

ASSESSMENT OF ORGANIC FARMING PRACTICES AMONG ARABLE CROP FARMERS IN IKOLE-EKITI LOCAL GOVERNMENT AREA, EKITI STATE, NIGERIA

¹Fanu, A. T., ¹Banigbe, O.I., ²Owoseni, K. P., ¹Atoun, A. O. and ¹Adebimpe, A. T.

¹Department of Agricultural Economics and Extension, Federal University Oye -Ekiti, Ekiti State and

²Department of Agriculture & Agricultural Technology, Bamidele Olumilua University of Education, Science & Technology Ikere Ekiti, Ekiti State.

Correspondence contact details: abimbola.fanu@fuoye.edu.ng

ABSTRACT

The study was carried out in Ikole - Ekiti LGA, it examined the level of awareness of organic farming practices, ascertained farmer's level of utilisation, examined farmers' attitudes towards organic farming practices and identified the constraints to organic farming practices. A multistage procedure was used to select 100 respondents. Data were analysed using descriptive statistics such as frequency, percentages and mean and Spearman Correlation. The mean age of respondents was $47 \pm$ years. Majority of the respondents were males (70%). For marital status, 85% of the respondents were married. Majority (53%) of the respondents engaged in full time farming. The mean years of farming for the respondents in the study area was $20 \pm$. The level of awareness with highest percentages were crop rotation (91%), mulching (84%) and cover cropping (74%). Organic farming practices with high level of utilisation were crop rotation (3.79), mulching (3.70), organic fertilizer (3.02) and cover cropping (3.00). For farmer's attitude towards organic farming: statements like "there is nothing new about organic farming" was (85%) and "farmers get opportunities to use their skills in organic farming" (74%) were those statements with higher percentages. The constraints were: transportation of organic inputs to the farm (90%), it encourages growth of weeds (87%), and unavailability of organic materials (84%). Farmers are aware of the benefits of organic farming, but their level of utilisation is low. Campaign and sensitization for farmers and the entire populace on the benefit of organic foods should be carried out. There is the need to engage agricultural extension service for awareness and advocacy for health, economic and environmental benefits.

Keywords: Organic farming practices, awareness, utilisation, attitude and constraints

INTRODUCTION

Organic agriculture is the production system that sustains the health of soils, ecosystems, and people. It depends on ecological processes, biodiversity, and cycles that are tailored to the local environment. It blends customs, technology, and science to advance equitable relationships, a high standard of living, and the common environment for all parties concerned (IFOAM 2020). Nutrients from organic fertilizers are released gradually and regularly, this also enhances the soil's organic content, improves the structure, and reduces topsoil erosion, while being comparatively less expensive than inorganic farming (Jones, *et al.*, 2023b).

Organic products are lower in water content, reserving higher nutrient density richer in iron, magnesium, vitamin C, antioxidants and more balanced with essential amino acids than conventional products (IFOAM 2020). Farmers are aware of the benefits of organic farming thus, they feel that soil productivity is declining, the tastes of the foods are worsening, and soil microorganism levels are decreasing; thus, they develop a positive attitude toward organic fertilizers (Wasil *et al.*, 2022). Farmers also believe that using organic fertilizers is the right way to protect the soil, smallholder farmers therefore rely on traditional farming practices and produce mostly for their family's needs (Omobere *et al.*, (2023).

Wasil *et al.*, (2022) opined that smallholder farms are suitable for organic fertilizer application, while large farms are more difficult to manage under organic fertilizer. In addition, organic fertilizers are

carbon-based substances that help plants grow more productively and with better quality. Growers apply organic fertilizers due to their advantages over chemical fertilizers, which include ensuring the food produced is free of hazardous chemicals, their significantly lower price than chemical fertilizers, their ability to keep the farmland productive for hundreds of years, and their non-polluting nature, as they are quickly biodegraded (Isnawan, *et al.*, 2023).

