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WILLINGNESS TO PRACTICE CONSERVATIVE AGRICULTURE AMONG ARABLE CROP FARMERS IN ONA ARA LOCAL GOVERNMENT AREA, OYO STATE

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Abstract
The study was carried out to examine the willingness to practice conservative agriculture among arable crop farmers in Ona Ara Local Government Area of Oyo state, Nigeria. A multi-stage sampling technique was used to select 110 respondents from the study area and data were collected through a well-structured questionnaire. The data was analyzed through descriptive statistics and inferential statistics (Chi-square and Pearson Product Moment Correlation (PPMC). The study revealed that most (64.5%) of the respondents were male with mean age of 48 years. Also, 49.1% had household size of 7-9 members, 78% were married with 48.2% having farming years of experience of 6-10 years and earned mean monthly income of ₦109,000. The result further revealed that majority (58.2%) of the respondents had favourable perception and 70.9% were willing to practice conservation agriculture. Lack of appropriate conservation tools (1.6), inadequate conservation agriculture training (1.6) and limited availability of quality seed (1.3) were identified as constraints to conservation agriculture practices. Chi square analysis revealed that age (χ^2 = 17.225, p= 0.008), education (χ^2 = 6.513, p= 0.037), marital status (χ^2 = 20.165, p= 0.003) and household size (χ^2 = 26.234, p= 0.001) had significant relationship with willingness to practice conservation agriculture. Also, PPMC analysis revealed that significant relationship existed between respondents' perception of conservation agriculture practices (r= 0.059, p= 0.05) and willingness to practice conservation agriculture. Therefore, it is recommended that the training support and sensitization programmes on conservation agriculture in order to promote and improve on current practices of farmers.

Keywords: *Willingness, Conservation Agriculture, Perception, Practice*

Introduction

Agricultural practices such as soil and water conservation appear to be a step in the right direction to meet global food demands in a more environmentally sustainable manner (Fontes, 2020). Without soil and water conservation regulations, the cost of remediating soil degradation would increase. Productivity would continue to decline, and thereafter it would continue to lower agricultural export revenue and increase food

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insecurity (Darkwah *et al.,* 2019). One of the ways to ensure this is by effectively utilizing conservation practices. Studies have explored and recommended conservation measures which can enhance soil fertility and increase crop yield sustainably in the wake of climate change (Kimaru-Muchai *et al.,* 2020).

Conservation practices involve the application of practices that are economically viable, socially acceptable, environmentally friendly and technically appropriate for the planting of arable crops; which in turn reduces soil erosion, increases soil fertility, increases soil organic matter and improve agricultural productivity (Alhassan and Abu, 2019). Conservation practices include conservation tillage, crop rotations, use of legumes in rotation, mulching, agroforestry cover cropping, use of manure as a part of a crop nutrient management plan, intercropping, precision agriculture, integrated pest management and other conservation nutrient management practices, strip cropping, Contour farming (Ahuchaogu *et al*., 2022; Gong *et al*., 2021).

Decline in agricultural productivity could be a result of soil degradation which is evaluated in terms of such inputs as fertilizer/manuring, tillage methods and water management to boost production (Akintonde, *et al.,* 2022). Agricultural productivity in Nigeria, particularly among arable crop farmers, continues to decline due to persistent soil degradation, excessive tillage, nutrient depletion, and the increasing impacts of climate variability such as erratic rainfall and prolonged dry spells. These challenges have resulted in reduced soil fertility, lower crop yields, and higher vulnerability of farmlands to erosion and moisture loss (Idris *et al.,* 2021).

Due to changing human needs and competition for different uses of land, there is need for systematic land use and sustainable soil conservation practices (Abdul-hanan *et al.,* 2019). However, soil conservation practice adoption is a multi-dimensional process and numerous factors determine farmers' attitude and perception of a particular soil conservation practice (Remigio *et al.,* 2022). In addition, the complexity and inter-relationship of these myriads of socioeconomic and farm-specific factors largely are responsible for farmer's choices among the available soil conservation practices (Savari *et al.,* 2022).

Hence, farmers' willingness is an important driver in the practices of conservation agriculture. Willingness in this context is the farmer's inclination or readiness to adopt conservation agricultural practices while adoption is the state of the farmers taking up a practice and eventually utilizing it over some time (Okonta *et al.,* 2023).

