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Multidimensional Poverty in Yemen

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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. INTRODUCTION

1.1. Yemen is a lower middle-income country[1] in Western Asia. It is bordered by Saudi Arabia to the North, the Red Sea to the West, the Gulf of Aden and the Arabian Sea to the South, and Oman to the North-East. Table shows some of the main socio-economic indicators for Yemen. The Human Development Index (HDI) – a measure of basic human development achievements in a country – for Yemen in 2015 was 0.482, which puts the country in the low human development category, positioning it 168 out of 188 countries and territories. Money metric poverty is extremely high in Yemen, with 48.6% of the population below the national poverty line in 2014 (most recent estimates). This percentage is much higher reaching to 78.5% using the international poverty line of USD 3.2 per person/per day reflecting the burdens of the ongoing conflict and humanitarian crises (World Bank 2018).

Table 1: Main socio-economic indicators for Yemen

Indicators	Value (2015 unless otherwise indicated)
Population	26,832,215
GDP (current US$)	US$ 37.73 billion
Human Development Index (HDI[2])	0.482
Life expectancy at birth	64.1
Expected years of schooling	9.0
Mean years of schooling	3.0
GNI per Capita (2011 PPP$)	US$ 2,300
Human Development Rank	168 out of 188
Gender Development Index	0.737
Inequality adjusted HDI	0.320
Gini coefficient	36.7 (2014)
Poverty headcount ratio at national poverty lines (% of population)	48.6% (2014)
Gross enrolment ratio, primary (% of primary school-age population)	117.4 (2013)

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

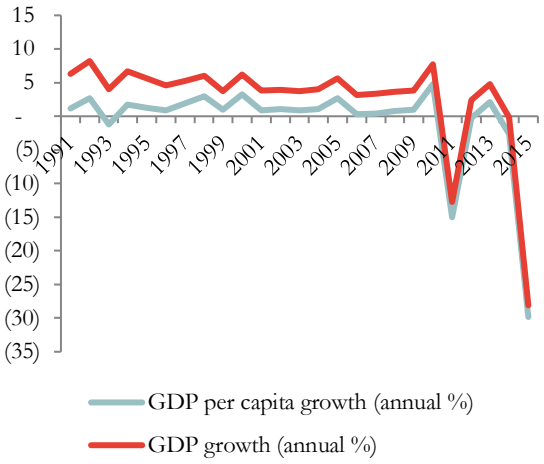
1.2. The objective of the present paper is to provide in-depth analysis of the prevalence, distribution (geographical and by gender among other household socio-economic characteristics), and severity of multi-dimensional poverty in Yemen. It is one of several country profiles prepared by ESCWA as background papers for the Arab Multidimensional Poverty Report [3] making use of the new Multidimensional Poverty Index proposed for the Arab States.

1.3. As shown in Figure 1 below, Yemen's GDP growth showed positive growth rates (average of 5% annual growth from 1990-2010) for most of the time in the past two decades. However, this growth was largely driven by hydrocarbons and characterised with low productivity and private investment and did not translate into sustained development. Due to the high population growth, the per capita GDP growth rates only grew 1.3% a year between 1990 and 2010. Even prior to the political crisis in 2011, Yemen was the

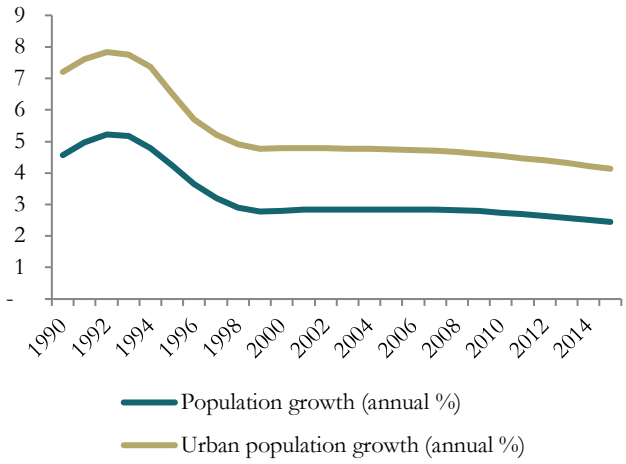
most underdeveloped country in the Arab region with regard to human development (World Bank 2015, 2017).

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

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



Population and urban population growth, annual (%)



Source: World Bank data.

1.4. This study is based on data collected in 2013. Although our findings show that the country had severe nutrition, sanitation and education deprivations even before the conflict, the results are likely to severely underestimate the current level of poverty and deprivations in Yemen, which have been aggravated by the current conflict and famine. As of July 2017, the WFP estimates that 17 million Yemenis (about 60% of the total population) are food insecure and a further 7 million severely food insecure. 2 million Yemenis have been internally displaced (WFP, 2017). According to OCHA (2017), 10.4 million people lack access to health care and only 45% of health facilities function. In addition, more than 2 million children have been out of school since the escalation of conflict... . findings show that the country had severe nutrition, sanitation and education deprivations even before the conflict.

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 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 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.

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 (USAIDS)[4]. The survey for Yemen, conducted in 2013, covers 119,720 individuals. It provides data on education status for all members of the household; nutrition and health status of children and women; child mortality; housing conditions (availability of safe drinking water, sanitation facilities, electricity, cooking fuel etc.); and information on ownership of assets (refrigerator, motorbike, cattle, radio, TV etc.). Some of the information in this country profile is reported by "head of household", which is the individual in the household who identified themselves or was identified as such in the survey.

Table 2: 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.	1/6
Health	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
	Child/adult Nutrition	Any child (0-59 months) is stunted (height for age < -2) **or** any adult is malnourished (BMI < 18.5)[6].	Any child (0-59 months) is stunted (height for age < -2) **or** any child is wasted (weight for height < -2) **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