Nutrients from organic fertilizers are released gradually and regularly, avoiding the potential boom-and-bust cycle. This also enhances the soil's organic content, improves the structure, and reduces topsoil erosion, while being comparatively less expensive (Nirjharnee *et al.*, 2023). Organic products are lower in water content, reserving higher nutrient density richer in iron, magnesium, vitamin C, antioxidants and more balanced with essential amino acids than conventional products (IFOAM, 2020). However, despite the unparalleled beneficial effects and the great environmentally friendly roles organic agriculture offers supporting crop production and improvement of soil fertility in an agrarian environment, some farmers are still reluctant to practice organic farming. The general objective is therefore to assess the organic farming practices among arable crop farmers in Ikole-Ekiti local government area, Ekiti State.

The objectives of the study are to:

1. describe the socioeconomic characteristics of arable crop farmers in the study area;
2. ascertain the level of awareness of organic farming practices by farmers;

3. ascertain farmers' attitude towards organic farming practices in Ikole Ekiti;
4. ascertain the level of utilisation of organic farming practices and to
5. identify the constraints to organic farming practices in the study area.

METHODOLOGY

In Ekiti state, a faith-based non-governmental organisation has trained some arable crop farmers on the different organic farming practices that will promote soil fertility, biodiversity, and ecosystem health, while minimizing environmental impact. These measures are supposed to help increase the availability of food, as well as improve the state's resilience to climate change. According to Vivian, *et al.*, (2022), organic farming has a higher potential than conventional farming in building healthy soil which is the foundation of food chain. The respondents included all trained farmers in Ikole-Ekiti Local Government Area who cultivate arable crops like: grains, legumes, oil seeds, forage crops, fibre and tubers. A two-stage sampling technique was used. The first stage involved a random selection of five communities from the Local Government Area which were Odo-Oro, Ijesa-Isu, Usin, Odi-Olowo and Oke-Orin. The second stage involved random selection of twenty trained arable crop farmers from each of the communities to make one hundred (100) respondents. Interview schedule

was used in collecting data from respondents. Data were analyzed using descriptive statistics and correlation analysis

RESULTS AND DISCUSSION

Socioeconomic characteristics

The mean age of respondents was 47± years. Majority (70%) of the respondents were males. For marital status, 85% of the respondents were married. With this age range it implies that most of the respondents are matured agricultural entrepreneurs with males mostly engaged in organic farming which is believed to be labour-intensive and physically demanding (Nirjharnee *et al.*, 2023). Majority (53%) of the respondents engaged in full time farming. The mean years of farming experience for the respondents in the study area was 20± and standard deviation 12.75. The number of years a farmer has spent in building experiences can help in making organic farming easy to adopt after all organic farming is not totally new. Isnawan, *et al.*, (2023) reported that a farmer's personal socio-economic characteristics may have influence on the participation and adoption of organic farming practices, these are: age, years of formal schooling, innovation proneness, income, family labour, farmers years of farming, access to credit facilities, family size, access to information and access to extension agent.

Table 1: Socio economic characteristics of arable crop farmers

Age	Frequency	Percentages
≤ 30	11	11
31 – 40	20	20
41 – 50	28	28
51 – 60	25	25
>60	16	16
Mean	47.10	
Sex		
Male	70	70
Female	30	30
Marital status		
Single	12	12
Married	85	85
Separated	1	1
Widow	2	2
Occupation		
Full time farming	53	53
Part time farming	47	47
Farming experience		
<10	15	15
10 – 20	51	51
21 – 30	17	17
>30	17	17
Total	100	100

Source: Field survey, 2023

Level of awareness of organic farming practices

Majority of the respondents were aware of organic farming practices like crop rotation 91%, mulching 84% and cover cropping 74%. They were least aware of organic farming practices like kitchen wastes 36% and formulated organic pesticides 34%. The farmers' awareness of the following statements means that they had a good understanding of some organic practices. Wasil *et al.* (2022) findings support the idea that awareness is an important factor in the adoption of organic agricultural

techniques. Some organic practices have low percentages, such as formulated organic pesticides (34%), formulated organic herbicides (40%) and kitchen wastes (36%), this implies that there is a knowledge gap among arable crop farmers on organic farming practices. This aligns with Vivian *et al.*, (2023) who reported that vegetable farmers had a low level of awareness of some of the organic farming practices and that if farmers are not fully aware of organic farming practices, they may likely not put them into practice.

