

## **COMPARISON OF USE OF IMPROVED AGRICULTURAL PRACTICES BY CONTACT AND NON-CONTACT FARMERS IN KWARA STATE, NIGERIA**

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### **Abstract**

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The study compared the use of improve agricultural practices between the contact and non-contact farmers in Kwara State, Nigeria. A three-stage sampling technique was used in the selection of 189 contact and 163 non-contact farmers for the study. The data was analyzed with the use of simple descriptive statistics such as frequency counts and percentages. The findings showed that majority of contact (93.2%) and non- contact (95.7%) farmers were males and also 98.9% contact farmers and 100.0% non-contact farmers were married. The results further revealed that more than half (58.3%) of the contact farmers and non- contact farmers (52.6%) were between 45 and 60 years percentage of the contact farmers that have no formal education is smaller (39.8%) than non-contact farmers (64.0%). The result showed that 22 improved agricultural practices have been introduced into the state before the study was carried out. These were categorized into seven based practices. The study further showed that contact farmers used more of the improved agricultural practices than non-contact farmers and there were significant differences in their use of these improved agricultural practices except in fisheries. It was therefore recommended that the contact farmer approach to agricultural information dissemination should continue. However, there is the need to periodically re-evaluate the performance of the contact farmers and make the needed changes or replacement of those who are not performing to expectations. Also an agricultural extension policy that adhere strictly to the criteria for the selection of contact farmers laid down by the Kwara Agricultural Development Project (ADP) should be followed strictly.

*Key words:* comparison, use, agricultural practices, contact farmers and non-contact farmers, Kwara ADP

### **Introduction**

Rural development has been approached from many perspectives: political, industrial, economic and agricultural. Also, Nigerian government over time had instituted various programmes and policies to increase

agricultural productivity Most of such programmes had been scrapped due to their failure in achieving set objectives but out of the existing few programmes, the Agricultural Development Programme (ADP) however, possesses a high prominence and state-wide status (Olarinde et al., 2005). It is one of such approaches

to rural development. The need to improve agricultural production and rural income led to its establishment in 1975 to break the barriers to agricultural development and more importantly, to meet the needs of the small-holders and rural farmers (Fasoranti, 2006).

The Training and Visit Extension System was introduced into Agricultural Development Project to be the main medium of communicating agricultural information to the farmers and also for the Training of Extension Staff. The Training and Visit Extension System has been in operation in Kwara State since 1988 when Ilorin Agricultural Development Project went state-wide (MANR, 1988).

It is a well known fact that the critical function of agricultural extension is to enhance the diffusion of agricultural innovations generated from research, and more often, the success of an extension program is associated with the level of adoption of recommended agricultural innovations.

A very important component of the Training and Visit Extension System is the contact farmer. Frequent contact between a Village Extension Agent (VEA) and all farmers in his circle is not possible. Instead, while being responsible, to all farmers, on each forthrightly visit the VEA focuses on a small, selected numbers of farmers "contact farmers" in each farmer's group" and meets with any other farmers who are willing and interested to attend his visits and seek his advice. Benor and Baxter (1984) contact farmers are selected according to the following characteristics Benor and Baxter (1984):

- They should represent proportionately the main socio-economic and farming conditions of their group and be regarded by other farmers as able and worthy of limitation;

- They should be practicing farmers;

- They should be willing to adopt relevant recommendations on at least a part of their land, and allow other farmers to observe the practices, and explain the practices to them;

- As far as the size and composition of farmers' groups permits, they should come from different families; and

- Their farms should be dispersed throughout the group area. Tenants, share croppers, young farmers, and women farmers may be contact farmers if they possess these characteristics. No major type of farmer should be over or under-represented among the contact farmers of a group. Once a contact farmer becomes disinterested in the work of the VEA or becomes in other ways ineffective, he should be replaced.

In his work on the Training and Visit in Somalia, Chapman (1987) reported an overall adoption rate of around 60% for contact farmers and 26% for fellow farmers, after four years of extension activities in three key regions. Khan et al. (1984) reported that yields obtained by contact farmers in cotton, wheat, rice, maize and groundnut were higher than those of non-contact farmers in project and non-project farmers, while yield difference was significant between contact and non-contact farmers for cotton, it was not significant for other crops. In Tanzania, Due et al. (1987) found a significant difference in yields between contact and non-contact farmers, female headed and non T and V farmers' yields per hectare of maize 1648,914,837 and 618kg respectively. In Nigeria, Windapo (2002) found that contact farmers were more aware of maize and Cassava technology recommended practices than non-contact farmers. They were also more knowledgeable than non-contact farmers in terms of the recommendations since they are more aware and more knowledgeable; they are also more accurate at implementation of recommendations.

