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Effects of rural-urban migration on cocoa production in Ife-Ijesha agricultural development zone of Osun State, Nigeria

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Abstract

The study examined the impact of rural-urban drift on cocoa production in Ife-Ijesha Agricultural Development Zone, Osun state, Nigeria. Employing one hundred and twenty cocoa farmers in a three-stage sampling procedure and scheduled interview collected data were analysed using descriptive methods and Pearson's Product Moment Correlation (PPMC). Results revealed that most of the cocoa farmers were male, married with average age, household size, years of formal education, cocoa farm size, and years of experience of 51, 6.19, 7.38, 7.53, and 20.0 respectively. The major effects of rural-urban migration were the high cost of hired labour. Provision of basic amenities such as schools was the major strategy identified while the major constraint to cocoa cultivation was the inadequate credit facilities. The hypothesis testing showed that age ($r=0.272$, $p<0.01$) and years of experience in cocoa farming ($r=-0.217$, $p<0.05$) were significant and negatively related to the effects of rural-urban migration on cocoa production. The study concluded that the high cost of hired labour was the main effect of rural-urban drift on cocoa cultivation. The study therefore recommends that the government and other relevant stakeholders should provide basic amenities that will encourage youth to stay in rural areas.

Keywords: rural-urban, migration, cocoa, rural dwellers, effect, Agricultural Development Zone

INTRODUCTION

Cocoa production plays a vital role in Nigeria's economy, especially in the Southwest. Its impact cannot be overemphasized as it plays a crucial role in supporting the income and well-being of many populace, particularly those residing in rural areas. According to Awoyemi & Aderinoye-Abdulwahab (2019), in Nigeria, cocoa stands out as a high-value crop that substantially boosts agricultural revenue, making it a vital component of the country's economic framework and is used domestically for the production of beverages and chocolate for all age groups. The domestic demand for cocoa is directly proportional to the boom and expansion of chocolate confectioneries and other associated products made from cocoa. Cocoa production brings about foreign exchange through its exportation to other countries and serve as one of the major ingredients in food production for different age groups.

Investing in cocoa farming in Nigeria offers a lucrative business opportunity in agribusiness, given the high demand for cocoa in both domestic and international markets, making it a top-selling agricultural commodity. Moreover, the cocoa sector is a major determinant of Nigeria's Gross Domestic Product (GDP), making it a vital component of the country's economy accounting for about 15% of the GDP and 40% of the country's exports in 1970 (Adebile & Amusan, 2011). Although the government's focus shifted from agriculture to oil, cocoa remains a significant contributor to Nigeria's foreign exchange earnings, ranking second highest. The crop

generates substantial revenue, with annual exports of cocoa beans alone yielding at least 34 billion naira, plus additional income from by-products like butter, cake, liquor, and powder, making cocoa a vital export commodity (Ibiremo *et al*., 2011). Cocoa production enhances the livelihoods of nearly eight million people and the sustainability of the sector.

Rural-urban drift is one of the key distressing issues confronting Nigerian agriculture. It represents a phenomenon of exceptional movement of rural households from the agricultural zones to the urban cities searching for a better life. Additionally, the influx of rural dwellers moving from villages to cities is putting a strain on the already limited resources in cities, such as housing, electricity, and healthcare services, leading to a surge in the number of urban dwellers living in informal settlements and slums (Amrevurayire & Ojeh, 2016). Globally, moving from rural to urban areas is viewed as a crucial means of survival and a vital livelihood strategy for many rural families, enabling them to improve their economic prospects and quality of life (United Nations Population Fund, 2011).

The discovery and exploration of crude oil in Nigeria led to a significant decline in the country's agricultural sector. The government's focus shifted from agriculture to oil, prompting a mass movement of young people from villages to cities, leaving farming in the hands of the elderly and women. As a result, the amount of land under cultivation decreased, leading to reduced agricultural production and earnings, as the labor force dwindled, causing a significant impact on the sector's productivity and economic contributions (Benell, 2017). The exodus of youth from rural communities to urban centres has led to a weakening in the agricultural economy, resulting in entrenched poverty and food insecurity. This is because the bulk of the agricultural workforce is being depleted, leaving only the elderly and older individuals to till the land, thereby jeopardizing the sector's productivity and sustainability (Adewale, 2015).

