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Economic and Social Commission for Western Asia (ESCWA)

## Multidimensional Poverty in Iraq



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## Acknowledgments

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## **Contents**

## 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 ProductGNI 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. INTRODUCTION

- 1.1 Iraq is an upper-middle income country<sup>1</sup> in Western Asia. Table 1 shows some of the main socio-economic indicators for Iraq. The Human Development Index (HDI) a measure of basic human development achievements in a country for Iraq in 2014 was 0.649, which puts the country in the medium human development category, positioning it 121st out of 188 countries and territories. Money metric poverty is relatively high in Iraq, with 22.5% of the population below the national poverty line in 2014 (the most recent year for which data is available) (MoP 2017).
- 1.2 Over the past decade, Iraq has seen been through several setbacks. Since 2014, Iraq faced several challenges including the war against the Islamic State of Iraq and the Levant (ISIL), internal displacement of millions, free fall in oil prices, and more recently the challenges associated with the return of refugees and internally displaced to ISIL liberated areas. These events caused a humanitarian situation and impacted the living standards of Iraqis causing poverty rates to rise.

Table 1: Main socio-economic indicators for Iraq

Indicators	Value (2015 unless otherwise indicated)
Population	36,423,395
GDP	US\$ 180.1 billion
GNI p.c. Atlas Method (current US\$)	0.649
Life expectancy at birth	69.6 years
Poverty headcount ratio at national poverty lines (% of population)	10.1
Human Development Index (HDI <sup>2</sup> )	6.6
Human Development 2014 rank	US\$ 11,608
Expected years of schooling	121st (over 188 countries)
Gross enrolment ratio (primary)	0.804
Gender Development Index	0.505
Income inequality, Gini coefficient	29.5
Poverty headcount ratio at national poverty lines (% of population)	22.5% (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.

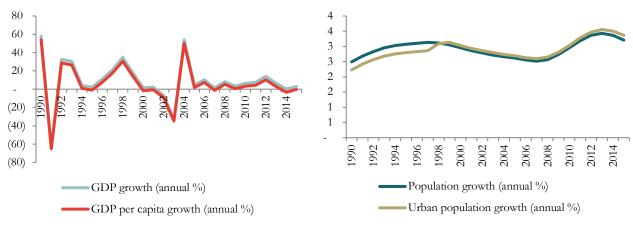
1.3 The objective of the present paper is to provide in-depth analysis of the prevalence, distribution (geographical and by gender among other household socio-economic characteristics), and severity of multidimensional poverty in Iraq. It is one of several country profiles prepared by ESCWA as background papers for the Arab Multidimensional Poverty Report<sup>3</sup> making use of the new Multidimensional Poverty Index proposed for the Arab Region. Our data is from a 2011 survey and therefore does not reflect the impact of the war that started in 2014 and as a result is likely to underestimate current poverty in the country.

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

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## GDP and GDP p.c. annual growth (%)

# Population and urban population growth, annual (%)



Source: World Bank data.

#### II. METHODOLOGY AND DATA

- 2.1 Multidimensional poverty captures multiple deprivations in basic services and capabilities, such as poor health, lack of education or illiteracy, and lacking access to safe drinking water. The multidimensional 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 (Alkire, Foster 2011) 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 aggregates 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 cutoff 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 poverty intensity. 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 poverty intensity can be calculated. The poverty intensity (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 poverty intensity 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.
- 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 weighted indicators are considered as severely poor.
- 2.8 The results of this study are based on data from the Multiple Indicators Cluster Survey (MICS), a survey conducted by countries with the support of UNICEF. The survey for Iraq, conducted in 2011, covers 238,327 individuals<sup>4</sup>. It provides data on education status for all members of the household; health status of children and women; nutrition status of children; 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: Deprivation definitions and indicator weights

