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Analysis of Organic Farming Practices amongst Crop Farmers in Delta state, Nigeria

Charity N. Atoma
Department of Agricultural Extension and Management,
Delta State Polytechnic Ozoro, Nigeria
nwacharity1211@gmail.com
and

Johnson O. Atoma
Department of Mathematics and Statistics,
Delta State Polytechnic, Ozoro

Abstract

The past decade has been characterized by public concern over nutrition, health and food safety issues. Consumers perceive high risk associated with the consumption of conventionally grown produce. Organic farming is beneficial because it is a source of healthy food and healthy living. The United Nations regards organic agriculture as an effective strategy for mitigating climate change and building robust soils. This study assessed use, challenges and strategies for improving organic farming practices. Delta State was selected from the six states that make up south south Nigeria. Multistage sampling technique was used to select one hundred and twenty farmers from the list of registered crop farmers with the Delta State Agricultural Development Programme. Only three organic farming practices are being used – animal manure, tillage, and organic fertilizer. Out of the twenty-one constraints outlined in the study, sixteen were acknowledged as constraints with mean scores of 2.50 and above. Five were considered as no constraints with mean scores below 2.50. Strategies for improving organic farming practices include but not limited to sensitization of consumers on the benefit of organic foods, the creation of a market for organic produce, etc.

Keywords: crop farmers, organic farming, health, organic produce, Nigeria

Introduction

Organic farming is an agricultural technique of naturally producing quality crops, vegetables or animals without harming the environment, the people, the animals as well as other microorganisms that are living around (Orji, 2013). The farming practice is eco-friendly and works in agreement with nature. It does not necessarily imply going back to the traditional methods of farming. In organic farming, best traditional farming practices and techniques in combination with modern knowledge of science and technology are applied. Organic Farming emphasizes the use of renewable natural resources and their recycling (Emsley, 2001). It eliminates the use of synthetic pesticides, growth hormones, antibiotics and gene manipulation in farming. Lampkin (1990), said that organic farming systems rely on crop rotation, crop residues, animal manures, legumes, green manures, off-farm organic waste and aspects of biological pest control to maintain soil productivity and tilt, to supply plant nutrients and to control insects, weeds and other pest According to Smil (2001), some inorganic fertilizers used to increase crop yield are leached or washed away by erosion to nearby rivers causing water pollution which is dangerous to aquatic life and human health. The synthetic fertilizers and other agrochemicals that are used in non-organic farming are manufactured using resources such as fossil fuels which are not renewable and using such resources may cause pollution and contribute to environmental degradation, thus making such agricultural practices unsustainable.

The goal of organic farming practices is a sustainable production of quality food with little or no effect on the environment. This goal cannot be achieved by the conventional farming. There is the need to encourage organic farming which is capable of providing solution to the current agricultural problems and help to achieve optimal production of quality food sustainably (IFOAM, 2005). Environmental degradation, climate change, and dangers associated with the continuous practice of inorganic farming posses a global challenge. As a result of this, there is the need to find out the Organic Farming Practices amongst crop farmers in the study area, constraints to using organic farming practices and strategies for improvement.

Methodology

The study was carried out using social survey design. The study was conducted in Delta state, Nigeria. Delta state is one of the six states that make up South-south Nigeria. The state is divided into three Agricultural zones- Delta North, Delta South and Delta Central. The study population is crop farmers in Delta state. Multistage random sampling technique was used. Delta Central Zone was randomly selected

from the three zones. Three blocks were further sampled from the ten (10) blocks of Agricultural Development Programme. The three blocks selected are Ethiope East, Isoko South and Ughelli North. Three cells were further sampled from each block to give a total of nine (9) cells. Nine crop farmers from each cell were sampled from the list of crop farmers provided by the zonal manager. Therefore a total of Eighty one (81) crop farmers were used. Data for the study was collected using a structured interview on a 4-point Likert type scale and analysis done using frequency, percentage and mean score

