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# The Sustainable Development Goals in an Arab Region Affected by Conflict

## Monitoring the Sustainable Development Goals with Household Survey Microdata

Economic and Social Commission for Western Asia

# **The Sustainable Development Goals in an Arab Region Affected by Conflict**

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Beirut

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# Executive Summary

The United Nations 2030 Agenda for Sustainable Development has generated great expectations for development progress. To ensure that countries in the Arab region can progress towards achieving the 17 Sustainable Development Goals (SDGs) and their targets, high-quality and disaggregated data are required. They must be reliable and easy to use for a large range of users, including decision makers at all levels. Current data collection efforts across the region fall short in terms of tracking progress towards the Agenda. Better data availability is crucial for designing public policy across the Arab region, especially in countries experiencing conflict and the neighbouring countries affected.

While the infrastructure is in place to collect microdata across the region, substantial efforts are required to produce timelier and higher quality data, including information on populations touched by crises and conflicts. Increased investment in data collection across the region is required. The present report provides guidance on how to leverage existing data, so that it can be used better by policymakers and academics. The regular collection of micro-level data across countries is possible because it is part of the existing statistical infrastructure of most countries in the region. The data are highly representative of national populations; are collected at regular intervals; and include measures of population

characteristics required for SDG indicator disaggregation (Jeffers, 2018).

To illustrate the usefulness of those surveys and their potential for SDG monitoring and policy prioritisation in crisis- and conflict-afflicted countries, the present report presents extensive analyses of goals and indicators at the subnational level disaggregated by gender and urban/rural area, which highlight priority areas for interventions. The countries included in the study were touched directly or indirectly by conflict in recent years and face the most pressing challenges for achieving the SDGs. Indicators are calculated using data from 2009 to 2014.

The authors of the present report advocate continual collection of quality survey data across the region, including conflict-affected countries, as a tracking tool for monitoring progress towards the 2030 Agenda. The report plays a key role in identifying data gaps, because currently available microdata have an abundance of indicators for certain goals while offering limited information for others. The present report illustrates, in a concrete and informative way, the importance of using microdata for measuring and monitoring progress towards achieving the goals and targets of the 2030 Agenda.



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# Abbreviations and Acronyms

ERC	Economic Research Forum
DHS	demographic and health survey
DTP3	diphtheria-tetanus-pertussis (DTP3)
ESCWA	Economic and Social Commission for Western Asia
GDP	gross domestic product
GED	UCDP Georeferenced Event Dataset
HHIES	harmonized household income and expenditure surveys
IAEG-SDGs	The Inter-Agency and Expert Group on Sustainable Development Goal Indicators
IBC	Iraq Body Count project
IDPs	internally displaced persons
IIASA	International Institute for Applied Systems Analysis
ISIL/ISIS	Islamic State of Iraq and the Levant/Islamic State of Iraq and Syria
LDC	least developed country
MAR	missing at random
MDGs	Millennium Development Goals
MICS	Multiple Cluster Indicator Survey
MENA	Middle East and North Africa
PRIO	Peace Research Institute Oslo
PTS	Political Terror Scale
SDGs	Sustainable Development Goals
UCDP	Uppsala Conflict Data Program
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund

<b>UNDP</b>	United Nations Development Programme
<b>UNHCR</b>	United Nations High Commissioner for Refugees
<b>UNRWA</b>	United Nations Relief Works Agency for Palestine Refugees in the Near East
<b>USAID</b>	United States Agency for International Development
<b>VIP</b>	ventilated improved pit
<b>WHO</b>	World Health Organization

# Introduction





# Introduction

The United Nations Sustainable Development Goals (SDGs) were developed to promote prosperity around the world, and to strengthen universal peace and freedom. That ambitious agenda for sustainable development comes at a time when the Arab region is at a crossroads. Conflict has been a major obstacle towards development, and that fact should take centre stage for the realisation of the 2030 Agenda for Sustainable Development. Conflict and political unrest have halted or reversed the development progress made during previous decades in the Arab region. The conflicts across the region have an impact on all aspects of development: increasing poverty, hunger and malnutrition; limiting access to education and other basic services; and increasing social discrimination and exclusion.

The 2030 Agenda stresses the importance of quality, accessible, timely and reliable disaggregated data to measure progress and to ensure that no one is left behind. It also states that data and information from existing reporting mechanisms should be used wherever possible. The purpose of the present report is to provide a situational analysis and to highlight key facts and messages that provide a fair synopsis of how things stand today, at the beginning of the 15-year agenda. In doing so, selected targets were estimated using different sources of microdata for countries across the region.

One of the flaws of the Millennium Development Goals (MDGs) was a deficiency in

identifying important inequalities between and within countries, which in turn failed to foresee the socioeconomic pressures associated with the Arab uprisings of 2011. The 2030 Agenda emphasises the need to improve the indicators and the quality of data and statistics required to understand the challenges for development.

A dilemma exists concerning the fact that data availability is usually weakest for the world's poorest countries, which need such data most in the context of monitoring sustainable development (UNCTAD, 2016a). That leads to a second point. The cost of implementing the 2030 Agenda will be significant. To provide policymakers around the region with the information they need to inform their decisions, a lot of investment is required in data collection and processing. That investment in data infrastructure would require additional resources but would yield returns comprising a broader knowledge base and, ultimately, more efficient policymaking.

Therefore, reliable figures to evaluate how conflict has affected prosperity goals should be a priority for countries in the region. The present report will serve as a road map for monitoring progress towards peace and development in the Arab region. The micro-level indicators will ensure the accountability of countries for achieving the SDGs. The report is divided into six chapters, mapped to 12 of the 17 SDGs, presenting figures based on microdata



that could serve as the most relevant indicators to measure progress towards the 2030 Agenda. The point of departure for the indicators is the Report of the Inter-Agency and Expert Group on Sustainable Development Indicators, presented at the 47<sup>th</sup> session of the Statistical Commission (E/CN.3/2016/2/Rev.1). All indicators are disaggregated by relevant descriptors. They include, but are not limited to, gender, children/young/adults, urban/rural, and estimates at subnational levels or according to other geographical divisions.

### Monitoring the Sustainable Development Goals (SDGs) with household survey microdata

The 2030 Agenda proposed 17 goals and 169 targets that aim to improve and complete the Millennium Development Goals (MDGs). While the MDGs are narrow in focus, the SDGs tackle a range of issues, from gender inequality to climate change. The unifying thread throughout the goals and targets is the commitment to ending poverty. The preamble of the Agenda document says: “Eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development.” (A/RES/70/1). While the SDGs propose a more ambitious agenda for sustainable development, they imply a greater need for disaggregated indicators that measure progress among different demographic and social groups at various levels of subnational geography. The present report aims to produce updated indicators at the subnational level disaggregated by gender and urban/rural area for countries directly and indirectly touched by conflict across the Arab region.

Collecting better and more timely data for all countries in the region will almost certainly be necessary to monitor progress towards sustainable development. The regular collection of micro-level data across countries in the region would be eased by the fact that such data collection is part of the existing statistical infrastructure of most countries in the region already. Those data are highly representative of national populations; are collected at regular intervals; and include measures of the population characteristics required for SDG indicator disaggregation (Jeffers, 2018).

In the present study, we use Multiple Cluster Indicator Survey (MICS), Demographic and Health Survey (DHS), Pan Arab Project for Family Health (PAPFAM), and national labour force survey data to measure some of the SDG goals and targets as defined by the United Nations, for nine countries in the Arab region. The countries included in the study have been touched directly or indirectly by conflict in recent years and have the most pressing challenges for achieving the sustainable development agenda. Our analysis shows that disaggregation of national trends highlights disparities at the subnational level, a situation that countries need to address to promote sustainable and inclusive growth. MICS and DHS data provide internationally comparable, statistically rigorous data about children and women. The data include variables representing a broad range of population characteristics, including fertility, nuptiality, life-course transitions, migration, disability, education, and household composition. Those surveys are conducted at regular intervals, commonly every five years or so, and are usually available with reference to multiple years for most countries in the Arab region.

**Table 1.** Tracking SDG progress with demographic surveys

Country	Survey name	Start of survey	End of survey	Number of households	Number of individuals	Agencies involved
Egypt	Demographic & Health Survey (DHS)	Apr-14	Jun-14	28,175	120,276	Ministry of Health and Population, El-Zanaty and Associates, The DHS Program, ICF International
Iraq	Multiple Indicator Cluster Survey (MICS)	Feb-11	May-11	36,592	238,327	UNICEF, Central Organisation for Statistics & Information Technology, Kurdistan Regional Statistics Office, Ministry of Health
Jordan	Demographic & Health Survey (DHS)	Jan-12	Dec-12	15,190	80,822	Department of Statistics, ICF International
State of Palestine	Multiple Indicator Cluster Survey (MICS)	Feb-14	Apr-14	11,125	56,197	UNICEF, Palestinian Central Bureau of Statistics
Sudan	Multiple Indicator Cluster Survey (MICS)	Aug-14	Nov-14	9,671	97,049	UNICEF, Central Bureau of Statistics
Tunisia	Multiple Indicator Cluster Survey (MICS)	Dec-11	Apr-12	9,600	38,861	UNICEF, Ministère du Développement et de la Coopération internationale, Institut National de la Statistique
Yemen	Demographic & Health Survey (DHS)	Jan-13	Dec-13	17,351	120,923	Central Statistical Organisation, Ministry of Public Health & Population
Syrian Arab Republic	Pan Arab Project for Family Health (PAPFAM)	Nov-09	Apr-10	27,385	127,733	League of Arab States, AGFUND, UNFPA, OPEC Fund for International Development, WHO, IOMS, UNICEF, IPPF, ESCWA and UN Women
Libya	Pan Arab Project for Family Health (PAPFAM)	Jan-14	Mar-14	21,297	101,872	League of Arab States, AGFUND, UNFPA, OPEC Fund for International Development, WHO, IOMS, UNICEF, IPPF, ESCWA and UN Women

**Source:** ICF. 2011-2014. Demographic and Health Surveys (DHS) [Datasets]. Funded by USAID. Rockville, Maryland: ICF. United Nations Children's Fund (UNICEF). 2011-2014. Multiple Indicator Cluster Surveys (MICS) [Datasets], supported by national statistical offices. League of Arab States. 2009-2014. Dataset Records for Pan Arab Project for Family Health (PAPFAM) [Datasets], supported by UNFPA, WHO and UNICEF.