Table 2: Level of awareness of organic farming practices

Organic farming practices	Aware (%)	Not aware (%)
Crop rotation	91	9
Composting	72	28
Cover cropping	74	26
Mulching	84	16
Formulated organic pesticides	34	66
Formulated organic herbicides	40	60
Green manure	59	41
Organic fertilizer	63	37
Animal dropping	64	36
Kitchen wastes	36	64

Source: Field survey, 2023

Attitude of farmers towards organic farming practices

The table below shows the mean scores of respondents' attitude towards organic farming practices, the statements "I believe organic farming will keep environment free from pollution 4.09", "There is nothing new about organic farming, it is indigenous knowledge 4.67", Organic farming is a way to preserve our old traditional farm value 4.46", farmers get opportunities to use their skills in

organic farming 4.46" and farmers need technical and financial support for organic farming 4.53.

The result suggests that farmers have positive attitude towards organic farming, which can have far-reaching benefits for the environment, human health, and the agricultural sector. Farmers feel that soil productivity is declining, the tastes of the foods are worsening, and soil micro-organism levels are decreasing, thus, they possess a positive attitude toward organic farming, (Wasil, *et al.*, 2022).

Table 3: Attitude of farmers towards organic farming

Attitude statements	Strongly agree Freq(%)	Agree Freq(%)	Undecided Freq(%)	Disagree Freq(%)	Strongly disagree Freq(%)	Mean
I believe organic farming will keep environment free from pollution	63(63.0)	15(15.0)	5(5.0)	0(0.0)	15(15.0)	4.09
There is nothing new about organic farming, it is indigenous knowledge	85(85.0)	7(7.0)	4(4.0)	0(0.0)	4(4.0)	4.69
Organic farming is a way to preserve our old traditional farm value	72(72.0)	15(15.0)	6(6.0)	1(1.0)	6(6.0)	4.46
Farmers get opportunities to use their skills in organic farming	74(74.0)	10(10.0)	7(7.0)	6(6.0)	3(3.0)	4.46
Organic farming practices does not pollute the environment	64(64.0)	9(9.0)	16(16.0)	1(1.0)	10(10.0)	4.16
Farmers need technical and financial support for organic farming	72(72.0)	18(18.0)	5(5.0)	1(1.0)	4(4.0)	4.53
It is difficult to farm without fertilizer and pesticides	34(34.0)	9(9.0)	0(0.0)	18(18.0)	39(39.0)	2.81
I am interested in organic farming because we were asked to do it	28(28.0)	6(6.0)	7(7.0)	21(21.0)	38(38.0)	2.65

Attitude statements	Strongly agree Freq(%)	Agree Freq(%)	Undecided Freq(%)	Disagree Freq(%)	Strongly disagree Freq(%)	Mean
I prefer to do organic farming because of the high demand of its crops	49(49.0)	9(9.0)	16(16.0)	6(6.0)	20(20.0)	3.61
Profits are more important to farmers than the environment issue	19(19.0)	9(9.0)	3(3.0)	8(8.0)	61(61.0)	2.17
I will not recommend organic farming to others it is difficult to practice	40(40.0)	14(14.0)	13(13.0)	10(10.0)	23(23.0)	3.36

Source: Field survey, 2023; Weighted mean = 3.73

Level of utilisation of organic farming practices

Organic farming practices with high level of utilisation by the farmers due to their means been higher than the weighted mean ranked in descending order are crop rotation 3.79, mulching 3.70, organic fertilizer 3.02, cover cropping 3.02, and animal dropping 2.93. The organic farming practice with

the lowest level of utilisation was kitchen waste 1.94. Understanding the reason behind selective adoption can help tailor support and training to address specific needs and constraints. This finding is corroborated by the report Omobere *et al.*, (2023), that small scale farmers practice some indigenous practices than some.

