Assessment of Poverty and Equality of Opportunities Among Egyptian Youth

By

Dina M. Armanious, Ph.D.

Associate Professor, Department of Statistics,

Faculty of Economics and Political Science, Cairo University

Abstract:

Investing in youth is the best investment Egypt can make. Youth's well-being determines to a great extent the country's well-being. This study is the first ever attempt to measure the level of poverty and the equality of opportunities among Egyptian youth 18-29 years. It analyzes poverty from a multi-dimensional perspective, and not only from the perspective of lack of income or low consumption. This study provides a comprehensive, mixed method analysis of the current situation of the nearly 33 percent representing 5.9 million youth aged 18-29 years today who live deprived of their rights to be youth. The main objective of this study is to examine the level of poverty (monetary and non-monetary) among youth 18-29 years, calculating the Multidimensional Poverty and assessing the inequality of opportunities among youth utilizing the Human Opportunity Index (HOI).

The analysis of income poverty shows that youth are more likely to experience poverty than older age groups and 'younger young' are at substantially higher risk of poverty than the 'older young'. Poor youth have low educational attainments and especially the girls. Unemployment rate for the poor youth is lower than the non poor, at any age. Unemployment rates continue to be high for secondary and university graduates particularly for the poor.

Education deprivation followed by healthcare deprivation is the most prevalent severe deprivation among youth aged 18-29 years in Egypt. Youth of illiterate parents are more likely to have poorer health, to drop out of school themselves and to work rather than attend school. The prevalence of information, water and sanitation deprivation among rural youth is more than that in urban areas, and youth with the least wealth are most likely to experience deprivations.

Overall, youth in rural areas are least likely to have the opportunity to complete secondary and university education on exact age as well as to attend school/university than those in urban areas. Most youth in urban areas and the majority of youth in rural areas has the opportunity to use safe drinking water. Difference between opportunities in urban and rural areas, as measured by HOI, is in general driven by a difference in access (coverage effect) rather than in the degree of equality of opportunity. Completion of university education on exact age depends on a great extent on the properties of youth themselves. Accordingly, attention of the government to the education sector should be promoted, whether the secondary or university education and particularly for university education. Literacy education programs, as well as vocational training centers should be promoted to illiterate youth and household heads.

Key Words: Youth poverty, Multidimensional Poverty, Monetary and Non-monetary approach, Income Poverty, Deprivations among youth, Bristol approach, Human Opportunity Index (HOI)

1. Introduction

Investing in youth is the best investment Egypt can make. Youth's well-being determines to a great extent the country's well-being. Youth poverty is usually conceived as the poverty experienced by youth. It differs from adult poverty in that it can have different causes and effects. Two main causes can be identified, first; life-course events (e.g. leaving school, starting work, having children) play a significant role in shaping vulnerability to poverty. These 'life events' are more likely to occur during 18-29 years of age. Second; intergenerational transmission because poverty experienced by youth is often linked to their poverty status of their households and childhood deprivation, and can affect their well-being and the well-being of their children. The impact of youth poverty on long term human capital accumulation is well recognized because the capacity for learning is greater than older ages; thus youth poverty represents missed opportunities to acquire skills in school or on the job, or good health habits that can be extremely difficult to remedy.

➢ How we define and measure youth poverty?

Poverty measurements discussed in this study include both *Economic Measures* of poverty based on Monetary Measures, *and* a *Range of Outcome Measures* (Non Monetary Measures) reflecting the health and survival and the education and personal development of youth.

Monetary and non monetary approaches of defining poverty are complementary approaches rather than different approaches and both approaches are considered. It is true that income alone is insufficient to provide youth with education and health care they need, but also adequate provision of such services only cannot guarantee that they will utilize such services.

Youth living in poverty face deprivations of many of their rights: to survive, to learn, to work, to participate, and to be protected. In order to operationalize this rights-based approach to youth poverty, and analogous to UNICEF approach of child poverty, the study uses a series of indicators to measure youth's access to seven rights (safe drinking water, sanitation facilities, health, crowdedness, floor, education, and information).

Youth who does not have access to one or more of these rights is described as a **Severe Deprivation**, while who does not have access to two or more of these rights is described as living in **Absolute poverty**. The dimensions and indicators employed in this study were as follows:

Water deprivation: Youth using water from an unimproved source such as unprotected well, unprotected spring, surface water, tanker truck or cart with small tank or who it takes 30 minutes or more to get water and come back.

Sanitation deprivation: Youth who live in households with pit latrine, bucket toilet or no facility, or used modern flush toilet, traditional bucket flush and in the same time the drainage system is piped connected to canal, or to ground water or no drainage system.

Floor deprivation: Youth who live in dwellings with no flooring material.

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

Crowdedness: Youth who live in dwellings with five or more people per room.

Information deprivation: Youth with no access to radio, television, telephone, and computer at home.

Education Deprivation: Youth who had never been to school or who dropped out before completing their primary education.

Health Deprivation: Ever married women aged 18-29 who gave birth during the preceding five years before the survey (EDHS, 2008) and did not receive antenatal care or Tetanus Injection during their last pregnancy from a doctor or nurse.

> ➢ **Objectives of the Study**

This study aims to achieve the following objectives:

1. Examining the level of poverty (monetary and non-monetary) among youth 18-29 years in Egypt.

2. Exploring the main factors likely to be associated with youth poverty.

3. Calculating the Multidimensional Poverty among youth (Bristol approach) and investigating the main correlates of such multidimensional poverty.

4. Assessing the inequality of opportunities among youth utilizing the Human Opportunity Index (HOI).

2. Data Sources and Methods

> ➢ **Data Sources**

The data used in this study is based on the *Household Income, Expenditure and Consumption Survey* (HIECS 2008/09), conducted by the Central Agency of Public Mobilization and Statistics in Egypt (CAPMAS). This survey provides data about the monetary poverty as it includes consumption data. Additionally, the study used the *Egyptian Demographic and Health Survey* (EDHS 2008), which was conducted on behalf of the Ministry of Health and Population and the National Population Council. This survey provides data about the seven dimensions of deprivations and used in calculating the Multidimensional Poverty Index. Moreover, the study used **Survey of Young People in Egypt** (SYPE, 2009) that was conducted by Population Council in cooperation with Information and decision support Center (IDSC) – Egyptian Cabinet to measure the HOI among youth.

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

> **Methods**

A simple *interpretation of the HOI* is a measure of access to (or coverage of) essential services for children and youth development, discounted or penalized by the inequality of access across the potential beneficiaries. Therefore the HOI improves either by increasing access to services and/or by making access more equitable.

To assess the inequalities among youth in urban and rural areas, the HOI is used to measure the access to essential services, penalized by the inequality of access across the place of residence.

$$HOI = C - P$$

Where C is the rate of global coverage, and P associated with inequality of opportunities,

P = (C * D) and D is the dissimilarity index, which measures the difference between the rates of coverage of an opportunity across different groups of circumstances.

Thus, the HOI range is from 1 to 100, and it increases with the global rate of coverage and that it decreases with the differences in coverage between the different groups of circumstances.

$$HOI = C - P = C *(1-D) = C* (1-P/C)$$

Where (1-D) represents the percentage of opportunities available that is assigned correctly

$$P = \frac{1}{N} \sum_{k=1}^{v} (M_k - \overline{M_k})$$

Computing the penalization for inequality of opportunities, P, requires the identification of all groups of circumstances with rates of coverage below the average. We refer to these as the groups vulnerable to human opportunity. For each group vulnerable to opportunity, $k\overline{M}_k$ is the number of people who have access to a good or service necessary, so that their rate of coverage is the same as the average, while M is the number of people in group k with access. $M_k - \overline{M}_k$ is thus the difference in opportunities within the vulnerable group k. The penalization is the sum of the differences in opportunities of all the vulnerable groups divided by the total population (N):

Intuitively, P can be interpreted as the percentage of people whose access would have to be reassigned to people in groups with lower rates of coverage to reach equality of opportunities. If all the groups have exactly the same rate of coverage, then the penalization is zero, and no reassignment would be necessary. As long as the coverage approaches universality for all groups the reassignment required will be close to zero[1].

