

Determinants of farmers' participation in adopted villages' activities of Federal Agricultural Colleges in Oyo state

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ABSTRACT

Economic development and poverty alleviation drive of many countries requires technologies, organizational and institution innovations, with optimal participation of farmers. The study assessed determinants of farmers' participation in adopted villages' activities of Federal Agricultural Colleges in Oyo State. Multi stage sampling procedure was used to select 120 respondents for this study. Interview schedule was used to elicit information on farmers enterprise characteristics, constraints to participation and benefits derived from participation. Data were analysed using descriptive and inferential statistics at $p=0.05$. Results indicate that primary occupation for majority was farming (86.7%), mean farming experience was 15.8 years, with 67.5% belonging to farmers or cooperative group. Respondents were highly constrained by inadequate funds (86.7%) and poor road network (80.0%). Major determinants of participation in the adopted village were accrued benefits ($\beta=0.287$), constraints ($\beta=-0.301$) and primary occupation ($\beta=1.159$). Farmers' participation was dictated by quantum of benefits derivable, enormity or otherwise of constraints they face as well as their primary occupation, major players in development programmes should factor all these in future interventions using the adopted village model and collective action should be put in place by implementing agencies on alleviating constraints faced.

Keywords: Determinants; Participation; Adopted villages; Agricultural technology

INTRODUCTION

The economic condition of the nation, coupled with the drop in the price of crude oil, serves as a wakeup call on practicing sustainable agriculture, hence the farming condition and environment of farmers is very paramount. All over the world, and for thousands of years, agriculture is the activity which is most essential to human survival and wellbeing (FAO, 1991).

There is the need to educate farmers on the importance of improved farming practices, adaptation of proven and tested production technologies and better utilisation of the land holding through well-coordinated efforts of agricultural research and extension with allied developmental organization, hence improvement in agriculture is possible with the dissemination and adoption of new and modern farming agro-techniques (Ayesha, Urooba, Noor, Soail and Shaheen, 2009).

In a bid to alleviate poverty and improve standard of living of people successive administrations in Nigeria have come with several policies and programmes aimed at delivering agricultural production technologies to farmers, such as Fadama, Special Programme for Food Security (SPFS), Root and Tuber Expansion Programme and the Adopted village project was revitalized. However Oladele (2002) observes that the efficiency of technologies generated and

disseminated depended on their effective utilisation by farmers.

According to Kgosiemang and Oladele (2012) participation in Agricultural Extension means putting responsibility in the hands of farmers to determine agricultural extension programmes, that are capable of providing services more responsive to the local conditions, more accountable, more effective and more sustainable. Also participation can be defined as an act of taking part in an activity or several activities or engagements. This is a process through which stakeholders' influence and share control over development initiatives, inclusive of the decisions and resources which affect them, thus participation of the farmers in the strategy to culminate to the success.

A report given by The Nation newspaper (2017) on the Article titled tackling rural poverty through adopted villages, emphasises the state of many subsistence farmers which have no access to farming techniques and input, and was able to reveal that with the emergence of the adopted village scheme there are opportunities, of farmers been trained on modern farming methods and cultivation of drought tolerant crops (DTCs). This will inevitably translate to improved yields and transform their lives from subsistence to commercial farmers. The Adopted villages' scheme was initiated to facilitate the trial of new research findings by scientists under the farmer's local

environmental conditions, Akinola, Ene *et al* (2013).

The Adopted village scheme has the added advantages of involving the farmers in the trial either as observers, in the case of researcher-managed, or executors in the case of farmer-managed trials. However in achieving the objectives of development programmes participation is key. It is also an action that enables individuals to have input onto decision making process, therefore participation is necessary and should be encouraged at all stages of programme before success can be achieved, (Adegboye, 2013).

Etwire *et al* (2013) and Nxumalo and Oladele (2013) had in there various studies implicated several factors as responsible for farmers participation in programmes. Therefore, farmers' participation is key for sustainable agriculture, innovations and technology, and the degree of popular participation in development programmes is a major determinant of success or failure.

