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Determinants of farm certification compliance for sustainable cocoa production in Ondo State, Nigeria

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Abstract: There is a remarkable downturn in cocoa production of recent due to low output and uncompetitive market prices. The situation has therefore led to an enormous gap in demand and supply of the produce to cocoa industries. The challenge now is how producers can sustainably cope with the needs of the ever growing and quality-inclined market. The study therefore investigates how farm certification is positioning the farmers to take advantage of the huge cocoa export market. Using multi-stage sampling procedure, 90 respondents were selected from the participating cooperatives societies in the study area. Interview schedule was used to collect data on socio-economic characteristics of the farmers, access to agricultural support services, farmers' knowledge on farm certification measures, level of compliance and cocoa outputs. Data was analyzed using descriptive statistics (percentages, frequencies and means) and inferential statistics. (Pearson Product Moment Correlation and Regression Analysis) The results showed that majority (97.8%) of the farmers were male with mean age of 48 years. The farmers indicated good access to all the components of the support services except supply of fertilizers. The farmers had good knowledge in 18 out of the 19 knowledge test questions and had full compliance with farm certification measures. There was a significant relationship between farmers' knowledge of farm certification measures and compliance with agronomic practices ($r= 0.503$, $p\leq 0.01$). The result of the regression analysis indicated farmers' age ($\beta=0.425$), output ($\beta=0.300$), access to support services ($\beta=0.262$) and knowledge of agronomic practices ($\beta=0.249$) as the leading determinants of farm certification compliance among cocoa farmers in the study area. The farmers' high level of compliance with agronomic practices indicated that they are prepared to derive economic benefits from the dynamics in cocoa export market. For sustainable compliance with farm certification, experienced cocoa farmers with track record of productivity should be enlisted into the subsequent schemes.

Keywords: Farm Certification, Compliance, Sustainable cocoa production, Export market

Introduction

The Nigerian agricultural sector has been recording low performances since the oil boom in the early 1970s. At the country's independence in 1960, agriculture contributed 63% to the Gross Domestic Product (GDP). This share plummeted to 8% in 1988 after the oil boom (Aigbokhan, 2001 as cited in Muhammed, 2016). Although due to some strategic intervention and government policies in the early 2000s, agriculture share increased to about 36% of GDP in 2001 and 42% in 2007 (UNDP, 2009) but shrank to 24.4% in 2017 (PricewaterhouseCoopers, 2017). This shows that the previous gains at using agriculture to shift the country's economy from over dependence on oil have not been sustainable. A critical look at the Nigerian agriculture depicts a complete neglect of the export crops which have been a major source of foreign exchange for the country. For instance, cocoa that was the pride of the country in 1960s and 1970s prior to the oil boom has become inconsequential following the discovery of oil in commercial quantity. Subsequently, the country quickly lost its position as the largest producer and exporter of cocoa in the world to countries such as Cote D'Ivoire, Ghana and Indonesia (Courage, 2016).

According to International Cocoa Organisation (2012), almost 90% of the world cocoa production comes from smallholder farmers cultivating less than 5 hectares. In Nigeria for instance, 80% of cocoa production is cultivated by small scale farmers operating on less than 5 hectares (Adelodun, 2017). Thus, cocoa production could still be described as the main source of income to smallholder farmers and any flux in its production will invariably undermine their livelihood. A critical look at cocoa supply chain shows the need for immediate intervention to salvage the system from total collapse. Issues such as; low fertility, climate change, global price fluctuation, insufficient processing firms and inadequate access to production inputs such as fertilizers are posing great challenges toward sustainable cocoa production in Nigeria (Samuel, 2017). The situation therefore prevents farmers from investing in farm expansion and as well serves as a discouraging factor for the engagement of young ones in cocoa production.

Meanwhile, the rising incomes in emerging markets like India and China indicates the need to step up cocoa production to meet up with the increasing demands for chocolates and other cocoa by-products. According to Pascahall and Don Seville (2012), about 60% of the world's cocoa is used in chocolate products while the remaining 40% used for a range of bakery, confectionery and drink products. In

buttressing the need for anticipated increase in demand for cocoa, Agri Africa (2016), predicted a 35% rise in demand for cocoa by 2020. While this may sound positive, it is important to note that such anticipation may be a mirage without empowering the smallholder farmers, majority of whom are abandoning cocoa production in droves for other crops. Thus, for cocoa industry not to struggle to meet up with the anticipated increase in demand, adequate investment in building the capacity of the farmers has become non-negotiable. Such effort will enhance farmers' income and satisfy consumers demand for uninterrupted and safe cocoa supply chain.

