

**Child Work in Agricultural Activities and School Attendance:  
Evidence from Egypt**

## 1. Introduction

A child is considered as human capital in every society. Any investment made for education and training children is usually taken as the best option because long run returns are high. No doubt that investment in children and their development is a reflection of the priority given to their rights of girls and boys in the development agenda. In developing countries, children are the largest population group and their well-being today determines to a great extent the country's currently development.

Child labor is prevailed in many developing countries. The International Labor Organization (ILO) estimates that approximately 250 million children work in the age group of (5-14), about half of them work on hazard work. The majority of the world's working children, according to the ILO, are found in Asia (60%), followed by Africa (33.7%), and Latin America and the Caribbean (7%). Of these working children, 95 percent are found in developing countries and more than half of these in Asia. Two-thirds of the working children of developing countries live in rural areas and three quarters of them are engaged in agriculture and related activities. Seventy percent of these working children are unpaid workers; the percentage is about 81 per cent in rural areas (ILO,2010 ).

The most present estimates of total population of Egypt revealed that it is about 81 million populations in 2009 (CAPMAS<sup>1</sup> 2009), of which about 57% are living in the rural areas. As widely known, no country is immune from child labor. Poverty, illiteracy, food insecurity, continuous rises in prices of food and other goods & services in addition to inadequate enforcement of legislations are at the root of the problem. In order to identify the volume, characteristics and causes for child labor in Egypt, the first National Child Labor Survey was conducted by (CAPMAS) and the National Council for Childhood and Motherhood (NCCM) in 2001.

The results of this survey indicated that there are 2.7 million children aged between (6 to 14), (approximately 21% of all children of that age) are engaging in child labor. The same survey reflected that 64% of these working children are working in the agriculture activities while the labor law (No. 12 of 2003) prohibited engaging of children in labor or just training before age of 12 years. Moreover, while both the labor law (No. 12 of 2003) and Child law of 1996 prohibited child labor, *both neglect the agriculture activities from this restriction*, although many studies proved that these children are subjected to many kinds of risk such as facing health hazards due to smelling toxic pesticides without using masks or respirators, working under very hot or very cold weather. Moreover, they can be killed , injured, or health impaired as a result of their work since

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<sup>1</sup> CAPMAS: "Central Agency for Public Mobilization and Statistics" is the official statistical agency of Egypt that collects, processes, analyzes, and disseminates all statistical data and the Census.

they often start work at a very early age as young as 5,6 and 7 years as shown from the results of 2001 National Child Labor Survey (CAPMAS 2004).

Likewise, due to these agriculture activities done by children at schooling ages, they were forced to leave the schools or did not enrolled in schools at all. Even for those who could do both continued at schools and working, many studies (see for example, Assaid et, al, 2001) have proved that schooling and educational attainment do not automatically mean high school attendance. Moreover, now, the system in the primary education permits for the children to pass from one year to another in primary stage without final examination. In many cases, the children reached the 6<sup>th</sup> grade of primary level with a very low standard of educational attainment due to continuous absence from schools (El-Deeb, B.2007). Although numerous children in agriculture sector are working with their families and under their supervision, working for long time and full-time can dissuade them from attending school, and some home-based performance can be as hazard as work performed outside the home. Henceforth, the objective of this paper is to examine the incidence of child labor and school attendance in rural areas of Egypt. In particular, this paper focuses on the relationship between school attendance and child work in agricultural sector in light of other factors.

The rest of the paper proceeds as follows: Section 2 review of the literature. Section 3 describes the characteristics of the national Egyptian survey and data used while section 4 presents description of tabulations on child Work in agricultural activities and schooling attendance in Egyptian rural areas based on the data available. Section 5 present results of Multinomial logistic model. Finally concluding remarks are given in section 6.

## **2. Review of the Literature**

**El-Deeb,B.(2010)**, in a study concluded that the percent distribution of child labor is higher in Egyptian rural regions either in lower Egypt(41.4%) or in Upper Egypt (42.4%) than urban regions. child labor phenomenon is more dominant among boys (78.8%) than among girls (21.2%), it's clear that the percent of male laborers is nearly four times as the percent of female laborers on the country level. the figures indicate that 18.9% of child laborers aged (10-17) years are illiterate. As expected, it's higher among female (22.7%) than among male (17.9%) because of gender discrimination in education. Based on Chi-square test, there is a significant relationship between the child's illiteracy and whether or not the child works among the children aged 10-17 at level 0.00

**Itani,Nadia(2009)**, pointed out that the issue of child labor in Egypt cannot be eliminated as quickly as aspired , mainly due to its complexity and structural causes . Her study aimed at tackling the legal issues and unmet regulations of child labor in Egypt. It was mentioned that the number of

working children in Egypt is estimated to be between 1.3 and 3 million children and that child laborers in Egypt are divided between different sectors with the agricultural sector representing the highest percentage (77%). It was found that the main causes of child labor are poverty, dropping out of schools and parental illiteracy, with poverty as the main cause.

**Mabrouk, Hanem (2007)**, concluded that the main causes of child labor is the dropping out of education and the failure in education. One aim of her research is focusing on the relation between child labor and dropping out of education. The study found that there is a significant relationship between child labor and dropping out of education at level 0.000.

**Fuwa et al. (2006)**, conducted household surveys in rural Andhra Pradesh, India to collect information on inter household resources allocation and empirically analyzed the determinants of child labor and school enrollment, through estimating a village fixed effect legit model for each child. Results exhibit that parents' education is associated with less child labor and more school enrollment. Richer households are more likely to send their children to school and children in female-headed households are disadvantaged. The effect of the child's mother education is similar on boys and girls while that of the child's father is more favorable on boys.

**Saleh, Eman (2006)**, found that education level among males was better than among females in Metropolitan Governorates. About 75.2% of the working children were currently in school. The results of the study reflected that the desire to return back to school is higher among female workers than males since about half of the female workers stated that they desired to return back to school either with keeping their work or leave it against 40% of the male workers who had the same desire.

### **3. Data Used and Methodology**

#### **3.1 Characteristics of the survey**

The data set used in this study comes from a survey titled "Child Labor in The Agriculture Sector, In Egypt"(2011), administered by Central Agency for Public Mobilization and Statistics (CAPMAS) in cooperation with World Food program (WFP).

Although Egypt has data about child labor in general, but there is no specific survey for children who are engaging in the agriculture activities especially because their work is not prohibited by laws and could be missed from the formal statistics. They mostly start work at very low age (may be 5, 6 and 7 years), thus the real extent of this problem may be invisible.

