Original Research Article

Adoption drivers of organic vegetable farming practices among vegetable farmers in Oyo State, Nigeria

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Abstract

The practice of organic agriculture (OA) in Nigeria has undergone expansion due, among other things, to consumer interest in food safety issues. Organic Farming (OF) is a holistic production management system that promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. The study investigated adoption drivers for organic vegetable farming practices among vegetable farmers in Oyo State, Nigeria. A total of 120 organic vegetable farmers were sampled through a multistage sampling procedure, and survey questions were administered. Data were analysed using frequency counts, mean, and Ordinary Least Square (OLS). The majority of farmers had a good knowledge of Organic Vegetable Farming Practices (OVFP), which aids adoption and is a good signal for economic returns and sustainable livelihoods. The most rated of the three benefit domains was health, which averagely was rated high ($\bar{x}$= 1.38), while economic ($\bar{x}$= 1.04) and environmental conservation benefits ($\bar{x}$= 1.00) were both rated average; with enhanced good health and long life; reduced climate change effects, as well as generation of greenhouse gases and higher premiums in the marketplace identified as top health, environmental conservation, and economic benefits, respectively. Although the majority of farmers highly adopted OVFP, however, a closer examination of the few practices that the majority of the farmers did not adopt was of health and environmental significance. Farmers' age, education, farm size, household size, knowledge, health, and economic benefits of OF were important drivers of adoption and practices of OF among Oyo State, Nigeria vegetable farmers. OF, therefore, is a sustainable agricultural approach that holds great potential for effectively contributing to local food security, the health of citizens, increased family health, and environmental standards.

Keywords: Adoption; drivers; organic farming; practices; health; economics;vegetable farmers

INTRODUCTION

People throughout the world are experiencing a growing disconnection from their food sources. Consumers look for certified products out of concern for their health, shielding themselves from pollutants and carcinogens, which inevitably alter how much food they eat. According to IFOAM (2022), organic farming (OF) which is founded on the values of soil ecology, justice, health, and care, has been a controversial issue in this decade, particularly in developed countries, where most farmers are involved in the overuse of chemical pesticides and fertilisers in agricultural production, which causes a decline in soil health and leads to an increase in diseases and damage to the environment (Kopittke et al., 2019).

The utilisation of organic sustenance has surged following recent admonitions by health experts against the consumption of synthetic food elements,

that heighten the risk of contracting diseases, cancer, and respiratory ailments. Sangkumchaliang and Huang (2012) assert that heightened eco-awareness, awareness of pesticide poisoning, and diseases caused by traditional foods among consumers are the drivers behind the surge in the use of organic food ingredients. Consequently, the organic food market has witnessed one of the swiftest expansions in terms of output, and this tendency is set to persist in the years ahead.

According to Mishra et al. (2018) and Yu et al. (2018), organic foods are growing in popularity and commanding bigger premiums from consumers, offering a fantastic chance to boost farmers' income and food security. Furthermore, organic farming adopts a comprehensive method of agricultural production that safeguards the health of the soil, ecosystems, diversity, and individuals. By avoiding the use of agrochemicals, which have harmful effects on the environment, wildlife, and human health, organic farming ensures optimal food production and safety, reduces health and environmental hazards, and employs sustainable management practices. This organic farming practice has significant potential to address the unsustainable nature of traditional agriculture, which leads to various problems such as diseases and mortality. Emsley (2001) argues that the utilisation of renewable natural resources and their recycling is imperative for organic farming. Similarly, Williams (1999) advocates for an increase in the organic matter content of soil, elevating its pH level, and improving its capacity to retain water and exchange nutrients.

In spite of the introduction of organic farming in Nigeria, there are few farms or projects that follow certified organic farming methods. Even though they claimed to be organic, their production has remained well behind the population growth rate (Harris, 2006). According to Barik (2017), the low adoption of organic farming could be attributed to the high cost of organic production, inputs, and lack of subsidies for organic farming, which poses a great challenge. However, Biswas and Islam (2018) noted that organic farming is in the experimental stage but is slowly gaining wide acceptance as sustainable agriculture, combining modern science with the indigenous knowledge of the people through organic agriculture and adopting an integrated farming system for pest control that is environmentally friendly.