---

[1] For more details see (presentation of methodology of the Human Opportunity Index made by Molinas, et al (2010), a World Bank/LAC document)

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

The global coverage, C, is calculated using the *Logistic Regression Technique* utilizing all the related circumstances to assess the impact of these circumstances on each opportunity and to calculate the average (C) using the predicted probabilities. Let *P* denote the probability that youth have access to a certain service:

$$P(Y=1/X) = 1/(1+e^{-Z}) \text{ , where } Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p$$

The dependent variable Y is the access to a certain service, the explanatory variables X are the related circumstances, and β_i's are the corresponding parameters. Accordingly, C is the average of these estimated probabilities along all population.

The HOI has important properties. **First**, its value falls as the inequality of a given number of opportunities grows. **Second,** if no one loses access and at least someone gains access then the index will always increase, independently of whether this person belongs to a vulnerable group or not. **Third,** when the rate of coverage of all the groups of circumstances increases proportionally, the HOI will increase in the same proportion.

> **How income poverty is measured[2]**

The poverty line in Egypt was constructed using the cost-of-basic needs methodology. A food bundle is constructed such that it is consistent with the consumption of poor households and reaches calorie requirements. The cost of these food bundles is then established. This is known as the *Food Poverty Line (*FPL). Households whose expenditure is below the FPL are referred to as "extremely poor". A second poverty line was constructed by augmenting the FPL with an allowance for expenditure on essential non-food goods. This results in what is called the *Total Poverty Line (TPL)*. Households spending less than the TPL are considered "poor". The extremely poor are a sub group of the poor. In 2008-09, on average, a person who spent less than LE185 per month was *poor.* Youth living in households whose consumption is below TPL are poor.

3.   Results

3.1   Income poverty

Youth are more likely to experience poverty than older age groups and 'younger young' are at substantially higher risk of poverty than the 'older young'. At the national level, 23 percent of youth at 15-29 years were in poverty in 2008-09. Poverty rates peak dramatically for teenagers between 15 to 17 years, rising to almost 29 percent compared to 27 percent for young adults between 18 and 20 years. The older youth between 27 and 29 years have the lowest incidence of poverty (17 percent). Starting from age 27 years and above, poverty rate was always below the

---

[2] All income poverty analysis is based on data from the Household Income, Expenditure and consumption Survey 2008-09 conducted by CAPMAS.

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

national average. This is partly driven by changes in occupational status among young people (who are less likely to be studying or unemployed at later ages), but also by a reduced risk of poverty within groups: for example, those with a job are less likely to be poor in their late twenties than in their teens or early twenties. However, this is offset by the fact that at later ages most of them have had children. The national pattern persists in urban and rural areas as shown in Figure 1.

Figure 1: Income poverty rate by age, 2008-09
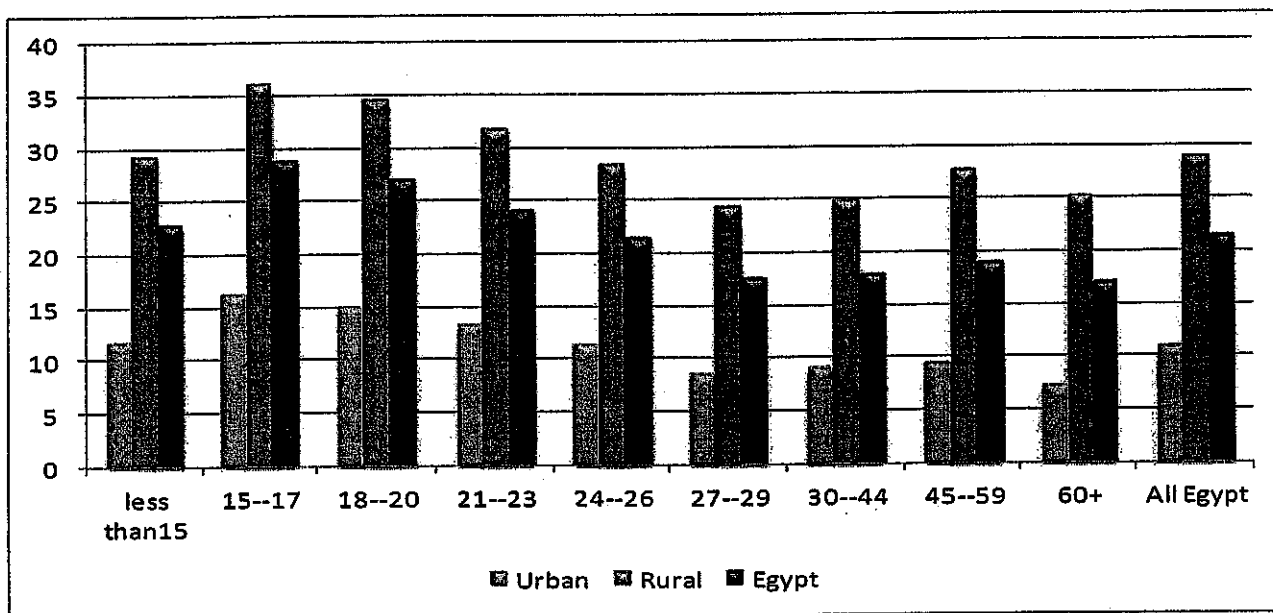
> **Low education is a key factor to transmitting poverty across generations.**

Evidence from all poverty studies in Egypt showed that education is the strongest correlate of poverty, as it determines the command of individuals over income earning opportunities through access to employment. The correlation between education and welfare has important implications for policy, particularly in terms of the distributional impact.
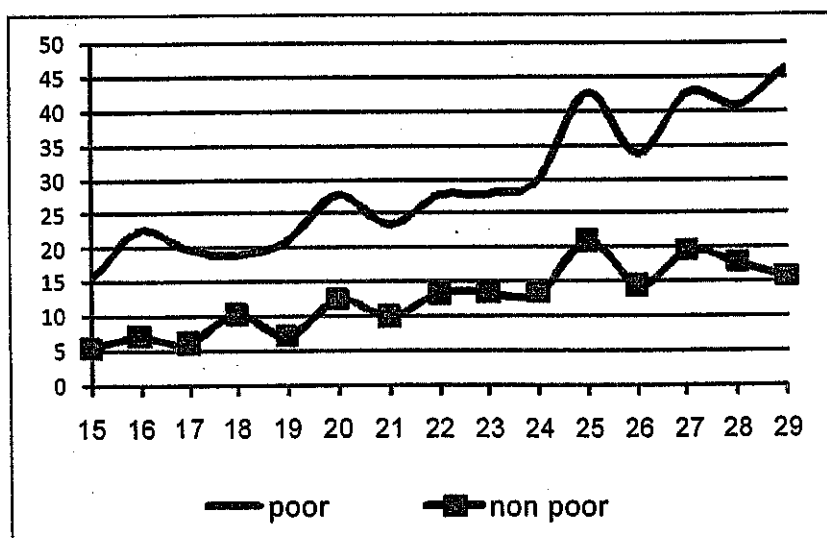

Figure 2: Illiteracy rate of Youth by age and poverty status

Youth in poor households were highly disadvantaged in literacy, with large regional and gender gaps. For the group of youth aged 15 to 29 years, illiterate poor persons in Egypt ranged from two to three times the illiterate non-poor person. Illiteracy rate increases as age increases for both

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

the poor and non poor, reflecting improvements in access to basic education. The rate for 15 years old person is only one third of 29 years rate.