Table 4: Level of utilisation of organic farming practices

Organic practices	Highly utilised Freq(%)	Moderately utilised Freq(%)	Utilised Freq(%)	Partially utilised Freq(%)	Not utilised Freq(%)	Mean
Crop rotation	60(60.0)	6(6.0)	8(8.0)	5(5.0)	21(21.0)	3.79
Compost	32(32.0)	6(6.0)	11(11.0)	8(8.0)	43(43.0)	2.76
Cover cropping	41(41.0)	2(2.0)	10(10.0)	10(10.0)	37(37.0)	3.00
Mulching	57(57.0)	6(6.0)	12(12.0)	0(0.0)	25(25.0)	3.70
Formulated organic pesticides	24(24.0)	7(7.0)	4(4.0)	5(5.0)	60(60.0)	2.30
Formulated organic herbicides	20(20.0)	9(9.0)	7(7.0)	1(1.0)	63(63.0)	2.22
Green manure	35(35.0)	2(2.0)	6(6.0)	4(4.0)	53(53.0)	2.62
Organic fertilizer	45(45.0)	5(5.0)	0(0.0)	7(7.0)	43(43.0)	3.02
Animal dropping	19(19.0)	2(2.0)	2(2.0)	3(3.0)	48(48.0)	2.93
Kitchen wastes	19(19.0)	2(2.0)	4(4.0)	4(4.0)	71(71.0)	1.94

Source: Field survey, 2023 Weighted mean = 2.83

Constraints to organic farming practices

The result below shows that transportation of organic inputs to farms ranked the highest constraint 90%, followed by the constraint “organic farming encourages high weed growth” 87%. However, farmers indicated that all the constraints had high percentages, the implication is that there might be

low productivity, limited adoption and food security concerns (Nirjharnee *et al.*,2023). This is an indication that farmers will need these constraints to be addressed through targeted support and initiative to help them overcome the challenges and successfully adopt organic farming practices.

Table 5: Constraints to organic farming practices

Constraints to organic farming practices	Yes (Freq.)	No (Freq.)
Unavailability of organic materials	84	16
Transportation of organic inputs to farms	90	10
Preparation of the compost manure	83	17
Its odour and physical composition	78	22
Availability of organic materials	82	18
It encourages high growth of weeds	87	13
Application of organic materials is tedious	78	22
Poor knowledge of the practice	79	21
Lack of awareness	76	24
It is an old fashion practice	54	46

Source: Field survey 2023

Hypothesis testing

Hypothesis: There is no significant relationship between level of awareness of organic farming practices and the level of utilisation of organic farming practices. The relationship is statistically significant hence the null hypothesis is rejected, and the alternative hypothesis is accepted. The coefficient value of -0.322 indicates that there is low negative correlation between the level of awareness

of organic farming practices and the level of utilisation of organic farming practices. This means that an increase in level of awareness of organic farming practices leads to a decrease in the utilisation of organic farming practices. This scenario highlights the importance of addressing the constraints facing organic farmers in Ekiti State to ensure the long-term viability and growth of organic farming sector.

Table 6: Correlation between level of awareness of organic farming practices and level of utilisation of organic farming practices

Variable	value	p-value
Level of awareness	-0.322**	0.001

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Field survey, 2023

CONCLUSION AND RECOMMENDATIONS

Farmers are aware of the benefits of organic farming, but the level of utilisation of organic farming practices is low, because inorganic farming is faster and produce sells faster than organic produce due to its affordability. The problem is conversion to organic farming. Campaign and sensitization for farmers and the entire populace on the benefit of organically produced foods without considering the cost implication should be carried out. Therefore, for increased rapid practice of organic farming, the need to leverage on the few traditional practices that are close to organic principle is imperative as well as engaging agricultural extension service for awareness, advocacy and to promote organic agriculture as adaptable practices for health, economic and environmental benefits.

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