In order to achieve the aforementioned, private actors must be willing to fill the inadequacies of the public institutions in rising to the needs of the farmers in trainings, market linkages and input supply provisions among others. A case of such is Agro Traders (Cocoa Processor) partnership with Universal Trade Zone (UTZ) along cocoa value chain in Ondo state, Nigeria. The partnership is geared towards cocoa certification. Certification introduces sustainability and traceability holistically and guides farmers with respect to the principles of sustainable agriculture and its related economic, social and environmental dimensions. It attempts to create a supply line of certified sustainable cocoa and to pioneer sustainable cocoa production for international market. Compliance with farm certification measures will therefore involve close adherence with agronomic practices, ecological principles, reduction in the use of fertilizers and pesticides and respect for labour laws among others. It is expected that farmers' compliance with farm certification is to be accompanied with economic gains. For instance, UTZ (2016) reported higher net income, lower production costs and higher revenues (as a result of premium payment), better resilience to climate change among certified than non-certified coffee farmers in Cambodia.

The partnership involves the cocoa processor company (Agro Traders) that facilitates the provision of production inputs to the farmer in a backward integration approach. Furthermore, in order to penetrate the international market, the processor partnered with UTZ on training and support on cocoa certification. It therefore expected that the potential for economic gains from the partnership will enhance farmers' compliance to farm certification programme. It is against this backdrop that this study intends to give an insight into how the scheme has fared toward enhancing sustainable cocoa production in Ondo State, Nigeria. The main objective of the study was to examined the determinants of farm certification compliance among cocoa farmers in Ondo state while the specific objectives were to: describe the socio-

economic characteristics of cocoa farmers in the study area, ascertain farmers access to agricultural inputs through the processor, determine the farmers' knowledge of farm certification measures, assess the level of compliance of cocoa farmers with farm certification measures, and ascertain cocoa farmers' production performance.

Statement of hypothesis

Ho1 There is no significant relationship between farmers' knowledge of farm certification and level of compliance

Methodology

The study was carried out in Ondo State, Nigeria. Ondo State is ranked as the largest cocoa producing state out of fourteen (14) in the country and accounted for 24% of the Nigeria's total production in 2011 (PricewaterhouseCoopers, 2017). Multi-stage sampling procedure was used in the selection of respondents. The first stage involved random sampling of two (2) multipurpose unions (Odo-ode and Akure) out of the four (4) multipurpose unions (Owo, Odo-ode, Ondo, and Akure) that participated in the certification programme in Ondo State. Then in the second stage, 10 from 64 villages in Odo-ode multipurpose union and 2 from 8 villages in Akure multipurpose union were randomly selected. The last stage involved proportionate sampling of 60 respondents from Odo-ode multipurpose union and 30 respondents from Akure multipurpose union. Thus, a total number of 90 respondents were used for the study.

Farmers' access to agricultural support services was measured using three point scale of Always Accessible (2), Sometimes Accessible (1), and Never Accessible (0). If the estimated mean is greater than 1.0, the implication is that accessibility to support service is good and otherwise poor. Farmers' knowledge was measured using a list of farm certification measures. Correct answer attracted 1 while wrong answer attracted 0. Based on the scores, farmers' knowledge level was then categorised as: good knowledge (13-19) average knowledge (9-12) and poor knowledge (<9). Farmers' compliance with farm certification was measured by asking farmers to state their agreement or disagreement using "Full Compliance" (2); "Moderate Compliance" (1) and "No Compliance" (0). If the estimated mean is greater than 1.0, the implication is that compliance with farm certification is good or otherwise poor. Cocoa output was measured by asking farmers to state their output in kilograms.

Data was analyzed using descriptive (such as percentages and frequency distribution) and inferential statistics (such as Pearson Product Moment Correlation and Regression Analysis).

