

*Full Length Research Paper*

# Assessment of youth participation in indigenous farm practices of vegetable production in Oyo State, Nigeria

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The study investigated the youth participation in indigenous farm practices of vegetable production in Oyo State. The study specifically identified various indigenous farm practices that youth engage in and their level of participation. The study was conducted in four agricultural zones in the State namely Ibadan/Ibarapa, Oyo, Ogbomoso and Saki zones. Multistage sampling procedure was used to select respondents from the four zones. In all, a total of 200 youths were sampled in 10 communities. The findings revealed that the respondents mean age was  $28.6 \pm 3.8$  years with an average of 18.2 years of farming experience. The various indigenous practices used by youth in the study area include handpicking (88%), hawking (87%), land clearing/hoeing (86%), ridge making (68%), seasonal planting (81%), manure application (82%), use of ash (67%), wetting/irrigation (63%), harvesting (71%) and use of natural pesticides (52%). There exist positive and significant correlation between level of participation and years of formal schooling ( $r=0.429$ ;  $p<0.05$ ), compatibility ( $r=0.042$ ;  $p\leq 0.05$ ), cosmopolitaness ( $r=0.208$ ;  $p<0.05$ ), resources availability ( $r=0.191$ ;  $p<0.05$ ), openness ( $r=0.216$ ;  $p<0.05$ ) and users' friendliness ( $r=0.171$ ;  $p<0.05$ ). There also existed strong association between level of perception of youths towards organic farming practices for indigenous vegetables and sex ( $\chi^2=121.335$ ;  $p<0.05$ ), land acquisition ( $\chi^2=305.327$ ;  $p<0.05$ ) and marital status ( $\chi^2=275.514$ ;  $p<0.05$ ). The study concluded that youths had been going through a process of socialization right from their early age for the skill acquisitions in some indigenous farm practices that are part of farm operations in the study area. This could be further reinforced by formal education and farming experience in their latter age for a sustainable agricultural development.

**Key words:** Indigenous farming practices, youth and vegetable production.

## INTRODUCTION

There is a wide varieties of vegetable plants found in Africa which are mainly sources of food and medicine. The nutritional values of the edible portion of the vegetables have been reported to be rich in protein, carbohydrates, fibres, vitamins, minerals and oxidants. It is

also a recipe for children and adults suffering from anaemia (Eifediyi et al., 2008). Vegetable farmers used locally available materials which were renewable and available locally in their areas, such practices used include composting, crop rotation, mulching, fallowing,

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minimum tillage, selective seasonal planting, use of cover crops, use of ashes for pest control and soil fertility. This system has sustained the indigenous vegetable farmers in providing basic food needs and it is also a common practice that optimizes the meager resources for increased output. Siyanbola and Agboola (1996) and Bamigboye and Kuponiyi (2010) reported that, ever before the introduction of western technologies on the use of synthetic products by the African societies, farmers had their own body of knowledge in relation to their locality to modify, change and improve the existing production system in agriculture.

Traditionally, people relied on their indigenous knowledge of wild plants for food and medicine. The knowledge is gone, because the indigenous knowledge of farming practices including indigenous vegetable cultivation is with the older people who stand the chance of being lost due to aging, only few youths still have it. Efediyi et al. (2008) pointed out that the cultivation and use of vegetable is part of African cultural heritage and the play important role in tradition and food culture of the African household. It is indisputable that western technologies have either positive or negative impacts in ordering the development process of the African nations' economies. Although acknowledged for their novel ideas, the activities of the research and extension agencies have had significant impacts on the orientation of the Nigerian youth farmers in the adoption of technical innovation related to organic farming practices (Khumbane, 2001).

Despite of the numerous advantages that have been attributable to indigenously grown vegetable products, the rate of usage of these indigenous practices is still low (Aryal et al., 2009). This study specifically examined the participation of youth in some indigenous farm practices towards production of vegetables in Oyo State. Hence, the study assesses youth participation in indigenous farm practices of vegetable production in Oyo State, Nigeria.

