

## Women Farmers' Contributions to Maize Production in Afijio Local Government of Oyo State

\*Badmus, A. I<sup>1</sup>., Oyelere, G. O<sup>1</sup>., Aremu, A. O<sup>2</sup>., Orija, S. J<sup>1</sup>. and Atigbi, T. O<sup>2</sup>.

<sup>1</sup>Oyo State College of Agriculture and Technology, Igboora

<sup>2</sup>Agricultural and Rural Management Training Institute, Ilorin, Kwara State

\*Corresponding e-mail address: bbadmus81@gmail.com

### Abstract

The study investigated the contributions of women farmers to maize production in Afijio Local Government area, Oyo state. Multi-stage sampling technique was used to select 128 women farmers as sample size for the study. Data collected through interview schedule were analysed using frequency counts, percentages and mean while Pearson Product Moment Correlation and Chi-square were used to test the relationships that exist between selected socioeconomic characteristics and contributions of women farmers to maize production. Results revealed the mean age of respondents was 45years, 83.5% of respondents were married and 41.4% of the respondents had no formal education. High percentage of the respondents (82.5%) engaged in farming for both commercial and subsistence purposes, and activities such as, planting, fertilizer application, harvesting, processing, storage and marketing were performed by women farmers whereas ridging, land clearing and weeding were considered laborious and were usually contracted to hired labour. The results of Pearson Product Moment Correlation analysis showed that age ( $r = 0.950, P < 0.05$ ), farm size ( $r = 0.174, P < 0.05$ ), household size ( $r = 0.354, P < 0.05$ ) while the results of Chi-square analysis revealed that educational status ( $\chi^2 = 36.864, P < 0.05$ ), marital status ( $\chi^2 = 19.615, P < 0.05$ ) have significant association with contributions of women farmers to maize production in the study area. Hence, the study recommended that female education (through adult literacy) be intensified, young women be encouraged to be more involved in maize production, women should form themselves into group to learn techniques of trapping farm pests and in time of surplus, women maize farmers should form supply cooperatives to transport their produce to areas where it commands higher prices.

**Keywords: Contributions, Maize Production, Women Farmers**

### Introduction

Maize (zea mays) is a staple crop for majority of people in Africa, Asia and Latin America (Okoruwa, 1998). It is an important cereal crop being cultivated in various ecological zones in Nigeria. Maize plays important role in the diet and economy of people especially in Nigeria as evident through the various local names given to it across the regions of the country – ‘agbado’ by the Yoruba of south-western Nigeria, ‘nassara’ by

Hausa of northern Nigeria and ‘ogbado’ by the Igbo of south-eastern Nigeria. Tanko and Opara (2010) observed that in Nigeria, maize can be eaten boiled, roasted, prepared into porridge and processed into flour and used as feed for livestock. Maize is also a multipurpose crop because every parts of its plant have economic value. The grains, leaves, stalk; tassel and cob can all be used to produce a large variety of food and non-food products (IITA, 2001). Throughout Nigeria, men and

women often have complementary roles in maize production and in some regions in the country; women have distinctly different tasks and responsibilities in maize production. Findings have confirmed that women make up to 60-80 percent of agricultural labour force in Nigeria and produce two-third of the crops (Oyetoro and Okunade, 2001). Contribution of women in agriculture and food security in many developing countries continue to have poor attention over a range of productive resources, including education, land, information, and financial resources (Odame *et al.* 2002; World Bank 2001; Welch *et al.* 2000) as men have reportedly continued to dominate farm decision making, even in areas where women are the larger providers of farm labour. This indicated that women have been relegated to the background despite their unquantifiable efforts in agricultural production. In recent time however, women have been noted to take prominent roles in farm production. Despite their noble contributions however, Fabiyi *et al.* (2007) noted that women farmers' contributions continue to be undervalued in conventional agricultural and economic analyses and policies. Tijani and Yano, (2007); Damisa *et al.* (2007) expressed the importance of women and their contributions in all categories of farm operations. While many past studies succeeded in reporting differences in farm productivity levels of men and women farmers, only few of the studies actually attempted an evaluation of the particular contributions of women farmers to maize production. This paper therefore evaluated the contributions of women farmers to maize production in Afijio Local Government Area, Oyo state. Specifically, the study described the socio-economic characteristics of women farmers in the study area, identified farm resources available to respondents, determined the contributions of the respondents in terms of activities performed in maize production, and identified constraints faced by the respondents in contributing to maize production in the study area.