Regression Analysis

The regression equation is implicitly stated thus:

$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, X_{10})$
Where Y = Level of compliance (mean score)
X_1 = Knowledge of farm certification (actual score)
X_2 = Farmers' age (years)
X_3 = Level of education (years)
X_4 = Farm size (hectare)
X_5 = Extension contact (number of visits)
X_6 = Years of farm establishment (years)
X_7 = Cocoa output (kg)
X_8 = Access to support services (number of times the support services was accessed within the cropping season)
X_9 = Constraints to compliance
X_{10} = Household size (number of persons)

The explicit form of the model is as shown below:
$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 \ldots\ldots\ldots\ldots\ldots\ldots + \mu$

Results and Discussion

Socio-Economic characteristics of farmers

Results in Table 1 show that 97.8% of the respondents were male while 2.2% were female. This could be as a result of difficulty in female gaining access to land for cash crop production due to cultural beliefs. This corroborates the finding of Ayodele *et al.,* (2016) who reported high access to land by male cocoa farmers than their female counterparts in Ekiti State, Nigeria. Also, the result shows the mean age of the farmers as 48 years. The farmers were younger compared to the finding of Faturoti *et al.,* (2012) who found the mean age of cocoa farmers in Nigeria to be 55 years. This suggests that the farmers would have the capacity to proceed at utilizing their strength to achieve improved yield in cocoa production. Table 1 further shows

that 36.7% of the farmers had primary education and 38.9% possessed secondary education. The high literacy level is an indication that the farmers would be amenable to innovations in cocoa production. Result in table 1 further indicates mean farm size of 3.3 ha showing that cocoa production is dominated by smallholder farmers. This further buttresses the finding of Nwachukwu *et al.,* (2010) that the average cocoa farmer in Nigeria holds a farm size of 2.5 ha. The small-scale of the farmers may limit their access to production resources and profits from cocoa production. Results from table 1 further reveal that majority (68.9%) of the cocoa farmers were visited weekly by the private extension agents. This is in contrast with Gbegeh and Akubuilo (2013) that found majority (53.7%) of farmers in Rivers State, Nigeria receiving extension visits fortnightly. This is a good improvement on frequency of extension visits to farmers. The regular contact with the farmers is expected to translate to improved technology uptake and improved output in cocoa production. Table 1 also reveals that 34.4% of the farmers had 11-20 years farming experience; 16.8% had 21-30 years and 23.3% had 31-40 years with average farming experience of 30 years. This contradicts the finding of Fawole and Rahji (2016) who found the average farming experience of cocoa farmers in Ondo state to be 18 years. Hence, the high level of farming experience is expected to open the farmers to dynamics of cocoa production towards enhanced production capacity.

Table 1 - Distribution of farmers according to socio-economic characteristics (n=90)

Variables	f	%	Mean	SD
Sex				
Male	88	97.8		
Female	2	2.2		
Age (years)				
21 – 30	1	1.1	48	7.7
31 – 40	19	21.1		
41 – 50	43	47.8		
51 – 60	23	25.6		
61 – 70	4	4.4		

Marital status				
Single	2	2.2		
Married	88	97.8		
Level of education				
Adult education	17	18.9		
Primary education	33	36.7		
Secondary education	35	38.8		
Tertiary education	5	5.6		
Farm size (hectares)				
1 - 2.0	6	6.7	3.3	0.9
2.1 - 3.0	14	15.6		
3.1 - 4.0	29	32.2		
4.1 - 5.0	38	42.2		
>5.0	3	3.3		
Frequency of extension visits				
Weekly	62	68.9		
Fortnightly	1	1.1		
Monthly	22	24.4		
Quarterly	5	5.6		
Farming experience (years)				
1 - 10	3	3.3	30	12.4
11 – 20	31	34.4		
21 – 30	15	16.8		
31 – 40	21	23.3		
>41	20	22.2		