**Table 2.** Tracking SDG progress with labour force surveys

Country	Survey	Year	Number of households	Number of individuals	Producers and funders
Egypt	Labour Force Survey (LFS)	2014	85,668	353,340	Central Agency for Public Mobilisation and Statistics (CAPMAS), Economic Research Forum (ERF)
Iraq	Iraq Household Socioeconomic Survey (I-HSES)	2012-2013	25,488	176,042	Central Statistical Organisation (CSO), Kurdistan Regional Statistics Office (KRSO), Economic Research Forum (ERF), World Bank (WB)
Jordan	Employment and Unemployment Survey	2014	48,436	216,608	Department of Statistics, the Hashemite Kingdom of Jordan, Economic Research Forum (ERF)
State of Palestine	Labour Force Survey (LFS)	2014	25,735	100,745	Palestinian Central Bureau of Statistics (PCBS), Palestinian National Authority, Economic Research Forum (ERF)
Tunisia	National Survey on Population and Employment	2013	120,339	472,233	National Institute of Statistics, Economic Research Forum (ERF)
Yemen	Labour Force Survey (LFS)	2013-2014	12,663	85,850	Central Statistical Organization (CSO), ILO Regional Office for Arab States and Social Fund for Development (SFD), Ministry of Social Affairs and Labour and Ministry of Planning and International Cooperation.

Source: Data for all surveys were provided by the Economic Research Forum, 2016.

Access to the data is public, and is widely available for policymakers, researchers and students worldwide, free of charge, through an online dissemination system. The principal advantage of MICS and DHS surveys is the reconciliation of methodologies across countries. The Pan Arab Project for Family Health (PAPFAM) embraces several cross-country national studies in the Arab Region, using, consistent survey methodologies and interview schedule templates, and are conducted with the support of UNFPA, WHO and UNICEF. We present measures calculated using data from 2009 to 2014 to illustrate the usefulness of the surveys for tracking development across countries in the region and

establishing baseline measures for monitoring SDG progress at a subnational level, for nine countries in the region.

The authors of the present report advocate the continual collection of quality survey data across the region as a tracking tool for monitoring progress towards the 2030 Agenda, especially for conflict-affected countries. We add to our analysis with labour force survey data from the region provided by the Economic Research Forum (ERF) as Harmonized Household Income and Expenditure Surveys (HHIES). Those surveys are available for seven out of the nine countries analysed in the current report, from 2012 to 2014.

The enormous data demands arising from the SDGs cannot be met using national aggregate data alone. A large variety of data sources must be used to compile a successful tracking instrument for sustainable development in countries afflicted by conflict in the Arab region. Timely and representative microdata are of the foremost importance in understanding the challenges of the 2030 Agenda. While most countries collect such data periodically, greater efforts are needed to continue collecting good-quality data that show how different populations are affected by conflict. Those data provide benchmarks to measure subsequent progress at different levels of disaggregation that allow for exploration of the links and interconnectedness across goals and targets.

The present report tries to be as comprehensive as possible, but the indicators produced from microdata for the countries do not represent the entirety of indicators. The present report plays a key role in identifying data gaps, because currently available microdata have an abundance of indicators for certain goals while offering only limited information for others. Finally, the present report demonstrates the importance of using microdata for measuring and monitoring progress towards the 2030 Agenda.

The selection of goals and indicators discussed in the present report reflects the availability of microdata for the selected group of countries in the region. In the report, we present indicators that can be produced using existing surveys, tracking 12 of the 17 SDGs. The report presents suggested use of microdata from those surveys to produce

baselines to track progress towards the Agenda. Given the richness of the data, the present report is not exhaustive but, rather, highlights important challenges and interconnectedness across goals and indicators for crisis-affected countries in the region. The report discusses 47 indicators that touch on 12 of the 17 SDGs. Those indicators are further disaggregated subnationally by gender and area.

The report is organized into six chapters. Chapter 1 shows how we measure conflict in different countries across the region, focusing on indicators suggested by SDG 16. Chapter 2 sets the scene at the start of the 2030 Agenda in relation to eradicating poverty and promoting prosperity in the conflict context, mapping SDG 1. Chapter 3 touches on some of the aspects of SDG 2 and SDG 3, to end hunger, improve nutrition, and promote better health in conflict-affected countries. Chapter 4 shows how to use microdata to measure inclusive and quality education for selected countries, touching on SDG 4. Chapter 5 applies indicators related to living standards and household characteristics, corresponding with SDG 6, SDG 7 and SDG 11. Chapter 6 discusses labour markets for the selected countries in the region, touching on SDG 8. Throughout the report, conflict, gender and inequality are treated as issues interconnected to all other goals (SDG 5, SDG 10 and SDG 16). The full list of goals, targets and surveys presented in the present report is given below. The baseline indicators provide an important context for implementing the Agenda in countries across the Arab region, particularly those facing challenges associated with political unrest and conflict.





Countries	Egypt		Iraq		Jordan		Libya		State of Palestine		Syrian Arab Republic		Sudan		Tunisia		Yemen	
	National	Governorate	National	Governorate	National	Governorate	National	Governorate	National	Governorate	National	Governorate	National	Governorate	National	Governorate	National	Governorate
<b>SDG Indicators</b> ● Available ● Incomplete ● Not available																		
<i>Goal 11: Sustainable cities and communities</i>																		
Proportions of urban population	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Population living in inadequate housing	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Access to internet	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Mobile phone	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>CHAPTER 6: PROSPERITY AND LABOUR</b>																		
<i>Goal 8: Decent work and clean energy</i>																		
Child labour	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

The report is accompanied by two online appendices. The first one is a compilation of indicators in the table above at the national and subnational levels, further disaggregated by

gender and area of residence. The second online appendix presents a series of statistical codes that could help replicate the estimates for each indicator in each of the nine countries studied.

# 1. Measuring SDG Progress in Countries Experiencing Conflict (SDG 16)

**16** PEACE, JUSTICE  
AND STRONG  
INSTITUTIONS







# 1. Measuring SDG Progress in Countries Experiencing Conflict (SDG 16)

## A. Measuring violence

Violence is a negative shock that affects all aspects of development. In addition to killing and injuring people directly, it can, depending on its type and intensity, severely damage social and productive infrastructure; affect the implementation of programmes and policy interventions; divert resources into the security sector; disrupt livelihoods; force people to flee their homes; and create conditions that affect public health, among many other detrimental consequences. Beyond its short-term impact, violence also harms human development and skill accumulation, with detrimental long-term consequences that are difficult to reverse (ESCWA, 2018).

Because of its pervasive impact, violence should be monitored, along with its effects on sustainable development. Ideally, household surveys and other statistical instruments should be adapted to identify the victims of violence and the aspects of their lives most affected. Surveys should provide consistent and reliable information to understand “how violence has affected different people, communities and population groups, the nature and intensity of the effects, the channels through which violence may affect welfare and behaviour, and how violence transforms society socially and politically” (Brück and others, 2013).

Unfortunately, that is frequently not the case; surveys often miss that opportunity, even when they are undertaken during or immediately after a period of conflict or other forms of violence.<sup>1</sup> Because of the data gap that results, most indicators of violence are based on standard measures at the macro level.

The monitoring of violence is complicated and diverse by its very nature. It often encompasses social tensions and lack of safety at neighbourhood level, all the way to armed internal conflict and wars between States. There is no single measure that covers all the dimensions of violence and absence of peace. The indicators proposed by the Inter-Agency and Expert Group on Sustainable Development Goal Indicators (IAEG-SDGs) associated with SDG 16 partially refer to the multidimensionality of violence by including variables related to crime, intensity of armed conflict, and perception of security. However, those variables do not cover the entire spectrum of violence. We advocate additional sources of information that could complement the original indicators and provide a more comprehensive and accurate overview of violence in the region.

Violence, when it originates from armed conflict, is inevitably linked to the political and security situation of countries. Data providers must make decisions about the definition of

conflict, the actors involved, and the measurement of intensity. Although those factors could be controversial and give rise to diverging opinions, the goal of the exercise is neither to discuss the roots and dynamics of conflicts nor their typology but, rather, to study the effect of violence on human development. Only well known, international databases of conflict are used. Their inclusion in the present report does not imply any endorsement by the United Nations. The visualisations indicate the sources and definitions of all indicators.

## B. Peace and violence in the Arab region: baseline indicators

The present section illustrates the situation in the Arab region according to several data sources that measure different dimensions of violence. It covers different assessments of armed conflict, political violence, terrorism, and violent crime. To have an overview of recent events, while minimising short-term fluctuations, all data presented are for the most recent five-year period (2012 to 2016), unless otherwise indicated.

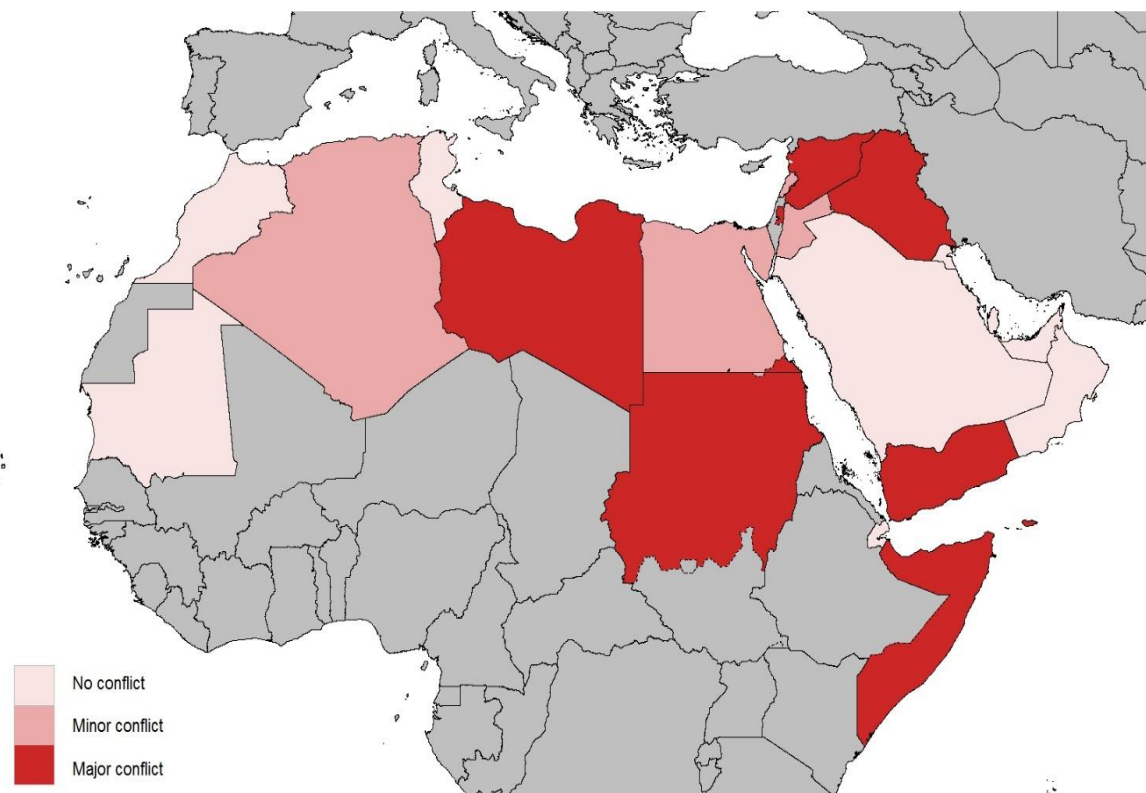
### Armed conflict

One of the most widely used definitions of armed conflict comes from the Uppsala Conflict Data Programme (UCDP) and the International Peace Research Institute Oslo (PRIO). According to that definition, armed conflict is a “a contested incompatibility that concerns government and/or territory where the use of

armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in a calendar year.” (UCDP and PRIO, 2017) Armed conflicts are subdivided by intensity: those that result in at least 25 but fewer than 1,000 battle-related deaths per calendar year are considered minor conflicts; those conflicts with 1,000 or more battle-related deaths per year are considered major conflicts. The unit of observation, according to that definition, is the actual armed confrontation between two parties (plus other secondary actors, if relevant) at a given location, during a certain period.<sup>2</sup> A country is considered to be affected by conflict if at least one incidence of conflict occurred inside its territory during a given period. That process is applied in a consistent and transparent manner for countries worldwide.<sup>3</sup>

