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EFFECT OF FARMERS' PARTICIPATION IN CO-OPERATIVE SOCIETIES ON THE ADOPTION OF AGRO-INPUTS IN ABIA STATE, NIGERIA

F.N. Aguaguiyi[1], S.E Onu[2], E.E Osahon[3]
[1]Department of Agricultural Extension and Rural Development, Michael Okpara University of Agriculture, Umudike, Abia State.
Corresponding Email: samsononu@gmail.com

ABSTRACT

The study provided empirical evidence on the effect of farmers participation in cooperative societies on utilization of agro-inputs in Abia State, Nigeria. The specific objectives were to ascertain farmers involvement in cooperative societies, ascertain the extent of utilization of agro-inputs and examine the constraints to adoption of agro-inputs among farmers who were members of farmers' cooperative societies. Multi-stage random sampling technique was used in selecting 162 respondents for the study. Data were collected from the registered members of co-operatives with structured questionnaire and analyzed with descriptive and inferential statistics. The result revealed the grand mean of 4.07 indicating that farmers' participation in the activities of their cooperatives societies in Abia State was high. A grand mean of t 3.39 showed that farmers who were members of cooperatives, who participated in activities had high adoption of agro-inputs in the study area. A grand mean of 4.43 indicated that the respondents were faced with many challenges in adopting agro-inputs in the study area. The coefficient of involvement in cooperative activities was statistically significant at 5% probability level and positively related to utilization of agro-inputs in the study area. Membership of co-operatives by farmers can enhance their access to agro-input as they come together to achieve a common goal. Membership also facilitated utilization of agro-inputs. It was therefore recommended that farmers in Abia State participate in cooperative organizations as this will enhance their extent of adoption of agro-inputs.

Keywords: *Agro-input, Adoption, Co-operatives*

INTRODUCTION

The importance of agricultural technology adoption in ending poverty and food insecurity has been well discussed by many researchers such as Ojiaku and Ogbukwa (2012); and Singh and Ashraf 2012). According to Argaw, 2012, in developing countries, improving the livelihoods of rural farm households through agricultural productivity would remain low if agricultural technology adoption rate is low. Hence, there is a need to adopt proven agricultural technologies so as to increase production as well as productivity and thereby enhance the living condition of the rural poor. In Nigeria, Ibitoye (2012), asserts that production and productivity would likely to slow down and rural poverty would prevail more if attention is not given to the use and adoption of agricultural technologies. One way of overcoming these challenges is through the formation of farmers' cooperatives.

Farmer's cooperatives represent a unique way of social organization that enhances agricultural development in situations where government fails to provide inputs, agricultural technology, and social goods or services efficiently. Cooperatives are forms of economic enterprises and self-help organizations, which play a meaningful role in uplifting the socio-economic conditions of their members and their local communities (Argaw, 2012). It is expected that where the private sector and governments function well, there is less demand for farmers' organizations or cooperatives at the community level. (Ojiaku and Ogbukwa ,2012).

Cooperative societies in Nigeria perform multi-purpose functions: they engage in the production, processing, marketing, distribution and financing of agricultural products (Ibitoye, 2012). The most popular agricultural cooperative societies available in Nigeria include: group farming cooperatives, marketing cooperatives, agricultural thrift and credit cooperatives, agricultural processing cooperatives, consumer cooperatives, fishery cooperatives and farmer's multipurpose cooperatives (Ibitoye, 2012). Cooperatives are considered useful mechanism to manage risks for member in agriculture. Through cooperatives, farmers could pool their limited resources together to improve agricultural output and this will enhance socioeconomic activities in the rural areas (Adefila, 2012; Ibitoye, 2012).

The agricultural input sector has critical impact on the agricultural productivity of a nation as it influences farmers' access to and use of productivity enhancing inputs (FAO, 2015). Low agricultural input use is often associated with declining soil fertility, declining yields, and low farmer incomes. Increased use of fertilizer and improved seeds were partially credited with the large increases in agricultural productivity growth during the Green Revolution. It is evident that agricultural input use must increase in Africa if the continent is to see significant

productivity growth (AGRA 2013; FAO, 2015). The term 'agro- inputs ' as it applies to the area of agriculture can be defined as ' the resources that are used in farm production, such as chemicals, equipment, feed, seed, and energy. Most agro inputs are purchased (a change from the days when animals powered most operations), making production costs susceptible to non-farm economic conditions. The critical role of agro-input dealers and agro-input business usually hamper the collective efforts of the farmers (COMESA, 2009). Furthermore, agricultural technology adoption decision was seriously determined by imperfect information, risk, uncertainty, institutional constraints, human capital, input availability and infrastructural problems.