Source: Field survey, 2017

Access to agricultural support services

Results in Table 2 reveal that the following support services were confirmed to be well accessible to cocoa farmers; provision of agrochemicals (=1.98), provision of

extension services (=1.97), training on record keeping (=1.86), provision of guaranteed market (=1.83), provision of market information (=1.83), training on post-harvest handlings (=1.82) and provision of improved cocoa varieties (=1.78). These findings are similar to the findings of Bosselmann *et al.,* (2017) that Rainforest Alliance certification has positive influence on Ghanaian cocoa farmers' access to farm inputs and credit. This is an improvement on the findings of Mondelez International (2015) that cocoa farmers generally lack access to essential agricultural inputs. Following from this, the farmers are expected to translate the high access to production inputs to increase in yield and income. On the other hand, it was revealed that majority (72.2%) of the respondents did not enjoy good access to fertilisers supply (=0.48). Interaction with the farmers revealed that use of fertilisers was not encouraged by the processor but rather the application of leaf droppings, dry branches and shrubs to serve as organic manure to the soil. Low access to fertilisers by the farmers could therefore be described as a deliberate attempt toward environmental friendly sustainable cocoa production. Use of organic fertilisers may also be motivated as study conducted in some sub-Saharan Africa countries have established that leaf biomas has the capacity to increase soils productive capacity and crop yields (Partey *et al*., 2018)

Table 2- Distribution of respondents according to access to agricultural support services

S/N	Support services	Always Accessible		Sometimes Accessible		Not Accessible		Mean ()	SD
		f	%	f	%	f	%		
1.	Provision of agrochemicals	88	97.8	2	2.2			1.98*	0.14
2.	Provision of extension services	87	96.7	3	3.3			1.97*	0.18
3.	Training on record keeping	77	85.6	13	14.4			1.86*	0.35
4.	Guaranteed market	75	83.3	15	16.7			1.83*	0.37
5.	Market information	75	83.3	15	16.7			1.83*	0.37
6.	Training on post-harvest handlings	77	85.6	10	11.1	3	3.3	1.82*	0.46
7.	Provision of improved variety	70	77.8	20	22.2			1.78*	0.42
8.	Transportation services	64	71.1	1	1.1	25	27.8	1.43	0.90
9.	Credit facilities	61	67.8	2	2.2	27	30.0	1.38	0.91
10.	Fertilisers supply	18	20.0	7	7.8	65	72.2	0.48	0.81

Source: Field survey, 2017 *represents good accessibility

Cocoa farmers' knowledge of farm certification measures

Results in Table 3 reveal that the cocoa farmers have good knowledge in all the components of farm certification measures except one. This is shown from the table wherein the farmers scored good knowledge in 18 out the 19 test questions. This infers that the involvement of the private sectors has imparted good knowledge of agronomic practices to the farmers. This is an improvement on the finding of Mondelez International (2015) that cocoa farmers' had limited knowledge of agricultural practices in cocoa production.

Table 3 - Farmers knowledge on farm certification measures in cocoa production

S/N	Practice	f	%	Score	Category
1	Planting hybrid cocoa variety	89	98.9	13-19	Good knowledge
2	Recommended spacing	67	74.4	13-19	Good knowledge
3	Planting shade tree	84	93.3	13-19	Good knowledge
4	Proper shade management	74	82.2	13-19	Good knowledge
5	Water and chemical mixing ratio	60	66.7	13-19	Good knowledge
6	Method of storing agrochemicals	90	100	13-19	Good knowledge
7	Disposing surplus chemicals	40	44.4	6-12	Average knowledge
8	Handling diseased pods and branches	70	77.8	13-19	Good knowledge
9	Method of fermentation	87	96.7	13-19	Good knowledge
10	Method of harvesting	50	55.6	13-19	Good knowledge
11	Handling protective wears after use	90	100	13-19	Good knowledge
12	Self-protection when using agrochemicals	87	96.7	13-19	Good knowledge
13	Types of banned agrochemicals	89	98.9	13-19	Good knowledge
14	Health and safety after spraying	89	98.9	13-19	Good knowledge
15	Illegal labour types	87	96.7	13-19	Good knowledge
16	Treating labour agreement	90	100	13-19	Good knowledge
17	Spraying distance to water	73	81.1	13-19	Good knowledge
18	Disposing empty/expired chemical containers	90	100	13-19	Good knowledge
19	Removing cocoa beans from pods	77	85.6	13-19	Good knowledge

Source: Field survey, 2017

Table 4 - Distribution of respondents compliance with farm certification measures (N=90)