In line with the thinking that adopted village could serve as experimental stations for Institutes and Colleges of Agriculture, coupled with the collaboration of the West African Agricultural Productivity Programme (WAAPP), it becomes imperative to understand the factors that could enhance farmers' participation in the adopted village activities. It is in line with the foregoing that this study will endeavour to elucidate the following research objectives:

1. examine the enterprise characteristics of farmers' in adopted villages of Agricultural colleges in Oyo state.
2. determine the constraints to farmers' utilisation of technologies promoted by the Agricultural Colleges adopted villages in Oyo state.

The hypothesis of the study

There is no significant relationship between the constraints to farmers' utilisation of technologies promoted by the Agricultural Colleges adopted villages and their level of participation in the adopted village activities.

METHODOLOGY

The study was carried out in Oyo state. The population of the study comprised of benefiting farmers of selected Agricultural colleges adopted villages in Oyo State. A multi stage sampling procedure was used to select respondents for this study. The first stage was the use of simple random sampling technique to select one of the two WAAPP collaborating Federal Colleges, (Federal

College of Agriculture and Federal college of Animal Health and Production Technology, Ibadan) in Oyo state. The second stage was a simple random sampling selection of adopted villages in the college namely Ido, Feranjeun and Keji villages with 80, 120 and 40 benefiting farmers, respectively. Subsequently in the third and final stage of sample selection fifty percent of benefiting farmers was randomly selected resulting in total sample size of 120 farmers for the study. Interview schedule was used to obtain primary data. Data collected was analysed using descriptive and inferential statistics. The descriptive statistic such as frequency count, percentage distribution, mean and standard deviation to measure the objectives, Pearson Product Moments Correlation (PPMC) was used to establish correlation between constraints to farmers utilisation of technologies and level of participation in adopted villages activities (H_0) also ordinary least square regression analysis was used to establish determinants of farmers participation in the activities of the adopted villages programme.

RESULTS AND DISCUSSION

Respondents' enterprise characteristics

The result of the respondents' enterprise characteristics in Table 1 shows that most of the farmers (60.0%) engaged in crop farming only while 30.8% engaged in both animal and crop farming. The implication of this is that perhaps the programme has more priority for crop farmers and explains why more crop farmers are benefiting from the programme. This may also be due to the fact that crop farming is the predominant agricultural activity in the communities.

Years of farming experience

Experience in farming serves as an indicator of the possession of wealth of knowledge, technical and practical skills. The experience in farming comes with practice. The result in Table i reveals that (47.5%) had between 2-11 years' experience in farming, (15.8%) of the respondents had between 22 - 31 years of experience, the mean years of experience is 15.8 years. Similarly in a study of Tologbonse, Jibrin, Auta, and Damisa (2013) had mean for farming experience as 11.4years for participant in women in agriculture. This findings contradicts that of Botlhoko and Oladele (2013) that reported that only (7.5%) of the farmers are experienced and had above 15 years in farming. Specialization improves experience given the primary occupation of these farmers which is farming, this result indicates that the years of farming experience of the farmers can be linked with the primary occupation, this is positively inline, which infers the expectation that the

respondents should be able to make sound decision in participating in this programme and also in their farming activities.

Membership of farmers or cooperative group

Group has proven to be the means by which farmers get support and learn from each other farmer participation in a cooperative group is advantageous in several ways for example the group can act as a security for loans, the disadvantaged farmers would be able to get access to credit besides getting members voices heard to enhance a given policy, they can also re train other members of the group. The result in Table 1 reveals that (67.5%) of the farmers are members of farmers’ group or cooperative, while (32.5%) were not. Being member of a group increases access to information, opportunities as well as markets and

credits. This in turn have effect on the willingness to participate in agricultural programme. Bahta and Bauer (2007), stress that member- ship of farmers group influences participation in agricultural projects due to the fact that there is increasing interest in farmers’ organization as an effective approach to farmer participation research (FPR) However this findings is contrary to the findings of Chikezi, Chikaire, *et al* (2012) of factors that constraint youth involvement in cassava production and was found that (80.83%) of the youths were not members of cooperative. Been member of group, enhances passage of useful information to the farmers through their association, by the officers involved. Olila (2014) in his work found that accessibility to formal loans as a major determinant of farmers’ participation in a development groups.

