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ANALYSIS OF CHILD LABOUR DIMENSIONS AND CAUSES IN RURAL FARM HOUSEHOLDS OF OGUN STATE, NIGERIA

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ABSTRACT

The prevalence of child labour use in the agricultural sector has been widely reported however, the intensity of its use is most times masked and marred by the informal and culturally ingrained nature of peasant agriculture. The study aims at understanding the dimensions and causes of child labour among rural farm households in Nigeria. A multistage sampling technique was used to select 128 rural households for the survey; a total of 352 children (5-17years) were interviewed to elicit first hand data for the study. Structured questionnaire was used to collect data on child farm work hours, household size, income, farm size, distance of home to school and other relevant socioeconomic characteristics. Analytical techniques used were measures of central tendency and dispersion, and censored Tobit regression model. Results show that the average age of children is 10 years and many of these children (67.3%) are reported to be living with their biological parents. While less than a third (26%) of the children work in paid and non-family farms, the average weekly work hours per child was found to be 31.31 which increases with the age of the child. With reference to loss in school time due to farm work, it was found that rural children in farm households sacrificed an average of 12.9 hours per week (42.9%) of school time to work on the farm; this varies from season to season. Age and education level of the household head, farm and household size, lack of child-level schools in the community, distance of home to school, sex of child, absence of tarmac roads to community and proximity of households to major roads were identified as factors that influence the prevalence and intensity of child farm labour use. The study concluded that rural infrastructure development and households' economic empowerment initiatives are central to child labour reduction strategies.

Key words: Child farm labour, rural households, determinants, Tobit regression

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INTRODUCTION

While the prevalence of child labour use in the agricultural sector has been widely reported, little empirical inquiry has been made on the intensity of use and the causal conditions in the arable crops farming households in developing countries. A possible reason for this is due to the fact that most times, child farm labour activities are marred and masked by the informal and culturally ingrained nature of peasant agriculture. Poverty, which is defined as lack of access to basic needs for sustenance, has been reported as the major precursor and sustainer of child labour [1]. The agricultural sector is the largest employer of labour (about 65% of the active labour force) in Nigeria. The labour intensive nature of peasant agriculture (little or no use of purchased external inputs), the dominance of small farm (less than 3ha) holdings and the malleable nature of child labour are also fingered as the causes of child farm labour in rural Africa. This situation has resulted in households substituting child labour for paid or unpaid work by adults. These are attempts to reduce production costs and/or to cope with high tide of emigration of adult household members from rural communities [2].

For this study, child labour refers to farm work that interferes with children's schooling and subsequently human capital accumulation through education. Child labour deprives children of the opportunity to attend school, manifesting either in total exit from school or interrupted participation in school academic activities. Development economists see child labour as a menace and a major source of productivity leakage because children, who are supposed to be future productivity enhancers are mined as present economic goods [3]. Child labour is perceived as child mining and 'commodifying' children as most of the children work to support inadequate household income and help in family enterprise [4].

Several studies have shown the high prevalence of child labour in Nigeria covering many informal as well as urban sectors [5, 6, 7, 8].

The Nigerian economy is largely agrarian as the sector provides employment for about 65% of the economically active population and is the major source of about 82% of total food consumed [9, 10]. There is no gainsaying the fact, therefore, that the sector holds the key to economic and structural transformation of the Nigerian economy. Eliminating poverty in Nigeria, especially rural poverty, is closely related to the country's agricultural development fortune. The development challenges would be more daunting if the agricultural sector that is to serve as the flagship for poverty alleviation is further entrenching poverty through child labour use.

In most parts of sub-Saharan Africa, school attendance rates continue to be low because millions of school-age children work instead of attending school [11, 12]. This interference, consequently, hampers the children's educational development and reduces future prospects for human capital productivity and earnings.

Apart from education deprivation, the health and safety of children who are involved in farm labour are also endangered [4]. This is because the harsh and long hours of labour (mostly unsupervised) exposes the children to several risk factors that affect their

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mental development, wellbeing and causes physical impairments. Against this backdrop, the study provides an analysis of the dimensions and causes of child labour. Specifically, the study described the dimensions of child farm labour markets (hours of work, income, payment method, type and nature of work) and schooling distribution and analysed the factors that affect child farm labour use intensity in rural farm households in Nigeria.