In most cases, the head of the household who is working in these agriculture activities, is only registered as agriculture workers while their children who give hand also in these activities are missed. Child work in agriculture may be also going unnoticed when underage workers are supplied through labor contractors and sub-contractors. Although Egypt has data on child labor, in general, no specific survey was conducted on children who are engaging in the agricultural activities while

they face a lot of risks. Hence, Child Labor in The Agriculture Sector Survey is undertaken to provide an exact respective on the economic, cultural, social and legal factors behind why children work in the agricultural activities and the nature of work itself. This survey tries to provide the stakeholders, organizations and policy makers with comprehensive data on child labor in the agricultural sector in order to facilitate formulation of needed ideas for planning, formulation and implementation of different policies and programs to tackle hazardous child labor in the agricultural sector

The survey uses two pre-coded questionnaires, one for eligible child labor (who aged "5-17" and work in agriculture activities" while the other was directed to the child's household head. The child's questionnaire included many questions on their characteristics with respect to age, sex, educational status, occupational status, skills, their role in the value-chain of agricultural work, hazards facing children during work, in addition to all work's conditions with respect to number of working hours, time of starting work and time of ending, rest time, seasonality of work, value of wages, freedom to change or even to stop work if it is not acceptable,...etc. Questions were also directed to ask about illness, injuries, burns...etc that may be occurred due to work and how it was treated and who pay for treatment. The second questionnaire was designed to ask the head of household about the characteristics of all members of the household, such as age, sex, educational status, marital status, employment status and economic activity....etc. In addition, the head of the household is asked about the child's work, how he get it, is he satisfied, why he left school, if exist, and if the child is still interested to return back to school....etc. Questions are also directed to ask about the family income and the child's contribution to that income. Existence of debts or loans from others in addition to its value is also seeking. Family perceptions about the importance of education by gender are also included. Ownership of household appliances and other assets of the household either with respect to land, housing units, cars, plows, are also investigated. House unit conditions with respect to type of floor, number of rooms included, having private both-room, separate kitchen, clean water supplies, availability of electricity,...etc are seeking as well.

The survey was conducted in 13 governorates of Egypt that represents rural areas as follows: Dakhlia, Sharkia, Monofia, Behira, Gharbia, Kafr-El-Sheekh, 6 October, Fayoum, Beni-Suef, Menia, Assuit, Sohag and Qena. In Addition of that, El-Salhia (Sharkia Governorate) in Lower Egypt, and Wadey El-Rian (Fayoum Governorate) in Upper Egypt. A sample of 50 households will be selected randomly from each village. The survey collected extensive information from 24218 individuals in a sample of 4140 households including 5991 children aged (5-17 years) who are working in the agricultural activities.

### 3.2 Characteristics of the sample used

The public education system in Egypt consists of three levels: the basic education stage for (4–14) years old: kindergarten for two years followed by primary school for six years and preparatory school for three years. Then, the secondary school stage is for three years, for ages (15–17), followed by the tertiary level. Education is made compulsory for 9 academic years between the ages of (6–14). Moreover, all levels of education are free within any government run schools. However, we select a cut-off age of (6–17) years for the analysis because in Egypt there is late enrolment, especially in rural areas, is very common. Thus including the children of 17 years allows us to consider grade repetition. Likewise, we use a minimum age of 6 years, which may be the cut-off age between infancy and childhood. In addition to an official enrolment age in Egypt is 6 years.

For our study we, therefore, select children in the age group (6–17) years. This includes 5970 children, which represents 79.7 percent of the total children (0–17) years. Of these children, 54 percent are male and, 46 percent are female

### 3.3 Methodology

The study will depend on:

(1) Descriptive Statistics to show the main characteristics of school attendance and child work a in agriculture sector; and

(2) The Multinomial Logistic Regression model is used to estimate the determinants of ‘study only’, ‘work only’, ‘study and work’, and ‘Neither study nor work’.

Let  $Y_i$  denote the dependent variable with multiple unordered categories.

Suppose there are  $j$  mutually exclusive categories and  $P_{i1} P_{i2} \dots P_{ij}$  are the Probabilities associated with  $j$  categories. In this case, we have three categories ( $J= 4$ );

$J= 0$  if the child attends school only.

$J= 1$  if the child works and attends school.

$J= 2$  if the child neither work nor study.

$J= 3$  if the child works only.

Here, we consider ‘study only’ as reference category. These choices are associated with the following probabilities:

$P_{i0}$  = probability of the child attends school only.

$P_{i1}$  = probability of the child works and attends school.

$P_{i2}$  = probability of the child neither work nor study.

$P_{i3}$  = probability of the child works only.

$$Pr(y_i = 0 | x_i) = P_{i0} = \frac{1}{1 + \exp(x_i' \beta_1) + \exp(x_i' \beta_2) + \exp(x_i' \beta_3)}$$

$$Pr(y_i = 1 | x_i) = P_{i1} = \frac{\exp(x_i' \beta_1)}{1 + \exp(x_i' \beta_1) + \exp(x_i' \beta_2) + \exp(x_i' \beta_3)}$$

$$Pr(y_i = 2 | x_i) = P_{i2} = \frac{\exp(x_i' \beta_2)}{1 + \exp(x_i' \beta_1) + \exp(x_i' \beta_2) + \exp(x_i' \beta_3)}$$

$$Pr(y_i = 3 | x_i) = P_{i3} = \frac{\exp(x_i' \beta_3)}{1 + \exp(x_i' \beta_1) + \exp(x_i' \beta_2) + \exp(x_i' \beta_3)}$$

Where  $\beta_1, \beta_2$  and  $\beta_3$  the covariate effects of response categories are "combine study and work", "Neither work nor study" and "work only" respectively with reference category "study only" ( $J = 0$ ) where  $\beta_0 = 0$ .

#### 4. Child Work and Schooling in Egyptian rural areas

##### 4.1 Characteristics of Child Work in Egyptian rural areas:

According to child labor in agriculture sector report, the biggest proportion of children working in agricultural activities were at ages (15-17) years old. Nevertheless, around (31-45%) of male working children and 19.2% of females were working in the agricultural activities before age 9 years. Moreover, there was (2-3%) of working children were at age (5-6 years). Variations between governorates were substantial. About 60% of children working in the agricultural activities were males, while about 40% of them were females.

Table (4.1.1) shows that, for children who are working in the agriculture sector, there are the same gap between Males and Females about 29% and 71% for age groups (6-11) and (12-17) years respectively. But for children who are not working in the agriculture sector, about 68% of male in age group (6-11) years correspondent to 56% of female in the same age group, and there are 32% of those children are male in age group (12-17) years moreover this proportion is increasing to reach 44 % for female in the same age groups. Thus around 71% of children working in agriculture sector are founded in age group (12-17) years.

It's important to study the variations in child work by region in order to throw more lights on region in which most of children workers are existed. Table (4.1.2) shows percent distribution of children aged (6-17) by sex, Region, and working status in agriculture sector. For children who are working in agriculture sector, there are about 29% and 71% males live in Lower Egypt and Upper Egypt respectively. Moreover there are about 54% and 46% Females live in Lower Egypt and Upper Egypt respectively. On other hand children who are not working in agriculture sector, there are roughly 68% and 32% males live in Lower Egypt and Upper Egypt respectively. Moreover there are about 54% and 46% Females live in Lower Egypt and Upper Egypt respectively. Thus it's

clear that the percentage of working children who are male is higher in Upper Egypt while the percentage of working children who are female is slightly higher in Lower Egypt.

#### **4.2 Parents' Level of Education**

Table (4.2.1) shows the levels of *father's education* for both working male and female children. It was noticed that the father's level of education for both male and female working children was nearly the same. About half of fathers were illiterate, 14.5% can read and write, about 10% had primary and preparatory certificates. In addition, there was about 25% had secondary or more educational level. However, it should keep in mind that these proportions differ from one governorate to another. Referring to *mother's educational level*, as expected, the proportions of illiterate mothers are more than illiterate fathers. Illiterate mothers reached 72% of all children who are working in the agricultural levels. Only 25% of mothers had primary or more certificates. (See Table 4.2.2).