Regarding the education status, Table A.1 shows that 27.1 percent of the poor are illiterate compared to only 12.4 percent of the non poor and only 36.8 percent of the poor have secondary education and higher and the corresponding figure for the non poor is 56.1 percent. High illiteracy rate among youth of age 15 years raises questions about the current accessibility of children to basic education specially the poor and about the quality of education they receive. *Low education status of poor youth and low enrollment rate is often a key constraint to Egyptian youth present and future livelihoods opportunities.*

Figure 3: Enrollment rate of Youth by age, poverty status, and gender, 2008-09
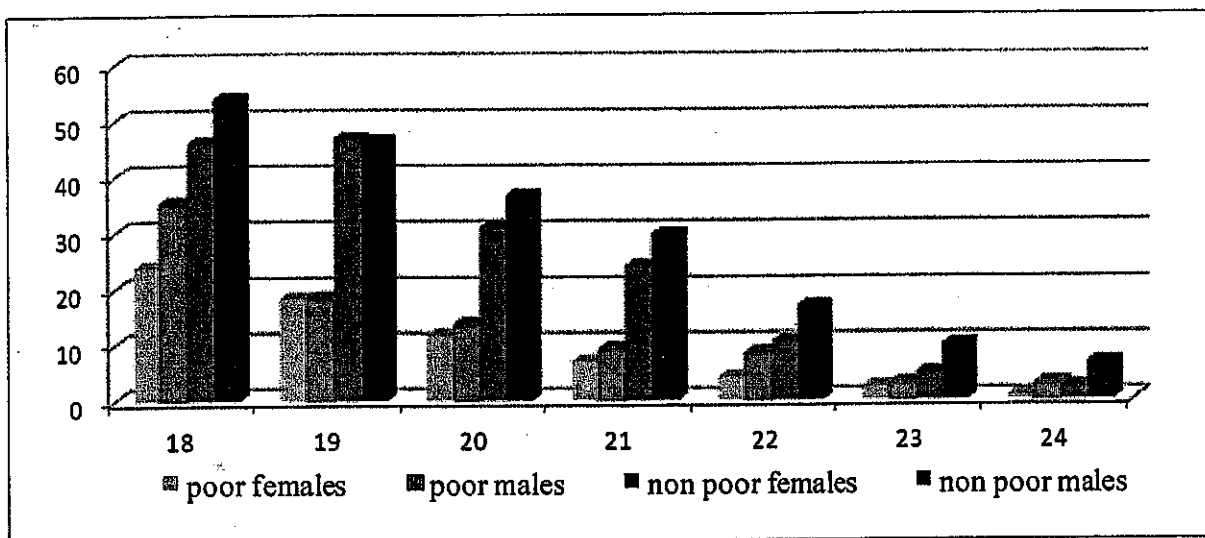
> **Youth Employment characteristics are highly correlates with poverty**

Because labor is the main asset of the poor, making it more productive is the best way to reduce poverty. Overall employment rate (rate of labor force participation) of youth aged 15-29 years stood at 47 percent, while it is 55 percent for youth in age group 18-29 years. Employment rate increases as age increase; it starts at 11.5 percent for age 15 years, jumped to 36 percent at secondary school graduation age (18 years), increased to 44 percent and to 54 percent at university graduation age of 21 and 22 years respectively, it is always above 62 percent afterwards. Youth employment rates fall as per capita income increases because youth devote more time to schooling. Employment rate is always higher for the poor compared to the non poor for all ages till the age of 22 when youth graduate from university.

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

Unemployed educated youth continued to be of particular concerns. Youth make up 21 percent of Egyptians, but 76 percent of the unemployed. Youth unemployment rate is three times higher than national unemployment rate, indicating that unemployment is mainly a youth problem.

Unemployment rate for the poor youth is lower than the non poor, at any age. Poor young people cannot afford to stay unemployed, most have to work. So the incidence of unemployment may be low, although youth are still in poverty. As indicated by Figure 4, unemployment rate increases with age, peaks at age of 21 and 22 and declines afterwards. This is true for both poor and non poor youth, yet unemployment rate for the poor is always lower than the non poor.

Figure 4: Unemployment rate by age and poverty status, 2008-09
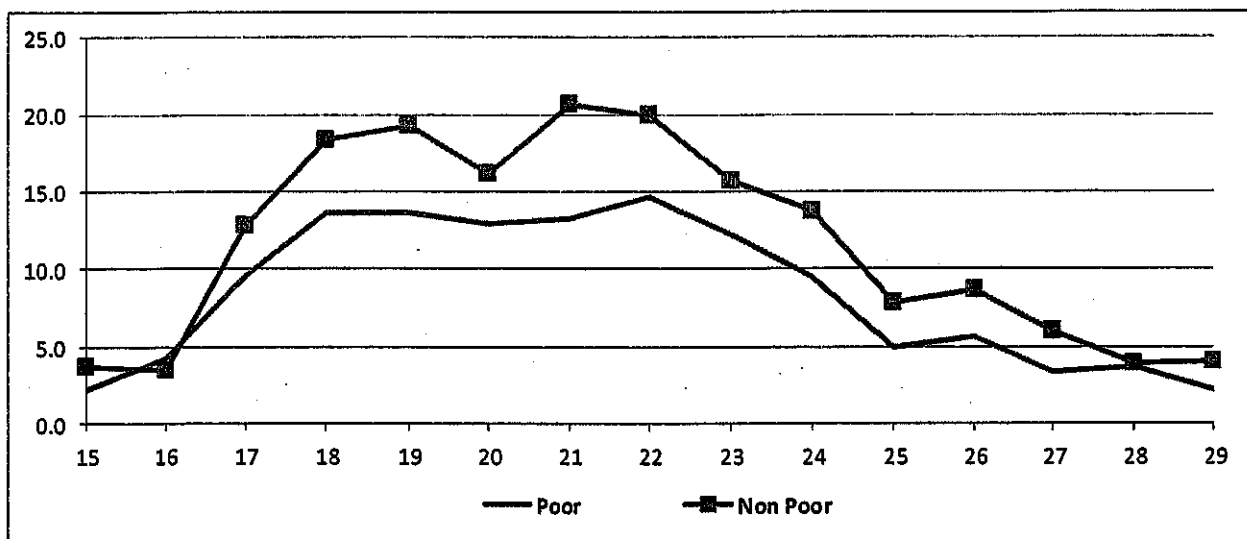
Unemployment rates continue to be high for secondary and university graduates particularly for the poor. As presented in Table A.2, unemployment was more pronounced among the poor where 29 percent of poor educated persons of age 18-29 were unemployed and one educated non poor out of four was unemployed. It seems that even if a poor person is able to break the vicious circle of education and poverty, he/she still cannot compete in the job market as a result of low quality education, labor market mismatch, or because of a lack of connections in identifying job opportunities. Youth employment may be considered informal if the job is unpaid or if the job includes no benefits such as participation in the country's social security system. High rates of informality are a signal that youth are finding less permanent, low-quality jobs.

3.2   Multidimensional Poverty (as non monetary deprivation[3])

Multidimensional poverty includes the multiple factors that constitute poor youth's experience of deprivations, namely; safe drinking water, sanitation facilities, crowdedness, improper flooring, education, health, and source of knowledge.

---

[3] Non Monetary deprivation analysis is totally based on data of most recent EDHS (2008).

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

The Bristol approach adopted by the Global Study (UNICEF 2007) makes a significant effort to provide a methodology for measuring multidimensional child poverty[4]. The Bristol approach defines two different cross dimensional cutoff points to identify multidimensional poverty, namely; youth in *severe deprivation* and youth in *absolute poverty* as defined previously.

Accordingly, the prevalence of the multidimensional poverty among youth is calculated (the Headcount Ratio), where youth who experienced at least one dimension of deprivation is considered multidimensional poor. Same measures of Bristol approach were previously applied in both Child Poverty study (2009) and Trend Analysis of child poverty (2010)[5].

> *Prevalence of Deprivations*

Figure 5 shows the percent of Egyptian youth of age 18-29 years who suffer from different severe deprivations, the figure shows that the education deprivation is the most prevalent severe deprivation among youth aged 18-29 years in Egypt. It shows that 17 percent of youth (accounting for 3074 thousands youth) suffer from severe education deprivation.

Education deprivation is followed by healthcare deprivation, where 15 percent of ever married female youth who gave birth at the preceding five years (accounting for 768 thousands) suffer from healthcare (did not receive antenatal care or Tetanus injection) during their last pregnancy. The percentage of water and sanitation deprivations were small, indicating that almost all youth have access to a non deprived source of drinking water and sanitation facilities, however it is always noted that the quality of these services is poor. It should be noted that education and healthcare deprivations (the most prevalent form of deprivations) are highly correlated to income poverty, reflecting that youth poverty in Egypt is of income nature.

---

[4] This methodology was developed by a research team from the Townsend Centre for International Poverty Research at the University of Bristol, and was applied to child poverty in developing countries during a research project that focused on child poverty and child rights. The results were later published as part of UNICEF's 2005 annual report. The State of the World's Children 2005 (UNICEF 2004) and also in the form of a short summary of the project report (Gordon et al. 2003a).