Findings and discussion

Table 1 Distribution of Farmers Level of use of Organic Farming Practices

S/n	Organic Farming Practices	Very regularly	Regularly	Rarely	Never	Mean	Decision
!	Crop Rotation	32(26.67)	32(26.67)	18(15)	38(31.67)	2.48	Non-use
2	Green Manure	9(7.50)	30(25.00)	28(23.33)	53 (44.17)	1.96	Non-use
3	Cover Crops	8(6.67)	27(22.50)	24(20.00)	61 (50.83)	1.88	Non-use
4	Animal Manure	32(26.67)	56(46.67)	2(1.67)	30 (25.00)	2.75	use
5	Composting	13(10.83)	38(31.67)	13(10.83)	56 (46.67)	2.07	Non-use
6	Intercropping	23(19.17)	32(26.67)	6(5.00)	59 (49.17)	2.16	Non-use
7	BioControl	13(10.83)	26(21.67)	6(5.00)	75 (62.50)	1.81	Non-use
8	Farm Scaping	2(1.67)	8(6.67)	0(0)	110(91.67)	1.18	Non-use
9	Mulching	14(11.67)	40(33.33)	13(10.83)	53 (44.17)	2.13	Non-use
10	Sanitation	13(10.83)	37(30.83)	11(9.17)	58 (48.33)	2.03	Non-use
11	Tillage	32(26.67)	40(33.33)	8(6.67)	40 (33.33)	2.54	use
12	Fire	11(9.17)	32(26.67)	11(9.17)	66 (55.00)	1.90	Non-use
13	Natural pesticide	0(0)	35(29.17)	8(6.67)	77(64.17)	1.65	Non-use
14	Organic fertilizer	19(15.83)	49(40.83)	26(21.67)	26(21.67)	2.68	use
15	Natural storage system	32(26.67)	41(34.17)	10(8.33)	50(41.67)	2.41	Non-use

mean score <2.50 = non use, mean score ≥ 2.50 = use. Values in parenthesis stand for percentages

Findings from the study as shown in table 1 above reveal that farmers are only engaged in the use of animal manure with a mean score of 2.75, tillage with a mean score of 2.54 and organic fertilizer with a mean score of 2.64.

Constraints to using Organic Farming Practices

Table 2 shows constraints to using organic farming practices by the respondents

Table 2 Distribution showing Constraints to using Organic Farming Practices

S/N	Constraints	Strongly agree	Agree	Disagree	Strongly disagree	Mean	Decision
1	Organic farming is time-consuming	46(38.33)	59(49.17)	15(12.5)	0(0)	3.26	Accepted
2	Transportation of organic materials for use is difficult	41(34.17)	68(56.67)	9(7.50)	2(0.67)	3.31	Accepted
3	Not enough technical know-how	43(35.83)	52(43.33)	25(20.83)	0(0)	3.15	Accepted
4	Lack of effective training by extension agents	27(22.5)	32(26.67)	31(25.83)	30(25)	2.47	Rejected
5	Inadequate information	58(48.33)	54(45.0)	5(4.17)	3(2.50)	3.39	Accepted
6	Consumers are yet to appreciate the difference between the produce of the two farming system	22(18.33)	29(24.17)	35(29.17)	34(28.33)	2.33	Rejected
7	More labour intensive when compared to the use of chemicals/mechanical farming	48(40.00)	52(43.33)	14(11.67)	6(5.00)	3.27	Accepted
8	Unavailability of organic inputs	65(54.17)	42(35)	8(6.67)	5(4.17)	3.39	Accepted
9	No encouragement from government	86(71.67)	26(21.67)	5(4.17)	3(2.5)	3.63	Accepted
10	It is not appreciated, therefore no benefit	13(10.83)	12(10)	48(40)	47(39.17)	1.93	Rejected
11	No access to organic fertilizers, pesticides, and herbicides	60(50.00)	24(20)	25(20.83)	11(9.17)	3.11	Accepted

