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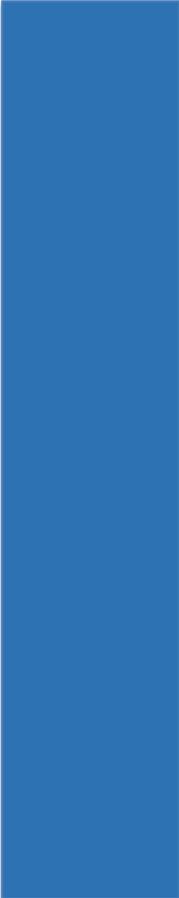
Multidimensional Poverty in Egypt



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Abbreviations

| | |
|---------------|---|
| A | Poverty Intensity |
| AF | Alkire-Foster |
| BMI | Body Mass Index |
| DHS | Demographic and Health Survey |
| ESCWA | Economic and Social Commission of Western Asia |
| FHHs | Female Headed Households |
| GDP | Gross Domestic Product |
| GNI | Gross National Income |
| H | Headcount Ratio |
| HDI | Human Development Index |
| HHs | Households |
| MHHs | Male Headed Households |
| MPI | Multidimensional Poverty Index |
| OPHI | Oxford Poverty and Human Development Initiative |
| UNDP | United Nations Development Program |
| USAIDS | US Agency for International Development |
| WI | Wealth Index |

I. CONTEXT

1.1 Egypt is a lower-middle income country¹ in North Africa. Table shows some of the main socio-economic indicators for Egypt. The Human Development Index (HDI) – a measure of basic human development achievements in a country – for Egypt stood at 0.691 in 2015, which puts the country in the medium human development category, positioning it 111th out of 188 countries and territories. Money metric poverty is high in Egypt, with 27.8% of the population below the national poverty line in 2015 (the most recent year for which data is available).

1.2 The objective of the present paper is to provide in-depth analysis of the prevalence, distribution (geographical and by gender among other household socio-economic characteristics), and severity of multi-dimensional poverty in Egypt. It is one of several country profiles prepared by ESCWA as background papers for the Arab Multidimensional Poverty Report² making use of the new Multidimensional Poverty Index proposed for the Arab States (Arab MPI).

Table 1: Main socio-economic indicators for Egypt

| Indicators | Value (2015 unless otherwise indicated) |
|---|---|
| Population | 93,778.17 |
| GDP (current US\$) | US\$ 332.7 billion |
| GNI per capita, Atlas method (current US\$) | US\$ 3,360 |
| Human Development Index (HDI ³) | 0.691 |
| Life expectancy at birth | 71.3 years |
| Expected years of schooling | 13.1 years |
| Mean years of schooling | 7.1 years |
| GNI per capita (2011 PPP\$) | US\$ 10,064 |
| Human Development 2014 rank | 111 (over 188 countries) |
| Gender Development Index | 0.884 |
| Inequality adjusted HDI | 0.491 |
| GINI Index | 31.8 |
| Poverty headcount ratio at national poverty lines (% of population) | 27.8% |
| Gross enrolment ratio (primary) | 103.9% (2014) |

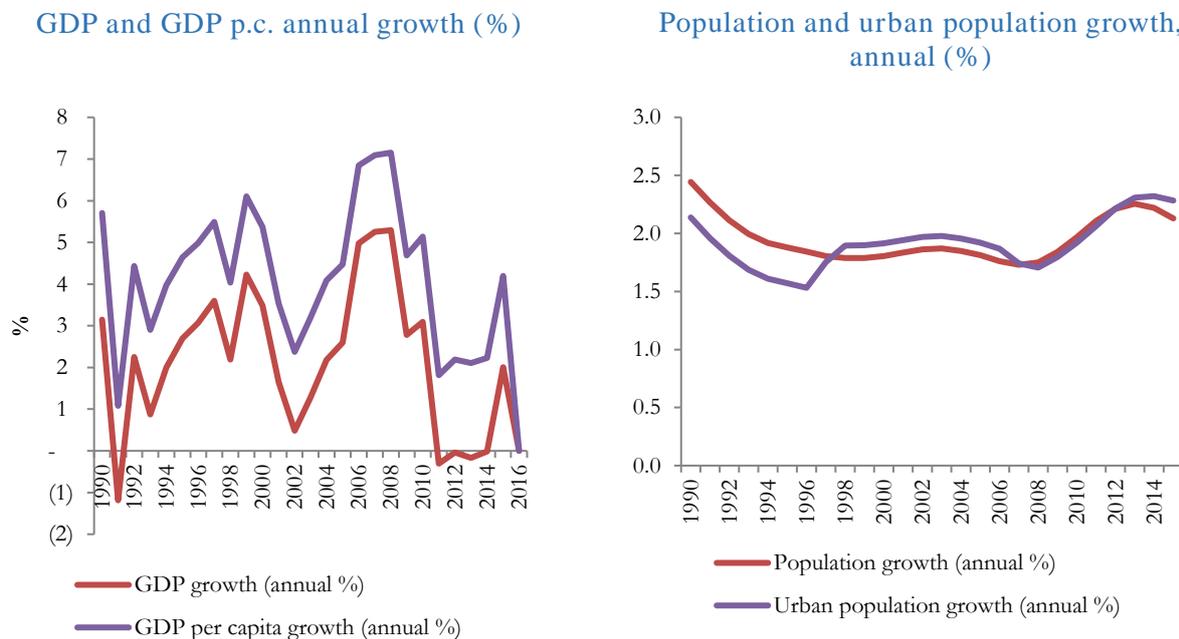
Sources: for population, GDP, GNI p.c. poverty headcount: World Bank World Development Indicators data accessed January 2017. For HDI, expected years of schooling, life expectancy, gross enrolment ratio, gender development index and Gini coefficient: UNDP Human Development Reports accessed January 2016.

1.3 As shown in Figure 1 below, Egypt's GDP growth has faced several crises and volatility over the past decade. GDP grew between 2003-2008 and declined in 2009 as a consequence of the global economic crisis and took another hit in 2011 in the aftermath of the revolution that ousted Housni Mubarak. After the revolution, GDP growth shows signs of recovery starting from 2015. The growth of GDP p.c. has been lower than that of GDP in Egypt over the past two decades (World bank, 2015). According to data from the Central Agency for Public Mobilisation and Statistics of Egypt (CAPMAS), despite strong economic growth in the 2000s, the poverty rate in Egypt increased from 16.7% in 1999-2000 to 26.3% in 2012-13 and 27.8% in 2014-15 (see CAPMAS, 2015).

Over the past five years, millions of middle-class and low-income Egyptians have seen their living standards deteriorate due to, among other factors, rising inflation, high unemployment rates and stagnant household

incomes. For evidence on the increase in poverty in Egypt over the past decade see for example Marotta and Yemtsov (2010). These results are consistent with large inequality in Egypt, as confirmed by our analysis: we find that households in the bottom wealth quintile are 26 times more likely to be acutely poor and almost 8 times more likely to be poor than those in the top quintile.

Figure 1: GDP, GDP p.c. and population growth (%)



Source: World Bank data.

1.4 According to the WFP (2015), an estimated 13.7 million Egyptians or 17% of the population suffered from food insecurity in 2011, compared to 14% in 2009. This situation is mirrored in our results, which shows that nutrition as the indicator with the highest deprivation headcount at acute poverty. According to WFP, the negative change in food security is due to rising poverty rates and a succession of crises from 2005 - including the avian influenza epidemic in 2006, the food, fuel and financial crises of 2007–09 and a challenging macroeconomic context in more recent years.

1.5 With over 90 million inhabitants - two-thirds of which are below 29 years – Egypt has the largest population in the Arab world. Due to its extremely high birth rate (around 2.5 million are born every year), Egypt also has a very youthful population: one-third of Egyptians is between 15 and 29 years old. These youths suffer from high unemployment: according to CAPMAS, 70% of the 3.7 million persons unemployed in 2014 were between 15 and 29 years old. Thus, youth unemployment is a main challenge for stability and economic inclusion. (World Bank, 2015).

1.6 As our results show, FGMs and early pregnancies are disproportionately high in Egypt given its level of economic development. FGM alone (isolated from early pregnancy) affects 87% of women aged 15-29 (as captured in the survey used here), and this percentage is confirmed by UNICEF data. This is the fifth highest incidence of FGM in the world, placing Egypt after Somalia, Guinea, Djibouti, Sierra Leone and Mali (UNICEF, 2016). Gender parity is an area of concern for Egypt: in the Gender Gap Report 2016 of the World Economic Forum (WEF), Egypt ranks particularly low given its level of income, 132nd out of 144 countries. In particular, within the WEF index, Egypt ranks low in the Economic Participation and Opportunity pillar, which includes indicators such as labour force participation of women and wage equality (World Economic Forum, 2016). As an example of these disparities, only 23% of women participate in the labour market compared to 74% for men (UNDP, 2015). In 2015, a survey commissioned by CAPMAS, the United Nations

Fund for Population Agency (UNFPA) and the National Council for Women (NCW) found that gender-based violence cost Egyptian women and their families an estimated EGP 2.17 billion and could be as high as EGP 6.15 billion (around US\$ 340 million). Unlocking the potential of Egyptian women, and eradicating FGM and early pregnancies appear to be priorities for the future economic competitiveness of the country (CAPMAS, UNFPA, and NCW, 2015).

