Behavioral factors influencing government's policy uptake among arable crop farmers in Ogun State, Nigeria

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Abstract

The study examined the behavioral factors influencing government policy utilization among arable crop farmers in Ogun State, Nigeria. Data were collected from a total of 120 arable crop farmers with the use of interview schedule, on socio-economic characteristics, awareness of farm inputs policy, perception of agricultural policy, attitude to and extent of utilization of the policy. Findings showed that majority (83.3%) had primary education and extension/advisory services. Majority (75.0%) had a high level of awareness of farm inputs policy, as more than half had unfavorable perception (51.7%) to farm inputs policy and attitude (58.3%) towards their utilization. Utilization of input policies was low among more than half (55.8%). Level of awareness (r = 0.404), perception of agricultural policy (r = 0.385) and attitude (r = 0.280) to use such policy significantly influenced level of utilization. Unfavorable perception of and attitude towards the use farm input policy of the government contributed to its low level of utilization. It is therefore recommended that availability of inputs to arable crop farmers be timely and with subsidies.

Keywords: Behavioral Factor; Government; Policy Uptake; Arable Crop; Farmer

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1. Introduction

Agriculture holdings in Nigeria are generally small and scattered, known as the arable farming. Arable farming which deals with the cultivation of food crops is often of the subsistence type, characterized by simple tools and shifting cultivation. More than 90 percent of the total food produced is accounted for by small-scale farmers with less than 2 hectares under cropping. Agriculture is fundamental to the sustenance of life and is the bedrock of economic development, especially in the provision of adequate and nutritious food, so vital for human development and industrial raw materials for industry.

Sustainable agricultural development is propelled by agricultural policy. The first national policy on agriculture was adopted in 1988 and was expected to remain valid for about fifteen years, that is, up to year 2000 (ARCN, 2008). Nigeria's agricultural policy is the synthesis of the framework and action plans of Government. designed to achieve overall agricultural growth and development. The policy aims at the attainment of self-sustaining growth in all the sub-sectors of agriculture and the structural transformation necessary for the overall socio-economic development of the country as well as the improvement in the quality of life of Nigerians (ARCN, 2008).

The main features of the policy include the evolution of strategies that will ensure self-sufficiency and the improvement of the level of technical and economic efficiency in food production. This is to be achieved through the introduction and adoption of improved seeds and seed stock, husbandry and appropriate machinery and equipment, timely extension service delivery etc. A number of agricultural development institutions were set up and special programmes and projects were launched in order to achieve these aims.

The subsisting policy document governing the agricultural sector is the New Agricultural Policy Thrust (FMARD 2000), which states the broad objective as the attainment of self-sustaining growth in all the sub-sectors of agriculture and the structural transformation necessary for the overall socio-economic development of the country as well as in the quality of life of Nigerians. The policy is focused on demand driven, needs oriented forward looking thrust. The sector policy has over the years found expressions in a number of individual policies such as the national fertilizer policy, national agricultural seed policy and the national integrated rural development policy, among others for the attainment of national food security.

Towards implementing these policies, a number of strategies have evolved over the time, including the series of defunct programmes and projects, such as: National Accelerated Food Production Project (1970); Operation Feed the Nation (1976); Green Revolution Programme (1980); Directorate of Food, Roads and Rural Infrastructure (1986); National Agricultural Land Development Authority (1988); Presidential Initiatives in Agriculture (2000). A set of current programmes include National Programme on Food (NPFS) Security, National Fadama Development Project, National Strategic Food Reserve Programme, Fertilizer market stabilization scheme, Agricultural Development Projects, River Basin Development Authorities, Agricultural Credit Guarantee Scheme Fund, Nigerian Agricultural Cooperative and Rural Development Bank, Nigerian Agricultural Insurance Company and Agricultural Development and Marketing Companies (Ayoola, 2009).

