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**Contribution of Women to Farming Decision among Cocoa Based Agroforestry Households in Oyo State, Nigeria**
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**Abstracts**

Women are key players in the agricultural sector of most developing countries of the world. However, despite this major role, men have reportedly continued to dominate farm decision making, even in areas where women are the largest providers of farm labour. This study assessed the contribution of women to farm decision among cocoa based agroforestry households in Oyo State, Nigeria. Multi-stage sampling technique was employed and interviews schedule was used to collect information from one hundred and twenty two (122) respondents. Descriptive and inferential statistics were used in data analysis. The results shows that majority (60.6%) of the farmers were within the age bracket of 31 to 50 years with a mean age of 48 years. The result revealed that women contributed actively in sun-drying and removal of bad cocoa beans ( $\bar{X}=1.56$ ); fermentation and checking of cocoa beans ( $\bar{X}=1.51$ ). The major factors constraining women from making contributions to farming decisions are lack of extension programmes directed to women farmers' needs ( $\bar{X}=1.77$ ) and lack of awareness of farm women on modern farming methods ( $\bar{X}=1.57$ ). Conclusively, the level of contribution of women to farm decision making in cocoa farming household was low with 51.6%. It is therefore recommended that an effective institutional framework should be developed through programmes exclusively for women to build leadership skills for managing agricultural community based development activities.

**Keywords:** Contribution, Cocoa-based, Decision, Women, Agroforestry, Household

**Introduction:** The Nigerian economy is still predominantly agrarian and women are key players in this business of agriculture in the country, especially within rural communities. Women contribute between 40 and 65% of all hours spent in agricultural production and processing. (Amusa T. A. and Simonyan J. B. (2018). Agroforestry systems are widely considered as a promising solution to land degradation problems. It helps address issues of forest cover loss, soil infertility, crop loss, to enhance food security and improve conditions of farmers (Baruwa O. J. and Oke J. T. O. (2019). Cocoa-based agro-forestry therefore refers to the practice in which cocoa trees for the production of cocoa beans are the dominant component of the agro-forest and usually inter-planted with other food crops. Cocoa is a high value cash crop among farmers in the major producing areas in Nigeria. It originated from the Upper Amazon in Latin America. Cocoa was among Nigeria's leading source of foreign exchange before the oil boom, and until now it is still Nigeria's largest agricultural foreign trade commodity and has helped to boost the economies of the major producing States in Nigeria. The production of major cash crops such as cocoa, coffee and oil palm that used to earn the country substantial foreign exchange has declined

significantly. For instance, the production of cocoa as an important agroforestry crop in Nigeria had witnessed a downward trend, thereby reducing the country's world market share to about 6% and its rank to 5<sup>th</sup> world largest cocoa producer till 2005 (Folayan J. A., Daramola, G. A. and Oguntade, A. E. (2016).

Decisions have to be made when persons having limited resources have alternative courses of action and therefore must make some choices (Bamidele R. O. (2020). Farmers make decisions on a number of pre-harvest and post-harvest activities such as what to produce, input use, harvest and post-harvest issues, affect production, processing, distribution, prices and costs. Men and women have distinct sets of tasks and different levels of control over these crops (Okonya and Kroschel, 2014; Kakuru, M., Rietveld, A., Mbabazi, G. and Ajambo, S. (2018)) states that the intra-household division of labour is an economic strategy to position the household to meet its needs, although households often divide labour in ways that can constrain development.

Farming decisions are made to maximize farm objectives subject to available material and human resources. However, despite the significant role played by women in agricultural production,

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processing and marketing in Nigeria (Baruwa O. J. and Oke J. T. O. (2019), the available literature shows that men have continued to dominate farm decision making, even in areas where women are the largest providers of farm labour. Women have more or less been relegated to playing second fiddle in farm decision making. This could be counterproductive, because there is bound to be conflict when women, as key players, carry out farm tasks without being part of the decision process, especially when the decisions fail to recognize their other peculiar household responsibilities. There has been little or no farm-level information regarding their role in farm decision making, particularly in a male-dominated cash crop environment like cocoa agro-forestry households (Amusa 2018).