Despite the relentless government and policy efforts, in the distribution of agro-inputs to the rural farmers, employing these agricultural technologies is at its grass-roots level and been employed reluctantly as has been reported by many studies such as Ojiaku and Ogbukwa (2012). Consequently, agricultural input adoption rate is too slow in Abia State because its impact on farm income is not well understood and exemplified. It is therefore expected that the formation of farmers' cooperative would ease of the problem of adoption of inputs from government and governmental agencies but whether this expectation has been met is a matter to be investigated. It is therefore in this regard that the study was conceived to determine the effects of farmers' co-operatives on adoption of agro-inputs in Abia State, Nigeria. The aim of this study was to determine the effects of involvement in farmers' co-operatives on adoption of agro-inputs in Abia State, Nigeria. The specific objectives were to: ascertain farmers involvement in cooperative societies; ascertain the level of adoption of agro-inputs; and examine the constraints to adoption of agro-inputs among cooperative farmers**.** Hypothesis which stated that farmers' participation in cooperative activities has no significant effect on adoption of agro-input in the study area was, tested at 5% probability level**.**

Methodology

The study was carried out in Abia State, Nigeria**.** The population of the study included all the farmers who were members of farming cooperative society in Abia State, Nigeria. Multi-stage sampling procedure was used in selecting 162 respondents from the sampling frame. A list of all registered members of farming co-operative societies was collected from Abia State Agricultural Development Programme. The list was divided into three (3) agricultural zones. First stage, two extension blocks were selected from each of the zones, giving a total of six

blocks out of 54 blocks in the State. In the second stage, three sub circles were selected from each block using simple random sampling, giving a total of nine sub-circles. Nine farmers were selected using a snow ball technique from each of the 18 sub-circles giving a total of 162 farmers who are members of farmers' co-operatives. Data were collected through the use of structured questionnaire. A five-point Likert rating scale with a benchmark mean of 3.0 was used to determine the degree of agreement to the items as values were assigned as follows; Very High Extent (VHE) =5, High Extent (HE) = 4, Moderate Extent (ME) =3, Low Extent (LE) =2, Very Low Extent (VLE) =1. Constraints were determined with the degree of agreement to the items and values were assigned as follows; Strongly Agree (SA) =5, Agree (A) =4, Undecided (UD) =3, Disagree (DA) =2, Strongly Disagree (SD) =1 with a benchmark mean of 3.0. Both descriptive and inferential statistics were employed in the data analysis. Objectives were realized using descriptive statistics (frequency counts, percentages and mean) while the hypotheses were tested with the use of regression models (simple linear regression for hypothesis 1)

Results and Discussion

Extent of farmers' participation in cooperative activities

The result on Table 1 showed the mean rating extent of farmers' participation in cooperative societies in the study area. The result revealed the grand mean of 4.07, indicating that the respondents were highly involved in activities of their cooperatives societies in the study area. The result further showed that the farmers were highly involved in decision making ($\bar{x}$ = 4.82) group farming ($\bar{x}$ = 4.56), membership registration ($\bar{x}$ = 4.33), financial contribution ($\bar{x}$ = 3.62) and participation in meetings ($\bar{x}$ = 3.03).

Table 1: Mean rating of the extent of farmers 'participation in cooperative activities

Involvement in farmers' cooperative societies	VHE	HE	ME	LE	VLE	Sum	Mean
Membership registration	74(370)	68(272)	20(60)	0(0)	0(0)	702	4.33
Financial contribution	49(245)	62(248)	21(63)	0(0)	30(30)	586	3.62
Involvement in decision making	77(385)	58(323)	27(81)	0(0)	0(0)	789	4.82
Participation in meetings	17(85)	35(140)	22(66)	73(146)	15(15)	462	3.03
Involvement in group farming	61(305)	58(323)	24(72)	19(38)	0(0)	738	4.56
Grand mean							**4.07**
Benchmark mean							**3.00**

The result implied that farmers highly participated in their cooperative societies in the study area. Cooperatives have inherent advantages in tackling the problems of poverty alleviation, food security and employment generation. It is considered to have immense potential to deliver goods and services in areas where both the public and private sector have failed. Virendra, Wankhede & Gena (2015) found that farmers highly involved in cooperatives because of self-help, self-responsibility, democracy, equality, equity and solidarity and that cooperatives are democratically-managed economic institutions with social objectives providing every kind of services that the members need based on the principles of the cooperation.