Table 1: Distribution of respondents based on enterprise characteristics

Variables (N= 120)	Frequency	Percentage	Mean
Nature of enterprise			
Animal	6	5.0	
Crop	72	60.0	
Animal and crop	37	30.8	
Trading	5	4.2	
Years of farming /experience			
<= 1.00	2	1.7	15.75
2.00 - 11.00	57	47.5	
12.00 - 21.00	31	25.8	
22.00 - 31.00	19	15.8	
32.00 - 41.00	9	7.5	
42.00+	2	1.7	
Membership of farmers’ or cooperative group			
No	39	32.5	
Yes	81	67.5	

Source: Field survey, 2015

Constraints to farmers’ utilisation of technologies promoted by the agricultural colleges adopted villages

The results in Table 2 reveals that respondents considered inadequate funds (86.7%), poor road network (access to farm) (80.0%), lack of good processing facilities(69.2%), lack of access to

market (66.7%) and inadequate storage facilities(53.3%) as severe constraints . It implies that for Adopted villages programmes and similar interventions there is need for good road access as well as processing and storage facilities. Hence market glut experienced by farmers from harvest after participating in similar programmes may not arise.

Table 2: Distribution of respondents based on constraints to their utilisation of technologies promoted by the agricultural colleges adopted villages, N=120

Constraints items	Severe	Mild	Not a constraint
	%	%	%
Inadequate Funds (capital)	86.7	12.5	0.8
Lack of good processing facilities	69.2	23.3	7.5
Poor Road network (access to farm)	80.0	10.8	9.2
Inadequate storage facilities	53.3	34.2	12.5
Inappropriate communication channels	24.2	20.8	55.0
Complexity of technology	12.5	20.8	66.7
Lack of sense of ownership by farmers	14.2	15.0	70.8
Cultural adaptation	11.7	16.7	71.7

Constraints items	Severe	Mild	Not a constraint
(technology compatible with culture)			
Untimely release of seeds	20.0	40.0	40.0
Lack of market access	66.7	21.7	11.7

Source: Field survey, 2015

Respondents' level of constraints to utilisation of technologies promoted by the adopted villages

The result of level of constraints to utilisation of technologies promoted shows that 57.5% of the respondents were highly constrained in utilisation of technologies promoted by the agricultural colleges adopted villages. This implies that a great percentage of the respondents are faced with

constraints to the utilisation of these technologies, as such due to the level of constraints faced it will have negative implication on their level of participation and the benefits accrued. This contradicts the findings of Babarinde (2012) which revealed that majority of the respondents had low level of constraints to participation in the farmers field school activities and asserts that they were not facing many challenges.

Table 3: Distribution of respondents' level of constraints to utilisation of technologies promoted by the agricultural colleges adopted villages

Categories	Frequency	Percentages	Minimum	Maximum	Mean	SD
Low	51	42.5	3	18	11.2	
High	69	57.5				3.6

Source: Field survey, 2015

Test of relationship between the constraints to farmers' utilisation of technologies promoted by the Agricultural Colleges adopted villages and their level of participation in the adopted village activities.