METHODOLOGY

Study area

This study was conducted among rural households in Ogun State, Nigeria. Ogun State is one of the six states in the Southwest geopolitical zone of Nigeria. It was created in 1976 and has a land area of 16,409 square kilometers of which over 70 percent is suited for arable crop production. Agriculture is the mainstay of the economy with majority of the farmers growing food and tree crops, and engaging in poultry production and aquaculture. Based on the 2006 National Census, the population of the state is about 3,751,140 (1,886,233 females and 1,864,907 males).

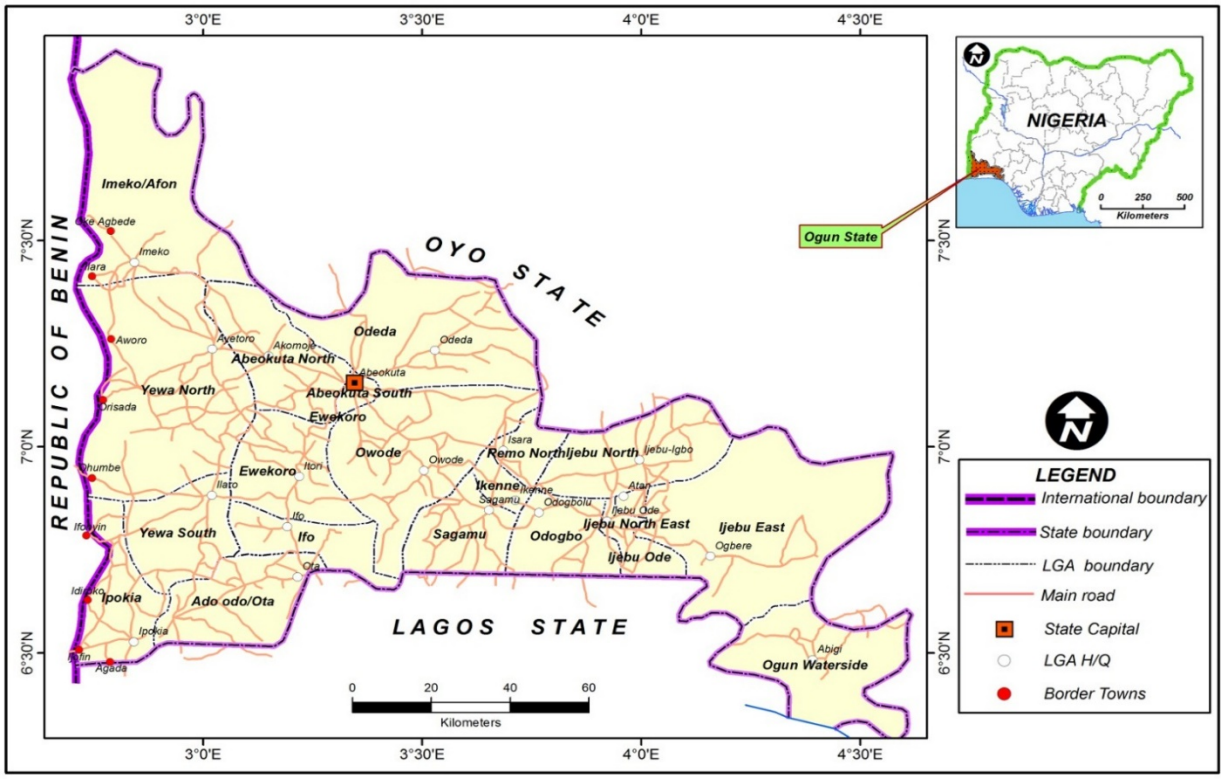

Figure 1: Map of study area, Ogun State, Southwest Nigeria

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Study definition and assumptions

For the purpose of this study, a child is an individual between 5-17 years old. This follows from the definition used by the United Nations Convention on the Rights of the Child and the Nigeria Constitution as well as the specification of the International Labour Organization's (ILO) Statistical Information and Monitoring Programme on Child Labour (SIMPOC). Child farm labour is any farm or farm related work carried out by children (5-17years), work that is nonhazardous and conflicts with school time. Hence, child labour in this study refers to all farm activities in which children (5-17) participate and causes loss of schooling time per week. A week here, refers to five days of schooling and only children identified by their parents as actually enrolled in school during the period of the survey were interviewed. A child in the study area has a total of 30 hours of schooling time per week.

