DETERMINANTS OF COMPLIANCE WITH GOOD AGRICULTURAL PRACTICES AMONG ARABLE CROP FARMERS IN AKINYELE LOCAL GOVERNMENT AREA OF OYO STATE

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ABSTRACTS

This study was carried out to examine the determinants of compliance with Good Agricultural Practices (GAPs) among arable crop farmers in Akinyele Local Government Area of Oyo State. A multi-stage sampling technique was employed to select a total of 120 respondents. Primary data was collected through the administration of structured questionnaires designed to obtain relevant information from the farmers .Data analysis was conducted using both descriptive statistics—such as frequency, percentage, and mean—and inferential statistics, particularly regression analysis. The results revealed that 25.0% of respondents were aged between 41 and 50 years, while the majority (68.3%) had household sizes ranging from one to five members. Additionally, 30.0% of the farmers had between one to five years of farming experience. Regarding information sources, 78.3% of the respondents reported receiving agricultural information from the Maize Farmers Association. The perceived benefits of GAPs included guaranteed market access (mean = 1.75) and improved overall productivity (mean = 1.56). Further analysis showed that the key practices influencing compliance with GAPs were direct seeding (68.3%) and the practice of felling and burning trees before planting (78.3%). The main constraints faced by the farmers in implementing GAPs included the high cost of recommended agrochemicals (mean = 1.82) and inadequate knowledge regarding their proper use (mean = 1.80). Regression analysis revealed that household size (p = 0.046), knowledge of GAPs (p = 0.000), awareness of health benefits (p = 0.000), and recognition of economic advantages (p = 0.002) significantly influenced farmers' compliance with GAPs in arable crop production. The study concludes that most of the farmers possessed good knowledge of GAPs. It is recommended that government agencies and non-governmental organizations (NGOs) provide subsidies or financial support to reduce the cost burden on farmers. Additionally, promoting local production of agrochemicals is essential to minimize reliance on imports, ultimately reducing production costs and encouraging wider adoption of Good Agricultural Practices.

Key words: compliance, Good agricultural practices, Arable crop farmer

INTRODUCTION

Agriculture remains a vital source of income and a key driver of poverty reduction, serving as the primary livelihood for approximately 1.4 billion smallholder farmers and their families who are responsible for producing nearly 70% of the world's food supply (Onyekwelu et al., 2015). Globally, around 2.5 billion people are engaged in smallholder farming either full or part-time managing an estimated 500 million small farms (IFAD, 2013). In many developing countries, agriculture is the backbone of national economies. In Sub-Saharan Africa, about 75% of resource poor populations depend on agriculture for their livelihoods, with the sector employing roughly 60% of the workforce and contributing around 30% to the region's Gross

Domestic Product (GDP) (Chowa et al., 2013). Nearly 70% of the population in developing countries live in rural areas where agriculture dominates economic activity, including approximately 36 million smallholder farmers across Africa (Wright et al., 2014). Wajim (2020) reported that over 70% of Nigeria's population depended on agriculture, either directly or indirectly, out of an estimated 206 million people in 2020. By midcentury, Nigeria's population is projected to nearly double to approximately 359–401 million surpassing that of the United States to become the world's third most populous nation(UN DESA,2019).

Arable crops are crop which are cultivated on ploughed land .Agronomicallly arable crops can be group as follows, Cereal crop such as maize and wheat, Legume crops such as Cowpea and Groundnut, Root and Tuber crops are Cassava and Yam, while Fibers crop are Cotton and Jute and Stimulant crop such as Tobacco. Some arable crops are prevalent in one area than the others. Arable crop production in Nigeria is vital to the country's food security and economy, with a significant portion of the population relying on it for their livelihoods. Nigeria possesses a large cultivable land area, estimated at 70.8 million hectares, though only a portion is currently under cultivation.