Specifically the study objectives are to: describe the socio-economic characteristic of the respondents; assess the contribution of women to farming decision among cocoa based agroforestry; examine the factors constraining women from making contributions to farming decisions. The following hypotheses slated in null form were tested for the study:

H<sub>0</sub>1: There is no significant relationship between socio-economic characteristics of the respondent and the contribution of women to farming decision among cocoa based agroforestry households.

H<sub>0</sub>2: There is no significant relationship between the factors constraining women from making contributions to farming decisions and the contribution of women to farming decision among cocoa based agroforestry households.

**Materials and Methods:** Oyo is an inland State in Southwest, with its capital at Ibadan. It covers approximately an area of 28,454 square kilometers. The Climate is notably with dry season and wet seasons with relatively high humidity. Agriculture is the main occupation of the people of Oyo State. The climate in the State favours the cultivation of crops like cocoa, maize, yam, cassava, millet, rice, plantain, etc. The target population of the study consists of women cocoa farmers in Oyo State. This empirical exercise was purposively conducted in four (4) major cocoa producing areas in Oyo state and a total of one hundred and twenty two (122) respondents were used

**Table 1: Sampl size**

Study Area	Producing LGAs	No LGAs Selected	Name of LGAs selected	Number of registered farmers	Number of selected farmers (60%)
Oyo state	7	4	Ona Ara	60	36
			Oluyole	51	31
			Akinyele	43	26
			Iddo	48	29
Total	7	4		202	122

**Results and Discussion:** Table 2 shows that the mean age of respondents was 48 years. This shows that respondents were still in their economic active age and this would have positive effect on production. Majority 72.1% of the respondents were married. Over half (54.9%) of the cocoa farmers had farming experience ranging between 11 to 20 years. The relative high number of experienced farmers suggested that cocoa production is an ensuring occupation. Continuous practice of an occupation for a long period presumably makes a person more

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Table 3 shows that the women contributed actively in cocoa farming decision making areas. The areas are sun-drying and removal of bad cocoa beans ( $\bar{X}$ =1.56), fermentation and checking of cocoa beans ( $\bar{X}$ =1.51), storage of dried cocoa beans ( $\bar{X}$ =1.49), marketing of cocoa ( $\bar{X}$ =1.32), breaking and scooping out of cocoa seeds from pods and transportation of cocoa beans from farm to the house ( $\bar{X}$ =1.27). This

Table 2: Distribution of Respondents by socio-economic characteristics

experienced and more productive in practice. Diawuo F., E. A. Kosoe and D. A. Doke (2019). The average farm size was 3.15 hectares. This implies that majority of the respondents were small scale farmers. This agrees with the findings of Hill R. V. and M. Vigneri (2021), which reported that 75.5% of the cocoa farmers in Nigeria were either small or medium scale farmers. This could be attributed to the fact that small scale farming largely dominates the agricultural sector in Nigeria and that women are faced with problem of land ownership.

implies that women sometimes contribute to decision making. From the result on table 4, it was concluded that the level of contribution of women to farm decision making in cocoa farming household was low (51.6%). This is in accordance with Idowu E. O., Osuntogun D. A. and Oluwasola O. (2017) that men initiate the cultivation of cocoa and take responsibility for major initial farm activities while women only play supporting roles.