Work undertaken by the child at the time he/she is supposed to be in school leads to loss in schooling time. The study considers the decision regarding allocation of child's time as an inter-temporal compromise between education and work [3, 13, 14].

Data and sampling procedure

A multistage sampling approach, following the studies of Agbonlahor *et al*., Alimi and Masuku and Obayelu *et al.* [1, 15, 16] was adopted in the selection of 128 rural farm households from 12 agricultural communities in the state. The household survey involved the use of structured questionnaire to elicit data from 352 children with their household heads. Data collection was carried out between April and July, 2014.

Analytical technique

Simple percentages, mean, median and standard deviation were used to describe children's characteristics, schooling and farm labour participation.

The Censored Tobit regression model introduced by James Tobin in 1958 was used for the analysis of determining factors that influence the use and intensity of child farm labour [1, 17]. The Tobit regression specification was used due to the possibility of zero value outcomes of the dependent variable which would violate the assumption of continuous dependent variable of the ordinary least square (OLS) regression. Also, the assumption of linearity between the dependent and independent variables does not allow for binary regression analysis using *logit* or *probit* specifications.

RESULTS

Socio demographic characteristics of children

Distribution of some socio demographic characteristics of children (Table 1) shows that 48.7% and 51.3% of the children interviewed were females and males, respectively. While the average age of the children was about 10 years, many of the children (47.4%) were within the 5-11 years age group. More than half (60.8%) of the children were in primary (first six years of education) school. Many of the children (67.3%) were reported to be living with their biological parents.

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Child work and schooling distribution

Table 2 shows household farm, child's work and schooling distributions. The distribution of farm sizes reveals that about 36.9% of children worked in household farms less than 0.5 hectares while few (4.5%) worked in farmland above three hectares. Majority (73.9%) of the children worked on their (household) family farms.

The result, as seen in Table 2 also reveals that majority (65.6%) of the children did not engage in other economic activities apart from farming. Payment method for work done outside household farm was mainly piece rate (79.3%). About 40% of the children reported that they did not have schools of their levels within their communities and so attended schools in neighboring communities. Children worked an average of 42.9% (12.9 hours) of total school time per week (30 hours) in the week preceding the survey.

Children's total farm work hours per week

Table 3 shows the distribution of weekly total work hours by rural children. The table indicates that children average 31.31 hours of farm work per week, although average time of work tended to increase with the age of the child. It can also be observed that 47.4% of the children age 5-11 work at least one hour per week; 25.8% age 12-14 work at least 14 hours per week; and 14.5% age 15-17 work at least 42 hours per week.

Determinants of the intensity of child labour use on farms

The estimated Tobit model (Table 4) was found to be a significant (likelihood ratio Chi square of 127.76) predictor of the determinants of the intensity of child labour use in agriculture.

The result shows that based on household heads' characteristics, the sex of household head is a significant determinant of the decision to engage child labour in farming. Male-headed households were found to engage more (3.1 hours more per week) of child's school time in farm labour compared to female headed households. Also, older (above sample mean age) household heads engaged lesser school time of children in farm work compared to younger (below average age) household heads across gender lines. However, the significance of the squared age variable shows this as a nonlinear (quadratic) relationship. The relationship between household heads educational status and use intensity of child labour reveals that there is a decrease in school time sacrifice for farm labour with better educated household heads.

Increase in farm size decreases the child's allocated time to farm work by 0.5 hours/week in favour of schooling. Sex of the child significantly influenced school hours forgone. Male children were predicted to forgo 2.1 hours more per week of school time compared to their female counterparts in the same household.

Communities having child-level schools significantly increased the share of schooling time among children than those communities where there were no schools. Children in communities without school sacrificed about 2.9 hours more of school time per week compared to those in communities with schools. The high opportunity cost of attending schools outside the community is a likely explanation for the higher child labour hours in communities without schools. The presence of tarmac road into a community was

found to decrease the likelihood of child labour involvement and reduced loss in school time by 5.2 hours/week. Presence of all-weather access road into a community is an indication of the openness for development and flow of economic opportunities which are most times non-farm related.

