

**GENDER ANALYSIS OF CONSTRAINTS TO VEGETABLE PRODUCTION IN ONDO STATE,
NIGERIA**

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ABSTRACT

Vegetable cultivation has become a highly commercialised enterprise, but with a wide gap between current production and potential production. The study therefore assessed the constraints facing vegetable production on gender basis. The study was conducted in the two Ondo State's ADP agro-ecological zones. A two-stage sampling technique was used as a framework for selecting the respondents. The first stage involved a random selection of ten ADP's villages from each of the agro-ecological zones while the second stage involved a random selection of six ADP vegetable farmers from each of the selected villages making a total of one hundred and twenty respondents for the study. However, one hundred and seventeen interviewed schedules were suitable for analysis. The findings revealed that majority of the vegetable farmers were found in age group of 30-60 years with a mean age of 46.87 and the mean household size was found to be 6.38 persons per house with low farm size of between 0.25 to 0.50 hectare. Men and women vegetable farmers in Ondo State faced same constraints such non-availability of land, inadequacy of inputs, lack of extension contact, transportation, storage, high cost of input etc but at different degrees. The study concludes that the variations in degrees of constraints between men and women vegetable farmers in Ondo State are due to the differences in roles and responsibilities of each gender along the vegetable production chain. The study therefore recommends that there is a need for gender integration into programme that could enhance the production of vegetables and thus increase the farmers' income and the general standard of living.

Keywords: Constraints, vegetable production, gender.

INTRODUCTION

Vegetable have come to be the most important crop grown by farmers in recent time. It serves as a source of livelihood to many farmers as more and more people are buying carrots, tomatoes and other green vegetables (Roger and Ingawa, 2003). Vegetable forms a most valuable part of our diet and are used to increase the quality of our soup. They play an important role in maintaining general good health owing to the presence of mineral elements and vitamins. Also they are ideal substitute of valuable proteins for those that cannot afford animal protein due to its relatively high price (Aladetoyin, 2001).

Vegetables make a major portion of human diet. Though the vegetable requirement is 300g/day/person, we are able to meet about 1/9th of the requirement only. However, proper gender integration plan in the field of vegetable production will not only improve the nutritional requirement

for masses but can also meet the challenge of adequate food supply to the growing population in Nigeria. Vegetable production forms a substantial percentage (about 25%) of the major food crops cultivated in the tropics and so it is the source of livelihood for a considerable section of the population (Kra and Bani, 1988). In spite of its importance in the diet, per capita consumption of vegetables and fruits in the developing world is only 100g compared with 220g in the more advanced countries (Messian, 1992; Aliber and Hart, 2010).

Vegetables are widely cultivated by both small and large scale farmers. They can give high yield per unit area of land and hence generate high income for the farmers (Mohammed, 2002). Due to the importance of vegetables, different categories of people are engaged in its cultivation. Samantaray *et al* (2009) reported that the most important aspect of vegetable cultivation is that it absorbs woman

labour to a greater extent compared to other crops. It is not out of place to mention that in many cases, housewives entirely manage the vegetable production system up to harvesting and marketing. Adebisi *et al* (2011) opined that Studies done in many cities in Africa, particularly in Nigeria indicate that majority of urban vegetable farmers are females. This has been attributed to the fact that women continue to bear primary responsibility for household sustenance and well-being (Okunlola, 2009), or because of their lower educational status than men, thus, having fewer opportunities of finding suitable wage employment in the formal sector (Obosu-Mensah, 1999).