### Objectives of the study

The specific objectives are to:

- (i) Describe the socio-economic characteristics of youths in the study area;
- (ii) Identify indigenous farm practices on vegetable production;
- (iii) Examine the innovation specific characteristics of indigenous farm practices;

### Hypotheses

There is not significant relationship between socio-economic characteristics of youth vegetable farmers and their level of participation in indigenous farm practices in vegetable production.

### METHODOLOGY

The study was carried out in four agricultural zones of Oyo State also known as Agricultural Development Programmes Zones. The four agricultural zones are Saki, Oyo, Ogbomoso and Ibadan/Ibarapa zones which consisting 8, 6, 5 and 14 Local government areas (LGAs)/Blocks respectively. One Local Government was proportionately selected from each of the zones and ten villages/ communities were purposively selected from the local governments based on the record available from FADAMA Office, while twenty youths practicing vegetable farming were selected within each selected community randomly. In all, a total of 200 respondents were selected for the study.

Two groups of data primary and secondary were used for this study. Primary data were collected from the survey of vegetable farmers using structured interview schedule in the villages selected for this study. The information collected in the survey was on youth vegetable farmers' socio-economic characteristics, indigenous farm practices on vegetable production and level of participation in indigenous farm practices. Qualitative data was also collected using Focus Group Discussions (FGDs). Descriptive statistical techniques such as frequency, percentages, mean and weighted mean scores were used to analyze the data collected. The relationship between the dependent variables and independent variables were determined by the use of correlation analysis and coefficient of determination. Chi-square and coefficient of contingency were used to determine the strength of association that exists between dependent and independent variables in the data.

### RESULTS AND DISCUSSION

Table 1 show that (65%) of the respondents were below 30 years. The mean age of youth vegetable farmers in Oyo State was  $28.6 \pm 3.8$  years. Most of these young people were actively involved in vegetable farming using indigenous farm practices especially during the dry seasons. This age could make them be in better position to have easy access to training and skill acquisition in indigenous farm practices in cultivation, processing activities and even marketing of the products. Also, Table 1 shows that majority of 70% of the youth vegetable growers were male. The result indicated that there were more males involved in indigenous farm practices on vegetable production than females in the study area. However, it was further revealed that 80% of the females were involved in processing, packaging and marketing of these vegetable products which are not so tedious when compared to growing of vegetable. Since most of the indigenous farm practices and management requires time and energy which females may not be able to effectively cope with because of other responsibilities mostly domestic activities.

Table 1 indicate that majority of (75.0%) spent between 6 to 12 years in school. The finding shows that majority were literate. Attendance of formal schools and high level of literate provide opportunity for enlightenment and exposure in various area of life which encourages understanding and adoption of an innovation among youth farmers. This high ability to read and write could be of help to high agricultural productivity. Furthermore, majority (80.0%) of the respondents were farmland

**Table 1.** Distribution of respondents according to socio-economic characteristics.

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age</b>		
≤30	130	65
>30	70	35
<b>Sex</b>		
Male	140	70
Female	60	30
<b>Religion</b>		
Islam	120	60
Christianity	76	38
Traditional	4	2
<b>Ethnicity</b>		
Yoruba	180	90
Others	20	10
<b>Years of schooling</b>		
1-6	150	75
7-12	40	20
Above 12	10	5
<b>Major occupation</b>		
Farming	120	60
Waged/Salaried work	60	30
Artisan	20	10
<b>Land acquisition</b>		
Farmland owner	160	80
Tenant	40	20
<b>Farm size (acre)</b>		
Below 2.6	140	70
Above 2.6	60	30
<b>Farming experience (Years)</b>		
≤10	120	60
10-20	60	30
21-30	20	10
<b>Income (annually)</b>		
≤ ₦100000	160	80
> ₦100000	40	20
<b>External orientation*</b>		
Never travelled	4	2
Outside their LGAs	120	60
Outside the state	60	30
Outside the country	16	8

Source: Field survey (2012).

