Determinants of Child Labour in Crop Production in Nigeria:
A Case Study of Abia State

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Abstract: The driving force of agricultural activities is the input of labour, apart from that of land. Rural households rely heavily on their members as primary sources of labour for agricultural activities. Where they cannot afford to hire additional labour and since the labour from their adult members is grossly inadequate almost in all cases, these households always resort to the use of child labour. It is in this context that child labour has become a growing phenomenon in developing countries, including Nigeria. This study examined the determinants of child labour in Nigeria using cross sectional data derived from a random sample of 60 rural children from farm households. Means and probit regression model were used in data analysis. Results indicate that educational level of the child, household size and income and educational level of child's household head were statistically significant determinants of child labour use in agricultural activities. It was concluded that if the economic conditions of the households were not improved significantly to the extent of lifting them out of the grips of poverty, child labour use in agricultural activities would continue to persist irrespective of international and national resolutions, regulations and legislations to curb the menace of child labour. Based on the findings of this research, it is recommended that household income enhancement policies should be formulated as components of strategies for effective child labour reduction efforts. Such economic policies should seek to enhance the opportunities for children to be well educated. In this vein the Universal Basic Education (UBE) programme is appropriate and should be followed to its logical conclusion. In formulating child labour reduction policies and programmes in Nigeria, large household size and educational level of child's household head should be considered as important variables.

Key words: Determinants, child labour, agriculture, Nigeria

INTRODUCTION

Rural economies are characterised by the prevalence of production at home with the use of family labour and capital (Rahji, 1999). Essentially, majority of rural households in Nigeria are engaged in Agricultural activities. Farm households engage in many economic activities, which include farming (Blekesaune *et al.*, 1993). They set household goals to govern these activities (Norman *et al.*, 1982). One of such goals is the maximization of household utility from the expenditure of various household resources including human and material resources. In the rural sector of the Nigerian economy characterised by smallholder farm proprietorship and an imperfect labour market, allocating household labour optimally is a crucial economic problem.

Labour and entrepreneurship are the most important resources next to land in traditional agriculture because it is in them that the decision making power in the production process resides (Olayide and Heady, 1982; Upton, 1997; Ojo and Ajibefun, 2000). Labour here refers to the available human effort for use in agricultural production. Aredo (1994) categorized labour according to sources into household labour, hired labour, community labour and collective labour and opined that household labour is the single most important source of labour in the private sector. Obasi (1991) and Nwaru (2004) opined that households count more on their family members than hired workers as sources of farm labour. It is within this context that farm households have found children highly useful in agricultural production, processing and marketing activities.

Although existing rural labour force statistics have the tendency to underestimate the contribution of women and children to agricultural production and to the well being of the household (Aredo, 1994) the incidence of child labour is a widespread and growing phenomenon in developing countries, including Nigeria

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(Basu and Van, 1998). For instance, Gericot (1998) estimated the number of children engaged in child labour in the developing countries at 250 million. Jayaraj and Subramarian (1997) opined that the labour force participation for children between five and 14 years varies greatly among countries; ranging from close to zero for most developed countries to an average of 20%in Latin America and 40% in Africa. Most children in commercial agriculture work on a seasonal basis; often full time as part of a family unit during the harvest and seeding seasons, but irregularly or on part time basis during the remainder of the year.

Studies on child labour in agriculture have found several often overlapping causes. Characteristics of the household are generally the richest determinants of child labour supply. When modeling the determinants of child labour supply, the household is taken as the unit of analysis. A number of studies (Cockburn, 1999; Cartright and Patrinos, 1999; Swaminathan, 1998; Basu and Van, 1998; Usha and Devi, 1997; Sunthronkajit *et al.*, 2002) reported that household income is the major factor in the decision for child labour supply. Low household income serves as an incentive for child labour supply. As income increases, child labour supply decreases because the need to supplement parental income becomes less compelling. For example, it was reported that children contributed 21% of household income in Bolivia (Cartright and Patrinos, 1999) 21% in Tamil Nadu, India (Usha and Devi, 1997) and 10-20% in Gujarat, India (Swaminathan, 1998).

Family size is another important factor that can cause a household to be involved in child labour. In the first place, a large household size could lead to lower per capita income and therefore the need for extra income, which may create an incentive for the parents to send their children to work. Again, a large household size generates more labour within the farm household. With fixed productive assets (land, tools, technology, animals, etc), the marginal productivity of labour within the household would begin to diminish. Nwaru (2005) pointed out that households would easily reallocation excess labour from its members to off farm economic activities or alternatively hired such excess labour out as a strategy to optimize the use of available labour, diversify household income and as a tool against poverty.

In this study, an attempt was made to examine the socioeconomic determinants of child labour in Nigeria using Abia State as a case study. In the absence of an easily discernable national framework for protecting the rights of children especially in the rural areas and given

the ever growing global legislations and resolutions against child labour and abuse, empirical results on the determinants of child labour would help in the formulation of appropriate child welfare schemes for the nation.

