RESEARCH ARTICLE Agricultural Science Digest, Volume 43 Issue 6: 883-888 (December 2023)

Perceived Influence of Agricultural Extension on Cassava Production by the Farmers in Southern Nigeria

John B. Effiong[1], Imaobong O. Enenyi[2], Abigail E. Etim[1]

10.18805/ag.DF-508

ABSTRACT

Background: This study assessed the perceived influence of Agricultural extension on cassava production in southern Nigeria. Specifically, the study sought to; ascertain the socio-economic characteristics of the respondents, identify the perceived influence of agricultural extension on cassava production in the study area and constraints in the production of cassava by farmers in the study area.

Methods: The study adopted a multi-stage sampling technique. Stage one was a purposive selection of municipalities in Southern Nigeria due to its endowment with cassava production. Stage two involved a random selection of five (5) municipalities in Southern Nigeria namely; Uyo, Calabar, Umuahia, Abakaliki and Owerri. Stage three equally involved a random selected of twenty (20) respondents from each of the municipals, giving a total of hundred (100) respondents used for the study. Data were obtained from primary sources using structured interview schedule. Objectives were analysed using descriptive statistics such as; percentage, frequency, mean, rank and standard deviation.

Result: The result on the house hold size showed that 39% had between 6-10 persons, while 27% had 11-15 persons, 21% had 1-5 persons. Also 13% had 16 and above number of persons. The result also revealed that the respondents observed help in reducing soil compartment, training of farmers on pest/disease control, production practices, processing and marketing with mean scores of $\bar{X}$ = 2.43, $\bar{X}$ = 2.27, $\bar{X}$ = 1.92, $\bar{X}$ = 1.86 and $\bar{X}$ =1.69 respectively; as perceived influence of extension on cassava production. This implied that extension workers had no significant influence on cassava production in the study area, this may be attributed to inadequate funding of extension services in Nigeria. Majority (60%) believed that language barrier and unfavourable attitude of farmers with mean of $\bar{X}$ = 2.43 and $\bar{X}$ = 2.42 respectively were the constraints of agricultural extension workers in enhancing cassava production in the study area. This implied that influence of extension agents in the area may not be significant. This may be due to ineffectiveness of extension services in Nigeria. the study concluded that, rural farmers need to be involved in the mainstream of extension services in order to identify and prioritize their production activities. The study therefore, recommended that agricultural extension workers should be involved in all areas of agricultural production and not on cassava production alone, so as to improve on the gross domestic production of the nation.

Key words: Agricultural, Cassava production, Extension worker, Influence.

INTRODUCTION

The sustainable development goals (SDGs) of brining zero hunger and promote food security are rooted in increasing agricultural productivity, especially from the crop sector component (Effiong and Effiong, 2015). This is because agriculture is considered as the engine of growth in many developing economies, particularly in sub-Saharan Africa (CTA, 2018). Cassava is a crop with enormous potentials. It provides stable food base for the food need of the populace, compliments in livestock feeds and raw materials for industries (Effiong *et al.,* 2015). Cassava, also seems to be recording resounding success in sub-Saharan Africa out of the numerous stories of crop intervention failures in the region. As a result of this, many African countries embraced its cultivation with vigor (Effiong, 2012a). Nigeria is one of such African countries who embrace cassava production. Almost every household in rural Nigeria grows cassava on small farms as one of the staple food crop to feed families and the local markets. According to Fakayode *et al.* (2018) and Effiong and Effiong (2015), cassava is a very important crop of Nigeria. They also noted that its comparative production advantage over other staples serves to encourage its cultivation even by the resource poor famers. Nigeria is the largest producer of cassava in the world with about 40 metric tons per annum ahead of countries like Brazil and Thailand (Awoyinka, 2019). This figure was aggregated from small farms turning out an average of 10 tons per hectare. However, 10 tons/ha figure falls short of the production potential of cassava. An average of 15-30 tons

[1]Department of Agricultural Extension and Rural Sociology, Faculty of Agriculture, University of Calabar, Calabar, Cross River State, Nigeria.
[2]Hospital Management Board Uyo, Akwa Ibom State, Nigeria.