In the face of movement from rural communities to urban cities, rural households still have farming as the mainstay of their livelihood. The privileged members of the rural farming households tend to migrate leaving behind the illiterates and aged members of rural households resulting in significant labour supply gaps for agricultural production in the rural areas (Paris, Luis, Villanueva, Rola-Rubzen, and Wongsanum, 2019). Research has revealed that nearly half of rural households in Nigeria rely on hired labor for farm activities like land preparation, weeding, and harvesting. Rural-urban migration impacts on agriculture may be either favourable or unfavourable, depending on the efficiency of rural markets (de Brauw, 2017). Numerous studies have emphasized the importance of agricultural growth, which is the primary source of employment for most rural residents, as a means of increasing income for the rural poor and reducing migration. Despite the theoretical understanding of migration's impact on agricultural production, there is a significant knowledge gap in researching the direct correlation between this phenomenon and cocoa production. The phenomenon is a long-standing and widespread issue worldwide but has increasingly become alarming in recent years. In developing countries like Nigeria, the migration incidence is often a vital survival strategy for young people living in impoverished rural areas. While research has extensively explored migration and its impact on development, this specific topic and its effects on cocoa production have received relatively little attention.

This study intends to explore this knowledge gap by investigating the impact of rural-urban migration on cocoa farmers in the Ife-Ijesha Agricultural Development Zone of Osun State, Nigeria. The research investigated the socio-economic profiles of household heads of migrant cocoa farmers in the study area,

determined the underlying causes for rural-urban drift among the cocoa farmers, profiled the challenges facing cocoa production, and explored effective strategies to mitigate rural-urban migration among cocoa farmers in the study area.

MATERIALS AND METHODS

The research was conducted in the Ife-Ijesha Agricultural Development Zone, Osun State, Nigeria. Osun State, created in 1991, shares borders with Kwara State to the north, Ekiti and Ondo States to the east, Ogun State to the south, and Oyo State to the west, covering an area of approximately 14,875 square kilometers. The state's geographical coordinates are between 8.10° N and 6.50° S latitude and 5.40° E and 4.00° W longitude (National Population Commission, 2007). The study's population is consisted of cocoa farmers and rural households residing in the Ife-Ijesha Agricultural Development Zone. The study focuses on rural households in selected communities of the Ife/Ijesha Agricultural Development Zone of Osun State based on their important contributions to the overall cocoa output of the State and also as being the major export crop cultivated in the area (Oyenpemi *et al.*, 2023).

A three-stage sampling procedure was used to select respondents for the study. In the first stage, four local governments (out of 12) were randomly selected, representing four ADP blocks. In the second stage, three cells (out of 5) were purposefully selected from each ADP zone, totaling 12 cells, due to high cocoa production in the area. At the last stage, heads of selected cells provided lists of migrant households from which ten rural households with migrants were proportionally selected from each cell, resulting in a total sample size of one hundred and twenty households. Data was gathered using a comprehensive interview schedule with both open and closed-ended questions, carefully crafted to align with the study's objectives. Trained enumerators, who are indigenous to the study areas and familiar with the local context, assisted with data collection. The data was evaluated using both descriptive and inferential statistics. Descriptive statistics included frequency distributions, percentages, and mean values, while for hypothesis testing, Pearson Product Moment Correlation was employed. The effects of rural-urban migration on cocoa production were measured using a 5-point Likert scale, ranging from strongly agree (5) to strongly disagree (1), with intermediate options including agree (4), undecided (3), and disagree (2). The weighted mean score was decided and used to rank the measures. A list of fifteen (15) perceptional statements was provided for the farmers. The benchmark was obtained by adding 5+4+ 3+2+1 = 15 which is divided by 5 to give 3.0. A mean score of 3.0 or above is considered indicative of high effects, while scores below 3.0 denote low effects.

RESULTS AND DISCUSSION

Socio-economic characteristics of the cocoa farmers Household's heads in the study area

Table 1 reveals that the average age of cocoa farmers' household heads was 51 years, indicating that most farmers were elderly, with few young people engaged in cocoa farming. This suggests that many youths have migrated to urban areas for education, employment, and other opportunities (Lawal & Okeowo, 2014). The data also shows that males (94.2%) dominate cocoa farming, while women (5.8%) are few, possibly due to the physically demanding nature of work. Most farmers (75.8%) are married, with an average household size of six people, which may provide a labor advantage. Also, farmers have an average of 7.38 years of education, highlighting the importance of education in rural households. These findings align with previous studies, which suggest that cocoa production in male-dominated households may be more productive

(Onubuogu *et al*., 2014), and large families can be more efficient in the supply of labor (Akintonde *et al.*, 2016).

