INFORMATION AND TRAINING NEEDS ASSESSMENT OF WOMEN VEGETABLE FARMERS ON ORGANIC AGRICULTURE IN AKINYELE LOCAL GOVERNMENT AREA OF OYO STATE

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ABSTRACT

Organic agriculture (OA) is a production system designed to sustain the health of soils, ecosystems and people which relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of chemical inputs with adverse effects. This study considered information and training needs of women vegetable farmers on organic agricultural practice in Akinyele Local government area of Oyo state. Multistage sampling procedure was used to select a total of 120 respondents for this study. Interview schedule was utilised to gather information on respondents' perception, information and training needs. Data collected were analyzed using both descriptive and inferential statistics. There was an unfavourable perception (51.7%) about organic agricultural practices. There was a low information need (57.5%) with a high training need (59.2%)A significant relationship existed between training need and age (r =0.23; p =0.01), then between training need and family size (r =0.25; p =0.01). Also there was a significant relationship between training need and respondents' perception (r=0.34;p=0.00). The study therefore recommends latest training on organic agricultural principles and guidelines for women vegetable farmers in order to make organic vegetable production sustainable, hence improving income and food security.

Keywords: Women farmer, training need, information need and organic agriculture

INTRODUCTION

In Nigeria and other developing countries of the world, one of the keys to economic development lies in improving agricultural productivity (Gurung, 2006). In spite of the fact that Nigeria has over 98.3 million hectares of land of which about 73% of it is cultivable, it is obvious that agriculture in Nigeria has not yet developed to the level where it will sufficiently feed the nation or is commensurate with the available resources (Adekunle, 2012). In some developing countries, the use of hybrid varieties, chemicals and pesticides had increased agricultural output rapidly. However, those who have been practicing conventional agriculture had found that they were facing all sorts of problems that need to be sustainably solved (Bernama, 2009).

Organic agriculture has been defined as a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic Agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved. It helps to ensure the conservation of the diverse genetic pool of landraces needed for modern plant breeding (International Federation of Organic Agriculture Movement IFOAM, 2007). Half of all farmers in the developing world are women, and women farmers can grow 30% more food if they have access to the same resources as men. By helping women farmers boost production, we could reduce global hunger by 150 million people (Jiggins, 1994). The deep concern of some women for the health of the environment is closely connected to their perception as sustainers and nurturers of life,

including their desire to raise healthy children. These concerns are embedded in their daily lives, experiences, interactions and perceptions of reality. In Nigeria, women play a dominant role in agricultural production; their active participation in African agriculture is also not new. This was confirmed by a study financed by the United Nations Development Project (UNDP), which revealed that women makeup 60-90% of the agricultural labour, depending on the region and that they produce two-thirds of food crops. The role of women farmers in production of food staples like vegetables and cereal is important since the motivation for participation in agriculture is to contribute to household food security. Women farmers play a significant role in vegetable production and marketing which therefore contributes to household food self-sufficiency (Oguntade, 2009).

Vegetable constitutes the major or the only source of food in between harvests or when harvest fails. It provides a critical source of energy and protein, especially for the adults, the sick and the elderly. Leafy vegetables like *amaranthus, celosia, corchorus* and *telfair can* be handy under emergency circumstances and hardships arising out of civil conflicts and natural disorders that result in the displacement of communities. Some of these vegetables are produced within a short time after the onset of the rainy season and can be harvested in three of four weeks after planting. The sale of traditional vegetables in women accessible market do not only provide food security to those with purchasing capacity but the women traders are able to educate their children and provide their household with essential items in the home, thus avoiding abject poverty (Oguntade, 2009). It is therefore very essential to determine the women farmers' knowledge and perception on OA and also take into consideration their information, social and economic needs as well as constraints considered as hindrances to right of entry to the development of OA that would inform further research and training.