It is against this background the study focused on the willingness to practice conservative agriculture among arable crop farmers in Ona Ara local government Oyo state. The objective of study specifically examined the socioeconomic characteristics of respondents, respondent's knowledge about conservation agriculture practices, attitude towards conservation agriculture practices available among respondents, perceived benefits of conservation agriculture practices available among respondents, the willingness of arable crop farmers to adopt conservation agriculture practices and the challenges facing the farmers in the adoption of conservation agriculture practices among respondents in the study area.

Study Area

The study was carried out in Ona-Ara Local Government Area of Oyo State with the administrative headquarters located at Akanran which was created in 1989. It has a total landmass of 3,570km^2 and a population of 265,059 as at the 2006 census (NPC, 2006) with geographic coordinate 7.2212° N, 4.0261° E with Oluyole LGA to the South, Egbeda LGA to the North and to the West by Ogun and Osun State. The people are predominantly farmers who grow varieties of arable crops, food crops, cash crops and edible fruits.

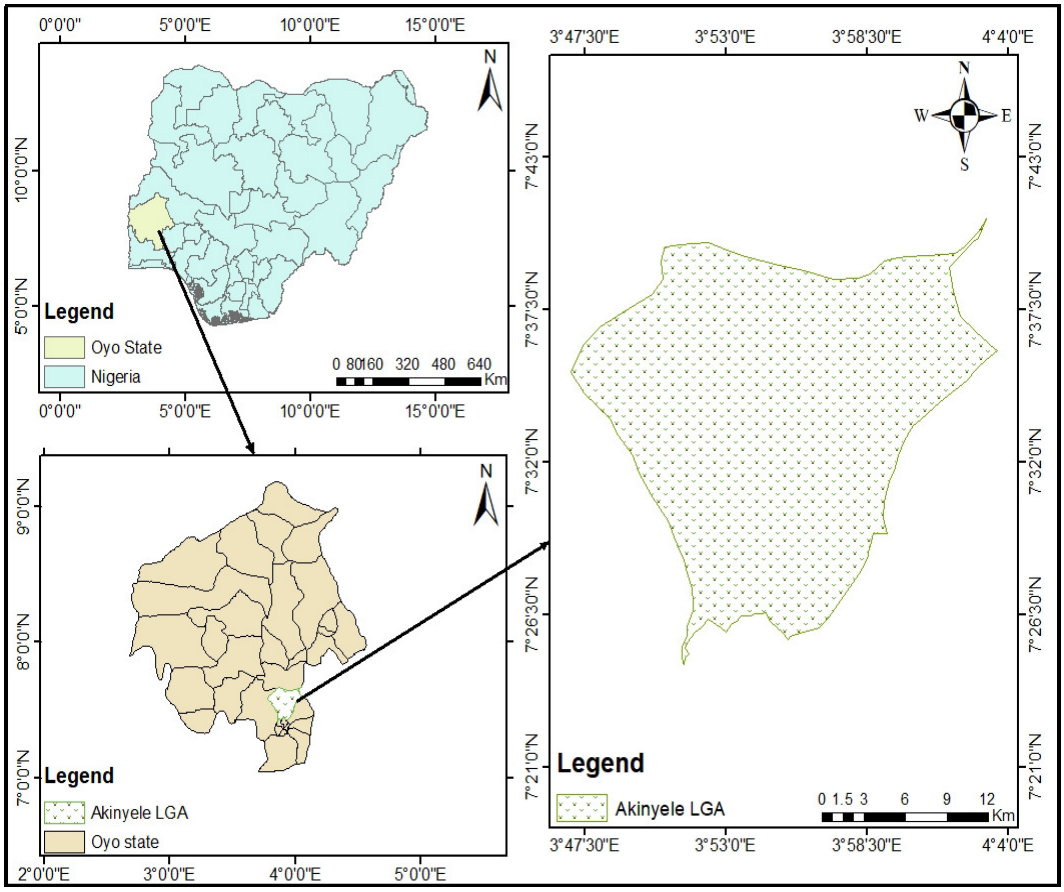

Fig. 1: Map of the study area showing Ona-Ara Local Government Area of Oyo state

Methodology

Multi stage sampling procedure was used to select respondents for the study.

Stage 1: Identification of Wards in Ona-Ara Local Government Area. There are eleven (11) wards in the local government which include Akanran/Olorunda, Araromi/Aperin, Badeku, GbadaEfon, Odi-Odeyale/Odi-Aperin, Ogbere, Ogbere-Tioya, Ojoku/Ajia, Olode/Gbedun/Ojebode, Olorunsogo and Oremeji/Agugu.