In short, the low level of education of both fathers and mothers of working children in the agricultural level may play a role in encourage their children to work in the agricultural activities than to continue in schooling.

#### **4.3 Schooling Situation in Egyptian rural areas:**

The survey contains questions which were directed to children interviewed in the present study on ever going to school. In addition, questions were also directed to those who ever go to school about their current status; are they still continue in schooling or not, and in which grade they are?

For those who left schools, they were asked about the grade and years since left they school, in addition to, causes behind school leaving. Moreover, questions were also directed to ask about their hope for future; do they want to return back to school or to gather schooling with work or they have no desire at all to return back to school again. The questionnaire also included questions about what are the conditions of schooling which could raise their desire to return back to school.

The Human Development Report for Egypt 2010 shows that there is a remarkable variation in the index of education among Lower Egypt Governorates and Upper Egypt Governorates, thus this section will focus on variations in education among these Governorates.

##### **4.3.1 Ever Attending Schools**

Table (4.3.1) indicates that among all male working children interviewed in the present survey, 95.7% had ever attended schooling. This proportion increased to reach 100% for male children in Monofia, Elsalhia, and Kafrel Shiekh. However, it decreased to about 83% in 6 October.

The proportion of other governorates came in between these two previous proportions. The proportion of ever attended schooling among male children ranged between 92.3% in Assuit to



98% in Sohag. It is interesting to note that gender variations between male and female children in ever been in schools are nil. About 96% of either male or female children working in the agricultural activities had ever been in schools.

The variations in the proportion of ever go to school among females working in the agricultural activities by governorate was also substantial, as shown among males. While the proportion of ever- go to schools for females reached 100% in El-Salhia, 99% in Gharbia, 97% in Sharkia, 96% in Behaira, 95% in Dakahlia and 94% in Monofia, it decreased to only 82% in Minya and 86% in 6 October. In short it could be conclude that most of children either they are males or females had ever go to schools in the selected governorates.

#### **4.3.2 Continuation in Schooling**

Children who ever go to schools were also asked about their current status i.e. are they still enrolled in schools or not? Table (4.3.1) indicates that 88.8% of total male children interviewed in the present survey are still enrolled in schools and they are still going to school till the date of the survey. For those who are currently enrolled, also asked about the stage in which they are now.

Among *males* and on the overall level, there are slightly over two-fifths (43.4%) are in primary stage, slightly over one-third are in preparatory schools, while only about one fifth (21.1%) are in secondary stage (see table 4.3.1).

These proportions were also highly different among governorates. For example, in Dakahlia and Gharbia, more than half of working males are still in the primary level, while less than one-half are either in preparatory or secondary levels. On the other hand, in Elsalhia, about half of male working children are shown in preparatory stage and slightly less than one-half are also in primary level while only 5% are in secondary level. In general, this feature could be related to the age structure of male working children in different area of the present survey, or due to the fact that as the child tends to be older, he may be encouraged to drop out from school and search about work. Therefore, the proportion of male working children who are still continued in secondary level is the lowest for all areas of the present survey.

As expected, the proportion of children who are still in schooling is significantly different from one governorate to another. While the new reclamation areas; Elsalhia and Wady Elrian reflected that 98% of male children are still going to school until now, only 82% of males in 6 October, and about 84% in Dakahlia, Beni Suef, Minia and Assuit are still continued in schooling.

*For Females*; it is really interesting to notice that the proportion of females who are still attending schools till now is higher than that of males. While 92.3% of female workers still continued to go to school, this proportion of male children did not exceed 88.8%. Although the difference (4 points in percentage) is not remarkable, but it reflect a very good sign that girls since

they got the chance of education, they are more keen to keep this opportunity and do their best to continue in education than boys.

Geographical variations in the proportion of females who continued their schooling are substantial, as well. While it reached its highest level in Sharkia (97%), and in both Karel Sheikh and Gharbia (95%), it did not exceed 82% in 6 October and 85% in Beni Suef.

### **4.3.3 School Drop Out**

Table (4.3.2) shows the proportion of drop-out from schools among children who are working in the agricultural activities by sex and governorate.

Referring to *males*, and on the overall level, there was about 11% of children who are working in the agricultural activities drop-out from schools. Fortunately, the proportion of drop-out among females is greatly lower than that of males. It did not exceed 7.7%. As mentioned before, this feature could reflect more attention among girls to continue in schooling than males, even in rural areas of Egypt.

Turning now to *females* it can be noticed that the proportion of drop-out among females is greatly lower than that of males in all areas under study except in four areas. In 6 October, the proportion of drop-out is the same for both males and females working children (17.9%). However, in Fayoum, El-Salhia and Wady-El-Rian, the proportion of drop-out among females is greatly more than that of males. The proportion of drop-out among females in the two new reclamation areas is about five times that of males (7.7%, 10.4% for females in El-salhia and Wady El-Rian respectively against only 1.6% and 1.7% for males respectively). This may be due to the fact that flexibility in educational roles in the new reclamation areas may encourage boys who desire to work parallel to educational, not to leave education and schooling since they can easily work during top seasons.

### **4.3.4 Reasons for Drop-Out from Schools**

Children who ever go to school, and now drop-out from school, were asked about the main reasons behind their drop-out. Table (4.3.3) indicates that the poor family conditions were the main cause for drop-out from schools. More than half of children who left schools mentioned that they cannot able to pay for school tuition and for cloth and tools needed for schooling. Moreover, there were also about one-third of male and female children left schooling to give hand to raise the family income throughout their work. Heat school was also raised as a cause for drop-out from schools. Heat school could be due to poor level of education, mistreatment of teachers or difficulty of curriculum especially among poor children who cannot pay for private lessons. Therefore, due to limited achievements from schooling, children may heat their schools.

Family's sense about the importance of education either for males or for females was also one of the main reasons behind directing children to work and to leave the school. A big proportion of total

children mentioned that the family's point of views about the low importance of education was one of the main causes behind their drop-out. Parents felt that gain skills or professions from work are better than spend many years in education and there is no guarantee to find a good job.

Geographical variations between governorates with regard to reasons behind drop-out from schools are remarkable. Among *males*, while those who mentioned that they heat schools reached 100% in El-Salhia village and (50-61%) of children living in Fayoum and Gharbia, this proportion greatly decreased to reach only 18.5% in 6 October, 21% in Behaira, and 22.2% in Kafr-El-Sheikh.

Inability to pay for school tuition and needed cloth/tools for schooling was mentioned by about 61% of children living in Menya and Assuit which followed by those who are living in Dakahlia 58% and Qena (about 57%). At the same time, this proportion decreased to only 17.4% in Gharbia and (22-27%) of children living in Beni-Suef and Fayoum.

Help family to increase the family income was also one of the main reasons behind drop-out from schools. However, the proportions of children who mention this reason were too high in Kafr El-Shikh (72%), against only 13% in Gharbia, and 18% in Minya.

Difficulty to follow up lessons in schools due to poor personal educational level and/or difficulties in curriculum was also mentioned with very high proportion in Gharbia (52%) and Sohag (45%), while in some other governorates, it did not exceed 7% in Fayoum and 14.3% in Qena.

