

ECONOMIC ANALYSIS OF CHILD LABOUR AND HEALTH STATUS OF COCOA FARMERS IN IKOLE EKITI LOCAL GOVERNMENT AREA, EKITI STATE, NIGERIA

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ABSTRACT

An analysis of child labour and health status in cocoa farming households was undertaken using descriptive analysis and logit regression model. A total sample of 60 household heads and 60 children used for cocoa farming were collected, 90% male and 10% female adult household heads responded while 57% male children and 43% female children were sampled randomly. The mean ages were 55 years for adults and 15 years for children. Ninety eight percent of the adult respondents have farming as a major occupation while 95% use their children on the farm. No pay was given to any child by adults when they are engaged in economic activities. The average household size was 10. Ninety five percent of the children sampled are pupils in primary institutions in the area. Household size and time spent on farm by children used on cocoa farms have significant and indirect relationship with the occurrence of disease, while income per annum and expenses on clothing and footwear have direct and significant effect on the occurrence of disease among the children used as labour on the farms. The prominence of child labour in farming activities as revealed in the study centers on the participation of male and female children in Spraying (100%), Harvesting (100%), processing (100%), transporting (100%) and marketing (100%).resulting in the prevalence of adverse health challenges such as head-ache (15.85 times per month per child), stomach-ache (10.95 times per month per child), and malaria fever (10.00 times per month per child).

Key words: child labour, health status, cocoa farmers, farming households, Nigeria economy, Oyo State, Nigeria.

INTRODUCTION

Cocoa is one of the main cash crops produced and plays an important role in the economy of Nigeria up till now. Most of cocoa production in Nigeria has been on a small scale level with farmers having their plots and labour supply mainly from members of the family especially at the early stages but could shift to hired labour as the farm matures.

The definition of child labour varies but it usually means work done by children un-

der the ages of 15, which limits or damages their physical, mental, social or psychological developments. Some works do not harm children, and may in fact be beneficial to them. However, when we talk about child labour, we mean people simply denied the right to be children. Child labour is the utilization of children introductive employment. According to the United Nations Conventions on the rights of "a child", "a child is any person under the age of 18". This concern for children at work was of paramount impor-

child was specific on the need to protect children from work that threatens their health, education or development; to set minimum ages for employment, and to regulate working conditions.

Ten million children in Africa under the age of 15 are in regular employment. According to UNICEF (1990) “about 16 million children in Africa under the age of 13 are working. Usually the children are employed for long hours (depending on the type of work and the location), are underfed and are poorly paid. Moreover, they are not protected from industrial hazards and accidents as well as exposure to immoral practice, which could permanently disable them. Child labour could exist in form of house help, motor mechanic apprentices, building industry, transportation of goods, child prostitution, hawkers, beggars and agricultural child labour.

Health is the state of being well and free from illness and diseases in body and mind. This is of great importance to any government and access to health is one of the yardsticks to measure wealth. Health care can be seen as “a whole system of care designed to promote health, to prevent illness as well as to treat it. The health care delivery system of a society uses the resources at its disposal to deliver comprehensive health care to the population. In this light, Maynard (1991) viewed health care delivery system as the totality of resources a population or society distributes in the organization and delivery of health care for a specific population through comprehensive health service.

The reality and the challenges were, and

remain, manifest in a world bedeviled by high mortality of children under 5 years of age, several inadequate access to education, poor health facilities, scarcity of portable water, a plethora of childhood diseases, (measles, polio, dysentery and so on), hunger, malnutrition and sexual abuse. Exploitation of child labor sometimes involves exposure to radiation and dangerous chemicals; refuse from war and disability of various types.

Child Labour, Health and Poverty

There is a chain relationship between poverty, health and child labour because the study of one leads to the other and hardly can one be studied in isolation without mentioning others. The level of income or wealth of a farmer determines to a large extent the kind of diet his family takes and if his production technique will be labour intensive or capital intensive (Ebigbo, 1997). His type of diet determines how prone he and his family members are to diseases and infections. Good diet provides natural immunity against common diseases and sicknesses.