DISCUSSION

This study found that many of the households operated small size farms (0.43ha). This may have implication on the income of the household especially as farm size is observed to be a measure of wealth and may affect the earning potential of the head of the household [18]. This result, thus, indicates that the households might have financial challenges and difficulty to cope with income fluctuations thereby live below a subsistence level. This condition is a precursor for child labour [19]. Not surprising, most (73.9%) of the child labourers were found to work on their family farms. The predominance of subsistence farming and the need to cope with income fluctuations may make parents induce their children to help in household farming enterprise. It was found that children are usually not paid for their contribution in family farms. Most of the household heads interviewed reported that child labour is used to substitute for paid and/or unpaid adult labour, especially during peak labour demand periods such as land preparation, planting and weeding. This corroborates the findings of previous work on children's participation in schooling and labour activities [20].

There are limited economic opportunities in the rural areas as majority of the children do not engage in other activities apart from farming. This result conforms to previous findings that children's scarce involvement in other economic activities apart from farming could be due to non-availability of other income earning activities other than agriculturally related enterprise in the rural areas [4, 21, 22, 23, 24]. Payment method for work performed outside household farm was mainly (82.4%) piece rate payment. It is a method of payment in which work is given in bits and payment is made based on the size of work and negotiated amount, regardless of the time spent in completing the task [25].

It was found that children in each of the age categories work above the prohibited hours of work for a child as prescribed by the International Labour Organization (ILO). These excessively long hours of work make it difficult for a child to attend school regularly [12, 26]. The health and safety of these children is also jeopardized and human capital accumulation hampered [4, 7].

The higher likelihood of children in male-headed households to sacrifice more schooling time for farm labour is consistent with previous findings [27, 28]. This outcome may be due to the smaller sizes of female headed households in the study area. This allows for higher per capita expenditure among household members; moreover, men are more involved in farm work than women. The significant role of adult (household head) education in child labour decision is a clear indication that not only child education should be promoted. Uneducated household heads may not appreciate the benefits of education and may therefore not send their children to school. This finding conforms to theories that stipulate that increase in years of education of

household head will reduce the likelihood of child farm labour [13, 29]. However, the result on household farm size contradicts that of a rural study in Pakistan and Ghana in 2003 that showed that children of land-rich households are often more likely to work than those of land-poor households [30]. This difference in results may be explained by the tendency of land-rich households in the study area to employ time saving and less labour intensive farming techniques, thereby making child labour less attractive and free children's time for schooling.

The non-significant income effect in this study is largely associated with the general poverty level among the rural farm households, thereby creating limited range in the continuous income variable across the observations. The household income, without child labour contribution, therefore, becomes less predictive of the variations in loss in child's school time. A culture of poverty which makes households embrace child labour as a culture rather than just as a survival strategy is suspected [31]. This is, however, not entirely clear given the limited predictability of the income variable.

There is a gender discrepancy against girls in hours of school time lost to work. Even though the bulk of farm work is carried out by the boys, girls' education is still perceived to be less important than boys' and the work of girls would naturally originate from their lack of schooling [26]. This gendered-differential access to education would create a rather vague future for the girls while giving the boys an upper-hand to prepare for future employability and income earning capacity. The foreseeable outcome of the gender disparity would be a more intense social and economic inequality between women and men in the nearest future society.

It is as expected that the distance of a child's home to school would significantly influence the proportion of school hours sacrificed for farm work. This is because distance has been found to be an additional cost to schooling in terms of time and financial travel cost [32]. This makes the opportunity cost of schooling higher than for farm work. This finding also gives credence to previous similar work on child labour [21].

The significance of access to road networks is closely related to ease of adult labour supply and movement of farm machinery and other inputs at relatively affordable cost. It also promotes other income earning activities for adults thus making them rely less on child labour for survival. Nevertheless, the proximity of households to access roads suggests a significant, though small increase in loss of a child's school time to work. It may be that households closer to access roads explore this public good to engage in labour activities in neighbouring communities. Hence, it is important that policy making and analysis include strategies to keep children in school while efforts are geared towards ameliorating other determinants of loss in a child's school time.

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CONCLUSION

This study analysed the dimensions and causes of child labour among rural farm households in Ogun State, Nigeria using data from a cross-section of rural households collected using a multistage sampling technique. Descriptive statistics and a Censored Tobit model were used in the data analysis to achieve the study objectives.

The proportion of school time devoted to farm work results from a combination of internal and external factors of the households, namely: (i) child gender, (ii) the gender, age, education and squared age of household head, (iii) household and farm size (iv) presence of child-level schools in the community, school distance, presence of access road and proximity of rural households to a major road.

The results clearly show that: child labour interferes with children's schooling which is a precondition for human capital accumulation and a weapon with which future generations can fight poverty; female children are most disadvantaged due to gender bias against girl child education; land-poor households are more probable to engage children in farm labour.