Applying the UCDP/PRIO definition of armed conflict to the Arab region creates the map in figure 1, which shows the countries of the region according to the incidence of minor and major conflict during the period 2012 to 2016. Of the 22 Arab states, seven suffered at least one episode of major conflict during that period, while four additional countries experienced conflicts of minor intensity. In other words, half the countries of the Arab region have been affected by conflict recently, according to the UCDP/PRIO definition. It must be noted that, in some cases, for example Jordan and Lebanon, the conflicts are a direct consequence of neighbouring violence or terrorism. That demonstrates how armed conflict can extend beyond national borders and affect entire regions.

**Figure 1.** Arab countries affected by armed conflict, 2012 to 2016 (UCDP Georeferenced Event Dataset (GED) Global version 18.1 (2017))



**Source:** ESCWA calculations based on data from UCDP georeferenced event Dataset (GED), Global version 18.1 (2017). Available at <http://ucdp.uu.se/downloads> (accessed on 10 June 2018).

**Notes:** The map shows the Arab countries according to the location (and not origin of the actors) of armed conflict during the years 2012 to 2016. The source defines conflict as a contested incompatibility that concerns government and/or territory where the use of armed force between two parties results in a certain number of battle-related deaths during a calendar year. Minor conflict: at least one conflict with 25 to 999 battle-related deaths per year between 2012 and 2016. Major conflict: at least one conflict of 1,000 or more battle-related deaths per year between 2012 and 2016. The boundaries and names shown, and the designations used on the map, do not imply official endorsement or acceptance by the United Nations.

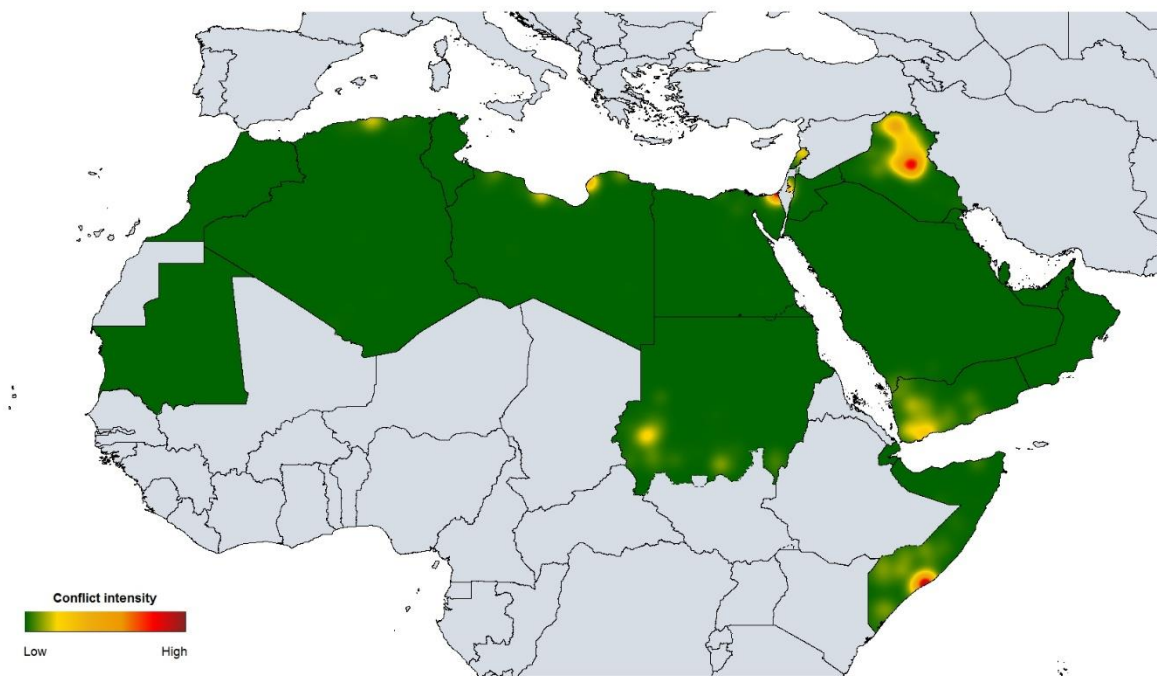
The cases of Jordan and Lebanon cited above highlight one of the disadvantages of the UCDP-PRIO Armed Conflict Dataset, which provides information only at country level. Also, violence might be concentrated in small areas while the rest of the national territory remains unaffected. To bridge that gap, the UCDP compiles another dataset: The Georeferenced Event Dataset. In

that dataset, an event is defined as “an incident where armed force is used by an organised actor against another organised actor, or against civilians, resulting in at least one direct death at a specific location and a specific date” (Croicu and Ralph, 2017). There are three main differences from the previous database: First, the definition of conflict is broader. It considers

all incompatibilities, irrespective of whether or not a government is involved, and the threshold is lowered to one battle-related death.<sup>4</sup> Second, the unit of observation is the conflict *event*, although both datasets are compatible. Third, the information is fully geocoded at maximum spatial resolution, not only at the country level. One important disadvantage of that source for the Arab region, however, is that it currently excludes the Syrian Arab Republic because of consistency and clarity issues.<sup>5</sup> Future data releases might close that gap.

The heatmap in figure 2 shows the distribution of violent events in the Arab region for the period 2012 to 2016. Compared to the previous map, it provides more detailed information on the location of violence and does not classify an entire country as affected by conflict when violence is contained to a limited part of its territory. Other than the Syrian Arab Republic, which is not included in the data source, armed-conflict events in the region are concentrated in Iraq, Somalia, Gaza, Yemen and Libya, with relatively smaller pockets of violence in the Sudan, Algeria and Lebanon.

**Figure 2.** Heatmap of conflict events in the Arab region, 2012-2016 (UCDP Georeferenced Event Dataset (GED) Global version 18.1 (2017))



**Source:** ESCWA calculations based on data from UCDP Georeferenced Event Dataset (GED) Global version 18.1 (2017). Available at <http://ucdp.uu.se/downloads> (accessed on 15 June 2018).

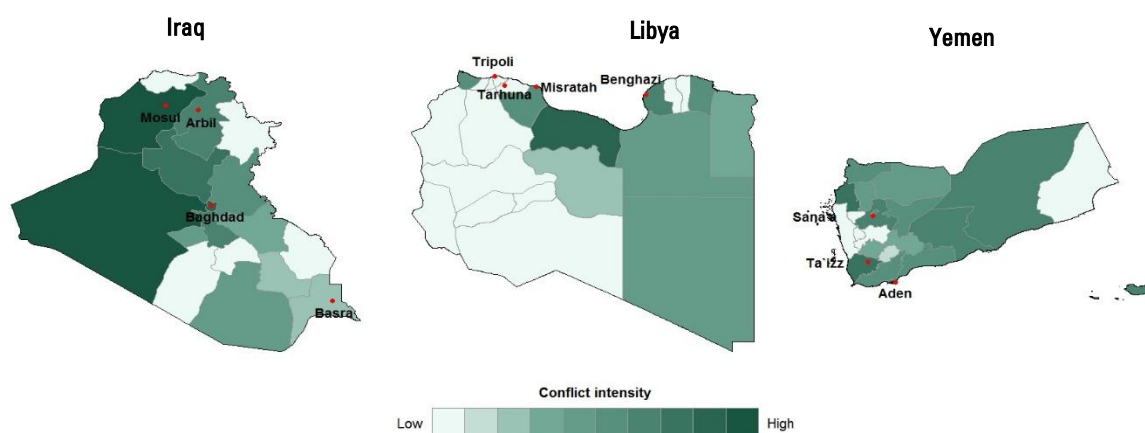
**Notes:** The heatmap shows the conflict events in the Arab region during the years 2012 to 2016, weighted by conflict intensity as measured by the combination of the number of events and battle-related deaths. It is calculated through a two-dimensional Gaussian kernel smoothing of the event location pattern with sigma equal to 0.5. The source defines a conflict event as "an incident where armed force is used by an organised actor against another organised actor, or against civilians, resulting in at least one direct death at a specific location and a specific date". The Syrian Arab Republic is not included in the dataset. The boundaries and names shown, and the designations used on the map, do not imply official endorsement or acceptance by the United Nations.

That database provides the precise geographical coordinates of violent events. Therefore, it can be used to estimate the intensity of conflict at the subnational level, to the desired spatial resolution. For example, the three panels of figure 3 show the intensity of violence by governorate in Libya, Iraq and Yemen for 2016. We can easily appreciate the geographical variability of violence inside each country, and how most of the violence is concentrated in some governorates. That type of data can be correlated with other variables, including sustainable development outcomes, and used to identify the effects of armed conflict.

There are many other sources of quantitative information related to armed conflict. For each source, it is important to verify the exact definition used, plus the type and extent of topic coverage. Because one of the present report's objectives is to identify potential monitoring tools

for SDGs, it is also important to choose sources likely to be continuously available and frequently updated.<sup>6</sup> It would also be relevant to verify national-level sources that could complement and fill the gaps existing in global or regional data sources. To mention but one example, the Iraq Body Count (IBC) Project has recorded, in a systematic and consistent manner, the number of civilian deaths in Iraq. It puts emphasis on each deadly incident and the individuals killed by registering as much information as possible about the victims and the circumstances of their deaths.<sup>7</sup> The map in figure 4 graphs the estimates of civilian battle-related deaths, a measure of conflict intensity, for 2016. The results are very similar to those of UCDP GED (as shown in figure 3), clearly reflecting the shift in violence to the governorates of Ninawa, Al-Anbar and the capital, while the Kurdistan region and the south-west of the country remained relatively spared.