Poverty is the main cause of child labour; that is, a situation where children are expected to work to earn income either to support the family or to keep them. It is clear that child labour abuse results from a system, which creates poverty on a massive scale. According to Ebigbo (1997) “while many children workers do have an important impact on income at family level, it should be noted that children working are often hired because their labour is cheap. Even the little income the children earn is important to families due to poverty”.

The situation of child labour is indeed worsened by poverty, leading to the hard reality, where by in the developing countries of the world, including Nigeria, more than one third of these children are suffering from malnutrition.

Problem Statement

In 2004, some selected indicators of human poverty for Nigeria ranked the country as having 29 percent of its children between ages 0-5 as underweight, and very high under 5 mortality rate. The Human Poverty Index (HPI-1) value of 37.3 for Nigeria ranks the country 80th among 108 developing countries for which the index has been calculated (Human Development Report, 2007/2008). The HPI-1 measures severe deprivation in health by the proportion of people who are not expected to survive age 40. Access to education, health, portable water and housing are also inadequate. The poor are often concentrated in community without basic amenities such as good road, potable water supply, safe sanitation, and lack of access to health and education services.

In most developing countries (Nigeria inclusive), child labour is common among four identifiable economic groups namely; the rural-landless (who desperately want to make both ends meet), the small farmers, the urban under employed and the unemployed. Generally, child labour is disproportionately located in rural areas and among slums in the urban areas. It is necessary to focus on them because they are likely to grow substantially in the next few decades.

World Bank (2000) stated that the number of rural poor is roughly twice that of the

urban poor, the depth of poverty was more than double in the rural areas and more than two thirds lived on the farm. The rural poverty is widespread and severe. The level of income or wealth of a farmer determines to a large extent the kind of diet his family takes. There exist a chain relationship between poverty, health and child labour because the study of one lead to the other and hardly can one be studied in isolation without mentioning the others. The level of income or wealth of a farmer determines to a large extent on the kind of diet his family take. The relationship between poverty and agriculture is complex and yet to be fully understood. Recent studies by the World Bank laid credence to the reports that farming households are more prevalent in poverty than non-farming households. The relationship between child labour, poverty and health is strong to attract attention in any country especially in developing countries like Nigeria. Obviously little attention had been paid to child labour, which is regarded as a form of child abuse and slavery. As a matter of fact, agricultural child labour is thrice that of other sectors. (National Population Commission, 1998). As high as this is, it is surprising to discover that agricultural child labour is regarded as a normal thing in many places where it is been practiced. This partially explained why cocoa farmers keep large families.

According to Owumi (1996) “the conception of disease by low socio-economic group determines medicare choices”. The low socio-economic group/ persons who are largely illiterate conceive disease from the cultural view as against the high socio-economic group who are more modern. As

a result of these, rural dwellers are used to traditional or indigenous health care. Another school of thought believed that rural dwellers prefer traditional medicare to modern because of poverty. Can this be true? To what extent can we believe this? Do cocoa farmers prefer traditional medicine as a result of poverty or because they have no option? Given these research questions which the study seeks to provide answers, the main objective of this study is to determine the economic contribution of child labour to cocoa farming while specific objective of this study are to; identify socio economic characteristics of cocoa farming households, identify the various farming operations carried out by gender within the household, determine the factors affecting the health status of children within the farming household, identify highly prevalent diseases among children within the farming household and identify the various methods of treating sick children.

LITERATURE REVIEW

Characteristics of Cocoa Households and Effect on Productivity

Cocoa farming communities are usually characterized by closely integrated social systems that include social values, interpersonal relations and work habits (FAO, 1986). According to Canagarajah *et al.* (1997), out of the extremely poor in Nigeria, 85 percent lived in the rural areas and more than two-third live on farms. It therefore follows that 68 percent of the extreme poor are dependent on agriculture for their livelihood. Most are mainly self employed or family workers and in regions with poor infrastructure, poor access to services, unfavourable agro-climatic conditions or all the three. They further

stated that poor cocoa households have an average of seven members with two employed while non-poor cocoa households have four members on average with two employed. The employment difficulty of the rural population brings to attention the widespread under employment characterized by extremely low productivity of the labour force for example, in farming, petty trading and small workshops.