Stage 2: Random Selection of Wards: Five wards were randomly selected from the identified wards in Ona-Ara Local Government. They are: Akanran, Araromi, Ojoku, Gbada-Efon and Gbedun. The wards were selected based on the farming activities in the study area.

Stage 3: Selection of Villages: Furthermore, ten villages were selected from the five wards and twelve (12) respondents were randomly selected in each of the ten purposively selected villages. A total number of one-hundred and twenty (120) respondents were selected in each of the purposively selected villages.

Data was collected with the use of a well-structured questionnaire to elicit information from the respondent**s.** Data was analyzed using descriptive and inferential statistical tools. Descriptive statistics such as frequency table and percentage was used to analyze the objectives. Inferential statistics such as Chi-square and Pearson Product Moment Correlation (PPMC) was used to analyze the hypothesis.

Result and Discussion

The socio-economic characteristics of respondents presented in Table 1 revealed that 64.5% of the respondents were male, while 35.5% were female, indicating that arable crop farming in the study area is male dominated. This suggests that men are more actively involved in farming activities and decision-making relating to agricultural production practices. This agrees with the findings of Sadiq *et al*. (2021), who reported that male farmers dominate arable crop production in most rural communities due to easier access to land and productive resources. The mean age of respondents was 48 years, with 36.4% falling within the 31–40 years age category, followed by 30.9% within 41–50 years. This indicates that the respondents are relatively young and economically active farmers who are likely to be more receptive to innovative and sustainable agricultural practices such as conservative agriculture. This is in line with Ikuerowo *et al.* (2021), who reported that younger and active farmers are more willing to adopt sustainable agricultural technologies because they are more open to innovation and risk-taking.

Majority (78.2%) of the respondents were married, while 13.6% were single, indicating that most farmers have family responsibilities which may influence their willingness to adopt farming practices capable of improving household food security and long-term productivity. Regarding educational level, 48.2% of the respondents attained tertiary education, while only 16.4% had no formal education. This suggests that most of the respondents are literate and capable of understanding improved agricultural innovations and extension messages relating to conservative agriculture practices. This agrees with the findings of Khanal *et al*. (2018), who reported that educational attainment positively influences farmers' adoption of climate-smart and sustainable agricultural practices. The result further showed that 49.1% of the respondents had household sizes between 4–6 persons, with a mean household size of 6 persons. Similar findings were reported by Akamo *et al*. (2018), who noted that household labour availability significantly influences adoption of sustainable farming practices among smallholder farmers.

Table 1: Socio economic characteristics of respondents

Variable	Frequency	Percentage	Mean
Sex			
Male	71	64.5	
Female	39	35.5	
Age			
20-30	10	9.1	
31-40	40	36.4	48
41-50	34	30.9	
Above 50	26	23.6	
Marital Status			
Single	15	13.6	
Married	86	78.2	
Divorced	6	5.5	
Widowed	3	2.7	
Religion			
Christianity	61	55.5	
Islam	33	30.0	
Traditional	16	14.5	
Educational Level			
No Formal Education	18	16.4	
Primary Education	19	17.3	
Secondary Education	20	18.2	
Tertiary Education	53	48.2	
Household size			
Less than 4	14	12.7	
4-6	54	49.1	
7-9	33	30.0	**6**
10-13	8	7.3	
Above 13	1	.9	
Monthly income			
40,000-80,000	10	9.1	
80,000-120,000	40	36.4	
120,000-160,000	34	30.9	**109,000**
>160,000	26	23.6	
Years of Experience			
1-5	18	16.4	
6-10	53	48.2	**7**
11-15	20	18.2	
Less than 15	19	17.3	

The findings further revealed that respondents had a mean monthly income of ₦109,000, indicating moderate income levels among the farmers. Income level plays an important role in determining farmers' capacity to invest in improved agricultural technologies and conservation practices. Both findings are similar to Etsay *et al.* (2019) that reported income and occupation is a key player in adoption of conservation practices among crop farmers. This is consistent with the findings of Ifeanyi-Obi and Tolumuyi (2025), who reported that extension services remain a critical factor influencing farmers' awareness and adoption of sustainable agricultural innovations. The result also showed that

respondents had a mean farming experience of 7 years, with 48.2% having between 6–10 years of farming experience, indicating moderate practical exposure to arable farming activities.