Based on the objectives of the study, the following hypothesis was stated in the null form – there is no significant relationship between selected socio-economic characteristics of women farmers and level of contributions to maize production in the study area.

### **Methodology**

The study was carried out in Afijio local government area of Oyo state. The local government area occupies a land area of about 800 square kilometres with an estimated population of 152,193 (NPC, 2006). The local government shares boundary with Akinyele local government in the south, Oyo east local government in the north, Iseyin local government in the west, while it shares common boundary with Ejigbo and Iwo local governments of Osun State in the east respectively. The indigenes of Afijio are mostly farmers and the area is blessed with vast agricultural produce such as maize, yam, cassava, groundnut, fruits, cocoa, oil palm, kola nut and coffee. The target population for the study were all women farmers who cultivate maize. Multistage sampling procedure was used to select 128 women maize farmers as sample size. Stage 1 involved purposive selection of two (2) functional cells in Afijio block as those were the only cells having extension agents in the block. Stage 2: 50% of the group in each of the chosen cells were randomly selected culminating into eight (8) groups that were sampled. In the third stage: sixteen (16) women farmers were purposively selected in each group because women were few in each group, as on the average sixteen (16) women farmers were on the farmers' register in each of the group. This gives a total of 128 sampled women farmers as sample size. The needed information was elicited from the respondents using structured interview schedule. Data collected were subjected to both descriptive and inferential statistics. Descriptive statistics such as frequency counts, means and percentages were

used. However, chi-square was used to test the relationship that exists between the variables.

### **Results and Discussion**

Table 1 shows the distribution of respondents according to socioeconomic characteristics. The result shows that 34.4% of the respondents fell within age range of 41-50 years, while 28.13% were between 51 and 60 years and 21.1% were between 31 and 40 years. Also, 11.7% had their age below 30years. However, only few (4.7%) had their age above 60years. The mean age of the women farmers in the study area was 45years. This implies that women in the study area were in their active years, agile and vibrant to engage in farming activities. Table 1 further revealed that majority (83.5%) of respondents were married. This shows that majority of the women farmers still have household responsibilities to undertake apart from farming activities. More than half (57.8%) of the respondents practised Islam while 37.5 percent of the respondents practised Christianity and others (5.5%) are of traditional religion. This is in agreement with Adegeye (2006) that the predominant religions of Afijio are Islam and Christianity. Educational status of respondents revealed that 41.4% of the respondents had no formal education while 24.2% completed their tertiary education and 3.9% had their primary education completed among others. This

indicates that high rate of illiteracy was prevalent in the study area and this may probably affect their contributions to maize production in the study area. This finding is in agreement with FAO (1994) that rural women suffer from the highest illiteracy and poverty rates. From the same table 1, it was revealed that majority (65.6%) had household size of 4 – 6 members while 16.4% had household size of between 1 and 3, and 15.6% had household size of 7 – 9 members and those that have more than 09 household members constituted 2.4%. The mean household size was 5. This implies that respondents in the study area had relatively large household size who are likely to be involved in production activities related to maize production. The total farm size of respondents in the study area revealed that half (50.8%) of the respondents have access to farm size of between 1 and 5 hectares while 39.8% had farm size between 6 and 10 hectares, and 9.4% of the respondents had more than 11 hectares of land available to them for maize production. The mean farm size was 6 hectares. This reveals that women farmers had access to fairly large farm size; this finding contradict FAO (1994) that women had limited access to farm resources especially land. This may imply that the cultural shackles of inheritance are breaking and women are now regarded as entities who can own and even inherit properties and farmland of their parents and husbands.