**Table 2.** Distribution of respondents by indigenous farm practices identified.

<b>*Organic farming practices</b>	<b>Complete usage of frequency</b>	<b>Indigenous farm practices (%)</b>
Handpicking	176	88
Hawking	174	87
Hoeing	172	86
Composting/manure application	164	82
Selective seasonal planting	162	81
Harvesting methods	142	71
Use of ashes	134	67
Slashing using cutlasses	130	65
Traditional wetting/irrigation	126	63
Net selection of plant materials	120	60
Use of natural pesticides.	104	52

Source: Field survey (2012) \*Multiple responses.

owners. The high percentage of the respondents who were farmland owners had advantage of gaining access to land easily where they could practice indigenous farm practices at any seasons compare to those who were not farmland owners but rented the land for agricultural purposes. The implication show that there was limitation to the type of activities that farmer could be involved in as tenant. Table 1 reveals that majority of the respondents (70.0%) had a farm size of less than 2.6 acres (1 ha). The mean farm size of the respondents was 2 acres with Standard deviation of  $\pm 0.2$ . This finding will not be far from expectation since vegetable production does not require large farm size. The finding is in consonant with Adesoji (2002) who reported that majority (95%) of arable crop farmers in Osun State were small scale farmers. This is in support of Alimi (1999) that arable crop farmers cultivate small hectareage of less than 10 hectares.

Results in Table 1 reveals that majority of the respondents (60.0%) had been in farming business between 1 to 10 years, while some (40.0%) had above 10 years farming experience. The mean year of farming experience was 10 years, with standard deviation of  $\pm 0.5$ . It implies that majority of the respondents had been long in the indigenous farm practices on vegetables business, and this influences their accessibility to organic raw materials and more acquisition of knowledge in indigenous farm practices from parents and friends. Furthermore, Table 1 shows that income realizable by majority (80%) of respondents from their vegetable farm were less than ₦100,000 per annum on vegetables alone. The level of income from the vegetable by the farmers can influence their level of interest on some of indigenous farm practices in their respective vegetable farm. A farmer with high level of income can have high capacity of acquiring more farm inputs such as land, commercial organic fertilizers and others inputs that would be of assistance in boosting their production capacity and raises their standard of living.

Results further revealed that majority (98.0%) of the respondents travelled out of their village or areas. Among those respondents that travelled outside their locality had opportunity of been exposed to many innovations due to the exposure, which mostly influences them to experiment what they had seen or aware outside their community which invariably improves their level of indigenous farm practices.

### **Indigenous farm practices on vegetable production**

Table 2 revealed the various indigenous farm practices identified in the study areas. Of all the farming practices, handpicking (88%) was mostly used by the respondents. However, those that had been used traditionally before were modified such as methods of harvesting, manure application, land clearing /tillage methods and hand-picking for pest control. Farmers find it more convenient to use these practices since they were more culturally compatible with the existing indigenous practices, likewise resources availability of those practices. It was deduced that indigenous farm practices that were highly used based on the percentage ranking order were due to the degree of intensification of farming system, availability of farm inputs, easy accessibility to indigenous knowledge for the practices and economic reasons.

### **Reasons for usage of indigenous farm practices for vegetable production**

Table 4 show that among the reasons or benefit for usage of indigenous farm practices by the respondents, economic benefit in term of profitability had the highest percentage (77%) while resources availability for indigenous farm practices was the least (54.0%) among the

**Table 3.** Distribution of respondents according to reasons for participating indigenous farm practices.

Variable	Frequency	Percentage
Economic benefits	154	77
Ecological friendliness	152	76
Prefer for quality food(health)	144	72
Availability of resources	108	54
Easy to practice	100	50

Source: Field survey, 2012, \*Multiple responses.