The average per capita expenditure of a poor cocoa household was one-fifth of the non-poor in 1992 (Canagarajah *et al.*, 1997).

The income generated from farming activities are no better off than those generated from other non-farming activities since most agricultural operations are labour intensive and most farmers rely on family labour for production. Specifically, the major causes of labour intensiveness in Nigeria's agricultural industry as observed by Mabawonku (1981) included among others; the low level of technological development in the country which makes capital more expensive relative to other inputs like labour; the existence of many agricultural or farming activities that can not be performed by machinery like harvesting of yams and cocoa or kolanut, lack of knowledge on the part of the farmers about the technologies that are presently available, which may be partly attributed to the low educational level of farmers, lack of funds, to invest in agricultural machinery due to poor savings, and small scale of operation of most farmers which usually make them to take to the use of direct labour for their farm operations.

Child labour in Agriculture and Its Hazard

Large numbers of children around the world are forced to work in the farm sector. Farming may account for more child labour than manufacturing (Alecfyfe, 1996). Debt bondage, found predominantly in South Asia and Latin America, is a form of modern slavery whereby, in return for credit, a person offers their labour, or that of a child, for an indefinite period. Sometimes only the child is pledged, becoming a commodity in the process.

Debt bondage is commonly found in rural areas where traditional class or caste structures and semi-feudal relationships survive. Landless or near landless households, as well as migrant laborers, are particularly vulnerable to debt bondage because they have no alternative sources of credit. Debt bondage also occurs under land tenancy or sharecropper arrangement desired above.

It should also be made clear that there is hazardous condition attached to child labour especially in agriculture. Children who live in poor rural communities face the greatest risks from hazardous and exploitative agriculture labour. The risks are many indeed, children pick crops still dripping with pesticides or spray the chemicals themselves.

According to data from Sri-Lanka, death from pesticides poisoning on farms and plantations is greater than from other childhood diseases such as malaria and tetanus. Children are attacked by poisonous snakes and insects and injure themselves with the tools they use. Rising early to risk in the damp and cold often barefooted and inadequately stressed.

They develop chronic coughs and pneumonia.

Skin, eye, respiratory or nervous problems occur in children exposed to agrochemicals or involved in processing crops like sisal. Children harvesting tobacco in Tanzania experience nausea, vomiting and foaming from nicotine poisoning. Frequent heavy lifting and repetitive strains permanently injure growing spines. It cannot automatically be assumed that children working on small "family farms" do not face these risks. In many countries, farms fitting this description produce much or most of the agricultural grains and or fresh produce and they may be mechanized with small machines and make heavy use of pesticides. Small farms are as likely as large commercial enterprises to issue chemicals, through lack of education and training in the handling.

MATERIALS AND METHODS***Study Area***

Ekiti State of Nigeria was created on 1st October, 1996. The State, carved out of Ondo State, cover the former twelve local government areas that made up the Ekiti Zone of old Ondo State. However, Ekiti State, on creation took off with sixteen (16) local government areas, having had additional four carved out of the old ones. Ekiti State is situated entirely within the tropics. It is located between Longitudes 4^o 45¹ East of Green Meridian and Latitude 7^o 15¹ to – 8^o 5¹ North of Equator. It lies South of Kwara and Kogi State as well as East of Osun state. It is bounded in the East and in the South by Ondo State. It is surrounded by mountains and hills of various heights and sizes. It has its state capital located in Ado- Ekiti. However the

study was carried out in Ikole Ekiti another major cocoa producing area of the state.

Ikole Ekiti is bounded in the North by Kwara state and in the south by Ekiti east local government in the west and in the east by Kogi state. The local government occupies an area of about 340.52 square kilometers with a population of 147,000 people going by projection made on the provisional figure of 1991 census.