The results indicate that the respondents have extensive experience in cocoa production, having 20 years of experience on average. The average farm size is 7.5 acres, with most farmers (89.2%) acquiring their land through inheritance. A significant proportion (52.5%) also lease or rent land, while only 5.8% have purchased their land. This suggests that most cocoa farmers in the study area own land and have inherited their farmlands, consistent with previous findings (Ajala *et al.*, 2019). The majority (79.2%) of farmers relied on hired labor, while 20% use a combination of hired and family labor. Despite having large households, farmers prefer to hire labor, possibly due to the specialized skills required for cocoa production (Akinniran & Taiwo, 2016). Most farmers (91.7%) belong to a society or organization, and nearly all (99.2%) rely on personal savings and cooperatives for capital. Additionally, 95.8% of farmers have partial access to extension services, while 4.2% have no access at all. On average, the annual income from cocoa production is N 1,116,250 indicating that the farmers realize more than a million naira on cocoa every year, assuring that cocoa is highly profitable. Almost all (99.2%) of the respondents have access to enhanced input from reputable sources whereas 0.8 percent do not have access and this is in line with Lawal & Okeowo (2014) who reported similar results.

Table 1. Distribution of the respondents according to their socio-economic characteristics (n=120)

Variables	**Frequency**	**Percentage**	**Mean**
Age			
21-40	37	30.8	
41-60	51	41.5	51 ±13.36
61-80	32	26.7	
Sex			
Male	113	94.2	
Female	7	5.8	
Marital status			
Single	5	4.2	
Married	91	75.8	
Divorced	17	14.2	
Widowed	7	5.8	
Household size			
1-5	60	50.0	
6-10	48	40.0	6.19 ±3.213
11-15	11	9.2	
16 and above	1	0.8	
Years of education			
0	40	33.3	
1-6	23	19.2	7.38 ±6.149
7-12	42	35.0	
13-18	15	12.5	

Farming experience in cocoa (Years)			
1-10	37	30.8	
11-20	34	28.3	20.00 ±9.890
21-30	33	27.5	
31-40	15	12.5	
Farm size for cocoa production (acres)			
1-5	49	40.8	
6-10	48	40.0	7.53 ±4.239
11-15	23	19.2	
Land acquisition method			
Inheritance	107	89.2	
Lease	63	52.5	
Rent	57	47.5	
Purchased	7	5.8	
Types of labour employed			
Family	1	0.8	
Hired	95	79.2	
Both	24	20.0	
Membership of farmers' organization			
Yes	110	91.7	
No	10	8.3	
Sources of finance			
Personal savings	119	99.2	
Cooperative	119	99.2	
Family and friends	1	0.8	
Commercial bank	2	1.7	
Thrift	1	0.8	
Access to extension			
Yes	115	95.8	
No	5	4.2	
Annual Income from cocoa production (₦)			
100001-300000	16	13.3	
300001-500000	23	19.2	
500001-700000	8	6.7	
700001-900000	12	10.0	
900001-1100000	61	51.8	1116250 ±755539.611
Access to Improved farming inputs			
Yes	119	99.2	
No	1	0.8	

