.85	5 <sup>th</sup>
Increased productivity	45(56.3)	28(35.0)	3(3.8)	1.37	6 <sup>th</sup>
Increased output	51(63.8)	19(23.8)	2(2.5)	1.18	7 <sup>th</sup>
Food security	46(57.5)	21(26.3)	2(2.5)	1.17	8 <sup>th</sup>
Improved seeds	58(72.5)	10(12.3)	1(1.3)	1.01	9 <sup>th</sup>

Source: Field survey, 2011

**Table 4: Distribution of Respondent according to Constraints to adoption**

<b>Constraints</b>	<b>Not a constraint</b>	<b>Mild constraint</b>	<b>Serious constraint</b>	<b>WMS</b>	<b>RANK</b>
Unstable market price	2(2.5)	44(55.0)	33(41.3)	2.4	1 <sup>st</sup>
Insufficient finance	4(5.0)	41(51.3)	33(4.3)	2.3	2 <sup>nd</sup>
High cost of innovations	6(7.5)	40(50.0)	30(37.5)	2.2	3 <sup>rd</sup>
Inadequate supply of innovations	4(5.0)	45(56.3)	28(35.0)	2.2	3 <sup>rd</sup>
Lack of production skill	10(12.5)	35(43.8)	33(41.3)	2.2	3 <sup>rd</sup>
Inadequate agricultural input	9(11.3)	43(53.8)	25(31.3)	2.1	6 <sup>th</sup>
Shortage of land for farming	11(13.8)	51(63.8)	15(18.8)	2.0	7 <sup>th</sup>
Disease attack	12(15.0)	39(48.8)	26(32.5)	2.0	7 <sup>th</sup>

Source: Field survey, 2011

**Relationship between the constraints encountered and level of adoption**

<b>Variable</b>	<b>r-value</b>	<b>Decisions</b>
Unstable market prices	-.041*	S
Insufficient finance	-.047	NS
High cost of innovation	.143*	S
Inadequate supply of innovation	.017	NS
Lack of production skill	-.015	NS
Inadequate agricultural input	.028	NS
Shortage o land for farming	.043	NS
Disease attack	.062	NS