Table 2: Perception of conservation agriculture practices

Variables	S.A	A	U	D	S.D
Conservation agriculture practices are beneficial for improving soil fertility.	67(60.9)	32(29.1)	8(7.3)	3(2.7)	0(0.0)
Using minimum tillage helps to protect the soil from erosion.	39(35.5)	59(53.6)	9(8.2)	3(2.7)	0(0.0)
Mulching improves crop performance on the farm.	62(56.4)	40(36.4)	3(2.7)	3(2.7)	2(1.8)
Conservation agriculture can help reduce the effects of climate change on crop production.	38(34.5)	48(43.6)	17(15.5)	5(4.5)	2(1.8)
Practicing conservation agriculture will increase crop yields over time.	38(34.5)	48(43.6)	17(15.5)	5(4.5)	2(1.8)
Conservation agriculture practices are too difficult for farmers to adopt.	17(15.5)	42(38.2)	16(14.5)	28(25.5)	7(6.4)
Practicing crop rotation will bring long-term productivity of farmland.	49(44.5)	40(36.4)	18(16.4)	1(0.9)	2(1.8)
Conservation agriculture requires too much labour for me to consider it.	30(27.3)	36(32.7)	17(15.5)	23(20.9)	4(3.6)
Conserving soil moisture through mulching or cover cropping is important.	39(35.5)	52(47.3)	17(15.5)	2(1.8)	0(0.0)
Ready to adjust farming practices to include conservation agriculture.	40(36.4)	54(49.1)	15(14.5)	0(0.0)	0(0.0)
Conservation agriculture is too expensive for small-scale farmers.	25(22.7)	53(48.2)	14(12.7)	11(10.0)	7(6.4)
Reducing tillage improves soil health.	35(31.8)	51(46.4)	19(17.3)	3(2.7)	2(1.8)
Conservation agriculture practices take too long to show results.	28(25.5)	42(38.2)	23(20.9)	12(10.9)	5(4.5)
Conservation agriculture is a good investment for future farming sustainability.	53(48.2)	27(24.5)	27(24.5)	3(2.7)	0(0.0)

Table 2 presents respondents' perception to conservation agriculture practices in the study area. The results revealed that majority (60.9%) of respondents that conservation agriculture practices are beneficial for improving soil fertility, while only 2.7% disagreed. This suggests that most farmers recognize the importance of sustainable soil management practices in maintaining agricultural productivity. Likewise, 35.5% strongly agreed and 53.6% agreed that minimum tillage helps protect soil from erosion, reflecting positive attitudes toward soil conservation practices. This supports the findings of Bhan and Behera (2014), who noted that conservation agriculture significantly improves soil structure and reduces land degradation through reduced soil disturbance. Similarly, 56.4% strongly agreed that mulching improves crop performance on their farms. These findings suggest that respondents have positive attitudes toward practices that improve water conservation and crop performance.

Furthermore, 34.5% strongly agreed and 43.6% agreed that conservation

agriculture can help reduce the effects of climate change on crop production. In the same line, 34.5% strongly agreed and 43.6% agreed that adopting conservation agriculture would increase yields over time. This indicates that many respondents perceive conservation agriculture as both environmentally and economically beneficial. Corbeels *et al.* (2014) reported that conservation agriculture contributes to climate resilience by improving soil water retention and stabilizing crop yields under changing climatic conditions. From the table, about 15.5% strongly agreed and 38.2% agreed that conservation agriculture practices are too difficult for farmers to adopt, also. In addition, 22.7% strongly agreed and 48.2% agreed that conservation agriculture is too expensive for small-scale farmers. These responses suggest that despite positive perceptions, many respondents still associate conservation agriculture with labour demands, technical complexity, and financial constraints. This agrees with Brown *et al.* (2017), who observed that labour requirements, access to equipment, and cost implications remain major barriers to conservation agriculture adoption among smallholder farmers in developing countries.

Moreover, 25.5% strongly agreed and 38.2% agreed that conservation agriculture practices take too long to show results, indicating that some respondents may prefer practices with immediate economic returns. This suggests that farmers are receptive to innovation and would likely adopt conservation agriculture practices if adequate training and institutional support are provided. Ngoma *et al.,* (2021) emphasized that farmer training and extension supports significantly improve attitudes toward sustainable agricultural technologies and increase adoption willingness**.**

Table 3: Categorization of the respondents based on perception

Level	**Frequency**	**Percentage%**	**Mean**
Low	46	41.8	**50**
High	64	58.2	
Total	110	100	

Table 3 shows the categorization level of the attitude towards conservation practices available among arable crop farmers in the study area was relatively high with about 58.2%. This result indicate that respondents possess a generally favorable attitude toward conservation agriculture practices which could be due to their perceived benefits for soil fertility, moisture conservation, erosion control, and long-term productivity.