Dime nsion	Indicator	Acute poverty if	Poverty if	Weight
	Years of Schooling	No household member has completed primary schooling <sup>5</sup> .	No household member has completed secondary schooling.	1/6
Education	School Attendance	Any child of primary school age is not attending school.	Any school-age child is not attending school <b>or</b> is 2 years or more behind the right school grade.	1/6
	Child Mortality	Any child less than 60 months has died in the family during the 59 months prior to the survey.	Same as acute poverty	1/9
Health	Child/adult Nutrition	Any child (0-59 months) is stunted (height for age < -2) <b>or</b> any adult is malnourished (BMI < 18.5) <sup>6</sup> .	Any child (0-59 months) is stunted (height for age < -2) <b>or</b> any child is wasted (weight for height < -2) <b>or</b> 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 <b>and</b> has undergone a female genital mutilation (FGM).	A woman less than 28 years old either got her first pregnancy before being 18 years old <b>or</b> has undergone a female genital mutilation (FGM).	1/9
	Electricity	Household has no electricity.	Same as acute poverty	1/21
Living Conditions	Sanitation	Household sanitation is not improved, according to MDG guidelines, <b>or</b> 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 <b>or</b> made of thatch, palm leaf or sod	Floor is earth, sand, dung, rudimentary (woodplanks/bamboo/reeds/grass/can es), cement floor (not slab or tiles/asphalt strips) <b>or</b> roof is not available <b>or</b> 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 <b>or</b> dung <b>or</b> 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
	Overcrowdin g	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.	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 Iraqi 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 headcount ratio, as it considers the deprivations of the total population before identifying the poor. At acute poverty, Iraqis are particularly deprived in overcrowding, followed by nutrition and school attendance. For poverty, the deprivation with the highest headcount is years of education, followed by overcrowding and floor/roof.

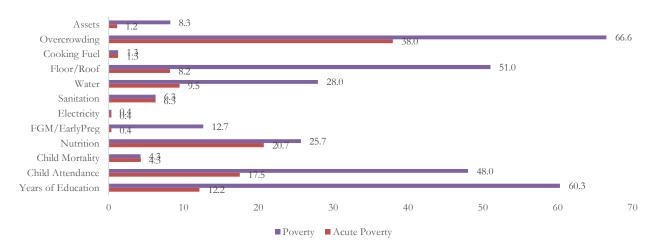
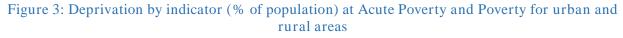
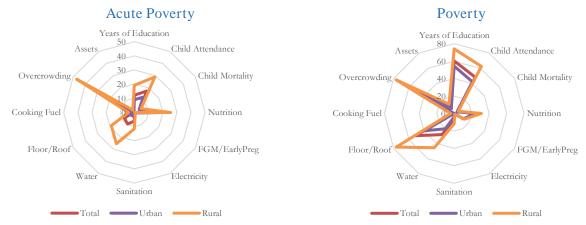


Figure 2: Incidence of Deprivation in the Arab MPI indicator (% of population)

3.1.2 Figure 3 shows the deprivation prevalence in more detail for urban and rural areas. At acute poverty, differences in headcount deprivations between rural and urban areas are highest in water, school attendance and floor/roof showing a higher deprivation in rural areas. At poverty, the rural disadvantage is manifested in the same indicators, albeit in a different order: floor/roof, water and school attendance. When going from acute poverty to poverty, the largest jumps in headcount are in education years, floor/roof and school attendance. When looking at FGM separately, it affects 8% of women aged 15-49, according to UNICEF data. Iraq is the only upper-middle income country left among the 29 countries worldwide where FGM is practiced according to UNICEF. This is therefore an issue that the country needs to tackle.





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## 3.2 Incidence of censored Deprivation in each of the 12 indicators

The prevalence of deprivation in Table 3 compares the incidence of uncensored and censored deprivations. As we saw above, the uncensored deprivation rates give the percentage of population who is deprived in an indicator regardless of being multidimensionally poor or not. The censored headcount ratio measures the deprivation headcount for MPI indicators among individuals identified as multidimensionally poor according to the selected poverty (and acute poverty) cut-off point (here set at k=33.3%). The censored headcount helps in focusing the analysis on the multidimensionally poor and in assessing the extent of their deprivation in the different indicators. Furthermore, assessing the difference between censored and uncensored headcount allows the assessment of the overlap between deprivation and multidimensional poverty.