**Table 4.** Distribution of respondents by characteristics of the indigenous farm practices.

*Variables	Frequency	Percentage
Users' friendliness	198	99
Compatibility	194	97
Openness	182	91
Cost profitability	176	88
Ecological friendliness	156	78
Durability	56	28
Complexity	40	20

\*Multiple responses, Source: Field survey, 2012.

benefits rated by the respondents which were their reasons towards use of indigenous farm practices. Majority of the farmers in rural areas still attached significant important to most of these vegetables particularly the vegetables that were grown using indigenous farm practices or naturally which devoid of agro chemicals, which were of high quality in terms of taste and medicinal potency.

### **Innovation specific characteristics of indigenous farm practices**

#### ***User's friendliness***

From the results in Table 3, it was shown that among the innovation specific characteristics of the indigenous farm practices, user's friendliness in terms of preserving environment and people that live in it was rated most (99.0%) by the respondents. Indigenous farm practices encourages harmony co-existence between environment and organisms that live on it through various organic farming. As a result of these characteristics, indigenous farm practices for vegetable production stands a better chance in terms of usage.

#### ***Compatibility***

Table 3 shows that compatibility of farming innovation to the existing traditional system of farming was rated high

(97.0%). This indicated that farming innovation was compatible with the old system of farming with some little modification. This show that many of the respondents would be interested to accept the new development in indigenous farming since the practices of their indigenous system in vegetable production was in line with the existing farming system. They would not perceive it as completely new technology or ideas. The modification would be accepted without fear.

#### ***Openness***

Table 3 shows that most (91.0%) of the respondents agreed that indigenous farm practices were more opened to the respondents in terms of discussion about the management practices without restricting any age or sex. This would motivate youth to accept it more since there were no secrecy as regards to its mode of operation or practices.

#### ***Cost profitability***

Table 3 shows that more of the respondents (88.0%) agreed that indigenous farming was more profitable and less costly to practice. It could be inferred from the study that indigenous farm practices was more profitable which shows that more youth farmers would ought to be more interested in the use of indigenous farm practices

**Table 5.** Constraints associated with indigenous farm practices.

Constraint	Frequency	Percentage
Inadequate training	154	78
Time consuming	148	74
Irritating odour	130	65
Labour intensive	110	55
Bulkiness	104	52

**Table 6.** Result of correlation analysis of the relationship between youth participation in indigenous farm practices in vegetable production and socio-economic characteristics of respondents.

Variables	r	r <sup>2</sup>	P-value
Age	- 0.042*	0.002	0.050
Farm size	0.177**	0.031	0.005
Income on vegetables	0.151*	0.023	0.017
Number membership of associations	0.266*	0.071	0.026
Sources of organic farming knowledge	0.150*	0.023	0.018
Cosmopolitaness	0.208**	0.043	0.001

\*\* Significant at  $p \leq 0.01$ , \* Significant at  $p \leq 0.05$ , **Source:** Field survey, 2012.

completely. Also majority (78.0%) of the respondents perceived that indigenous farm practices were at better advantage compare to conventional farming for vegetable production.

### **Ecological friendliness**

Table 3 shows that many of the respondents (78.0%) indicated that indigenous farm practices were not hazardous to the environments and other living organisms living in it. The system also reduces pollution and allows the inhabitants to live in harmonious environment compare to conventional agricultural system and also stand at better advantage in term of longer period of soil fertility and preservative of natural ecosystem.

### **Complexity**

Table 3 shows that only sizeable percentage (80.0%) of the respondents indicated that the indigenous farm practices were easy to learn and understand. It does not require too much expertise for execution. This implies that the degree of simplicity of most of these indigenous farm practices make it possible for most of the respondents to learn it from their forefathers and still be able to retain it till today.