S/N	Practices	Full Compliance		Moderate Compliance		No Compliance		Mean ($\overline{X}$)		SD
		f	%	f	%	f	%			
1.	Planting hybrid only	90	100.0						2.00*	0.00
2.	Recommended spacing	90	100.0						2.00*	0.00
3.	Pruning diseased branches	82	91.9	8	8.9			1.91*	0.29	
4.	Specified number of shade trees per hectare	86	95.6	4	4.4			1.96*	0.20	
5.	Fertilisers application	63	70.0	3	3.3	24	26.7	1.43	0.88	
6.	Pest management	88	97.8	2	2.2			1.98*	0.14	
7.	Regular record keeping	71	78.9	19	21.1			1.79*	0.41	
8.	Personal and environmental protection	88	97.8	2	2.2			1.98*	0.14	
9.	Recommended tools	88	97.8	2	2.2			1.98*	0.14	
10.	Removal of infested pods	90	100.0					2.00*	0.00	
11.	Keeping right spacing during spraying of chemicals	90	100.0					2.00*	0.00	
12.	Proper disposal of empty and obsolete chemicals	90	100.0					2.00*	0.00	
13.	Keeping chemicals in safe containers	90	100.0					2.00*	0.00	
14.	Harvesting pods when turn yellow	86	95.6	4	4.4			1.96*	0.20	
15.	Fermentation in heaps under banana or plantain leaves	90	100.0					2.00*	0.00	
16.	Drying cocoa beans on raised platform	81	90.0	9	10.0			1.90*	0.30	
17.	Storing beans in jute bags	89	98.9	1	1.1			1.98*	0.10	
18.	Opening pods with wooden club	81	90.0	6	6.7	3	3.3	1.87*	0.43	

Source: Field survey, 2017 *represents good compliance

Compliance of cocoa farmers with farm certification measures

The results in Table 4 reveal that there was good compliance with planting only hybrid cocoa (=2.0), maintaining recommended spacing (=2.0), pruning dead or diseased branches (=1.91), planting of recommended number of shade trees per hectare (=1.96), use of appropriate pest management techniques (=1.98), maintaining regular record keeping (=1.79), giving attention to self and environmental protection (=1.98), use of recommended farm tools for weeding at different level of maturity (=1.98), removal and disposal of infested pod (=2.0), consciousness of personal

and environmental protection while spraying (=2.0), maintaining recommended distance from water body/ source when establishing cocoa and spraying (=2.0), proper disposal of empty and obsolete chemicals (=2.0), keeping agrochemicals in safe conditions (=1.96), harvesting cocoa when pod is yellowish (=2.0), fermenting harvested cocoa beans in heaps under banana or plantain leaves (=2.0), Drying cocoa beans on raised platform and away from smoke and dust (=1.90), storing dried cocoa beans in a well-ventilated store or room and in jute bag for haulage (x=1.98), opening pods using wooden club (=1.87), marketing to processor with guaranteed weighing scale (=1.98). The results also show that 26.7% of the farmers had not complied with application of fertilisers as recommended (=1.43).

Cocoa farmers' production performance

Results in table 5 show the average cocoa output and yield of 2,112.67kg and 660.33kg/ha respectively for the farmers. The average yield of the cocoa farmers is an improvement on the national average which stands at less than 500kg/ha (Global Agricultural Information Network, 2014). It can then be deduced that the engagement of the private actors is already having appreciable effect on the production performance of the farmers. Thus with further scale up, farm certification could be a veritable tool to enhance cocoa production and make it competitive in the international market.

Hypothesis testing

Ho1: There is no significant relationship between farmers' knowledge of farm certification and level of compliance

The result of Pearson Product Moment Correlation in table 6 shows that there was significant relationship between farmers' knowledge of farm certification and compliance level with farm certification. The PPMC coefficient of 0.503 indicates a moderately strong correlation between the two variables. This implies that farmers' level of compliance increases with increase in knowledge. It is therefore a worthwhile endeavour to invest in building farmers capacity in cocoa production through technical knowledge.