Good Agricultural Practices (GAPs) aim to produce safe, highquality agricultural goods free from microbial, chemical, and physical contaminants through environmentally sound methods that also protect workers(Saravanakumar,2021) . GAP encompasses a comprehensive scope: conservation agriculture, soil fertility maintenance, water and irrigation management, crop care, land rehabilitation, livestock care, integrated pest and fertilizer systems, supplychain sustainability, and meeting international procurement standards . When implemented effectively, GAP can enhance land-use efficiency, reduce greenhouse gas emissions, limit encroachment into sensitive ecosystems, and curb environmental degradation (Olaniyi 2023). According to Jayne and Sanchez (2021), increasing agricultural productivity hinges on farmers' ability to adopt new technologies and practices, phasing out outdated methods. Donkoh et al. (2019) found that current extension services yield approximately 6.5 fold greater output with improved technologies compared to traditional methods demonstrating a significant yield gap that can be addressed through farmer adaptability

Good Agricultural Practices (GAPs) refer to a set of principles designed to ensure the production of safe, high-quality agricultural products while promoting economic viability, environmental sustainability, and social responsibility (Sennuga, 2019). GAPs encompass soil fertility maintenance, irrigation and water management, land restoration, animal welfare, pest and fertilizer management, and conservation agriculture (Montagne et al., 2017). These practices not only aim to boost food quality and safety but also support better market access and improved livelihoods for farmers (Poole and Lynch, 2013). Despite their potential, the extent of awareness and adoption of GAPs among smallholder farmers remains limited. According to the ASEAN GAP (2018), effective implementation of GAPs can help farmers produce high-quality products that command premium prices, improve environmental health, and enhance living standards for farming communities.

This study, therefore, aimed to:

1. describe the socio-economic characteristics of arable crop farmers;
2. assess farmers' knowledge of Good Agricultural Practices in arable crop production;
3. examine the determinants influencing compliance with GAPs among arable crop farmers; and
4. identify the constraints hindering the adoption of GAPs in arable crop farming.

Hypotheses of the study

Ho: There is no significant relationship between the socio economic characteristics of the respondents and the determinants of compliance to Good Agricultural Practices on arable crop production

METHODOLOGY

The study was conducted in Akinyele Local Government Area of Ibadan Oyo State, the local government is one of the eleven Local Governments that make up Ibadan suburb. Headquarters is at Moniya. It was created 1976 and it shares boundaries with Afijio local government to the North, Lagelu local government to the East, Ido local government area to the west and Ibadan North local area to the South. The town is located on latitude 7021'-80N and longitude 4002' - 4028'E. It occupies a land area of 464.892 square km with a population density of 516 persons per square kilometre. Using 3.2% growth rate from 2006 census figures, the 2010 estimated population for the local government is 239,745. Akinyele local government is sub-divided into twelve (12) wards Ikereku, Olanla / Oboda / Labode, Arulogun / Eniosa / Aroro, Olode / Amosun / Onidundu, Ojo-Emo / Moniya, Akinyele / Isabiyi / Irepodun, Iwokoto / Tolonta / Idioro, Ojoo / Ajibode / Laniba, Ijaye / Ojedeji, Ajibade / Alabanta / Elekuru, Olorisa`Oko / Okegbemi / Mele, and Iroko. The major crops grown in the state include cocoa, oil palm, cassava, maize and yam, while the major livestock reared in the state include cattle, sheep, goat, fish production and poultry production. Multi-stage sampling techniques was used for this study. In the first stage, out of 12 wards in Akinyele Local Government Area, 6 wards were randomly selected due to the predominant of the farmers practicing GAP on their farms in the area. In the second stage 2 villages each were purposely selected from the 6 wards to give a total number of 12 villages. In the third stage 10 arable crop farmers were selected from each village to give a total number of 120 respondents. Data for this study was subjected to both descriptive statistics such as means frequency and percentage to analyze objectives i-v, While Ordinary least square(OLS) regression analysis was used to determine the level of compliance to GAP of arable crops among farmers

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10})$

Model specification for determinants of compliance to GAP of arable crops among farmers