The main objective of this study is to determine the needs assessment of women vegetable farmers about organic agriculture. The specific objectives are to;

1. determine the perception of women vegetable farmers on organic agriculture
2. establish the information needs of the respondents on organic agriculture
3. identify the training needs of the respondents on organic agriculture

Hypotheses of the study

$H_0$1: There is no significant relationship between the personal characteristics of the respondents and their assessments of training needs on organic agriculture

$H_0$2: There is no significant relationship between respondents' perception and their assessments of training needs on organic agriculture

METHODOLOGY

The study area is Akinyele Local government area of Oyo state. It is one of the eleven local governments within Ibadan metropolis. The research used multistage sampling procedure; cluster sampling technique to select areas where vegetable production enterprises are prevalent and simple random sampling technique to select vegetable women farmers from the selected clusters, leading to a sample size of 120 women vegetable farmers in the study area. Structured questionnaire containing items based on the objectives and hypotheses of this study was used to collect information from the respondents as interview schedule. Data collected were analysed

with the use of descriptive and inferential statistics (chi-square and PPMC)

RESULTS AND DISCUSSION

Table 1 reveals that majority of the respondents (84.2%) were between the ages of 31 and 60 years, which means they are in their active years. Most of them vegetable farmers were married (75.8%) and 32.5% of them had secondary education. It is expected that because of their level of education, respondents would understand and able to interpret technical agriculture message packages. Also, more than half of the respondents (50.8%) had household size between 4 and 6 persons.

Table 1: Distribution of respondents according to socioeconomic characteristics (n=120)

Variables	Frequency	Percentage
Age (in years)		
Less than or equal 30	6	5.0
31-60	101	84.2
above 60	13	10.8
Marital status		
Married	91	75.8
Single	13	10.8
Widowed	11	9.3
Divorced	1	0.8
Separated	4	3.3
Educational qualification		
No formal education	31	25.9
Adult education	18	15.0
Primary education	18	15.0
Secondary education	39	32.5
Technical school	7	5.8
Tertiary	7	5.8
Family size		
1-3	21	17.5
4-6	61	50.8
7-9	33	27.5
above 9	5	4.2

Perceptions about organic agriculture

Results on Table 2 shows that 50.0% of the respondents strongly agreed that organic agriculture increases crop yield than conventional farming, 65.0% agreed that organic production encourages sustainability, 62.5% agreed that organic agriculture does not pollute the environment and over half of the respondents (59.2%) affirm that OA products increases farmers' income. Meanwhile, majority of them (60.0%) disagreed with the statement that OA does not ensure safe food and clean environment. Above average (51.7%) also disagreed that OA practices increase soil erosion.

Table 2: Distribution of respondents on their perception to organic agriculture

Perception statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
OA increases crop yields than conventional farming	50.0	27.5	6.7	10.8	5.0
OA is more capital intensive	14.2	25.0	10.0	40.0	10.8
Organic products are more nutritious than conventional produce	33.3	20.0	17.5	24.2	5.0
Organic produce are more resistant to pest & diseases than conventional produce	15.0	24.2	14.2	42.5	4.2
Organic crop production ensures good health than conventional production	29.2	51.7	8.3	10.0	0.8
Organic products reduces health risk	40.0	45.8	3.3	5.8	5.0

Perception statements	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Organic agric pollutes ground water	12.5	20.0	7.5	36.7	23.3
Organically produced crops are not toxic free	6.7	24.2	14.2	44.2	10.8
OA does not ensure safe food and clean environment	2.5	9.2	10.0	60.0	18.3
OA practices increases soil erosion	4.2	8.3	5.8	51.7	30.0
Nutrient uptake is slow in OA	5.0	15.8	21.7	45.8	11.7
Organic agriculture does not pollute the environment	14.2	62.5	8.3	11.7	3.3
Organic production encourages sustainability	20.8	65.0	7.5	4.2	2.5
Organic agricultural products have longer shelf life	35.8	44.2	13.3	5.0	1.7
Organic fertilizer is always readily available for farmers' use	13.3	30.0	21.7	18.3	16.7
OA practice cannot improve agric dev.	8.3	13.3	4.2	60.0	14.2
OA products increases farmers' income	7.5	59.2	10.0	14.2	9.2
OA practice requires no special skill	8.3	51.7	18.3	20.8	0.8
OA does not encourage large scale farming/commercial system	6.7	51.7	16.7	18.3	6.7

Summary of the responses to the items on perception about OA as given on Table 3 shows that48.3% of the respondents have unfavourable perception about OA while 48.3% of them had favourable perceptions towards OA. This result might imply that respondents are afraid of changing their farming practices to that of organic agricultural principles and practices.