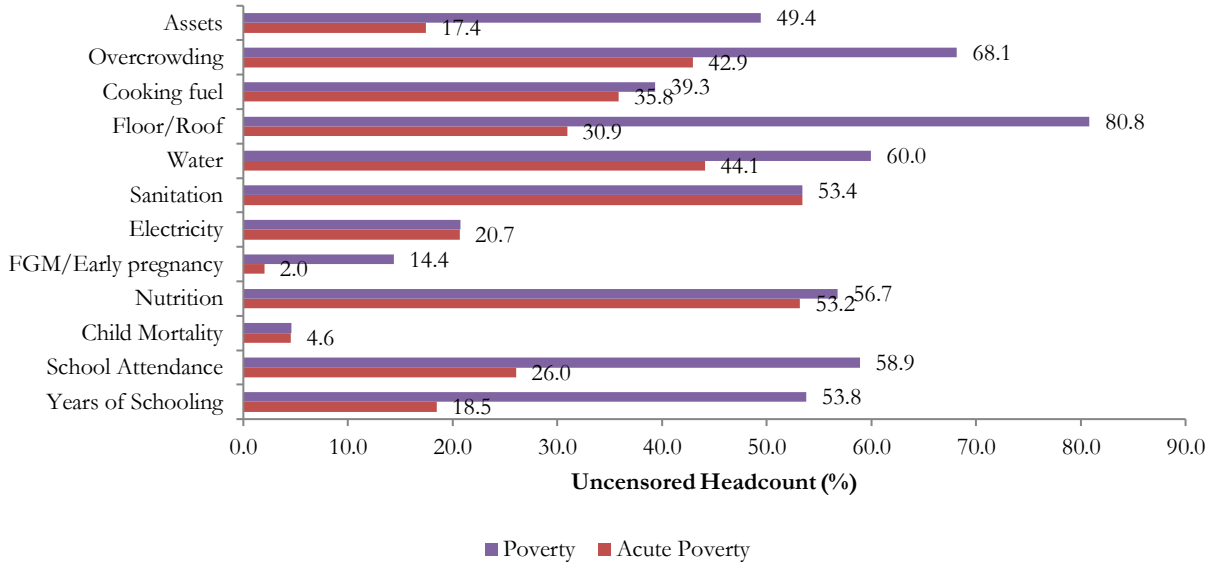
	Floor/Roof	Floor is earth, sand, dung or roof is not available **or** made of thatch, palm leaf or sod	Floor is earth, sand, dung, rudimentary (woodplanks/bamboo/reeds/grass/canes), cement floor (not slab or tiles/asphalt strips) **or** roof is not available **or** made of thatch, palm leaf, sod, rustic 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.	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 Yemeni population in each of the Arab MPI indicators using the poverty and acute poverty respective cut-off points presented 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.

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



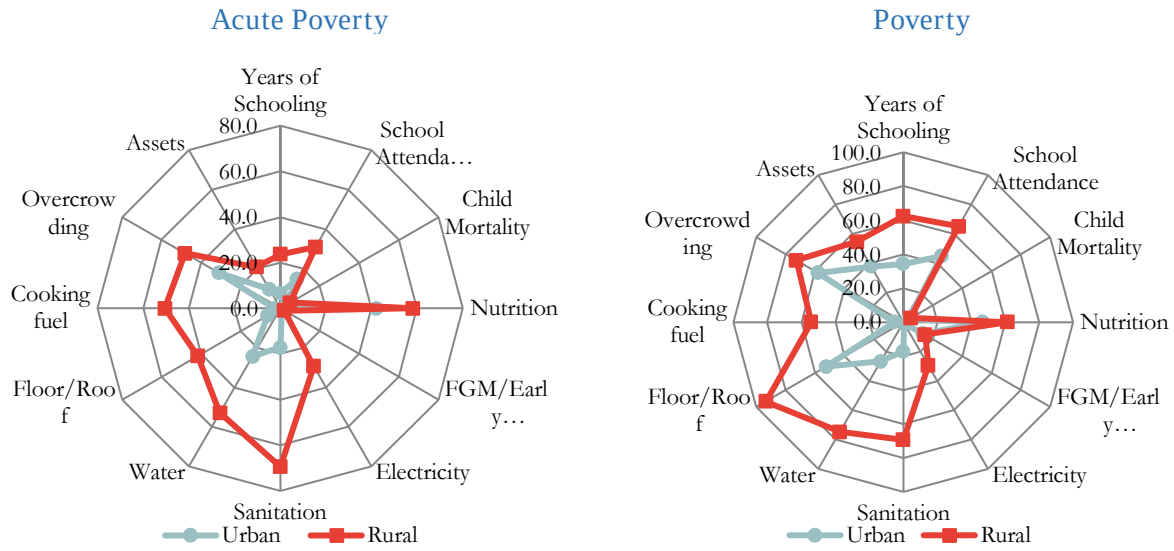
3.1.2 At acute poverty, Yemeni are particularly deprived in the sanitation (53.4%), nutrition (53.2%) and water (44.1%) indicators. This finding confirms that Yemen has been facing a severe nutrition problem even before the latest escalation of the conflict. Furthermore, it shows that a large share of the population lives in precarious living conditions as there is a severe lack of access to basic services such as sanitation and water. Overcrowding and use of solid cooking fuels are also widespread among the population.

3.1.3 At poverty, the most widespread deprivations are floor/roof (80.8%), overcrowding (68.1%) and water (60.0%). Using the stricter cut-off points of the poverty measure confirms the dire living conditions that are widespread across Yemen. Furthermore, the deprivation rates in the education dimensions are very high: 58.9% of all Yemeni live in households where no member has completed secondary education. Likewise, 52.8% live in households where not all children attend school.

3.1.4 The education indicators are also among the indicators with the greatest differences in deprivation headcount between acute poverty and poverty. The differences in the education indicators show that Yemen has a significant gap in higher than primary education and that many children are not able to attend school or lag behind in schooling. Other indicators with significant gaps between the two measures are floor/roof and assets in the living standard dimension and the FGM/Early Pregnancy indicator in the health dimension.

3.1.5 Figure 3 presents the incidence of deprivation in each indicator by the rural and urban population. The great disparities between the urban and rural population, especially in the living standard dimensions, are visible at a first glance. The rural population is significantly more deprived in all indicators of the living standard dimension than the urban one at both levels. At acute poverty, the biggest differences between urban and rural population are in sanitation, cooking fuel, and floor/roof. At poverty, the biggest differences in headcount between urban and rural population are in sanitation, cooking fuel and water. When moving from acute poverty to poverty, the analysis also shows great disparities between the rural and urban population in the education indicators.

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



3.2 Incidence of censored Deprivation in each of the 12 indicators

3.2.1 The prevalence of deprivation in Table 3 compares the incidence of uncensored and censored deprivations. The censored deprivation rates give the percentage of population who is deprived in an indicator and has also been identified as poor according to the poverty cut-off (in this case k=33.3%). The censored headcount ratio highlights the deprivations of the multidimensionally poor people in each indicator and give

more accurate information on the magnitude of deprivation in a particular indicator when this indicator is associated with 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	18.5	15.7	53.8	50.0
Child attendance	26.0	19.0	58.9	52.2
Child Mortality	4.6	2.5	4.6	4.1
Nutrition	53.2	23.2	56.7	46.5
FGM/Early Pregnancy	2.0	1.4	14.4	12.4
Electricity	20.7	16.4	20.7	20.4
Sanitation	53.4	25.8	53.4	46.3
Water	44.1	20.1	60.0	49.3
Floor/Roof	30.9	20.3	80.8	63.7
Cooking Fuel	35.8	21.6	39.3	36.9
Overcrowding	42.9	20.8	68.1	53.4
Assets	17.4	11.4	49.4	41.5

3.2.2 At acute poverty, the indicators child nutrition, sanitation, water, and overcrowding show the largest gap between the censored and uncensored headcount ratios. This means that deprivation in these indicators are widespread and do not only affect the multidimensionally poor population. On the other hand, indicators such as FGM/Early pregnancy, child mortality, and years of schooling show the lowest gaps which indicates that most people that are deprived in this indicator are actually also considered multidimensionally poor.