**Figure 3. Geographical distribution of conflict intensity by governorate in Iraq, Libya and Yemen, 2016 (UCDP Georeferenced Event Dataset)**



**Source:** ESCWA calculations based on data from UCDP Georeferenced Event Dataset (GED) Global version 18.1 (2017). Available at <http://ucdp.uu.se/downloads> (accessed on 15 June 2018).

**Notes:** The maps show the conflict intensity during 2016 in three Arab countries affected by armed conflict, as measured by estimated battle-related deaths. The three maps follow a common logarithmic scale. The source defines a conflict event as "an incident where armed force is used by an organised actor against another organised actor, or against civilians, resulting in at least one direct death at a specific location and a specific date". The boundaries and names shown, and the designations used on the maps, do not imply official endorsement or acceptance by the United Nations.

**Figure 4.** Geographical distribution of conflict intensity by governorate in Iraq, 2016 (IBC)



**Source:** ESCWA calculations based on data from Iraq Body Count (IBC) Project.

**Notes:** The maps show the conflict intensity during 2016 in Iraq, as measured by estimated civilian battle-related deaths. The map uses a logarithmic scale. The source systematically and consistently records deadly incidents involving civilians (i.e., strictly non-combatants) and the individuals killed. The boundaries and names shown, and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

## C. Conclusions

The present chapter provides a snapshot of the situation in the Arab region with respect to violence. As implied by the choice of indicators proposed by the IAEG-SDGs, the topic requires a diversity of indicators to describe its multiple dimensions. We identified several potential indicators to assess armed conflict, political violence, violent social movements and terrorism. Those variables as a group provide a comprehensive appraisal of the state of peace and security. Many of the indicators are fully geocoded, which means that they can be aggregated at the desired geographical resolution. Table 3 summarises all the indicators for the countries of the Arab region. It becomes clear that violence, across one dimension or several dimensions, is an important development challenge that could delay progress or even reverse advances already achieved. It is necessary to study how violence correlates with

some of the outcomes of human development included in the 2030 Agenda. The present report suggests that combining geocoded indicators with household survey microdata provides a better understanding of the challenges posed by violence across the region in terms of meeting the goals of the 2030 Agenda.

One important aspect to highlight is that, due to overlapping definitions, measurement challenges, and the multidimensionality of the subject itself, the different indicators are not orthogonal. That means that some of the events reported by one source—for example, regarding terrorism—could also be reported by another source on armed conflict or political violence. In practical terms, that means that indicators should not be used in isolation to monitor specific types of violence but, rather, as a collection of variables providing correlated pieces of information that, together, monitor the situation of violence and absence of peace.

## 2. Measuring Poverty and Inequality in Crisis-afflicted Countries (SDG 1 and SDG 10)







## 2. Measuring Poverty and Inequality in Crisis-afflicted Countries (SDG 1 and SDG 10)

Conflict has been a major obstacle towards development. The attainment of durable peace should take centre stage for the realisation of the 2030 Agenda and its main goals, the SDGs. Conflict affects all aspects of development. It increases poverty and all its manifestations. Armed conflict is a particularly intense type of shock, causing many types of disruption and destruction that unambiguously affect individuals in all aspects of life (ESCWA, 2018). Recent conflicts in the region have been particularly destructive, displacing millions of people, disrupting livelihoods, and destroying infrastructure. Those conflicts have led to famine and disease. They have halted the provision of public services; in turn, adversely affecting health outcomes, educational trajectories, and labour market opportunities for individuals of all ages across the region.

Those conflicts have had profound impacts on poverty, inequality and access to services for individuals across the region. While the definition of poverty often refers to lack of income, people themselves consider their experience of poverty more broadly. A person who is poor can suffer from multiple disadvantages at the same time. For example, they might have poor health or malnutrition, a lack of clean water or electricity, poor quality of work or little schooling. In the

Arab region, conflicts inevitably have reduced incomes and standards of living across countries in substantial ways.

### A. Multidimensional poverty

The present chapter concentrates on indicators for multidimensional poverty, which follow the data available in MICS and DHS surveys. Aside from providing a headline measure of poverty, multidimensional measures can be broken down to reveal the poverty level in different areas of a country, and among different population subgroups. While acute multidimensional poverty is prevalent only in the Least Developed Countries (LDC) in the region, important multidimensional poverty pockets remain across and within Arab countries. Conflicts across the region have increased the prospect of poverty for large population segments within countries.

Countries in the region do not exhibit high levels of multidimensional poverty except for the LDCs of the Sudan and Yemen, where multidimensional poverty accounts for about 50 per cent of the population. In such countries as Jordan, which hosts a large number of refugees from the Syrian Arab Republic, the prevalence of poverty among those populations is likely to

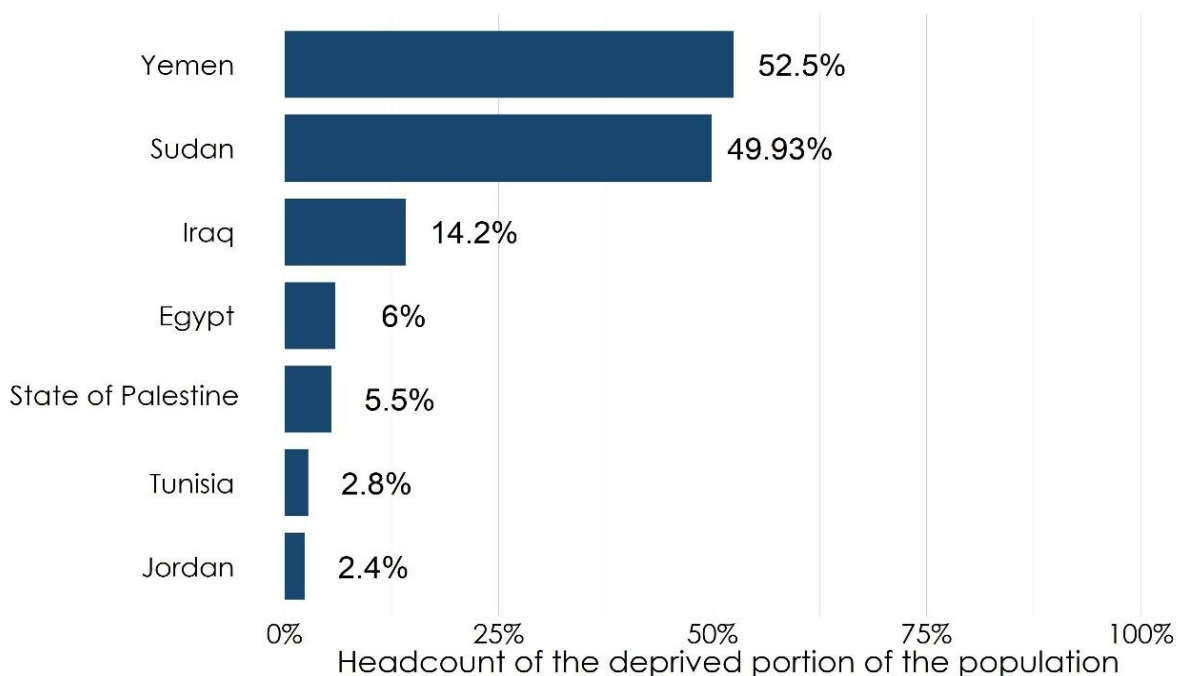
have surged, while Tunisia and Egypt, which are facing a severe economic downturn, are also expected to experience higher poverty headcounts and vulnerability to poverty.

Availability of surveys collecting information on education, health and standards of living across the region has enabled calculations of multidimensional poverty for most countries in the Arab region in recent years. SDG 1 aims to reduce the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions. Those definitions include money-metric measures as well as multidimensional poverty. The nature of the surveys consulted for the present report enables estimation of the latter. It is important to emphasise that there is no

contradiction between money-metric and multidimensional poverty measures. One is not an alternative measure to the other. A lack of monetary resources can result in non-monetary deprivation, but that is not always the case. Conversely, households considered non-poor in money-metric terms could face non-material deprivations. The two approaches are, therefore, complementary and can be used simultaneously (ESCWA and others, 2017).

For several countries across the region, there is a large availability of DHS and MICS survey data, which include all 12 indicators required to calculate the multidimensional poverty index. For the countries where data from MICS and DHS are unavailable, the Arab Family Health Project (PAPFAM) can be used.