Regarding *Females* reasons for drop-out and their variations between governorates, it can be noticed that while inability to pay for school tuition among female children living in Dakahlia, reached 96% of Assuit and 65% of Minya children, it dropped to represent only 10.5% in Sharkia, and 6% in Gharbia.

The following three important causes behind female drop-out from schools were; to contribute in family income, poor level in schooling due to difficulties in follow-up lessons or due to difficulties in educational curriculum, and finally due to help their mothers at home.

Nevertheless, the proportion of females who reported these three reasons was greatly different from on governorate to another. While the proportion of females who mentioned the reason of contribution in family income reached 46% in Kafr El-sheikh and 40% in Dakahlia, it decreased to only 2.5% in Sohag, (3.5- 4.5) in Minya and Fayoum.

Referring to the proportion of females who mentioned poor level in schooling as a reason behind their drop-out, it increased to reach 100% in El Salhia and 58.8% in Gharbia, it decreased to only 5.3% in Monofia.

Finally, for the reason of the need to help mother at home, as one of the main causes behind female drop-out, it was too high in Minya (51%) and (46%) in Beni-Suef, however, it decreased to only 5% in Dakahlia and 9% in Kafr El- sheikh.

#### 4.3.5 Child's Needs to Return Back to Schools

In this sub-section, the study tries to know the magnitude of accepting the idea of return back to schools among drop-out children and what are their preferred conditions to be available in schools or within their families to encourage them to return back to schools.

Table (4.3.4) demonstrates that, on the overall level, the highest proportion among males or female workers in the agricultural activities reported that *better economic conditions for their families* are the most important factor to encourage them to return back to schools. This proportion is reported by about 44% of female workers and 41% of male workers. Moreover, this proportion is highly different between governorates. For example, 65% of female workers in Beni-Suef and 61% Qena male workers reported this economic factor as the main one to encourage them to return back to schools. On the other hand, the importance of better economic conditions is reported by only 11.8% of females in Gharbia, 18% of females in Kafrel Sheikh.

The second important factor to encourage children to return back to school is the need to *simplify the courses or the educational materials*. On the overall level, 18.6% of male workers and 16.2% of female workers asked for easier materials for educational courses. *Good treatment of teachers* had the third rank on the importance ladder. About 11% of males and 8.5% of females hope better treatment of teachers as a factor to return back to schools. It is also interesting to notice that near schools are not mentioned with big proportions either for males or females except in Fayoum. About 21% of male workers in Fayoum governorate reported that they need a nearer school to their homes as a factor to encourage them to return back to schools.

As expected, needed conditions either for schools or for families to encourage male or female workers in the agricultural sector are greatly different from one governorate to another as shown from table (4.3.4).

### 5. Determinants of child work in agricultural activities and school attendance

To model the situation of the child's activity, a multinomial logit model is applied four times for different groups of children: "work only", or "both study & work", or be in "neither study nor work" category as against "study only". The estimated coefficient, Wald test and odd ratios of multinomial logit are reported in the table (5).

#### 5.1 Child's characteristics

Child characteristics, such as *age and sex* of child seem to be essential determinants of child labor and schooling decision.

First let us begin with the effect of **age** category. The coefficient of age category is found to be significant for all categories (“study and work”, “neither study nor work”, “work only”).

In rural areas, it's normal to find that the probability of child to be “study &work”, “neither study nor work” and “work only” increases with the higher age group. One explanation of this result is that older children who failed to continue their studies may be due to children acquire more experience and join labor market to gain money that lead them to leave school. Thus, the younger children are more likely to be in the three categories (“study and work”, “neither study nor work”, “work only”).

Regarding **gender** coefficient, it has a strong significant effect on the probability of child be “study and work” and on the probability of child be “works only”, but it's not significant effect on the probability of child be “neither study nor work”. Male children are more likely to be “study and work” or to be "work only", since the odds of “study and work” for boys are around 2.181 times as those of girls and the odds of “work only” for boys are around 2 times as those of girls. This result is not surprising, as we mentioned above in rural areas due to bad economic conditions, boys join labor market to gain money thus are expose to leave their studies. Female children are more likely to be “neither study nor work” since the odds of “neither study nor work” for girls are around 1.063 times as those of boys. One explanation of this result is that, in rural areas where customs, traditions, and wrong beliefs, there are gender discrimination. Some household heads prefer their sons join school rather than their daughters.

## **5.2 Household Head Characteristics**

Household Head characteristics, we can find that *age, gender and the educational status* of Household head, have a significant impact on child labor and schooling decision.

First let us consider the effect of household head **gender** coefficient. Although it has a strong significant effect on the probability of child be “work only”, it has not statistically significant effect on the probability of child be “neither study nor work” and on the probability of child be “study and work”. Household head who is a male increased the likelihood that child would be “work only” over “study only” by approximately 62% comparing to female Household head. Most of the children who live in rural areas working with their families and under their supervision, hence if household head is males, he may ask his/her child to help him thus the child exposes to leave school or to not enroll.

Regarding the **educational status**, the impact of education status is significant on the probability of the child being “work only” rather than “study and work” and "neither work nor study".

Household head educational status significantly increases the probability that child will be in “work only” category. Household head with a higher level of education have a better potential income than that of lower educated household head; and thus higher income of household head increases the chance of the children to be in school “study only”. Table (5) confirms that children who have illiterate household head are about 35 times more likely be “work only” comparing children have household head with a university degree or higher.

The **age squared coefficient** of household head indicates the higher age of household head, the higher probability that the child will be in "works only" or in "neither study nor work

### **5.3 Demographic and economic status**

Demographic and economic characteristics, such as *region and wealth index* appear to be important determinants of child labor and schooling decision.

**The region** coefficient is found to be significant for all categories “study and work”, “neither study nor work” and “work only”. The odds of children who are “study and work” compared to “study only” are increased by a factor of 1.667 by being live in Lower Egypt Governorates rather than Upper Egypt Governorates, controlling for other variables in the model. In other words, Households live in Lower Egypt governorates made their children about 1.667 times more likely to be “study and work” over “study only”. While households living in Upper Egypt Governorates made their children about 0.755 times more likely to be “neither study nor work”.

**The wealth index** of household raises the probability that a child will “work only” or “neither study nor work”. Table (5) show that children who live in lower quintile household are more likely be “work only” or “neither study nor work”. With more details, children who live in the lowest quintile household are about 2 times more likely be “work only”. Also children who live in the second quintile household are about 1.5 times more likely be “work only”. The odds of “neither study nor work” compared to “study only” are increased by a factor of 1.5 when the wealth household is middle quintile compared to the highest quintile.

## **6. Summary of results and conclusion**

This paper analyses the incidence of child labor in agricultural activities and school attendance in Egyptian rural areas by applying a new data set. The results suggest that household head characteristics and demographic and economic status of the household are important determinants of child labor along with child’s own characteristics.

The multinomial logit model findings provide evidence that the education of household head significantly increases the probability that a child will be enrolled in school, For example if the household head is illiterate, it raises the probability that a child will be “Ever attend school and dropout” or “Never attend school”.

The paper provide evidence that most of children who work in agricultural activities founded in Upper Egypt Governorates and the poverty is the main cause behind child work in the agricultural activities.