Source: Field survey, 2022

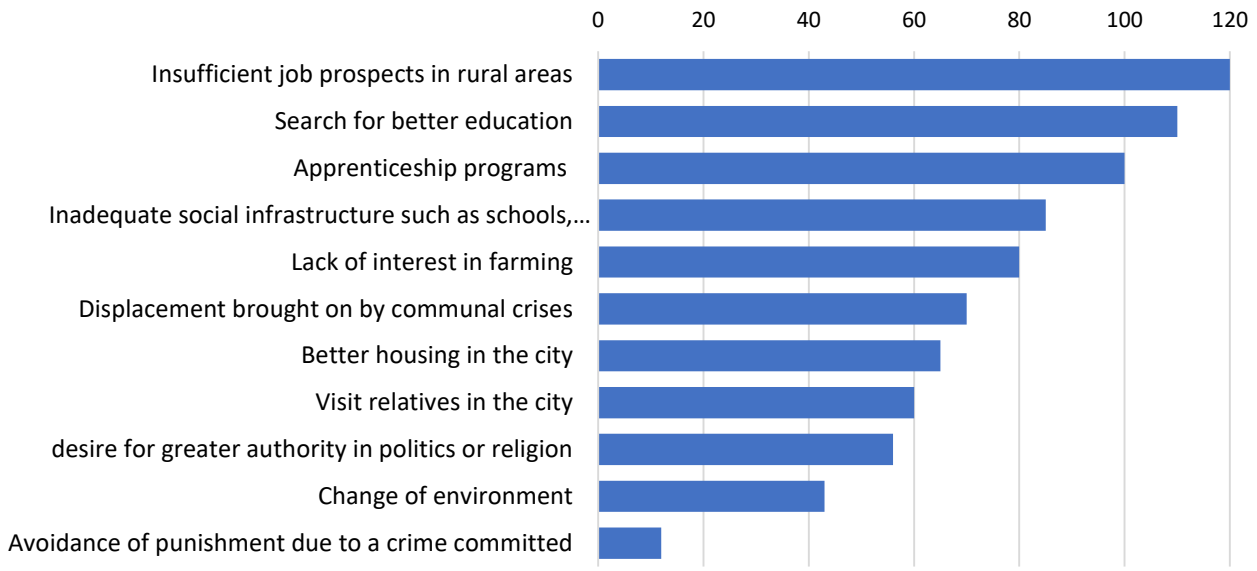

Figure 1. Perceived causes of rural-urban migration
Source: Field Survey, 2022

Perceived Causes of rural-urban migration on cocoa production

The result in Figure 1 presents the perceived causes of rural-urban migration on cocoa production, listed in descending order. The primary cause of rural-urban migration, according to all respondents (100%) was insufficient job prospects in rural areas which was ranked (1st), followed by the need for better education (91.7%; 2nd), apprenticeship programs (83.3; 3rd), and inadequate social infrastructure, such as roads, health centers, and schools (70.8%; 4th). The variation in responses may be due to differing perceptions of the causes of rural-urban drift. These findings align with previous research (Aliabakar *et al.*, 2014; Oberhauser, 2016) that highlights the importance of urban facilities, services, and employment opportunities in driving rural-urban migration.

Perceived effects of rural-urban migration on cocoa production

Figure 2 presents the responses of participants regarding how rural-to-urban migration impacts cocoa output in the study area. As stated in the methodology, a Likert scale was used to analyze the data. The most important perceived effects of rural-urban migration on cocoa output were determined by quantifying and ranking the replies using statistical methods. The data shows that the high cost of hired farm workers (WMS = 4.91) ranked 1st, Diversification into other occupations ranked 2nd with (WMS = 4.85), cocoa production becomes tiresome came third with (WMS = 4.75) while the low cocoa productivity (WMS =1.82; 15th) was ranked the least among others. The main effect of rural-urban migration on cocoa production in the study area was the high cost of hired farm workers. Farm workers are an important input in agricultural productivity, particularly in emerging nations where agricultural mechanization is still low. According to Kwasi (2019), there is a direct relationship between agricultural labor availability and productivity levels. Notably, Lawal & Okeowo (2014) claimed that the movement of people from rural communities to urban regions has been cited as one of the fundamental reasons for poor agricultural production despite the country's huge resources.