MATERIALS AND METHODS

Study area: This study was conducted in Abia State of Nigeria. The State is located between longitude 04°45' and 06°71' North and Latitude 07°00' and 08°10' East. It is located East of Imo State and shares boundaries with Anambra, Enugu and Ebonyi States in the North West, North and North East, respectively. Abia State is bounded in the South by Akwa Ibom and Cross River States and South East by Rivers State. The state occupies a land area of 5,833.77s km^{-2} delineated into 17 administrative units called Local Government Areas. These are grouped into three agricultural Zones of Umuahia, Ohafia and Aba. Agriculture is the major occupation of the people of Abia State. In the rural areas, up to 70% of the population is engaged in farming.

Sample selection and data collection: A multistage sampling technique was employed in the selection of data for this study. Ohafia and Ikwuano Local Government Areas (LGAs) were purposively selected from the constituent 17 Local Government Areas in Abia State. The list of 25 villages in Ohafia LGA formed the frame from which a sample of 5 villages was chosen by simple random sampling procedure. From the 17 villages that make up Ikwuano LGA, 5 were selected by simple random sampling procedure. The lists of children in each of the chosen 10 villages formed the frames from which samples of 6 children were selected. In all 60 children were selected for detailed study. Cross-sectional data were collected from this chosen sample and the head of their households by means of well-structured and pre-tested questionnaires.

Data analysis: Data were analyzed using means and the probit model, which was specified as:

$$Y_i = B\beta_0 + B\beta_1 X_1 + B\beta_2 X_2 + B\beta_3 X_3 + B\beta_4 X_4 + B\beta_5 X_5 + B\beta_6 X_6 + B\beta_7 X_7 + B\beta_8 X_8 + U_i \quad (1)$$

Where Y_i is a dummy variable, which takes the value of unity if a child participated in any farm activity and zero otherwise. X_1 is Age of the Child (years); X_2 is educational level of the child (years); X_3 is sex of the child which takes the value of unity if child is a male and zero otherwise; X_4

is worth of the activity the child participated in (Naira). X_5 is household size (number of persons living together in the house); X_6 is age of the household head (years); X_7 is household income; X_8 is educational level of household head and U_i = error term assumed to fulfill all the assumptions of classical linear regression model.

RESULTS AND DISCUSSION

Average statistics of the sample children: The average statistics of the sample children are presented in Table 1. A typical child is 15 years old, with 10.2 years of education and contributes to agricultural activities to the tune of N9, 462.80. His household has a size 8 persons with an income of N331, 036.23 and the head is 52 years with education of 10.80 years. Of the 60 children sampled for detailed study, 42 participated in agricultural activities representing 70% while 18 children representing 30% did not. Male children in the sample were 37 representing 62 percent of the sample size; whereas females were 23 in number representing 38%.

Determinants of child participation in agricultural activities: The results of fitting numerical data to the probit model Eq. 1 are summarised and presented in Table 2. The intercept is statistically insignificant. Age of the child is statistically significant (p = 0.05) and positive. This is expected and agrees with the observations by Cockburn (1999) and Mwebaze (2004) that the relationship

Table 1: Average statistics of the sampled children

Variable	Mean
Age of child (years)	15.35
Education of child (years)	10.17
Household size	7.90
Worth of child's contribution to farming (N)	9,462.80
Age of child's household head (years)	51.75
Income of household (N)	331036.23
Education of child's household head (years)	10.80
Participation in farming: Yes (No)	42 (18)
Sex of Child: Male (Female)	37 (23)

Source: Field Survey, 2005.Naira (N) is the Nigerian national currency with about 130 units to the American dollar

Table 2: Estimates of the probit model

Variable	Parameter	Estimate	T-ratio
Age of the Child	β_1	0.072	2.536**
Educational level	β_2	-0.364	-1.717*
Sex	β_3	-0.311	-1.172
Worth of contribution	β_4	0.001	1.562
Household size	β_5	0.064	1.683*
Age of child's household head	β_6	-0.022	-1.830*
Household income	β_7	-0.185	-1.919*
Education of child's household head	β_8	0.054	2.433**
Intercept	β_0	-1.718	-1.416
Chi-square	χ^2	54.514	
Degrees of freedom	d. f.	51	
	p	0.342	

Source: Field survey, 2005

between age and the decision to participate in child labour is positive and quadratic. It further agrees with the report from Okpukpara and Odurukwe (2003) that children aged between 5 and 11 years participate in full time school and less in full time work than those aged between 12 and 14 years. Nkamleu (2005) reported that the older the child, the more it is likely that she/he will be involved in cocoa farming activities. The implication is that older children have a higher probability of being engaged in agricultural activities. A reason that can be adduced is that older children are more muscular and have greater capacity to muster brutal force, which is highly needed in farm work.