Table 4: Willingness to practice conservation agriculture

Variables	Yes	No
I am willing to reduce the level of tillage I do on my farm.	78(70.9)	32(29.1)
I am ready to try crop rotation as part of my farming activities.	105(95.5)	5(4.5)
I am willing to adopt mulching to improve soil moisture on my farmland.	109(99.1)	1(0.9)
I am open to planting cover crops if I receive proper guidance.	100(90.9)	10(9.1)
I am willing to change my current farming methods to improve soil health.	98(89.1)	12(10.9)
Interested in attending training on conservation agriculture practices.	101(91.8)	9(8.2)
Invest time in learning new sustainable farming techniques.	90(81.8)	20(18.2)
Prepared to use crop residues instead of burning them.	89(80.9)	21(19.1)
I am willing to try conservation agriculture even if the results take time to show.	83(75.5)	27(24.5)
I am ready to adopt practices that reduce soil erosion on my farm.	97(88.2)	13(11.8)
Willing to use farming tools required for minimum tillage.	98(89.1)	12(10.9)
Willing to follow extension agents' advice on conservation agriculture.	98(89.1)	12(10.9)
I am ready to use conservation agriculture practices if financial support is available.	100(90.9)	10(9.1)
I am willing to collaborate with other farmers to learn conservation practices.	103(93.6)	7(6.4)
I am prepared to adopt any conservation agriculture practice that increases long-term productivity.	100(90.9)	10(9.1)

Table 4 presents the willingness of arable crop farmers to adopt conservation agriculture practices in the study area. The results show that 99.1% of respondents were willing to adopt mulching to improve soil moisture on their farmland. Similarly, 95.5% expressed readiness to practice crop rotation as part of their farming activities, and 93.6% indicated willingness to collaborate with other farmers to learn conservation agriculture practices. This demonstrates a strong acceptance of practical and community-based conservation strategies among respondents. This is supported by recent findings by Tambo *et al.* (2024) showed that smallholder farmers are more likely to adopt conservation agriculture practices when such practices are perceived as practical, low-risk, and capable of improving soil productivity and moisture conservation.

From the table 4 above average (91.8%) of respondents expressed interest in attending training on conservation agriculture practices, while 90.9% were willing to adopt conservation agriculture if financial support was available. In the same vein, 89.1% indicated willingness to use farming tools required for minimum tillage and to follow extension agents' advice regarding conservation agriculture practices. These findings suggest that institutional support, technical guidance, and financial assistance play important roles in influencing farmers' willingness to adopt conservation agriculture. This is according to Nyanga *et al.* (2023), who identified access to extension services, technical training, and financial incentives significantly increases farmers' readiness to adopt sustainable agricultural innovations in Sub-Saharan Africa.

The study further revealed that 89.1% of respondents were willing to change their current farming methods to improve soil health, while 88.2% were prepared to adopt practices that reduce soil erosion on their farms. In addition, 80.9% indicated willingness to use crop residues instead of burning them, reflecting growing environmental consciousness among

farmers regarding sustainable land management practices. This aligns with the findings of Musara *et al.,* (2022), who reported that farmers increasingly adopt conservation agriculture practices due to awareness of their long-term benefits for soil fertility restoration, erosion control, and climate resilience. Although willingness levels were generally high, relatively lower responses were recorded for practices requiring patience and long-term commitment. About 75.5% of respondents stated they were willing to adopt conservation agriculture even if the results take time to appear. Similarly, 70.9% expressed willingness to reduce the amount of tillage on their farms. These findings suggest that some farmers may still be hesitant toward practices perceived as labour-intensive, risky, or associated with delayed economic returns. Mupangwa *et al.,* (2021) observed that uncertainty regarding short-term benefits and fear of reduced initial yields often discourage full adoption of conservation agriculture among smallholder farmers.

Table 5: Categorization of the respondents based on respondents' willingness

Level	Frequency	Percentage%	Mean
Low	32	29.1	**63**
High	78	70.9	
Total	110	100	

Table 5 shows a larger percentage (70.9%) of the farmers fall within the high willingness category, while 29.1% are categorized as having low willingness. This implies that most arable crop farmers in the study area are positively disposed toward the adoption of conservation agriculture practices.