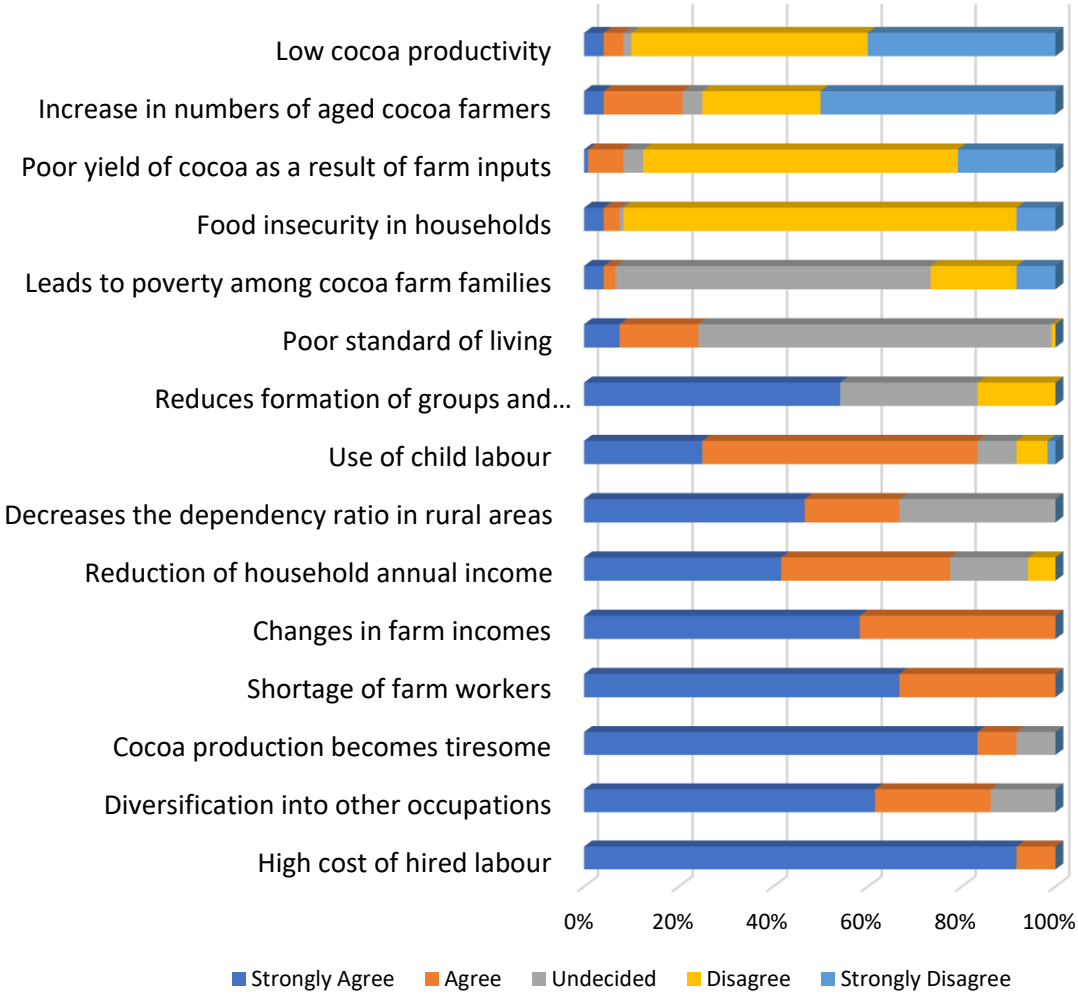

Figure 2. Perceived Effects of Rural-Urban Migration

Strategies for reducing rural-urban movement among cocoa farmers in the study area

Figure 3 reveals the top approaches to mitigate rural-urban drift, as perceived by the respondents. The most effective measures include: providing basic amenities like schools, water, and electricity (100%), creating employment opportunities in rural areas, such as agro-allied industries (95.8%), enhancing transportation and communication networks (93.3%), and empowering and incorporating rural youth into agriculturally oriented activities. (91.7%). In contrast, subsidizing farm inputs like fertilizers and pesticides was ranked the lowest (70.8%). These findings suggest that farmers are deeply concerned about rural-urban drift and its implication on their productivity and farm earnings.

Constraints to cocoa production in the study area

The result in Table 2 identifies the constraints that hinder cocoa production in the study area. Cocoa farmers in this region encounter various challenges that impede their ability to produce cocoa efficiently. Among them were inadequate credit facilities (WMS=1.99; 1st), lack of modernization and mechanization (WMS=1.94; 2nd), poor infrastructural facilities (WMS=1.93; 3rd), inadequate supply of farm inputs (WMS=1.78; 4th).