Majority of people inhabiting this place are predominantly farmers. Many who are not literate grow cash crops and food crops. Others who are literate and have white-collar jobs engage themselves in food production alone. The cash crops grown in Ikole-Ekiti include Cocoa, Kola nut, Coffee, Oil palm and Tobacco. The food crops grown are Yam, Rice, Cocoyam, Maize, Cassava. Fruits include Oranges, Plantain and Bananas, Cashew, and so on, with different types of vegetable.

Primary data source was used. This was achieved with the use of questionnaires targeted at the cocoa farmers and children used as labour on the farms.

Sampling Procedure

Simple random sampling technique was used to select the sample size; 60 cocoa farmers and 60 children used as labourers on cocoa farms.

Analytical Technique

The tools used for analysis are: Descriptive statistics; like means, frequencies, percentages and Logit regression model

Logit Regression Model

The logit model postulates that the probability (P_i) that an individual i will fall sick is a function of an index Z_i . Z_i is also the inverse of the standard logistic cumulative function of P_i i.e:

$$P_i [y=1] = f [Z_{ii}]$$

The probability of a child falling sick is given by

$$P_i [y = 1] = \frac{1}{1 + e^{-z_i}}$$

The probability of been healthy is given by

$$Q_i[y=0] = 1 - P_i[y=1]$$

Since,

$$1 - P_i[y = 1] = \frac{1}{1 + e^{z_i}}$$

$$e^{z_i} = \frac{P_i[y = 1]}{1 - P_i[y = 1]}$$

The dependent variable [y_i] is a dummy. It takes the value of 1 if the individual falls sick and 0 if otherwise. Because dependent variable is binary, (Scott, *et al.*, 1977) the Ordinary Least Square (OLS) technique is inappropriate hence the use of the logistic regression in which the probability of falling sick [P_i] by an individual is calculated from his Z_i value :

$$Z_i = b_0 + b_1x_1 + b_2x_2 + \dots + b_nx_n$$

where:

- b_0 = Constant
- x_1 = Age of Household head in years (yrs)
- x_2 = Gender (Male = 1; Female = 0)
- x_3 = Household size
- x_4 = Experience
- x_5 = Annual Income of parent/

x₆ = guardian (N)
 Expenses on Clothing and footwear per month (N)
 x₇ = Time spent on farm per day
 x₈ = Child's age in years
 Due to the dichotomous nature of dependent variable, those factors that will determine the probability of falling sick are fitted.

RESULTS AND DISCUSSION

Socio-Economic Characteristics of Respondents

The following socio-economic characteristics were discussed: age, gender, educational level, household size, income from their major farming operations and prevalent diseases.

Table 1: Socio-Economic Characteristics of the Respondents

Socio-Economic Variable	Frequency	percentage	Mean
Age (yrs) Household head			
31-40	6	10	55yrs
41-50	11	19	
51-60	24	40	
>61	19	31	
Children			
10-15	20	33.3	15yrs
15-18	32	53.3	
19-22	8	13.3	
Household Size			
1-4	2	3.3	10
5-8	40	60.6	
9-12	17	28.3	
13-16	1	1.6	
Gender (household head)			
M	54	90	
F	6	10	
Children			
M	34	56.7	
F	26	43.3	
Educational Status			
Student child	57	95.0	
Non student child	3	5.0	

Source: Field data, 2002

Age

The mean age of the children sampled, was 15 years. It was observed that majority (86%) of the children used on the farm fall between the ages of 10 and 18 years. Children below 10 years of age were considered too young to be used by the parents on their farms.

Gender

It is obvious from Table 1 that more male children were used on cocoa farm than their female counterpart. This is due to the stress involved in cocoa production. Many of the farmers even prefer to involve male children in farm work, as they believe that male children will take to farming later as adults.

Educational Status

This research shows that majority of the children on the farm also go to school. It follows that they probably go to farm on weekends or weekdays after school hour or may even be compelled by their parents to go to farm instead of going to school depending on the volume of work available on the farm. This in turn depends on

the season, for example, there is more work on the farm in the rainy season than the dry season.