The objectives of this study are to:

- Determine the personal characteristics of contact and non-contact farmers;

- Identify the improved agricultural practices introduced into the KwADP;

- Determine the use of improved agricultural practices by the contact and non-contact farmers in Kwara State Agricultural Development Project.

### ***Hypothesis***

There is no significant difference in the use of selected improved Agricultural practices (crop varieties, land preparation, agro-chemicals, animal rearing, tree fruits, soya products and use of fisheries) by contact and non-contact farmers.

### **Methodology**

The study was carried out in Kwara State of Nigeria. Kwara State came into existence on 2<sup>nd</sup> May, 1967 when the country was split into twelve states by the Federal Military Government headed by Major General Yakubu Gowon. Initially the state was called Central West State, but was later changed to "Kwara" a name derived from the local name of the River Niger in some parts of the State. The state was carved out of the defunct Ilorin and Kabba provinces (The Herald, Jan, 30, 2002). The unit of analysis was (1) contact and (2) non-contact farmers. A three-stage sampling technique was used in the selection of zones, blocks, cells and villages for the study. There are four zones in Kwara State ADP namely: Zone A has Kalama as the Zonal Headquarters, Zone B has Pategi as the Zonal Headquarters, Zone C has Malete and Zone D has Igbaja as Zonal Headquarters respectively. A total of 189 contact farmers were selected from the list of contact farmers with the Kwara Agricultural Development Project while a total of 163 non-contact farmers was selected using systematic random sample of selecting every 5<sup>th</sup> house in the selected cells and villages for the study. Variables that were measured in the study were improved agricultural practices introduced into Kwara ADP and the use of improved agricultural practices by the contact and non-contact farmers. It was discovered that about 22 improved agricultural practices have been introduced into the ADP before the study was carried out. These were categorized into seven namely: Improved crop varieties, improved land preparation, use of agrochemicals, and use of animal rearing, tree fruits, soya products and fisheries.

Use of improved agricultural practices was measured by assigning 0 for No answer and 1 for yes response. The data was analyzed using frequency counts and percentages to compare the responses of the contact and non-contact farmers.

## **Results and Discussion**

### ***Characteristics of the Respondents***

On Table 1 the general characteristics of the con-

tact and non-contact farmers are presented: The table shows that more than half (58.3%) of the contact farmers and non-contact farmers (52.6%) were between 45 and 60 years. This is similar to the result of Windapo (2002) who found that most of the contact and non-contact farmers are middle aged in Oyo agricultural development programme. About 93.2% of the contact and 95.7% of the non-contact farmers were males. Majority of contact farmers (about 60.20%) had some level of formal education. On the other hand, about 64.0% of the non-contact farmers were without formal education.

These results have an implication on the disparity between the adoptions of innovations such as improved seeds, modern farming practices etc. by the contact and non-contact. They also have implications on their productivity (Nasko, 1990). Most of the contact (98.9) and non-contact (100.0) farmers were married but 1.1% of the contact farmers were divorced. Results further show that 78.6% of the contact and 80.3% of non-contact farmers had between 1-2 wives while 21.4% of the contact farmers and 19.7% of the non contact farmers had 3-4 wives. Less than one third of the contact farmers (26.6%) and non-contact farmers (28.8%) were small sized farmers with less than 2 hectares farm size while more than one third (contact farmers-40.2%, and 33.6% non-contact farmers) had between 2 to 5 hectares. The result also shows that 28.4% of contact farmers had less than 25 years of farming experience, while it is 36.6% for non-contact farmers. It also shows that 48.4% of contact farmers had between 25-40 years of farming experience, but it is 34.8% for non-contact farmers. There are 23.2% of contact farmers with over 40 years of farming experience while it is 28.6% for non-contact farmers.