Table 6: Constraints to Conservation Agriculture Practices

Variables	Major constraint	Minor Constraint	Not a constraint	Mean	Rank
Lack of adequate training on conservation agriculture practices.	82(74.5)	26(23.6)	2(1.8)	1.5	2nd
High initial cost of farming inputs and equipment.	60(54.5)	44(40.0)	6(5.5)	1.0	5th
Limited access to credit or financial support.	83(75.5)	19(17.3)	8(7.3)	1.5	2nd
Insufficient extension services or technical support.	72(65.5)	36(32.7)	2(1.8)	1.2	4th
Labour-intensive nature of some conservation agriculture practices.	45(40.9)	55(50.0)	10(9.1)	0.7	8th
Resistance to change from traditional farming methods.	50(45.5)	51(46.4)	9(8.2)	0.8	7th
Limited availability of quality seeds for cover crops.	74(67.3)	28(25.5)	8(7.3)	1.3	3rd
Perceived low short-term benefits of conservation agriculture.	60(54.5)	48(43.6)	2(1.8)	1.0	5th
Lack of appropriate tools for conservation agriculture	84(76.4)	23(20.9)	3(2.7)	1.6	1st
Soil and climatic conditions not suitable for some practices.	58(52.7)	48(43.6)	4(3.6)	0.9	6th
Limited market incentives for sustainably produced crops.	41(37.3)	64(58.2)	5(4.5)	0.6	9th
Time required for training or implementing new practices.	43(39.1)	50(45.5)	17(15.5)	0.6	9th
Poor awareness of long-term environmental benefits.	60(54.5)	33(30.0)	17(15.5)	1.0	5th
Cultural beliefs or social norms discouraging adoption.	38(34.5)	48(43.6)	24(21.8)	0.5	10th
Risk of crop failure or reduced yields during transition to new practices.	43(39.1)	50(45.5)	17(15.5)	0.6	9th

Table 6 presents the challenges faced by respondents in adopting conservation agriculture practices in the study area. Lack of appropriate tools for conservation practices ranked 1st with a mean of 1.6, indicating that farmers are significantly constrained by inadequate access to farm machinery and equipment required for conservation agriculture. This aligns with findings such as Giller *et al.* (2015) that identified limited access to appropriate mechanization remains a major barrier to sustainable agriculture adoption in many smallholder farming systems. This is followed by lack of adequate training and limited access to credit or financial support (mean = 1.5), showing that both human capital and financial capacity strongly influence adoption decisions. Similar studies have shown that inadequate extension training and poor access to rural finance significantly reduce farmers' ability to adopt improved agricultural technologies (Kassie *et al.,* 2015; Mwangi and Kariuki, 2015).

Furthermore, limited availability of quality seeds for cover crops ranked 3rd with mean = 1.3 and insufficient extension services or technical support ranked 4th with mean value of 1.2) highlight institutional and input-related gaps that restrict effective implementation of conservation agriculture. These findings are consistent with evidence that weak extension systems and limited input supply chains reduce technology adoption in sub-Saharan African agriculture (Tambo and Mockshell, 2018). High initial costs, perceived low short-term benefits, and poor awareness of long-term environmental benefits all ranked 5th with mean value of 1.0 each respectively which further show that economic perceptions and knowledge gaps continue to influence farmer decision-making. Other constraints such as resistance to change and traditional methods (mean = 0.8), labour-intensive nature of some conservation agriculture practices (mean= 0.7), also reflect behavioural and biophysical limitations commonly reported in conservation agriculture studies (Brown *et al.,* 2017).

This suggests gaps in institutional linkage and mechanization knowledge. Giller *et al.,* 2009) noted that despite widespread awareness of conservation agriculture principles, adoption is often constrained by limited access to equipment, weak extension systems, and insufficient technical support in Sub-Saharan Africa.

Table 7: Relationship between socio-economic characteristics of the respondents and willingness to practice conservation agriculture

Variables	Chi-Square Value	P-Value	Decision
Sex	1.454	0.483	N.S
Age	17.225	0.008	S
Marital status	20.165	0.003	S
Religion	6.234	0.182	N.S
Educational level	6.513	0.0368	S
Household size	26.234	0.001	S