Despite these efforts aimed at ensuring sustainable agricultural development, reports from Oyeshola, Ajao and Lawal (2009) showthat food production in Nigeria has not improved significantly and the proportions of

people caught-up in food insecurity has continually increased in the last twenty years. For instance, Idachaba (2004) reported that the food self-sufficiency ratio in Nigeria fell from 98% in early 1960s to less than 54% in 1986. In 1990, 18% of the population (14.4million) was estimated to be critically food insecure and this increased to 36% (32.7millions) in 1992 and further increased to 40.7% in 1996. He stated further that at present, over 40% of Nigeria's estimated population of 133million people is food insecure. The resultant effect of this is that Nigeria's food importation bill has in the recent years risen astronomically and is gradually exceeding boundaries to damaging proportions. The reason for this ugly trend is largely attributable to poor performance of agricultural policy in Nigeria.

While Several research efforts aimed at unraveling the causes of this failure have focused too much attention on the government and her policy implementing agencies, it is pertinent to mention that not much efforts has been carried out to identify the "farmers-centered factors" responsible for the poor performance of agricultural policies in Nigeria. This research work was therefore conceived against the back drop of Kurt Lewin Force Field Model of Rural Development (Kedgar, 1996) who argued that social behaviour at a given point in time is conceptualized in a quasi-stationary equilibrium under the influence of positive and negative forces of equivalence. He added that in order to improve the society, there is need for the change agent to identify the negative and the positive forces influencing the society, so that efforts can be made to decrease the negative forces and increase the positive forces. The study is an attempt at complementing the several findings on the government-related factors with the farmers-related factors causing agricultural policy failures in Nigeria. This is anticipated to engender a holistic approach necessary to creating a conducive framework for effective policy implementation and utilization among farmers in Nigeria.

1.1. Objectives of the study

The general objective of the study is to investigate the behavioural factors influencing government's policy uptake among arable crop farmers in Ogun State, Nigeria. The specific objectives of the study include to:

i.   Assess the level of awareness of arable crop farmers towards farm input policies of the government
ii.   Ascertain respondent's perception towards agricultural policies of the government
iii. examine respondents' attitude towards the use of farm inputs policies of the government; and
iv.   Determine the extent of uptake of agricultural policies of the government among farmers in the study area.

1.2. Hypotheses of the Study

The following hypotheses stated in the null form were tested in the study:

Ho$_1$: There is no significant relationship between the personal characteristics of the respondents and the extent of agricultural policy uptake.

Ho2: There is no significant correlation between the awareness of the respondents and the extent of agricultural policy uptake.

Ho3: There is no significant correlation between the perception of the respondents and the extent of agricultural policy uptake.

Ho₄: There is no significant correlation between the attitude of the respondents toward use of agricultural policies and their extent of agricultural policy uptake.

2. Methodology

The study was carried out in Ogun State, Nigeria. Ogun State is located in the moderately hot humid tropic climate zone of southwest Nigeria and has a population size of about 4,054,272 residents.

A multistage sampling procedure was used to select respondents for this study. Two (2) ADP zones (Abeokuta and Ikenne) representing 50% of the zones in the state were selected using simple random sampling technique. In each of the selected zones, 50% of the blocks and 10% of the cells were respectively selected using simple random sampling technique. A list of farmers was obtained from each of the selected cells and 10% of the contact farmers were sampled using simple random sampling technique. Thus, 75 farmers were selected from the Abeokuta zone while 45 farmers were selected from the Ikenne zone to give a total sample size of 120 farmers.

Data were collected with the aid of interview schedule on farmers' personal characteristics, their perception and attitude towards agricultural policies of the government, their sources of information on agricultural policies and extent of uptake of these policies.

Respondent's perception and attitude to agricultural policies of the government were measured by generating perception and attitude statements on different scales. Respondents reacted to statements on each of the scales on a five-point Likert-type scale of strongly agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly disagree (SD). Scores of 5, 4, 3, 2, and 1 were awarded to positive statements respectively; and the reverse for negative statements. Mean scores were computed for each scale. Scores of mean and above were regarded as favourable perception/attitude and below mean as unfavourable perception/attitude.