Table 3. Officensored and Censored HeadCount Ratio						
	Acut	e Poverty	Poverty			
Indicator	% of total population deprived in	% of poor people deprived in	% of total population deprived in	% of poor people deprived in		
Years of Education	12.15	4.80	60.34	42.33		
Child attendance	17.53	5.57	48.05	37.91		
Child Mortality	4.29	0.86	4.29	3.14		
Nutrition	20.74	3.07	25.71	17.65		
FGM/Early Pregnancy	0.36	0.04	12.66	9.33		
Electricity	0.36	0.26	0.36	0.34		
Sanitation	6.28	1.46	6.28	4.37		
Water	9.49	2.54	27.99	17.65		
Floor/Roof	8.22	2.65	51.04	31.43		
Cooking Fuel	1.29	0.83	1.29	1.21		
Overcrowding	37.99	4.59	66.55	36.96		
Assets	1.16	0.45	8.26	6.14		

Table 3: Uncensored and Censored Headcount Ratio

3.3 Poverty Headcount, Intensity and MPI

3.3.1 In Iraq, a low percentage (6.5%) of the total population suffers from acute poverty, while a high share of the population (45.54%) suffers from poverty (Table 4). The poverty intensity – the average proportion of indicators in which poor people are deprived in – is high at both levels: 43.0% for acute poverty and 46.7% for poverty. Headcount poverty is significantly higher in rural than in urban areas, in particular at acute poverty: rural households are 4.4 times more likely to be acutely poor than urban ones, and 1.7 times more likely to be poor. Also, households in rural areas face a higher poverty intensity than those in urban areas. The MPI value, which ranges from 0-1, is relatively high in Iraq, at 0.028 for acute poverty and 0.213 for poverty.

Table 4: Headcount poverty, intensity and poverty value at national level and in urban and rural areas

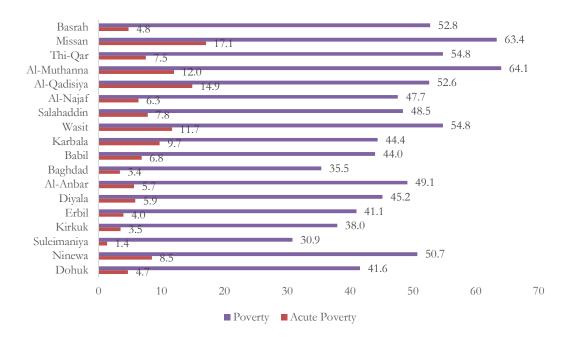
Acute poverty						
	Headcount (%)	Intensity (%)	Multidimensional Poverty Index (MPI) (H*A)			
Total	6.47	42.95	0.028			
Urban	3.15	40.23	0.013			
Rural	13.99	44.34	0.062			
Poverty						
Total	45.54	46.74	0.213			

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Urban	37.36	45.02	0.168
Rural	64.07	49.03	0.314

3.3.2 As shown in Figure 4, when ranking by acute poverty, the governorate of Suleymania, the capital Baghdad, and the oil-rich governorate of Kirkuk are the least affected, while governorates such as Missan, Al-Qadisiya and Al-Muthanna have the highest prevalence of acute poverty. The story is slightly different when areas are ranked by poverty instead of acute poverty (for example the oil-rich area of Basra has very low acute poverty but relatively high poverty).

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



3.3.3 Table 5 shows the distribution of the population and of poor people across Governorates . The last two columns of the table calculate the ratio of the share of the poor over the share of population for each Governorate. Governorates with a ratio above 1, such as Missan, Al-Qadisiya, Al-Muthana, and Wasit are more affected by acute poverty. For poverty the same governorates hold but the ranking slightly changes. Factoring the population distribution, we can compare between Baghdad the most populated governorate in Iraq, and Ninewa (Mosul) the far ranking second most populated governorate in Iraq (in 2011 prior to the war with ISIS) we can see that Ninewa not only has higher than national average poverty and acutely poverty prevalence, but also is over-represented in the distribution of the poor and acutely poor in Iraq.

