

# Challenges And Benefits Confronting Small Scale Cocoa Buying And Processing In Edo State Of Nigeria

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**Abstract:** Cocoa business is one out of much agricultural or non agricultural business that is creating wealth, increasing livelihood sustainability and also provides employment to small scale cocoa buying. The study examines the challenges and benefits of small scale cocoa buyers in Owan west Local Government Area of Edo State. A purposive sampling technique was used to select 120 respondents of small scale cocoa buyer (SSCB). Primary data were obtained with interview guide and observations were equally made. Percentages, descriptive, and cross tabulation of (SPPs) were used to analyze the data. Results showed that 43.33% and 56.7% were both male and female. Most (69.16%) of the respondents were Christian, while 24.17% and 6.67% are Islam and traditional adherent respectively. Education, 64.17% for secondary school, 26.67% primary school, 7.5% tertiary school and for non formal education has 1.67% respectively. Marital status shows that 95% are married, followed by single with 13%, 11% widow and lastly widower has the least of 12% respectively. However, small scale cocoa business is highly profitable and sustainable, but the small scale buyers are yet to break even because (#151.50k) was been made as gain from each 1kg cocoa as profit.

**Keywords:** Cocoa, Challenges, sustainability, business, small scale, buyers, profitability.

## I. INTRODUCTION

### COCOA PRODUCTION IN NIGERIA

Cocoa business has been a long agricultural venture that is both challenging and rewarding. The business involve both buying of wet cocoa beans/dried cocoa bean. The wet cocoa bean need to be properly fermented between 5-7 days depending on the weather condition of that place, before drying. The drying of cocoa bean could take between 3-5 days depending on the intensity of sunshine in that area of study. All this will lead to profitability and sustainability of the

business. Most few of the small scale cocoa buyers are cocoa farmers too, and apart from finance that is their main challenges, others include poorly linked marketing channel from the cocoa value chain and poor extension services which Nigeria is facing. (Chamberlin, 20008; Dormon et al. 2004). According to Dherty & Tranchell, 2005; Doherty & Meehan, 2006), stated that efforts are been made in cocoa business sector to increase their input – out- put markets and allow them to increase their profitability. Agricultural export in Nigeria is currently the world's fifth largest producer of cocoa, after Ivory Coast, Indonesia and Ghana are the largest exporter. The crop was a major foreign exchange earner for

Nigeria in the 1950s and 1960s and 1980s Nigeria share of world output declined due to much emphasis on oil production. In 2010 cocoa production accounted for, which only 0.3% of agricultural average cocoa bean production in Nigeria between 2000 and 2010 was 389.272 tones per year rising from 170,000 tones produced in 1999.

Cocoa sale and exports for October – March 2009 to 2010 were up to 31% on the previous year, helped by favorable climatic weather conditions and improved quality in stock in the growing regions. Fourteen states in Nigeria out of 36 states grow cocoa, Edo, Adamawa, Akwa-Ibom, Cross River, Delta, Abia, Ekiti, Kogi, Imo, Kwara, Ogun, Osun, Oyo and Taraba, which means that small scale cocoa buying is very lucrative in that areas, Ogunrinde .S (2006). However, for combating the challenges that is confronting this business one need to put financial management supports both from the government and the individuals and making good decisions to enhance profitability on the business to strive effectively. This can be achieved with strong back ground in accounting, law, economics, mathematics, and behavioral sciences of the cocoa buyers, for these challenges to be faced, one need to know when to buy, store and sell their farms produces to enable them make more profits and also to remain in the business in all round season. Climate change is also a factor to be considered in small scale cocoa business, which weather variation is a major factor that determines their gain in the business. The study is to access the challenges confronting small scale cocoa buying in the study area.

Therefore, the objectives of this study are as follow:

- ✓ To determines the socio – economic characteristics of the respondents
- ✓ To examine the common practices faced in fermenting cocoa before sales.
- ✓ To evaluate extension services contact received by the small scale cocoa buyers.
- ✓ To examine the benefits derived/ usage in small scale cocoa buying

## II. METHODOLOGY

### STUDY AREA

The study was carried out in Edo state, Nigeria. Ora clan in owan west local government area being the leading communities that grows cocoa in the study area. The study areas lays between latitudes  $6^{\circ}$  and  $8^{\circ}$  north and south of the equator and on longitude  $4^{\circ}$  and  $6^{\circ}$  east and west of Green-wish meridian.

Owan west is bounded to the north east by Owan east Local government area with to the south east by Esan west Local government area, and to the west by river Ose which form the boundary with Ondo state.

### DATA COLLECTION AND ANALYSIS

The study was carried out in Edo state. Primary data were used in capturing 120 questionnaires that were administered and collected after the completion of data from the

respondents in the following communities, Sabongidda –ora, Oviokhaun – ora, Eme – ora, Uhonmora – ora, Oke – ora and Okhia – ora. A purposive sampling technique was used in the study area. Analysis tools used are descriptive, cross tabulation and percentages were used to analyze the data using the statistical package for social sciences (SPSS).