Policy uptake was measured in terms of the extent to which farmers accessed their inputs through government sources (which are vehicles of her policies). Respondents indicated a list of agricultural inputs for arable crop production as: government, open market, and other sources. Each source of agricultural inputs was also sub-divided into another 3-point scale of regularly (2), occasionally (1) and never (0). For individual farm input, a weighted mean was computed, which was used to rank the inputs in order of importance. A total score of policy uptake of respondents was equally obtained. The mean score of policy uptake was determined, which was used to categorize respondents into high (for scores of mean and above) and low (for scores below mean) in terms of their utilization of agricultural policies.

Data collected were summarized using descriptive statistics such as frequency counts, mean and percentages. Chi-square and Correlation statistics were used to test the stated hypotheses.

3. Results and discussion

3.1. Results of specific objectives

3.1.1. Personal characteristics of respondents

Table 1 shows the distribution of arable crop farmers with respect to their age. The table shows that the mean age of the arable crop farmers was 42 years, majority (62.4%) of the farmers aged 31 – 50 years. This implies that many of these farmers were within active and productive age range. Table 1 reveals that majority (83.3%) of the respondents were male. This finding implies that male participation in agricultural production in the study area is more pronounced than that of the female, as against the findings of Oladele (2005). Majority (77.5%) of the respondents were married which agrees with the findings of Onasanya (2007) and Soyebo et al. (2005) that crop farming is very much practiced among married people to make ends meet and cater for their children. Another implication is that the majority of the farmers would involve family labour in order to increase their productivity and reduce labour cost. Result also shows that 61.7% of the farmers were Christians, 34.2% were Muslims while only 4.2% were traditional worshippers. This means that majority of the respondents were Christians. The findings suggest the predominance of Christianity in the study area. Religious beliefs have been identified to influence adoption of agricultural policies of the government (Okpukpara, 2010).

The result on educational status of respondents shows that 60.8% of the farmers had primary education with about 90.8% having a minimum of primary education. This represents a fair literacy level in the rural area. Generally high level of literacy is expected to encourage adoption of improved practices. This is in consonance with the assertion of Adekoya, Fadairo and Ogunele (2011). The mean farm size was 1.5 hectares with 81.6% of the farmers cultivating farm lands less than or equal to 2 hectares. Only 14.1% cultivated lands between 3 – 5 hectares and 2.5% cultivated farm size of 6 – 7 hectares. This result suggests that majority of farmers in the study area cultivated small land area. This finding agrees with that of Omohan (1996) that small farm holdings constitute most of the farming activities in Nigeria. Result further reveals that majority (76.7%) belonged to a group or cooperative society. This means that they can come together and pull resources to address problems, they may not be able to as individuals, thus affecting adoption of agricultural policies (Adeyeye, 1986 and Ladele, 1990). Table 1 also reveals that 84.2% of the respondents received extension services in their previous cropping season. This shows farmers are in contact touch with the extension service of the government, as this provides a means of creating awareness of farm input policies of the government.

Table 1. Distribution of respondents based on their personal characteristics

Variables	Frequency	%	Mean
Age (years)			
21 – 30	20	16.6	42
31 – 40	40	33.3	
41 – 50	35	29.1	
51 – 60	20	16.6	
61 – 70	5	4.1	
Sex			

Male	100	83.3	
Female	20	16.7	
Marital status			
Single	8	6.7	
Married	93	77.5	
Widowed	8	6.7	
Divorced	10	8.3	
Separated	1	0.8	
Religion			
Christianity	74	61.7	
Islam	41	34.2	
Traditional worshipper	5	4.2	
Educational status			
Non formal educational	11	9.2	
Adult literacy	1	0.8	
Primary education	73	60.8	
Secondary education	24	20.0	
Tertiary education	11	9.2	
Farm size (ha)			
< 1 ha	27	21.7	1.5
1 – 2	73	60.9	
3 – 5	17	14.1	
6 – 7	3	2.5	
Membership of farm group/ cooperative	92	76.7	
Received extension/advisory service	101	84.2	