**Table 1: Distribution of respondents according to socioeconomic characteristics (n=128)**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age (in years):</b> d"30		15
31 – 40	27	21.1
41 – 50	44	34.4
51 – 60	36	28.1
61 and above	6	4.7
	<b>Mean=45 years</b>	
<b>Marital Status:</b> Single	7	5.5
Married	107	83.5
Divorced	7	5.5
Widowed	7	5.5
<b>Religion:</b> Islam	7	57.0
Christianity	48	37.5
Traditional	7	5.5
<b>Education:</b> No formal education	53	41.4
Primary school attempted	7	5.5
Primary school completed	5	3.9
Secondary school attempted	11	8.6
Secondary school completed	17	13.3
Tertiary school attempted	4	3.1
Tertiary school completed	31	24.2
<b>Household Size:</b> 1 – 3	21	16.4
4 – 6	84	65.6
7 – 9	20	15.6
10 and above	3	2.4
	<b>Mean = 5</b>	
<b>Farm Size (ha):</b> 1 – 5	65	50.8
6 – 10	51	39.8
>11	12	9.4
	<b>Mean = 6</b>	

**Source: Field Survey, 2014**

Table 2 revealed that majority (80.4%) claimed that cutlasses were always available to them for use. 79.7% and 73.4% of the respondents claimed that maize seed from local sources and hoes respectively were always available to them. Others (29.7% and 28.1%) reported that pesticides and improved maize seeds were always available for them for maize production, respectively. This does not augur well as far as modern agricultural production is concerned. Maize seeds from local sources at the disposal of these farmers may not perform well on one hand, and may

also introduce pests and diseases which can devastate the farm and reduce harvest. However, 46.9% of the respondents affirmed that fertilizers were sometimes available. This is a very serious situation as maize yield could be affected if fertilizer is not always available for use. Herbicides were available as only 6.2% claimed it was never available in their locality. This implies that herbicides were used by women maize farmers in the study area. This will reduce drudgery associated with weeding operation on the farm.

**Table 2: Distribution of respondents by available farming resources(n=128)**

Available Resources	Always	Sometimes	Never
Land	89 (69.5)	35 (27.3)	3 (3.2)
Cutlass	103 (80.4)	24 (18.8)	1 (0.8)
Hoe	94 (73.4)	31 (24.2)	3(2.4)
Fertilizer	63 (49.2)	60 (46.9)	3(2.4)
Improved maize seed	36 (28.1)	60 (46.9)	32(25)
Maize seed from local source	102 (79.7)	26 (20.3)	0 (0.0)
Herbicide	65 (50.8)	55 (43.0)	8 (6.2)
Pesticide	38 (29.7)	56 (43.8)	34 (26.5)

**Source: Field Survey, 2014**      Parentheses indicate percentages

Table 3 shows the results of contributions of women farmers in terms of activities performed in maize production in Afijio local government area. It was revealed that 90.6%, 88.3%, 87.5% and 77.4% of the respondents never engaged in weeding, planting/sowing, land clearing, and ridging on their maize farm, respectively. This implies that activities such as ridging, land clearing, sowing/planting and weeding which are laborious were not usually carried out by women farmers as they may not have much vigour (like their men counterparts)

to accomplish such tasks which may, therefore, be contracted to hired labour. It was also revealed that 74.2% and 56.3% of the respondents engaged in marketing and storage of maize respectively. This means that storage and marketing of farm produce were usually done by women maize farmers. Also, majority of women farmers (57.0%) occasionally engaged in fertilizer application on their maize as only 18.8% of the women farmers never applied fertilizer on their maize.

**Table 3: Distribution of respondents according to contributions to maize production activities (n=128)**

Activities	Always	Sometimes	Never
Land clearing	0(0.0)	16(12.5)	101(87.5)
Ridging	7(5.5)	17(17.1)	99(77.4)
Sowing/planting	0(0.0)	15(11.7)	113(88.3)
Weeding	0(0.0)	12(9.4)	118(90.6)
Fertilizer application	31(24.2)	73(57.0)	24(18.8)
Harvesting	49(38.3)	67(52.3)	12(9.4)
Processing of maize	61(47.7)	57(44.5)	10(7.8)
Storage of maize	72(56.3)	46(35.6)	10(7.8)
Marketing of maize	95(74.2)	29(22.7)	04(3.1)

**Source: Field Survey, 2014**      Parentheses indicate percentages

Table 4 revealed that 83.6% of the respondents engaged in maize farming for the purpose of selling the produce while 57% engaged in maize farming for their household consumption and 79.1% engaged in farming

for both commercial and household consumption. This implies that women maize farmers engaged in farming for diverse purposes.