Model specification

X_1 = Age in years

X_2 = Level of education (at least primary education = 1 otherwise = 0)

X_3 = Household size (Number in the household)

X_4 = Knowledge scores

X_5 = Constraints scores

X_6 = Economic benefits score

X_7 = Arable crops farm size (Ha)

X_8 = Sex (male = 1; otherwise = 0)

X_9 = Marital status (married = 1; otherwise = 0)

X_{10} = Religion (Christianity = 1; Islam = 0)

U = Error terms

RESULT AND DISCUSSION

Table 1 shows 25.0% of the respondents were within 41-50 years of age, 24.2% of the respondents were between 31-40 years of age, 18.3% of the respondents were between 51-60 years of age, 16.7% of them were between 21-30 years of age; while 15.8% of the respondents were between 61-70 years of age, the mean age of the respondents was 47 years. This implies that there were more adults involved in GAP in cultivating arable crops. The table 1 also showed that 55.8% of the respondents were male while 44.2% of the respondents were female. This is an indication that above average of the respondents in the study area were male. This may be due to the fact that crop production involve tedious activities which are beyond female capability, the marital status shows that most (63.3%) of the respondents were married,

14.2% were single, 11.7% of the respondents were widowed, while 10.8% of the respondents were divorced. This is implies that majority of the respondents in the study area were married. Relative to educational status 44.2% of the respondent had secondary education, 39.2% of the respondents had tertiary education, 14.2% had primary education while 2.5% of the respondent had no formal education. This implies that most of the respondents that engaged in arable crop production were educated. This may likely influence their understanding of good agricultural practices in arable crop production, respondents household size shows that most (68.3%) of the respondents had 1-5 household size, while 31.7% of the respondents had 6-10 household size. The mean household size is 5. This implies that most of the respondents had a fairly large household size and this could translate to labour availability for agricultural practices in crop production in the study area. This is in line with the findings of Balogun and Akinyemi (2017) that family size has a great role to play in family labour usage in the agricultural sector.Also 30.0% of the respondents had 1-5 years of farming experience, 25.0% of the respondents had between 6-10 years of farming experience, 19.2% of the respondents had 16-20 years of farming experience, 17.5% of the respondents had 11-15 years of farming experience while 8.3% of the respondents had above 20years experience. The mean years of farming experience of 5 years implies that most of the respondents had been in farming for a longer period of years and this could further be said that most of the respondents were well experienced in farming. Moreso, 48.3% of the respondents had 3-4 acres of farmland, 30.8% of the respondent had 5-6 acres of farmland, 10.8% had 7-8acres of land while 10.0% of the respondents had 1-2 acres of farmland. This shows that most of the respondents were small scale farmers. This could allow effective good agricultural practices in cassava production bin the study area. This is in accordance with Akinyemi (2016) who reported that most farmers' farm size was between 1 and 3 acres. However, (63.3%) of the respondents were traders, 33.3% were artisan while 3.3% of the respondents had other secondary occupation. This indicates that majority of the respondents in the study area had trading as their secondary occupation. The result also revealed that 38.3% of the respondents inherited their land, 31.7% purchased their land, 19.2% rented their land while 10.8% were gifted their land. This implies that most of the respondents inherited their farm land,64.2% of the respondents had no access to extension services, while 35.8% of the respondents have Access to extension services. This implies that most of the respondents in the study area have no access to extension services. More so,40.0% of the respondents earned above N300,000 annually. 29.2% of the respondents earned between 251,000-300,000 annually, 15.0% of the respondents earned between 201,000-250,000 annually, 10.8% of the respondents earned 151,000-200,000 annually, 4.2% of the respondents earned between 101,000-150,000 while 0.8% of the respondents earned 50,000-100,000 annually. This implies that most of the respondents were high income earners. This could be because of the effective of good agricultural practices of arable crop production. The result is in agreement with the findings of Okello (2014) who reported increase in farmers' productivity and income was as a result of agricultural trainings or interventions which might be a major drive to good yield in cassava production.