## III. RESULTS AND DISCUSSION

Table 1 shows the socio economic characteristics of small scale cocoa buyers. Analysis reveals that 43.33% were male while 56.67% were female. This indicates that most of the respondents involved in small scale cocoa business in the study area are female. Majority of the respondents were Christian when compared to Islam with (24.17%) and traditional adherent (6.67%) respectively. More of the respondents attended secondary schools with (64.17%), followed by primary school of (26.67%), while no formal education has the least with value of 1.66%. However, most of the respondents have attained the level of basic education and so; there is need for training and re-training of small scale cocoa buyers in the study area. According to Odedele, et al (2006) he reports by saying that farmers in their prime age are active in cashew production, so it was also concluded that small scale cocoa buyers are at their prime age which make them remain in the business. According to Patel. 1985, he said that education is the only form of training been regarded as an investment in human which is capable of raising the skill and quantity of man, narrow his information gaps and increasing his locative and leading to more production performance.

### SOCIO- ECONOMIC VARIABLES

Variable	Frequency	%
Male	52	43.33
Female	68	56.67
Total	120	100

#### Religion of respondents

Variable	Frequency	%
Christianity	83	69.16
Islam	29	24.17
Traditional adherent	8	6.67
Total	120	100

#### Educational of respondents

Variable	Frequency	%
No formal education	2	1.66
Primary school	32	26.67
Secondary school	77	64.17
Tertiary school	9	7.5
Total	120	100

Source: field survey 2016

Table 1: Sex of respondents

Table 2: Shows an analytical cross tabulation of marital status and benefits derived from small scale cocoa business. The analysis reveals that majority of the respondents are

married (95) representing 79.17%. This was followed by single (13) representing 10.83% and the least was observed for widower (1) representing 0.83%. Furthermore, married status of the respondents has the highest in the payment of children school fees (18), savings (16) and building of houses (25) compared to single status that has the highest value for purchase of clothes (2) and investment (2) respectively. (Table 1b: Cross tabulation of marital status and challenges faced in buying cocoa on daily basis by the respondents presented in table 2. From the result, it was observed that married status of the respondents had the highest value of (95) representing 79.17%, followed by single status (13) representing 10.83% and the least observed for widower (1) representing 0.83% respectively. Therefore, married status has the highest challenges on credit facilities (22), marketing problem (4), storage facilities (17), weather condition/rainfall (27), pest and diseases (22) and poor transportation (3) respectively. This implies that the major challenge faced by the respondents in the study area is weather condition/ rain falls due to climatic condition. Therefore P- value is not significant with value of 0.717 greater than 0.05, this implies that challenges faced in buying cocoa on daily basis is independent of marital status. This means that marital status cannot influence challenges faced in buying cocoa on daily basis.

Crosstab		Benefits derived from small scale cocoa business					Total
		Clothes	Investment	Payment of School fees	Savings	Building of houses	
Marital Status	Single	2	5	1	3	2	13
	Married	0	18	36	16	25	95
	Widow	0	3	5	1	2	11
	Widower	0	0	0	0	1	1
Total		2	26	42	20	30	120

Source: field survey 2016

#### MARITAL STATUS \* CHALLENGES FACED IN BUYING COCOA ON DAILY BASIS

Crosstab		Challenges faced in buying Cocoa on daily basis						Total
		Credit Facilities	Marketing	Storage Facilities	Weather Condition/Rainfall	Pest and Diseases	Poor transportation	
Marital Status	Single	4	2	1	2	4	0	13
	Married	22	4	17	27	22	3	95
	Widow	3	0	0	5	3	0	11
	Widower	0	0	0	0	1	0	1
Total		29	6	18	34	30	3	120

Source: field survey, 2016

Table 2: Marital Status \* Benefits derived from small scale cocoa business

Table 3: Showed analytical tabulation between family size of children and benefits derived from small scale cocoa business. Analysis reveals that household family size of children 1- 4 has the highest numbers (80) representing (66.67%) while family size of 1-5 has (16) representing 13.33% and the least observed for none (24) representing (20.0%) respectively. This indicates that household size of 1-4 derived more benefit on payment of children school fees (34%) than household size of 5-6 having (6) in payment of children school fees respectively. Table 2b: shows household

family size of children and challenges faced in buying cocoa on daily basis. Result reveals that family household size of 1 to 4 had the highest of (80) representing 66.67% while the least was observed for family household size of 1-4 of the respondents has the highest credit facilities (21), marketing problem (3), storage facilities (15), weather condition/ rainfall (23), pests and diseases (16) and poor transportation (2) respectively. In post harvesting operation, processing and marketing by Adeogun et al, (2010) explain that high number of Family size has great influence in cashew/cocoa production which can also influence household size family of small scale cocoa buyers in the business.