Education of a child is a primary factor in reducing the sources, manifestations and consequences of venerability including those of poverty and child labour. Moreover, poor education quality discourages a child from achieving superior outcomes in his present and future endeavours. On the other hand, higher levels and quality education and the likelihood of continuing in school would reduce the probability of a child joining the labour market (Mwebaze, 2004). The Universal Basic Education (UBE) programme in Nigeria by which the Federal Government guarantees a child a minimum of nine years of free education consisting of 6 years in the primary school and three years in the juniour secondary school is hinged on this premise. By this programme, each Nigerian child starting school at the age of six remains there up to 15 years of age. Educational level of the child is statistically significant at 10% but negative. The implication is that the more a child advances in schooling, the less he participates in agricultural activities. Given the coefficient of -0.364, a 100% increase in the number of years a child has spent on schooling would lead to a 36.4 percent decrease in his participation in agricultural activities. Children in higher classes are more likely to live in boarding houses, travel out on holidays for leisure or Students' Industrial Work Experience (SIWES) in nearby urban centers than those in lower classes.

Sex of the child has a negative but statistically insignificant coefficient indicating that there is no gender gap between male and female children in their participation in farm activities. This corroborates the report from Okpukpara and Odurukwe (2003) that the Universal Basic Education (UBE) programme has narrowed the gender gap in child participation in fulltime schooling and agricultural activities. However, this deviates from the reports from Raji (1999) and Nkamleu (2005) that the probability of going to school alone and combining school and work is higher for boys than girls, who are more probable to be involved in work only. All empirical studies on child labour have indicated that age and gender of a child are important determinants that

may affect parental decisions on their child education and work activities (Okpukpara and Odurukwe, 2003).

Worth of the contribution of a child to economic activities was used as a proxy for their earnings. This variable has a positive but insignificant coefficient. It has been reported in literature (Patrinos and Psacharopoulos, 1995; Basu and Van, 1998 and Okpukpara and Odurukwe, 2003) that children's income helps poor households to improve their welfare. However, their contributions in the present study seem weak in compelling the respondent households to decide for their children to take up farm work.

Household size has a statistically significant and positive coefficient. This implies that the higher the household size, the more children participate in farm activities. This result agrees with *a priori* expectations and the reports from Nkamleu (2005). However, it is contrary to Okpukpara and Odurukwe (2003) who reported a significant but negative relationship between household size and child labour. According to Nwaru (2004), more people in a household would mean more mouths to feed and more bodies to clothe, house and care for. Mwebaze (2004) reasoned that the larger the household size the lower the per capita income and therefore the need for extra income, which may create an incentive for parents to send their children to work. This predisposes farm households more to the need for subsistence or survival and compels them to allow their children to participate in farm work.

The coefficient for household income was statistically significant and negative in conformity with *a priori* expectations and to the report from Raji (1999) and Okpukpara and Odurukwe (2003) farm income has a positive significant effect on a child schooling. The implication is that as household income increases, the odds of a child participating in farm activities reduce. This confirms that child labour participation correlates positively with income poverty. Countries in which large numbers of children are working are on the average poor countries (Andvig *et al.*, 2001). Moreover, empirical studies such as Ilon and Moock (1991) and Raji (1999) yielded similar conclusions that both poverty and poor education quality are important determinants of child labour and that poverty discourages a child from achieving superior outcomes, that is, they are more likely not to be in school and instead engage in work at early age. Therefore sustained efforts at reducing household income poverty would translate to reduced child labour.

Educational level of child's household head has a coefficient that is statistically significant and positive. Education creates optimism, self-confidence and brighter economic opportunities for household heads with a concomitant reduction in child labour participation. The present result is contrary to *a priori* expectations and to the observations by Parrinos and Psacharopoulos (1995); Okpukpara and Odurukwe (2003), Mwebaze (2004) and Nkamleu (2005) that there is ample empirical evidence that education of the parents' affects child labour reduction decisions positively. This suggests that educated farmers have a better knowledge of the negative effect of their children working without schooling. In particular, Mwebaze (2004) opined that the level of education of the father is found to have a stronger impact on the sons' participation while that of the mother is found to have more impact on the daughters' participation in the labour market.

CONCLUSION

This study examined the determinants of child labour in rural Nigeria with Abia State as a Case Study. Primary data generated from a random sample of 60 farm households were analysed using the probit regression model. Results indicate that educational level of the child, household size and income and educational level of child's household head were statistically significant determinants of child labour in agricultural activities. It was concluded that if the economic conditions of the households were not improved significantly to the extent of lifting them out of the grips of poverty, child labour use in agricultural activities would continue to persist irrespective of international and national resolutions, regulations and legislations to curb the menace of child labour.

Based on the findings of this research, it is recommended that household income enhancement policies should be formulated as components of strategies for effective child labour reduction. Targeting poor households by creating opportunities for them to work, sell their produce at higher prices or giving them price or input subsidies would help them out of income poverty and enable them sent their children to school rather than work. Such economic policies should seek to enhance the opportunities for children to be well educated. Children who receive quality primary education are already on their way to laying solid foundations and obtaining the necessary tools for reducing the potentials for vulnerability. In this vein the Universal Basic Education (UBE) programme is appropriate and should be followed to its logical conclusion. In formulating child labour reduction policies and programmes in Nigeria, large household size and educational level of child's household head should be considered as important variables.

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