II. METHODOLOGY AND DATA

2.1 Multi-dimensional poverty measures multiple deprivations in basic services and capabilities, such as poor health, lack of education or illiteracy, and lacking access to safe drinking water. The multi-dimensional poverty approach complements monetary measures of poverty by considering these multiple deprivations and their overlap. The conceptual framework of multidimensional poverty measures draws from Sen's capability approach which states that development is realised not only through increased incomes and share in assets, but also through people's increased capabilities to lead lives that they have reason to value. Sen contends that capability deprivation is a more complete measure of poverty than income as it captures the aspects of poverty which may get lost or hidden in aggregate statistics (Sen 1985, 1999). In recent years, this conceptual framework was translated into practice to measure household poverty through the Multidimensional Poverty Index (MPI).

2.2 The methodology of the MPI is based on the Alkire-Foster (AF) Method offering a comprehensive methodology for counting deprivation and analysing multidimensional poverty. The AF-methodology builds on the Foster-Greer-Thorbecke poverty measure, but it considers multiple dimensions. The AF-methodology includes two steps: first, it identifies the poor using a dual cut-off approach and by "counting" the simultaneous deprivations that a person or a household experiences across the different poverty indicators. And the second step is to aggregate this information into the adjusted headcount ratio (or MPI value) which can be decomposed and disaggregated geographically, by socio-economic characteristics, and by indicator.

2.3 Under the first step, to identify multidimensionally poor people, the AF-methodology uses a dual cut-off identification approach. The first cut-off sets a deprivation threshold for each indicator which determines whether a household or a person is considered as deprived or non-deprived in the respective indicator. After the cut-offs have been applied for each indicator, the deprivations of each person in all indicators are counted to calculate a deprivation score for that household or person. Weights are assigned to the indicators which reflect a normative value judgement to assess the relative importance of a given indicator as compared to the other indicators in constructing the deprivation score for a household or person. As a result, the deprivation score is a weighted sum of all deprivations. The second cut-off (the poverty cut-off) is set at a value say 20% or 30% against which the deprivation score is compared to in order to define and distinguish multidimensionally poor (those whose deprivation score is equal to or more than the poverty cut-off) from non-poor (whose deprivation score falls below the poverty cut-off).

2.4 In the aggregation step of the AF Method, two indices are calculated; the headcount ratio and intensity of poverty. The headcount ratio (H) is the proportion of multidimensionally poor people to the total population. The headcount ratio is a useful measure to learn about the incidence of poverty, but it is insensitive to increases in the number of deprivations a poor person is deprived in. However, utilizing the information on the number of deprivations that poor people experience, the intensity of poverty can be calculated. The intensity of poverty (A), is the average deprivation score that multidimensionally poor people experience. The product of the poverty headcount and poverty intensity is the MPI, which "adjusts" the headcount for the average intensity of poverty that poor people experience.

2.5 The use of Multidimensional Poverty Index (MPI) to describe the application of AF Method was coined with the Global MPI launched in 2010 by OPHI and the United Nations Development Program (UNDP). However, the Global MPI has a major shortcoming: it is not very effective in capturing the less severe forms of poverty that characterise many Arab middle-income countries such as Jordan, Egypt or Morocco and thus underestimates the prevalence of less severe forms of multidimensional poverty. However, the AF-Method

offers flexibility and it can be tailored to a variety of situations by selecting different dimensions, indicators of poverty within each dimension, and poverty cut offs.

2.6 In order to capture a broader spectrum of level and intensity of deprivation that better reflects the conditions of Arab countries, ESCWA and OPHI proposed an Arab MPI with two different levels: poverty and acute poverty. The Arab MPI is composed of three dimensions and twelve indicators. The education dimension has two indicators: school attendance and years of schooling. The health dimension includes three indicators: nutrition, child mortality, and early pregnancy combined with female genital mutilation. The living standard indicators are: access to electricity, improved sanitation facility, safe drinking water, clean cooking fuel, having suitable floor and roof, no overcrowding, and minimum assets of information, mobility, and livelihood (the deprivation cut-offs for the Arab MPI are presented in Table 2). Each of these indicators has two associated deprivation cut-offs, one reflects the deprivation of acute poverty which is similar (but not identical) to the global MPI. And the other, a higher cut-off denoting a slightly higher standard to measure poverty which is inclusive of acute poverty. While the cut offs usually vary across indicators for acute poverty and poverty, in case of the aggregate score for identifying a poor household, the cut off is the same. A household is considered acutely poor or poor if its total level of deprivation (total of weighted deprivations in all indicators) is higher than one-third of the total possible deprivation ($k=33.3\%$). Similar to the Global MPI, the Arab MPI assigns equal weights to the three dimensions (one third), and indicators within each dimension are equally weighted. To obtain the set of multidimensionally poor people only, all information of deprivation of non-poor persons is censored from the data. Thus, the focus of the MPI measure is purely on the profile of the multidimensionally poor people and the indicators/dimensions in which they are deprived.

2.7 The MPI can be decomposed by population sub-groups, such as sub-national regions, or any socio-economic characteristic of a household that is available from the data. Another feature of the MPI is that it can be decomposed to show how much each indicator contributes to poverty. Furthermore, the MPI can also give insight into the percentage of people that are deprived in multiple indicators, but below the poverty cut-off. This percentage of the population is considered vulnerable to poverty. In the case of the Arab MPI, population whose deprivation score is between 20-33.3% is considered as vulnerable to poverty. On the other side of the scale, the MPI can also give insight into how many people are deprived in for example more than half of all the weighted indicators. This percentage share of the population is considered to be in severe poverty. In the Arab MPI, poor people who are deprived in 50% or more of the indicators are considered as severely poor.

2.8 The results of this study are based on data from the Demographic and Health Survey (DHS), a survey conducted by countries with the support and funding of the US Agency for International Development (USAID)⁴. The survey for Egypt, conducted in 2014, covers 117, 561 individuals. It provides data on education, health and working status for all members of the household; nutrition status of children and women; child mortality; housing conditions (availability of safe drinking water, sanitation facilities, electricity, etc.); and information on ownership of assets (refrigerator, motorbike, cattle, radio, TV etc.).

Table 2: Arab MPI Dimensions, Indicators, Deprivation Definitions, and Indicator Weights

| Dimension | Indicator | Acute poverty if | Poverty if | Weight |
|-----------|--------------------|--|--|--------|
| Education | Years of Schooling | No household member has completed primary schooling ⁵ . | No household member has completed secondary schooling. | 1/6 |
| | School Attendance | Any child of primary school age is not attending school. | Any school-age child is not attending school or is 2 years or more behind the right school grade ⁶ . | 1/6 |
| Health | Child Mortality | Any child less than 60 months has died in the family | Same as acute poverty | 1/9 |