3.2.3 At poverty, the indicators floor/roof, overcrowding, water, and child nutrition show the biggest gaps between the censored and uncensored headcount ratio. Thus, deprivations in living conditions and nutrition are widespread among the Yemeni population, regardless if they are considered multidimensionally poor or not. The indicators electricity, child mortality, and FGM/early pregnancy show the lowest gaps between the ratios. Thus, deprivations in these indicators are mainly found among the multidimensionally poor population.

3.3 Poverty Headcount, Intensity and MPI

3.3.1 In Yemen, 30.6% of the population suffers from acute poverty and 69.1% of the population suffers from poverty (Table 4). The poverty intensity is high, at 50.0% for acute poverty and 56.3% for poverty. Headcount poverty and intensity of deprivation are much higher in rural[7] than in urban areas. The poverty headcount varies more significantly between rural and urban areas than the poverty intensity does. This is especially true for acute poverty: people in rural areas are 5.4 more likely to be acutely poor and 2.1 times more likely to be poor than those in urban areas. The MPI value, which ranges from 0-1, is high in Yemen, at 0.153 for acute poverty and 0.389 for poverty.

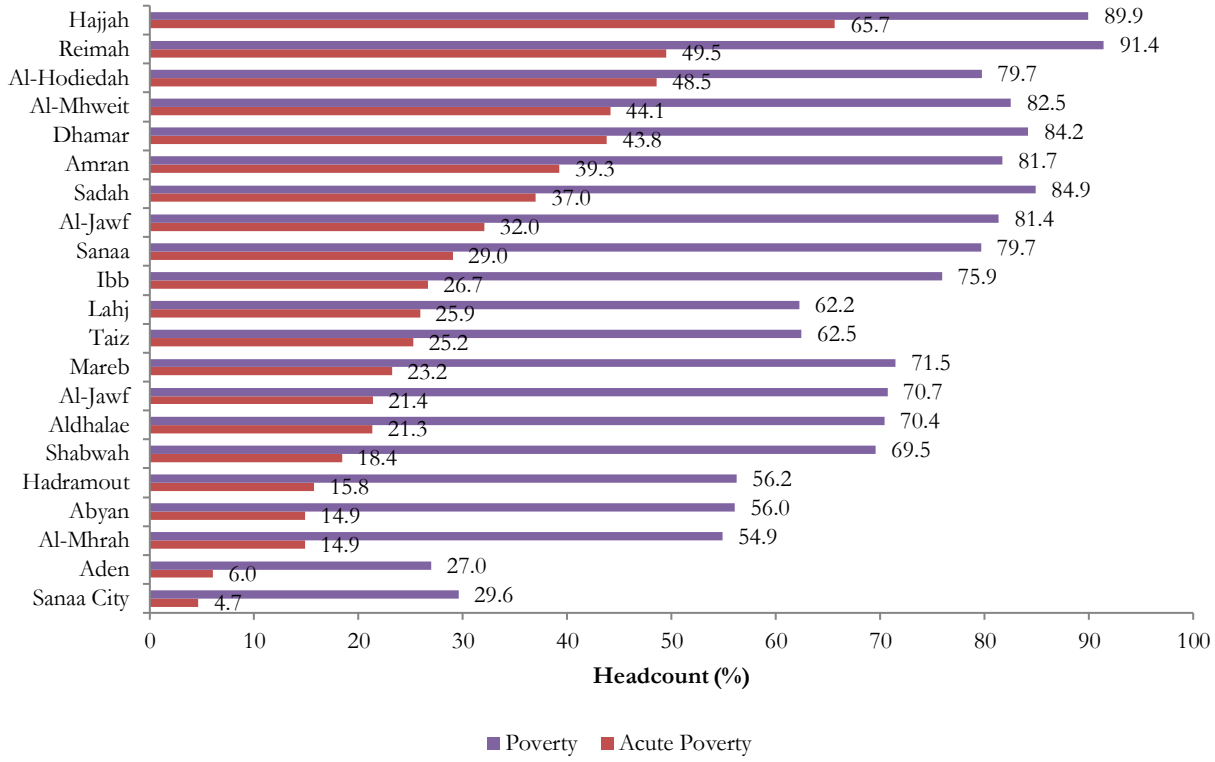
Table 4: Headcount poverty, intensity and poverty value at national level and in urban and rural areas

Acute poverty			
	Headcount (%)	Intensity (%)	Multidimensional Poverty Index (MPI) (H*A)
Total	30.6	50.0	0.153

Urban	7.6	45.6	0.035
Rural	40.7	50.3	0.205
Poverty			
Total	69.1	56.3	0.389
Urban	39.3	49.2	0.194
Rural	82.3	57.7	0.475

3.3.2 As shown in Figure 4, the capital city of Sanaa[8] and the fourth largest governorate of Aden on the coast are the least affected by multidimensional poverty, while governorates such as Hajjah and Reimah in the inner parts of the country and the second largest governorate of Al-Hodiedah on the coast facing Eritrea have the highest poverty prevalence. In these governorates, acute poverty affects over 48% of the population (65.7% in Hajjah) and poverty affects over 79% of the population. Hajjah is one of the 15 states of all the 10 countries examined by our poverty profiles with the highest when ranked by acute poverty. As most of the other 15 poorest states, Hajjah has also been affected by ongoing armed conflict in 2013 which led to internal displacement. Furthermore, due to its location on the Red Sea it is also a transit point for migrants heading to Saudi-Arabia (OCHA, 2013). The governorates least affected by acute poverty in Yemen have nonetheless a high headcount for poverty: the minimum is 27% in the coastal city of Aden, followed by 29.6% in the capital Sanaa.

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



3.3.3 Table 5 shows the distribution of the national population and of acutely poor and poor people across the governorates of Yemen. The last two columns of the table calculate the ratio of acutely poor and poor people over the total population. Governorates with a ratio above 1 carry a disproportionate amount of multidimensionally poor people relative to their share of national population. This is the case, at the bottom of the table, for the Reimah, Hajjah and Sadah governorates, which have the highest ratios. At the other end of the scale, the cities of Aden, the capital Sanaa and the governorate of Al-Mhrah have the lowest ratios. The

spatial disparity of poverty across governorates is considerable, with ratios ranging from a maximum of 2.14 (Hajjah) to a minimum of 0.15 (Sanaa City) for acute poverty.