Despite the numerous advantages that organic vegetables present, it is unfortunate that Nigerian farmers are still in the nascent stages of adopting organic vegetable farming practices. Several studies have shown that consuming enough vegetables can significantly improve one's health by reducing the risk of chronic illnesses such as high blood pressure, diabetes, obesity, and heart disease, as well as preventing or treating various micronutrient deficiencies (Nwachukwu, 2010). According to a study by Emeana et al. (2018), less than 12% of organic farmers sampled in a community in southeast Nigeria engaged in complete organic farming. Addressing the menace of the current food adulteration scandal arising from conventional farming is not only ideal but crucial and ultimate. Food safety and quality have been increasingly important to consumers in recent years, and the current food adulteration scandal has also expanded the opportunity to make safe food (Biswas and Islam, 2018). The increasing consumer demand for higher quality produce and food safety makes organic food production an interesting option for farmers. Numerous studies have identified a wide range of factors that may affect the intake of organic foods. A number of factors have been identified, including concerns about pesticides, health, the environment, pesticide residues in conventional food products, improved taste and flavour in organic food products, and nutritional value (Voon et al., 2011). According to Tsakiridou et al. (2008), consumer decision-making processes for organic food items are mostly explained by their attitudes, particularly with regard to the environment and health benefits. Incidentally, there is a dearth of research on adoption drivers for organic vegetable farming practices among vegetable farmers in Oyo State, Nigeria. Adoption is defined as the innovation-decision process that requires identifying farmers' needs for innovation in organic vegetable farming practices, transferring information to them to improve their knowledge, and persuading them through the benefits accrued from implementing organic farming production (Rogers, 1983). For this study, adoption has been conceptualized as the latest behavioural predispositions, which are manifested in the acceptance of specific recommended farm practices that affect farmers' life situations, such as improved farm practices and production, socio-economic status, health and environmental status, and characteristics of work orientation.

The study therefore investigated the adoption drivers for organic vegetable farming practices among vegetable farmers with the following specific objectives examined: identify the socio-economic characteristics and how it significantly influence

adoption, analyse farmers' knowledge and statistical relationship with adoption of OVFP; identify the benefits derived and how it significantly relate to the adoption of OVFP; and assess the factors determining the adoption of OVFP among vegetable farmers in the study area.

Hypothesis of the study

H01: There is no significant relationship between the selected independent variables (socio-economic characteristics, farmers' knowledge of OVFP; farmers' benefits along health, environmental conservation, and economics) and adoption drivers for OVFP in the study area.

MATERIALS AND METHODS

The study was carried out in Oyo State, Southwestern Nigeria between June and December, 2022 and the State is an inland State among the States in Southwestern Nigeria. Agriculture is the main occupation of the people of Oyo State. The climate favours the cultivation of crops like vegetables, maize, yam, cassava, millet, rice, plantain, cocoa, palm produce, cashew, etc. There are several government farm settlements in Ipapo, Ilora, Eruwa, Ido, Ogbomosho, Iresaadu, Ijaiye, Akufo, and Lalupon. The population of the study comprised all organic vegetable farmers in Oyo State. A multi-stage sampling procedure was used to select respondents for the study. The first stage involved the selection of two Local Government Areas (LGAs) through a purposive sampling procedure, due to the high concentration of organic vegetable farmers in the study area, based on the list obtained from the Nigerian Organic Agriculture Network (NOAN). The selected LGAs are Ido and Akinyele. The second stage involves a random selection of twenty-five percent (25%) of the communities in each of the wards (Ido and Akinyele LGAs have 10 and 12 wards, respectively). The selected communities were Akufo, Aroromi, and Omi Adio communities in Ido LGA and Talontan, Iwokoto, and Elekuru communities in Akinyele LGA. The third stage involves proportionate sampling of farmers from the list obtained from the Nigerian Organic Agriculture Network, to give a total of 120 organic vegetable farmers, representing 20% of the population in each of the selected wards. An interview schedule was used to collect information from the respondents based on the outlined specific objectives. Knowledge of OVFP was measured by drawing questions on organic farming to which responses were obtained as 'True', 'False', and 'I don't know', where either 'False' or 'True' was the correct answer to each question, whereas 'I don't know' assumed a constant 'incorrect' status. The 'I don't know' option was included to serve as a control option to avoid forced response to either 'false' or 'true' and assumed a score of 0 while an incorrect response was scored 1. A knowledge score was obtained and the mean was computed and used as a benchmark for low and high knowledge dichotomies. Respondents' benefits in domains of health, environmental conservation, and economics were measured on a 3-point rating scale of 'larger extent', 'lesser extent', and 'not at all', with scores of 2, 1, and 0 assigned, respectively. Weighted mean was obtained for different items along each domain and used to rank the benefit items in order of significance. An overall benefit score was obtained for each domain and used in the test of hypothesis. The dependent variable of the study is the determinant of the adoption of organic vegetable farming practices among vegetable farmers. The dependent variable indicates whether a farmer adopts OVFP or not, and this was measured on a 2-point scale, with a score of 1 assigned to every OVFP adopted by farmers and 0 to which farmers did not adopt. The mean score was further used to categorise the adoption into high or low. Descriptive statistics such as mean, frequency, percentage, and OLS regression analysis were used to analyse the data collected. The choice of OLS regression was used to explore the driving factors for OVFP adoption among selected independent variables (socio-economic characteristics, farmers' knowledge of OVFP; farmers' benefits along health, environmental conservation and economic domain). A vegetable farmer who has a positive relationship once he adopts OVFP, significantly determines the factor for adoption of OVFP, with different factors determining each practice.