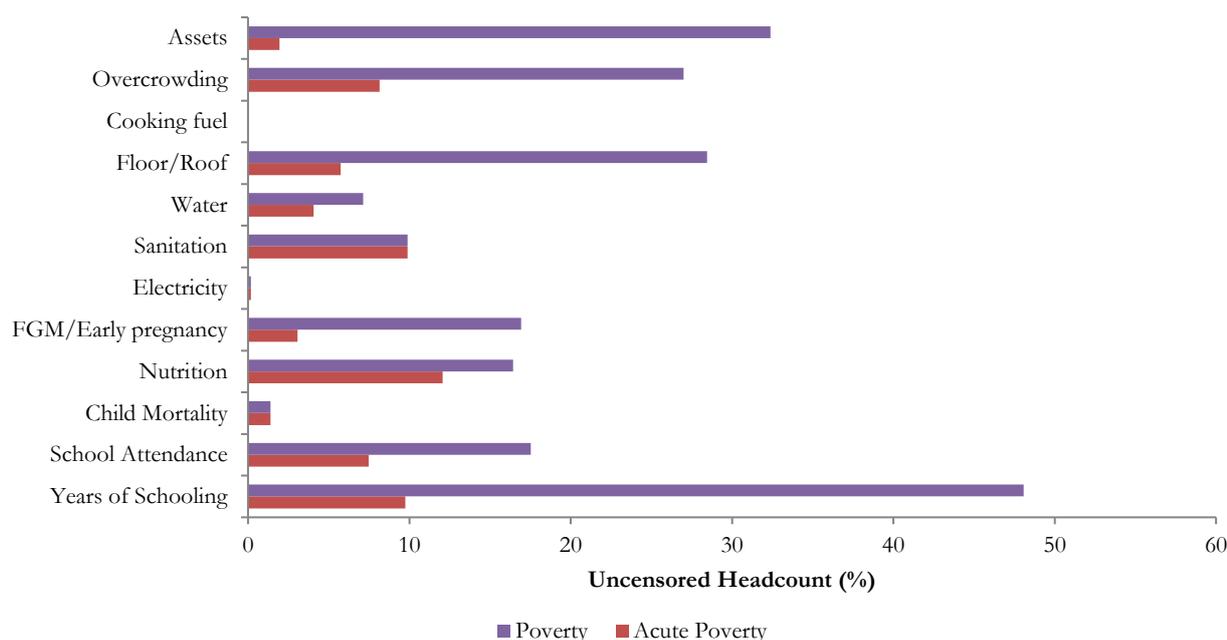
| | | | | |
|-------------------|-----------------------|---|--|------|
| | | during the 59 months prior to the survey. | | |
| | Child/adult Nutrition | Any child (0-59 months) is stunted (height for age < -2 SD) or any adult is malnourished (BMI < 18.5) ⁷ . | Any child (0-59 months) is stunted (height for age < -2 SD) or any child is wasted (weight for height < -2 SD) or any adult is malnourished (BMI < 18.5). | 1/9 |
| | FGM/Early Pregnancy | A woman less than 28 years old got her first pregnancy before 18 years old and has undergone a female genital mutilation (FGM). | A woman less than 28 years old either got her first pregnancy before being 18 years old or has undergone a female genital mutilation (FGM). | 1/9 |
| Living Conditions | Electricity | Household has no electricity. | Same as acute poverty | 1/21 |
| | Sanitation | Household sanitation is not improved, according to MDG guidelines, or it is improved but shared with other household. | Same as acute poverty | 1/21 |
| | Water | Household does not have access to safe drinking water, according to MDG guidelines, or safe drinking water is 30-minutes roundtrip walk or more away from home. | Household does not have piped water into dwelling or yard. | 1/21 |
| | Floor/Roof | Floor is earth, sand, dung or roof is not available or made of thatch, palm leaf or sod | Floor is earth, sand, dung, rudimentary (wood-planks, bamboo, reeds, grass, canes), cement floor (not slab or tiles/asphalt strips) or roof is not available or made of thatch, palm leaf, sod, rustic mat, palm, bamboo, wood plank, cardboard. | 1/21 |
| | Cooking Fuel | Household cooks with solid fuels: wood, charcoal, crop residues or dung or no food is cooked in the household. | Household cooks with solid fuels: wood, charcoal, crop residues or dung or no food is cooked in the household or does not have a separate room for cooking. | 1/21 |
| | Overcrowding | Household has 4 or more people per sleeping room. | Household has 3 or more people per sleeping room. | 1/21 |
| | Assets | Household has either not access to information or has access to information but no access to easy mobility and no access to livelihood assets ⁸ . | Household has either less than two assets for accessing information, or has more than one information asset but less than two mobility assets and less than two livelihood assets. | 1/21 |

III. POVERTY ANALYSIS

3.1 Incidence of Deprivation in the indicators of the Arab MPI

3.1.1 First, we examine the prevalence of deprivation among the population in each of the Arab MPI indicators using the poverty and acute poverty respective cut-off points as shown in Figure 2. This percentage share is also called the uncensored (or raw) headcount ratio, as it considers the deprivations of the total population before identifying the poor.

Figure 2: Incidence of Deprivation in the Arab MPI indicators (% of population)



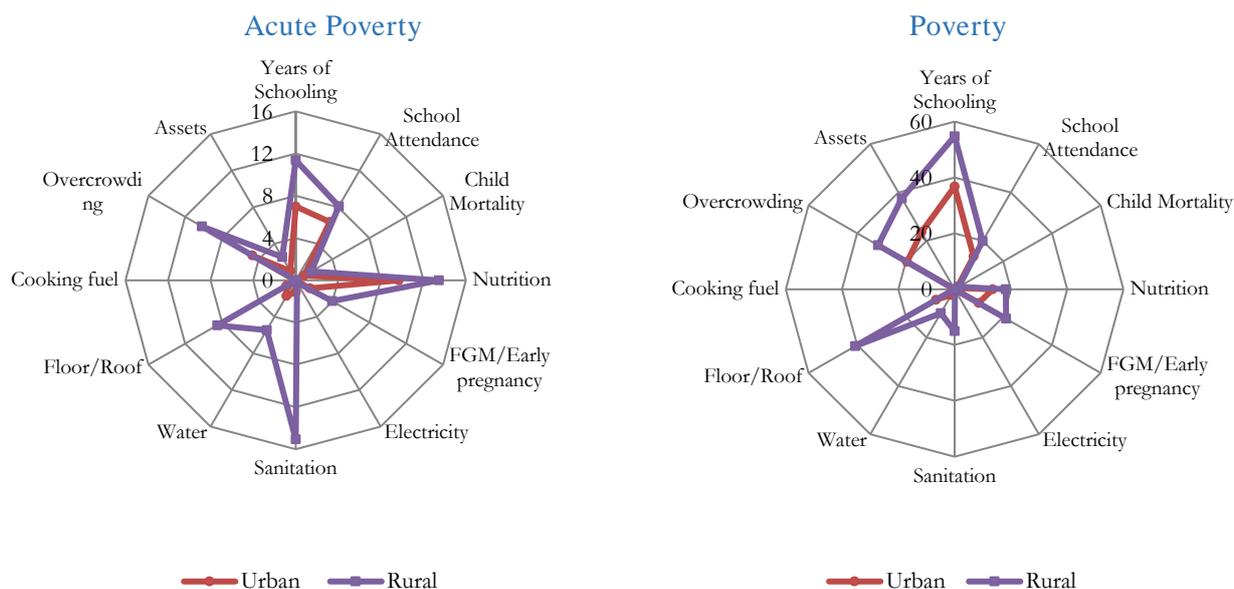
3.1.2 At acute poverty, 12.1% of Egyptians are deprived in the nutrition indicator, followed by sanitation (9.9%) and years of schooling (9.7%). The primacy of the nutrition indicator is unusual for a lower middle-income country: as discussed in the first part of this paper, in recent years Egyptians are facing decreasing food security and increasing food prices. As this data is from 2014, it is likely to underestimate the contribution of nutrition to poverty in Egypt. The impact of the economic reforms linked to the IMF loan, in particular the revision of the subsidies reforms, are likely to impact on food security and nutrition of the poor and most vulnerable population (UNHCR, 2016). However, these steps are part of a strategy to move away from inefficient and generalized subsidies to more efficient and better poverty targeted social safety nets, and the government of Egypt has adopted a package of social protection/social safety net mitigating measures to reduce negative impacts on the poor (IMF, 2017).

3.1.3 At poverty, most of the population is deprived in years of schooling (48.1% headcount), followed by assets (32.4%) and floor/roof (28.5%). Note that no data has been collected for the cooking fuel indicator in Egypt.

3.1.4 The indicators that show a particularly large jump in headcount when looking at poverty relative to acute poverty are years of schooling, assets and floor/roof. While acute poverty defines deprivation in years of schooling as when no household member has completed primary education, poverty defines it as when no household member has completed secondary education. This difference drives a large jump in the indicator between the two levels, implying that Egypt has a significant gap in secondary education.

3.1.5 Figure 3 shows headcount deprivation on each indicator for acute poverty (A) and poverty (B) for urban and rural areas. The biggest differences in headcount between urban and rural population (with the rural population being significantly more deprived than the urban one) at acute poverty can be observed in sanitation, floor/roof and overcrowding. At poverty, the biggest differences in headcount between urban and rural population (with the rural population being significantly more deprived than the urban one) are in floor/roof, years of schooling and sanitation and assets. These differences point to the urgency of addressing deprivations in housing conditions and services in rural areas of Egypt.

Figure 3: Deprivation by indicator at Acute Poverty and Poverty for urban and rural areas (% of population)



3.2 Incidence of censored Deprivation in each of the 12 indicators

3.2.1 Table 3 compares the incidence of uncensored and censored deprivations. As we saw above, the uncensored headcount ratios give the percentage of population who is deprived in an indicator regardless of their multidimensional poverty status. The censored headcount ratio measures the proportion of the population who is identified as multidimensionally poor, according to the selected poverty (and acute poverty) cut-off point (set here at $k=33.3\%$), and who is deprived of each of the indicators. By definition, the censored headcount ratio for any indicator is less than or equal to the poverty (or acute poverty) headcount ratio. Assessing the difference between censored and uncensored headcount ratios allows the assessment of the extent of overlap between deprivation and multidimensional poverty.