Table 5: Population and headcount poverty shares by area

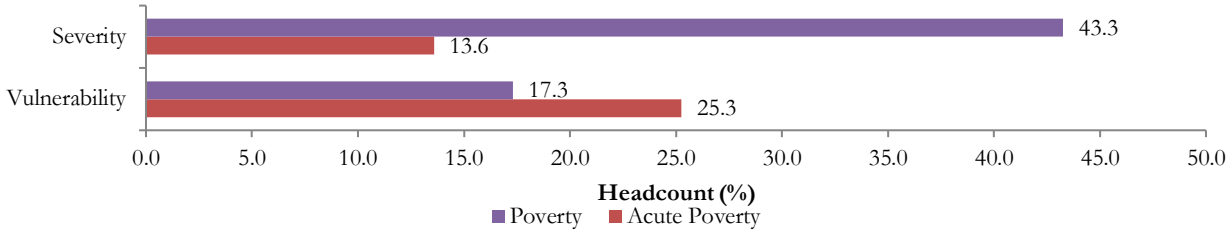
	Share of survey population (%) (1)	Share of acutely poor population (%) (2)	Share of poor population (%) (3)	(2)/(1)	(3)/(1)
Aden	3.87	2.71	3.42	0.70	0.88
Sanaa City	8.81	11.89	10.15	1.35	1.15
Al-Mhrah	5.91	1.11	3.6	0.19	0.61
Abyan	4.12	2.23	3.41	0.54	0.83
Hadramout	5.55	3.1	4.55	0.56	0.82
Lahj	4.09	3.69	4.04	0.90	0.99
Taiz	4.37	3.89	4.79	0.89	1.10
Shabwah	20.14	10.4	15.45	0.52	0.77
Aldhalae	5.65	6.11	5.59	1.08	0.99
Al-Baidha	3.16	4.91	3.18	1.55	1.00
Mareb	3.48	6.38	4.22	1.83	1.21
Ibb	4.23	5.2	4.56	1.23	1.08
Sanaa	3.98	4.08	4.34	1.03	1.09
Al-Hodiedah	3.50	8.5	4.25	2.43	1.21
Al-Jawf	2.17	4.28	3.24	1.97	1.49
Amran	5.86	7.16	7.41	1.22	1.26
Al-Mhweit	3.08	8.3	4.38	2.69	1.42
Dhamar	8.01	6.03	9.44	0.75	1.18
Sadah	3.1	3.8	3.9	1.21	1.23
Hajjah	6.1	13.1	7.9	2.14	1.30
Reimah	2.3	3.7	3.1	1.61	1.32

3.3.3 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 weighted indicators. Individuals are defined as in 'Severe Poverty' when they are deprived in 50% or more of the indicators.

3.3.4 As shown in Figure 5, 13.6% are severely poor (suffering from a deprivation level higher than 50% of the total possible deprivation) at acute poverty. For poverty, the share of severely poor is much higher, at 43.3%.

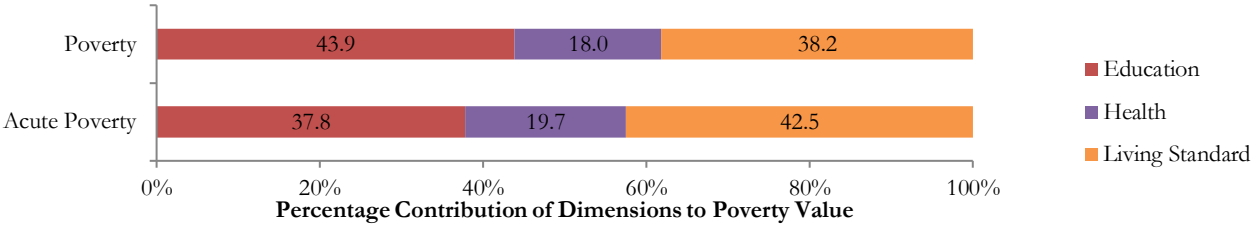
3.3.5 A large 25.3% are vulnerable to falling into acute poverty (experiencing a deprivation level between 20% and 33% of total possible deprivation), while 17.3% are vulnerable to falling into poverty. The share of vulnerable population number is lower at poverty as many of the people identified as vulnerable at the acute poverty level are likely to be identified as poor using the stricter deprivation thresholds of the poverty measure.

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



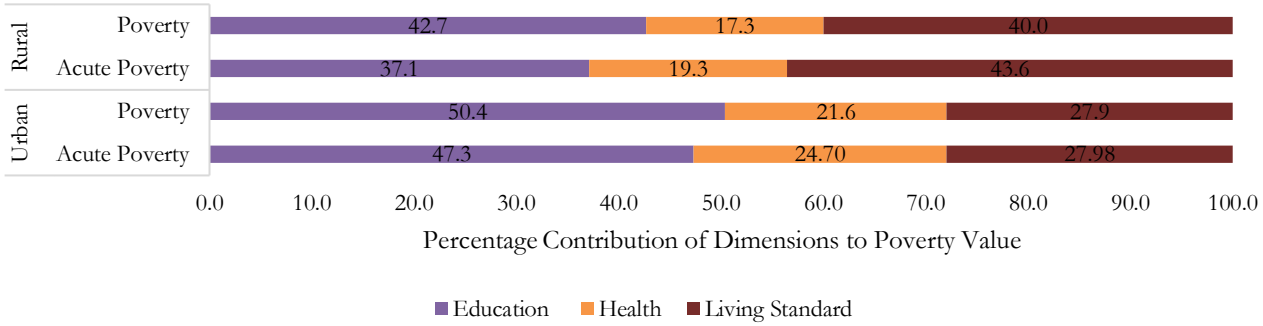
3.3.6 The percentage contribution of each of the three dimensions to the overall multidimensional poverty index (taking into consideration both headcount and intensity)[9] for acute poverty and poverty is a useful summary indicator. As shown in Figure , at acute poverty, the living standards dimension contributes nearly half of total deprivation, while at poverty the contribution of the education dimension increases. The contribution of health is relatively the same at both levels.

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



3.3.7 As shown in Figure 7, the contribution of education and of health to poverty are higher in urban than in rural areas at both levels of poverty. On the other hand, the contribution of living standards is higher in rural areas at both levels.