Corresponding Author: John B. Effiong, Department of Agricultural Extension and Rural Sociology, Faculty of Agriculture, University of Calabar, Calabar, Cross River State, Nigeria.
Email: johneffiong@yahoo.co.uk

How to cite this article: Effiong, J.B., Enenyi, I.O. and Etim, A.E. (2023). Perceived Influence of Agricultural Extension on Cassava Production by the Farmers in Southern Nigeria. Agricultural Science Digest. 43(6): 883-888. doi: 10.18805/ag.DF-508.

Submitted: 29-08-2022 **Accepted:** 20-10-2023 **Online:** 20-11-2023

per hectare is attainable (Food and Agriculture Organization, FAO, 2018).

The difference between actual and technically feasible production for crops implies great potentials yet to be harnessed (Effiong, 2012b). In view of the growing importance and relevance of cassava in Nigeria, there is an urgent need to increase food production and export cassava for the much-needed foreign exchange on a sustainable basis, it is essential to focus on increasing production of cassava. Maintaining the current level of production will limit the extent to which the numerous potentials presented by the crop could be harnessed. It is anticipated that improved cassava production will assist Nigeria in maximizing the potentials of the crop, especially for poverty alleviation and income generation (Effiong, 2012b).

Awoyinka (2019) and Effiong *et al.* (2015) noted that Nigeria was yet to fully harness the socio-economic potentials of cassava that would translate to higher ranking of cassava next to petroleum as major contributor to the gross domestic products (GDP). Adducing reason for this, however Fakayode *et al.* (2018); Effiong and Effiong (2015) submitted that cassava farms just like the other crop farms are the small-scale types which are characterized by very low productivity. Increasing cassava production from 10 tons to 15-30 tons per ha is a significant challenge for the subsector. Effiong *et al.* (2015) affirmed that an important factor influencing farmers' practices is their perception of how socio-economic environment in terms of agro-support network affects cassava production. Commenting on the situation of small scale farmers, Armando (2019) and Effiong *et al.* (2013) noted that the smallholder's farm sector in developing countries are largely left without necessary support arrangements in infrastructure, extension services, local processing capacity, basic health care and education. Similarly, International Fund for Agricultural Development, IFAD (2018), Effiong and Effiong (2015) noted that the necessary infrastructural agro-support services to complement efforts of farmers were far from being self-available and may not operate in reliable ways if available. Extension service delivery agency is a critical stakeholder in the agricultural development of Nigeria. Agricultural extension refers to a set of organizations that support people engaged in agricultural production and facilitate their efforts to solve problems; link to markets and other players in the agricultural value chain; and obtain information, skills and technologies to improve livelihoods [Kristin, (2019) Effiong and Asikong (2013); Effiong (2012b)]. Government, through Agricultural Development Programs (ADP), private agencies through agro-input dealers and associations and non-governmental agencies provide extension related services to Nigerian farmers including cassava farmers.

The study sought to ascertain the influence of agricultural extension on cassava production by farmers in Southern Nigeria. Specifically, the study seeks to:

i) Describe the socio-economic characteristics of the respondents in the study area.
ii) Assess the perceived influence of agricultural extension on cassava production among farmers in the study area.
iii) Identify the perceived constraints of agricultural extension in enhancing the production of cassava in the study area.

MATERIALS AND METHODS

The study was conducted in municipalities in Southern Nigeria made up of Uyo, Calabar, Umuahia, Abakaliki and Owerri. The people of Southern Nigeria are predominantly farmers and fishermen. Southern Nigeria is the major producer of Cassava, Cocoyam, Kolanut, Coconut, Palm produce as well as sea foods. The land is rich in mineral deposits such as petroleum deposits, gold, limestone, sand and slat deposits to mention a few. All these are available in commercial quantities for prospective explorers and investors.

The study adopted a multi-stage sampling technique. Stage one was a purposive selection of Uyo, Calabar, Umuahia, Abakaliki and Owerri due to their endowments with conditions conducive for cassava production. Stage two involved a random selection of five (5) Cells, one from each of the municipalities in the study area (southern Nigeria) namely; Itu, Calabar South, Ikwano, Abakaliki and Owerri South. Stage three equally involved a random selected of twenty (20) respondents from each of the cells, giving a total of hundred (100) respondents use for the study.