Table 5: Population and headcount poverty shares by area

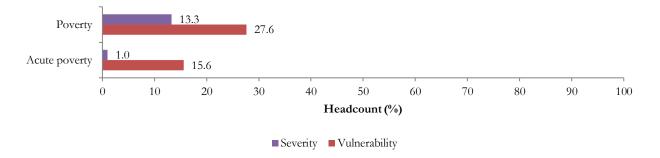
	Share of survey population (%) (1)	Share of acutely poor population (%) (2)	Share of poor population (%)	(2)/(1)	(3)/(1)
Dohuk	3.87	2.71	3.42	0.70	0.88
Ninewa	8.81	11.89	10.15	1.35	1.15
Suleimaniya	5.91	1.11	3.6	0.19	0.61
Kirkuk	4.12	2.23	3.41	0.54	0.83
Erbil	5.55	3.1	4.55	0.56	0.82
Diyala	4.09	3.69	4.04	0.90	0.99

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Al-Anbar	4.37	3.89	4.79	0.89	1.10
Baghdad	20.14	10.4	15.45	0.52	0.77
Babil	5.65	6.11	5.59	1.08	0.99
Karbala	3.16	4.91	3.18	1.55	1.00
Wasit	3.48	6.38	4.22	1.83	1.21
Salahaddin	4.23	5.2	4.56	1.23	1.08
Al-Najaf	3.98	4.08	4.34	1.03	1.09
Al-Qadisiya	3.50	8.5	4.25	2.43	1.21
Al-Muthanna	2.17	4.28	3.24	1.97	1.49
Thi-Qar	5.86	7.16	7.41	1.22	1.26
Missan	3.08	8.3	4.38	2.69	1.42
Basrah	8.01	6.03	9.44	0.75	1.18

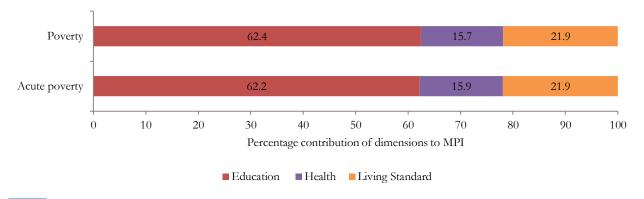
3.3.4 While, someone is defined as poor if he or she is deprived in at least one third of the weighted indicators, following OPHI's definition, individuals are 'vulnerable to poverty' when they are deprived in 20% – 33.33% of the weighted deprivation score. Individuals are defined as in 'Severe Poverty' when they are deprived in 50% or more of the indicators. As shown in Figure 5, in Iraq, just 1% of Iraqis are severely poor at acute poverty. At poverty, however, 13.3% are severely poor. 15.6% of the population are vulnerable to falling into acute poverty, and a large 27.6% of Iraqis are vulnerable to falling into poverty. This data predates the 2014 war against ISIL, and its expected that these percentages are likely to be higher now.

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



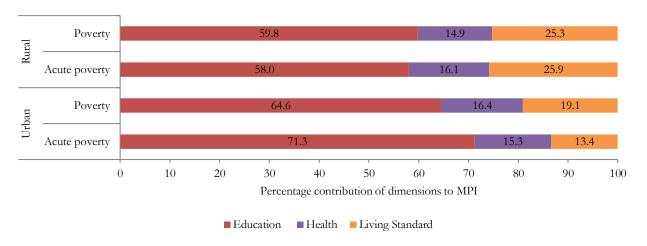
3.3.5 The percentage contribution of each of the three dimensions to the overall poverty value (taking into consideration both headcount and intensity)<sup>8</sup> is a useful summary indicator<sup>9</sup>. As shown in Figure 6, in Iraq education contributes to almost 2/3 of total deprivation at both levels of poverty. The contributions of the three dimensions are remarkably similar in Iraq at both levels of poverty.

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



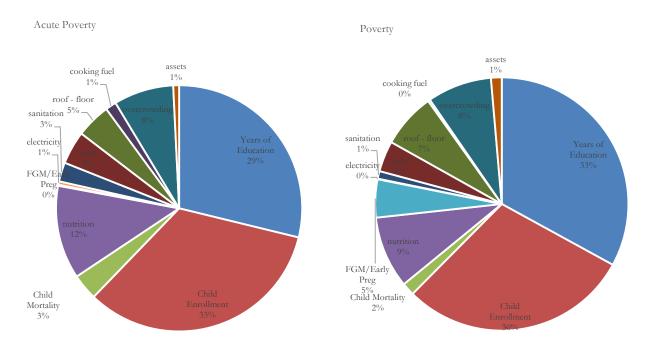
3.3.6 Looking at the contribution of dimensions by rural and urban areas in Figure 7 we observe that, at both levels, the contribution of education to poverty is higher in urban areas, while that of living standards is higher in rural areas.