Table 1: Socio-economic characteristics of the respondents

Variables	Frequency	Percentage	Mean
Age			
20-30	20	16.7	
31-40	29	24.2	
41-50	30	25.0	47
51-60	22	18.3	
61-70	19	15.8	
Sex			
Male	67	55.8	
Female	53	44.2	
Marital status			
Single	17	14.2	
Married	76	63.3	
Divorced	13	10.8	
Widowed	14	11.7	
Educational status			
Primary	17	14.2	
Secondary	53	44.2	
Tertiary	47	39.2	
No formal Education	3	2.5	
Household size			
1-5	82	68.3	5
6-10	38	31.7	
Farming experience			
1-5	36	30.0	5
6-10	30	25.0	
11-15	21	17.5	
16-20	23	19.2	
>20	10	8.3	
Farm size			
1-2	12	10.0	
3-4	58	48.3	
5-6	37	30.8	
7-8	13	10.8	
Religion			
Islam	40	33.3	
Christianity	54	45.0	
Traditional	26	21.7	
Secondary occupation			
Trading	76	63.3	
Artisan	40	33.3	
Others(Specify	4	3.3	
A you a member of any cooperative society			
Yes	79	65.8	
No	41	34.2	
Annual income			
50000-100000	1	0.8	
101000-150000	5	4.2	
151000-200000	13	10.8	
201000-250000	18	15.0	
251000-300000	35	29.2	
>300000	48	40.0	
Types of arable crop planted			
Maize,Rice and Cassava	29	24.2	
Wheat, Millet and cowpea	45	37.5	

Sorghum,Yam and cocoyam	27	22.5
Oats,Barley and sweet-potato	19	15.8
Sources of labour used		
Hired	77	64.2
Family	32	26.7
Self	11	9.2
Sources of capital		
Cooperative Society	44	36.7
Bank	34	28.3
Personal Saving	40	33.3
Friends and Family	2	1.7
Mode of land ownership		
Purchase	38	31.7
Inherited	46	38.3
Rented	23	19.2
Gifted	13	10.8
Access to Extension services		
Yes	43	35.8
No	77	64.2

Source: Field survey, 2024

Knowledge of farmers on GAP of Arable crops

Results in Table 2 revealed the knowledge of farmers on GAP of Arable crops. The results on soil fertility management showed that the respondents have full knowledge on regular addition of NPK fertilizer in soil (83.3%), importance of manures to soil (88.3%), need for intercropping with leguminous crops (75.0%), benefit of minimum tillage option (65.8%) and advantage of crop rotation (52.5%).

Also, respondents knowledge on crop production practices revealed that average (50%) of the respondents have full and moderate knowledge on crop rotation uses, 52.5% have moderate knowledge on soil and water conservation methods, 51.7% have moderate knowledge on dependence of integrated weed control, 48.3% have moderate knowledge benefits of accrued from adopting spacing, thinning practices and 47.5% also have moderate knowledge on mulching soil when crops standing period. Furthermore, the respondent's knowledge on postharvest technology revealed that most of the respondents have full knowledge on Benefit of food hygiene and safety (63.3%), Need for reduction of moisture and Washing hand while processing food (55.8%), Storing food grain on elevated and ventilated place (50.8%) and Consequences of threshing on road (47.5%). This implies that most of the respondents in the study area have full knowledge on soil fertility management and post-harvest technology features. Also, most of the respondents have moderate knowledge on crop production practices. This agrees with Awoyemi and Aderinoye-Abdulwahab (2019) who found that level of management practices improves with increase in farmers' knowledge. It also agrees with earlier postulation by Alazmi et al. (2013) that knowledge is an essential requirement to appropriate practice of any innovation. The result is also consistent with Lee (2007) on importance of information and skills