The impact of working in the agricultural activities on schooling among working children is relatively small. Fortunately, the proportion of drop-out from schools among males did not exceed 11% and only 7.7% among females. However, the highest proportion of drop-out was shown among males living in 6 October (17.9%) and in Beni-Suef, Dakahlia and Assuit that ranged between (17-19%). Drop-out among males in the two new reclamation areas was minor. It did not exceed 1.6% in El-Salhia and 1.7 in Wady El –Rian. This may be due to higher desire among both parents and male students to attain higher level of education in these new societies.

Poor family conditions were the main cause for drop-out for both male and female children. More than half of both males and females who drop-out from schools, mentioned that they cannot pay for school tuition, cloth and tools needed for schooling. The next important factor behind drop-out which was mentioned by about one third males and females was to raise the family income throughout their work. Accordingly, the poor economic conditions of the households are the main cause behind drop-out. Children cannot pay for school tuition and at the same time, they are forced to work to help their families in order to raise their income.

Regarding to the magnitude of children acceptance the idea of return back to schools and their preferred conditions to be available in schools or within families to encourage them to return back to school, they reported three important factors as follows (1) better economic conditions for their families, (2) simplify the courses or educational materials, (3) asked for easier educational courses to return back to school. Region of residence are important in explaining variations in school attendance rates. Variations among governorates are also substantial.

As concluded from above results, poverty is the main cause behind child work in the agricultural activities. Therefore, all programs directed to raise the economic conditions of the families are critically needed, keeping in mind that children who dropped out from schools confirmed that the main cause behind their drop-out from school was inability to pay the school fees and the needed cloth and tools for schooling.

Raising economic conditions could be throughout offer some loans to parents or any adult member in the households to run a small project in order to raise family income. Also, NGOs could offer some kind of needed goods and food like rice, sugar...etc. for the families who keep their children in schooling. Find a job opportunity for adult members in the household could also raise the family income and encourage parents to keep their children at schools.

An integrated approach may be formulated to education, skill training credit provision and income-generation will help in addressing the problem of child labor. Education in particular is a

key strategy to combat child labor. Policy makers must realize that the education process in Egypt has fuelled the problem of child labor. Therefore, in order to combat child labor, education policies must be formulated as to make schools more accessible, affordable, functional, and friendly. Policy makers should realize that improving the quality of education and making it affordable for the poor in rural areas will lead to the sustainability of education. Also, there is a need to provide free basic education and high quality to encourage parents to send their children to school. Moreover, education may be linked with skill training and provision of credit to attract the children and parents.

The current education policies have to provide children with concrete benefits and develop their capabilities in a way that is functional to them and to their families in order to control the dropout phenomenon. Also organizing media campaigns to raise awareness among the teachers and parents about the child labor phenomenon and setting a group of social programs to make schools attractive for children.

*Child labor laws* have proven not to be efficient policy tools because preventing children from working means less sources of income for households and means falling into more poor conditions especially in rural areas. A policy that is able to compensate income forgone of child labor as well as to give a wider opportunities for affordable schooling is needed. In that sense, policies should provide an interesting promise to ease the problem of child labor by blinding the child to school. Then compensate the income forgone from child labor, conditional cash transfers are undoubtedly an appropriate solution. The main responsible authority for these activities is The Ministry of Social Solidarity with coordination with non-profit NGOs.



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**Annex 1: Descriptive statistics (cross tabulations):**

**Table (4.1.1) Percent distribution of children aged (6-17) by sex, age groups, and working status in agriculture sector**

Age group	Child working status in agriculture sector	
	<i>Work</i>	<i>Not working</i>
Male		
6-11	28.8	68
12-17	71.2	32
<i>Total</i>	100%	100%
Female		
6-11	29.6	55.8
12-17	70.4	44.2
<i>Total</i>	100%	100%

**Table (4.1.2) Percent distribution of children aged (6-17) by sex, Region, and working status in agriculture sector**

Region	Child working status in agriculture sector	
	<i>Work</i>	<i>Not working</i>
Male		
Lower Egypt	28.8	68
Upper Egypt	71.2	32
<i>Total</i>	100%	100%
Female		
Lower Egypt	53.6	44.7
Upper Egypt	46.4	55.3
<i>Total</i>	100%	100%

**Table (4.2.1) Percent Distribution of Working Children by the Educational Level of Fathers by Sex of Child & Governorate**

Governorate	Lower Egypt Governorates					
	Dakahlia	Sharkia	Kafrel-Sheikh	Gharbia	Monufia	Behaira
<i>(Males)</i>						
Illiterate	44.4	42.2	46.1	39.0	31.1	35.8
Red & Write	18.4	10.9	17.1	15.9	22.1	20.9
Primary	11.7	9.2	1.8	7.9	5.9	5.0
Preparatory	5.0	4.1	7.4	3.6	4.1	2.5
Secondary	15.1	27.2	22.1	25.3	28.8	26.2
Above Secondary	2.0	2.8	1.8	2.5	1.8	3.1
University	3.4	3.6	3.7	5.8	6.3	6.5
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<i>(Females)</i>						
Illiterate	44.5	47.7	45.5	39.9	36.4	37.8
Red & Write	17.7	9.6	12.9	14.4	18.6	19.3
Primary	12.7	11.4	5.9	8.0	8.5	2.3
Preparatory	3.6	2.8	5.0	6.5	4.2	2.7
Secondary	19.1	22.1	21.8	24.3	24.6	26.6
Above Secondary	0.9	2.5	5.9	2.3	3.4	3.5
University	1.4	3.9	3.0	4.6	4.2	7.7
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Continued Table (4.2.1)**

Governorates	Upper Egypt Governorates							New Reclamation Area		Total
	6 October	Beni-Suef	Fayum	Minya	Assuit	Sohag	Qena	Elsalhia	Wady Elrian	
<i>(Males)</i>										
Illiterate	73.7	60.1	68.3	60.8	55.5	52.0	51.2	48.3	84.2	<b>49.8</b>
Red & Write	9.8	8.8	12.7	16.6	12.8	7.6	12.6	11.7	3.5	<b>14.5</b>
Primary	5.2	4.1	1.0	5.7	6.4	5.8	9.2	5.0	3.5	6.4
Preparatory	3.1	6.8	2.0	1.3	4.6	2.2	3.9	3.3	-	<b>3.7</b>
Secondary	6.7	14.9	13.2	14.0	10.6	23.8	16.9	21.7	7.0	<b>19.4</b>
Above Secondary	1.0	3.4	1.5	1.0	2.8	5.4	1.9	1.7	-	<b>2.3</b>
University	0.5	2.0	1.5	0.6	7.3	3.1	4.3	8.3	1.8	<b>3.9</b>
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<i>(Females)</i>										
Illiterate	61.5	58.1	69.4	64.0	54.4	50.8	52.9	66.7	77.6	<b>49.8</b>
Red & Write	15.6	11.6	11.7	10.6	20.8	13.0	13.8	25.0	12.2	<b>14.6</b>
Primary	10.4	5.8	-	3.2	3.2	5.1	6.5	-	-	<b>6.6</b>
Preparatory	2.1	7.0	2.7	3.7	0.8	1.7	1.4	-	-	<b>3.3</b>
Secondary	9.4	14.0	11.7	15.3	16.0	24.3	19.6	8.3	6.1	<b>20.0</b>
Above Secondary	-	1.2	1.8	1.6	-	2.3	2.2	-	-	<b>2.1</b>
University	1.0	2.3	2.7	1.6	4.8	2.8	3.6	-	4.1	<b>3.6</b>
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table (4.2.2) Percent Distribution of Working Children by the Educational Level of Mothers by Sex of Child & Governorate**