Vegetable production is done mainly during the rainy (major cropping) season in Southwestern Nigeria. During this season, vegetables are easy to grow as water is available and farmers can avoid the cost of irrigation (Olasantan, 1996). Vegetable production is one of the most important enterprises of food production systems in Nigeria because vegetables are an important component of human diet and they can be easily cultivated on small areas. Whereas, the Food and Agricultural Organisation of the United Nations (FAO) and the World Health Organisation (WHO) recommended a daily vegetable intake of 200g per person, the Nigerian National average is below this value (Kintomo *et al.*, 1997). This inadequate intake of fresh vegetables may further be worsened during the dry season when moisture scarcity limits the area under cultivation and quantity of vegetables that can be grown and supplied to the urban areas. On the other hand, a previous study by Kintomo *et al.* (1997) in Ibadan indicated that it was more profitable to grow vegetables during the dry season when water is made available. Growing vegetables during this period also lead to higher quality products because of low disease pressures compared to vegetables grown under rain fed

conditions. In that study however, 81% of farmers rated water management and/or poor drainage system as the most important abiotic constraint limiting vegetable production.

Ibrahim (2010) shown that about 98% of the world's tropical vegetable production during the last decade (2000 - 2010) was from the developing countries. Nigeria accounted for about 20% of the statistics from Africa. Despite the considerable constraints and challenges, statistics ranked Nigeria 4th in citrus production (1.2 million MT), 11th for plantains (0.5 million MT), 3rd and 6th for guava and mangoes, and papaya, respectively. In world production statistics for vegetables, the ranking was 2nd, 4th, 7th and 15th for pepper, dry onions, fresh vegetables (leafy) (1.8 million MT) and okra (0.3 million MT) respectively. Adewunmi and Omotesho (2002) stated that age of farmers is one of the determining factors of productivity.

Agboola (2001) stated that availability of credit source, high cost of inputs, irregular fuel supply, irregularity in water pump operation and frequent breakdown of water pump were identified as constraints facing vegetable farmers in Remo local government are of Ogun State. In the same vein, Adebisi *et al* (2001) opined that credit facilities and inputs were the major challenges of vegetable farmers in Oyo State, Nigeria. Sabo and Dia (2009) were of the opinion that Vegetable production in Nigeria is characterized by the use of crude implements, non availability of inputs, illiteracy, expensive and complex technologies. Tsoho and Salu (2012) stated that vegetable farming is highly profitable if it is done with other crops. However, the study grouped constraints facing vegetable farmers into social, organisational, transfer of technologies, and economic constraints. It is noteworthy that about 65 % of the peasant farmers who are involved in horticultural crops production, especially vegetables, are women

(Adebisi *et al.*, 2001). Zibrilla and Salifu (2004) mentioned land accessibility as the major constraint for women farmers in Ghana. The study stated that women do not have a right to hold land except through male relatives. Studies conducted in Nigeria indicated that there are gender differences in vegetable production but little research has been carried out to know the extent of gender involvement in relation to the constraints facing them so as to know how these can be tackled. The study therefore aimed to analyse the constraints facing the vegetable farmers in the study area on a gender basis. Specifically, the study assess farmers' perception of vegetable production constraints in Ondo State, Nigeria.

METHODOLOGY

The study area

The study was conducted in Ondo State of Nigeria. The state was carved out of the old Oyo state on the 3rd February, 1976 with the capital in Akure. The state covers an area of approximately 15,500 square kilometres and it is bounded in the south by the Bight of Benin and Atlantic Ocean; north by Ekiti and Kogi States; east by Edo and Delta States and west by Osun and Ogun states. The state lies between longitude 5°45' and 7°52' on the North – South Pole, and longitude 4°20' and 6°5' on the East – West Pole. According to analytical report of the National Population Commission (NPC) (2006), Ondo State has 3,441,024 million people with eighteen (18) Local Government Areas.

The tropical climate of the state is broadly of two seasons: rainy season (April-October) and dry

season (November – March). A temperature throughout the year ranges between 21^oc to 29^oc and humidity is relatively high. The annual rainfall varies from 2,000mm in the southern areas to 1,150mm in the northern areas. The soils derived from the Basement complex rocks are mostly well drained, with a medium to fine texture. The state enjoys luxuriant vegetation with high forest zone (rain forest) in the south and sub-savannah forest in the northern fringe.