Crosstab		Benefits derived from small scale cocoa business					Total
		Clothes	Investment	Payment of School fees	Savings	Building of houses	
Household Family Size of Children	0	0	0	0	0	0	0
	None	2	7	2	8	5	24
	1-4	0	13	34	11	22	80
	5-6	0	6	6	1	3	16
Total		2	26	42	20	30	120

Source: field survey, 2016

Table 3: Household family size of children \* Benefits faced in buying Cocoa on daily basis

Table 4 showed the extension services received on small scale cocoa business and benefits derived from small scale cocoa business. From the results it was observed that majority of the respondents do not received extension services (71) representing 59.1% while (49) representing (40.83%) do received extension services in the study area. However, there is need for the ADPs in the extension department to design a program me to support small scale cocoa buying of the benefits and challenges of the business. Most of the respondents in the study area are faced with the challenges in buying cocoa on daily basis. This is based on inadequate extension services in the study area. Table 3b shows that 59.1% of the respondents had not received any information from the extension agent while (49) of the respondents representing 40.83% received extension services in the study area respectively. According to Abang et al (2001), he said that extension education was always positive to be gain, because it relates to the value of marginal value of farm products. In addition, Ojo (2000), said that socio – economic characteristics include education and experience which is of significant determinates factors for agricultural production and profitability.

Crosstab		Benefits derived from small scale cocoa business					Total
		Clothes	Investment	Payment of School fees	Savings	Building of houses	
Do you receive extension services in your small scale Cocoa business	Yes	0	10	14	11	14	49
	No	1	15	28	9	16	71
		0	0	0	0	0	0
		0	0	0	0	0	0
Total		2	26	42	20	30	120

Source: field survey, 2016

# DO YOU RECEIVE EXTENSION SERVICES IN YOUR SMALL SCALE COCOA BUSINESS \* CHALLENGES FACED IN BUYING COCOA ON DAILY BASIS

Crosstab								
Challenges faced in buying Cocoa on daily basis								Total
Do you receive extension services in your small scale Cocoa business	Yes	Credit Facilities	Marketing	Storage Facilities	Weather Condition/Rainfall	Pest and Diseases	Poor transportation	
	no	13	2	4	17	13	0	49
	15	4	14	17	16	3	69	
	0	0	0	0	0	0	0	
	0	0	0	0	0	0	0	
Total		29	6	18	34	30	3	120

Source: field survey, 2016

Table 4: Do you receive extension services in your small scale Cocoa business \* Benefits derived from small scale cocoa business

Table 5 showed good practices of cocoa fermentation and benefit derived from small scale cocoa business. From this results, it was reveals that majority of the respondents practice good cocoa fermentation (77) representing 64.17%, (43) representing 35.83%. However, majority of the respondents do not practice cocoa fermentation that increased profitability. There is need for the extension agent to educate small scale cocoa buyers on the best practice in cocoa fermentation and this will boost and enhance profitability and sustainability on the business. A cross tabulation between good practices of cocoa fermentation and challenges faced in buying cocoa on daily basis is indicated in table 5. The results further shows that majority of the respondents had (77) representing 64.17% faced most of the challenges on cocoa fermentation on daily basis. However,(43) of the respondents representing 35.83% that practiced good cocoa fermentation in the study area. Therefore, there is need to sensitize the small scale buyers on good fermentation practices which in returns will enhance profitability. According to Yaron et al, (1992) shows that access to poor extension services can encounter balance on the negative effective of lack of decision to adopt new technologies by small scale cocoa buyers on how to process and ferment their cocoa bean.

Crosstab							
Count							Total
Benefits derived from small scale cocoa business							Total
Do you think good practices of Cocoa fermentation increase your cocoa profitability		Clothes	Investment	Payment of School fees	Savings	Building of houses	
	yes	2	13	28	13	21	77
	No	0	13	14	7	9	43
Total		2	26	42	20	30	120

Source: field survey, 2016

Table 5a: Do you think good practices of Cocoa fermentation increase your cocoa profitability \* Benefits derived from small scale cocoa business

Crosstab							
Count							Total
Challenges faced in buying Cocoa on daily basis							Total
Do you think good practices of Cocoa fermentation increase your cocoa profitability		Credit Facilities	Marketing	Storage Facilities	Weather Condition/Rainfall	Pest and Diseases	
	yes	13	2	4	17	13	49
	No	15	4	14	17	16	69
Total		29	6	18	34	30	120

Do you think good practices of Cocoa fermentation increase your cocoa profitability	Yes	20	6	13	21	14	3	77
	No	9	0	5	13	16	0	43
Total		29	6	18	34	30	3	120