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. Child attendance makes the highest percentage contribution to acute poverty, while years of education makes the highest contribution at poverty. These results show that education should be a priority area for poverty-reducing interventions in the country. At both acute poverty and poverty, nutrition is the indicator that makes the third largest contribution to poverty.

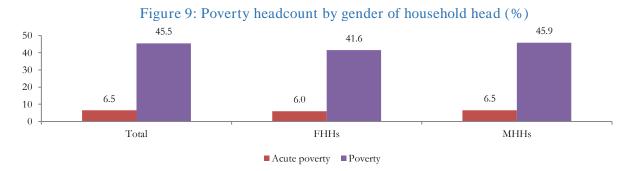
Figure 8: percentage contribution of indicators to acute poverty and poverty



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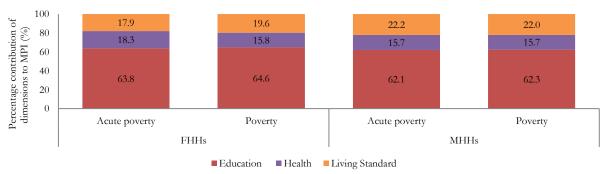
## IV. INEQUALITY IN DEPRIVATION

4.1 Figure 9 shows the difference in incidence of poverty between male-headed households (MHH) and female-headed households (FHH). In Iraq, at acute poverty the difference in poverty headcount is not statistically significant, while for poverty FHH face statistically lower incidence of poverty.



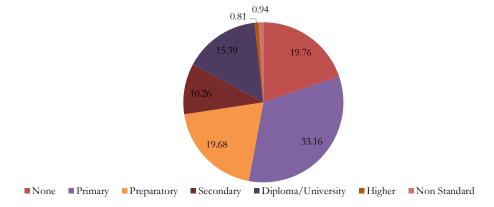
4.2 Figure 10 shows the contribution of each dimension to the overall poverty value by gender of the household head. Education and health make a larger contribution to poverty in FHHs than in MHHs at both levels of poverty, while the opposite is true of living standards.

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



4.3 Figure 11 shows the distribution of households by education of the head of household. In 19.8% of HHs in Iraq, the head of household has no or less than primary education. 46.1% of the population live in a household in which the head has more than primary education.

Figure 11: Education level of household head across overall population



4.4 As shown in Figure 12, multidimensional poverty decreases as the education of the head of household increases, in particular when education reaches preparatory and higher. While 60.3% of people in a household whose head has less than primary education are poor, only 17.2% of people in a household whose head has secondary education are. The trend is the same, and more dramatic, at acute poverty: households with a head with less than primary education are 25.7 times more likely to be acutely poor than those with a head with secondary education. The same trend (poverty dropping as education increases) goes for the poverty intensity.

100 90 80 70 61.5 61.7 60.3 60 51.9 50 40 30 17.2 16.4 20 8.6 7.0 10 1.5 0.5 Diploma/University None Primary Secondary Non Standard Preparatory ■ Poverty Acute 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 both acutely poor and poor. At poverty, for example, households with more than 8 members are 2.9 times more likely to be poor than households with 1-4 members. The poverty intensity is also higher among larger households for both poverty and acute poverty.

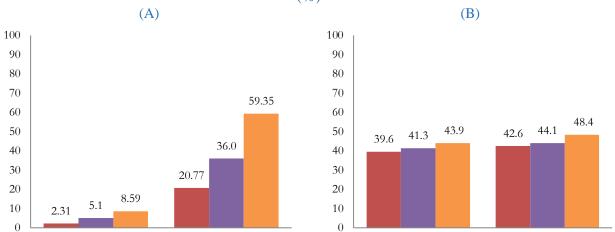


Figure 13: Headcount poverty (A) and intensity (B) for acute poverty and poverty by household size (%)

4.6 The survey also provides information about the Wealth Index (WI) of each household, which is an indicator of the economic situation of a household. The WI measures the household's ownership of assets and the quality of some of the assets. As shown in Figure 14, this information allows us to map the incidence of poverty across the different wealth quintiles. While it is expected for poverty to have a different incidence on population in different wealth quintiles due to the correlation between the MPI and the WI, the ratio is high: households in the bottom quintile are 5.1 times more likely to be poor than those in the top quintile. The prevalence of acute poverty in the top quintile of the population in Iraq is very low.