Pearson Product Moment Correlation (PPMC) was used to test the relationship between the constraints to farmers utilisation of technologies promoted by the agricultural colleges adopted villages and their level of participation in the adopted village activities. The result on Table 4 shows a significant relationship between constraints to farmers utilisation of technologies promoted and their level of participation in the adopted village activities, ($r = -0.360$, $p = 0.000$). This implies that high level of constraints faced affects participation in the programme as such as these respondents would have participated in the programme it was hampered by severe constrained they face. These constraints affect the rate of production, yield, marketing, value addition. There is a negative correlation between the constraints and the level of participation and it implies that the higher the constraint faced by the farmers the less their tendency to participate.

Table 4: Pearson Product Moment Correlation (PPMC) analysis between the constraints to farmers' utilisation of technologies promoted by the Agricultural Colleges adopted villages and their level of participation in the adopted village activities.

Variable	r-value	p-value	Remark
Constraints	-0.360	0.000	Significant

Source: Field survey, 2015

Determinants of farmers' participation in the adopted villages' activities

The result of the Ordinary least square regression in Table 5 shows that the co-efficient for 3 variables were significant accrued benefits ($p = 0.003$, $\beta = 0.287$), constraints ($p = 0.001$, $\beta = -0.301$) and primary occupation ($p = 0.000$, $\beta = 1.159$). This result implies that level of participation increases when the benefits accrued increases, the constraints have negative relationship and indicates that the more the constraints faced the lesser they participate in the study, this is similar to the findings of Bothhoko and Oladele (2013) that participation increases when constraints is reduced. Similarly, Olajide and Oyebode (2014) found in their study that constraint was a significant predictor of group viability. The primary occupation also shows a positive relationship, this implies that participants who has farming as primary occupation tends to participate more in the programme and enhances their participation in the adopted village programme. Farmers, whose primary occupation is farming does not have more difficulty in time allocation, to participation unlike those who has other occupation. Also, other empirical studies on what determines farmers' participation have identified several contributing factors. For instance, Etwire, Dogbe, Wiredu, Martey, Etwire, Owusu, and Wahaga (2013) suggested that for effective participation and maximum impact of projects on farmers, targets whose primary occupation is farming should be targets of agricultural projects.

Etwire *et al* (2013) identified that number of years in school, access to production credit and agricultural extension service are factors that

significantly determine farmers' participation in agricultural project. Nxumalo and Oladele (2013) found that household size, effectiveness of rural development programme and constraints were significant and unavailability of funds, natural and physical capital reduces farmers' participation in

agricultural projects. Olila (2014) in his work found that accessibility to formal loans, household income as well as gender were the main determinants of farmers' participation in a development groups.

Table 5: Ordinary Least Square regression analysis showing the determinants of farmers' participation in the adopted villages' activities

Variables	Beta	p-value	Decision
Primary occupation	1.159	0.000	Significant
Age	-0.148	0.154	Not significant
Sex	0.868	0.295	Not significant
Marital status	0.073	0.362	Not significant
Educational status	0.118	0.216	Not significant
Religion	-0.177	0.042	Significant
Household size	0.022	0.835	Not significant
Membership of cooperative group or farmers group	-0.107	0.213	Not significant
Attitude	0.030	0.737	Not significant
Constraints	-0.301	0.001	Significant
Accrued Benefit	0.287	0.003	Significant

Source: Field survey, 2015

CONCLUSION AND RECOMMENDATIONS

The result of the finding revealed that most of the farmers participating in the programme engage in crop farming. Length of farming experience has positive effect in making decisions. Most of the farmers are members of cooperative group and this will enable useful information to be passed to the groups, also members of the groups can easily train each other's and also enable them to access bank credits easily. The enormity of constraints faced by farmers hinders their level of participation.

The study has revealed three major factors that determine participation as accrued benefit, Enormity of constraints or otherwise and primary occupation. This shows that when benefits derived increases it has positive effect on their participation, the Enormity of constraints is inversely related which means when it increases it gives a down turn effect, and also participants whose primary occupation is farming tends to be more committed and participate more effectively. It is hereby recommended that collective action should be put in place on alleviating constraints faced such as road network to enhance their access, and primary occupation of participants should be considered in future engagements of development interventions.

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