Table 3: Uncensored and Censored Headcount Ratio

| Indicator | Acute Poverty | | Poverty | |
|--------------------|--------------------------------------|---------------------------------|--------------------------------------|---------------------------------|
| | % of total population deprived in... | % of poor people deprived in... | % of total population deprived in... | % of poor people deprived in... |
| Years of Education | 9.7 | 2.1 | 48.1 | 24.8 |
| Child attendance | 7.5 | 2.0 | 17.5 | 12.7 |
| Child Mortality | 1.4 | 0.3 | 1.4 | 1.0 |
| Nutrition | 12.1 | 1.5 | 16.4 | 10.2 |
| Early Pregnancy | 3.1 | 0.8 | 16.9 | 10.9 |
| Electricity | 0.2 | 0.0 | 0.2 | 0.1 |
| Sanitation | 9.9 | 0.8 | 9.9 | 5.1 |
| Water | 4.1 | 0.3 | 7.1 | 3.5 |
| Floor/Roof | 5.7 | 0.7 | 28.5 | 13.9 |
| Cooking Fuel | - | - | - | - |

| | | | | |
|--------------|-----|-----|------|------|
| Overcrowding | 8.2 | 1.2 | 27.0 | 13.6 |
| Assets | 2.0 | 0.4 | 32.4 | 15.5 |

3.3 Poverty Headcount, Intensity and MPI

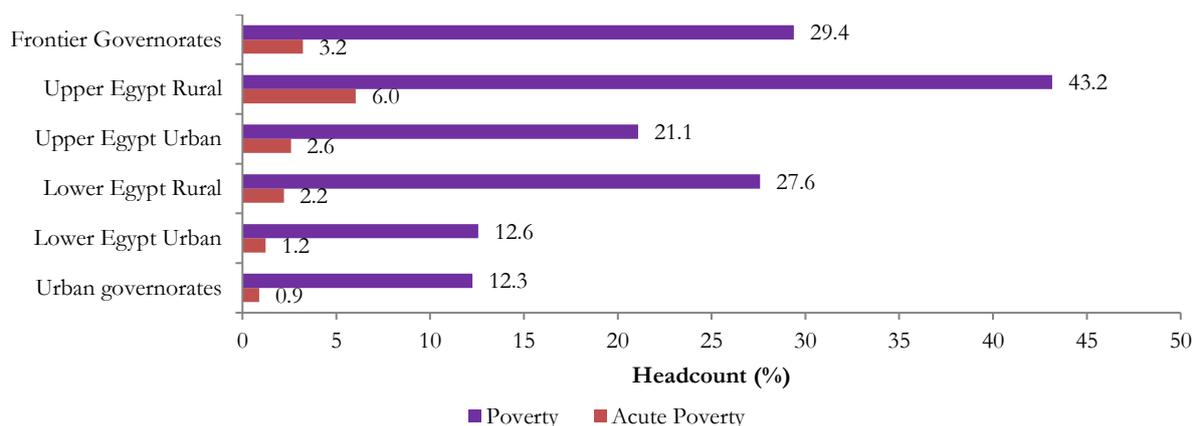
3.3.1 In Egypt, a very small percentage (3.0%) of the population suffers from acute poverty, while a larger share of the population (27.2%) suffers from poverty (Table 4). The intensity of poverty – the average proportion of indicators in which poor people are deprived – is high at both levels: 38.6% for acute poverty and 42.6% for poverty. This means that the poor suffer from a relatively high level of deprivation. Furthermore, the multidimensional poverty headcount is significantly higher by over 2.2 times in rural⁹ than in urban areas for both poverty and acute poverty. Poverty intensity varies only slightly between rural and urban areas, and the variations are more significant at poverty than at acute poverty. This means that while people in rural areas are significantly more likely to be poor, poor people in rural areas are not likely to experience a much higher degree of deprivation than poor people in urban areas.

Table 4: Poverty headcount, intensity and MPI value at national level and in urban and rural areas for acute poverty and poverty

| Acute poverty | | | |
|---------------|---------------|---------------|--|
| | Headcount (%) | Intensity (%) | Multidimensional Poverty Index (MPI) (H*A) |
| Total | 3.0 | 38.6 | 0.012 |
| Urban | 1.6 | 38.8 | 0.006 |
| Rural | 3.8 | 38.6 | 0.015 |
| Poverty | | | |
| Total | 27.2 | 42.6 | 0.116 |
| Urban | 15.3 | 40.7 | 0.621 |
| Rural | 34.3 | 43.1 | 0.147 |

3.3.2 Figure 4 shows multidimensional poverty headcount across the country's regions¹⁰. The Urban governorates are the least affected by poverty, while regions such as Rural Upper Egypt and the Frontier governorates have the highest pockets of poverty. In Rural Upper Egypt, 43.2% of the population is poor and 6.0% is acutely poor. The regions less affected by poverty have nonetheless a high poverty headcount (the minimum is 12.3% in the Urban governorates). These findings are in line with those of recent research: for example, in 2013 analysis CAPMAS and UNICEF (2015) shows that monetary poverty rate was highest in Upper Egypt and specifically in rural Upper Egypt (51.2%), followed by Urban Upper Egypt (29.2 %), while it was lowest in Lower Egypt (Rural Lower Egypt with 17.4% and Urban Lower Egypt with 11.4%) and Urban (17.9%).

Figure 4: Headcount Poverty (%) in Egypt Governorates at Acute Poverty and Poverty



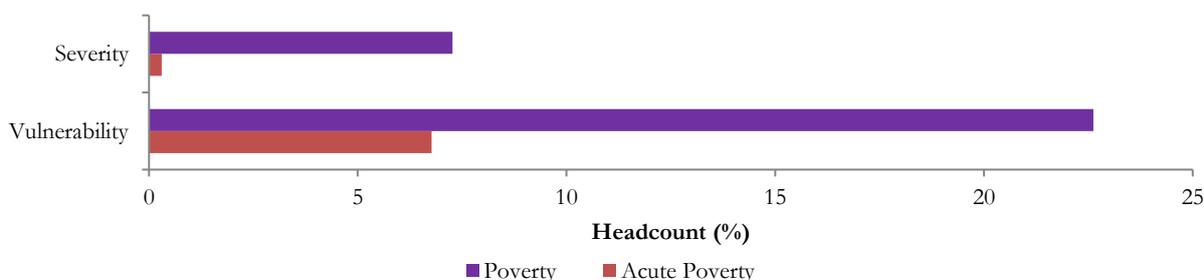
3.3.3 Table 5 shows the distribution of the national population and of poor and acutely poor people across the country's regions. The last two columns of the table calculate the ratio of poor and acutely poor over the share of national population for each region. Regions with a ratio above 1 are particularly affected by poverty. At both levels, the Frontier governorates have the highest ratio of poor over share of population. At the other hand of the scale, the Urban governorates have the lowest ratios have a less disproportionate share of the poor relative to their share of national population.

Table 5: Population and headcount poverty shares by area

| | Share of survey population (%) (1) | Share of acutely poor population (%) (2) | Share of poor population (%) (3) | (2)/(1) | (3)/(1) |
|-----------------------|------------------------------------|--|----------------------------------|---------|---------|
| Urban governorates | 14.0 | 4.2 | 6.3 | 0.30 | 0.45 |
| Lower Egypt urban | 10.8 | 4.5 | 5.0 | 0.41 | 0.46 |
| Lower Egypt rural | 35.8 | 26.4 | 36.3 | 0.74 | 1.01 |
| Upper Egypt urban | 12.0 | 10.3 | 9.3 | 0.86 | 0.78 |
| Frontier governorates | 26.6 | 53.6 | 42.2 | 2.02 | 1.59 |
| Upper Egypt rural | 0.9 | 0.9 | 0.9 | 1.08 | 1.08 |

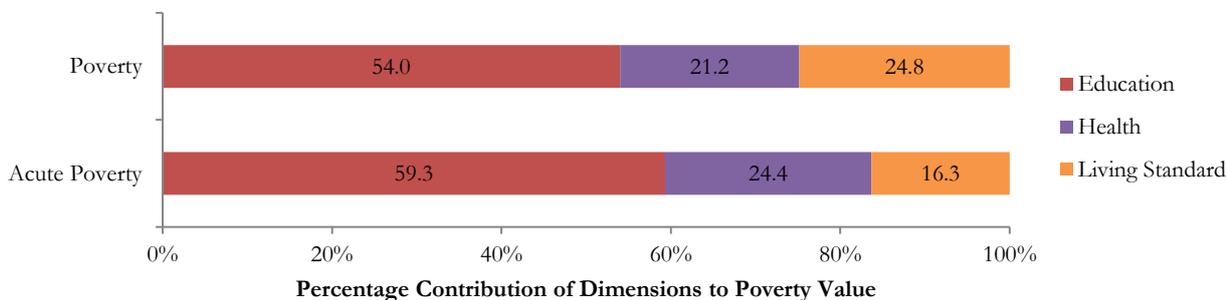
3.3.4 Someone is defined as poor if he or she is deprived in at least one third of the weighted indicators. Following OPHI's definition, individuals are 'vulnerable to poverty' when they are deprived in 20% – 33.3% of weighted indicators. Individuals are defined as in 'Severe Poverty' when they are deprived in 50% or more of the indicators.¹¹ As shown in Figure 5, only 0.3% are severely poor at acute poverty and only 6.8% of the population are vulnerable to falling into acute poverty. At poverty, however, the share of severely poor increases to 7.3% and a large share (22.6%) are vulnerable to falling into poverty.