**Figure 5. Multidimensional poverty headcounts**

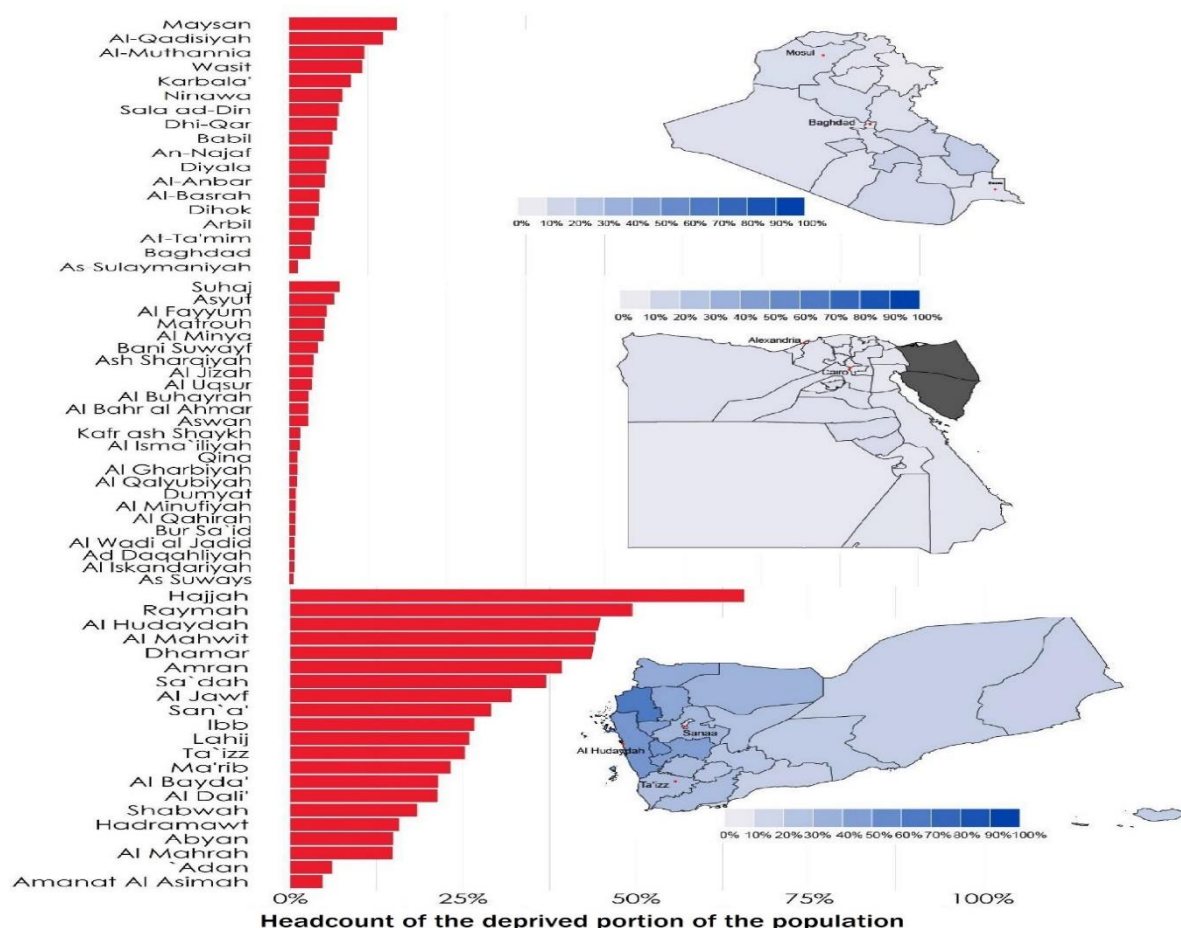


**Source:** ESCWA calculations based on household survey microdata. Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

At the regional level, acute household poverty is relatively modest, but that assessment hides more than it reveals (ESCWA and others, 2017). The population-weighted acute poverty Multidimensional Poverty Index (MPI) is 6.6 per cent. The headcount of poverty, which includes acute poverty, is much higher. The regional-weighted poverty MPI is 20.6 per cent. Those percentages are substantially smaller than percentages produced by money-metric measures. For the nine countries we

considered, we estimated poverty for three clusters based on multidimensional poverty rates. Cluster 1 includes countries with low levels of both acute poverty and poverty— Jordan, Tunisia and Egypt. Cluster 2 includes Iraq, which has low levels of acute poverty but medium levels of poverty. Cluster 3 comprises the remaining LDCs—the Sudan and Yemen—which have medium-to-high levels of acute poverty, as well as poverty (ESCWA and others, 2017).

**Figure 6. Multidimensional poverty in Egypt (Cluster 1), Iraq (Cluster 2), and Yemen (Cluster 3)**



## 1. Advancing SDGs in the LDCs of the Arab region

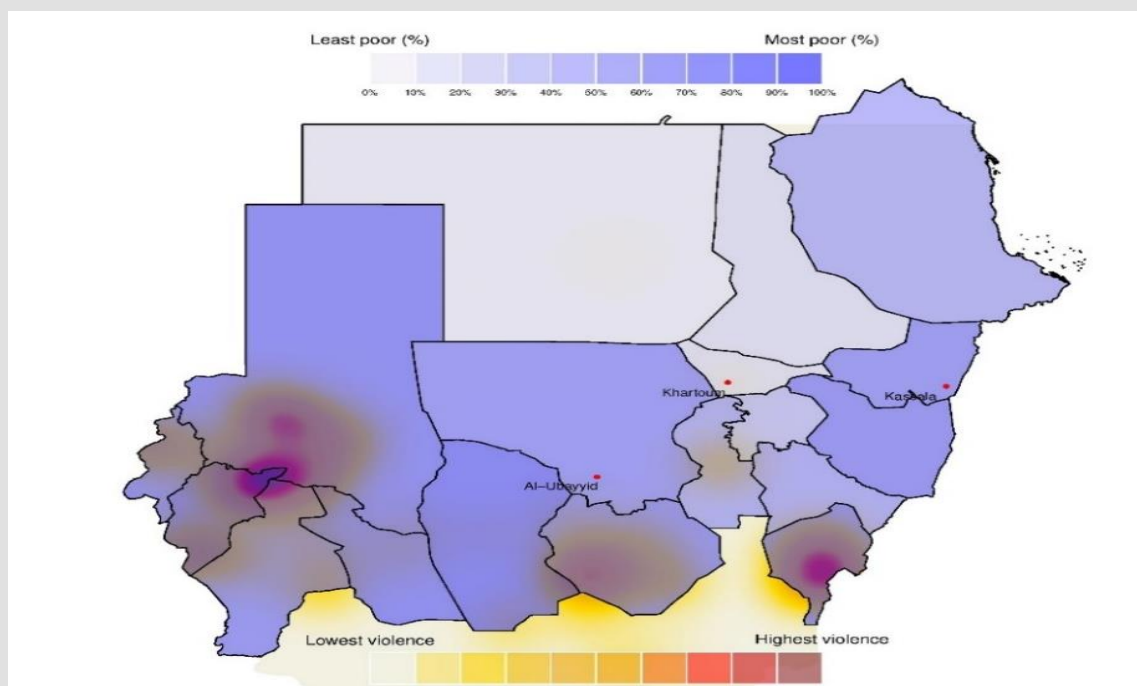
Poverty is more acute in the LDCs of the region, such as the Sudan and Yemen. However, there are also pockets of poverty in non-LDC countries across the region (ESCWA and others, 2017). The adoption of the 2030 Agenda placed the promise of leaving no-one behind at the centre

of the world's efforts to address poverty, reduce inequality, and build a prosperous future. Fulfilling that driving principle requires addressing the structural obstacles that hamper advancement of SDGs in the region. The Sudan and Yemen are clear examples of how conflict can exacerbate subnational disparities in terms of poverty distribution as well as conflict-caused reversal of developmental achievements.

### Box 1. Sudan: striking subnational disparities and the overlap of poverty and conflict

The Sudan still faces many conflict-related challenges, including issues of national unity, reintegration and reconciliation. Severe regional disparities in multidimensional poverty persist, as well as in access to basic services and opportunities. Multidimensional poverty in the Sudan is characterised by a large urban-rural gap. According to the MPI 2017, 70 per cent of poverty is concentrated in rural areas, with urban areas accounting for the remaining 30 per cent. There is also a substantial overlap between areas suffering from acute multidimensional poverty rates and those experiencing ongoing conflict, as shown in figure below Central Darfur, a territory suffering from recurring conflicts, is the poorest governorate in the Arab region.

#### Sudan: Incidence of poverty and conflict



Source: Authors of the present report, based on MPI 2017 for poverty, and the Global Terrorism database for conflict intensity.

## 2. Poverty vulnerability and severity

Poverty vulnerability is the propensity to fall into poverty because of a significant welfare shock. A welfare shock commonly refers to a change in consumption per capita or living standards. Poverty vulnerability is predominantly relevant, given the large number of conflicts across the region. Such severe welfare shocks are affecting living standards and all other aspects of human development.

An important feature of multidimensional poverty across countries in the Arab region is that vulnerability to multidimensional poverty is understandably high, principally in the LDC countries of the Sudan and Yemen. A recent report on multidimensional poverty in the Arab region reveals that more than 25 per cent of the regional population is vulnerable to multidimensional poverty, and another 40 per cent are considered multidimensionally poor, implying that more than two-thirds of the Arab population are either poor or vulnerable to poverty (ESCWA and others, 2017). Furthermore, the report suggests that the proportion of people vulnerable to poverty substantially exceeds the proportion that is currently poor. Vulnerability to poverty is due either to low expected consumption or high variability in consumption. Risks associated with poverty, therefore, are higher for a larger proportion of the population. That, in turn makes addressing multidimensional poverty more difficult. Overcoming poverty and protecting against poverty vulnerability will continue to be challenging for countries across the Arab region, especially those suffering conflict.

## B. Inequality and conflict

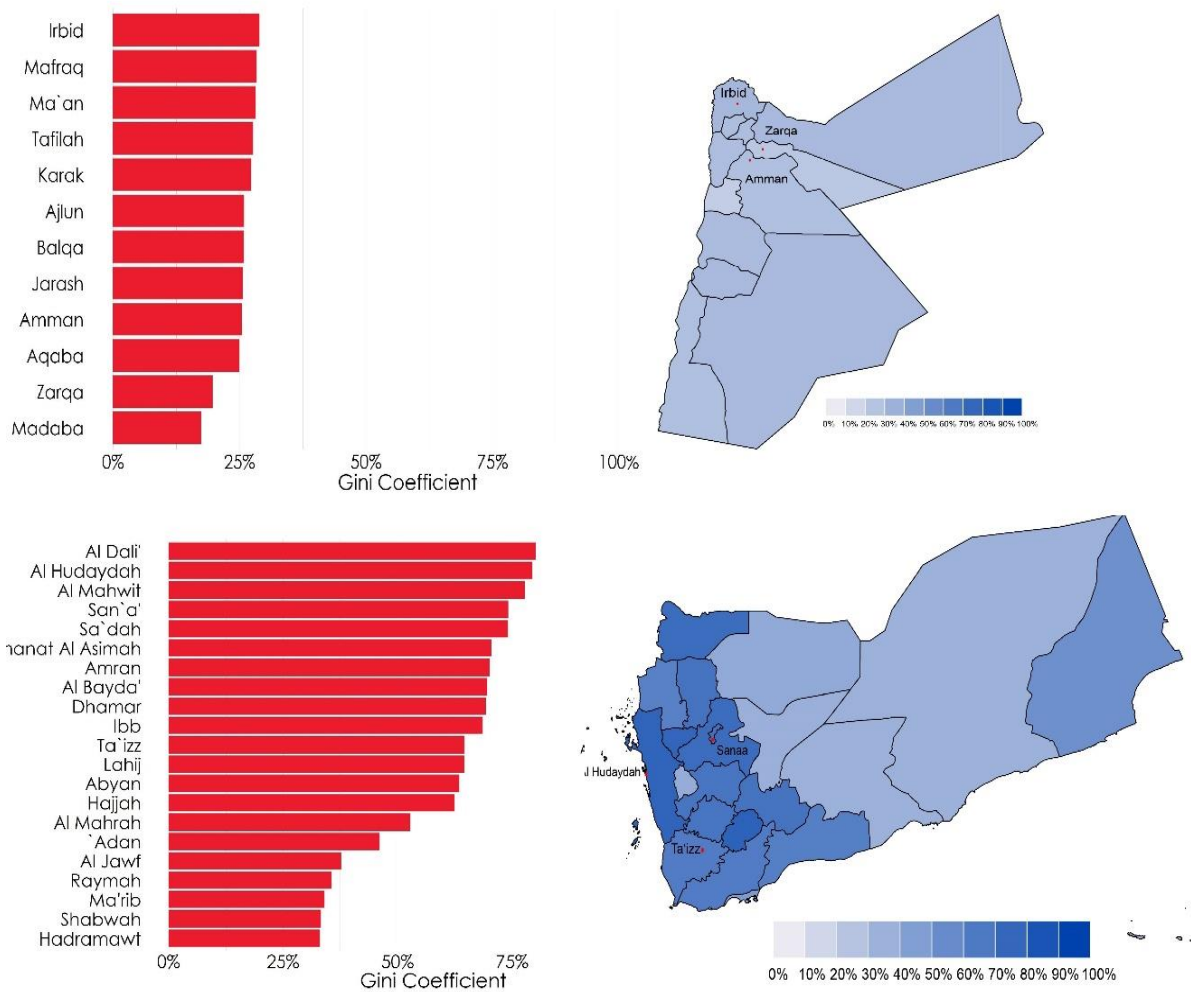
SDG 10 calls for reducing inequalities in income as well as inequalities based on sex, age, disability, race, class, ethnicity, religion and opportunity—both within and among countries. While income inequality across the Arab region is seemingly moderate, conflicts have noticeably increased income and other forms of inequalities across the region. The study of inequality requires household income and expenditure surveys. While such surveys are extensively available for many countries in the region, the measurement of inequality is outside the scope of the present report, because a consistent analysis of the patterns of welfare distribution across countries and over time depends on the quality and comparability of the underlying surveys. Such consistency is difficult to achieve in the case of national household surveys, where collection methods and data quality vary within and among countries, and it is a challenge to compile microdata to common standards (Hassine, 2014).