Table 2: Knowledge of farmers on GAP of Arable crops

Good Agricultural practices	Full knowledge	Moderate knowledge	No knowledge	Mean	Rank
Soil fertility management					
Regular addition of NPK fertilizer in soil	100(83.3)	18(15.0)	2(1.7)	1.18	15
Importance of manures to soil	106(88.3)	12(10.0)	2(1.7)	1.13	16
Need for intercropping with leguminous crops	90(75.0)	28(23.3)	2(1.7)	1.27	14
Benefit of minimum tillage option	79(65.8)	39(32.5)	2(1.7)	1.36	13
Advantage of crop rotation	63(52.5)	57(47.5)	0(0.0)	1.48	12
Crop Production Practices					
Crop rotation uses	60(50.0)	60(50.0)	0(0.0)	1.50	10
Cultivation of resistant varieties	55(45.8)	63(52.5)	2(1.7)	1.56	6
Need for soil and water and water conservation methods	55(45.8)	63(52.5)	2(1.7)	1.56	6
Dependence of integrated weed control	53(44.2)	62(51.7)	5(4.2)	2.00	1
Benefits of accrued from adopting spacing and thinning practices	56(46.7)	58(48.3)	6(5.0)	1.58	4
Mulching soil when crops standing period	53(44.2)	57(47.5)	10(8.3)	1.64	2
Postharvest technology					
Need for reduction of moisture	67(55.8)	43(35.8)	10(8.3)	1.53	8
Benefit of food hygiene and safety	76(63.3)	31(25.8)	13(10.8)	1.48	10
Washing hand while processing food	67(55.8)	45(37.5)	8(6.7)	1.51	9
Storing food grain on elevated and ventilated place	61(50.8)	49(40.8)	10(8.3)	1.58	4
Consequences of threshing on road	57(47.5)	53(44.2)	10(8.3)	1.61	3

Source: Field survey, 2024
Figures in parentheses are in percentage

Level of knowledge on GAP

The result in Table 3 reveals that majority of farmers had a good knowledge of the GAP. Of the maximum possible score of 21, the average score was 12.4 and ranged from 5 to 20. Categorization using the mean knowledge score as benchmark shows that a total of 65.0% had a high knowledge level of GAP. This high knowledge among majority should aid compliance to GAP of arable crop and a good signal for a profitable and sustainable crop production. This postulation is supported in previous studies (Okobia et al., 2006; Alazmi et al., 2013). In a similar study, Eghe et al. (2014) had expressed the thought that if producers arable crops have poor knowledge of GAP which is a pre-requisite for certification, preparedness to adopt and sustain production will be negatively affected.

Table 3: Level of knowledge on GAP

Level of knowledge	F	%	Mean	Max	Min	Grand Mean
Low	30	35.0	12.41	20	5	2.37
High	90	65.0				

Determinants of compliance to Good Agricultural Practices among arable crop farmers

Table 4. The results showed that majority (78.3%) of the respondents compliance with cutting down trees and burning them before planting followed by direct sowing of seeds (68.3%), getting seedlings from the nursery (67.5%), appropriate fertilizer use (66.7%), record keeping of stocks and parent material (66.7%), use of appropriate herbicide (64.2%), appropriate weeding (61.7%), good planting spacing (60.8%), scale of production (59.2%), use of recommended insecticide (58.3%), appropriate tillage system (56.7%) while average (50.8%) of the respondents were compliance of training received. This implies that cutting down trees and burning them before planting, direct sowing of seeds, getting seedlings from the nursery and appropriate fertilizer use were the major determinants of compliance to good agricultural practices among arable crop farmers in the study area and this might be due to the fact that the good agricultural practices often used by the respondent's increases the growth and yield of their crop which might increases their profit and livelihood.