[5] Trend analysis of child poverty between 2000 and 2008 (2010). Carried out by the United Nations Children's Fund' Egypt Country office (UNICEF).

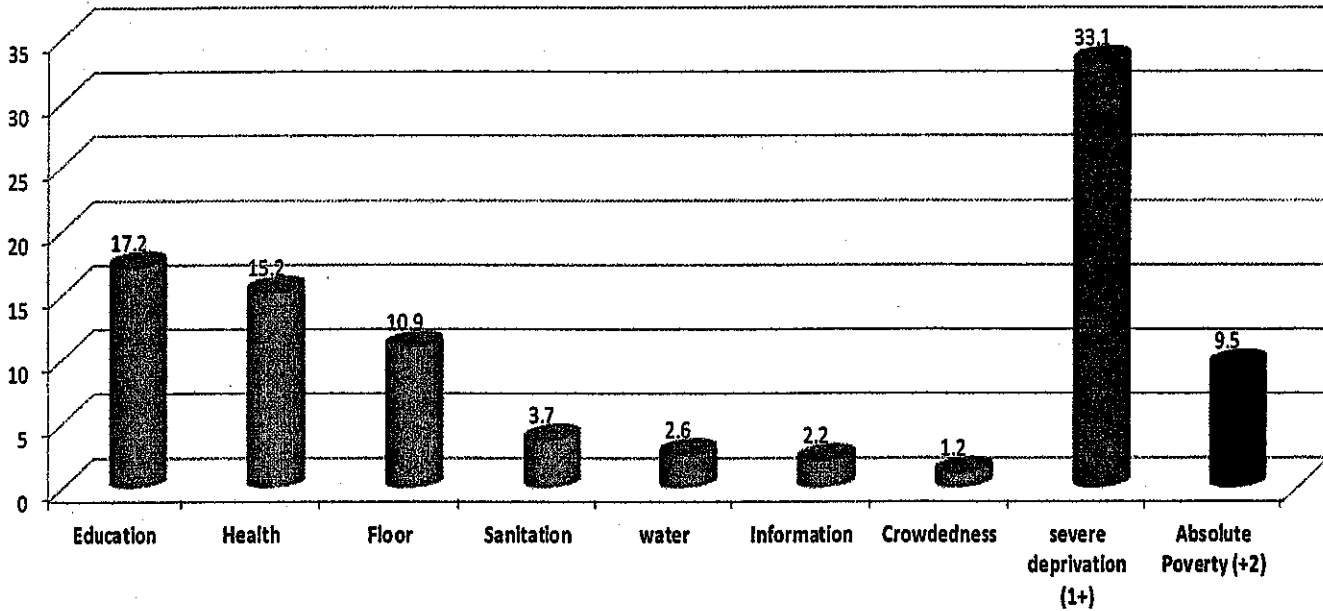**Figure 5: Prevalence of deprivations among youth 18-29 years**

Figure 5 presents the percentage of youth experiencing one or more deprivations (severe deprivation) as well as the percentage suffering 'absolute poverty' (two or more deprivations). The data shows that almost 33 percent representing 5.9 million youth aged 18-29 years in Egypt, experienced one or more deprivations (severe deprivation). Almost one quarter (23.6 percent) representing 4223 thousands youth suffers from only one severe deprivation. On the other hand, 9.5 percent of youth (representing 1701 thousands youth) are suffering 'absolute poverty' (two or more deprivations).

3.3   Correlates of Different Dimensions of Deprivation

A. Educational deprivation

There is a significant difference between boys and girls who suffer from education deprivation. The percentage of girls who deprived from education is slightly less than twice the percentage for boys (21.3 percent vs. 13 percent respectively) as shown in Table A.3.

There is a direct correlation between severe education deprivation and the education of household head. Among youth whose household head has no education; almost 30 percent are severely deprived of education, almost 2.2 times the prevalence rate when the household head has received a primary education. For heads who have obtained a secondary degree or higher education, the likelihood of a youth being educationally deprived drops to only 4.6 percent.

Concerning the place of residence, the data shows that only 9.5 percent of all urban youth aged between 18 and 29 experience severe educational deprivation, compared to 23 percent of all rural

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

youth. The highest prevalence rate of educational deprivation exists in rural Upper Egypt (30.2 percent), while the lowest rates are observed in urban Lower Egypt (6.9 percent).

The wealth status of households represented by the assets approach (Wealth Index)[6] has a substantial effect on youth deprivation. *Youth with the least wealth are most likely to experience deprivations.* Youth with the least wealth are most likely to experience education deprivation, where two out of five youth in the lowest quintile suffer from education deprivation, compared to only 2 percent among youth in the richest quintile.

B. Health deprivation

Early and regular checkups by trained medical providers are very important in monitoring women's health status during pregnancy. Many of the most dangerous diseases and causes of death for young women can be prevented if they received antenatal care and received tetanus injection during their pregnancy.

It is estimated that 15.2 percent of ever married female youth aged 18-29 in Egypt (2720 thousands) are severely health deprived. Female youth living in larger household sizes have higher risk of health deprivation. The educational level of household head is not a differentiating factor for health deprivation. Additionally, the data shows that there are significant differences between regions. The lowest rate of severe health deprivation among ever married female youth aged 18-29 years is found in urban governorates (10.9 percent) while the highest rate is found in rural Upper Egypt (19.8 percent). Female youth living in wealthiest households are less likely to be health deprived than those living in poor households (Table A.3).

C. Flooring material deprivation

The data shows that almost 11 percent of youth aged 18-29 years live in dwellings with natural floor -suffer from floor deprivation- (representing 1959 thousands youth). The risk of experiencing floor deprivation vary enormously between residences, where 17.7 percent of youth in rural areas live in severely floor deprived, compared to only 1.9 percent among youth in urban areas. Considering the disparities between regions, the data shows that less than one percent of youth in urban governorates and in urban Lower Egypt suffer from severe floor deprivation, compared to 32.4 percent among youth in rural Upper Egypt.

Floor deprivation is more prevalent among youth living in larger household sizes, where 20 percent of youth living in households of seven or more members suffer from floor deprivation compared to only 5.8 percent among households with three or four members. Youth with uneducated household head are more likely to experience floor deprivation (with rate 20.3 percent)

---

[6] Wealth index is a proxy for poverty. It is based on the household's ownership of consumer items such as a fan, television…etc, dwelling characteristics that are related to wealth status.

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

compared to those live with heads having secondary education or more (3.7 percent).

Slightly less than half of youth who live in the lowest quintile suffer from flooring material deprivation. Although those living in the second lowest quintile are still poor, the likelihood that they suffer from flooring deprivation drops by almost 70 percent (in comparison with the poorest quintile).

D. Sanitation Deprivation

Youth are affected by poor sanitation, which is directly linked to their health. The study found that 3.7 percent of youth (accounted 669,000 youth aged 18-29 years) in Egypt are severely deprived of sanitation; lacking any form of sanitation facility, adequate or otherwise.

Considerable differences are observed between urban and rural areas regarding sanitation deprivation, where only 0.7 percent of youth in urban areas suffer from severe sanitation deprivation compared to 6 percent among youth in rural areas.

Youth in urban governorates and in urban Lower Egypt almost do not suffer from severe sanitation deprivation (less than one percent), while 6.3 percent of youth in rural Lower Egypt and 5.6 percent of youth in rural Upper Egypt suffering from such deprivation.

Similar to other forms of deprivation, youth living in large households are more likely to suffer from severe sanitation deprivation. Education of head of household is greatly affect the sanitation deprivation, where almost 5 percent of youth with uneducated heads suffer from severe sanitation deprivation, while this percentage decreased to only 2 percent among youth with heads having secondary education or more.

The wealth status of households has significant affect on suffering of severe sanitation deprivation. Almost 8 percent of youth live in the poorest quintile suffer from severe sanitation deprivation, while this percentage decreased to less than one percent among youth in the richest quintile.

E. Water deprivation

Access to clean and safe water are vital for the survival and healthy development of youth, reducing sickness due to water related diseases. Severe water deprivation is an issue of both quality and quantity. Several other factors, in addition to the source of water and the time and distance to the source, affect the quality of a household's access to drinking water. Such factors include the quality of the water delivered, the continuity of the drinking water supplies, the seasonal availability of water, and the affordability of the services. These factors are not taken into account in assessing water deprivation.