### ***Improved Agricultural Practices Introduced into Kwara ADP***

Results in Table 2 show the improved agricultural practices introduced into Kwara Agricultural Development Project as at the time of this study. The table shows that about twenty-two improved agricultural practices have been introduced into the ADP. These

**Table 1**  
**Characteristics of the Contact and Non- Contact Farmers**

Characteristics	Contact farmers		Non-contact farmers	
	Frequency	%	Frequency	%
Age (in years)				
<45	26	14	31	20.1
45-60	109	58.3	81	52.6
>60	52	27.8	42	27.3
Sex				
Male	177	93.2	154	95.7
Female	13	6.8	7	4.3
Marital status				
Single	-	-	-	-
Married	189	98.9	161	100
Divorced	2	1.1	-	-
No of wives				
1-2	136	78.6	118	80.3
3-4	37	21.4	29	19.7
Educ. Levels				
No formal Edu.	76	39.8	103	64
Adult/Arab Edu	61	31.9	29	18
Primary Edu.	40	20.9	14	8.7
Secondary Edu.	10	5.3	7	4.4
Tertiary	4	2.1	8	4.9
Farm size(Ha)				
<2	49	26.6	42	28.8
2-5	74	40.2	49	33.6
>5	61	33.2	55	37.7
Farming Exp.				
<25 years	54	28.4	59	36.6
25-40	92	48.4	56	34.8
>40	44	23.2	46	28.6

Source: Field survey: 2007

twenty-two improved agricultural practices were as follows: Improved maize, improve cassava, improved cowpea, improve rice, improve yam, tractor plugging, animal plugging, see dressing, insecticides, fungicides, herbicides, fertilizer, grain storage, animal vaccination, goat rearing, sheep rearing, poultry keeping, citrus growing, cashew growing, soya beans milk, soya beans cheese, fish keeping.

These twenty-two improved agricultural practices were categorized into seven based on their similarity in usage, as shown on Table 2.

#### ***Use of Improved Agricultural Practices by Respondents***

The results in Table 3 show the use of improved agricultural practices by contact and non-contact

**Table 2**  
**Improved agricultural practices introduced into Kwara ADP**

S/No.	Categorization of improved agricultural practices	Improved agricultural practices
1	Improved Crop Varieties	Improved Maize, improved Cassava, improved Cowpea, improved Rice, and improved Yam
2	Improved land preparation	Tractor plugging and animal plugging
3	Agro-Chemical usage	Seed dressing, use of insecticides, fungicides, herbicides, chemical storage and fertilizer usage
4	Animal rearing	Animal vaccination, goat rearing, sheep rearing, and poultry keeping
5	Tree fruits	Citrus growing, and Cashew growing
6	Soya products	Soya milk and Soya beans cheese
7	Fisheries	Fish keeping

Source: Field Survey (2007)

farmers in Kwara ADP. Farmers who used at least one of the improved agricultural practices in each category were regarded to have used improved agricultural practices. Farmers who did not use any of the improved agricultural practices in each category were regarded as not using. As can be seen in Table 2, about 87.5% of contact farmers used improved crops varieties compared with 84.5% for non-contact farmers.

The table shows that a high proportion of both the contact and non-contact farmers used improved crop varieties. This shows that the T and V extension system has been able to push to farmers in Kwara ADP improved crop varieties over the years.

Results further showed that 44.5% of the contact farmers used improved land preparation while 55.5% did not use improved land preparation. Also 45.8% of NCF used improved land preparation while 54.2% did not use it. The data showed that a high percentage of both groups of farmers did not use improved land. This showed that improved land preparation of tractor plugging and animal plugging, is not very popular in Kwara ADP. This implied that the T and V extension has not been able to push this improved agricultural practices to the farmers.

Results in Table 3 further showed that a high percentage of contact and non-contact farmers used Agro-Chemical in their farming operations. About 87.1% for contact and 85.1% for NCF respectively used Agro-Chemicals. As for animal rearing a high percentage of contact farmers 87.1% used animal rearing compared to 13.1% for non-contact farmers. With regards to use of Tree fruits, about 74.7% non-contact farmers used Tree fruits compared with 23.4% contact farmers. This finding is surprising because one would expect a high percentage of contact farmers to use tree fruits than non-contact farmers; as for soya products 71.5% of contact farmers used soya product compared with 63.5% for NCF. Finally, 32.6% of contact farmers used Fisheries compared with 30.5% for non-contact farmers. It can be seen that Fisheries even though it has been pushed through the T and V is not very popular in Kwara State.