Source: fields survey, 2016

Table 5b: Do you think good practices of Cocoa fermentation increase your cocoa profitability \* Challenges faced in buying Cocoa on daily basis

Table 6a showed the methods of fermentation of cocoa beans and benefit derived from small scale cocoa business. The analysis reveals that fermenting of cocoa bean in basket have the highest (40) representing 33.33%, followed by heap method (38) representing 31.67% and the least observed for bagging method (8) representing 6.67% respectively. Table 6b further states that fermentation of cocoa with basket had the highest in investment (10), payment of children school fees (15), savings (5) and building of houses (9). This further explains that basket method for cocoa fermentation is most suitable practice in the study area because it very easy to operate and cheap to maintain. However, sweat box (11.67%) and tray method (16.67%) that ought to be the best to be practice which was recommended by CRIN is not been use in the study area this because of high price and is not easy to maintain like that of basket method. Therefore, there is urgent need to train and educate the respondents in the study area on the best method of cocoa fermentation. This will further enhance good productivity that will better the quality of the cocoa beans and also increase sweet flavor and aroma of the cocoa bean that will lead to profitability, and quick acceptability of the cocoa bean in the markets. Table 6b shows best method of cocoa fermentation and challenges faced in buying cocoa on daily basis. Majority of the challenges faced by the respondents in fermentation of cocoa bean is the use of basket (40) representing 33.33%, followed by heap method (38) representing 31.7% and the least observed for bagging method (8) representing 6.67% respectively. Sweat box method in cocoa fermentation is the best practice recommended by CRIN of which 11.69% of the study area does not adopt this practice. This is as a result of cost implication of the materials used to carry out fermentation practices of which basket is more affordable, accessible and cheaper compared to sweat box and tray method that is highly expensive to procure by the respondents. There is need for extension agent to sanitize the small scale cocoa business as agricultural business venture.

Crosstab							
Benefits derived from small scale cocoa business							Total
Best methods of fermentation you use to ferment your wet cocoa beans before drying	Heap method	0	7	14	7	10	38
	Sweet box method	0	3	5	2	4	14
	Tray method	1	5	6	2	6	20
	Basket method	1	10	15	5	9	40
	Bagging method	0	1	2	4	1	8
	Total	2	26	42	20	30	120



Source: field survey, 2016

Table 6a: Best methods of fermentation you use to ferment your wet cocoa beans before drying \* Benefits derived from small scale cocoa business

		Challenges faced in buying Cocoa on daily basis						Total
		Credit Facilities	Marketing	Storage Facilities	Weather Condition/Rainfall	Pest and Diseases	Poor transportation	
Best methods of fermentation you use to ferment your wet cocoa beans before drying	Heap method	10	2	10	9	6	1	38
	Sweet box method	4	0	0	2	8	0	14
	Tray method	5	0	2	9	4	0	20
	Basket method	6	3	6	13	10	2	40
	Bagging method	4	1	0	1	2	0	8
Total		29	6	18	34	30	3	120

Source: field survey, 2016

Table 6b: Best methods of fermentation you use to ferment your wet cocoa beans before drying \* Challenges faced in buying Cocoa on daily basis

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
How much do you buy Cocoa pod in #	120	0	120	9700	80.83	19.579
How much do you buy dried Cocoa beans per kg	120	0	750	76920	641.00	109.317
Number of Cocoa purchased per season	120	0	80	4356	36.30	14.818
How much do you sell Cocoa beans per Kg	120	0	850	95100	792.50	136.685
What is the average price per year	120	0	43000	536150	44679.1	35711.719

Source: field survey, 2016

Table: 7 shows descriptive analysis on variables on (kg), bags per season purchase, and average price of cocoa beans.

#### IV. CONCLUSION AND RECOMMENDATION

Despite the challenges and benefits on small scale cocoa buying (SSCB), the business is a profitable business and also sustainable in nature as to compete favorable with other cash crop business oriented. The business is profitable as said earlier, but if there were government supports in terms of loans, cooperative society, training programmes from the ADPs especially on fermenting of cocoa which poised low earning of which the respondents would have break even due of their commitment to the business. Due to poor fermenting processing as challenge of cocoa bean which have lead to low aggregate of food production and low foreign exchange. This would have created employment by reducing rural – to urban migration if the government pays attention on the business. Further study should also look into the formation of small scale cocoa buyer's cooperative society to enhance their business performance especially in areas of loan assessment and also training opportunity in the processing of their cocoa bean for higher demand export.

Other recommendation includes training and retraining of small scale cocoa buyers, update small scale cocoa buyers on climate change which will enable them plan and also provide them with fermentation materials and solar drying oven to mitigate during excessive raining fall. Fair pricing value system should be put in place by the government and finally,

the extension agents should include the small scale buyers in their extension programmes and seek government aids in solving their problems.

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