Governorates	Lower Egypt Governorates					
	Dakahlia	Sharkia	Kafrel-Sheikh	Gharbia	Monufia	Behaira
<i>(Males)</i>						
Illiterate	60.0	62.7	69.3	57.7	58.1	62.9
Red & Write	8.0	5.2	4.3	3.1	7.9	9.7
Primary	6.4	4.4	1.7	3.8	7.4	2.4
Preparatory	3.7	2.2	1.3	1.4	3.9	0.9
Secondary	18.7	22.5	22.1	30.4	18.8	19.1
Above Secondary	2.4	1.2	0.9	2.4	2.2	1.8
University	0.8	1.7	0.4	1.0	1.7	3.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<i>(Females)</i>						
Illiterate	59.4	63.9	69.2	55.7	68.9	62.2
Red & Write	9.4	3.7	4.7	4.1	4.9	6.7
Primary	9.8	5.1	2.8	8.9	3.3	4.1
Preparatory	3.0	2.4	0.9	3.3	1.6	1.9
Secondary	15.4	22.8	18.7	25.1	18.0	18.5
Above Secondary	2.1	1.7	3.7	1.1	1.6	4.1
University	0.9	0.3	-	1.8	1.6	2.6
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Continued Table (4.2.2)**

Governorates	Upper Egypt Governorates							New Reclamation Area		Total
	6 October	Beni-Suef	Fayum	Minya	Assuit	Sohag	Qena	Elsalhia	Wady Elrian	
<i>(Males)</i>										
Illiterate	89.4	88.3	86.7	85.4	77.6	75.0	82.2	46.7	96.6	<b>71.6</b>
Red & Write	2.5	1.9	3.3	3.9	5.2	4.8	5.1	18.3	-	<b>5.4</b>
Primary	1.0	1.9	0.5	0.6	7.3	5.2	4.2	-	-	<b>3.6</b>
Preparatory	3.5	3.2	2.4	2.1	0.9	5.2	2.8	11.7	3.4	<b>2.7</b>
Secondary	3.0	1.3	7.1	8.1	5.2	7.5	5.6	20.0	-	<b>14.3</b>
Above Secondary	-	0.6	-	-	0.4	0.4	-	-	-	<b>1.0</b>
University	0.5	2.6	-	-	3.4	2.0	-	3.3	-	<b>1.3</b>
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<i>(Females)</i>										
Illiterate	89.9	87.5	87.8	86.4	83.3	71.1	80.1	46.2	86.5	<b>71.1</b>
Red & Write	3.0	2.1	7.0	4.0	6.1	7.4	9.30	15.4	3.8	<b>5.7</b>
Primary	3.0	1.0	1.7	3.5	3.8	7.4	3.3	-	1.9	<b>5.0</b>
Preparatory	-	4.2	0.9	0.5	2.3	1.6	4.0	15.4	7.7	<b>2.3</b>
Secondary	2.0	4.2	1.7	5.1	2.3	10.0	2.6	23.1	-	<b>13.2</b>
Above Secondary	-	1.0	0.9	0.5	1.5	2.1	0.7	-	-	<b>1.7</b>
University	2.0	-	-	-	0.8	0.5	-	-	-	<b>0.9</b>
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Table (4.3.1) Proportion of Working Children in the Agricultural Activities who "Ever Go To School", "Who Still Continued in Education" and "Current Stage" by Governorate and Sex**

Governorates	Lower Egypt Governorates					
	Dakahlia	Sharkia	Kafrel-Sheikh	Gharbia	Monufia	Behaira
<i>Males</i>						
Ever go to School	96.8	96.8	99.6	97.9	100.0	94.6
Now Still in Schools	83.7	91.6	92.8	94.0	89.7	87.3
<b>Current Stage:</b>						
Primary	53.1	40.9	43.2	54.9	34.0	46.7
Preparatory	26.1	32.0	33.2	30.8	44.0	32.6
Secondary	20.8	27.1	23.6	14.3	22.0	20.7
<i>Females</i>						
Ever go to School	95.4	96.6	94.4	98.9	94.3	95.6
Now Still in Schools	88.1	96.6	95.0	94.8	89.7	85.7
<b>Current Stage:</b>						
Primary	45.2	45.0	41.7	46.5	39.4	48.6
Preparatory	40.7	34.5	42.7	33.2	40.4	36.9
Secondary	14.1	20.5	15.6	20.3	20.2	14.4

**Continued Table (4.3.1)**

Governorates	Upper Egypt Governorates							New Reclamation Area		Total
	6 October	Beni-Suef	Fayum	Minya	Assuit	Sohag	Qena	Elsalhia	Wady Elrian	
<i>Males</i>										
Ever go to School	82.7	96.8	95.8	94.4	92.3	98.0	95.1	100.0	96.7	<b>95.7</b>
Now Still in Schools	82.1	83.4	90.7	85.3	84.2	89.9	92.0	98.4	98.3	<b>88.8</b>
<b>Current Stage:</b>										
Primary	48.9	41.3	41.9	39.3	34.3	45.3	36.4	45.0	31.6	<b>43.4</b>
Preparatory	33.6	41.3	39.2	35.3	38.7	38.1	42.1	50.0	45.6	<b>35.5</b>
Secondary	17.5	17.4	18.2	25.4	27.1	16.6	21.5	5.0	22.8	<b>21.1</b>
<i>Females</i>										
Ever go to School	86.0	88.8	90.5	81.6	84.8	91.8	83.7	100.0	96.7	<b>95.7</b>
Now Still in Schools	82.1	85.1	89.5	87.8	89.3	92.7	88.3	92.3	89.6	<b>92.3</b>
<b>Current Stage:</b>										
Primary	61.0	43.2	40.4	39.6	32.0	41.8	39.5	66.7	69.8	<b>44.4</b>
Preparatory	27.1	28.4	39.4	38.2	48.0	36.4	40.4	25.0	27.9	<b>37.0</b>
Secondary	11.9	28.4	20.2	22.2	20.0	21.8	20.2	8.3	2.3	<b>18.6</b>

**Table(4.3.2) Proportion of Drop-out among working children in the agriculture activities by governorate and sex**

Governorates	Lower Egypt Governorates					
	Dakahlia	Sharkia	Kafrel-Sheikh	Gharbia	Monufia	Behaira
<i>Proportion of Drop-Outs from Schooling</i>						
Male	16.3	8.4	7.2	6	10.3	12.7
Female	11.9	3.4	5	5.2	10.3	14.3

**Continued Table (4.3.2)**

Governorates	Upper Egypt Governorates							New Reclamation Area		Total
	6 October	Beni-Suef	Fayum	Minya	Assuit	Sohag	Qena	Elsalhia	Wady Elrian	
<i>Proportion of Drop-Outs from Schooling</i>										
Male	17.9	16.6	9.3	14.7	15.8	10.1	8	1.6	1.7	<b>11.2</b>
Female	17.9	14.9	10.5	12.2	10.7	7.3	11.7	7.7	10.4	<b>7.7</b>