The indigenes of the state belong to the Yoruba ethnic group and are composed of the Akokos, the Ondos, the Ikales/Ilajes and the Apoi/Ijaw Arogbos. However, non – indigenes from every part of the country and outside reside in the state. Yoruba and English are the languages of the people for official and business transactions. The State is basically agrarian with large scale production of cocoa, palm produce, rubber and vegetables which are grown all year round. Other crops like maize, yam and cassava are produced in large quantities. Sixty-five percent of the state labour force is in the agriculture sub-sector (Coastal news, 2012). The state is also blessed with very rich forest resources where some of the most exotic timber in Nigeria abounds. Ondo State is equally blessed with extensive deposits of crude oil, bitumen, glass sand, kaolin, granites and limestone. Therefore, the state has great potentials for rapid industrial growth in view of its raw materials base. Reasonable segment of the populace are also traders and artisans. Other occupations of the people include weaving, mat – making, dying, soap making, wood carving, among many others. The state lies entirely within the tropics of 162mm per annum.

Sampling procedure and data

The target population for this study was the vegetable farmers in Ondo State. The state is

divided into two main agro-ecological zones by the state Agricultural Development Programme (ADP) in consonance with ecological characteristics,

cultural practices and project's policy and administrative convenience. These zones are the Ondo and Owo zones with a central headquarters in the state capital. Since vegetable is produced in virtually all the areas of the state and in order to have a representative sample in achieving the stated objectives, the sampling procedure covered the two zones equally and efforts were made to get equal number of male and female respondents for unbiased gender analysis. Accordingly, a two-stage sampling procedure was employed in selecting the sample for this study. The first stage involved the random selection of ten villages in each of the agricultural zone of the state using the existing (ADP) village listing. The second stage was the random selection of 6 vegetable farmers in each of the selected village. Accordingly, a sample of one hundred and twenty was collected and subsequently analyzed for the study. However, for lack of complete information, only one hundred and seventeen questionnaires were found suitable for analysis. Data were collected with the use of structured interview schedule and questionnaires.

Analytical technique

Data collected were analyzed using descriptive and inferential statistics. The descriptive statistics employed were frequency counts, percentages, mean, standard deviation and bar charts while the inferential statistics were correlation analysis. Data were analysed with the aid of Statistical Package for Social Sciences (SPSS) version 14.0 and CoStat analytical software.

RESULTS AND DISCUSSION

Table 1 shows the age distribution of the respondents in the study area. The age of the farmer according to Adewumi and Omotesho (2002) is expected to affect his productivity and output. Majority (93.2%) of the farmers were in their active ages of 30-60 years. The mean age of the respondents was 46.87 years and standard deviation

of 9.74 years. This agrees with findings of Adewunmi and Omotesho (2002). This might have implication for available family labour force. Given the active nature of the sample, there might be an increased in the effective labour force for vegetable production in the study area. It was observed during the field work that 55.6 percent of respondents sampled in the study area were female while 44.4 percent were male. This may be due to general belief of the people that vegetable production is female work than male. This finding is in accordance with Adebisi *et al.*, (2001).

The study revealed that more than 80 percent of the respondents were married, while the remaining were either single or widow(er), separated and divorced. The mean household size was 6.38 with the standard deviation of 1.91. About 57.3 percent of the respondents had family sizes of between 9-12 persons per family. This high household size could be as a result of the polygamous nature of typical farming communities in Nigeria. This study also revealed that respondents in the study area were at different categories of educational levels with 41.9 percent having primary school education and 12.8 percent with post secondary school education. This findings show that more than one third of the respondents had primary school education.

It was also observed that about 55.6 percent of respondents sampled had their primary occupation as farming while 44.4 percent of the respondents involved in vegetable farming as additional income generating means of livelihood. Their primary occupation ranged from civil service, teaching to artisans such as tailoring, furniture making, bricklaying and trading.