RESULTS AND DISCUSSION

Socio-economic characteristics of the respondents in the study area

The data in Table 1, showed that majority (74%) of the cassava farmers in the study area were females, while 26% were males. The implication of this is that production level could be affected, especially, in a situation where major labours in the farms are manual. This result agrees with the findings of Effiong and Effiong (2015); Effiong *et al.* (2015); Effiong *et al.* (2015); Effiong *et al.* (2016); Effiong (2012a) that majority of the small-scale farmers are female farmers.

Table 1, also showed that majority (38%) of the respondents were between the age of 41-50 years, while (21% each) of respondents were age of >51 years and 20-30 years respectively followed by 20% who were 31-40 years of age. This implies that the cassava producers in the study area were mostly youths and this could have positive impacts on the productivity of cassava in the area as they are within the age bracket of labour force. These findings are in agreement with the findings of Effiong (2012b) who opined that productive labour force is within age 46-50 years.

More so, the result revealed that (32%) had their college certificates, while 27%, 24% and 11% had university degrees, senior secondary certificates and first school leaving certificates respectively, with only 6% who did not attain formal education. This implies that about 94% of the respondents had formal educational background. The implication of this is that, the rate at which innovations will

be adopted will be high which in turn affect the production of cassava in the area. Furthermore, the result revealed that majority (34%) were married, while 33%, 19% and 14% were divorced, single and widow(er) respectively. This implied that some of the respondents were married and responsible enough to take critical decisions related to adoption of innovations from the extension agents in the course of cassava production activities in the study area. This study is also in tandem with the work of Effiong and Aboh (2018); Effiong *et al.* (2023) who opined that education, age and sex are the major determinants of adoption of rubber production technologies and oil spillage activities in Akwa Ibom State, Nigeria.

The occupational distribution of the respondents revealed that (38%) of them were into full time farming, 30% were both traders and farmers, while 16% and another 16% were fisher folks and those who were both civil servants and farmers respectively. This means that about 84% of the respondents were engaged in farming either wholly or partially, this implies that the respondents in the study area had experience about farming since that is their major occupation. This may as well affect the production of cassava negatively or positively in the area.

The data on distribution of household size showed that 39%of the respondents had between 6-10 persons, while 27% had 11-15 persons, 21% had 1-5 persons and 13% had 16 and above persons; with an average household size of 9 persons. This implied that, the study area was characterized by large family sizes and this may have positive effects on the production of cassava due to availability of family labour during the production process of the staple food. The result also showed that most of the respondents 49% had farm sizes ranging from 3.1-4 hectares. In the same vein, a good number of the farmers 42% had monthly income greater than ₦ 40,000.00, while 11% of them had income ranging from ₦ 31,000.00 to ₦

Table 1: Socio-economic characteristics of the respondents.

Variable		Frequency	Percentage	Mean
Sex	Male	26	26	
	Female	74	74	
Age	20-30	21	21	
	31-40	20	20	
	41-50	38	38	
	51 and above	21	21	46
Education level	No education	61	61	
	Primary	11	11	
	Secondary	24	24	
	College	32	32	
	University	27	27	2.63
Marital status	Single	19	19	
	Married	34	34	
	Divorced	33	33	
	Widow(er)	14	14	
Occupation	Full time farmer	49	38	
	Fisher folks	5	16	
	Trader/farmer	30	30	
	Civil servant/ farmer	16	16	
Household size	1-5	21	21	
	6-10	39	39	
	11-15	27	27	
	>16	13	13	9
Farm size	<1 acre	27104914	27104914	
	1-2 acres	10	10	
	3.1- 4 acres	49	49	
	>4 acres	14	14	3.55
Monthly income	<10000	8	8	
	10000-200000	25	25	
	31000-40000	11	11	
	>40000	42	42	
		14	14	36,000