Table 3:Distribution of respondents based on their level of perception

Level of perception	Frequency	Percentage
Favourable	58	48.3
Unfavourable	62	51.7
Total	**120**	**100.0**

Information needs

Results on Table 4 reveals distribution of respondents on different components of information need (technical information, marketing information, social information and legal information).On technical information, more than have of the respondents highly need information about pest and disease control, 50.0% on compost making, 45.8% on seeds selection, 45.0% on seeds treatment for their pre-nursery practices and 54.2% on compost application in the main nursery. Meanwhile, 47.5% of the respondents highly need information on harvesting, 40.8% on transplanting in the farm establishment and management. For post-harvest handling and utilisation, 51.7% of respondents indicated a high need for information on storage methods and procedures 46.7% on processing of fruits.This result implies that a high proportion of the respondents in the study area need more technical information regarding pre-nursery practices, main field, farm establishment/management and also post-harvest

handling/utilisation.

On marketing information of vegetable products, majority of the respondents (55.8%) need high information on credit source, 55.0% moderately need information on market location also 40.0% on current market price. On social information, the table further reveals that 44.2% of respondents need high information on community self-help, 51.7% need moderate information on personnel education and 49.2% on cooperative society. Legal information, 45.8% of the respondents highly need information on procedure for loan collateral and 53.3% moderately need information land tenure status.

This study's finding partially agrees with that of Olajide (2009), which posited that farmers' most needed social information need is co-operative associations and agricultural programmes though they are the most convenient avenues for disseminating of new agricultural technologies that can assist in increasing farmer's agricultural productivity.

Table 4: Distribution of respondents on their information needs on OA

Types of Agricultural activities	Very high	High	Moderate	Low	None
Technical information					
(i) Pre- nursery					
Land preparation	10.0	23.3	41.7	19.2	5.8
Bed making	5.0	27.5	39.2	24.2	4.2
Selection of seeds	12.5	45.8	32.5	9.2	0
Treatment of seeds	20.0	45.0	32.5	2.5	0
Watering	9.2	15.0	39.2	20.0	16.7
Pest and diseases control	25.8	58.3	13.3	1.7	0.8
Compost preparation	24.2	50.0	23.3	0.8	1.7
(ii) Main nursery					
Bed preparation	8.3	22.5	50.8	15.0	3.3
Sowing of seeds	11.7	24.2	50.8	10.0	3.3
Weed control	18.3	35.0	42.5	3.3	0.8
Watering	6.7	15.0	51.7	10.0	16.7
Compost application	20.0	54.2	22.5	3.3	0
(iii) Farm establishment & mgt					
Ridge/bed preparation	9.2	20.0	48.3	15.8	6.7
Transplanting	10.0	40.8	42.5	5.8	0.8
Compost application	19.2	38.3	40.0	1.7	0.8
Weeding	8.3	23.3	63.3	1.7	3.3
Harvesting	10.0	47.5	35.8	1.7	5.0
(iv) Post harvest handling & utilisation					
Storage methods & procedures	33.3	51.7	11.7	2.5	0.8
Cooking methods	7.5	13.3	44.2	29.2	5.8
Processing of fruits	24.2	46.7	26.7	1.7	0.8
Timing of harvest	7.5	20.0	61.7	9.2	1.7
Marketing information					
Market location	13.3	12.5	55.0	15.8	3.3
Credit source	16.7	55.8	16.7	8.3	2.5
Current market price	15.8	28.3	40.0	12.5	3.3
Future market prices	19.2	26.7	35.8	15.8	2.5
Social information					
Cooperative society	15.8	25.0	49.2	6.7	3.3
Agric programme	14.2	33.3	45.0	5.0	2.5
Personnel education	11.7	29.2	51.7	5.8	1.7
Community self-help	11.7	44.2	30.8	9.2	4.2
Media listing groups	9.2	15.8	44.2	25.0	5.8
Legal information					
Settlement of land disputes	15.0	10.0	34.2	35.8	5.0