**Table 4: Distribution of respondents purpose of farming (n=128)**

Purpose*	Frequency	Percentage
Commercial	106	83.6
Household consumption	73	57
Both	101	79.1

\*multiple responses

Source: Field Survey, 2014

Table 5 shows the results for various constraints faced by women maize farmers in the study area. Pests' infestation was the commonest constraint encountered by most women maize farmers (80.4%). This could be as a result of the fact that women neither hunt nor set trap for animal pests such as rodents and birds on their farms, therefore pests devour their maize farms unhindered. Also, constraints of storage and weather were very common among women maize farmers as substantial 71.7% and 70.3% of the respondents reported the problems of storage and of weather condition respectively as constraints on their

maize produce. Problem of glut in the market as well as transportation problem were common to sizeable number of the respondents, 68.0% and 67.2% respectively. Other familiar constraints reported were difficulty in getting hired labour (62.5% of the respondents), inadequate fund for production (54.8% of the respondents) and finally difficulty in acquiring land (50.8% of the respondents). The above findings reveal that women farmers are faced with varied degree of constraints in their contributions to maize production.

**Table 5: Distribution of respondents according to constraints on contributions to maize production(n=128)**

Constraints	Often	Sometimes	Never
Difficulty in acquiring land	13(10.1)	65(50.8)	50(39.1)
Difficulty in getting labour	33(25.8)	80(62.5)	15(11.7)
Lack of fund	55(42.9)	70(54.8)	3(2.3)
Problem of transportation	86(67.2)	39(30.5)	3(2.3)
Problem of weather	34(26.6)	90(70.3)	4(3.1)
Problem of storage	22(17.2)	102(71.7)	4(3.1)
Glut in the market	38(29.7)	87(68.0)	3(2.3)
Pest(rodent/birds) infestation	23(18.3)	103(80.4)	2(1.6)

Source: Field Survey, 2014      Parentheses indicate percentages

Table 6 showed the results of Pearson Product Moment Correlation analysis which revealed that significant associations exist between selected socioeconomic characteristics of respondents and their contributions to maize production as age ( $r = 0.950$ ,  $P < 0.05$ ); farm size ( $r = 0.174$ ,  $P < 0.05$ ); and household size ( $r = 0.354$ ,  $P < 0.05$ ) significantly influence the level of

contributions of women farmers to maize production in the study area. This indicates that the age is a crucial factor influencing women farmers' contributions to maize production, it appears that the older the women the more they tend to cultivate maize to ensure food and economy security of their household. This finding is affirmed by Adesope *et al.* (2012) that middle aged farmers are in their

economically active stage and can undergo the stress of farming which invariably influences their contributions. Also, farm size that has significant association with women farmers' contributions to maize production suggests that the more land women find available for maize farming, the more their contributions to maize production. Household size was also found to

be well associated with women's contributions to maize production; this may be because women also do contribute their quota to household nutrition and sustenance, and large household size may prompt them to engage more in maize production for commercial as well as household sustenance purposes.

**Table 6: Summary of Pearson Product Movement (r) analyses establishing relationship between selected socio-economic characteristics of respondents and contributions to maize production**

	r - value	P-Value	Decision
Age	0.950	0.020	Significant
Household size	0.354	0.030	Significant
Farm size	0.174	0.010	Significant

**Source: Field survey, 2014**

Table 7 revealed that there is significant association between educational attainments ( $\chi^2=36.864$ ,  $P=0.05$ ); marital status ( $\chi^2=19.615$ ,  $P=0.05$ ) and women farmers' contributions to maize production in the study area. This finding implies that the level of education of women farmers is positively related to their level of contributions to maize production. This inference is affirmed by Enete *et al.* (2002) that educated women demonstrate more awareness and are likely to make higher contributions to household farming decisions than less educated ones; this means that the higher the level of education of

women farmers, the better their contributions to maize production. Also, marital status that was found significant may imply that married women have access to free labour of their children and wards and this would definitely aid their contributions to maize production.

However, Chi-square result revealed that religion ( $\chi^2 = 158.32$ ,  $P=0.05$ ) was not a significant factor influencing women farmers' contributions to maize production. This implies that whether women farmers practise Islamic, Christian or traditional faith does not, in any way, affect their contributions to maize production.