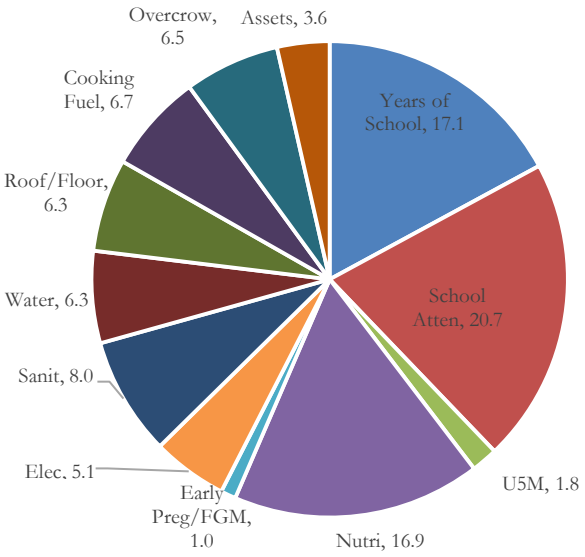
Figure 7: Contribution of dimensions to acute poverty and poverty by rural and urban areas (%)

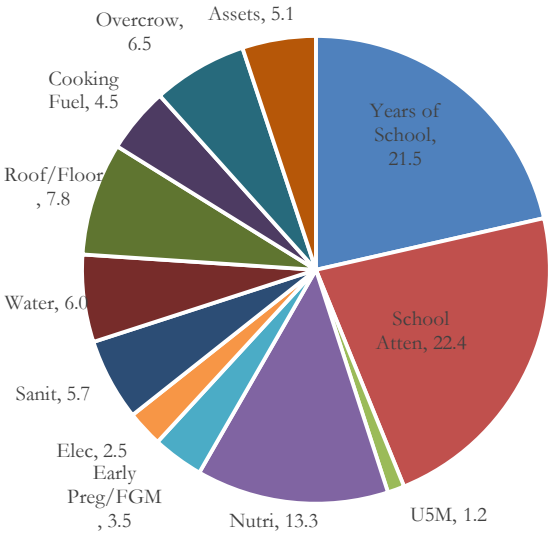


3.3.8 Figure 8 shows the percentage contribution of each indicator to acute poverty and poverty. Child attendance, years of education and nutrition make the top three contributions (in this order) to poverty at both levels. This means that education and nutrition should be priority areas for poverty-reduction interventions in the country.

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

(A) Acute Poverty (B) Poverty

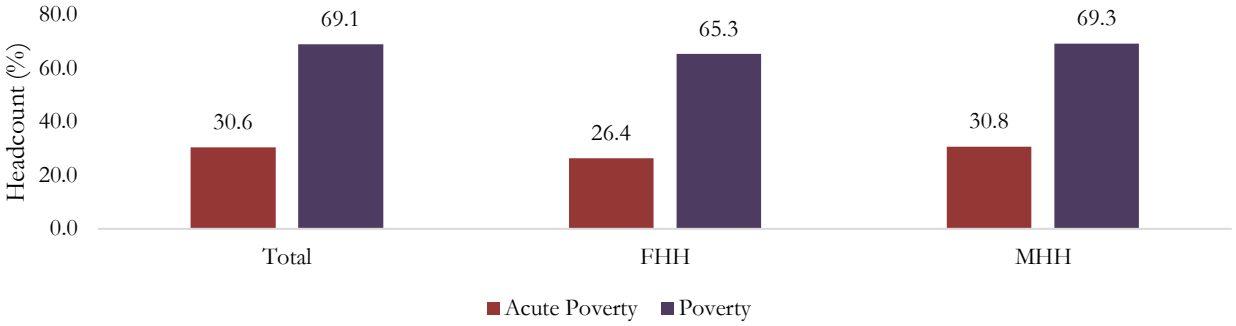




IV. INEQUALITY IN DEPRIVATION

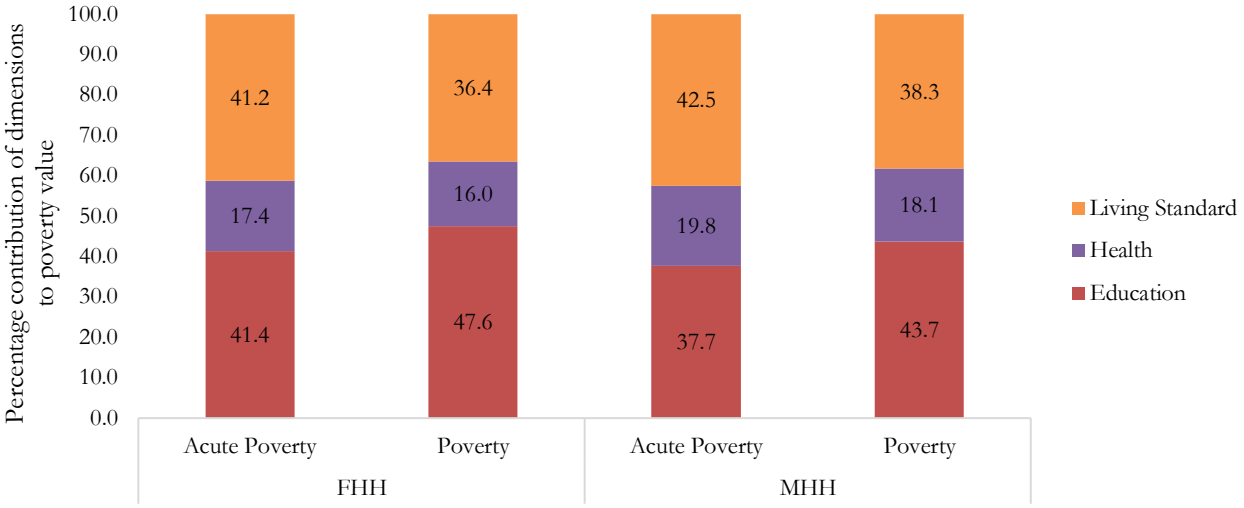
4.1 Figure 9 shows the difference in incidence of multidimensional poverty between male-headed households (MHH) and female-headed households (FHH). In Yemen, FHH have a slightly lower poverty headcount at both levels of poverty.

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



4.2 Figure 10: Contribution of each dimension to poverty value by gender of the household head (%) shows the contribution of each dimension to poverty by the gender of the household head. In Yemen, education makes a higher contribution in FHHs than in MHHs at both levels of poverty, but the health dimension makes a lower contribution in FHHs at both levels of poverty. Living standards contribute more to MHHs' deprivation than they do to that of FHHs.

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

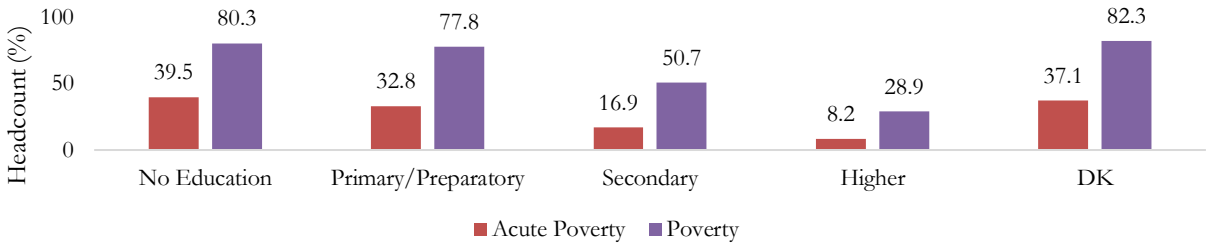


4.3 Figure 11 shows the distribution of education of the head of household in Yemen. In 44.9% of HHs in Yemen, the head of household has not received any formal education. Overall, only 26.2% of households in Yemen have a head with more than primary education.