Table 4: Determinants of compliance to Good Agricultural Practices among arable crop farmers

Compliance to GAP	**Compliant**	**Non-compliant**
scale of production	71(59.2)	49(40.8)
Training received	61(50.8)	59(49.2)
Appropriate tillage system	68(56.7)	52(43.3)
Good planting spacing	73(60.8)	47(39.2)
Appropriate weeding	74(61.7)	46(38.3)
Replacement of dead or disease seedlings	70(58.3)	50(41.7)
Cutting down trees and burning them before planting	94(78.3)	26(21.7)
Getting seedlings from the nursery	81(67.5)	39(32.5)
Appropriate fertilizer use	80(66.7)	40(33.3)
Record keeping of stocks and parent material	80(66.7)	40(33.3)
Use of appropriate herbicide	77(64.2)	43(35.8)
Use of recommended insecticide	70(58.3)	50(41.7)
Direct sowing of seeds	82(68.3)	38(31.7)

Source: Field survey, 2024
Figures in parentheses are in percentage

CompliancetoGAP

Results in Table 5 shows that 54% of farmers complied with GAP while 46% were not compliant. the study also reveals that although farmers achieved a high level of compliance with a number of indicators of GAP, a closer look at the few items to which majority did not comply implicates such of relatively bigger economic, health and environmental implications. For example, only a small proportion were compliant with appropriateness of fertilizer application (66.7%), use of herbicides (64.2%). Use of recommended insecticides (58.3%), all this were complied with arable crop farmer

Table 5:Level of compliance to good agricultural practices among arable farmer

Level of compliance	F	%	Mean	Max	Min	Grand Mean
Not Compliant	54	46.0	44.5	20.00	0.00	8.649
Compliant	66	54.0				

Constraints associated to the usage of Good Agricultural Practices on arable crop production

Results in Table 6 revealed the constraints associated to the usage of Good Agricultural Practices on arable crop production. The results shows that high cost of recommended agrochemicals (mean=1.82) had the highest mean and was ranked first. Closely followed by poor knowledge use of recommended agro-chemicals (mean=1.80), farmers illiteracy (mean=1.78), Climate change (unpredictable weather condition) (mean=1.75), Inadequate training on GAP (mean=1.75), Availability of fake herbicides (mean=1.73) and inadequate government support (mean=1.73) were ranked second, third, fourth and sixth respectively. Furthermore, access to loans to purchase input (mean=1.46) and Inadequate information on good practices had the least mean and were ranked thirteenth and fourteenth respectively. This implies that high cost of recommended agrochemicals, poor knowledge use of recommended agro-chemicals, farmers illiteracy, Climate change (unpredictable weather condition), Inadequate training on GAP and Availability of fake herbicides were the major constraints to the usage of Good Agricultural Practices on arable crop production. This thought concurs with Ogunleye and Oladeji (2007) which revealed farmers' lack of capital as responsible for inability to purchase improved seeds.

Table 6: Constraints associated with the usage of Good Agricultural Practices on arable crop production

Constraints	Very Severe	Severe	Not-Severe	Mean	Rank
Access to loans to purchase input	75(62.5)	35(29.2)	10(8.3)	1.46	13
High cost of input procurement	50(41.7)	67(55.8)	3(2.5)	1.61	11
High cost of recommended agrochemicals	44(36.7)	54(45.0)	22(18.3)	1.82	1
Availability of fake herbicides	56(46.7)	50(41.7)	14(11.7)	1.73	6
Poor knowledge use of recommended agro-chemicals	47(39.2)	50(41.7)	23(19.2)	1.80	2
Climate change (unpredictable weather condition)	60(50.0)	39(32.5)	21(17.5)	1.75	4
High cost of labor	70(58.3)	44(36.7)	6(5.0)	1.47	12
Inadequate information on good practices	65(54.2)	41(34.2)	14(11.7)	1.58	14
Poor record keeping	51(42.5)	54(45.0)	15(12.5)	1.70	8
Inadequate training on GAP	49(40.8)	52(43.3)	19(15.8)	1.75	4
Inadequate extension service delivery	57(47.5)	48(40.0)	15(12.5)	1.65	9
Inadequate government support	50(41.7)	52(43.3)	18(15.0)	1.73	6
Poor road network	63(52.5)	40(33.3)	17(14.2)	1.62	10
Farmers illiteracy	49(40.8)	49(40.8)	22(18.3)	1.78	3