This study has estimated that 2.6 percent of youth (466,000 youth in Egypt) are severely water deprived. There are considerable differences in youth's severe water deprivation between rural and urban areas. *Youth in rural areas are almost six times more likely to experience severe water deprivation than urban youth* (4 percent vs. 0.7 percent, respectively). Youth in rural Upper Egypt

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

and in Frontier governorates have the highest rates of water deprivation (5.4 percent and 15.2 percent respectively). Youth in urban governorates and in urban Upper Egypt has by far the lowest rate (0.3 percent). Youth with uneducated household heads are more likely to be water deprived than those with heads having secondary education or more.

F. Source of knowledge (Information) deprivation

In the 21st century, severe source of knowledge deprivation is an important constraint on the development of both youth and societies as a whole—many consider that 'knowledge is power'. Reducing source of knowledge deprivation will require taking action at a number of different levels, including getting children into school and increasing literacy rates for both children and adults. Without these basic essentials, the impact and provision of newspapers and other media (such as computers and the Internet) will be limited.

In Egypt, 2.2 percent or 387,000 youth 18-29 years are severely information deprived. Similar to other types of deprivations, *the prevalence of information deprivation among rural youth is more than three times the rate in urban areas* (3.1 percent and 0.9 percent respectively). In rural Upper Egypt 5.7 percent of youth suffer from lack access to television, radio, telephone and computer at home, compared by less than one percent among youth in urban governorates and in urban Lower Egypt.

There is a direct correlation between the level of education of household heads and the level of information deprivation. In households with heads have no education, the rate of information deprivation reached 3.5 percent as compared to only one percent among youth in households with heads have secondary or higher education.

G. Crowdedness

Overcrowded dwellings facilitate the transmission of diseases (for example, respiratory infections, measles, and parasites). They can also result in increased stress and mental health problems for both youth and children. Almost one percent of youth (1.2 percent represents about 209 thousands) of all of Egyptian youth experience severe crowdedness, defined as living in accommodations with more than five people per room.

The data shows that *youth living in houses with five or more members per room reached 1.4 percent in rural areas and 0.8 percent in urban areas.* Moreover, youth live in households with uneducated heads are more likely to suffer from severe crowdedness than those live with educated heads. Additionally, the risk of experiencing crowdedness varies enormously between the quintiles of wealth index

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

3.4   Correlates of severe deprivation, absolute and income poverty

A.   Regional Disparities

There are considerable disparities of deprivations among youth by region. Results from consumption based and deprivation measures show that youth in rural areas of the Upper region are the most vulnerable, followed by youth in rural areas of Lower Egypt and Frontier governorates. Youth living in urban areas of Lower Egypt are the least vulnerable to impoverishment regardless of which measure is used.

Almost 60 percent of youth in rural Upper Egypt have at least one deprivation, compared to 34 percent among youth in rural Lower Egypt and only 14.3 percent of youth in urban Lower Egypt. As for youth suffering at least two severe deprivations, the data shows that almost 15 percent of youth in rural areas suffering from at least two severe deprivations, compared to only 3 percent of youth in urban areas (Table A.4).

The data shows that *income/consumption based measures of poverty alone do not capture the vulnerability of youth.* In rural areas, the severe deprivation rates tend to be higher than the income poverty rates while rates were almost similar for urban areas, in particular in urban Upper Egypt. It is speculated that this may be due to the presence of public services consumption such as health, education, water and sanitation, which are likely to be particularly concentrated in urban areas.

B.   Sex and age

Gender of youth affects the likelihood of severe deprivation and absolute poverty. Almost 6 percent of all male youth of age 18-29 years in Egypt experience at least two severe deprivations, while this percentage increased to 13 percent among female youth. Additionally, more than one quarter of male youth in Egypt suffer of at least one severe deprivation, and this percentage increased to 39 percent among female youth. However, the situation is reversed regarding income poverty, where the percentage of male youth who suffer from income poverty is higher than that for female youth (25.5 percent vs. 20.8 percent respectively). *Older youth (those aged 25-29 years) experience the highest rates of severe deprivation and absolute poverty, while experience the lowest rate of income poverty* (Table A.5).

C.   Household size

Poverty rates increase with larger household size by all measures used. Youth in households of seven members are most likely to suffer from at least one form of severe deprivation or to live in absolute poverty, compared to youth in other household size categories. Their severe deprivation rates and absolute poverty rates are almost twice the deprivation rates of youth in households with 5-6 members (Table A.6).

Disparities per household size are much larger for income poverty than when measured in terms of deprivation. Income poverty rate reached 3 percent among youth live in households with less

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

than 3 members, while this rate increased to 45 percent among youth live in households with 7 or more members. These figures reached 26 percent and 45 percent respectively for youth suffering severe deprivations.

D. Sex of household head

There is often concern expressed at the vulnerability of certain types of households, with particular attention paid to households headed by women. While some research suggests female-headed households in some parts of the world are more likely to be poor. When income is used to measure poverty, no significant differences between male- and female-headed households are found, where 23.5 percent of youth live in male headed households are considered income poor, while this percentage reached 21.4 percent among those who live in female headed households. Similarly, there are no significant differences between male and female headed households with regard to absolute deprivation rates (9.7 percent versus 8.2 percent). However, the data indicate that the percentage of youth live in male-headed households, who experienced at least one form of deprivation, is higher than among youth who live in households headed by females (33.6 percent versus 29.2 percent) (Table A.7).

E. Educational level of Household Head

Consistent with income poverty findings reported, *there is an inverse relationship between education level of household head and all forms of poverty; namely, severe deprivation, absolute poverty and income poverty.* The percent of youth experiencing severe deprivation drops from 48.4 percent for youth living in households with non educated household head to 18.6 percent among youth live in households where household head have secondary education or higher. Similar results are observed for income poverty and absolute poverty. Concerning income poverty, these figures reached 33 percent for non-educated household head and only 3.7 percent for household heads having secondary education or more (Table A.8).

3.5 Inequality of Opportunities (Human Opportunity Index)

As a principle of equality of opportunity requires that a person's chances to succeed in life (access to basic services, to education,….etc.) should be unrelated to predetermined circumstances at birth such as gender, socioeconomic and demographic origin.

Accordingly, this part examines the inequality of opportunities among youth, where 5 opportunities are examined and grouped in two sectors: three related to education and two to basic housing services.

This analysis is important as it identifies which services require most urgent attention for Egyptian youth 18-29 years in the most adverse circumstances. The definition of these opportunities could be summarized in Table 1.

Table 1: Definitions of dimensions of opportunities among Egyptian youth aged 18-29 years.

Sector	Dimension	Definition of the opportunity
Education Sector	Completion of Secondary Education on time	Youth aged 18-25 years and completed Secondary education
	Completion of University Education on time	Youth aged 24-25 years and completed University education
	School/University attendance among youth aged 19-23	Attended school ages 19 through 23 years of age
Housing Condition Sector	Water	Youth 18-29 years live in houses connected to public water network
	Sanitation	Youth 18-29 years live in houses connected to public sanitation network

The circumstances that are included in the analysis are:

1. Gender of youth
2. Gender of head of household
3. Education of head of household
4. Household size
5. Place of residence (urban / rural residence)
6. Regions (Metropolitan, Urban Lower Egypt, Rural Lower Egypt, Urban Upper Egypt, Rural Upper Egypt)

• **First: Education Sector**

Youth in rural areas are least likely to have the opportunity to complete secondary and university education as well as to attend school/university than those in urban areas. The results of SYPE 2009 survey show that the HOI for completion of secondary education on time reached almost 70 points among youth 18-25 years in urban areas, while decreased to only 54 points among youth in rural areas. Similar result was observed for the completion of university education among youth 24-25 years, where the opportunity of completion of university education on time among youth represents 4 times more in urban areas compared to rural areas (16 points vs. 4.6 points). *These results show that the gap in the education status between youth in urban and rural areas in*

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

Egypt increases in higher education, which requires the attention of the government to the education sector, whether the secondary or university education and particularly for university education.