Figure 11: Education level of household head across overall population

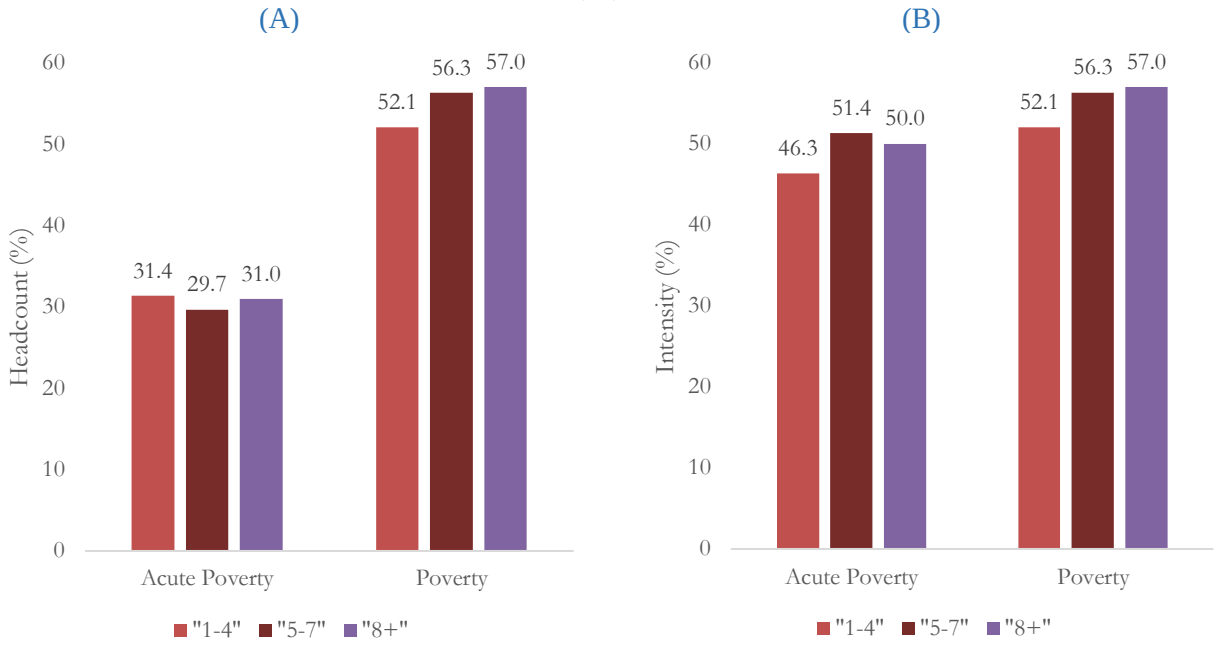
4.4 As shown in Figure 12, multidimensional poverty decreases dramatically as the education of the head of household increases, in particular for acute poverty. While 39.5% of people in a household whose head has no education are acutely poor, only 16.9% of people in a household whose head has secondary education are, and only 8.2% in a house where the head has higher than secondary education are. The trend is the same for poverty: 80.3% of people that live in a household where the head has not received education are considered as poor, while only 28.9% are considered poor if the head has received higher education. The same trend (poverty dropping as education increases) goes for the poverty intensity. While differences between households having none or primary education are small, the differences between households having primary or secondary or higher than secondary education are significant. This may imply that education starts making a significant difference to people's chances of escaping poverty mostly after secondary level.

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



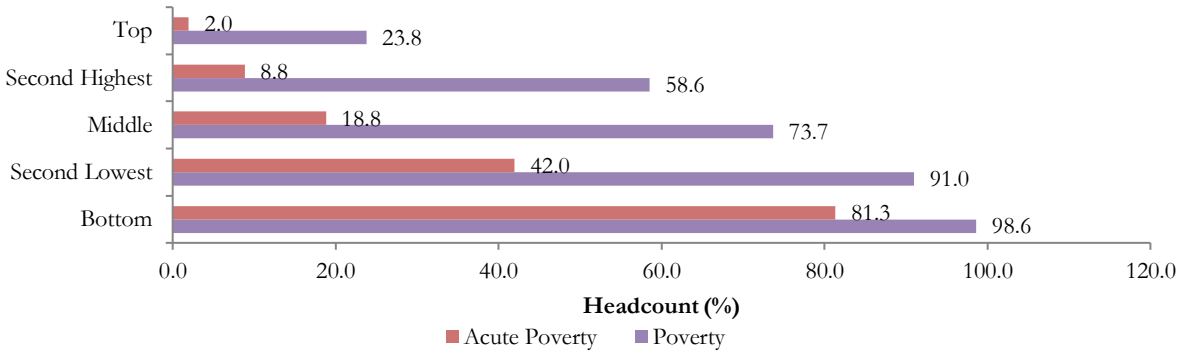
4.5 As shown in Figure 13, larger households (with more than 8 members) are more likely to be poor than smaller ones, but they are not more likely to be acutely poor. The poverty intensity is less affected by household size than the poverty headcount is.

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



4.6 The DHS 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. The numbers illustrate the depth of inequality in Yemen: while it is expected for multidimensional poverty to have a different incidence in the highest and lowest wealth quintiles of the population due to the overlap between the WI and some indicators of multidimensional poverty (in particular assets), the ratio between the top and bottom quintiles is staggering. Houses in the bottom quintile are over 4.1 times more likely to be poor, and almost 41 times more likely to be acutely poor than those in the top quintile. This result illustrates that, for poverty, inequality across the WI quintiles is lower than for acute poverty.

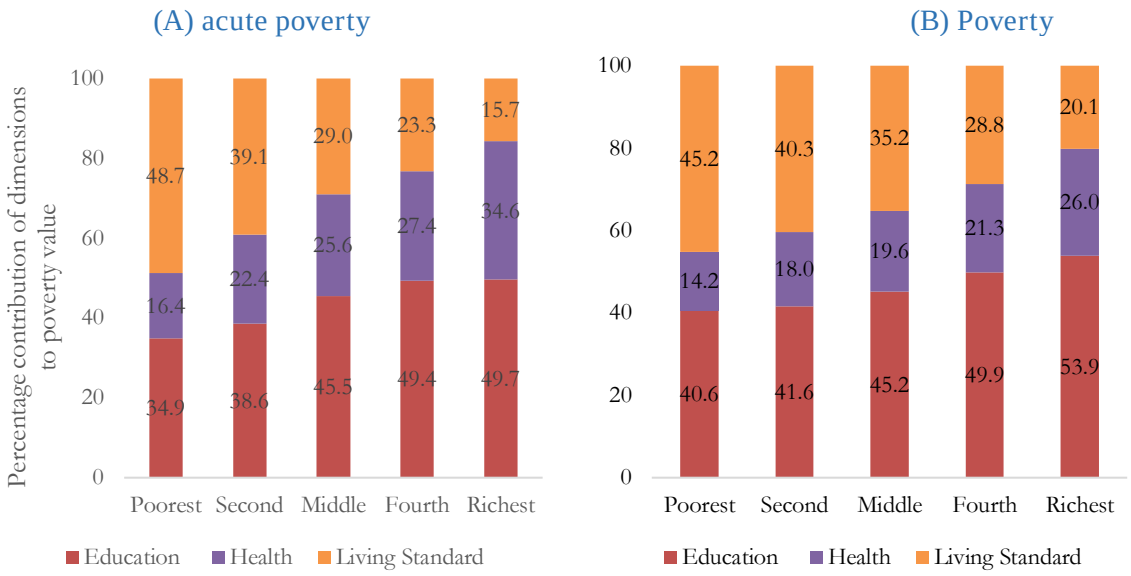
Figure 14: Headcount poverty (%) by wealth quintiles