Figure 5: Vulnerable and severely poor population at acute poverty and poverty definitions (%)



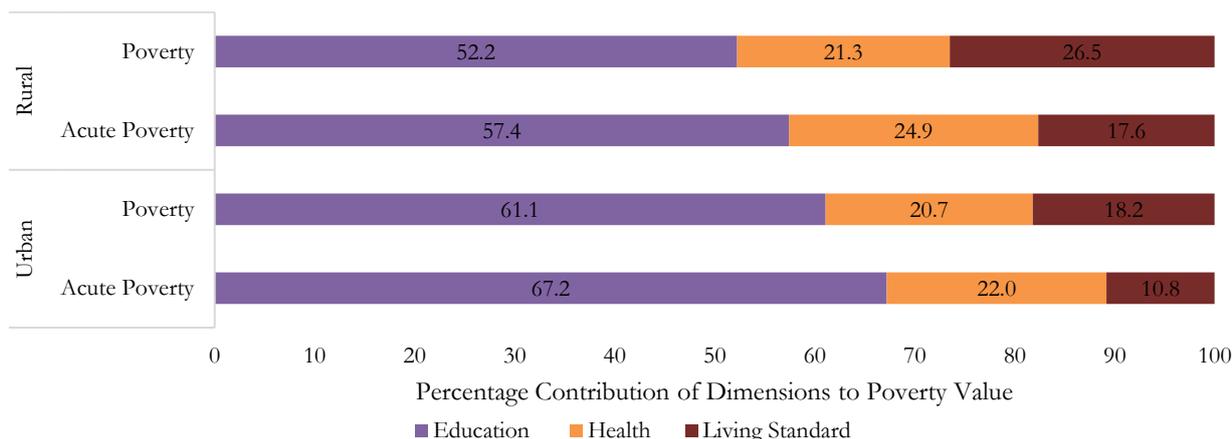
3.3.5 The percentage contribution of each of the three dimensions to the Multidimensional Poverty Index¹² is a useful summary indicator¹³. As shown in Figure 6, in Egypt education contributes to more than half of total deprivation at both levels of poverty. At poverty, the contribution of living standards is significantly higher than at acute poverty.

Figure 6: Contribution of dimensions to acute poverty and poverty value (%)



3.3.6 Looking at the contribution of dimensions by rural and urban areas in Figure 7, we observe that, at both levels, the contribution of education to poverty is higher in urban areas, while that of health is higher in rural areas. Education contributes more to acute poverty than it does to poverty.

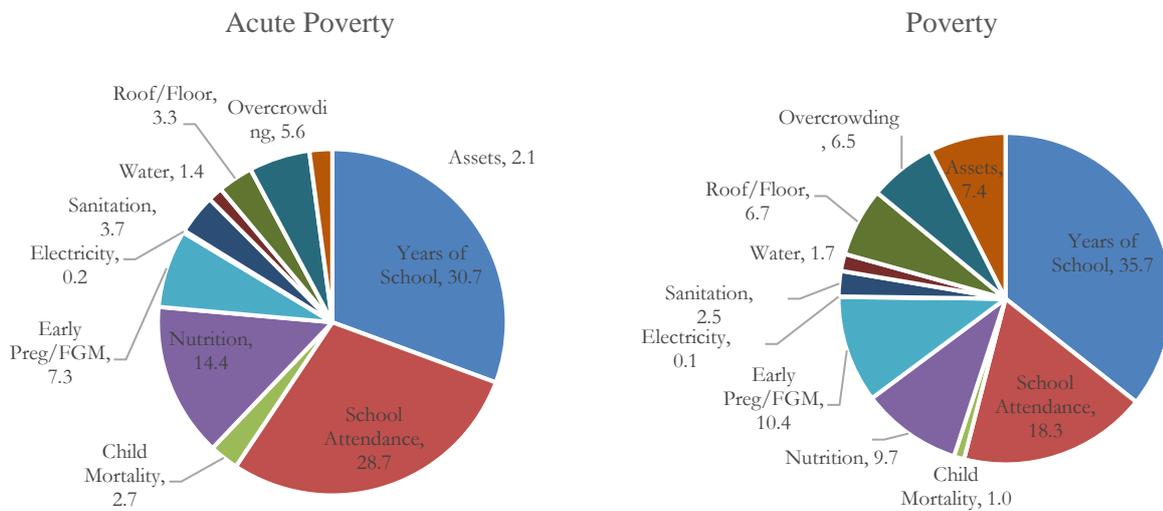
Figure 7: Contribution of dimensions to acute poverty and poverty by rural and urban areas (%)



3.3.7 Figure 8 shows the percentage contribution of each indicator to acute poverty and poverty. Years of schooling makes the highest percentage contribution to poverty in Egypt at both levels of the MPI, followed by school attendance. This means that education should be a priority area for poverty-reducing interventions in the country. Egypt is no exception in this respect, as years of schooling and school attendance are the indicators that make the highest contributions to poverty in most of the Arab countries examined by our country profiles. When looking at acute poverty, nutrition is the indicator that makes the third largest contribution. However, when looking at poverty, FGM/Early pregnancy is. When looking at the poverty definition of the indicator (an individual living in a household where at least one woman less than 28 years old either got her first pregnancy before being 18 years old *or* has undergone FGM) the deprivation uncensored headcount is 16.9% (woman less than 28 years old either got her first pregnancy before being 18 years old *or* has undergone a female genital mutilation. This is the largest headcount for FGM *or* early pregnancy among the non-LDC Arab countries covered by our research. Egypt appears to have a more significant problem in FGM/early pregnancy than some LDC countries such as Yemen (14.4%) and Comoros (8.3%). Only Sudan and Mauritania

have a higher incidence among the countries examined by our profiles. This result highlights how important it is for Egypt to tackle FGM and early pregnancies.

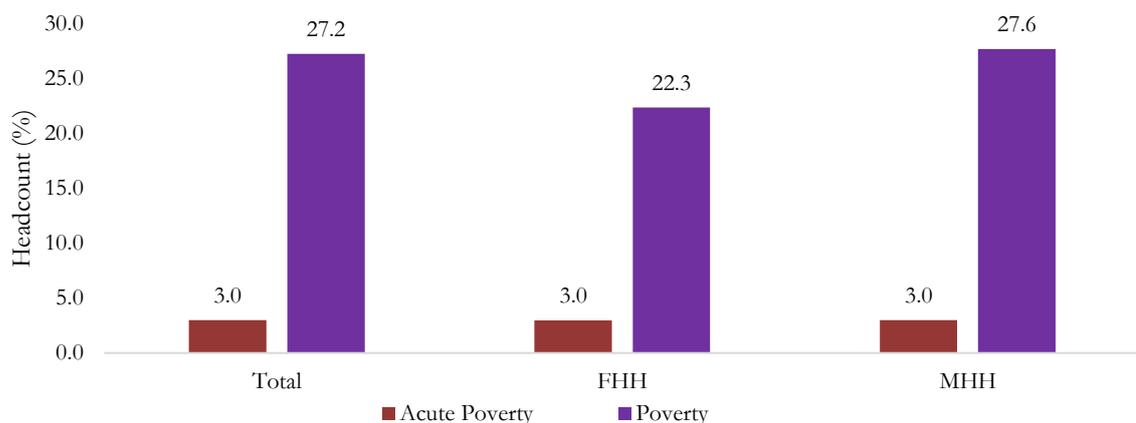
Figure 8: percentage contribution of indicators to acute poverty and poverty



IV. INEQUALITY IN DEPRIVATION

4.1 Figure shows the difference in incidence of poverty between male-headed households (MHH) and female-headed households (FHH). While the poverty headcount at acute poverty is similar, at poverty FHH have a lower poverty headcount. This is in line with the findings from recent literature on poverty in FHHs and MHHs in Africa. For example, Milazzo and van de Valle (2015) find that the share of FHHs has been growing in Africa (due to changes in marriage behaviour, family formation, health and education) and that this has happened alongside a decrease in aggregate poverty incidence. In most countries in their data, poverty has declined faster for FHHs. The reasons behind this pattern are varied (better education of women, support received from male migrant worker members of the family, the fact that females tend to allocate a higher share of their income to family needs) and differ across countries.