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Variable	Frequency	Percentage	$\bar{X}$
<b>Age</b>			
≤30	7	5.7	
31 – 40	33	27.0	
41 – 50	41	33.6	48
51 – 60	18	14.8	
> 60	23	18.9	
<b>Marital status</b>			
Single	12	9.8	
Married	88	72.1	
Divorced	14	11.5	
Widowed	8	6.6	
<b>Educational background</b>			
No formal education	14	11.5	
Adult education	37	30.3	
Primary education	21	17.2	
Secondary education	29	23.8	
Tertiary education	21	17.2	
<b>Farm experience</b>			
1 – 10	40	32.8	
11 – 20	45	36.9	20
21 – 30	22	18.0	
> 30	15	12.3	
<b>Farm size</b>			
≤ 2.0	59	48.4	
2.1 - 4.0	35	28.7	3
4.1 - 6.0	20	16.4	
> 6.0	8	6.6	
<b>Total</b>	<b>122</b>	<b>100.0</b>	

Source: Field survey, 2022

**Table 3: Distribution of Respondents by extent of Contribution to Cocoa Farming**

Farming Activities involving Decision Making	Always	Occasionally	Never	$\bar{X}$
Harvesting of ripped cocoa pods	26 (21.3)	88 (72.1)	8 (6.6)	1.15
Breaking and scooping out of cocoa seeds from pods	36 (29.5)	83 (68.0)	3 (2.5)	1.27
Fermentation and checking of cocoa beans	67 (54.9)	50 (41.0)	5 (4.1)	1.51
Transportation of cocoa beans from farm to the house	45 (36.9)	65 (53.3)	12 (9.8)	1.27
Sun-drying and removal of bad cocoa beans	75 (61.5)	40 (32.8)	7 (5.7)	1.56
Storage of dried cocoa beans and maintenance	70 (57.4)	42 (34.4)	10 (8.2)	1.49
Marketing of cocoa to the buyers	48 (39.3)	65 (53.3)	9 (7.4)	1.32

Source: Field survey, 2022 (multiple response)

**Results of Tested Hypotheses**

**H<sub>0</sub>1: Relationship between Socio-economic Characteristics of the Respondent and Contribution of Women to Farming Decision among Cocoa Based Agroforestry Households**

Table 6 shows that there was no significant relationship between marital status ( $\chi^2= 3.258$ ;  $p \geq 0.05$ ), education ( $\chi^2= 7.689$ ;  $p \geq 0.05$ ), age ( $r = -0.129$ ;  $p \geq 0.05$ ), farm experience ( $r = -0.156$ ;  $p \geq 0.05$ ), and the contribution of women to farming decision among cocoa based agroforestry households while significant positive relationship

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existed between household size and contribution of women to farming decision among cocoa based agroforestry households ( $r = 0.192$ ;  $p < 0.05$ ). A large household would be a source of labour for more farm business alternatives. This result is in line with the findings of Kakuru M., Rietveld A., Mbabazi G. and

Ajambo S. (2018) who found that household size has a significant influence on the choice of income sources.

**Table 4: Level of Contribution of women to Farm Decision Making**

Variables	Frequency	Percentage
High	59	48.4
Low	63	51.6
<b>Total</b>	<b>122</b>	<b>100.0</b>

Source: Field survey, 2022

**Factors Constraining Women from Making Contributions to Farming Decisions**

The factors constraining women from making contributions to farming includes lack of extension programmes directed to women farmers' needs ( $\bar{X} = 1.77$ ), lack of awareness by women farmer about modern farming methods ( $\bar{X} = 1.57$ ), lack of access about NGO programmes for women's development ( $\bar{X} = 1.53$ ), small scale production of the cocoa farming household ( $\bar{X} = 1.47$ ), low technical-know-

how of women in farming ( $\bar{X} = 1.39$ ) This agrees with the report of Idowu E. O., Osuntogun D. A. and Oluwasola O. (2017). that women are faced with many constraints which range from lack of access to farm land, agricultural credit, loans, low level of income and other economic resources, thereby limiting their contributions to household farming decisions.