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 overlaps with the living standards dimension (for example

through 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 more. In Yemen, the contribution of health to poverty increases with wealth. This is especially the case for acute poverty. The contribution of education to poverty also increases with wealth, but less significantly than that of health, especially at acute poverty.

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



V. POLICY CONSIDERATIONS

5.1 In Yemen, an extremely high share of the population suffers from acute poverty or poverty. 30.6% are acutely poor and 69.1% are poor. The poverty intensity is high, at 50.0% for acute poverty and 56.2% for poverty. These results, which do not reflect the impact of the current ongoing conflict and famine in the country, are therefore likely to highly underestimate poverty in the country and suggest that Yemen urgently needs wide-ranging policies to reduce poverty.

5.2 People in rural areas of Yemen are 5.4 times more likely to be acutely poor than people in urban areas. This difference is striking, implying that policy-reduction strategies should prioritise rural areas.

5.3 In Yemen, at acute poverty, 13.6 % are severely poor (suffer from a deprivation level higher than 50% of the total possible deprivation). At poverty, 43.3% are severely deprived. These numbers are high and indicate that policies would need to address a level of poverty that is not only widespread across the country, but which also encompasses many aspects of daily life. A large 25.3% of Yemenis are at risk of falling into acute poverty.

5.4 The high contribution of schooling and nutrition to multidimensional poverty suggests that any poverty reduction strategy in Yemen should focus on reducing child deprivation, in particular through better education and nutrition.

5.5 Geographic disparities are sharp in Yemen, with some governorates exhibiting strikingly higher levels of poverty than the country's average. While these geographic differences point to the need for a targeted approach to poverty reduction, it is important to keep in mind that poverty is widespread all over Yemen. In more than half of Yemeni governorates, poverty affects two thirds or more of the population. Therefore, while prioritising areas particularly affected by deprivation, poverty reduction strategies in Yemen need to be inclusive and wide-reaching.

5.6 Differences in the impact of poverty in rural and urban population in Yemen are striking, in particular in all education and living standard indicators. This calls for policies targeting rural development and inclusion. Increasing access to safe drinking water, improved sanitation and electricity in rural areas appears to be a priority.

5.7 Inequality in multidimensional poverty between the highest and lowest wealth quintiles in Yemen is sharp, suggesting an enormous gap in access to resources and capabilities between rich and poor households. While nearly all (98.6%) of the bottom quintile population is poor, less than a quarter of the top quintile is poor.

5.8 Given the wide reach and poverty intensity and inequality in Yemen, development strategies for the country should put poverty reduction at the forefront. In order to address these challenges, especially given the current context of conflict and famine, the country is likely to require substantial external help from the development community. Halting the conflict is a pre-requisite to address poverty in the country, starting from unblocking access to food aid to those in need.

Table 1: Acute Poverty: Standard Errors and Confidence Intervals

		Mean	Standard error	95% confidence interval	
Headcount	Total	30.6	0.1673	30.2563	30.9123
Intensity	Total	50.0	0.0818	49.8285	50.1491
MPI	Total	0.153	0.0009	0.1512	0.1546
Headcount	Urban	7.6	0.1809	7.2422	7.9511
Intensity	Urban	45.6	0.2790	45.0300	46.1237
MPI	Urban	0.035	0.0009	0.0329	0.0363
Headcount	Rural	40.8	0.2088	40.3414	41.1600
Intensity	Rural	50.4	0.0851	50.1858	50.5192
MPI	Rural	0.205	0.0011	0.2030	0.2074

Table 2: Poverty: Standard Errors and Confidence Intervals

		Mean	Standard error	95% confidence interval	
Headcount	Total	69.1	0.1718	68.7646	69.4381
Intensity	Total	56.3	0.0599	56.1395	56.3743
MPI	Total	0.389	0.0011	0.3867	0.3908
Headcount	Urban	39.3	0.3496	38.6548	40.0251
Intensity	Urban	49.2	0.1263	48.9700	49.4652
MPI	Urban	0.194	0.0018	0.1901	0.1971
Headcount	Rural	82.3	0.1599	81.9540	82.5810
Intensity	Rural	57.7	0.0644	57.6199	57.8723
MPI	Rural	0.475	0.0011	0.4730	0.4772

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	26.4	0.7166	24.9747	27.7838
	Male	30.8	0.1721	30.4888	31.1633
Education of the Head of Household	None	39.5	0.2675	39.0235	40.0719
	Primary	32.8	0.3171	32.1975	33.4404
	Preparatory	16.9	0.3529	16.1770	17.5604
	Secondary	8.2	0.2679	7.6790	8.7292
	Diploma/University	37.1	2.8041	31.6235	42.6153
	Non Standard	31.4	0.5045	30.3763	32.3541
Household Size	"1-3"	29.7	0.2909	29.1069	30.2471
	"4-7"	31.0	0.2231	30.5393	31.4138
	"8+"	81.3	0.3174	80.7051	81.9492
Wealth Quintile	Poorest	42.0	0.3952	41.2091	42.7583
	Second	18.8	0.3103	18.2062	19.4227

	Middle	8.8	0.2274	8.3917	9.2831
	Fourth	2.0	0.1065	1.7741	2.1914
	Richest	26.4	0.7166	24.9747	27.7838

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	65.3	0.7763	63.8106	66.8536
	Male	69.3	0.1761	68.9727	69.6630
Education of the Head of Household	None	80.3	0.2231	79.8803	80.7549
	Primary	77.8	0.2840	77.2022	78.3155
	Preparatory	50.7	0.4880	49.7314	51.6442
	Secondary	28.9	0.4678	27.9624	29.7963
	Diploma / University	82.3	2.0815	78.1735	86.3331
	Non Standard	52.1	0.1761	51.7324	52.4226
Household Size	"1-3"	56.3	0.1090	56.0990	56.5264
	"4-7"	57.0	0.0777	56.8616	57.1662
	"8+"	98.6	0.0929	98.4193	98.7834
Wealth Quintile	Poorest	91.0	0.2217	90.5294	91.3983
	Second	73.7	0.3420	73.0180	74.3585
	Middle	58.6	0.3984	57.7748	59.3365
	Fourth	23.8	0.3719	23.0814	24.5393
	Richest	65.3	0.7763	63.8106	66.8536