Types of Agricultural activities	Very high	High	Moderate	Low	None
Land tenure status	10.8	11.7	53.3	18.3	5.8
Commercial insurance	16.7	28.3	35.8	11.7	7.5
Land compensation procedure	16.7	33.3	36.7	9.2	4.2
Procedure for loan collateral	22.5	45.8	25.0	3.3	3.3

Table 5 reveals distribution of respondents on different components of training need (technical training, marketing training, social training and legal training).On technical training, more than have of the respondents (52.5%) agreed that their need training is very high training on pest and disease control, 45.0% agreed on compost making while 55.8% agreed that their need training is high on seeds selection, 46.7% on seeds treatment for their pre-nursery practices and 40.8% on compost application and 43.3% on weed control in the main nursery. Meanwhile, 40.8% of the respondents agreed that their training need is very high on compost application 50.0% on weeding in the farm establishment and management. For post-harvest handling and utilisation, 59.2% of respondents indicated that their need is very high training on storage methods and procedures, 48.3% on processing of fruits while 40.0% agreed that they need training moderately on cooking methods.

This result implies that a high proportion of the respondents in the study area need more technical training regarding pre-nursery practices, main field, farm establishment/management and also post-harvest handling/utilisation.

On marketing training of vegetable products, majority of the respondents (35.8%) agreed that their training need is very high on credit source, 48.3% agreed that their training need is moderate on market location. On social training, 45.0% of respondents agreed that their training need is moderate on cooperative society, 44.2% on agricultural programme and 40.8% on media listing groups. Legal training, 43.3% of the respondents agreed that their training need on land compensation procedure is high, and 48.3% agreed on land tenure status.

Table 5: Distribution of respondents on their training needs on OA

Types of Agricultural activities	Very high	High	Moderate	Low	None
Technical information					
(i) Pre- nursery					
Land preparation	19.2	25.8	33.3	16.7	5.0
Bed making	12.5	29.2	35.8	18.3	4.2
Selection of seeds	17.5	55.8	20.0	4.2	2.5
Treatment of seeds	28.3	46.7	28.4	3.3	1.7
Watering	14.2	22.5	40.0	9.2	14.2
Pest and diseases control	52.5	22.5	21.7	2.5	0.8
Compost preparation	45.0	30.0	17.5	6.7	0.8
(ii) Main nursery					
Bed preparation	13.3	38.3	24.2	20.0	4.2
Sowing of seeds	11.7	38.3	31.7	13.3	5.0
Weed control	20.8	43.3	27.5	6.7	1.7
Watering	14.2	25.0	38.3	5.0	17.5
Compost application	40.8	29.2	19.2	8.3	2.5
(iii) Farm establishment & mgt					
Ridge/bed preparation	18.3	30.8	28.3	15.0	7.5
Transplanting	25.0	33.3	26.7	12.5	2.5
Compost application	40.8	22.5	29.2	5.0	2.5

Weeding	10.0	50.0	33.3	2.5	4.2
Harvesting	23.3	39.2	27.5	5.8	4.2
(iv) Post harvest handling & utilisation					
Storage methods & procedures	59.2	24.2	13.3	2.5	0.8
Cooking methods	13.3	20.0	40.0	15.0	11.7
Processing of fruits	48.3	27.5	17.5	4.2	2.5
Timing of harvest	14.2	37.5	38.3	5.0	5.0
Marketing information					
Market location	14.2	25.8	48.3	8.3	3.3
Credit source	35.0	35.8	24.2	3.3	1.7
Current market price	18.3	39.2	33.3	7.5	1.7
Future market prices	15.0	37.5	37.5	6.7	3.3
Social information					
Cooperative society	11.7	33.3	45.0	7.5	2.5
Agric programme	12.5	36.7	44.2	4.2	2.5
Personnel education	15.8	37.5	39.2	4.2	3.3
Community self-help	29.2	30.0	35.0	3.3	2.5
Media listing groups	10.8	24.2	40.8	18.3	5.8
Legal information					
Settlement of land disputes	10.8	18.3	38.3	25.8	6.7
Land tenure status	9.2	25.0	48.3	10.8	6.7
Commercial insurance	15.0	35.8	30.8	13.3	5.0
Land compensation procedure	11.7	43.3	30.0	9.2	5.8
Procedure for loan collateral	36.7	35.0	18.3	4.2	5.8