Table 7 shows the relationship between selected socio-economic characteristics of respondents and their willingness to adopt conservation agriculture practices in the study area. The findings revealed that sex had no

significant relationship with willingness to adopt conservation agriculture practices ($\chi^2 = 1.454$, $p > 0.05$), indicating that both male and female farmers showed similar levels of willingness toward adoption. Likewise, religion had no significant relationship with willingness to adopt conservation agriculture practices ($\chi^2 = 6.234$, $p > 0.05$), suggesting that religious affiliation did not influence respondents' decisions regarding conservation agriculture adoption in the study area. However, the result showed that age had a significant relationship with willingness to adopt conservation agriculture practices ($\chi^2 = 17.225$, $p < 0.05$), implying that differences in age and farming experience influenced respondents' readiness to adopt conservation agriculture practices. Marital status also showed a significant relationship ($\chi^2 = 20.165$, $p < 0.05$), indicating that family responsibilities and household needs may affect adoption decisions. Similarly, educational level had a significant relationship with willingness to adopt conservation agriculture practices ($\chi^2 = 6.513$, $p < 0.05$), suggesting that educational exposure enhances understanding and acceptance of sustainable farming practices. Household size was equally significant ($\chi^2 = 26.234$, $p < 0.05$), implying that labour availability and household demands may influence willingness to adopt conservation agriculture practices in the study area.

Table 8 Relationship between respondents' perception and their willingness to practice conservation agriculture

Variables	r-values	P-value	Decision
Willingness and Perception	**0.502**	**0.000**	**S**

Table 8 shows that there is a positive and significant relationship between farmers' willingness to adopt conservation agriculture practices and their perception of conservation agriculture ($r = 0.502$, $p = 0.000$). This implies that farmers with more favourable perception of conservation agriculture are more likely to show higher willingness to adopt the practices in the study area. The result further suggests that perception is a strong determinant of willingness to adopt conservation agriculture practices. Positive perceptions, beliefs, and openness toward conservation agriculture significantly influence farmers' readiness to embrace and implement these practices compared to other examined factors.

Conclusion

Based on the findings of the study, the study population is dominated by farmers are within their active working age groups, have moderate to relatively good educational backgrounds, and depend largely on farming and related activities for livelihood. These characteristics suggest a population that is generally capable of understanding and engaging with improved agricultural innovations.

Most of the respondents had good level of knowledge of conservation agriculture practices, as larger category indicated their favourable perception of conservation agriculture. Also, majority of the respondents considered their perceived benefits from conservation agricultural practices to be high, hence, most of them were willing to adopt conservation agriculture in the study area.

Despite this positive foundation, the study also highlights several constraints limiting practices of conservation agriculture. These include limited access to credit and farm inputs, inadequate extension services, insufficient tools, weak institutional support, and low market incentives for sustainable practices. In addition, labour demands, resistance to change from traditional farming methods, and concerns about short-term productivity discourage some farmers from fully embracing conservation agriculture.

Recommendations

The following recommendations were made from the findings of the study;

1. Government and agricultural agencies should strengthen rural credit schemes and provide affordable loans or subsidies to smallholder farmers to enable access to essential tools and inputs for effective conservation agriculture.
2. Agricultural extension services should be strengthened through more trained personnel, regular training, and practical demonstrations to improve farmers' knowledge and encourage adoption of conservation agriculture practice.
3. Government and other relevant stakeholders should provide affordable conservation agriculture tools, especially for minimum tillage and mulching, to reduce labour demands and ease adoption.

References

Abdul-hanan, A., Ayamga, M. and Donkoh, S.A. (2019). Smallholder adoption of soil and water conservation techniques in Ghana. *African Journal of Agricultural Research*, 9(5): 539-562.

Ahuchaogu, I.I., Udoumoh, U.I., Ehiomogue, P.O. (2022). Soil and Water Conservation Practices in Nigeria: A Review. *International Journal of Agriculture and Earth Science,* 8(1): 25-39.

Akamo, A.A., Akerele, D., Sanusi, R.A. and Fapojuwo, O.E. (2018). Income sources diversification and technical efficiency of arable crop farming in Ogun State, Nigeria. FUOYE *Journal of Agriculture and Human Ecology,* 1(2), 12–21.

Akintonde, J.., Ajayi, A.., Dlamini, M. and Dlamini, M. (2022). Technologies needs of arable crop farmers of Oyo and Ekiti States of South-Western, Nigeria. I*nternational Journal of Agriculture Extension and Rural Development Studies,* 9(3): 17–29.

Alhassan, B. and Abu T.J. (2022). Adoption of Conservation Agricultural Practices Among Maize Farmers: An Alternative Livelihood to Mitigate Climate Change Impact in Bawku Municipality, Ghana, *International Journal of Sustainable Development Research*, 8(1): 1-8.

Bhan, S. and Behera, U.K. (2014). Conservation agriculture in India – Problems, prospects and policy issues. *International Soil and Water Conservation Research*, 2(4): 1–12.