The present authors advocate data collection initiatives across the region to increase the level of standardisation across countries to generate consistent indicators for SDG 10. As with poverty prevalence and vulnerability, inequality has increased widely across the region as a result of conflict. Only the most recent labour force surveys for Yemen and Jordan include standardised measures of income that enable the estimation of income inequality. Figure 7 shows income inequality as measured by the Gini coefficient for those countries.

While income inequality levels in Jordan appear to be moderate at around 25 per cent, inequality in Yemen is extremely high

throughout, with several governorates exhibiting a Gini coefficient of more than 50 per cent.

**Figure 7. Gini coefficient for Jordan and Yemen**



Source: Survey data from the Economic Research Forum, 2016.

## Box 2. Perceptions of inequality in Arab countries

Inequality is a multifaceted phenomenon, yet discussions about it are often restricted to income-wealth-consumption metrics (Cuesta and Negre, 2016). However, subjective well-being has been gaining attention, as lack of it is believed to be the cause of much social unrest. Inequality in the Arab region presents an illustrative case of marked differences between subjective assessments and objective measures (Cuesta and Negre, 2016). Systemic exclusions resulting in income and non-income inequalities continue to undermine development in the region. During the past 20 years, the decline in the proportion of poverty was relatively small, despite reasonable economic growth. In recent years, inequality of opportunity became increasingly important, as unemployment, particularly for women and for young people, has been persistently high.

Despite rising levels of health and education, regional economic performance remained poor. Rising education levels contributed positively to the economic performance of the region, but the impact could have been overshadowed by the negative effects of other factors. The returns on human capital might be low in the Arab region because of deficiencies in the quality and relevance of education or returns on education might be low because of structural problems in the labour market. Those differences help explain the conditions leading to the Arab Spring in early 2011, which traditional metrics of income and wealth inequality failed to predict.

## C. Conclusions

Although existing surveys undertaken regularly across countries in the Arab region include estimates for multidimensional poverty, national household and labour surveys need to be standardised in order to produce consistent and comparable money metric poverty figures. The authors of the present report recommend that regular surveys such as MICS and DHS

incorporate questions that identify populations particularly vulnerable to conflict, such as displaced populations previously ignored in data collection. Conflict has transformed the region during a relatively small period of time. Survey microdata could play a critical role in providing information on progress towards sustainable development. For example, living standards in many of the countries studied in the present report have deteriorated since 2011.





### 3. Measuring Nutrition and Health in Crisis-afflicted Countries (SDG 2 and SDG 3)





### 3. Measuring Nutrition and Health in Crisis-afflicted Countries (SDG 2 and SDG 3)

#### A. Measuring nutrition in crisis-afflicted countries (SDG 2)

SDG 2 aims to end hunger and all forms of malnutrition by 2030. It aims for universal access to safe, nutritious and sufficient food throughout the year. The fight against hunger has progressed during the past 15 years. Globally, the prevalence of hunger has declined, from 15 per cent according to figures for 2000-2002, to 11 per cent according to figures for 2014-2016.<sup>8</sup> In Arab countries, principally those afflicted by conflict, malnutrition is still prevalent. The protracted crises across the region have increased vulnerability and food insecurity, affecting large parts of the population. The persistence of hunger across the region highlights the importance of collecting more and better data on child anthropometrics and access to food, to track progress and guide intervention to fight food insecurity and malnutrition.

In crisis-afflicted countries across the region, child malnutrition and food insecurity are highly correlated.

The poorest countries in the region, such as the Sudan and Yemen, are the most vulnerable to food insecurity, putting children and mothers at increasing risk of mortality and malnutrition. In

the present report, we calculate measures of malnutrition for children in the nine crisis-afflicted countries of the Arab region.

Malnourishment reduces growth in children; increases the likelihood of disease; and could increase the likelihood of early death.

Nutritional outcomes of children are measured using several anthropometric indicators. The most common measures are wasting (acute malnutrition), stunting (chronic malnutrition), and underweight (general malnutrition).

Of those measures, chronic malnutrition is the most relevant, as it severely increases morbidity and mortality; reduces physical, cognitive and economic capacity; and elevates health risks in adulthood (Case and Paxson, 2010). While height is a marker for long-term nutritional status, weight appears to be a proxy for short-term nutritional status. Cognitive development and height share common inputs early in life; thus, height can be used as a proxy for cognitive development (Currie and Vogl, 2013).

The most commonly used anthropometric indices for assessing children's growth status are weight-for-height, height-for-age, and weight-for-age. Childhood stunting is the best overall indicator of children's well-being and long-term development. It also accurately reflects social

inequalities among vulnerable populations. The most important factors contributing to stunted growth and development are poor maternal health and nutrition during and after pregnancy, inadequate child-feeding practices, and infection. Economic growth has improved nutrition, but disease and inadequate dietary intake still cause under-nutrition in the region. Malnutrition remains a major health problem for the region; it is likely to worsen as conflicts escalate. Table 4 shows the severity of malnutrition by prevalence ranges (percentage) for the countries affected by conflict in the Arab region.

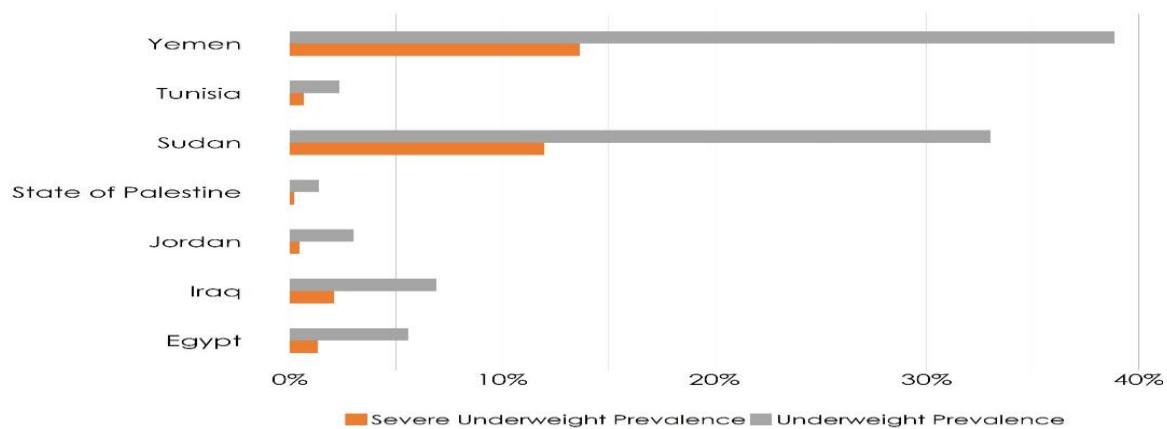
## B. Prevalence of undernourishment (underweight, wasting, stunting, and obesity)

Underweight prevalence appears to be high in the LDCs of the Sudan and Yemen. Other countries in the region have made considerable progress tackling malnutrition. Protracted conflicts and crises are exacerbating existing malnutrition problems, particularly in Iraq, the Sudan, and

Yemen. The prevalence of underweight in children below five reflects child growth. It is measured as the percentage of children under five whose weight is more than two standard deviations below the median of a standard population as described in the National Centre for Health Statistics/World Health Organization (NCHS/WHO) table of child weights (World Health Organization, Regional Office for South-East Asia, 2015).

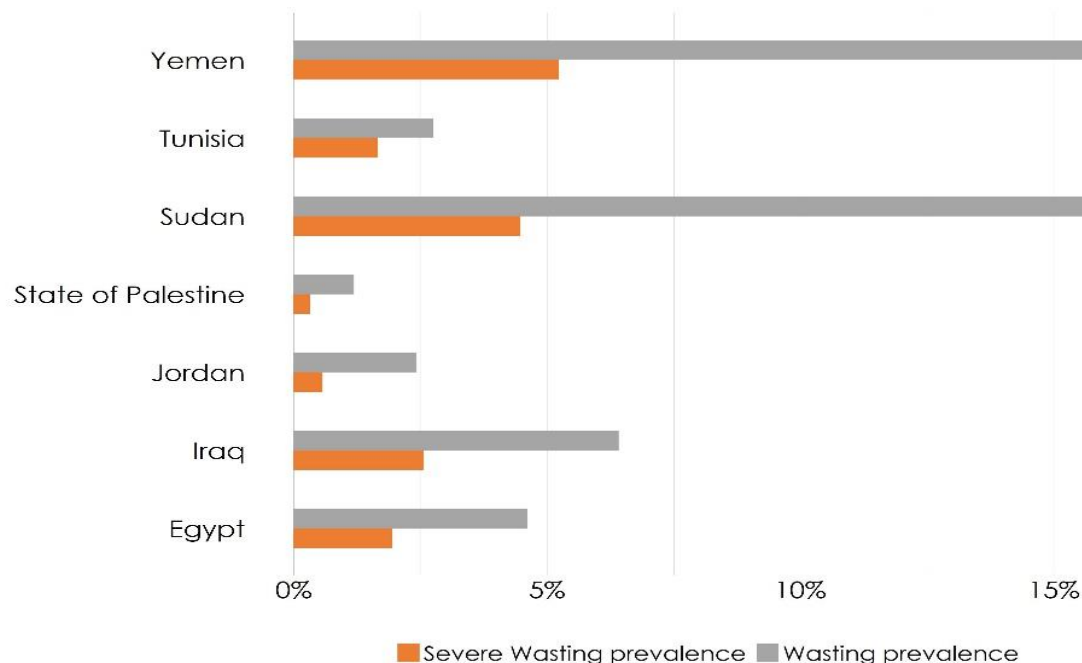
Child malnutrition as reflected by body weight increases a child's risk of death; inhibits cognitive development; and affects health status in later life. Being underweight might also reflect wasting (low weight-for-height ratio) and/or stunting (low height-for-age ratio). The prevalence of underweight in children under five indicates child growth. It is measured as the percentage of children below five whose weight is more than two standard deviations below the median of a standard population such as that of the NCHS/WHO table of child weights. While wasting is moderate in most countries studied in the present report, levels of wasting are large for the Sudan and Yemen.