Opportunity for school/university attendance for youth aged 19-23 years decreased from 26 points among youth in urban areas to only 13 points in rural areas. *This result confirms the large gap between youth in urban and rural areas particularly for the university education.*

Figure 6: HOI for education sector among youth 18-25 years by Residence

	Completion of Secondary Education	Completion of University Education	School Attendance 19-23
▨ Urban	69.4	16.3	25.9
▪ Rural	53.8	4.6	12.5
▪ Total Egypt	59.7	8.3	16.6
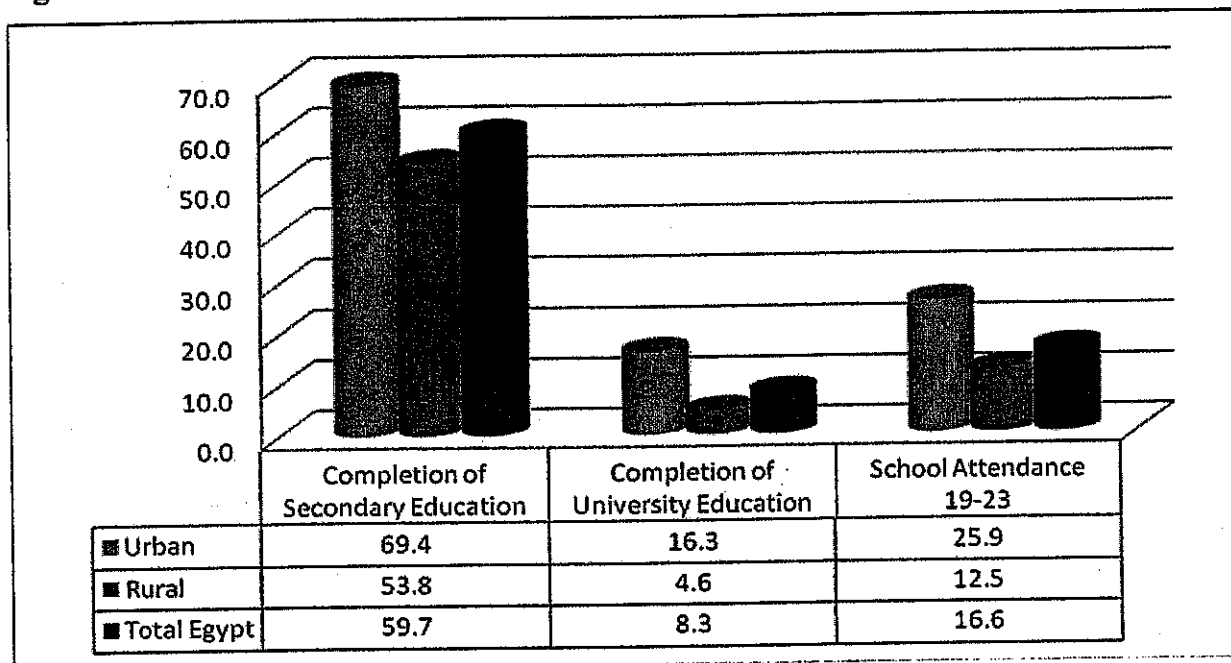
- **Second: Housing Services Sector**

Data of the HOI for access to safe drinking water shows that the HOI among youth 18-29 years increased from 87 points in rural areas to 96 points in urban areas, which means that most youth in urban areas and the majority of youth in rural areas has the opportunity to use safe drinking water. Similar result is observed for the opportunity of sanitation services among Egyptian youth as shown in Figure 7. However, the gap is much bigger between youth in urban and rural areas regarding the sanitation services. These results require the attention of both the government and the private sector for the development of the sanitation services particularly in rural areas, through extending the sanitation networks to the houses and not only to the villages.

Figure 7: HOI for housing condition sector among youth 18-29 years by Residence

	Water	Sanitation
Urban	95.8	95.1
Rural	86.9	71.7
Total Egypt	89.5	79.5
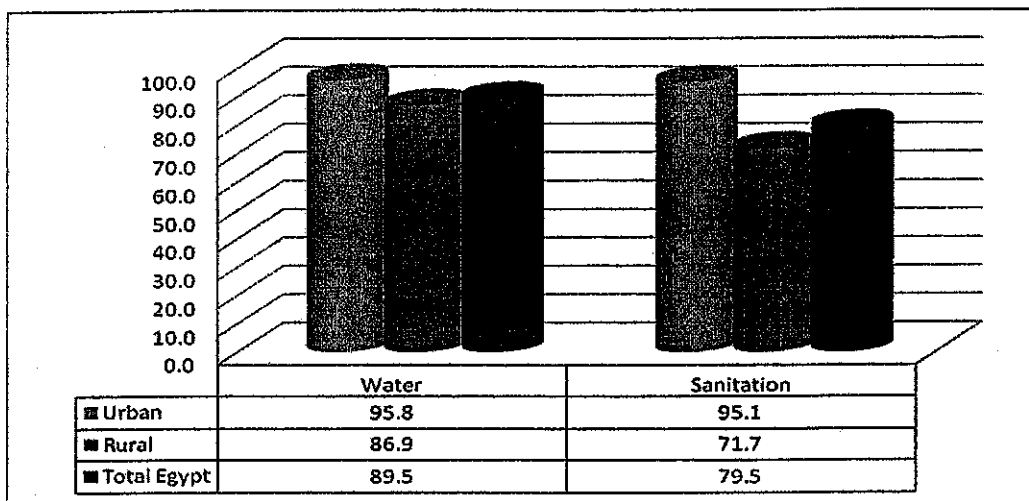
- **Aggregate Opportunities**

Overall, youth in urban areas are more likely to have the opportunities for completion the education and to have access to the housing services than those in rural areas. The overall HOI – the aggregate of all 5 human opportunities – for youth in urban areas reached 60.5 points compared to only 45.9 points for youth in rural areas.

The gap of the human opportunities for youth was uneven across sectors. The average HOI for basic housing services experienced the large gap (16 points), while the gap in the education sector decreased to 13.6 points.

Figure 8: HOI for aggregate opportunities among youth 18-29 years by Residence

	Education sector	Housing Sector	All opportunities
Urban	37.2	95.4	60.5
Rural	23.6	79.3	45.9
Total Egypt	28.2	84.5	50.7

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011
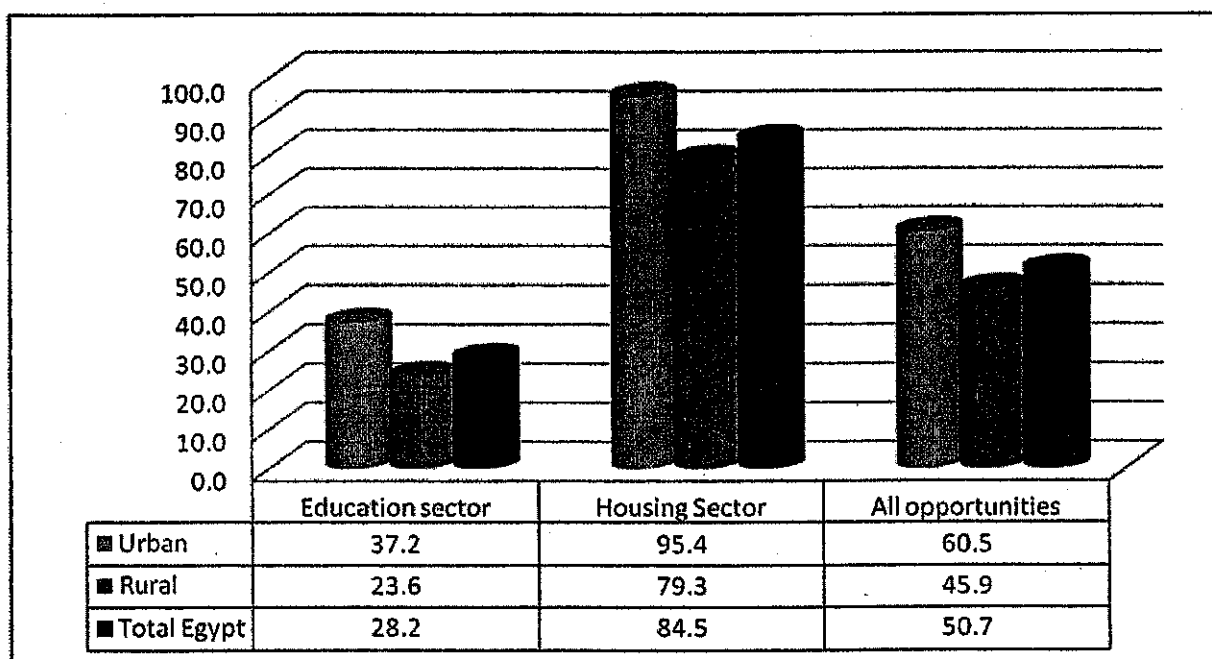
> ## Decomposition of the gap in HOI between urban and rural areas into Distribution and Coverage Effects

The HOI is determined by the rates of coverage specific to each group and its corresponding participation in the population (the distribution of circumstances). As a result, the HOI can change only when at least one of these characteristics changes. Thus, any change in the index can be associated to either changes in the distribution of circumstances (distribution effect) or changes in at least one of the rates of coverage in a specific group (coverage effect).