### **Constraints associated with indigenous farm practices**

Table 5 shows that inadequate inputs and were highly

rated (78.0%) among the constraints associated with the use of indigenous farm practices by youths. This was followed by time consuming (74.0%). Above average of the respondents (65%) consider nauseating and irritating odour of some organic inputs especially compost as constraint, while some (55%) of the respondents supported that organic farming practices are labour intensive. The finding is in line with Adesoji and Farinde (2006) and Ajala et al. (2012) studies in Osun State, inability to afford the price of some vital inputs, untimely supply of credit facilities and inadequate infrastructural facilities discourage production and hamper productivity of such farmers. The result shows that if adequate inputs and training were provided for the respondents, the rate of usage would rise appreciably among the young vegetable farmers since other constraints such as time consuming and bulkiness could still be tolerated in the course of continuous practicing of these indigenous farm practices for vegetables.

### **Hypotheses testing**

In Table 6 there is significant relationship between socio-economic characteristics of youth vegetable farmers such as age ( $r=-0.042$ ;  $p \leq 0.05$ ), farm size ( $r=0.177$ ;  $p \leq 0.01$ ), income level ( $r=0.151$ ;  $p \leq 0.05$ ), external orientation ( $r=0.043$ ;  $p \leq 0.01$ ), and the participation level of youth towards indigenous farm practices in vegetable production. Furthermore, results in Table 7 shows that there exist significant association between selected socio-economic characteristics such as sex ( $\chi^2=121.335$ ;  $p \leq 0.01$ ), religion ( $\chi^2=99.370$ ;  $p \leq 0.01$ ), marital status ( $\chi^2=277.514$ ;  $p \leq 0.01$ )

**Table 7.** Chi-square ( $\chi^2$ ) analysis showing association between youth participation in indigenous farm practices and selected socio-economic variables of respondents.

Socio-economic variables	$\chi^2$	C	P-value
Sex	121.335**	0.572	0.000
Marital status	277.514**	0.725	0.000
Religion	99.370**	0.533	0.006
Sources of labour	288.222	0.691	0.963

\*\*Significant at  $\leq 0.01$ , \*Significant at  $\leq 0.05$ , Source: Field survey, 2012.

and the level of participation of youth towards indigenous farm practices in vegetable production. The contingency coefficient revealed strong association with religion ( $c=0.533$ ;  $p \leq 0.01$ ), sex ( $c=0.572$ ;  $p \leq 0.01$ ), and level of participation of youth towards indigenous farm practices in vegetable production. According to Kerlinger (1986) contingency value (C) of 0.28 was described as moderate relationship or association while greater values were described as higher association. This indicates that sex, religion and marital status had higher association with level of participation of youth towards indigenous farm practices in vegetable production in the study area.

## Conclusion

Conclusively, respondents were still in their productive age, young and mainly depend on their family as the main source of labour to carry out pre and post planting operations using various indigenous farm practices to produce various kinds of vegetables for nutritional value, balance diet of food intake and for medicinal purposes. Most of the skills were acquire through their parents. They realizes low income due to small scale production as a result of challenges encountered in the course of production which placed the youth farmers at low poverty level which need to be upgraded if they are to continue with such indigenous farm practice in future. Since there were significant correlations between level of participation of youth towards indigenous farm practices in vegetable production and the following variables; educational level, household size, farm size, farming experience, income, membership of association, openness, visibility, resources availability, knowledge transferability and community belief system of these indigenous farm practices were also significantly related with the level of participation of youth in indigenous farm practices.

Finally, for indigenous farm system to be sustainable tools in retaining food quality, reducing poverty and improve food security there must be a need to motivate these youths towards agriculture.

## RECOMMENDATIONS

(1) There is need to strengthen the right of youth in

promoting indigenous farm practices and encourage the exchange of knowledge among resource –poor young farmers producing vegetable products. This can accelerate and help to develop local skills, providing foundation for improving access to food through local markets and enhancing food security for non-farming community as well.

(2) Researchers should continue to explore the role of indigenous produced organic food in promoting human health and safety and make use of new holistic research methods that will encompass cultural practices in organic food production.

(3) There is need to protect farmers' right to seeds, to conserve biodiversity and to enhance local ecosystem which protects indigenous varieties and local food products.

## Conflict of Interest

The authors have not declared any conflict of interest.

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