Extent of utilization of agro-input

The result presented in the Table 2 showed that some of the items recorded a mean above the benchmark of 3.00 items such as supply input seeds, fertilizer ($\bar{x}$=4.87), utilization of agro-input ($\bar{x}$=4.57), acquisition and hiring of machinery($\bar{x}$=4.56), information on producers and marketing products ($\bar{x}$=4.33), empowerment of small scale farmers ($\bar{x}$=3.62) as well as speeding of adoption of technology ($\bar{x}$=3.57)

Table 2: Mean rating of extent of utilization of agro-input in the study area

Utilization of agro-input	VHE	HE	ME	LE	VLE	Sum	Mean
Supply input seeds, fertilizer, chemical	61(305)	44(176)	19(57)	21(42)	17(17)	579	3.57
Utilization of agro-input	77(385)	58(323)	27(81)	0(0)	0(0)	789	4.87
Acquisition and hiring of machinery for cultivation	93(465)	68(272)	1(3)	0(0)	0(0)	740	4.57
Provide information on producers and marketing of products	61(305)	58(323)	24(72)	19(38)	0(0)	738	4.56
Information on a success of inputs	17(85)	35(140)	22(66)	73(146)	15(15)	452	2.79
Providing information on market research	11(55)	27(108)	19(57)	86(172)	19(19)	411	2.54
Sharing costs and benefits	0(0)	21(84)	31(93)	67(134)	43(43)	354	2.19
Empowerment of small scale farmers	74(370)	68(272)	20(60)	0(0)	0(0)	702	4.33
Training workshop for members	2(10)	19(76)	21(63)	53(106)	67(67)	322	2.00
Bargain effectively for members ensuring better use of inputs	13(65)	41(164)	28(84)	40(80)	40(40)	433	2.67
Speeding up adoption of innovation	49(245)	62(248)	21(63)	0(0)	30(30)	586	3.62
Grand mean							**3.39**
Benchmark mean							**3.00**

The grand mean of the responses was at 3.39, which suggested that the cooperative farmers highly adopted agro-inputs in the study area. The result is in tandem with the findings of Ibitoye, (2012), that cooperative farmers highly adopted agro-inputs that are relevant to their crop production in Kogi State, Nigeria.

3.3 Constraints to the utilization of agro-input among cooperative farmers.

Constraints of cooperative farmer in the utilization of agro-inputs in the study area were presented on Table 3. The result showed a grand mean of 4.43 indicated that the respondents were faced with many challenges in adopting agro-inputs in the study area. The result revealed that the constraints were short supply of inputs ($\bar{x}$ = 4.68), mismanagement by leaders ($\bar{x}$ = 4.67), low literacy level ($\bar{x}$ = 4.57), insufficient fund ($\bar{x}$ = 4.56), inadequate/poor capital formation ($\bar{x}$ = 4.49), among others.

Table 3: Constraints of Cooperatives societies in the adoption of agro-inputs in the study area

Constraints	SA	A	UN	DA	SDA	Sum	Mean
Inadequate/poor capital formation	79(395)	83(332)	0(0)	0(0)	0(0)	727	4.49
Low literacy level	93(465)	69(276)	0(0)	0(0)	0(0)	741	4.57
Funding	109(545)	53(212)	0(0)	0(0)	0(0)	757	4.67
Mismanagement by leaders	66(330)	96(348)	0(0)	0(0)	0(0)	678	4.19
Unavailability of input	27(135)	88(352)	40(120)	7(7)	0(0)	614	3.79
Late arrival of inputs	77(385)	85(340)	0(0)	0(0)	0(0)	725	4.48
Short supply of inputs	107(535)	55(220)	0(0)	0(0)	0(0)	755	4.66
Insufficient fund	61(305)	58(323)	24(72)	19(38)	0(0)	738	4.56
Grand mean							4.43
Benchmark mean							3.00

The result implied that adoption of agro inputs in the study area was marred with several challenges. Despite these numerous benefits of the cooperative societies, many cooperators seemed not to gain or reap substantially from being membership of various co-operative societies in terms of capital formation and the improvement of their welfare status due to several inherent challenges. Virendra, *et al.,* (2015) in agreement with the findings asserted that major challenges encountered by cooperative farmers were poor capital formation, funds and leadership issues. Adefila (2012), also found that the major challenge of cooperative farmers were funds and poor access to information in Nigeria.