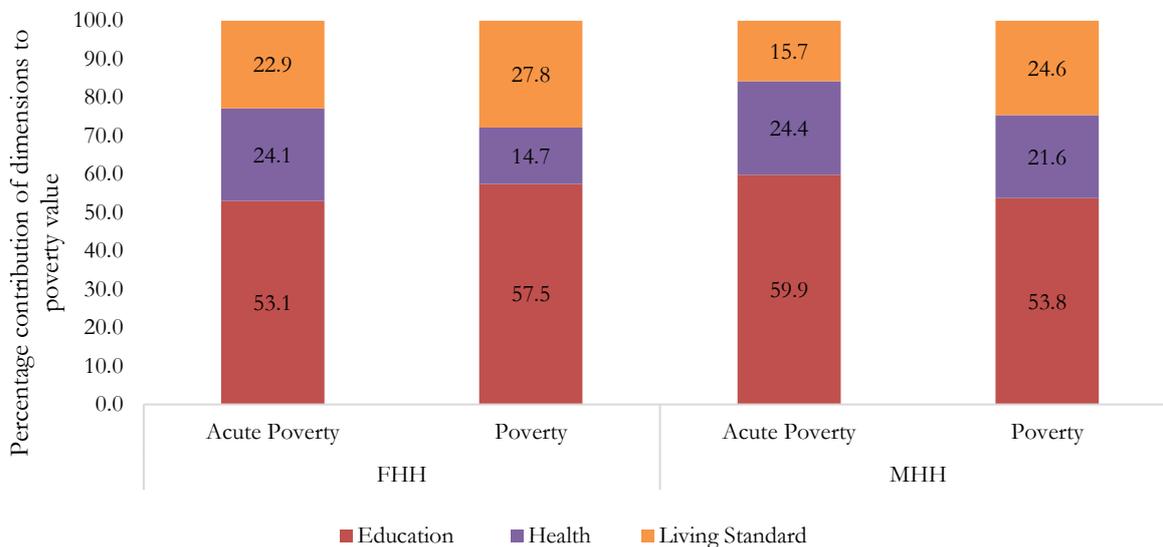
Figure 9: Poverty headcount by gender of household head (%)



4.2 Figure 10 Figure 10: Contribution of each dimension to poverty value by gender of the household head (%)

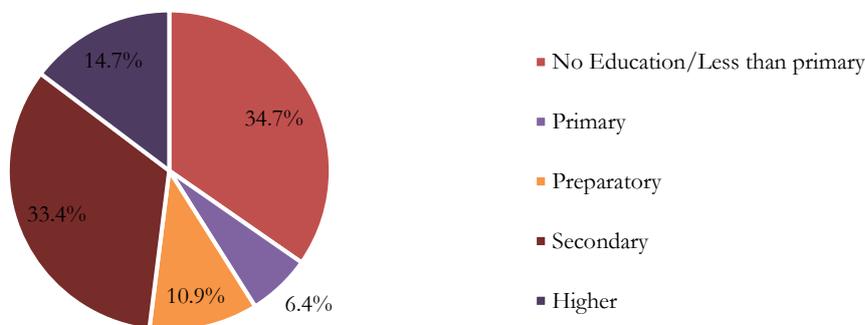
shows the contribution of each dimension to the overall poverty value by the gender of the household head. While at acute poverty education makes a larger contribution in MHHs, the opposite is true at poverty.

Figure 10: Contribution of each dimension to poverty value by gender of the household head (%)



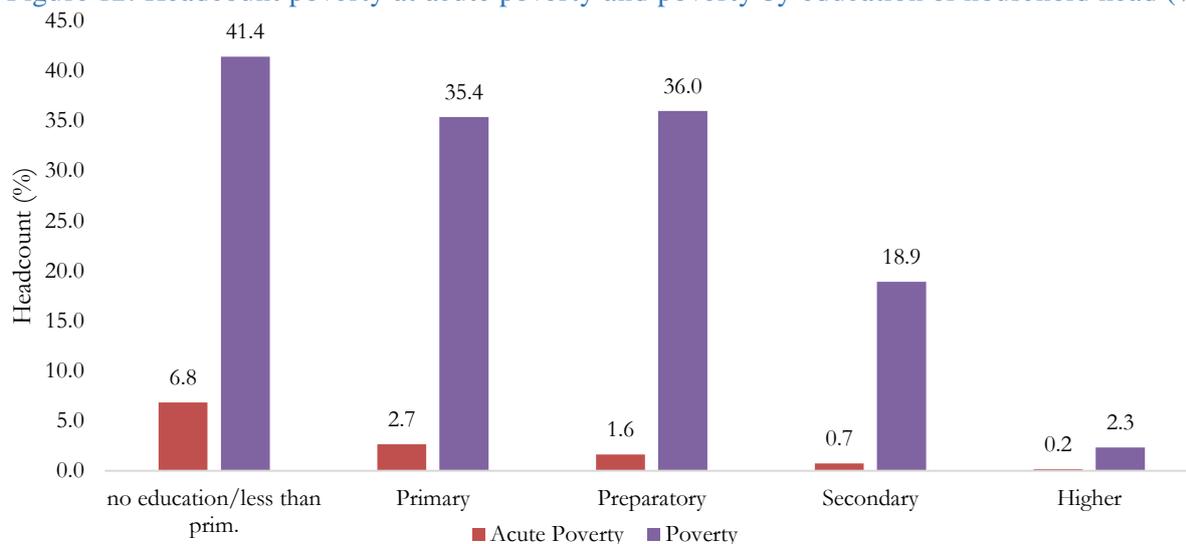
4.3 Figure 11 shows the distribution of households (HHs) by the education of the household head. In 34.7% of households in Egypt, the head of household has less than primary education. Overall, 59% of households in which the head has more than primary education.

Figure 11: Education level of household head (%)



4.4 As shown in Figure 12, multidimensional poverty decreases as the education of the head of household increases, in particular at poverty and most significantly when reaching secondary education. While 41.4% of people in a household whose head has less than primary education are poor, only 18.9% of people in a household whose head has secondary education are, and only 2.3% in a household where the head has higher than secondary education. The trend is the same at acute poverty: households with a head with less than primary education, for example, are 2.57 times more likely to be poor than households with a head with primary education. The same trend (poverty dropping as education increases) applies to the intensity of poverty.

Figure 12: Headcount poverty at acute poverty and poverty by education of household head (%)



4.5 As shown in Figure 13, larger households (with more members) are significantly more likely to be poor at both levels of poverty, and the intensity of their poverty is likely to be higher (especially for households with more than 8 members).

Figure 13: Headcount poverty (A) and intensity (B) for acute poverty and poverty by household size (%)

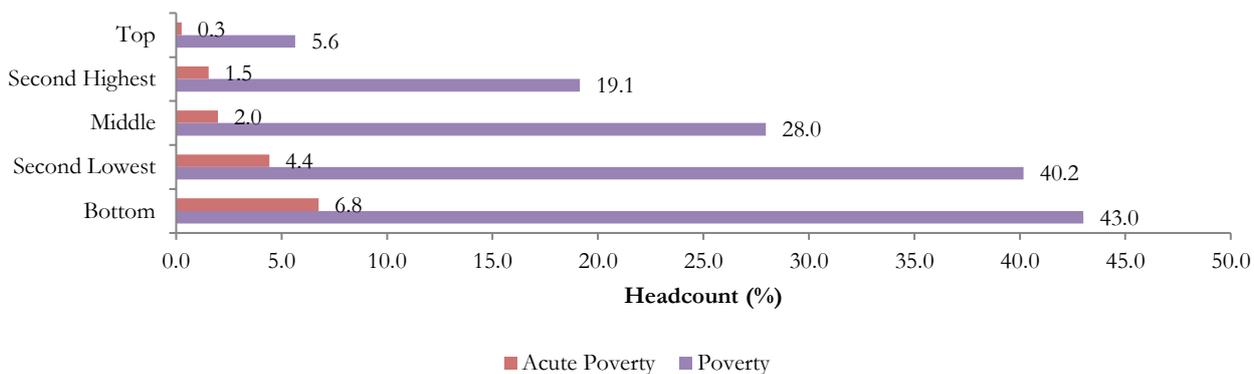


4.6 The survey also provides information about the Wealth Index (WI) of each household, which is an indicator of the economic wellbeing and living standards of a household. The WI measures the household's ownership of assets and the housing characteristics. As shown in Figure 14, this information allows us to map the incidence of poverty across the different wealth quintiles. It is expected for poverty to have a different incidence across the different wealth quintiles due to the overlap between the MPI and the WI. However, the ratio in Egypt is high: households in the bottom quintile are 22.6 times more likely to be acutely poor and 7.7 times more likely to be poor than those in the top quintile. The difference in the ratios for the two levels of poverty shows how acute poverty captures extreme poverty while poverty captures moderate poverty and beyond, and this latter has reduced differences across the WI quintiles.