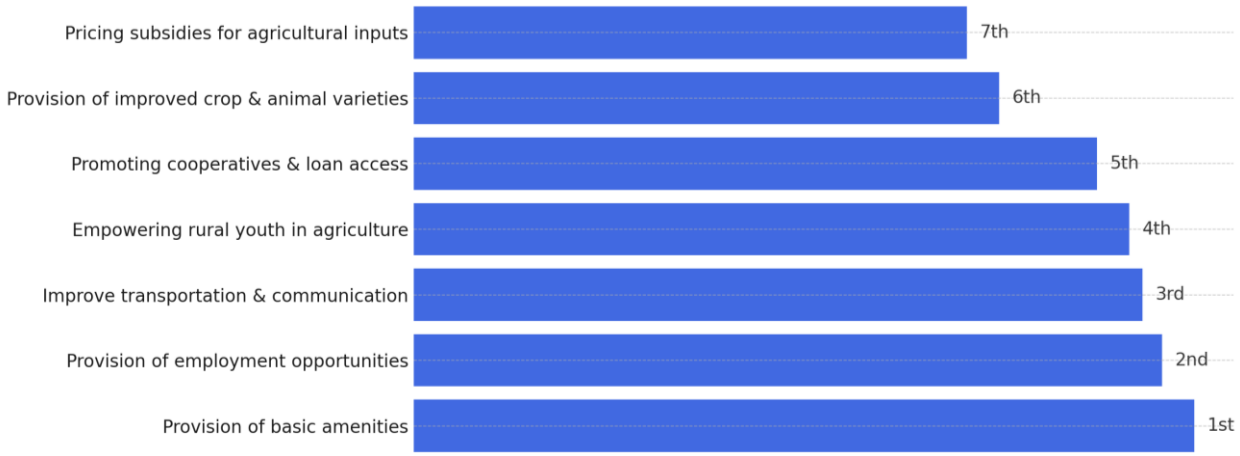

Figure 3. Strategies for reduction in rural-urban migration
Source: Field survey, 2022

Table 2. Distribution of the cocoa farmers according their constraints to production in the study area

Constraints	Very serious	Serious	Not a constraint	WMS	RANK
Insufficient credit facilities	119 (99.2)	1 (0.8)	0 (0.0)	1.99	1st
Lack of modernization and mechanization	115 (95.8)	3 (2.5)	2 (1.67)	1.94	2nd
Poor infrastructural facilities such as bad road network in the rural areas	112 (93.3)	8 (6.67)	0 (0.0)	1.93	3rd
Inadequate supply of farm inputs	98 (81.7)	18 (15.0)	4 (3.3)	1.78	4th
Inadequate access to market information	85 (70.8)	35(29.2)	0 (0.0)	1.70	5th
Inadequate storage facilities	75 (62.5)	25 (20.8)	20 (16.7)	1.45	6th

Source: Field survey, 2022

These were perceived as the most severe constraints to the cocoa production in the study area, while inadequate storage facilities (WMS=1.45; 6th) was the least constraint. This corroborates with Oladoyin & Aturamu (2022) who also found that financial constraints are a serious limitation to cocoa production.

Hypothesis testing

The analysis using Pearson's Product Moment Correlation (PPMC) is shown in Table 3, whereby the respondents' assessed the impact of rural-urban migration on cocoa production was compared with a subset of their socio-economic factors. Age ($r = -0.272$, $p < 0.01$), years of experience in cocoa farming ($r = -0.217$, $p < 0.05$), farm size for cocoa production ($r = -0.198$, $p < 0.05$), and the perception of the consequence of migration on cocoa output were found to have significant inverse associations with each other. This indicates that the perceived detrimental effects of rural-urban migration on cocoa production decrease with increasing age, years of experience, and farm size. This result implies that there is a tendency for low occurrence of rural-urban drift among the cocoa farmers who are older, more experienced in cocoa cultivation, and possess larger landholdings.

Table 3. Relationship between selected socio-economic characteristics and perceived effect of rural-urban migration on cocoa production

Variables	Coefficient (r)	Sig.	Decision
Age	-0.272	0.003**	S
Household size	-0.102	0.269	NS
Years of education	0.062	0.501	NS
Years of experience in cocoa farming	-0.217	0.017*	S
Farm size for cocoa production	-0.198	0.030*	S

Legend: Data analysis, 2022 *= Significant at 1% **= Significant at 5%

CONCLUSIONS

The most outstanding effect on cocoa production due to rural-urban migration is the shortage of labor, leading to increased labor costs and decreased incomes for farmers. Farmers should therefore form cooperative societies that can foster cooperative labour schemes and/or wage subsidies. This will ameliorate the high cost of labour militating against cocoa farm operations. Also, the finding of this study affirmed that there is inverse relationship between perceived effect of rural-urban migration and farm size. Therefore, it is crucial to assist cocoa farmers in expansion of their farms through subsidized mechanization in order to ameliorate the phenomenon of rural-urban drift. To mitigate the effect of migration in general, it is therefore recommended that the government and stakeholders should invest in rural infrastructure to discourage migration and encourage youth through incentives and mechanization to stay in rural areas while agricultural produce prices should be improved to enhance income generation among cocoa farmers

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