Table 5 - Cocoa farmers' production performance

Output (kg)	f	%	Mean	SD
0 – 1,000	13	14.5		
1,001 – 2,000	31	34.4		
2,001 – 3,000	34	37.8		
3,001 – 4,000	10	11.1		
4,001 – 5,000	2	2.2		
Total	90	100.0	2,112.67	838.50
Yield (kg/ha)				
0 - 500	31	34.5		
501 - 1000	48	53.3		
1001 - 1,500	10	11.1		
1,501 - 2000	1	1.1		
Total	90	100.0	660.33	268.30

Source: Field survey, 2017

Table 6 - Pearson Product Moment Correlation showing significant relationship between farmers' knowledge of farm certification and compliance level

	Mean	r-value	p-value	Decision
Farmers' knowledge	16.93	0.503	0.001	Significant
Compliance level	1.93			

*Significant at p≤0.01

Determinants of compliance with farm certification

Gretl 1.9.8 was used to perform diagnostic tests on the data to ascertain the suitability of the regression model. The tests showed that the error term is normally distributed (pvalue = 0.4913) and there were no problems of multicollinearity, autocorrelation and heteroscedasticity. Results in table 7 indicates that seven independent variables, namely: knowledge of agronomic practices (X_1), farmers' age (X_2), educational

level (X_3), farm size (X_4), cocoa output (X_7), access to support services (X_8), and household size (X_{10}) were found significant in explaining cocoa farmers' compliance to farm certification. Extension contacts (X_5), years of farm establishment (X_6) and constraints to certification (X_9) were found not significant. The estimates of the model coefficients reveals that keeping other factors constant, a unit increase in farmers' age, cocoa output and access to support services will increase compliance level with farm certification by 0.425, 0.300 and 0.262 respectively. Meanwhile negative coefficients observed in household size, level of education and farm size indicate that keeping other factors constant, a unit increase in these variables will reduce compliance level with farm certification by -0.493, -0.215 and -0.170 respectively. This implies that it is a challenge for the farmers to maintain strict compliance with farm certification as household size, level of education and farm size increase. This may center on the fact that as the farm size increases, observing the certification rules may become complex and therefore reducing the compliance level. This agrees with the findings of Gambelli *et al.,* (2014) that non-compliance of organic farmers in Italy and Germany increases as the farm size grows. Furthermore, table 7 further shows the value of R (that is correlation coefficients between all of the predictor variables and compliance level). In the model, the value is 0.814, which indicates that there is high variance between the independent variables and compliance with farm certification. Meanwhile, the R^2 of 0.663 indicates that 66.3% of the variance in compliance with farm certification is explained by the independent predictor variables in the model.

Conclusion and Recommendations

The study has shown that majority of cocoa farmers in the study area were males. Also the farm certification initiative involving private actors have demonstrated prime potentials in filling the inadequacies of public actors in making agricultural support services available to the farmers. A positive statistically significant correlation was established between farmers' knowledge on farm certification measures and compliance level. The high level of compliance to farm certification measures therefore suggests that the cocoa beans produced by the farmers are safe at farm gate which is a crucial stage of food contamination along produce value chain. This development will definitely make the cocoa beans lucrative to the export market and as well improve farmers' livelihood. The leading determinants of compliance to farm certification from the study are: farmers age, cocoa output, access to support services

Table 7 - Result of linear regression model for cocoa farmers

Variables	Unstandardized coefficient		Standardized coefficient	T	Sig.
n = 90	B	Std. Error	Beta		
Constant	26.565	2.345		11.330	0.000
Knowledge	0.331	0.129	0.249	2.571	0.012*
Farmers age	0.086	0.020	0.425	4.242	0.000*
Education	-0.096	0.034	-0.215	-2.846	0.006*
Farm size	-0.294	0.139	-0.170	-2.118	0.037*
Extension contact	0.009	0.007	0.105	1.277	0.205
Years of farm establishment	-0.010	0.014	-0.078	-0.698	0.487
Output	0.001	0.000	0.300	3.105	0.003*
Access to support services	0.112	0.043	0.262	2.596	0.011*
Constraints to compliance	0.037	0.026	0.143	1.432	0.156
Household size	-0.549	0.092	-0.493	- 5.951	0.000*

$R = 0.814$ $R^2 = 0.663$ Adjusted $R^2 = 0.620$
*Significant at $p \leq 0.05$

and knowledge of agronomic practices. Governments at all levels are therefore encouraged to collaborate with the private actors in financing the cost of certification for uptake and wider reach across the cocoa producing states in the country. For sustainable compliance with farm certification, experienced cocoa farmers with track record of productivity should be enlisted into the subsequent schemes. Furthermore, incentives such as payment of premiums and bonuses should be extended to farm certification-compliant farmers so as to sustain the current cocoa safety level.

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