3.1.2. Utilization of farm inputs by respondents

Table 2 presents the result of the utilization of each farm input policies among the respondents. The sources of these inputs included the government herself, open markets and other sources (gift, self-produced, among others). The result is presented in terms of the weighted mean score for each of the inputs from the three sources. An overall weighted mean was obtained used to rank these inputs in the order in which the arable crop farmers utilized them. Urea (Mean = 2.65), fungicides (Mean = 2.64), and plant suckers (Mean = 2.60) were the most utilized farm input policies among respondents. This may not be unexpected, since these inputs (urea and fungicides) are not being produced locally, and therefore respondents are compelled to depend on the government sourcing for these materials. Farmers' quest at accessing improved varieties may have accounted for the relatively high utilization of policies on cassava cuttings and maize seeds, being the two major crops prevalent in south-western Nigeria. The least utilized farm inputs among respondents were harvesters, planters and other tractor drawn equipment (tractors). This result further explains the reason majority of them are small scale farmers, cultivating a total of two hectares or less. The study further establishes that implements and institutional services were the least utilized of government intervention. Unfortunately, these inputs components are more central to improving overall food security status of farmers and other households in the state. The result is therefore an indication that the common problems associated with agricultural extension delivery, access to credit facilities, mechanization and other inputs are far from solved. This is in agreement with Jayne, Yamano and Nyoro (2004) who noted that lack of access to credit has

deprived the low-income farmers to use fertilizer and other inputs such as recommended others on food crops and compounded the food security problem in virtually all of Africa.

Table 2. Utilization of farm input policy among respondents in the study area

Improved Seeds	Govt.	Open market	Mean Other sources	Overall	Rank Overall
Seeds and planting materials					4
Cassava stem cuttings	2.63	2.80	2.33	2.59	
Maize seeds	2.73	2.42	2.56	2.57	5
Vegetable seeds	2.54	2.76	2.17	2.49	7
Plantain suckers	2.50	2.81	2.50	2.60	3
Rice seedlings	2.71	2.77	2.00	2.49	7
Fertiliser and plant protection					
NPK	2.60	2.58	2.00	2.39	10
Urea	2.59	2.59	1.67	2.65	1
Pesticides	2.59	2.63	1.67	2.29	12
Insecticides	2.54	2.49	2.50	2.51	6
Herbicides	2.50	2.54	2.40	2.48	9
Fungicides	2.49	2.45	3.00	2.64	2
Institutional supports					
Micro credits	2.30	2.45	2.31	2.35	11
Extension training	2.75	1.89	2.00	2.21	14
Advisory services	2.61	2.08	2.00	2.23	13
Implements					
Tractors	2.14	2.46	1.71	2.10	16
Harvester	1.40	1.73	1.75	1.63	18
Sprayer	2.13	2.55	1.63	2.17	15
Planter	1.38	1.92	1.83	1.71	17

The result on the level of use of these various farm input policies further reveals that there is a low level of use of agricultural policies from the three sources of government (48.3%), open market (48.3%) and other sources (45.8%). On the overall, however, the study further shows that less than half (42.5%) of the respondents were high users of the various farm input policies of the government. Low level of utilization of the input policies of the government is expected to result in declining agricultural productivity, increase food insecurity, as well as low standard of living of the arable farming households in Ogun state.