Source: Field survey, 2024
Figures in parentheses are in percentage

Determinants of small-holder farmers' compliance to GAP of arable crops

The estimation of the regression model as presented in the table reveals that five of the twelve independent variables regressed on the compliance of farmers to GAP gave a coefficient of determination (R^2) of 0.46, which shows that the variation in the compliance level of arable crop farmers to GAP is explained to about 46% by the identified variables. Keeping other factors constant, a unit increase in knowledge score increases the compliance level by 1.95. This shows that farmers with high level of knowledge on GAP of arable crop complied with the set standards, thus a high level of compliance to GAP of arable crop. This agrees with Awoyemi and Aderinloye-Abdulwahab (2019) who found that level of crop management practices improves with increase in farmers' knowledge. It also agrees with earlier postulation by Okobia et al. (2006) and Alazmi et al. (2013) that knowledge is an essential requirement to appropriate practice of any innovation. The result is also consistent with Lee (2007) on importance of information and skills. Also farmers perceived economic (β = 0.93) and health (β = 0.88) benefits were implicated as significant determinants of compliance to GAP of arable crop. motivated to adopt the GAP as it often helps to recover costs accrued during pre-planting through post-harvest stages.

This is in consonance with the findings of Adefemi (2019) which asserts that farmers who

comply with good management practices have so much to gain after all as they are able to recover costs incurred in their farm operation. Parikhani et al. (2015) also identified economic factors as important to compliance to GAP. Other authors have also linked GAP to improved income and hence livelihood of smallholders (Jumiyati et al., 2018; Arsyad et al., 2020). The study however disagrees with Olutegbe and Samuel (2020) on the importance of considering relative economic advantage in making choices. The socioeconomic variable, family size, contributing significantly to use of GAP in the regression model is a validation of earlier assertions that the family remains an important labor source for arable crop farming activities in Nigeria (Obike et al., 2016; Akinnagbe et al., 2018). Generally, the finding disagrees with Santos-Ordóñez (2011) which showed that availability of family labor and additional income influenced crop rehabilitation techniques.

Table 7: Regression shown the significant relationship between the socio economic characteristics of the respondents and the determinants of compliance to Good Agricultural Practices on arable crop production

Variable	Coefficient	Std. Error	t-value	P-value
Constant	39.508	13.937	2.835	0.608
Age	-0.180	0.570	-0.322	0.748
Educational level	-2.510	0.701	-0.358	0.721
Household size	-0.602	0.298	-2.016**	0.046
Knowledge Scores	1.949	0.263	7.435***	0.000
Constraints Scores	-.264	0.138	-1.913*	0.058
Economic benefits	0.934	0.289	3.235***	0.002
Environmental benefits	0.294	0.249	1.181	0.240
Health benefits	0.876	0.237	3.701***	0.000
Farm size	-0.365	0.341	-1.070	2.870
Sex	-1.361	2.696	-0.505	0.615
Marital status	0.252	2.951	0.085	0.932
Religion	-2.525	1.292	1.954*	0.053
R^2	0.457			
Adjusted R^2	0.676			
F	7.338			

Sources: Field survey2024 ***Significant @1%, ** @5% * @10%

Conclusion and Recommendations

This study shows that majority of farmers had a good knowledge of the GAP. Also average of the respondents were compiled with GAP. It is also concluded that high cost of recommended agrochemicals, poor knowledge use of recommended agro-chemicals, farmers illiteracy, Climate change (unpredictable weather condition), Inadequate training on GAP and Availability of fake herbicides were the major constraints to the usage of Good Agricultural Practices on arable crop production. Also, household size (0.046), knowledge scores.Based on the conclusion of this study, the following recommendations were made:

1. Governments and NGOs should provide subsidies or financial aid to reduce the cost burden on farmers and Support local production of agrochemicals to decrease dependency on imported products, thereby reducing costs.
2. Encourage farmers to form cooperatives to buy agrochemicals in bulk, reducing individual costs.
3. Adequate training on GAP should be intensify upon by the extension agent

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