#### *Testing of Hypothesis*

There was a major working hypothesis set for this study: There is no significant difference in the use of selected improved Agricultural practices by contact and non-contact farmers.

Data in Table 4 is a result of the t- test analysis to

**Table 3**  
**Use of improved agricultural practices by respondents**

	Improved agricultural practices	C.F.		N.C.F.	
		No.	%	No.	%
a	Use of improved crop Varieties				
	Yes	165	87.3	136	84.5
	No	24	12.7	25	15.5
	Total	189	100	161	100
b	Use of improved land preparation				
	Yes	77	44.5	71	45.8
	No	96	55.5	84	54.2
	Total	173	100	155	100
c	Use of Agro-Chemical				
	Yes	162	87.1	137	85.1
	No	24	12.9	24	14.9
	Total	186	100	161	100
d	Use of Animal rearing				
	Yes	162	87.1	21	13.1
	No	24	12.9	139	86.9
	Total	186	100	160	100
e	Use of Tree Fruits				
	Yes	141	23.4	118	74.7
	No	43	76.6	40	25.3
	Total	184	100	158	100
f	Use of Soya Products				
	Yes	133	71.5	101	63.5
	No	53	28.5	58	36.5
	Total	186	100	159	100
g	Use of Fisheries				
	Yes	59	32.6	45	30.5
	No	122	67.4	104	69.5
	Total	181	100	149	100

Source: Field Survey (2007)

show whether there is significant difference in the use of selected improved Agricultural practices between contact and non-contact farmers.

There were seven improved agricultural practices (crop varieties, land preparation, agro-chemicals, animal rearing, tree fruits, soya products and use of fisheries) considered. Out of all the practices, six showed significant differences. These included crop varieties,

land preparation, agro-chemicals, animal rearing, tree fruits and soya products. The values were as follows: crop varieties ( $t=3.913$ ,  $p=0.00$ ), land preparation ( $t=3.903$ ,  $p=0.00$ ), agro-chemicals ( $t=5.084$ ,  $p=0.00$ ), animal rearing ( $t=3.996$ ,  $p=0.00$ ), tree fruits ( $t=5.011$ ,  $p=0.00$ ) and soya products ( $t=5.062$ ,  $p=0.00$ ). All these were as a result of the fact that contact farmers generally first use new agricultural

**Table 4**  
**T-test for equality of means between the contact and non-contact farmers**

Improved practices	t-value	Significant difference	Remark
Crop varieties	3.913	0	Significant
Land preparation	3.903	0	Significant
Agro-chemicals	5.084	0	Significant
Animal rearing	3.996	0	Significant
Tree fruits	5.011	0	Significant
Soya Products	5.062	0	Significant
Fisheries	0.42	0.675	Non- Significant

Source: Field Survey 2007

practices. Use of fisheries did not show any significant difference ( $t=0.420$ ,  $p=0.675$ ).

## Conclusion

The study revealed that the percentage of respondents that used improved agricultural practices is higher for contact farmers than that of the non-contact farmers (except for improved land preparation) and there were significant differences in their use of these improved agricultural practices except in fisheries. The findings also showed that the percentage of the contact farmers that have no formal education is smaller, about 39.8% and this contributed to their easy acceptability of the new technologies while for the non-contact farmers the percentage of those that have no formal education is higher, about 64.0%. The contact farmer concept is an important factor in the Training and Visit Extension System and in the interface between agricultural technology generation and dissemination. Effective dissemination of generated agricultural technology has remained an intractable problem in Nigeria's agricultural extension efforts. The use of contact farmer as a link between the extension agency and the farming population has been in practice for over a decade in Kwara State. The over all effectiveness of the agricultural information dissemination process will depend primarily on who was selected to serve as a contact farmer. It is therefore recommended that the contact farmer approach to agricultural infor-

mation dissemination should continue. However, there is the need to periodically re-evaluate the performance of contact farmers and make the needed changes or replacements of those who are not performing of expectation. An agricultural extension policy that adheres strictly to the criteria for the selection of contact farmers laid down by the ADP should be followed strictly.

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