3.4 Effect of farmers' participation in cooperative activities on utilization of agro- inputs

The result on Table 4 showed the regression estimate of the effect of farers participation in cooperative activities on utilization of agro- inputs in the study area. According to the Table, the R-square value was 0.805 indicating that about 80.5% of the variation in the dependent (access to agro-input) was accounted for, while others were due to error. The F-test was statistically significant at 1% indicating that the model used was fit for the analysis. The coefficient of farmers participation in cooperatives activities was statistically significant at 5% probability level and positively related.

Table 4: Simple linear regression estimate of the effect of farmers' participation in cooperative activities on utilization of agro- inputs in the study area

Parameters	Coefficient	Standard error	t-value
Constant	89.801	0.540	9.953***
Farmers participation in cooperative activities	0.137	0.048	2.752**
R-square	0.805		
R-adjusted	0.779		
F-ratio	8.679***		

Source: *Computed from Field Survey Data 2018*

** = significant at 5% and *** = significant at 1%

The result implied that an increase in farmers' participation in cooperatives will lead to a corresponding increase in the adoption of agro-input in the study area. The hypothesis of a significant relationship between the involvement in cooperatives and adoption of agro-input in the study area was, therefore, accepted at 5% level.

Conclusion and Recommendations

The study revealed the effect of farmer cooperative membership on their actualization of the various forms of agro-input,. The findings showed that there was significant effect of co-operative membership on agro-input in the study area. Cooperative membership by farmers can enhance their access to agro-input as they join forces and resources as well as knowledge to achieve a common goal also that when they have access to agro-input, their membership also facilitates their utilization of such inputs. Since cooperative membership has shown to significantly affect agro-input, access and utilization, extension workers can leverage on this to help farmers establish cooperatives. Farmers in Abia State are advised to participate more in cooperative organizations. This will enable them to have adequate access to agro-input and proper utilization of these agro-inputs.

References

Adefila I. I. (2012). 'Reforms in the agricultural sector' In Nigeria's reform programme issues and challenges. Edited by Salihu, H. A. and Amali, E. Ibadan. Vantage publisher. Pp 236-264

AGRA,(2013). Africa Agriculture Status Report 2013: Focus on Staple Crops. Alliance for a Green Revolution in Africa (AGRA), Nairobi, Kenya. http://www.agra.org/our-results/agra- sta1tus-reports/

Argaw, M. (2012): Rural Cooperatives and Sustainable Development, Saskatoon S. K: Centre for the Study of Cooperatives, University of Saskatchewan.

Birchall A. F. (2013). Anti-trust status of farmer cooperatives: The story of the copper-Volstead Act. USDA rural business-cooperative services report. **59**:249-252.

COMESA (2009). *Getting Fertilizers to Farmers: How to do it?Who should do it? and Why it Should be Done?*, COMESA Africa Agricultural Markets Program (AAMP), http:// programmes. co mesa. int [accessed 15 March 2011].

Food and Agriculture Organization of the United Nations (FAO), (2015) Guidelines for Input Trade Fairs and Voucher Schemes. Rome, Italy.

Ibitoye, S.J. (2012). Survey of the Performance of Agricultural Cooperative Societies in Kogi State, Nigeria. *European Scientific Journal*, 8 (28), 98-114.

Ojiako, I. A. & Ogbukwa B. C. (2012). Economic analysis of loan repayment capacity of small-holder cooperative farmers in Yewa North Local Government Area of Ogun State, Nigeria.*African Journal of Agricultural Research.* **7**(13):2051-2062.

Singh, G and Ashraf, S. W. A. (2012). Spatial variation in level of Agricultural development in Bulandshahr district of Western Uttah Pradesh. India. *International Journal of Development and Sustainability.* **1**(1):47-56

Virendra, E. K., Wankhede G. G & Gena. R. D (2015) Are agricultural cooperatives successful? A case study in West Iran. *American-Eurasian Journal of Agriculture and Environmental Science, 8(4):482-486.*