The equation is stated as:

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

Model specification

To determine Adoption Drivers for Organic Vegetable Farming Practices in Oyo State, Nigeria. The mathematical model is given as follows:

1. Ordinary Least Squares (OLS) Regression Model

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + + \beta_8X_8 + \beta_9X_9 + \beta_{10}X_{10} + \varepsilon$$

where:

Y = Farmers' Adoption (Total number of farmers that adopt and practice OF)

β_0 = Bias term/Intercept
β = Slope of the Model and it is defined as unit change (increase or decrease) in the dependent variable when the dependent variable changes by one unit
$X_1 - X_{10}$ = Independent variables (Predictors)
ε = Error term
X_1 = Age (Actual age in years)
X_2 = Sex (Male = 1, Otherwise = 0)
X_3 = Education (Formal = 1, Otherwise = 0)
X_4 = Marital Status (Married = 1, Otherwise = 0)
X_5 = Farm size (Ha)
X_6 = Household size (Actual number of persons in a household)
X_7 = Knowledge of OVFP (Composite knowledge score for each organic vegetable farmer)
X_8 = Health benefits of OVFP (Composite health benefit score for each organic vegetable farmer)
X_9 = Environmental conservation benefits (Composite environmental conservation benefits score for each organic vegetable farmer)
X_{10} = Economic benefits of OVFP (Composite economic benefits score for each organic vegetable farmer)

RESULTS AND DISCUSSION

Socio-economic profile of the respondents

The socio-economic profile of the respondents analysed in the study relevant to adoption drivers for organic vegetable farming practices (OVFP) includes sex, age, marital status, household size, education, and farm size. Analyses of the results found from this study in Table 1 reveal that more than half (51.7%) of the respondents were female, whereas 48.3% were male. With a mean age of 41 ± 12 years, 53.3% of the respondents were between the ages of 29 and 48 years, whereas 28.3% were above the age of 48 years. This suggests that individual organic vegetable farmers are at their prime age, energetic, more productive, and capable of influencing their livelihood and economic sector. This can also be accounted for by the fact that organic vegetable production has attracted younger people than older ones. The result of this finding is in tandem with Oluwalana and Ihaza (2017), who reported that the majority of organic vegetable farmers were between the ages of 19 and 40 years. A significant proportion (71.7%) of the respondents were married, whereas very few (4.2%) were divorced. This implies that married people are more involved in organic vegetable farming and can settle down to coordinate and combine their efforts to improve their livelihood activities for high profit. More than half (56.7%) of the respondents had a household size of 1 to 5 persons, and very few (2.5%) had a household size range of 10 and above. The mean household size of 5 people in the study area shows that organic vegetable farmers have relatively large household sizes. Family labour plays a significant role in justifying the size of the household, and it is anticipated that this size will yield benefits. This implies that the engagement of family labour will reduce the cost of production to some extent, thereby increasing profitability. Onyenweaku and Nwaru (2005), supported the finding that large household sizes ease labour constraints, leading to an increase in production. The level of education determines the extent to which respondents maximize their potential using the limited resources available to them to ensure food security and improve their livelihoods. A fairly good proportion (35%) of the organic vegetable farmers in the study area had tertiary education; 31.7% and 20.8% had completed secondary and primary education, respectively; and 12.5% had no formal education.