Acute poverty

**■**"1-4" **■**"5-7" **■**"8+"

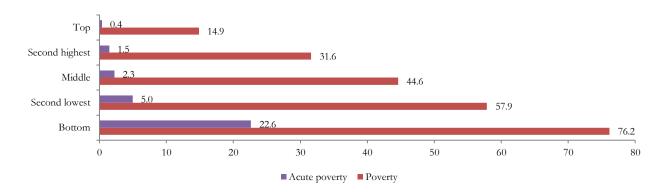
Poverty

Poverty

Acute poverty

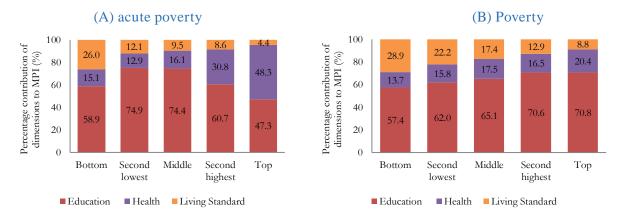
**■**"1-4" **■**"5-7" **■**"8+"

Figure 14: Headcount poverty (%) by wealth quintiles



4.7 As shown in Figure 15, the contribution of living standards to overall deprivation declines as the wealth of the household increases. This is expected as the WI correlates with the living standards dimension (through indicator of assets). As the contribution of living standards goes down with wealth, it is interesting to look at which dimension, education or health, fills the gap more. At poverty, the education dimension is the one that increases its contribution the most when going from the bottom to the second highest quintile, while the contribution of health increases the most in the top quintile. At acute poverty, the contribution of health is considerably higher in the richest quintiles, while that of education decreases with wealth.

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



#### V. POLICY CONSIDERATIONS

- 5.1 In Iraq, 6.5% of the population suffers from acute poverty, while a large share of the population 45.5% suffers from poverty. The poverty intensity the average proportion of indicators in which poor people are deprived is high at both levels: 43.0% for acute poverty and 46.7% for poverty. This means that the poor suffer from a relatively high level of deprivation (i.e. they are deprived in many indicators). This implies that poverty-reduction strategies in Iraq should tackle a variety of challenges at the same time.
- 5.2 Vulnerability to poverty is very high, 15.6% of the population are vulnerable to acute poverty and 27.6 are vulnerable to fall into poverty. This highlights the need for policies to prevent people from falling into poverty.
- 5.3 When looking at the percentage contribution to poverty, school attendance makes the highest contribution to acute poverty followed closely by years of education. For poverty the education indicators remain the largest

contributor to poverty with a flipped order. Education should be a priority area for poverty-reducing interventions in the country.

- 5.4 Spatial differences across urban and rural areas, as well as across governorates, the variations are significant in the concentration of poverty, intensity, and the main contributors to poverty. This implies that poverty eradication efforts need to be carefully spatially tailored.
- 5.5 Sharp disparities are found across households with regard to education of household head and household wealth. The analysis shows that poorest and most vulnerable households are those from the bottom wealth quintile, whose head has no or primary education, and large household size. These information are crucial for designing poverty reduction programs taking into account poverty correlates.

## **Technical Annex**

Table 1: Acute Poverty: Standard Errors and Confidence Intervals

		Mean	Standard error	95% confidence interval	
Headcount Total 6.		6.47	0.0670	6.336	6.599
Intensity Total 42.95		0.0765	42.80	43.10	
MPI Total 0.02		0.028	0.0003	0.027	0.028
Headcount	Urban	3.15	0.0697	3.014	3.288
Intensity	Urban	40.23	0.1174	40.000	40.461
MPI	Urban	0.013	0.013	0.013	0.013
Headcount	Rural	13.99	0.1454	13.701	14.271
Intensity	Rural	44.34	0.0911	44.16	44.52
MPI	Rural	0.062	0.0006	0.061	0.063