Farmers experience is expected to have a considerable effect on farmer's productive efficiency. The farmer's years of experience range from 3 to 57. The average farming experience of

the farmers is 22.41 years. About 80% of the respondents have more than 10 years of experience in farming. Less than 20% of the respondents have less than ten years farming experience. The analysis of the land further revealed that farm size ranged from 0.13 to 1.10 ha with a mean of 0.44ha.

Table 1: Distribution of selected socio-economic characteristics of respondents

Variable	Frequency	Percentage
Age		
<30	4	3.4
30-40	30	25.6
41-50	48	41.1 \bar{X} =46.87
51-60	31	26.5 sd=9.74
61years and above	4	3.4
Sex		
Male	52	44.4
Female	65	55.6
Marital status		
Single	5	4.3
Married	97	82.9
Widow/widower	12	10.3
Divorced/separated	3	2.6
Household size		
<4	20	17.1
4-8	14	11.9 \bar{X} =6.38
9-12	67	57.3 sd=1.91
12 and above	16	13.7

Table 2: Distribution of selected socio-economic characteristics

Variable	Frequency	Percentage
Level of education		
No formal education	19	16.2
Primary education	49	41.9
Secondary education	34	29.1
Post secondary education	15	12.8
Primary occupation		
Farming	65	55.6
Non farming	52	44.4
Farming experience (years)		

Table 3: Perceived constraints of the vegetable farmers

Variable Constraints	Male n=52		Female, n=65	
	Frequency	Percentage	Frequency	Percentage
Non-availability of land	6	11.5*	63	96.9
Non-availability of credits	13	25.0	59	90.7
Inadequate supply of inputs	42	80.8	46	70.8
Low produce price	21	40.4	53	81.5
High cost of inputs	8	92.5	57	87.7
Lack of extension contact	46	88.5	51	78.5
Problem of water	39	75.0	47	72.3
Pest and diseases	19	36.5	23	35.4

1-10	20	17.1
11-20	25	21.4
21-30	43	36.8
31-40	17	14.5
41 years and above	12	10.2
Farm size (ha)		
<0.25	28	23.9
0.25-0.50	41	35.1
0.51-0.75	15	12.8
>0.76	33	28.2

Source: Field survey, 2012.

Constraints to vegetable production in Ondo State

The constraints facing vegetable production in the study area as perceived by the farmers were presented in Table 3. The results show that only 6 of the male respondents (11.5%) and 63 (96.9%) of female have identified non-availability of land as a constraint to their vegetable production. About 25 percent of male identified non-availability of credit as a constraint while 96.7 percent of female respondents gave non availability of credit as a constraints. In the same vein, 92.3 percent of male respondents and only 87.7 percent of female respondents respectively indicated high cost of inputs as a constraint confronting vegetable farmers in Ondo State. For effective vegetable production, provision of credit should be critically considered as this would enables farmers to acquire basic inputs that would enhance the efficiency of vegetable production. Also, high proportions (78.5%) of female farmers identified transportation while 90.4 percent of male indicated that marketing was a major constraint among male farmers in the study area.

Transportation	8	15.4	51	78.5
Storage	50	96.2	49	75.4
Marketing	47	90.4	15	23.1

Source: Field survey, 2012

*Multiple responses

Farmers’ perceptions of production constraints

A list of eleven constraints to vegetable production were highlighted. Unavailability of land was rated as high by only (3.8%) of the male respondents while about (96.9%) of the female respondents perceived availability of land as a constraint. Few (7.7%) of male respondents perceived transportation constraint as high while about (93.8%) of the female respondents perceived this as high. Also, just about 7.7 percent of the female respondents perceived marketing as high. In the same vein, 80.8 percent of the male respondents perceived storage constraint as high while about

69.2 percent of the female respondents perceived it as high. However, extension contact as a constraint was perceived high by both male and female respondents as shown in Table 4. The above analyses indicated that gender differences exist between male and female vegetable farmers in Ondo State in respect to their perception of constraints facing vegetable production. This could be due to the variation in roles and responsibilities between men and women within a society. This could invariably affect how they perceive constraints facing them in vegetable production.