12	Lack of Awareness	50(41.67)	33(27.5)	32(26.67)	5(4.17)	3.07	Accepted
13	Output Marketing Problem	19(15.83)	32(26.67)	32(26.67)	37(30.83)	2.28	Rejected
14	Shortage of Biomass	46(38.33)	35(29.17)	31(25.83)	8(6.67)	2.99	Accepted
15	High Input Cost	21(17.7)	34(23.33)	28(23.33)	37(30.83)	2.33	Rejected
16	Nonavailability of farm inputs	60(50.00)	32(26.67)	18(15)	10(8.33)	3.18	Accepted
17	Lack of appropriate Agric Policy	84(70.00)	25(20.83)	11(9.17)	0	3.61	Accepted
18	Lack of financial support	87(72.5)	28(23.33)	4(3.33)	1(0.83)	3.68	Accepted
19	Low production	36(30.00)	20(16.67)	34(28.33)	30(25)	2.52	Accepted
20	Lack of quality standard for Bio inputs	63(52.50)	37(30.83)	15(12.5)	5(4.17)	3.32	Accepted
21	Political and Social factors	57(47.5)	30(25)	29(24.17)	4(3.33)	3.17	Accepted

mean score < 2.50 is rejected; mean score ≥ 2.50 is accepted.

Sixteen out of the twenty-one constraints outlined above were accepted with mean scores of 2.50 and above, while five were rejected since their mean scores were below 2.50 and therefore considered not to be constraints to using organic farming practices

Suggestions for the improvement of organic farming practices in the study area.

Table 3 distribution showing suggestions for the improvement of organic farming

S/N	STATEMENT	Strongly agree	Agree	Disagree	Strongly disagree	Mean	Decision
1	Ministry of agriculture and extension services should be more functional in sourcing and make information on organic farming available to farmers	67(55.8)	51(42.5)	2(1.7)	0	3.54	Accepted
2	There should be	58(48.3)	62(51.7)	-	---	3.48	Accepted

	campaign and sensitization of farmers and the entire populace on the benefits of organic farming/foods						
3	Adequate enlightenment program should be mounted on organic farming practices so that farmers can adopt	59(49.2)	61(50.8)	---	---	3.49	Accepted
4	Research institutes should be funded specifically for intensive research on organic farming	59(49.2)	60(50)	1(0.8)	_	3.48	Accepted
5	Raising awareness on the severity of problems of conventional farming	46(38.33)	73(60.83)	1(0.8)	_	3.38	Accepted
6	Developing necessary infrastructure so that information on organic farming practices remains extensive and constant in reaching farmers	56(46.7	64(53.3)	---	_	3.47	Accepted
7	Government should make legislation in order to ensure a	49(40.83)	70(58.33)	1(0.84)	_	3.40	Accepted

	regulatory framework to enable all stakeholders to play on a level ground						
8	Development of a strong domestic market to protect the interest of producers	48(40)	70(58.33)	2(1.7)	_	3.38	Accepted
9	Organic standards should be published for the knowledge of farmers, consumers, and the general populace	58(48.33)	61(50.83)	1(0.84)	_	3.56	Accepted

Any mean score < 2.50 is rejected; mean score ≥ 2.50 is accepted. Values in parenthesis stand for percentages

Nine suggestions for improvement as shown in table 3 were upheld with mean score of 3.38 as the least

Conclusion and recommendations

The study revealed high-level awareness of organic farming practices but low-level use. Out of the sixteen constraints outlined in the study, sixteen were acknowledged as constraints since their mean scores were 2.50 and above. Five were considered as no constraints with mean scores below 2.50. . Strategies for improving organic farming practices includes but not limited to sensitization of consumers on the benefit of organic foods, the creation of a market for organic produce ,adequate enlightenment programs be mounted on organic farming practices. Adequate campaign and training programs on organic farming practices for farmers are recommended.

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