40,000.00 respectively. This study is in tandem with the findings of Effiong *et al.* (2015) and Effiong (2013) who opined that the larger the family size, the higher the labour force in a small-scale farm enterprise. Data in Table 1 also indicated that majority of the farmers 49% had farm size ranging from 3.1 to 4 hectares. Also the data showed that most farmers 25% had income of ₦10,000 to ₦20,000 per month. This result is in agreement with the work of Effiong *et al.* (2018) who stated that farmers who had contacts with agricultural workers tend to have larger farm sizes compared with those without extension contacts. More so, Effiong *et al.* (2023) noted that farmers who had contacts with agricultural extension workers had increase harvest which translated into improved income in their agricultural enterprise.

Perceived influence of extension on cassava production

Table 2, showed the mean response of the perceived influence of extension on cassava production in the study area. Farmers agreed that cassava production practices were taught by extension (mean $\bar{x}$ =1.05), extension taught farmers cassava processing techniques (mean $\bar{x}$ =1.86), extension diffused improved cassava production techniques to the farmers (mean $\bar{x}$ =1.24) and that extension took cassava production problems to research institutes (mean $\bar{x}$ =2.51). These results are true in view of the statement credited to Effiong, 2013 and Effiong, 2023 who stated that improved technological development and innovations in crop and animal production are products of extension services in Nigeria. However, a good majority of the farmers expressed negative attitude towards extension as an influencer of cassava production activities in the study area. The result agreed with Effiong (2013) who assertion that agricultural extension activities has not changed as much as desired due to poor funding and lack of interest in agricultural activities. The consequence is that in as much as humanity sees agricultural activities as inferior, unfulfilling, very hard and poor man's business, it would be difficult to invest and develop interest in farming vis-a-vis cassava production.

The data showed that some of the respondents also disagreed with the following as contribution by the extension to improving the production of cassava in the area, they were; extension helped farmers on how to reduce soil compartments, extension train farmers on pest/disease control, extension help farmers in marketing, extension taught farmers cassava processing and production practices. This implies that, the contributions of extension to productivity of cassava in the study area is limited. This could be as a result of inadequate funding of extension programs and lack of well/trained extension agents in the study area. This result disagrees with Effiong and Aboh (2019), Ijioma *et al.* (2014) who stated that extension services advance the cause of crop production in Nigeria. In the same vein, Extension services play a very vital role in agricultural production, such roles include but not limited to the education of farmers, home management techniques, fertilizer application methods and soil management techniques among very many others (Aboh and Effiong, 2019; Effiong *et al.*, 2021).

Table 2: Means response of the perceived influence of extension on cassava production in the study area.

Variable/Scale	Mean response	Std deviation	Remark
Cassava production practices are taught by extension	1.05	0.230	Agree
Extension teach farmers cassava processing techniques	1.86	0.310	Agree
Extension diffuse improved cassava production techniques to the farmers.	1.24	0.311	Agree
Extension takes cassava production problems to research institutes	2.51	0.508	Agree
Extension help train farmers on pest/disease control	2.27	0.75	Disagree
Extension help farmers in marketing	1.92	0.63	Disagree
Extension help train farmers how to control soil erosion	2.80	1.041	Disagree
Extension help farmers to know irrigation techniques	2.69	0.871	Disagree
Extension help farmers on how to reduce soil compartments	2.43	0.910	Disagree

Table 3: Perceived constraints of agricultural extension by farmers in enhancing the production of cassava in the study area.

Variable/Scale	H4	M3	L2	NA1	Mean (X)	Rank
Inadequate trained extension agents	53 (212)	25 (75)	13 (26)	9(9)	3.22	4th
Insufficient motivation of extension agents	17 (68)	45 (135)	38 (76)	0	2.80	6th
Unfavourable attitude of farmers	13 (52)	16 (48)	71 (142)	0	2.42	10th
Inadequate funding	53 (212)	30 (90)	17 (34)	0	3.36	3rd
Absence of credit facilities	62 (248)	28 (84)	10 (20)	0	3.52	2nd
Language barrier	6 (24)	31 (93)	63 (126)	0	2.43	9th
Poor transport network	8 (32)	46 (138)	46 (92)	0	2.62	8th
Poor conditions of extension.	42 (168)	35 (105)	23 (46)	0	3.19	5th
Inadequate logistics provision	25 (100)	18 (54)	57 (114)	0	2.68	7th
Inadequate farm inputs	66 (264)	29 (87)	5 (10)	0	3.61	1st