**Figure 8. Prevalence of underweight for children 0-59 months**



Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

**Figure 9.** Prevalence of wasting for children 0-59 months



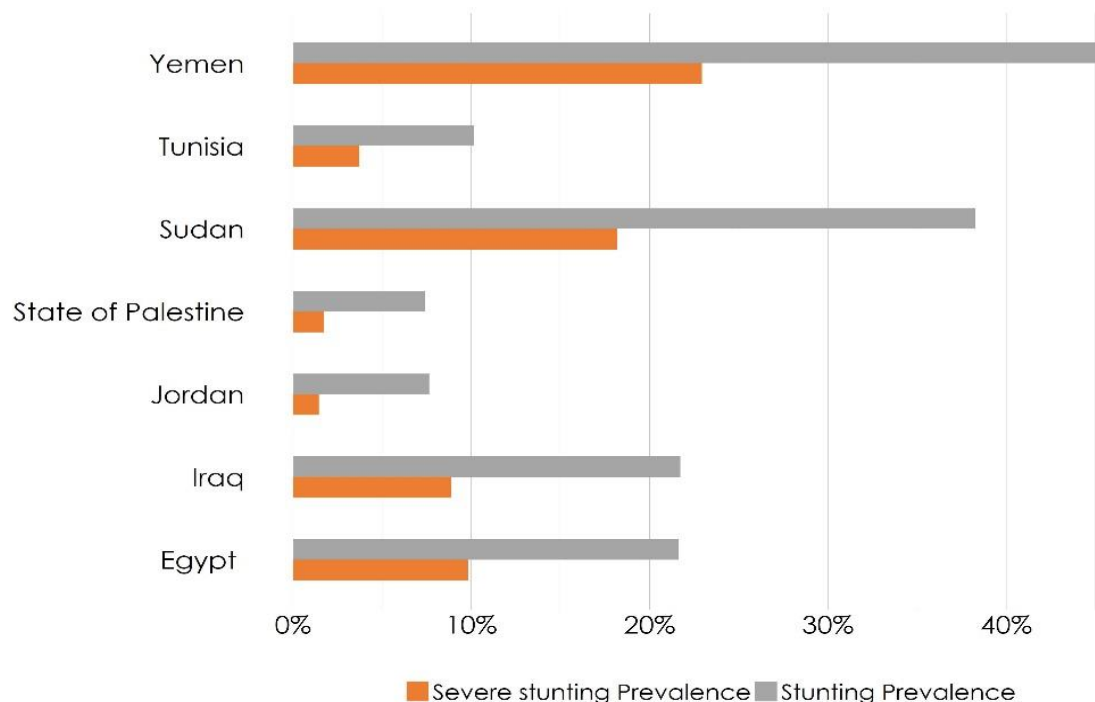
**Source:** ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

Figure 10 shows the prevalence of stunting for seven countries in the region, calculated using the most up-to-date household-level microdata available. The figure shows that stunting is extremely high in the Sudan and Yemen, probably having increased in recent years because of famine and protracted crises. In Egypt and Iraq, there are moderate to medium levels of stunting, which would require large efforts from governments to reduce.

Of the three measurements of undernourishment used here, stunting is particularly worrisome from a lifecycle perspective (ESCWA, 2018). Childhood stunting is the best overall indicator of damage to

children's well-being and long-term development. It also accurately reflects social inequalities among vulnerable populations.

The large prevalence of stunting in the countries studied has devastating long-term consequences. Table 4 shows the severity of malnutrition for conflict-afflicted countries in the region. In Iraq, Libya and the Syrian Arab Republic pre-conflict, a fifth to a quarter of children were stunted. In Yemen, the problem was worse, with more than 50 per cent of children stunted. According to the World Bank, the problem was related to dietary quality and public health rather than to household wealth levels (El-Kogali and Krafft, 2015).

**Figure 10.** Prevalence of stunting for children 0-59 months

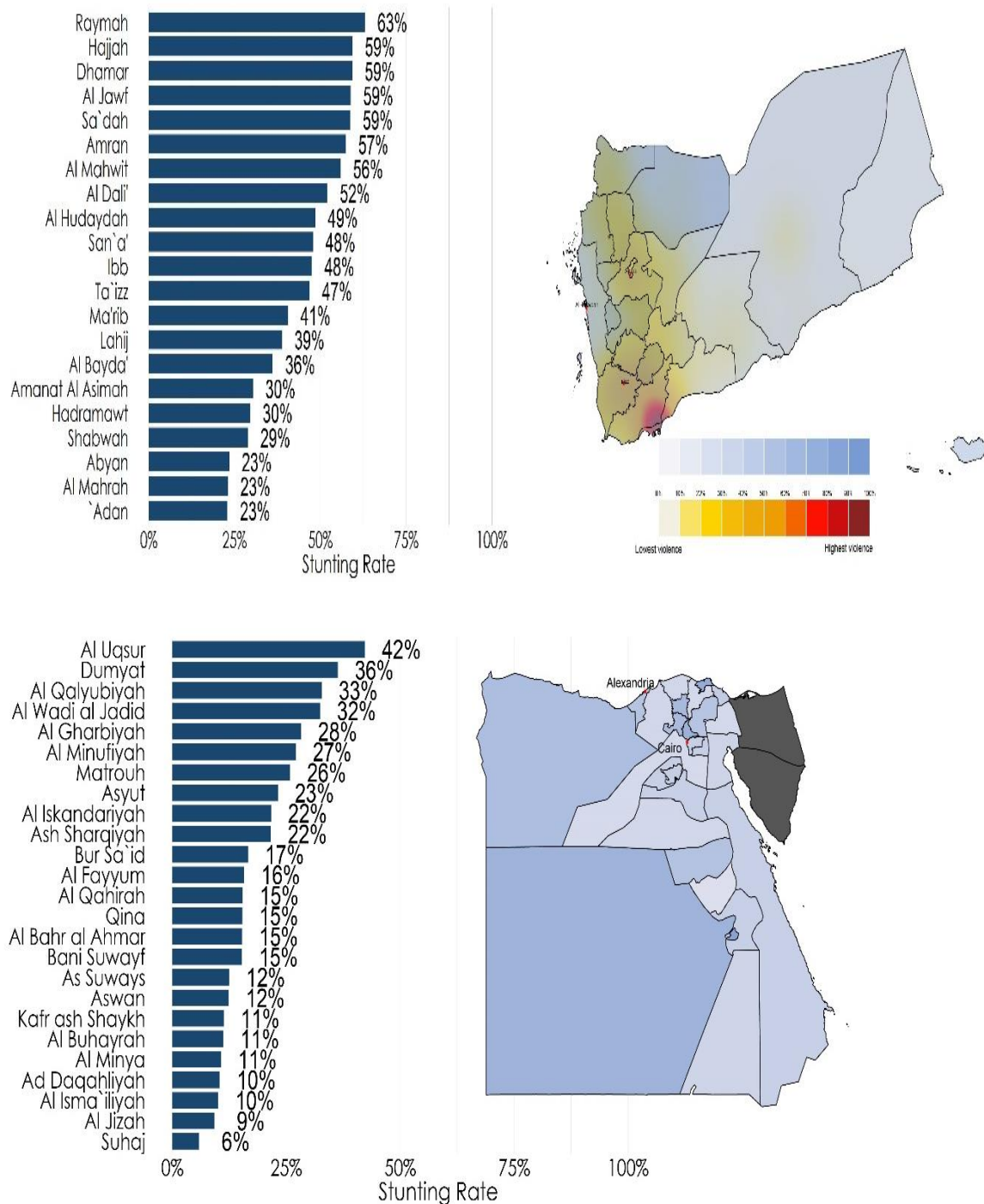
Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

**Table 4.** Severity of malnutrition by prevalence ranges (%) in conflict-afflicted countries

Indicator	Severity of malnutrition by prevalence ranges (%)							
	Iraq 2006	Iraq 2011	Yemen 2006	Yemen 2013	Syrian Arab Republic 2006	Syrian Arab Republic 2009	Libya 2007	Libya 2014
Stunting	Medium (27.01)	Medium (21.7)	Very High (57.10)	Very High (46.11)	Medium (28.39)	Medium (27.79)	Medium (21.08)	High
Underweight	Low (6.94)	Low (6.89)	Very High (36.94)	Very High (39.70)	Low	Low	Low	Low
Wasting	Medium (5.83)	Medium (6.41)	High (13.74)	Very High (16.64)	High (10.34)	High (11.57)	Medium (6.54)	High (10.39)

Source: ESCWA, 2018.

**Figure 11. Prevalence of stunting for children 0-59 months at the subnational level for Yemen and Egypt**



Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), and Egypt (DHS 2014).



Large subnational differences are observed in the prevalence of stunting in Yemen and Egypt. In Egypt, where national stunting figures are moderate, the subnational disaggregation shows large subnational disparities, with certain regions exhibiting stunting rates similar to the LDCs in the region.

Those large subnational disparities suggest that children are more exposed to malnutrition in certain areas, probably associated with larger exposure to conflict. In Yemen, exposure to conflict is likely to increase stunting. A recent

study by ESCWA shows that conflict intensification in Yemen and Iraq is causing a surge in stunting for children exposed to conflict, leading to large regional inequalities (ESCWA, 2018).

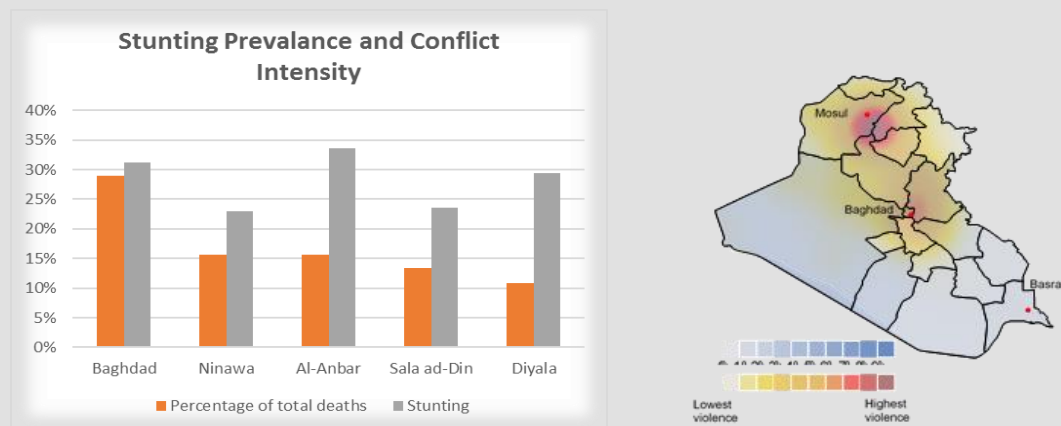
In addition to malnourishment, an increasing number of children across countries in the Arab region suffer from obesity. That trend also presents long-term health challenges. Figure 12 shows the prevalence of obesity in seven Arab countries, calculated from latest available microdata.