Table 4: Perception of constraints in vegetable production

Variable	Male			Female		
	H	M	L	H	M	L
No availability of credit	6(11.5)	13(25.0)	33(63.5)	43(66.2)	22(33.8)	---
Inadequate supply of inputs	17(32.7)	31(59.6)	4(7.7)	51(78.5)	14(21.5)	---
Unavailability of land	2(3.8)	11(21.2)	39(75.0)	63(96.9)	2(3.1)	---
Low produce prices	38(73.1)	10(19.2)	4(7.7)	3(4.6)	49(75.4)	13(20.0)
High cost of inputs	21(40.40)	29(55.80)	2(3.8)	18(27.7)	7(10.8)	40(61.5)
Lack of extension contact	43(82.7)	9(17.3)	----	51(78.5)	13(20.0)	1(1.5)
Problem of water	23(44.3)	27(51.9)	2(3.8)	60(92.3)	5(7.7)	-----
Pest and diseases	14(26.9)	11(21.2)	27(51.9)	21(32.3)	5(7.7)	39(60.0)
Transportation	4(7.7)	10(19.2)	38(72.2)	61(93.8)	4(6.2)	-----
Storage	42(80.0)	10(19.2)	-	45(69.2)	17(26.2)	3(4.6)

Source: Field survey, 2012

Figures in parentheses represent the percentage.

Table 5 show the results of correlation between the constraints facing male and female vegetable farmers in the study area. The analysis shows that there were positive relationship between gender and constraints in vegetable production in non-availability of land (0.296), high cost of inputs (0.239), transportation (0.213) and marketing (0.210) at 0.01 level of significance while low price produce (0.206) was significant at 0.05 level of significance. More, non-availability of credit was negatively significant at 0.05 level of significance. This shows that men and women vegetable producers in Ondo State are facing same constraints but at different degree. The reason for

this might have be that women have in many cases less access to land, resources and capital. This is in accordance with Zibrilla and Salifu (2004). The differences that existed in the transportation constraint facing men and female vegetable producers in the study area might be due to the fact that most male producers had higher means of transporting their produce through the use of motorcycles and bicycles to the market sites, whereas, women depend on head-carriage to get the produce down to where it is being sold. In the same way, women could have higher knowledge of storing vegetable through the various ways of processing it than men.

Table 5: Summary of linear correlation analysis between gender and constraints in vegetable production n= 117

Variables	Correlation r	Co-efficient determination r ²	Decision
Non availability of credit	-0.180	0.032*	S
Inadequate supply of inputs	0.024	0.001	NS
Non availability of land	0.296	0.088**	S
Low price produce	0.206	0.042*	S
High cost of inputs	0.239	0.057**	S
Lack of extension contact	0.635	0.403	SN
Problem of water	0.438	0.192	SN
Pest and diseases	0.391	0.153	SN
Transportation	0.213	0.045**	S
Storage	0.130	0.017**	S
Marketing	0.210	0.044**	S

Number of independent variable = 011

Number of respondents = 117

Level of significance = 0.01 and 0.05 (P<0.01 and P<0.05)

** = correlation is significant at the 0.01 level (2-tailed)

Source: Field survey, 2012

CONCLUSION

It is evident from the study that the major constraints to vegetable production were non availability of land, unavailability of credit, low produce price, inadequate supply of inputs, high cost of inputs, lack of extension contact, transportation, storage and marketing. The study confirmed that the degree to which these affect male and female vegetable farmers varied due to the differences in roles and responsibilities of each gender along the vegetable production chain. Thus there is a need to understand the degree of differences in the constraints facing men and women vegetable farmers in Ondo State in order to enhance the production of vegetables which serve as an important means of creating livelihoods for most farmers in the study area. Understanding the constraints facing each gender in vegetable production will also assist in resources distribution among the farmers. This will enhance more vegetable production and thus improve the nutritional status of the family as well as a great increase in income of the producers.

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