**Table 5: Variables Constraining Women from Making Contributions to Farm Decisions**

Factors	Major factor	Minor factor	Not a factor	$\bar{X}$
Lack of extension programmes directed to women farmers' needs	98 (80.3)	20 (16.4)	4 (3.3)	1.77
Low/lack of financial contributions by women farmer	57 (46.7)	64 (52.5)	1 (0.8)	1.46
The belief that farm women are less informed than men	77 (63.1)	36 (29.5)	9 (7.4)	1.56
Unwillingness of women to invest in farming risks	71 (58.2)	36 (29.5)	15 (12.3)	1.46
The belief that women are subordinate to male counterparts	64 (52.5)	46 (37.7)	12 (9.8)	1.43
Poor access to & control of farm resources, e.g land	72 (59.0)	35 (28.7)	15 (12.3)	1.47
Negligence of farm women in becoming involved in farm decision	69 (56.6)	40 (32.8)	13 (10.7)	1.46
Lack of access about NGO programmes for women's development	76 (62.3)	35 (28.7)	11 (9.0)	1.53
Low technical-know-how of women in farming	58 (47.5)	53 (43.4)	11 (9.0)	1.39
Lack of government policies to empower women farmers	62 (50.8)	52 (42.6)	8 (6.6)	1.44
Small scale production of the cocoa farming household	66 (54.1)	47 (38.5)	9 (7.4)	1.47
Lack of awareness of the farm women of modern farming methods	78 (63.9)	35 (28.7)	9 (7.4)	1.57

Source: Field survey, 2022 (multiple response)

**Table 6: Chi-square and Correlation Analysis of the Level Contribution of Women to Farming Decision among Cocoa Based Agroforestry Households and the Socio-Economic Characteristics**

Variables	Level of contribution		$\chi^2$ Value	df	p value	Remark
	High (%)	Low (%)				
<b>Marital status</b>			3.258	3	0.354	Not Significant
Single	4 (6.8)	8 (12.7)				
Married	47 (79.7)	41 (65.1)				
Divorced	5 (8.5)	9 (14.3)				
Widowed	3 (5.1)	5 (7.9)				
<b>Education</b>			7.689	4	0.104	Not Significant
No formal education	6 (10.2)	8 (12.7)				
Adult education	19 (32.2)	18 (28.6)				
Primary education	5 (8.5)	16 (25.4)				
Secondary education	18 (30.5)	11 (17.5)				
Tertiary education	11 (18.6)	10 (15.9)				
Total	59 (100.0)	63 (100.0)				
<b>Correlations</b>						
Variables	R	p value				Remark
Age	-0.129	0.157				Not Significant
Household size	0.192*	0.034				Significant
Farm experience	-0.156	0.087				Not Significant
Size of land cultivated to Cocoa	0.079	0.389				Not Significant
Annual farm income from cocoa	-0.152	0.095				Not Significant

Source: Field Survey, 2022

**H02: Relationship between the Factors Constraining Women and the Contribution of Women to Farming Decision among Cocoa Based Agroforestry Households**

Table 7 shows that significant relationship does not exist between the factors constraining women and

the contribution of women to farming decision among cocoa based agroforestry households ( $r=0.048$ ;  $p \geq 0.05$ ). This is an indication that the factors constraining women from making contributions to farming decisions do not influence the contribution level of women to farming decision among cocoa based agroforestry households.

**Table 7: Correlation Analysis of Relationship between Factors Constraining Women and Contribution of Women to Farming Decision among Cocoa based Agroforestry Households**

Variables	r	p value	Remark
Factors constraining women from making contributions to farming decisions	-0.048	0.005	Not Significant

Source: Field Survey, 2022

**Conclusion and Recommendations:** Women were actively involved in six (6) cocoa farming decisions-making areas, implying that women sometimes contributed to farm decision making. Generally, the level of contribution of women to farm decision making in cocoa farming household was low. The factors affecting women contribution to decision making were household size and their attitude towards decision making. It is therefore recommended that an effective institutional framework should be developed through

programmes exclusively for women to build leadership skills for managing agricultural community based development activities. This will enhance their contribution to decision making. One of the most important measures to empower the rural women would be to give them ownership right on land along with their husbands, which should be duly recorded in land records. This will not only make them economically empowered, but will also help them to get credit for productive work.

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