Training needs

Moreover, Table 6 shows distribution of the respondents based on level of information and training needs. It shows that majority of the respondents (57.5%) had that low level of information need which implies that most of information need of the respondents were fulfilled meanwhile 59.2% have a high level of training need on organic agriculture. This result therefore indicates that the most expressed need by the farmers is training which is in line with what Oladele (2011) found out that there is the need for the government through extension agents to intensify training on processing of wastes into more utilisable forms so as to reduce health hazards associated with its usage and to enlighten farmers on its proper usage. This indicates that the respondents desire more training on principles of organic agriculture.

Table 6: Distribution of respondents on their level of information and training needs (n=120)

Variables	**Percentage**		**Total**
	High	**Low**	
Information need	42.5	57.5	100
Training need	59.2	40.8	100

Meanwhile, Table 7 reveals the relationship between respondents' selected personal characteristics and it shows that there was no significant relationship between marital status and their information need (χ^2 = 4.08; p = 0.23), also, no significant relationship between educational qualification and their information need (χ^2 = 3.94; p = 0.69). There was no significant relationship between marital status and their training need (χ^2 = 3.84; p = 0.43) and lastly no significant relationship between educational qualification and their training need (χ^2 = 1.77; p = 0.94). This implies that respondents' marital status and educational qualification have no effects on their information and training needs.

Table 7: Chi square analysis showing the relationship between selected farmers' characteristics and their needs assessment on organic agriculture

Variable	χ^2 value	df	P	Remark
Information need * Marital status	4.08	2	0.23	Not significant
Training need * Marital status	3.84	4	0.43	Not significant
Information need * Educational qualification	3.94	6	0.69	Not significant
Training need * Educational qualification	1.77	6	0.94	Not significant

*** Significant at p≤ 0.01**

Table 8 shows correlation analysis between selected respondents' characteristics and their needs on organic agriculture. It reveals that there were significant relationships between age and information need (r=0.05; p=0.57), as well as between family size and information need (r =0.11; p=0.25). Also, there were significant relationships between age and training need (r=0.23; p=0.01), as well as family size and training need (r =0.25; p=0.01).

Table 8: PPMC analysis showing the relationship between selected farmers' characteristics and their needs assessment on organic agriculture

Variable	r-value	p-value	Remark
Information need * Age	0.05	0.57	Not Significant
Training need* Age	0.23	0.01	Significant
Information need * Family size	0.11	0.25	Not significant
Training need* Family size	0.25	0.01	Significant

*** Significant at p≤ 0.01**

Table 9 reveals that there is a significant relationship between farmers' perception and their training need (r =0.34; p =0.00). This implies that the respondents perceived a high need towards further training on organic agricultural practices that either through governmental or non-governmental organisations to further improve their agricultural production. Meanwhile, there was no significant relationship between respondents' perception and their information need (r = 0.77 p=0.03). This indicates that respondents had unfavourable perception contributed to their low of information need.

Table 9: PPMC analysis showing the relationship between farmers' perception and their needs assessment on organic agriculture

Variable	*r* value	P	Remark
Information need *Perception	0.77	0.03	Not Significant
Training need*Perception	0.34	0.00	Significant

*** Significant at p≤ 0.01**

CONCLUSION AND RECOMMENDATION

Based on the empirical evidence from the study, it could be deduced that many of the women vegetable farmers are literates which could serve as a factor to facilitate the reception of information disseminated on principles and guidelines of organic agriculture. There was an unfavourable perception towards organic agriculture which may be due to the fact that they are risk aversive. There was high training need which implies that the respondents need more training on principles and guidelines of organic agriculture. Therefore, regular training plan should be developed for women vegetable farmers on latest principles and practices of organic agriculture in the study area.

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