4.7 These findings on the high inequality across wealth quintiles in Egypt are in line with those of recent research on monetary poverty. For example, a recent CAPMAS survey highlighted the disparity in spending power between the poor and the wealthy in Egypt. Spending by the top 10% of earners amounted to 25% of

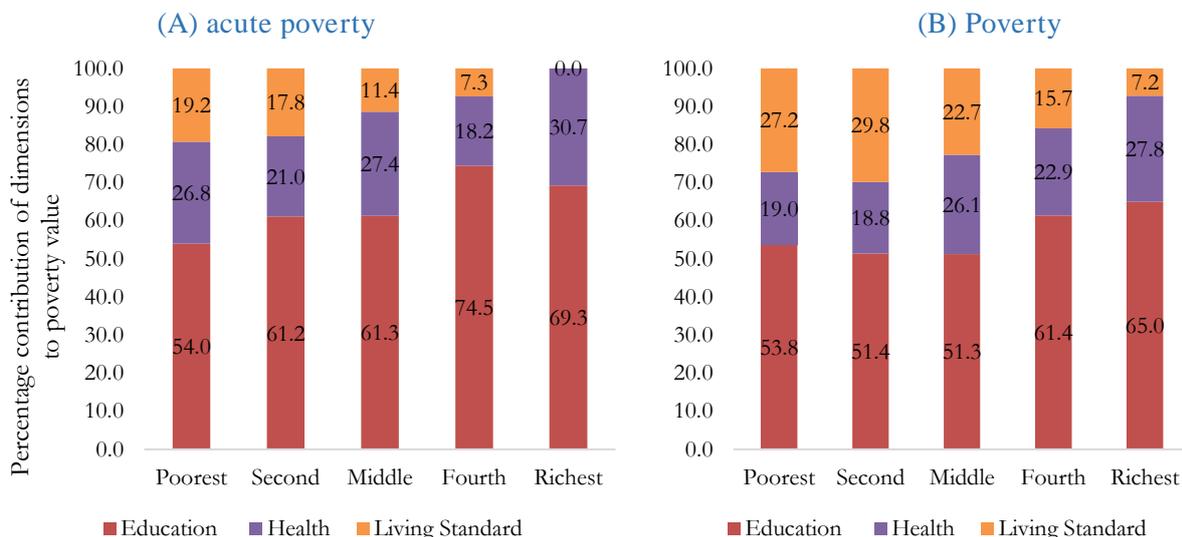
the national total, while the poorest decile's share of spending amounted to just 4.2% of total consumption. Abu-Ismaïl and Sarangi (2015) also find that economic inequality in Egypt has been rising even before the 2011 revolution. Their paper finds that, over 2000-2011, the inequality ratio in average expenditure increased from 13.7 to 16.2 between the rich and poor; from 9.2 to 11.3 between the rich and vulnerable; and from 5.7 to 7.4 between the rich and middle class. In other words, that the growth process was concentrated in very few sectors and benefited very few households, whose expenditure lay beyond the grasp of official surveys.

Figure 14: Headcount poverty (%) by wealth quintiles



4.8 As shown in Figure 15 A and B, the contribution of living standards to overall deprivation declines as the wealth of the household increases. This is expected as the WI overlaps with the some of the indicators of the living standards dimension (for example assets ownership). As the contribution of living standards goes down with wealth, it is interesting to look at which dimension, education or health, fills the gap the most. While the contribution of both health and education increase, at poverty the increase is higher in the health dimension, and at acute poverty the higher increase is found in the contribution of education.

Figure 15: Contribution of dimensions to multi-dimensional poverty by wealth quintiles



V. POLICY CONSIDERATIONS

5.1 In Egypt, a very small percentage (3.0%) of the population suffers from acute poverty, while a relatively large share of the population (27.2%) suffers from poverty. The intensity of poverty is high at both levels:

38.6% for acute poverty and 42.6% for poverty. This means that the poor suffer from a relatively high level of deprivation (i.e. they are deprived on many indicators) at both levels. This implies that poverty-reduction strategies in Egypt should include an integrated response.

5.2 While only 6.8% of the population are vulnerable to falling into acute poverty, 22.6% of Egyptians are vulnerable to falling into poverty. This highlights the need for policies to prevent Egyptians from falling into poverty, especially in the wake of the reform package linked to the recent IMF loan to Egypt and the flotation of the Egyptian pound, which are likely to hit the most vulnerable.

5.3 The large percentages of population deprived in nutrition at acute poverty and in years of schooling at poverty in Egypt suggests that poverty reduction strategies should focus on reducing deprivation in these domains. When looking at the percentage contribution to poverty, years of schooling makes the highest contribution at both levels, followed by school attendance. This means that education should be a priority area for poverty-reduction interventions in the country.

5.4 Egypt has an unusual high incidence of FGM/early pregnancies given its level of development: policies in Egypt should devote more attention to women's health and take measures to halt FGM and early pregnancies.

5.5 Geographic disparities are sharp in Egypt, with some areas, in particular Rural Upper Egypt region, exhibiting strikingly higher levels of poverty. This calls for targeted poverty-reduction interventions to reduce disparities within the country. Furthermore, differences in the incidence of poverty between the rural and urban population in Egypt are high, in particular in floor/roof, sanitation, years of schooling and overcrowding. This calls for policies targeting rural development and inclusion.

5.6 Inequality in multidimensional poverty between the highest and lowest wealth quintiles in Egypt is sharp, suggesting an enormous gap in access to resources and capabilities between rich and poor households. Households in the bottom quintile are 22.6 times more likely to be acutely poor and 7.7 times more likely to be poor than those in the top quintile. Policies should aim to reduce inequality among different strata of society in Egypt.

Technical Annex

Table 1: Acute Poverty: Standard Errors and Confidence Intervals

| | | Mean | Standard error | 95% confidence interval | |
|------------------|-------|-------|----------------|-------------------------|---------|
| Headcount | Total | 3.0 | 0.0589 | 2.8791 | 3.1101 |
| Intensity | Total | 38.6 | 0.1306 | 38.3729 | 38.8851 |
| MPI | Total | 0.012 | 0.0002 | 0.0111 | 0.0120 |
| Headcount | Urban | 1.6 | 0.0676 | 1.4249 | 1.6899 |
| Intensity | Urban | 38.8 | 0.3051 | 38.2114 | 39.4078 |
| MPI | Urban | 0.006 | 0.0003 | 0.0055 | 0.0066 |
| Headcount | Rural | 3.8 | 0.0846 | 3.6782 | 4.0100 |
| Intensity | Rural | 38.6 | 0.1444 | 38.3027 | 38.8688 |
| MPI | Rural | 0.015 | 0.0003 | 0.0142 | 0.0155 |

Table 2: Poverty: Standard Errors and Confidence Intervals

| | | Mean | Standard error | 95% confidence interval | |
|------------------|-------|-------|----------------|-------------------------|---------|
| Headcount | Total | 27.2 | 0.1547 | 26.9050 | 27.5112 |
| Intensity | Total | 42.5 | 0.0596 | 42.4325 | 42.6660 |
| MPI | Total | 0.116 | 0.0007 | 0.1144 | 0.1171 |
| Headcount | Urban | 15.3 | 0.1964 | 14.8980 | 15.6679 |
| Intensity | Urban | 40.7 | 0.1106 | 40.4459 | 40.8794 |
| MPI | Urban | 0.062 | 0.0008 | 0.0605 | 0.0637 |
| Headcount | Rural | 34.3 | 0.2118 | 33.8420 | 34.6722 |
| Intensity | Rural | 43.0 | 0.0690 | 42.9116 | 43.1820 |
| MPI | Rural | 0.147 | 0.0009 | 0.1456 | 0.1493 |

Table 3: Acute Poverty Headcount: Standard Errors and Confidence Intervals for different characteristics

| | | Mean | Standard error | 95% confidence interval | |
|---|--------------------|------|----------------|-------------------------|---------|
| Gender of the Head of Household | Female | 3.0 | 0.1995 | 2.5682 | 3.3501 |
| | Male | 3.0 | 0.0617 | 2.8769 | 3.1187 |
| Education of the Head of Household | None | 6.8 | 0.1482 | 6.5542 | 7.1351 |
| | Primary | 2.7 | 0.2070 | 2.2525 | 3.0638 |
| | Preparatory | 1.6 | 0.1349 | 1.3638 | 1.8926 |
| | Secondary | 0.7 | 0.0519 | 0.6363 | 0.8398 |
| | Diploma/University | 0.2 | 0.0378 | 0.0790 | 0.2270 |
| | Non Standard | 1.6 | 0.0680 | 1.4385 | 1.7050 |
| Household Size | "1-3" | 3.1 | 0.0856 | 2.9142 | 3.2497 |
| | "4-7" | 9.9 | 0.3490 | 9.2627 | 10.6307 |
| | "8+" | 43.0 | 0.3714 | 42.2854 | 43.7413 |
| Wealth Quintile | Poorest | 40.2 | 0.3818 | 39.4223 | 40.9188 |
| | Second | 28.0 | 0.3687 | 27.2398 | 28.6851 |

| | | | | | |
|--|---------|------|--------|---------|---------|
| | Middle | 19.1 | 0.3067 | 18.5376 | 19.7400 |
| | Fourth | 5.6 | 0.1774 | 5.3012 | 5.9967 |
| | Richest | 3.0 | 0.1995 | 2.5682 | 3.3501 |