**Table 7: Summary of Chi-Square ( $\chi^2$ ) analysis establishing relationship between selected socio-economic characteristics of respondents and contributions to maize production**

	$\chi^2$ value	Df	P - value	Decision
Religion	158.32	2	0.096	Not Significant
Educational status	36.864	7	0.005	Significant
Marital Status	19.615	4	0.020	Significant

**Source: Field Survey, 2014**

### Conclusion

It can be concluded based on findings that close to half of the women farmers (41.4%) were yet to receive any formal education. Also, adult women (67.2%) were more involved in farming activities than young women. Respondents often faced several constraints which include insufficient fund, problem of transportation, and pests' infestations. Age, education attainments, marital status, household size and farm size were significantly related to women farmers' contributions to maize production in the study area.

It is therefore recommended that women farmers form themselves into group wherein techniques of trapping farm pests would be learnt, female education (through adult literacy)\_should be intensified, young women be encouraged to be more involved in maize production, and in time of surplus, women farmers should form supply cooperatives to transport their produce to areas where it commands higher prices.

### References

- Adegeye, E. A. 2006. Compendium of Economic Tourism and Natural Resources Potentials of Oyo state and it 33 Local Government Area. Doyen Associates Nigeria Company, pp 83-84
- Adesope, O. M., Matthews-Njok, E. C. Oguzor, N. S and Ugwuja, V. C. 2012. Effects of Socio-economic Characteristics of Farmers on Their Adoption of Organic Farming Practice. Crop Protection Technologies, Dr Peeyush Sharma (Ed.)China. Pp 212 – 219
- Damisa, M. A. Samndi, R and M. Yohanna. 2007. women Participation in Agricultural Production: A Probit Analysis. *Journal of Applied sciences* 7 (3): 412 – 416
- Enete, A. A., Nweke, F. I and Tollens, E. 2002. Determinants of Cassava Cash Income in Female Headed Households of Africa. *Quarterly Journal of International Agriculture*, 41.
- Fabiya, E. F., Danladi, B. B., Akande, K. E and Mahmood, Y. (2007) Role of Women in Agricultural Development and their Constraints. *Pakistan Journal of Nutrition*,6 (6): 676 – 678
- FAO. 1994. Food and Agriculture Organisation Production Year Book IITA 2001. International Institute of Tropical Agriculture, Ibadan Oyo State. Annual Report on Maize Production Year Book.
- NPC. 2006. National Population Census of Nigeria: Result of the 2006 Census. www.google.com. Accessed on April, 2014.
- Odame, H. H., Hafkin, N. Wesseler G and Boto I .2002. Gender and Agriculture in the Information Society. International Service for National Agricultural Research Briefing Paper No.55. The Hague, the Netherlands: ISNAR.
- Okoruwa A. E. 1998. Traditional and Industrial Use of Maize. A Resource Paper presented at the West and central maize network [ECAMAN]. Training workshop on maize quality processing and utilisation' 4<sup>th</sup> August – 4<sup>th</sup> September, 1998, IITA, Ibadan, Nigeria
- Oyetero, J. O. and Okunade, E. O.2012. The Role of Women in Maize Production in Ejigbo Local Government Area of Osun state, Nigeria. *Advances in Agriculture, Science and Engineering Research*, 2 (6): 201 - 206
- Tanko, L and Opara, G 2010. Measurement of the Technical Efficiency in Maize Production in Bosso Local Government Area, Niger state, Nigeria. A paper presented during the 44<sup>th</sup> Annual Conference of Agricultural society of Nigeria, LAUTECH, Ogbomoso



- Tijani, S. A and I. Yano. 2007. Assessment of Current Status of Women Farmers in Japanusing Empowerment Indicator. *Journal of Applied sciences*, 7 [20], pp 3006-3014
- Welch C. J, Alemu B, Msaki T, Sengendo M, Kigutha H, Wolff A .2000. Improving Household Food Security: Institutions, Gender, and Integrated Approaches. U.S.A: BASIS Management Entity.
- World Bank .2001. Engendering Development through Gender Equality in Rights, Resources and Voice. World Bank Policy Research Report 21776. Washington, D.C. and London: World Bank and Oxford University Press.