Table 2: Poverty: Standard Errors and Confidence Intervals

		Mean	Standard error	95% confidence interval		
Headcount	Total	45.54	0.1619	45.225 45.859		
Intensity	Total	46.74	0.0401	46.665	46.822	
MPI	Total	0.213	0.00076	0.2114	0.2144	
Headcount	Urban	37.36	0.2045	36.964	37.766	
Intensity	Urban	45.02	0.0547	44.909	45.124	
MPI	Urban	0.168	0.00093	0.1664 0.1700		
Headcount	Rural	64.07	0.2215	63.638 64.507		
Intensity	Rural	49.03	0.0541	48.920	49.132	
MPI	Rural	0.314	0.00113	0.3119	0.3163	

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

		Mean	Standard	95% confide	nce interval
			error		
Gender of the	Female	6.03	0.2841	5.470	6.584
Head of Household	Male	6.50	0.0686	6.369	6.638
Education of the	None	16.39	0.2306	15.941	16.846
Head of Household	Primary	8.57	0.1363	8.301	8.835
	Preparatory	1.49	0.0608	1.372	1.611
	Secondary	0.64	0.0592	0.523	0.755
	Diploma/University	0.53	0.0670	0.396	0.659
	Non Standard	6.96	0.5552	5.875	8.051
Household Size	"1-3"	2.31	0.1257	2.064	2.557
	"4-7"	5.12	0.1039	4.913	5.321
	"8+"	8.59	0.1043	8.390	8.799
Wealth Quintile	Poorest	22.62	0.2263	22.178	23.065
	Second	4.96	0.1455	4.674	5.244

	Middle	2.25	0.1017	2.051	2.450
	Fourth	1.49	0.1086	1.273	1.699
	Richest	0.37	0.0558	0.263	0.482

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

		Mean	Standard error	95% confidence interval	
Gender of	Female	41.57	0.6283	40.342	42.805
the Head	Male	45.87	0.1672	45.544	46.200
of					
Household					
Education	None	60.28	0.3547	59.584	60.975
of the Head of Household	Primary	61.54	0.2781	61.000	62.090
	Preparatory	51.92	0.3767	51.186	52.663
	Secondary	17.23	0.3562	16.534	17.930
	Diploma /	5.49	0.1806	5.140	5.848
	University				
	Non Standard	61.73	1.4184	58.949	64.510
Household	"1-3"	20.77	0.3766	20.036	21.512
Size	"4-7"	36.03	0.2602	35.518	36.538
	"8+"	59.35	0.2207	58.920	59.785
Wealth	Poorest	76.17	0.2456	75.687	76.650
Quintile	Second	57.87	0.3333	57.221	58.527
	Middle	44.60	0.3636	43.883	45.308
	Fourth	31.61	0.3694	30.886	32.334
	Richest	14.87	0.3184	14.242	15.490

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

	Mean	Standard error	95% confiden	ce interval
Years of Education	12.15	0.07	12.01	12.29
Child attendance	17.53	0.08	17.37	17.69
Child Mortality	4.29	0.04	4.21	4.38
Child Nutrition	20.74	0.09	20.57	20.91
FGM/Early	0.36	0.01	0.34	0.39
Pregnancy				
Electricity	0.36	0.01	0.33	0.38
Sanitation	6.28	0.05	6.17	6.38
Water	9.49	0.06	9.37	9.61
Floor/Roof	8.22	0.06	8.11	8.34
Cooking Fuel	1.29	0.02	1.24	1.34
Overcrowding	37.99	0.10	37.79	38.20
Assets	1.16	0.02	1.12	1.21

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

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	Mean	Standard error	95% confidence interval	
Years of Education	60.34	0.11	60.14	60.55
Child attendance	48.05	0.11	47.84	48.26
Child Mortality	4.29	0.04	4.20	4.37
Child Nutrition	25.71	0.09	25.52	25.89
FGM/Early Pregnancy	12.66	0.07	12.52	12.80
Electricity	0.36	0.01	0.33	0.38
Sanitation	6.28	0.05	6.18	6.38
Water	27.99	0.10	27.80	28.17
Floor/Roof	51.04	0.11	50.83	51.25
<b>Cooking Fuel</b>	1.29	0.02	1.24	1.34
Overcrowding	66.55	0.10	66.35	66.75
Assets	8.26	0.06	8.14	8.38