Table 2(a) revealed some farm tasks that are carried out solely by male adults and children and are never done by female adults and children due to the strenuous nature of such tasks, these are : land clearing, ridge making and weeding. Other farm tasks like spraying, harvesting, processing, transporting and marketing are done by all members of the household irrespective of gender.

As shown in Table 2(b), while diseases like headache, stomach ache, fever and dysentery are more prevalent among the respondents, others like cholera, guinea worm, rashes did not occur at all. Among the more prevalent diseases, headache tops the list probably because it is a symptom of other diseases. It was however common among every group member of the household, i.e. male child, female child, male adults and female adult in that order.

Table 2 (a): Major Farming Activities performed by members of the Household

Farming Activities	F R E Q U E N C Y			
	Male adult	Female adult	Male Child	Female Child
Land Clearing	60	NA	16	NA
Ridge making	60	NA	21	NA
Planting Operation	60	7	60	12
Weeding	60	NA	60	NA
Spraying	60	60	60	60
Harvesting	60	60	60	60
Processing	60	60	60	60
Transporting	60	60	60	60
Marketing	60	60	60	60

Source: Field data, 2002

Fever was another prominent disease that cut across all groups in the household, especially male adult, female child, male child and female adult in that order.

The prominence of stomach ache was highest among female adult and female child (5 and 3.45 times respectively). This could be explained as been associated with the female gender. It should be noticed that this ailment cuts across all groups too. Dysentery though common but cannot be traced to female adult, it was only limited to female child, male child and male adult in that order.

In this study, an attempt was made to specify a behavioral model of occurrence of disease among children used on cocoa farm. A notable feature of this study is the calculation of the probability of a child working on cocoa farm falling sick, given the personal characteristics of household members and the economic attributes of the household. Based on the empirical results obtained, the following were observed, as shown in Table 3.

Of all the factors considered, household size (x_2), Income per annum (x_5), expenses on Clothing and foot wear per month (x_6) and Time spent on farm per day in hours (x_7) are the only variables that have significant (positive and negative) effects on the occurrence of diseases as far as children used on cocoa farm are concerned.

Age of household head (x_1), household size (x_2), experience (x_4), time spent on farm per day (x_7) and child's age were the variables that have negative values. Other variables, i.e., major occupation, income per annum and expenses on clothing and footwear per month have positive values.

The result shows that only household size and time spent on farm by children have significant and indirect relationship with occurrence of disease as far as children used on cocoa farm are concern. This implies that the smaller the household size and time spent on farm, the healthier the children are. It could be explained that, given the small income the farmer has, he would be able to take good care of his household and meet their basic needs. The Pearson Chi-Square χ^2 was used to test for the goodness of fit of the model. The model was therefore, statistically significant at 10% level.

Treatment of Diseases

Although all the respondents said they have an health centre around them, but the result shows that they still have a strong believe in the use of herbs. It was discovered that 53 of the respondents (about 88.3%) prefer traditional health care to attending health centre. Only 7 of them (about 11.7%) prefer it otherwise. They said the fact that it works better made them prefer it to going to health centre provided. Table 4 gives an idea on how they treat their sick children.

Prevalent Diseases among Cocoa Farming Household**Table 2 (b): Average Frequency of Disease Occurrence per Month**

Diseases	F R E Q U E N C Y				
	Male Adult	Female Adult	Male Child	Female Child	Total
Fever	3.00	2.00	2.00	3.00	10.00
Dysentery	0.55	NA	1.00	2.00	3.55
Cholera	NA	NA	NA	NA	NA
Stomach ache	1	5.00	1.50	3.45	10.95
Head ache	2.6	0.75	7.00	5.50	15.85
Guinea worm	NA	NA	NA	NA	NA
Rashes	NA	NA	NA	NA	NA
Others	NA		NA	NA	NA

Source: Field data, 2002

NA=not applicable

Table 3: Logit Regression Result for the occurrence of disease among children in the Household