Corbeels, M., de Graaff, J., Ndah, T.H., Penot, E., Baudron, F., Naudin, K., Andrieu, N., Chirat, G., Schuler, J., Nyagumbo, I., Rusinamhodzi, L., Traore, K., Mzoba, H.D. and Adolwa, I.S. (2014). Understanding the impact and adoption of conservation agriculture in Africa: A multi-scale analysis. *Agriculture, Ecosystems and Environment*, 187: 155–170.

Darkwah, K.A., Kwawu, J.D., Agyire-Tettey, F. and Sarpong, D.B. (2019). Assessment of the determinants that influence the adoption of sustainable soil and water conservation practices in techiman municipality of Ghana. *Int SWC Research*, 7: 248e257.

Etsay, H., Negash, T. and Aregay, M. (2019). Factors that influence the implementation of sustainable land management practices by rural households in Tigrai region, Ethiopia. *Ecol. Process,* 8: 14 (2019).

Fontes, F.P. (2020). Soil and Water Conservation technology adoption and labor allocation: evidence from Ethiopia. World Dev. 127, 104754. DOI/

Giller, K.E., Andersson, J.A., Corbeels, M., Kirchmann, H. and Vanlauwe, B. (2015). Beyond conservation agriculture. *Field Crops Research*, 183, 1–12.

Idris, M., Musa, A. and Yakubu, A. (2021). Adoption of sustainable land management practices in Nigeria: Constraints and prospects. *African Journal of Rural Development*, 6(2): 89–101.

Ifeanyi-Obi, C.C. and Tolumoyi, E. (2025). Utilisation of extension services for climate change adaptation by male and female arable crop farmers in Bayelsa State, Nigeria. *Journal of Agricultural Extension*: 105891.

Ikuerowo, J.O. and Tehinloju, A.O. (2021). Factors influencing arable crop farmers' willingness to adopt bio-organic technology in Ondo State, Nigeria. *Journal of Agricultural Extension*, 25(1): 21–30.

Kassie, M., Jaleta, M., Shiferaw, B., Mmbando, F. and Mekuria, M. (2015). Adoption of interrelated sustainable agricultural practices in smallholder systems. *Technological Forecasting and Social Change*, 96: 29–43.

Khanal, U., Wilson, C., Hoang, V.N. and Lee, B. (2018). Farmers' adaptation to climate change, its determinants and impacts on rice yield in Nepal. *Ecological Economics,* 144: 139–147.

Kimaru-Muchai, S.W., Ngetich, F.K., Baaru, M. and Mucheru-Muna, M.W. (2020). Adoption and utilization of Zai pis for improved farm productivity in drier Upper Eastern Kenya. *Journal of Agricultural and Rural Development in the Tropics and Subtropics (JARTS),* 121: 13-22.

Mupangwa, W., Thierfelder, C. and Ngwira, A. (2021). Adoption challenges of conservation agriculture among smallholder farmers in Sub-Saharan Africa. *International Soil and Water Conservation Research*, 9(3): 340–348.

Musara, J.P., Chimoko, C. and Nyamangara, J. (2022). Farmers' perceptions and adoption of conservation agriculture practices in Southern Africa. *Sustainability*, 14(9): 5487.

National Population Commission (2006). Population and housing census: Priority tables (Vol.1). population.gov.ng

Ngoma, H., Mulenga, B.P. and Jayne, T.S. (2021). Adoption of conservation agriculture practices among smallholder farmers in Zambia. *Sustainability*, 13(9): 4943.

Okonta, O.W., Ajala, A.O., Kolawole, E.A., Ogunjimi, S.I., Adejumo, A.A. (2023). Willingness to Adopt Organic Farming Practices among Arable Crop Farmers in Oyo State, Nigeria. *Journal of Agricultural Extension* 27(3): 41-52.

Olawuyi, S.O., Alao, B.G. and Adejumo, A. (2022). Socioeconomic factors influencing conservation agriculture uptake among crop farmers in Oyo State, Nigeria. *International Journal of Agricultural Research,* 15(1): 22–35.

Savari, M., Yazdanpanah, M. and Rouzaneh, D. (2022). Factors affecting the implementation of soil conservation practices among Iranian farmers. S*ci Rep*., 12: 8396.

Tambo, J.A. and Mockshell, J. (2018). Differential impacts of conservation agriculture technology adoption. *Land Use Policy*, 75: 61–71.

Tambo, J. A., Wünscher, T. and Arslan, A. (2024). Determinants of farmers' willingness to adopt conservation agriculture practices in Sub-Saharan Africa. *Agricultural Systems*, 218: 103931.