Table 7: Acute Poverty: Poverty Headcount (%) by State				
	Mean	Standard error	95% confidence interval	
Dohuk	4.67	0.1787	4.322	
Ninewa	8.48	0.2657	7.960	
Suleimaniya	1.38	0.1135	1.158	
Kirkuk	3.53	0.3783	2.785	
Erbil	3.99	0.2071	3.580	
Diyala	5.86	0.2599	5.353	
Al-Anbar	5.66	0.2483	5.177	
Baghdad	3.39	0.1689	3.054	
Babil	6.85	0.2939	6.271	
Karbala	9.74	0.5618	8.641	
Wasit	11.70	0.3378	11.035	
Salahaddin	7.84	0.2176	7.412	
Al-Najaf	6.34	0.3487	5.660	
Al-Qadisiya	14.94	0.3814	14.192	
Al-Muthanna	12.01	0.3951	11.240	
Thi-Qar	7.52	0.2715	6.987	
Missan	17.11	0.3925	16.336	
Basrah	4.78	0.2038	4.381	

Table 8: Poverty: Poverty Headcount (%) by State				
	Mean	Standard error	95% confidence interval	
Dohuk	41.63	0.4587	40.728	

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Ninewa	50.74	0.6721	49.423
Suleimaniya	30.89	0.5850	29.742
Kirkuk	38.00	0.9434	36.153
Erbil	41.05	0.6723	39.735
Diyala	45.20	0.5878	44.051
Al-Anbar	49.14	0.5490	48.067
Baghdad	35.48	0.4544	34.589
Babil	44.04	0.5993	42.865
Karbala	44.43	0.9157	42.634
Wasit	54.80	0.5481	53.722
Salahaddin	48.47	0.4174	47.656
Al-Najaf	47.66	0.7246	46.239
Al-Qadisiya	52.62	0.6068	51.426
Al-Muthanna	64.08	0.6254	62.850
Thi-Qar	54.83	0.5302	53.788
Missan	63.38	0.6364	62.133
Basrah	52.79	0.6219	51.572

## Bibliography

Alkire, S. and Foster, J. (2011). 'Counting and Multidimensional Poverty Measurement'. Journal of Public Economics 95(7-8) 2011, 476-487

Alkire, S., Jindra, C., Robles, G., and A., Vaz, 2016. Multidimensional Poverty Index: Summer 2016. Brief Methodological Note and Results. OPHI Briefing 42. University of Oxford. http://www.ophi.org.uk/wp-content/uploads/OPHIBrief 42 MPI meth note 2016.pdf

ESCWA, LAS, UNICEF, OPHI (2017) Arab Multidimensional Poverty Report

Ministry of Planning [Iraq] (2017) Poverty Reduction Strategy 2018-2022

Sen, Amartya K. (1985), Commodities and Capabilities, Oxford: Elsevier Science Publishers.

Sen, Amartya K. (1999), Development As Freedom, Oxford: Oxford University Press.

United Nations Children's Fund. (2012). Iraq Multiple Indicator Cluster Survey 2011.

Available from: http://microdata.worldbank.org/index.php/catalog/1989/study-description

<sup>&</sup>lt;sup>1</sup> Country classification corresponds to the Word Bank standards for the fiscal year 2017 as follows: lower middle-income economies are those with a GNI per capita 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 is also used in the Human Development Index (HDI) to measure the dimension on decent standard of living.

<sup>&</sup>lt;sup>2</sup> 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/default/files/2016\_human\_development\_report.pdf

<sup>&</sup>lt;sup>3</sup> 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 Economic and Social Commission for Western Asia (ESCWA), the United Nations Children's Fund (UNICEF), and Oxford Poverty and Human Development Initiative (OPHI).

<sup>&</sup>lt;sup>4</sup> Iraq - Multiple Indicator Cluster Survey 2011

<sup>&</sup>lt;sup>5</sup> 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.

<sup>&</sup>lt;sup>6</sup> The nutrition indicator depends only on the nutrition of children under 5 years since the anthropometric measurements were not collected for women 15-49 years.

<sup>&</sup>lt;sup>7</sup> The definition of rural and urban areas follows the national definitions used in the survey and therefore changes from country to country.

<sup>&</sup>lt;sup>8</sup> 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.