Perceived constraints of agricultural extension

The data in Table 3 revealed that the respondents in the study area had inadequate farm inputs, absence of credit facilities, inadequate funding, inadequate trained extension agents, poor conditions of extension, insufficient motivation of extension agents, inadequate logistics and poor transport network, with means of; $\bar{x}$ =3.61, $\bar{x}$ =3.52, $\bar{x}$ =3.36, $\bar{x}$ =3.22, $\bar{x}$ =3.19, $\bar{x}$ =2.80, $\bar{x}$ =2.68 and $\bar{x}$ =2.62 respectively, as major constraints to agricultural extension in enhancing the productivity of cassava in the study area. Nevertheless, language barrier and unfavorable attitude of farmers were also observed as constraints to agricultural extension from reaching targeted aims of enhancing the productivity of cassava in the study area, with mean $\bar{x}$ = 2.43 and $\bar{x}$ = 2.42 respectively. The implication of this is that; these constraints affected the efficiency and effectiveness of extensions and may impact on the improvement of cassava production in the study area. This study is in tandem with the findings of Aboh and Effiong, (2019); Effiong, (2012a) and Effiong (2013), who opined that inadequate funding is a major constraint in agricultural production in Uruan Local Government Area of Akwa Ibom State, Nigeria.

CONCLUSION

The findings of this study showed that farmers disagreed with the fact that extension helped cassava farmers on how to reduce soil compartment, know their irrigation techniques, how to control erosion and control pest/diseases. The respondents however agreed that some cassava production practices were taught by extension. Also, some farmers agreed that extension diffused improved cassava production techniques to farmers in the study area.

The study concluded that farmers should be brought into the main stream of all extension activities, identify and prioritize, production problems, analyze and seek solutions to such problems within the framework of participatory extension activities. This would lead to increases in cassava production in the study area.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations were made:

Agricultural extension administrators should stimulate agricultural production by providing extension services directed at cassava farmers to improve production of cassava. This could be achieved through motivation of extension agents and adequate training of the agents on the methods of improved cassava production and processing. In line with this, credit facilities and empowerment programs should be intensified while at the same time try to break language barriers in some communities by engaging indigenes of the area as extension officers.

There is need for adequate development initiative to put structures in place for cassava farmers to appreciate their environment. In this case, development agencies of government should provide adequate infrastructures and social amenities in farming communities to reduce some of the constraints facing cassava farmers in the study area. Professional trainings should be organized for agricultural workers to enhance skills in their performance index.

Conflict of interest

On behalf of all the authors in the article I wish to state that there is no conflict of interest among us.

REFERENCES

Aboh, C.L. and Effiong, J.B. (2019). Assessment of indigenous weed management techniques utilized by cocoa farmers in Akamkpa, Cross River State, Nigeria. European Journal of Scientific Research. 154: 134-141.

Aboh, C.L. and Effiong, J.B. (2019). Adoption of different weed management techniques among Cocoa farmers in Akankpa Local Government Area, Cross River State, Nigeria. Global Journal of Pure and Applied Sciences. 25(1): 7-12.

Armando, C.P. (2019). Analysis of food crop output volatility in agricultural policy programme regimes in Nigeria. Developing Country Studies. 2: 28-35.

Awoyinka, Y.A. (2009). Cassava marketing: Option for sustainable agricultural development in Nigeria. Ozean Journal of Applied Science. 2: 175-183.

CTA (2018). Action plan for a cassava transformation in Nigeria (draft). Retrieved from URL http://unaab.edu.ng/attachments/Cassava%20Report%20Final.pdf.

Effiong, J.B. (2012a). Youth participation in community development evidence from Yakurr Local Government Area, Cross River State. International Journal of Social Science Tomorrow. 1: 6-10.