Table 1. Socio-economic profile of the respondents

Variables	Frequency	Percentage	Mean/SD
Sex			
Male	58	48.3	
Female	62	51.7	
Age			41 ± 12.1
19–28	22	18.3	
29–38	34	28.3	
39–48	30	25.0	
49–58	21	17.5	
59–68	13	10.8	
Marital status			
Married	86	71.6	
Single	26	21.7	
Divorced	3	2.5	
Widowed	5	4.2	
Household size			5 ± 2.7
1–5	68	56.7	
6–10	49	40.8	
11–15	3	2.5	
Education			
No formal education	15	12.5	
Primary	25	20.8	
Secondary	38	31.7	
Tertiary	42	35.0	
Farm size (Plots)			
1–	104	86.7	4.3 + 14.0
5–8	14	11.7	
>8	2	1. 6	

Source: Field survey, 2022

Table 2. Level of knowledge on OVFP

Knowledge	Organic farmers N = 120		Minimum	Maximum	Mean ± SD
	Frequency	%			
Low	42	35.0	13	46	23.88 ± 5.57
High	78	65.0			

Source: Field survey, 2022

This indicates that high education attainment will motivate farmers for organic technology adoption and also promote profit in farming activities. This finding aligns with that of Gordon and Craig (2011), who found that education raises farmers' proficiency levels in terms of accessibility and technical know-how of innovations and makes them more appealing to adopters of better agricultural technologies. The majority (86.7%) of the respondents in the study area were small-scale operators of 1 to 4 plots (about 0.67 acres), while 1.6% of the respondents had farm sizes above 8 plots of land. The mean farm size of 4.3 ± 14.0 plots suggests that organic farmers in the study area were small-scale producers.

Knowledge of OVFP

It is imperative to comprehend the organic farming knowledge possessed by vegetable farmers to establish knowledge as a critical precursor for adoption in the presence of other variables. The outcomes presented in Table 2 demonstrate that a majority of farmers exhibited a commendable understanding of OVFP. The average score was 23.88 out of a maximum of 46, with a range of 13 to 46. Employing the mean knowledge score as a benchmark for categorisation, it was observed that 65% of farmers possessed a high level of knowledge regarding OF. This high level of knowledge among the majority of farmers should encourage adoption and serve as a positive indicator for economic returns and sustainable livelihoods for vegetable farmers. Furthermore, it can be inferred that knowledge plays a crucial role in maintaining the standards of vegetable cultivation and quality, as it enables farmers to answer most knowledge-based questions related to OF correctly. This finding contradicts the previous study conducted by

Table 3. Benefits Derived from OVFP

Benefits	Larger Extent	Lesser Extent	Not At All	Mean	Rank	Mean of means
Health	%	%	%			
Enhanced good health and long life	64.2	30.2	5.6	1.59	1st	
Assisted in the management of non-communicable diseases such as diabetes, cancer, and hypertension	50. 6	28.7	20.7	1.30	5th	**1.38**
Higher nutritional quality and micro-nutrients are present	63.4	15.3	21.3	1.42	3rd	
Stored longer and tastes better	64.5	25.8	9.7	1.55	2nd	
Prevented the risk of becoming poisoned by chemicals	50.8	30.5	18.7	1.32	4th	
Reduced exposure to health hazards	48.2	15. 6	36.2	1.12	6th	
Environmental conservation						
Kept environment clean	35.5	40.3	24.2	1.11	3rd	
Economised use of energy	15.6	30.5	53.9	0.62	6th	**1.00**
Reduced climate change effects, as well as generation of greenhouse gas	60.5	20.5	19.0	1.42	1st	
Reduced environmental pollution	50.6	15.6	33.8	1.17	2nd	
Promoted renewed uptake of nutrients from the soil	40.8	22.4	36.8	1.04	4th	
Improved soil fertility and soil structure	14.5	36.3	49.2	0.65	5th	
Economics						
Reduced inputs cost	52.5	24.3	23.2	1.29	2nd	
Higher premiums in the marketplace	50.6	30.6	18.8	1.32	1st	**1.04**
Low indebtedness to risk	16.5	20.5	63.0	0.54	5th	
Increased value addition to the vegetables	40.3	38.5	21.2	1.19	3rd	
Increased coping capacity of farms	30.5	24.6	44.9	0.87	4th	

Source: Field survey, 2022

Shimul et al. (2014), who concluded that there were no organic vegetable growers with a high level of knowledge regarding organic vegetable cultivation in Northeast Thailand.