Variables	Units	B	S.E.	t	S.S.	Exp (B)
Constant		2.661	0.277			
Age of Household head (x_1)	Years	-0.008	0.066	0.012	0.899	0.992
Household Size (x_2)	Nos.	-3.194	1.930	1.654	0.098*	0.410
Major Occupation (x_3)	-	0.287	0.261	1.099	0.271	1.332
Experience (x_4)	Years	-0.005	0.080	0.063	0.954	0.995
Income per Annum (x_5)	N	0.000	0.000	0.000	0.012*	1.001
Expenses on Clothing & Footwear (x_6)	N	0.001	0.000	0.000	0.062*	1.001
Time Spent on Farm per Day (x_7)	Hours	-0.770	0.460	1.673	0.094*	0.463
Child's Age (x_8)	Years	-0.235	0.161	1.459	1.143	0.790

Source: Computer Print-out, 2002

Log Likelihood ratio = 48.833

Pearson Chi square (χ^2) = 23.714

Degree of Freedom = 14

*Values that are significant at 10%

Estimated probability of falling sick = 0.500

$$Z_i = 2,661 - 0.008x_1 - 3.194x_2 + 0.287x_3 - 0.005x_4 + 0.000x_5 + 0.01x_6 - 0.77x_7 - 0.235x_8$$

[0.277] [0.66] [1.930]* [0.261] [0.0803] [0.00] [0.00] [0.460] [0.161]

Table 4: Method of Treating Sick Children

Method of Treatment	Frequency	Percentage	Cumulative Percentage
Consult a Medical Expert	3	5.0	5.0
Buy Drugs and Use	2	3.3	8.3
Use of Herbs	2	3.3	11.7
Combine Drugs with herbs	53	88.3	100.0
Total	60	100.0	100.0

Source: Field data, 2002

As can be seen from the table above, a large number combine drugs with herbs in treating their children. It can be concluded that they do combine only when modern drugs are available or better put, are accessible, otherwise they go for herbs alone. Only a small number (probably the enlightened ones) attend the health centre consistently.

This study also shows that 58 of the respondent (about 96.7%) pay their children's health bill while only 2 of them (about 3.3%) allow the sick children to pay for their health bill.

CONCLUSION

This study shows that agricultural child labour and its consequences is prominent among cocoa farmers but can be checked in the form of restriction of heads of household from using their children on the farm in strenuous farm operations since parents see it as a normal thing that should exist in terms of children-parent relationship. Government could help enforce this by passing a bill on Child Right and making it a law punishable if and when children are used indiscriminately against their will. It has also been shown that child labour and health risks exist in form of a chain reaction, such that an attempt to solve one will automatically reduce the other.

This study has also exposed some common ailments / diseases that are associated with using children on the farm, as well as the health care facilities commonly used in the study area. The health care option preferred can be improved upon by enlightenment campaigns and provision of better medical facilities in the area. In conclusion the implementation of all these suggestions will ensure the gradual eradication of agricultural child labour and its health related consequences in the cocoa farming households in Nigeria.

RECOMMENDATIONS

On the basis of findings, the following recommendations were made to improve the life of cocoa farmers and his entire household:

- Programmes that improve the labour earnings of the poor, address capital market imperfections, and provide safety nets may be particularly relevant in child labour reduction.
- Government should make efforts to stop child labour by orientating farmers on the dangers of child labour on the child and the farming household. This can be done in the democratic setting by passing the bill at the National House of Assembly.
- The large average household size in the study area is indicative of lack of

effective family planning campaign in the area, hence, campaign on family planning should be intensified among the farmers. This will reduce the average household size to a bearable minimum and the quality of life, health status as well as the standard of living of households improved.

- Nutrition campaigns for farmers' wife(s) should be intensified, since this will improve their household health status.
- Many of the respondents combine traditional medicine with orthodox medicine, which shows that self-medication is prominent among them. Health officers should be encouraged to advise farmers on the total implications of this method of treatment adopted.

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