**Table (4.3.3) Proportion of Children Working in the Agricultural Activities who left Schooling by Reasons of Leaving, Governorates and Sex**

Governorates	Lower Egypt Governorates					
	Dakahlia	Sharkia	Kafrel-Sheikh	Gharbia	Monufia	Behaira
<i>Reasons for leaving schools (Males)</i>						
Heat school	31.5	39.1	22.2	60.9	54.2	20.7
No sense of educational importance	2.7	34.8	5.6	17.4	12.5	34.5
Family discourage	1.4	32.6	5.6	13.0	-	10.3
Personal desire to work	8.2	17.4	5.6	17.4	8.3	17.2
Inability to pay school tuition/ (cloth/tool)	57.5	26.0	38.9	17.4	33.3	32.6
To help in family income	34.2	32.6	72.2	13.0	25.0	43.1
Work for his expenses	6.8	4.3	-	4.3	4.2	13.8
Difficulties of education & personal poor level	35.6	39.1	33.3	52.2	25.0	19.0
Mistreatment of teachers	11.0	10.9	16.7	12.9	12.5	24.1
School is far	1.4	-	-	4.3	-	5.2
<i>Reasons for leaving schools (Females)</i>						
Heat school	15.8	21.1	9.1	47.1	31.6	24.5
No sense of educational importance	5.3	36.8	-	17.6	5.3	16.3
Family discourage	13.2	26.3	-	5.9	5.3	16.3
Personal desire to gain skills	2.6	-	-	-	-	6.1
Preparing for marriage	5.3	5.3	-	5.9	5.3	2.0
Inability to pay school tuition (cloth/tools)	73.7	10.5	54.6	5.9	42.1	40.8
To help mother at home	5.3	26.3	9.1	11.8	31.6	38.8
To contribute in family income	39.7	-	45.5	11.8	10.5	26.5
Work for her expenses	15.8	15.8	-	-	-	8.2
Mistreatment of teachers	5.3	5.3	9.1	17.6	10.5	38.8
School is far	-	5.3	9.1	5.9	-	2.0
Poor level /difficulty of education	15.8	-	27.3	58.8	5.3	34.7

Continued table (4.3.3)

Governorates	Upper Egypt Governorates							New Reclamation Area		Total
	6 October	Beni-Suef	Fayum	Minya	Assuit	Sohag	Qena	Elsalhia	Wady Elrian	
<i>Reasons for leaving schools (Males)</i>										
Heat school	18.5	36.7	50.0	33.3	38.5	25.8	35.7	100.0	-	<b>33.0</b>
No sense of educational importance	16.9	50.0	42.9	40.9	34.6	48.4	35.7		33.3	<b>0.5</b>
Family discourage	13.8	23.3	7.1	27.3	28.8	45.2	21.4	-	-	<b>28.4</b>
Gain professional skills	6.2	20.0	21.4	24.2	5.8	16.1	10.7	100.0	-	<b>17.8</b>
Inability to pay school fees/ cloth/tools (school tuition)	43.0	26.7	21.5	60.6	61.5	35.5	57.1	-	33.3	<b>42.8</b>
Help family in home business	3.1	-	-	1.5	-	3.2	-	-	-	<b>2.4</b>
Help in family income	29.2	26.7	35.7	18.2	34.6	25.8	7.1	-	-	<b>29.1</b>
Work for his expenses	16.9	10.0	-	3.0	11.5	9.7	3.6	-	-	<b>7.9</b>
Difficulties in following up lessons	23.1	40.0	7.1	34.8	26.9	45.2	14.3	-	-	<b>30.0</b>
School is far	7.7	-	-	-	3.8	-	-	100.0	-	<b>2.2</b>
Mistreatment of teachers	23.1	10.0	3.6	7.6	-	3.2	-	-	-	-
Curriculum is difficult	4.6	-	-	-	-	-	-	-	-	<b>0.5</b>
<i>Reasons for leaving schools (Females)</i>										
Heat school	16.7	-	45.5	5.3	25.0	20.0	12.5	100.0	10.0	<b>19.0</b>
No birth certificate	2.4	-	-	-	-	-	-	-	-	<b>0.7</b>
No sense of educational importance	11.9	50.0	45.5	42.1	31.3	36.7	30.0	-	60.0	<b>27.0</b>
Family discourage	7.1	41.7	36.4	47.4	62.5	40.0	35.0	-	60.0	<b>29.2</b>
Personal desire to work	2.4	-	-	-	-	-	2.5	-	-	<b>1.9</b>
Preparing for marriage	4.8	-	13.6	1.8	-	-	-	-	-	<b>2.9</b>
Inability to pay school tuition (cloth/tools)	47.6	25.0	31.8	64.9	68.8	46.7	50.0	-	30.0	<b>38.2</b>
To help mother at home	14.3	45.8	18.2	50.9	15.6	36.7	22.5	-	10.0	<b>27.5</b>
Mistreatment of teachers	19.0	12.0	-	7.0	-	10.0	2.5	100.0	-	<b>0.2</b>
Help in family income	31.0	-	4.5	3.5	25.0	10.0	2.5	-	-	<b>14.8</b>
Work to face himself expenses	11.9	-	-	-	6.3	-	-	-	-	<b>3.6</b>
Difficulties in following up lessons	19.0	45.8	-	-	21.9	30.0	12.5	100.0	30.0	<b>21.9</b>
Curriculum is difficult	2.4	-	-	-	-	-	-	-	-	<b>0.2</b>
School is far	-	-	-	-	-	-	2.5	-	-	<b>3.2</b>

**Table (4.3.4) Percent Distribution of Child's Needs to Encourage Them To Return Back to Schools  
By Governorate and Sex**

Governorates	Lower Egypt Governorates					
	Dakahlia	Sharkia	Kafrel-Sheikh	Gharbia	Monufia	Behaira
<i>Conditions Needed o Return Back to Schools (Males)</i>						
If the school is near	11.3	2.2	-	-	-	7.0
Get better treatment from teachers	9.9	2.2	-	13.6	22.7	8.8
If lessons become easier	14.1	22.2	22.2	45.5	9.1	10.5
Lowering tuition	19.7	11.1	11.1	4.5	9.1	7.0
If the financial situation of the family becomes better	40.8	51.1	50.0	13.6	45.5	42.1
I do not want to return back to school	2.8	.	11.1	18.2	13.6	12.3
In case of the availability of a job	-	-	-	-	-	-
When I grow up	-	8.9	5.6	4.5	-	12.3
When my friend return back to school	-	-	-	-	-	-
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<i>Conditions Needed o Return Back to Schools (Females)</i>						
If the school is near	13.2	11.1	9.1	5.9	5.6	6.1
Get better treatment from teachers	2.6	-	9.1	29.4	5.6	16.3
If lessons become easier	13.2	5.6	18.2	23.5	11.1	10.2
Lowering tuition	26.3	-	18.2	-	22.2	6.1
If the financial situation of the family becomes better	44.7	44.4	18.2	11.8	38.9	49.0
I do not want to return back to school	-	-	9.1	17.6	-	2.0
In case of the availability of a job	-	-	-	-	-	-
When I grow up	-	38.9	18.2	11.8	16.7	10.2
When my friend return back to school	-	-	-	-	-	-
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>