Benefits derived from OVFP

The outcomes presented in Table 3 demonstrate that, in addition to the health advantages of OVFP, 64.5% of farmers assessed that it greatly enhances the storage and taste of vegetables. This proposition suggests that farmers who utilise appropriate green manure, animal excrement, industrial waste, compost, and other organic waste have a better chance of preserving their crops for a longer period and improving their flavour compared to those who follow conventional farming practices. This finding is consistent with Willer and Kilcher's (2009) research, which attributes longer storage and a better taste of farm produce to organic farming practices among small-scale farmers. The study further reveals that 64.2% of farmers rated OVFP as a significant contributor to good health and longevity. In summary, the most highly rated health benefits among farmers were improved health, longer storage, better taste, higher nutritional quality, and the presence of micronutrients. The environmental conservation outcome of organic farming in Table 3 indicates that most farmers rated the reduction of climate change effects, environmental pollution reduction, clean environment, and renewed uptake of nutrients from the soil as the most significant environmental benefits. Mgbenka et al. (2015) argue that agroecological practices involving organic farming help to intensify and increase production without depending on chemical pesticides and fertilisers, which can reduce the risk of poisoning, respiratory diseases, soil, water, and environmental pollution. Similarly, the most highly rated economic benefits among farmers were higher premiums in the marketplace ($\bar{x}$ = 1.32), reduced input costs ($\bar{x}$ = 1.29), and increased value addition to the vegetables ($\bar{x}$ = 1.19). These benefits were rated by 50.6%, 52.5%, and 40.3% of farmers, respectively. This implies that organic farming is a low-risk farming strategy with reduced input costs and, therefore, low risks of partial or total crop failure due to extreme weather events or changed conditions in the wake of climate change. This finding is consistent with Eyhorn's (2007) report that organic farming is a viable option and comprises a highly diverse range of farming methods that can increase the diversity of income sources available to farmers and provide greater flexibility in managing the impacts of climate change and variability, including changes in rainfall patterns. It

Table 4. Level of adoption in organic farming practices among vegetable farmers

Level of adoption	Organic farmers N = 120		Minimum	Maximum	Mean ± SD
	Frequency	%			
Low	45	37.5	24	63	44.80 ± 6.94
High	75	62.5			

Source: Field survey, 2022

Table 5. Adoption of organic farming practices among vegetable farmers

Organic farming practices	%
Use of indigenous varieties	85.5
Application of compost to the soil	12.3
Use of off-farm organic waste	63.3
Use of crop residues such as straws and mulch for recycling soil nutrients	78.8
Crop rotation practices for improving soil fertility	75.6
Planting of legumes	80.6
Use of organic manure to improve humic substances in the soil	3.5
Use of green manure by adding organic matter to the soil through ploughing undecomposed plant tissues	65.4
Mulching of crops	50.6
Intercropping	60.2
Mixed cropping	71.4
Use of industrial waste such as spent wash and coir as manure	3.2
Use of compost composed of earthworms (Vermicompost)	5.1
Use of plant products (biopesticides) such as alkaloids, pyrethrum, neem, rotenone, phenolic, and terpenoids for insects, fungi, and nematodes controls	3.1

Source: Field survey, 2022

is worth noting that the highest-rated benefit among the three areas assessed was health, with an average rating of ($\bar{x}$ = 1.38), while economic benefits and environmental conservation benefits received average ratings of ($\bar{x}$ = 1.04) and ($\bar{x}$ = 1.00), respectively. The results demonstrate that farmers have experienced the relative advantages of organic farming as defined by Poisot et al. (2004), which include access to safe and healthy food, economic sustainability, and environmental sustainability throughout both on-farm production and post-production processes. The challenges associated with these practices may be attributed to doubts regarding their effectiveness, unpleasant odours, significant weed growth, bulkiness, and lack of financial resources, as reported by Alimi et al. (2006).