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

	Mean	Standard error	95% confidence interval	
Years of Education	18.5	0.1140	18.2423	18.6894
Child attendance	26.0	0.1290	25.7879	26.2936
Child Mortality	4.6	0.0613	4.4307	4.6709
Child Nutrition	53.2	0.1467	52.8737	53.4487
FGM/Early Pregnancy	2.0	0.0412	1.9278	2.0894
Electricity	20.7	0.1190	20.4320	20.8985
Sanitation	53.4	0.1466	53.1205	53.6952
Water	44.1	0.1459	43.7936	44.3656
Floor/Roof	30.9	0.1358	30.6580	31.1906
Cooking Fuel	35.8	0.1409	35.5602	36.1127
Overcrowding	42.9	0.1455	42.6269	43.1972
Assets	17.4	0.1115	17.2217	17.6589

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

	Mean	Standard error	95% confidence interval	
Years of Education	53.8	0.1466	53.4756	54.0501
Child attendance	58.9	0.1446	58.5980	59.1650
Child Mortality	4.6	0.0615	4.4626	4.7036
Child Nutrition	56.7	0.1456	56.4615	57.0324
FGM/Early Pregnancy	14.4	0.1032	14.1842	14.5886
Electricity	20.7	0.1192	20.5104	20.9777
Sanitation	53.4	0.1466	53.0922	53.6670
Water	60.0	0.1440	59.6694	60.2341
Floor/Roof	80.8	0.1157	80.5893	81.0431
Cooking Fuel	39.3	0.1436	39.0354	39.5982
Overcrowding	68.1	0.1370	67.8745	68.4113
Assets	49.4	0.1470	49.1573	49.7334

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

	Mean	Standard error	95% confidence interval	
Ibb	26.7	0.5344	25.6052	27.69996
Abyan	14.9	0.4982	13.9307	15.8835
Sanaa City	4.7	0.2906	4.0820	5.2210
Al-Jawf	21.4	0.5847	20.2360	22.5281
Taiz	25.2	0.5459	24.1691	26.3089
Al-Jawf	32.0	1.0329	30.0246	34.0736
Hajjah	65.7	0.6231	64.4395	66.8821
Al-Hodiedah	48.5	0.6848	47.2074	49.8918
Hadramout	15.8	0.4599	14.8539	16.6566
Dhamar	43.8	0.6499	42.5318	45.0796
Shabwah	18.4	0.4910	17.4652	19.3897
Sadah	37.0	0.7277	35.5582	38.4106
Sanaa	29.0	0.5636	27.9224	30.1318
Aden	6.0	0.3717	5.3168	6.7740
Lahj	25.9	0.6871	24.5529	27.2462
Mareb	23.2	0.6311	21.9746	24.4484
Al-Mhweit	44.1	0.6983	42.7574	45.4945
Al-Mhrah	14.9	0.8156	13.2625	16.4595
Amran	39.3	0.6481	37.9993	40.5400
Aldhalae	21.3	0.5677	20.2081	22.4335
Reimah	49.5	0.7279	48.0572	50.9104

Table 8: Poverty: Poverty Headcount (%) by State				
	Mean	Standard error	95% confidence interval	
Ibb	75.9	0.5228	74.8923	76.9418
Abyan	56.0	0.7835	54.5119	57.5832
Sanaa City	29.6	0.6057	28.3944	30.7687
Al-Jawf	70.7	1.0881	68.5639	72.8291
Taiz	62.5	0.6113	61.2611	63.6574
Al-Jawf	81.4	0.8258	79.7389	82.9760
Hajjah	89.9	0.4014	89.1476	90.7212
Al-Hodiedah	79.7	0.5618	78.6267	80.8291
Hadramout	56.2	0.6477	54.9640	57.5028
Dhamar	84.2	0.4988	83.2045	85.1598
Shabwah	69.5	0.6012	68.3700	70.7265
Sadah	84.9	0.5091	83.8798	85.8754
Sanaa	79.7	0.4993	78.6794	80.6367
Aden	27.0	0.6827	25.6382	28.3144
Lahj	62.2	0.7692	60.7279	63.7431
Mareb	71.5	0.6930	70.1184	72.8349
Al-Mhweit	82.5	0.5177	81.5093	83.5387
Al-Mhrah	54.9	1.0467	52.8259	56.9288
Amran	81.7	0.5059	80.7050	82.6882
Aldhalae	70.4	0.6072	69.2202	71.6005
Reimah	91.4	0.3928	90.6675	92.2071

Bibliography

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

Alkire, S., C. Jindra, , G. Robles, , 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

Ballon, P., and J.Y., Duclos, (2015). Multidimensional Poverty in Yemen and South Yemen. OPHI working paper no. 93. University of Oxford. http://www.ophi.org.uk/wp-content/uploads/OPHIWP093.pdf

Ministry of Public Health and Population (MOPHP), Central Statistical Organization (CSO) [Yemen], Pan Arab Program for Family Health (PAPFAM), and ICF International. 2015. Yemen National Health and Demographic Survey 2013. Rockville, Maryland, USA: MOPHP, CSO, PAPFAM, and ICF International.

OCHA (2017) The humanitarian situation in Yemen in facts and figures. 13 September 2017. Available at: https://www.unocha.org/sites/unocha/files/dms/FF_updated_13092017.pdf

OCHA (2013) Yemen Humanitarian Response Plan 2013. Available at: https://reliefweb.int/sites/reliefweb.int/files/resources/2013_Yemen_HRP.pdf

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

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

World Bank (2018) Yemen's Economic Outlook - October 2018.

World Bank (2017) Country Engagement Note for the Republic of Yemen for the Period FY17-FY19. Report No: 106118-YE.

World Bank (2015) The Republic of Yemen. Unlocking the Potential for Economic Growth. A country economic memorandum.
WFP (2017) WFP Yemen Country Brief. Available at: http://documents.wfp.org/stellent/groups/public/documents/ep/wfp285740.pdf?_ga=1.195774188.1785065870.1480060278

[1] 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 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] 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

[3] Arab Multidimensional Poverty Report was launched in September 2017 as a joint publication of the League of Arab States' Council for 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).

[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] 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.
[7] The definition of rural and urban areas follows the national definitions used in the DHS 2013 survey.
[8] The sample of the DHS was designed to provide statistically representative data for urban and rural areas and every governorate in Yemen (MOPHP, CSO, PAPFAM, and ICF International, 2015).
[9] 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.