Table 4: Poverty Headcount: Standard Errors and Confidence Intervals for different characteristics

| | | Mean | Standard error | 95% confidence interval | |
|------------------------------------|----------------------|------|----------------|-------------------------|---------|
| Gender of the Head of Household | Female | 22.3 | 0.4961 | 21.3585 | 23.3031 |
| | Male | 27.6 | 0.1625 | 27.3290 | 27.9658 |
| Education of the Head of Household | None | 41.4 | 0.2890 | 40.8546 | 41.9876 |
| | Primary | 35.4 | 0.6561 | 34.0804 | 36.6522 |
| | Preparatory | 36.0 | 0.5155 | 34.9678 | 36.9887 |
| | Secondary | 18.9 | 0.2355 | 18.4504 | 19.3737 |
| | Diploma / University | 2.3 | 0.1399 | 2.0432 | 2.5916 |
| | Non Standard | 21.8 | 0.2236 | 21.3409 | 22.2174 |
| Household Size | "1-3" | 27.9 | 0.2223 | 27.4647 | 28.3360 |
| | "4-7" | 51.5 | 0.5788 | 50.3760 | 52.6449 |
| | "8+" | 43.0 | 0.3714 | 42.2854 | 43.7413 |
| Wealth Quintile | Poorest | 40.2 | 0.3818 | 39.4223 | 40.9188 |
| | Second | 28.0 | 0.3687 | 27.2398 | 28.6851 |
| | Middle | 19.1 | 0.3067 | 18.5376 | 19.7400 |
| | Fourth | 5.6 | 0.1774 | 5.3012 | 5.9967 |
| | Richest | 22.3 | 0.4961 | 21.3585 | 23.3031 |

Table 5: Acute Poverty: Population deprived by indicator (%), Standard Errors and Confidence Interval

| | Mean | Standard error | 95% confidence interval | |
|---------------------|------|----------------|-------------------------|---------|
| Years of Education | 9.7 | 0.0869 | 9.5693 | 9.9100 |
| Child attendance | 7.5 | 0.0771 | 7.3185 | 7.6206 |
| Child Mortality | 1.4 | 0.0344 | 1.3299 | 1.4648 |
| Child Nutrition | 12.1 | 0.0955 | 11.8817 | 12.2561 |
| FGM/Early Pregnancy | 3.1 | 0.0505 | 2.9630 | 3.1610 |
| Electricity | 0.2 | 0.0122 | 0.1491 | 0.1968 |
| Sanitation | 9.9 | 0.0875 | 9.7115 | 10.0544 |
| Water | 4.1 | 0.0578 | 3.9460 | 4.1727 |
| Floor/Roof | 5.7 | 0.0682 | 5.6056 | 5.8729 |
| Cooking Fuel | 0.0 | 0.0000 | 0.0000 | 0.0000 |
| Overcrowding | 8.2 | 0.0802 | 7.9991 | 8.3136 |
| Assets | 2.0 | 0.0406 | 1.8795 | 2.0388 |

Table 6: Poverty: Population deprived by indicator (%), Standard Errors and Confidence Interval

| | Mean | Standard error | 95% confidence interval | |
|---------------------|------|----------------|-------------------------|---------|
| Years of Education | 48.1 | 0.1465 | 47.7844 | 48.3585 |
| Child attendance | 17.5 | 0.1115 | 17.3162 | 17.7532 |
| Child Mortality | 1.4 | 0.0344 | 1.3300 | 1.4649 |
| Child Nutrition | 16.4 | 0.1086 | 16.2162 | 16.6420 |
| FGM/Early Pregnancy | 16.9 | 0.1100 | 16.7220 | 17.1530 |
| Electricity | 0.2 | 0.0123 | 0.1519 | 0.2001 |
| Sanitation | 9.9 | 0.0875 | 9.7119 | 10.0548 |
| Water | 7.1 | 0.0754 | 6.9800 | 7.2756 |
| Floor/Roof | 28.5 | 0.1323 | 28.2023 | 28.7208 |
| Cooking Fuel | 0.0 | 0.0000 | 0.0000 | 0.0000 |
| Overcrowding | 27.0 | 0.1301 | 26.7366 | 27.2468 |
| Assets | 32.4 | 0.1372 | 32.1068 | 32.6445 |

Table 7: Acute Poverty: Poverty Headcount (%) by State

| | Mean | Standard error | 95% confidence interval | |
|-----------------------|------|----------------|-------------------------|--------|
| Urban governorates | 0.9 | 0.0872 | 0.7267 | 1.0685 |
| Lower Egypt Urban | 1.2 | 0.1147 | 1.0146 | 1.4643 |
| Lower Egypt Rural | 2.2 | 0.0959 | 2.0232 | 2.3991 |
| Upper Egypt Urban | 2.6 | 0.1506 | 2.2864 | 2.8768 |
| Upper Egypt Rural | 6.0 | 0.1513 | 5.7443 | 6.3375 |
| Frontier Governorates | 3.2 | 0.2271 | 2.7769 | 3.6672 |

Table 8: Poverty: Poverty Headcount (%) by State

| | Mean | Standard error | 95% confidence interval | |
|-----------------------|------|----------------|-------------------------|---------|
| Urban governorates | 12.3 | 0.3023 | 11.6653 | 12.8503 |
| Lower Egypt Urban | 12.6 | 0.3383 | 11.9036 | 13.2297 |
| Lower Egypt Rural | 27.6 | 0.2846 | 27.0320 | 28.1477 |
| Upper Egypt Urban | 21.1 | 0.3862 | 20.3260 | 21.8397 |
| Upper Egypt Rural | 43.2 | 0.3111 | 42.5431 | 43.7626 |
| Frontier Governorates | 29.4 | 0.6110 | 28.1862 | 30.5811 |

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¹ Country classification corresponds to the World Bank standards for the fiscal year 2017 as follows: lower middle-income economies are those with a GNI per capita, calculated using the World Bank Atlas method, between \$1,026 and \$4,035; upper middle-income economies are those with a GNI

per capita between \$4,036 and \$12,475; high-income economies are those with a GNI per capita of \$12,476 or more (World Bank). GNI per capita is also used to in the Human Development Index (HDI) to measure the dimension decent standard of living.

² Arab Multidimensional Poverty Report was launched in September 2017 as a joint publication of the League of Arab States' Council of Arab Ministers for Social Affairs, the United Nation's Economic and Social Commission for Western Asia (ESCWA), the United Nations Children's Fund (UNICEF), and Oxford Poverty and Human Development Initiative (OPHI).

³ The HDI is a summary measure for assessing long-term progress in three basic dimensions of human development: a long and healthy life, access to knowledge and a decent standard of living. A long and healthy life is measured by life expectancy. Knowledge level is measured by mean years of education among the adult population, which is the average number of years of education received in a life-time by people aged 25 years and older; and access to learning and knowledge by expected years of schooling for children of school-entry age.

http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/EGY.pdf

⁴ For more information see <https://dhsprogram.com/>

⁵ According to UNESCO guidelines, the definition of primary schooling and secondary schooling is country-specific, as different countries have different durations of primary and secondary schooling. Therefore, our thresholds change according to the definitions of primary and secondary schooling of each country found on the UNESCO website.

⁶ As the PAPFAM 2011 survey does not include a variable for the current school grades, the indicator considers only the attendance of school age children (6-18years).

⁷ Anthropometric measurements were only collected for children under 5 years.

⁸ Assets of information are: phone (mobile or fixed), radio, TV, internet, computer. Assets of mobility are: motorbike or car. Assets of Livelihood are: refrigerator, agricultural land, air condition, water, heater, and livestock (either livestock or chickens).

⁹ The definition of rural and urban areas follows the national definitions used in the survey and therefore changes from country to country.

¹⁰ The DHS 2014 Survey was designed to provide statistically representative estimates for the country as a whole and for six major subdivisions used in the paper (Urban Governorates, urban Lower Egypt, rural Lower Egypt, urban Upper Egypt, rural Upper Egypt, and the Frontier Governorates).

¹¹ Alkire et al., 2016

¹² Refer to the technical note of the Human Development Report 2014 for a complete explanation of how the percentage contribution of each dimension is calculated.

¹³ Refer to Table 2 for more details on the composition of the dimensions.