Factors influencing adoption drivers for the OVFP

The analysis of the regression model illustrated in Table 6 discloses that out of the ten independent variables that were examined in relation to vegetable farmers' participation in organic farming practices, seven of them yielded a coefficient of determination (R^2) of 0.581. This indicates that approximately 58% of the factors that drive farmers' adoption of OVFP are accounted for by the identified variables. Consequently, 42% of the factors that influence farmers' participation in OVFP are attributed to other factors. It is important to note that all the variables that were considered met the a *priori expectation*, but the significant ones among them were education, age, household size, farm size, knowledge, health, and economic benefits. The adoption level increases by 1.501 with a unit increase in the knowledge score, indicating that farmers with a high level of knowledge of OVFP adhere to the established standards of practice and have a high level of adoption in OF. This finding supports the results of Dipeolu et al. (2009), who reported that an increase in farmers' knowledge and consumers' acceptance of organic products improves the level of OVFP. The coefficient of age (β = –0.028) was significantly negative at 1% and negatively related to the adoption of practices of organic vegetable production. This implies that older people were less involved in organic vegetable production practices, while younger people were more interested. It is possible that the older farmers exhibited a greater aversion to risk due to their comparatively lower net worth and risk capital in farming ventures compared to their younger counterparts. Additionally, age can be a contributing factor to an individual's physical strength and ability to perform manual and intensive labour. Education (β = 0.114), farm size (β = 0.021), and household size (β = 1.063) were also found to be significant and positively associated with the practice of organic vegetable production. The positive coefficient suggests that educated farmers are more likely to be informed and knowledgeable about organic farming practices and their benefits, possibly due to the growing interest in sustainable agriculture. This contradicts the

Table 6. Factors influencing the Adoption Drivers for OVFP

Models	Unstandardised coefficient		T	Significant
	B	S.EM.		
Constant	30.776	12.162	–0.244	0.000
Age (Actual age in years)	–0.028***	0.189	0. 612	0.000
Sex (Male = 1, Otherwise = 0)	0.385	1.287	–0. 476	0.04
Education (Formal = 1, Otherwise = 0)	0.114**	0.081	0.941	0.045
Marital Status (Married = 1, Otherwise = 0)	0.967	0.126	–1.331	0.658
Farm size (Ha)	0.021**	0.002	–4.532	0.023
Household size (Actual number of persons in a household)	1.063***	0.327	0.002	0.000
Knowledge scores	1.501**	0.421	0.042	0.032
Health benefit scores	0.902**	0.468	0.021	0.042
Environmental conservation scores	–0.264	0.117	–0.068	0.321
Economic benefit scores	0.013**	0.582	–0.217	0.028
F value			3.851	
R^2			0.581	
R-value			0.716	

Source: Field survey, 2022
Notes: ***Significant at the 1 percent level
**Significant at the 5 percent level
S.E M. – Standard error of the mean

findings of Oluwasusi (2014), who suggested that less educated farmers were more likely to practice organic farming due to their reliance on traditional farming methods. In addition, farmers with larger farms and households were more likely to practice organic farming, potentially due to the ability to allocate smaller portions of land for experimentation and demonstration before implementing organic practices on a larger scale. The need for supportive labour in organic farming may also contribute to larger household sizes being more conducive to organic farming practices. This agrees with Olaiya et al. (2020), who reported that large household sizes may have resulted from the need for family labour with the consequence of more dependent family members working on the farm. Furthermore, farmers' knowledge ($\beta = 1.501$), health ($\beta = 0.902$), and economic ($\beta = 0.013$) benefits were significant factors driving farmers' adoption of organic vegetable production. The results suggest that knowing organic farming practices is an important driver of farmers' adoption of organic vegetable production. The health and economic benefits associated with organic farming practices also contribute to farmers' adoption, as it leads to higher demand and premium prices for organic vegetables. This aligns with the findings of Dipeolu et al. (2009), who reported that consumers are willing to pay more for organic vegetables due to their perceived health benefits and higher quality.

CONCLUSION AND RECOMMENDATION

The study concludes that farmers' age, education, farm size, household size, knowledge, health, and economic benefits were important adoption drivers in the practices of OF among vegetable farmers in Oyo State, Nigeria. It is imperative to know that farmers with larger farms and households were found to be more likely to practice organic farming, potentially due to the ability to allocate smaller portions of land for experimentation and demonstration before implementing organic practices on a larger scale. The high level of knowledge among the majority of farmers is a positive indicator for their adoption, economic returns, and sustainable livelihoods for organic vegetable farming practices. We found that organic farming is a low-risk farming strategy with reduced input costs and, therefore, low risks of partial or total crop failure due to extreme weather events or changed conditions in the wake of climate change. However, the challenges associated with its practices may be attributed to doubts regarding their effectiveness, unpleasant odours, significant weed growth, bulkiness, and lack of financial resources. The study therefore recommends that governments at all levels should establish significant initiatives tailored towards a sustainable agricultural approach, which holds a great potential for effectively contributing to local food security, economic returns, the health of citizens, increased family health, and environmental standards.

CONFLICT OF INTEREST

The authors declared no conflicts of interest concerning the research, authorship, and publication of this article.

ETHICAL COMPLIANCE

The authors have followed ethical standards in conducting the research and preparing the manuscript.

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