Effiong, J.B. (2012b). An analysis of agricultural livelihood activities prevalent among rural farmers in Itu Local Government Area, Akwa Ibom State. African Journal of Agricultural Research and Development. 5: 31-45.

Effiong, J. B. (2013). Challenges and prospects of rural women in agriculture production in Nigeria. Lwati: A Journal of Contemporary Research. 10(2): 183-190.

Effiong, J.B. (2013). Prospects and constraints of indigenous agricultural practices among rural farmers in Itu Local Government Area, Akwa Ibom State, Nigeria. Agricultural Journal. 8: 22-25.

Effiong, J.B. (2023). Assessment of the effect of conflicts on Yam Production Farms in Cross River State, Nigeria. Agricultural Science Digest. 43(4): 536-539: doi 10.18805/ag DF-505.

Effiong, J.B. and Aboh, C.L. (2018). Rubber Production Technologies and the related socioeconomic environments in Akwa Ibom State, Nigeria. Global Journal of Agricultural Sciences. 17: 15-22.

Effiong, J.B. and Aboh, C.L. (2019). Effect of agrochemical on the health of farmers in Akpabuyo Local Government Area, Cross River State, Nigeria. European Journal of Scientific Research. 154: 142-147.

Effiong, J.B., Aboh, C.L. and Aya, C.F. (2021). Perception of Farmers on the contribution of Vegetable to Livelihoods in Yakurr Local Government Area, Cross River State, Nigeria. Global Journal of Pure and Applied Sciences. 27(2): 85- 91.

Effiong, J.B. and Asikong, A.B. (2013). Mid-Term Assessment of the activities of Fadama III Development project in Cross River State. Global Journal of Agricultural Sciences.12: 31-35.

Effiong, J.B. and Effiong, G.B. (2015). Adoption of improved rubber production technologies by farmers in Akwa Ibom State, Nigeria. Global Journal of Agricultural Sciences. 14: 37-44.

Effiong, J.B. Ijioma, J.C. and Okolo, L.C. (2015). Participation of Women farmers in Rice production in Bende Local Government Area, Abia State. International Journal of Agricultural Extension and Rural Development. 2: 1-9.

Effiong, J.B., Effiong, G.B. and Udo, U.A. (2015). Socio-economic determinants of production of pro-vitamin A cassava varieties by Farmers in Etim Ekpo Local Government Area, Akwa Ibom State, Nigeria. Global Journal of Pure and Applied Sciences. 21: 105-111.

Effiong, J. B., Etuk, E. A. and Iyamah, D.A. (2023). Perceived determinants of oil spillage on Agricultural Lands in Ibeno Local Government Area, Akwa Ibom State, Nigeria. African Journal of Food, Agriculture, Nutrition and Development. 23: 22397-22409.

Effiong, J.B., Ijioma, J.C. and Effiong, M.O. (2016). Endogenous determinants of adoption of improved rubber production technological among farmers in Akwa Ibom State, Nigeria. Asian Journal of Agricultural Extension, Economics and Sociology. 8: 1-8.

Fakayode, S.B., Babatunde, R.O. and Ajao, R. (2018). Productivity analysis of cassava-based production systems in the Guinea Savannah: Case Study of Kwara State, Nigeria. American Eurasian Journal of Scientific Research. 3(1): 333-39.

FAO, (2018). Online Statistical Database. Food and Agriculture Organization of the United Nations, Rome. www.fao.org.

Ijioma, J.C., Effiong, J.B., Ogbonna, M.O., Onwuamaoka, E.A. (2014). Determinants of adoption of selected NRCRI cocoyam Technologies among farmers in Umuahia South Local Government Area of Abia State, Nigeria. American International Journal of Contemporary Research. 4: 182-189.

International Fund for Agricultural Development (IFAD) (2018). The Global Cassava Development Strategy. International Fund for Agricultural Development and Food and Agriculture Organization, Rome. p: 5-37.

Kristin, E.D. (2019). The Important Role of Extension Systems: Agriculture and Climate Change: An agenda for negotiation in Copenhagen. International food policy research institute 2033 K Street, NW. Wash ington, DC 20006-1002. USA.