The study, therefore, recommends the following:

1. Siting of schools in rural communities should be strategic to ensure that no child is deprived access to schooling due to distance effect.
2. Social security programmes should be put in place to cushion against the adverse effect of income shocks in rural agricultural communities. The use of the conditional cash transfer schemes should be expanded.
3. There should be enforcement of compulsory but completely free primary and secondary education, with schooling incentives such as free school feeding for school children.
4. Construction of road networks to open up the rural areas will boost the socioeconomic life of rural dwellers.
5. There should be intensification of sensitization campaigns on girl child education and promotion of adult literacy programmes in the rural areas.

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Table 1: Socio demographic characteristics of children

Variable	Frequency	Percent	Mean	Std Dev
Sex			Na	Na
Female	169	48.0		
Male	183	52.0		
Age			10.42	3.60
5 – 11	167	47.4		
12 – 14	102	29.0		
15 – 17	83	23.6		
Education level			Na	Na
Primary school	214	60.8		
Secondary school	138	39.2		
Child relationship with household head			Na	Na
Not biological child	115	32.6		
Biological child	237	67.3		

Source*: Computed from field survey, 2014* *Na=not applicable*

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Table 2: Household farm, child's work and schooling distribution

Variable	Frequency	Percent	Mean	Std Dev
Land size (ha)			0.43	0.61
Less than 0.5	130	36.9		
0.5 – 1.0	121	34.4		
1.0 – 2.0	64	18.2		
2.01 – 3.0	21	6.0		
Above 3.0	16	4.5		
Does child work on farms other than the household's			Na	Na
No	260	73.9		
Yes	92	26.1		
Involvement in other economic activities apart from farming			Na	Na
Not involved	231	65.6		
Involved	121	34.4		
Payment method for farm work Outside the household			Na	Na
Piece rate	46	50.0		
Period	19	20.7		
Period and piece rate	27	29.3		
Na	260			
Presence of child-level school in the community			Na	Na
Not present	146	40.3		
Present	206	58.5		
Proportion of school time spent on farm work in previous week			12.88	3.22
Less than 5 hours	17	7.3		
5-10 hours	128	54.9		
11-16 hours	72	30.9		
17-22	6	2.6		
Above 22 hours	10	4.3		

***Source**: Computed from field survey, 2014* *Na=Not applicable*

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Table 3: Distribution of farm working hours per week according to age groups

Age group	Mean	Median	<14hours	14-42hours	>42hours	Total
5-11	23.11	22.00	15.3%	24.7%	7.4%	47.4%
12-14	35.34	36.00	3.2%	14.2%	11.6%	29.0%
15-17	42.65	45.00	1.1%	8.0%	14.5%	23.6%
Total	31.31	31.00	19.5%	46.9%	33.5%	100.0%

Source: *Computed from field survey, 2014*
NOTE: *Units of mean and median are hours per week; 19.5% of children, with 15.3% prohibited- according to ILO specification, work less than 14 hours in the reference week*

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Table 4: Tobit estimation of the determinants of child farm labour use intensity

Variable name	Coefficient	t-ratio
Sex of household head	3.13741**	2.11
Age of household head	-0.11811**	-1.92
Age squared of household head	0.001509**	1.88
Education of household head in years	-0.62763***	-3.84
Income of household in naira per month	-0.0000567	-0.39
Farm size in hectares	-0.51605**	-2.26
Household size	0.7362***	3.30
Birth order of child	0.68043	1.73
Sex of child (dummy:1=male, 0 otherwise)	-2.10213**	1.98
Child of household head (dummy: yes=1, 0 otherwise)	-0.46956	-0.20
Age of Child	0.11062	0.63
Functional child-level school (dummy; present=1, 0 otherwise)	-2.90816**	-2.11
School distance (trekking time to school)	0.06291***	2.69
Access tarmac road to rural community (dummy; present=1, 0 otherwise)	-5.21011***	-2.86
Distance of community from major road	0.06291***	3.73

Left censored observations (Wkhrs = 0) = 119 LR Chi2 (15) = 127.76 Prob > chi2 = 0.0000
Uncensored observations =233 log likelihood = -1116.4844 Pseudo R2 = 0.0541

Source: *Computed from field survey, 2014 Level of significance: ***p<0.01, **p<0.05*

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