Continued Table (4.3.4)

Governorates	Upper Egypt Governorates							New Reclamation Area		Total
	6 October	Beni-Suef	Fayum	Minya	Assuit	Sohag	Qena	Elsalhia	Wady Elrian	
<i>Conditions Needed o Return Back to Schools (Males)</i>										
If the school is near	12.3	-	21.4	3.0	3.8	3.3	3.6	-	-	6.1
Get better treatment from teachers	30.8	6.7	7.1	15.2	3.8	6.7	-	-	-	11.0
If lessons become easier	6.2	30.0	10.7	16.7	19.2	46.7	21.4	100.0	-	18.6
Lowering tuition	10.8	-	3.6	4.5	7.7	10.0	3.6	-	-	41.1
If the financial situation of the family becomes better	29.2	50.0	35.7	43.9	50.0	23.3	60.7	-	-	41.1
I do not want to return back to school	7.7	10.0	14.3	13.6	15.4	6.7	10.7	-	33.3	9.9
In case of the availability of a job	-	-	-	1.5	-	-	-	-	-	0.6
I want work only	-	3.3	3.6	-	-	-	-	-	-	0.2
When I grow up	3.1	-	3.6	-	-	3.3	-	-	66.7	3.7
When my friends return back to school	-	-	-	1.5	-	-	-	-	-	0.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<i>Conditions Needed o Return Back to Schools (Females)</i>										
If the school is near	2.5	4.3	9.1	3.5	9.7	7.1	12.5	-	11.1	7.5
Get better treatment from teachers	20.0	4.3	4.5	7.0	6.5	7.1	-	-	-	8.5
If lessons become easier	12.5	21.7	18.2	15.8	16.1	39.3	10.0	100.0	22.2	16.2
Lowering tuition	5.0	-	4.5	5.3	12.9	-	20.0	-	-	9.2
If the financial situation of the family becomes better	50.0	65.2	40.9	59.6	41.9	21.4	35.0	-	55.6	43.8
I do not want to return back to school	7.5	4.3	4.5	7.0	12.9	7.1	7.5	-	11.1	6.0
In case of the availability of a job	-	-	-	-	-	3.6	-	-	-	0.2
In case of marriage	-	-	18.2	-	-	-	-	-	-	1.0
When I grow up	2.5	-	-	1.8	-	3.6	100	-	-	6.7
Recovery from illness	-	-	-	-	-	3.6	-	-	-	0.2
When my friends return back to school	-	-	-	-	-	-	5.0	-	-	0.5
The family refuse my education	-	-	-	-	-	-	2.5	-	-	0.2
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Annex 2: Definition of Variables used in Multinomial Logit Regression:**

<b>Variable Names</b>	<b>Definition of Variables</b>	<b>Values of variables</b>	<b>N</b>	<b>Marginal percentage</b>
Edu_status	Education status of child aged "6-17" years	0 if child "study only"	3220	33.7 %
		1 if child "study and work"	5023	52.6 %
		2 if child "neither study nor work"	416	4.4 %
		3 if child "work only"	886	9.3 %
<i>Child Characteristics:</i>				
age_cat	Child's age categories	0 if age category(6-11)	3940	41.3 %
		1 if age category (12-17)	5605	58.7 %
child_sex	Child's gender	1 if the child is male	5164	54.1 %
		2 if the child is female	4381	45.9 %
<i>Household Head characteristics</i>				
Gender	Gender of household head	1 if H. head is male	8858	92.8 %
		2 if H. head is female	687	7.2 %
Educational status	Educational status of household head	1 if H. head is illiterate	4835	50.7 %
		2 if H. head is read&write	1367	14.3 %
		3 if H. head finished primary or preparatory stage	982	10.3 %
		4 if H. head finished Secondary & Azhar Sec. & Technical Sec. & High school	2040	21.4 %
		5 if H. head finished University and above	321	3.4 %
<i>Demographic and economic status</i>				
Region	In Egypt there are two rural regions locate in (upper and lower governorates)	1 refers to lower governorates	4826	50.6 %
		2 refers to upper governorates	4719	49.4 %
Wealth index	Information on household assets was used to create an index representing the wealth of the households interviewed in the survey. The wealth index is a proxy for long-term standard of living of the household	1 refers to the lowest quintile	1988	20.8 %
		2 refers to second quintile	1933	20.3 %
		3 refers to middle quintile	1876	19.7 %
		4 refers to fourth quintile	1980	20.7 %
		5 refers to the highest quintile	1768	18.5 %

**Table (5): Multinomial logit estimates for all children aged "6-17 years" (The reference category is Study only).**

Variable Names	<i>Study and Work</i>			<i>Neither</i>			<i>Work</i>		
	<i>Coefficient</i>	<i>Wald test</i>	<i>Odd ratio</i>	<i>Coefficient</i>	<i>Wald test</i>	<i>Odd ratio</i>	<i>Coefficient</i>	<i>Wald test</i>	<i>Odd ratio</i>
Constant	6.393	113.336		0.767	0.384		- 0.405	0.086	
<b><i>Child Characteristics</i></b>									
<i>Child's Age Group (ref.: age"12-17")</i>									
Age group "6-11"	- 1.450	782.643	0.235	- 0.811	53.041	0.444	- 2.746	517.170	0.064
<i>Child's sex (ref: Female)</i>									
Male	0.780	254.020	2.181	- 0.065	0.373	0.937	0.652	62.712	1.920
<b><i>Household head Characteristics</i></b>									
Age	- 0.249	104.707	0.779	- 0.138	8.364	0.871	- 0.188	24.999	0.829
Age squared	0.003	98.169	1.003	0.001	8.250	1.001	0.002	28.153	1.002
<i>Gender (ref: Female)</i>									
Male	0.155	2.467	1.168	0.196	1.001	1.217	0.481	9.374	1.618
<i>Educational status (ref: university or above)</i>									
Illiterate	0.070	0.273	1.073	0.725	3.199	2.065	3.558	12.412	35.108
Read&Write	- 0.069	0.231	0.934	0.375	0.794	1.455	2.956	8.497	19.218
Primary&Preparatory	0.056	0.143	1.057	- 0.065	0.021	0.937	2.491	5.950	12.078
Secondary &Azhar Sec.& Technical Sec.&High School	- 0.040	0.085	0.961	- 0.284	0.446	0.753	1.905	3.501	6.719
<b><i>Demographic and economic status</i></b>									
<i>Region (ref: Upper Egypt governorates)</i>									
Lower Egypt Governorates	0.511	100.170	1.667	- 0.281	5.858	0.755	0.192	5.003	1.212
<i>Wealth index ( ref: the highest quintile )</i>									
the lowest quintile	- 0.192	5.322	0.825	0.847	17.158	2.334	0.734	23.860	2.083
second quintile	- 0.237	8.412	0.789	0.384	3.278	1.468	0.400	7.018	1.492
middle quintile	- 0.117	2.128	0.890	0.461	4.710	1.586	0.150	0.912	1.162
fourth quintile	0.023	.084	1.023	0.335	2.348	1.397	0.252	2.563	1.287
<b><i>Number of Observations</i></b>					9545				
<b><i>Chi squared</i></b>					2296.757 (d.f. 42)				
<b><i>Pseudo R-squared</i></b>					0.273				