Difference between opportunities in urban and rural areas, as measured by HOI, is in general driven by a difference in access (coverage effect) rather than in the degree of equality of opportunity (distribution effect). Table 2, in the last two columns, summarizes the decomposition of the total difference of HOI between urban and rural areas into access and equality of opportunities, and indicates that the differences in HOIs is mainly due to the *coverage effect* (increasing the coverage in urban areas than in rural areas while maintaining the degree of equality of opportunities unchanged). At least 83 percent of the difference in all HOI indices is explained by the coverage effect.

The coverage effect is particularly pronounced for the two education indices, namely; completion of secondary education and school attendance among youth 19-23 years, in addition to the water opportunity index. The coverage effect explains 98.2 percent of the difference between urban and rural school attendance among youth 19-23 years. *This fact could be interpreted by the availability of most universities in urban areas that facilitate the accessibility of students to such universities more than those in rural areas. Similar result could be observed for secondary schools.*

The coverage effects were least pronounced for the completion of university education, where it reached only 83.4 percent, while the effect of different opportunities represents 16.6 percent. *This result indicates that the completion of university education on exact age depends on a great extent on the properties of youth themselves.*

Accordingly, the previous results show that the access of secondary schools/universities are markedly clear in urban than in rural areas.

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

Table 2: Decomposition Human Opportunity Index for Egyptian youth aged 18-29 years

Opportunity	HOI in Urban	HOI in Rural	Difference	Decomposition %	
				Coverage effect	Distribution effect
Completion of Secondary Education on time	69.4	53.8	15.6	95.9	4.1
Completion of University Education on time	16.3	4.6	11.6	83.4	16.6
School Attendance among youth aged 19-23 years	25.9	12.5	13.5	98.2	1.8
Water	95.8	86.9	8.9	99.2	0.8
Sanitation services	95.1	71.7	23.4	92.4	7.6

> **Impact of different circumstances on human opportunities**

Logistic Regression is used to determine the main indicators that have impact on different human opportunity indices for young people 18-29 years. Accordingly five logistic regressions have been estimated for each region for the five human opportunities.

First: The opportunity for the Completion of Secondary Education on time.

The results of the logistic regression indicate that the education of household head, Region and place of residence, household size, and gender of youth have significant effect on the opportunity of youth 18-25 years to complete secondary education on time. Accordingly, a significant part of the value of the opportunity of youth to complete secondary education is due to the presence of variations in the properties of those young people, not only the access or the availability of the secondary education services.

Second: The Opportunity for the Attendance and Completion of University Education on time

The results of the logistic regression models show that the opportunity to complete the university education is not affected by any of the variables except the gender of youth and the education of household head, that is, education of household head is the key factor for young people to complete

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

the university education.

Accordingly, to increase the chance of young people to complete the university education, an interest should be given to the education of household head (parents) through literacy classes and capacity building programs. Additionally, awareness of the equality between males and females in completion of higher education should be raised, particularly in rural areas.

The opportunity for attending higher education is significantly affected by gender, education of household head, region, and household size.

Third: The opportunity for availability of safe drinking water and sanitation.

The results of the logistic regression model for the opportunity of availability of safe drinking water show that the most significant variables are the gender and education of household head, region and household size, while the variables affecting the opportunity for the availability of sanitation does not include the properties of household head. These results show that the availability of sanitation services is only associated by the characteristics of the area itself.

4. Conclusion and Recommendations

- Several factors lie behind risk of youth poverty; family factors such as household size and composition, gender and education of head of household; education factors like low enrollment rate, high dropout and illiteracy rate.

- Lack of permanent job is highly correlates to poverty. Thus not *getting a job* do not forms a route out of poverty; rather, it is *getting and keeping a gainful employment* which is effective at raising young people out of poverty.

- *Establishment of programs, interventions and activities* aimed at youth development, particularly the interventions that increase the welfare level for those young people. This could be achieved by *restructuring the economic system* in Egypt to increase the likelihood of young people's access to permanent jobs in the formal sector, whether public sector or private sector as well as increasing entrepreneurial and employment opportunities.

- The impact of youth poverty on long term human capital accumulation is well recognized; thus youth poverty represents missed opportunities to acquire skills in school or on the job, or good health habits that can be extremely difficult to remedy. A youth lens points to improving the quality of basic services for children as well as for young adults can build human capital that open future opportunities to young people and mitigate the intergenerational transmission of poverty. Thus, *improving the quality and relevance of services that enhance basic skills* is the key factor to alleviate youth poverty.

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

- Education is a major factor that can break the vicious cycle of poverty, *attention of the government to the education sector* should be promoted, whether the secondary or university education and particularly for university education. *Literacy education programs, as well as vocational training centers* should be promoted to illiterate youth and household heads.

- *Awareness of the importance of higher education* and the extent of its contribution to the sustainable development and reduce poverty should be broaden.

- *There is a clear need to increase access to health services,* as well as *improving the quality of services* provided in such health units, in addition to *increasing the health insurance coverage.*

- *Community-level participation* in the development of social policies is an additional way to ensure that policies are tailored to the individual community's needs.

5. References

1. Alkire, S., & Foster, J. (2007). 'Counting and Multidimensional Poverty Measurement', Oxford Poverty and Human Development Initiative, Working Paper No. 7, Oxford Department of International Development, University of Oxford.

2. Alkire, S. (2007). 'The Missing Dimensions of Poverty Data: An Introduction', Oxford Development Studies, 35(4), 347-359.

3. Central Agency of Public Mobility and Statistics (CAPMAS) (2004/2005), Household Income, Expenditure and Consumption Survey [HIECS, 2005], Cairo, Egypt.

4. El-laithy, H. (2001), "The Gender Dimensions of Poverty in Egypt", Economic Research Forum and World Bank, working paper 0127.

5. El-laithy, H., Lokshin, M., and Banerji, A. (2003), "Poverty and Economic Growth in Egypt, 1995-2000", The World Bank, Policy Research Working Paper Series, paper No. 3068.

6. El-Zanaty, F. and Way, A. (2006) "Egypt Demographic and Health Survey 2005" [EDHS, 2005], Ministry of Health and Population, National Population Council, El-Zanaty and Associates, and ORC Macro, Cairo, Egypt.

7. Eurochild AISBL (2007): A child rights approach to child poverty – CHILDREN LIVING IN POVERTY. A review of child poverty definitions, measurements, and policies discussion paper, September.

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

8. Narayan, D, L. Pritchett, and S. Kapoor (2009). Moving out of poverty: Success from the bottom-up. New York: Palgrave Macmillan and Washington, D.C: World Bank.

9. NCCM (National Council for Childhood and Motherhood) and UNICEF (United Nations Children's Fund) (2003): The development of childhood and motherhood in Egypt on the basis of the analysis of rights.

10. NCCM (National Council for Childhood and Motherhood) (2004): National survey of the phenomenon of child labour in Egypt.

11. NCCM (National Council for Childhood and Motherhood) (2007): Complementary approach to ensure the rights of the child.

12. NCCM (National Council for Childhood and Motherhood) and UNICEF (United Nations Children's Fund) (2008): The third periodic report of Egypt and the fourth report to the Committee on the Rights of the Child for the period (2004-2008).

13. Ministry of Economic Development, Government of the Arab Republic of Egypt (2008): MDGs Report 2008.

14. Mosel, L. and U. Sarkar (2008): Impacts of the global financial and economic crisis on child labour and youth employment, Responding to the Economic Crisis. Coherent Policies for Growth, Employment and Decent Work in Asia and Pacific, Manila: ILO, 18-20 February 2009.