Table 3. Distribution of respondents based on their extent of policy uptake

Uptake	Government Score	%	Open market Score	%	Other sources Scores	%	Overall Score	%
Non users	0	2.5	0	10.8	0	64.2	0	1.7
Low	1 -24	48.3	1-17	45.8	0 – 6	22.5	7 – 43	55.8
High	25 – 48	49.2	18 - 48	43.3	7 - 48	13.3	44 - 124	42.5

3.1.3. Behavioural factors affecting policy uptake among respondents

The study indicates that 75% of the farmers were aware of the government policies on agriculture. This shows that there is high level of awareness of agricultural policies of the government among respondents in the study area. These results are in agreement with the findings of Akinbile and Odebode (2002) who reported that farmers in Osun State are aware of sustainable agricultural practices. Similar finding was reported by Edeogbon et al. (2008) in a study carried out among arable crop farmers in Ikpoba Okha Local Government Area of Edo State. The study further shows that a little above half (51.7%) of the sampled farmers had favourable perception of agricultural policies while only 48.3% had unfavourable perception of agricultural policies. This implies that the respondents would be willing to adopt agricultural policies of the government. This can be a pointer to favourable policy uptake among the arable crop farmers in the study area. Furthermore, results on attitude towards these policies reveals that more than half (58.3%) of the respondents had unfavourable attitude towards agricultural policies of the government while only 41.7% showed favourable attitude towards these policies. This shows that majority of the respondents have unfavourable attitude towards agricultural policies. This is expected to result in low adoption practices among the respondents, since it would be difficult for farmers to adopt agricultural policies without favourable attitude

Table 4. Categorization of respondents based on their awareness, perception and attitude towards agricultural policies

Category	Scores	Frequency (percentage)	Mean
Awareness			15
High	15 – 18	90(75.0)	
Low	9 – 14	30(25.0)	
Perception			31
Unfavourable	19 – 30	58 (48.3)	
Favourable	31 – 44	62 (51.7)	
Attitude			62
Favourable	40 – 61	50(41.7)	
Unfavourable	62 – 84	70(58.3)	

3.2. Results of the hypotheses

Table 5 reveals that there is a significant correlation between respondents' awareness (r = 0.404; p < 0.05) and the extent of policies uptake. The significant association means that the higher the respondents' awareness, the higher their use of sustainable agricultural policies of the government. This result is not unexpected as this was reflected in the findings of Edeogbon et al. (2008) which showed that the most sustainable practices respondents were also mostly aware of used practices. Table 5 also shows that there were significant correlations between the attitude (r = 0.280; p < 0.05), perception (r = 0.385, p = 0.05) of the respondents and their extent of policy uptake. This shows that farmers with favourable attitude and perception towards these policies were utilizing the policies for their various farming activities. The results therefore imply that

awareness creation, which help farmers form perception and an informed attitude towards agricultural policies is an important effort towards increasing agricultural productivity among farmers.

Table 5. PPMC analysis of farmers' awareness, attitude and the extent of policy uptake

Variable	r – value	P
Awareness	0.404*	0.000
Perception	0.385*	0.000
Attitude	0.280*	0.002

*Significant at p ≤ 0.05

4. Conclusion and recommendation

It is important to infer from the study that there is a nexus between respondents' awareness of the various agricultural policies, their perception and attitude towards government agricultural policies. However, unfavorable attitude to the policies among more than half of the farmers may not be unconnected with possible roles by non-behavioral factors, which may include availability and affordability of these policies, as these may vary across locations and even farmers. The low level of policy uptake may also be due to the unfavourable attitude to utilization of the policies. The study also concludes that improving farmers' awareness, perception as well as attitude towards the use of agricultural policies of the government are important efforts towards increasing uptake of agricultural policies. This is expected to positively influence production of arable crops, and hence food security of households, as well as improve standard of living.

In the light of the conclusions outlined above, the following recommendations therefore become imperative:

1- There is need for educational training/programmes for arable crop farmers on sustainable uptake of agricultural policies as this will enhance their awareness, perception and attitude towards the policies. Consequently, their productivity will also increase.

2- The government should consider granting incentives and assistance to farmers in form of credits as these would help make policies affordable to the average farmer.

3- Rural cooperatives should be empowered on agricultural policy uptake as this will further strengthen the social capital status of arable crop farmers.

4- There is the need to improve the overall institutional supports in the area of more efficient extension delivery, provision of credit facilities and related advisory services so as to be able to better utilize other inputs for optimal results on agricultural productivity and food security.

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