15. Sen, A. (1999): Development as Freedom. Oxford: Oxford University Press.

16. World Bank and Ministry of Economic Development, Government of the Arab Republic of Egypt (2007): A poverty assessment update. Volume 1, Report No. 39885.

17. World Bank (2009a): Global Economic Prospects 2009: Commodities at the crossroads.

18. World Bank and Ministry of Economic Development, Government of the Arab Republic of Egypt (2009b): Economic growth, inequality and poverty: Social mobility in Egypt between 2005 and 2008.

19. C.E. Vélez et al. (2011), Equality of opportunity for children in Egypt, 2000-2008, Finance, Economics and Urban Department, Sustainable Development Network, The World Bank

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

Annex

Table A.1: Distribution of Youth 18-29 years by education and poverty status, 2008-09

	Illiterate	Can Read and Write	Basic Education	Secondary Education	University Education	All Youth
Poor	29.66	6.92	15.92	41.56	5.94	100
Non Poor	13.92	5.13	12.75	50.27	17.93	100
Total	17.57	5.54	13.48	48.25	15.15	100

Table A.2: Youth Unemployment rate by education level and poverty status, 2008-09

	Secondary	Above secondary	University or higher education
Poor	16.05	28.67	29.37
Non Poor	14.27	21.27	25.27
All Youth	14.71	22.26	25.62

Institute of Statistical Studies and Research
The Egyptian population and Family Planning Review
Vol. 44, No 2 , 2011

Table A.3: Prevalence of all deprivation dimensions among youth 18-29 years by characteristics (in percentages), 2006

	Crowded-ness	Floor	Sanitation	Water	Information	Education	Health	Income poverty
Total	1.2	10.9	3.7	2.6	2.2	17.2	15.2	23.18
Individual dimension								
Male	1.1	11.5	3.9	2.6	2.1	13.0	-	25.49
18-22 Years	1.2	12.7	4.0	2.6	2.1	10.6	-	28.48
23-24 Years	1.0	10.9	4.1	2.4	1.8	14.5	-	24.70
25-29 Years	0.9	10.2	3.8	2.7	2.3	15.5	-	21.26
Female	1.3	10.4	3.5	2.6	2.2	21.3	15.2	20.80
18-22 Years	1.0	11.3	3.4	2.7	2.1	16.6	7.4	24.00
23-24 Years	1.3	9.6	3.9	2.3	2.2	20.7	17.1	19.09
25-29 Years	1.6	9.6	3.6	2.6	2.3	27.4	24.1	17.44
Household size								
Less than 3	-	6.7	3.7	3.3	3.6	15.8	3.2	2.88
3-4 members	-	5.8	3.2	2.4	2.1	14.5	19.5	7.74
5-6 members	1.3	8.7	3.5	2.3	1.4	13.3	12.4	21.21
7+	2.7	20.3	4.6	2.9	2.6	24.6	16.3	45.36
Head's education								
None	2.2	20.3	5.1	3.5	3.5	29.9	15.4	32.75
Some Primary	1.5	11.7	5.3	2.4	2.6	24.7	13.2	17.82
Primary comp./some Secondary	0.8	7.6	3.8	2.4	1.7	13.6	15.3	11.47
Secondary +	0.3	3.7	2.0	1.9	1.0	4.6	15.6	3.69
Gender of the head of the household								
Male	1.1	11.1	3.8	2.6	2.1	17.4	16.0	23.50
Female	1.3	9.9	3.6	2.5	2.4	15.5	8.9	21.35
Family vulnerability								
High dependency ratio (4+children per adult)	12.5	0.0	0.0	0.0	0.0	33.3	75.0	28.29
Region								
Urban governorates	0.9	0.7	0.8	0.3	0.6	9.4	10.9	8.17
Urban LE	0.2	0.5	0.1	1.2	0.4	6.9	12.3	8.78
Rural LE	0.6	6.5	6.3	2.6	1.0	17.2	15.8	19.27
Urban UE	1.2	5.2	1.2	0.3	1.9	12.0	13.6	22.71
Rural UE	2.6	32.4	5.6	5.4	5.7	30.2	19.8	44.27
Frontier governorates	0.7	4.4	2.4	15.2	3.4	17.6	15.4	19.38
Residence								
Urban	0.8	1.9	0.7	0.7	0.9	9.5	12.1	12.44
Rural	1.4	17.7	6.0	4.0	3.1	22.9	17.5	30.57

Table A.3 Cont. Prevalence of all deprivation dimensions among youth 18-29 years by Wealth status (in percentages) 2008

Wealth index quintiles	Crowdedness	Flooring material	Sanitation	Water	Information	Education	Health	Income poverty rate
Total	1.17	10.94	3.73	2.6	2.16	17.16	15.18	23.18
Quintile 1 (poorest)	4.8	43.2	7.7	7.0	11.1	40.2	22.7	46.14
Quintile 2	1.0	12.7	5.1	3.2	0.5	24.5	16.6	35.11
Quintile 3	0.3	2.0	4.3	1.8	0.3	13.7	14.7	24.56
Quintile 4	0.1	0.2	1.4	0.6	0.0	7.3	10.1	9.33
Quintile 5 (richest)	0.0	0.0	0.5	0.9	0.0	.1.9	13.4	2.56

Source: Authors calculations using Egypt Demographic and Health Survey, 2008 and Household Income, Expenditure and Consumption Survey 2008/09.

Table A.4 : Percent of youth 18-29 years experiencing Severe absolute and Income poverty by region 2008

Region	Severe deprivation	Absolute poverty	Income Poverty
Urban governorates	15.50	2.05	8.17
Urban LE	14.29	1.27	8.78
Rural LE	33.52	7.42	19.27
Urban UE	22.24	4.86	22.71
Rural UE	59.62	23.72	44.27
Frontier governorates	32.77	11.82	19.38
Residence			
Urban	17.29	2.76	12.44
Rural	44.86	14.53	30.57

Source: Authors calculations using Egypt Demographic and Health Survey, 2008 and Household Income, Expenditure and Consumption Survey 2008.

Table A.5 : Percent of youth 18-29 years experiencing Severe absolute and Income poverty by age and sex 2008

	Severe deprivation	Absolute poverty	Income Poverty
Total	33.07	9.50	23.18
Male	27.01	5.79	25.49
18-22 Years	25.89	5.54	28.48
23-24 Years	27.70	6.13	24.70
25-29 Years	28.16	5.96	21.26
Female	39.04	13.15	20.80
18-22 Years	31.59	10.06	24.00
23-24 Years	38.62	13.46	19.09
25-29 Years	48.60	16.90	17.44

Source: Authors calculations using Egypt Demographic and Health Survey, 2008 and Household Income, Expenditure and Consumption Survey 2008/09.

Table A.6: Percent of youth 18-29 years experiencing Severe, absolute and Income poverty by household size, 2008			
	Severe deprivation	Absolute poverty	Income Poverty
Household size			
Less than 3	26.22	6.61	2.88
3-4 members	30.41	6.57	7.74
5-6 members	26.09	8.02	21.21
7+	45.44	15.22	45.36

Source: Authors calculations using Egypt Demographic and Health Survey, 2008 and Household Income, Expenditure and Consumption Survey 2008.

Table A.7: Percent of youth 18-29 years experiencing Severe, absolute and Income poverty by sex of household head, 2008			
Sex of the head of the household	Severe deprivation	Absolute poverty	Income Poverty
Male	33.6	9.7	23.5
Female	29.2	8.2	21.4

Source: Authors calculations using Egypt Demographic and Health Survey, 2008 and Household Income, Expenditure and Consumption Survey 2008.

Table A.8: Percent of youth experiencing Severe, absolute and Income poverty by education of household head, 2008			
Educational level of Household head	Severe deprivation	Absolute poverty	Income Poverty
None	48.4	17.1	32.8
Some Primary	40.6	11.2	17.8
Primary comp./some Secondary	28.7	7.1	11.5
Secondary +	18.6	3.1	3.7

Source: Authors calculations using Egypt Demographic and Health Survey, 2008 and Household Income, Expenditure and Consumption Survey 2008/09.