### Box 3. Stunting prevalence in Iraq

The nutritional well-being of children highly influences their cognitive and long-term skills development (Cunha, Heckman and Schennach, 2010). Iraq has the third-highest stunting prevalence in our sample of countries, with 21.7 per cent of children under five stunted in 2011, and 8.87 per cent of them severely stunted. Those percentages decreased after 2011 at the national level but remained moderately high in regions more exposed to violent events.

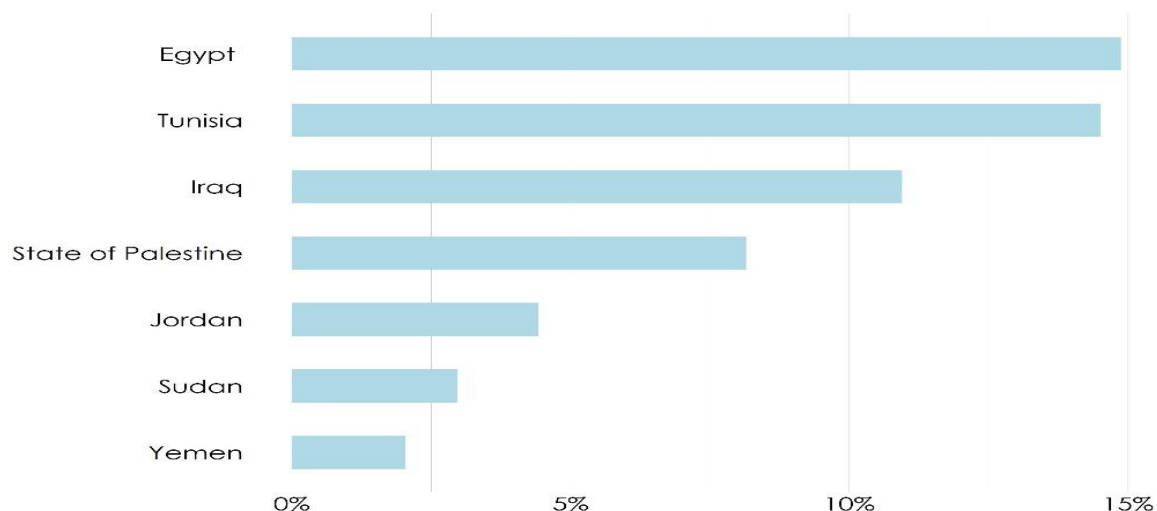
Iraq has experienced high intensity of violence during the past decade which, in addition to causing large economic damage, has increased the likelihood of childhood stunting (ESCWA, 2018). The probability of being stunted is associated with exposure to violence. The figure below shows the geographical distribution of violent events and stunting rates. Governorates with the highest prevalence of stunting are also the ones with the highest battle-related deaths since March 2003.

#### Stunting and conflict prevalence



Source: ESCWA calculations based on household surveys: Iraq (MICS, 2011).

**Figure 12. Prevalence of obesity for children 0-59 months**



**Source:** ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

Obesity has led to a dramatic increase in the incidence of Type 2 diabetes in Arab countries and has increased the risk of insulin resistance for children across the region. Both undernourishment and obesity are trends directly affecting long-term health.

breastfeeding, should be conducted across the region with greater precision (International Food Policy Research Institute, 2016). Countries afflicted by crises, with high malnutrition burdens, and data more than five years old should prioritise new data collection.

### Nutrition data

Microdata gaps remain a significant road block to assessing progress on nutrition across the Arab region. The absence of such data is a fundamental impediment to determining real progress at the global and national levels, hiding inequalities within countries, especially those affected by conflict. As suggested in the 2016 *Global Nutrition Report*, surveys on rates of under-five underweight, stunting, wasting, and overweight, as well as exclusive

### C. Measuring health in crisis-afflicted countries (SDG 3)

SDG 3 addresses major health priorities, including reproductive, maternal and child health; communicable, non-communicable and environmental diseases; universal health coverage; and access for all to safe, effective, quality and affordable medicines and vaccines. It also calls for more research and development, increased health financing, and strengthened capacity of all countries in health-risk reduction

and management. Since 2000, impressive advancements have been made on many health fronts across the Arab region, yet most of those advances have been negatively affected by the numerous protracted crises. To meet the SDG health targets by 2030 across the region, progress must be accelerated, in countries with the highest intensity conflicts.

## 1. Reproductive, maternal, new-born and child health

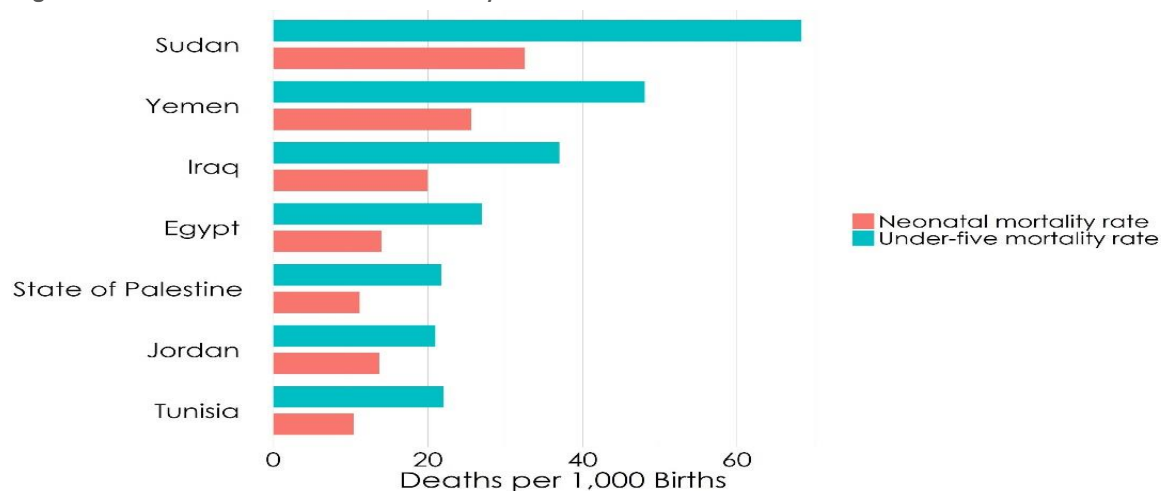
### Infant and child mortality

Arab countries showed an impressive decline in child mortality rates during the past few decades. However, gaps in mortality by gender and socioeconomic status persisted (Khawaja and others). Large socioeconomic disparities in child health are evident in almost every country in the region. Disparities have most likely been exacerbated by conflict.

Conflict and protracted crises appear to be a critical factor affecting children's health and mortality. Food insecurity most affects vulnerable populations, and lack of health services is likely to affect maternal and child well-being. Those crises are associated directly and indirectly with infant, child and maternal mortality. Indirect deaths are caused by consequent disease, hunger or lack of care. In Iraq, Yemen, Libya and the Syrian Arab Republic, food insecurity has been particularly damaging for vulnerable people and the food insecure.

Countries in the Arab region have made remarkable progress in reducing infant mortality rates. However, protracted crises across the region are undermining that progress. In the crisis-ridden countries of the Arab region, children are dying of preventable causes due to the lack of adequate nutrition, water and sanitation facilities, plus lack of access to basic healthcare services.

**Figure 13. Neonatal and child mortality**



**Source:** ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

The mortality rate for children under five globally was 43 deaths per 1,000 live births in 2015. In the Sudan and Yemen, the mortality rates of children under five hugely surpassed the global rate. In 2015, the global neonatal mortality rate was 19 deaths per 1,000 live births. The rates for the Sudan and Yemen again hugely surpassed the global rate.

Most maternal deaths are preventable, as the necessary medical interventions are well known.

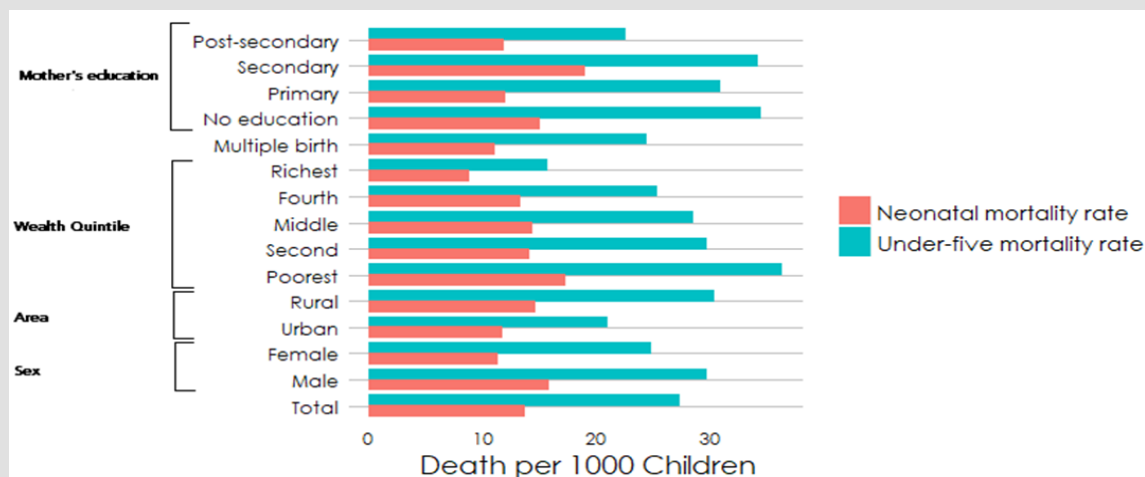
It is, therefore, crucial to increase women's access to quality care before, during and after childbirth. In 2016, millions of births globally were not assisted by a trained midwife, doctor or nurse. About 78 per cent of births occurred in the presence of a skilled birth attendant. In most Arab countries afflicted by crises, more than 70 per cent of births were assisted by skilled health personnel but, in Yemen and the Sudan, fewer than half of total births were assisted by skilled personnel.

#### Box 4. Child mortality in Egypt

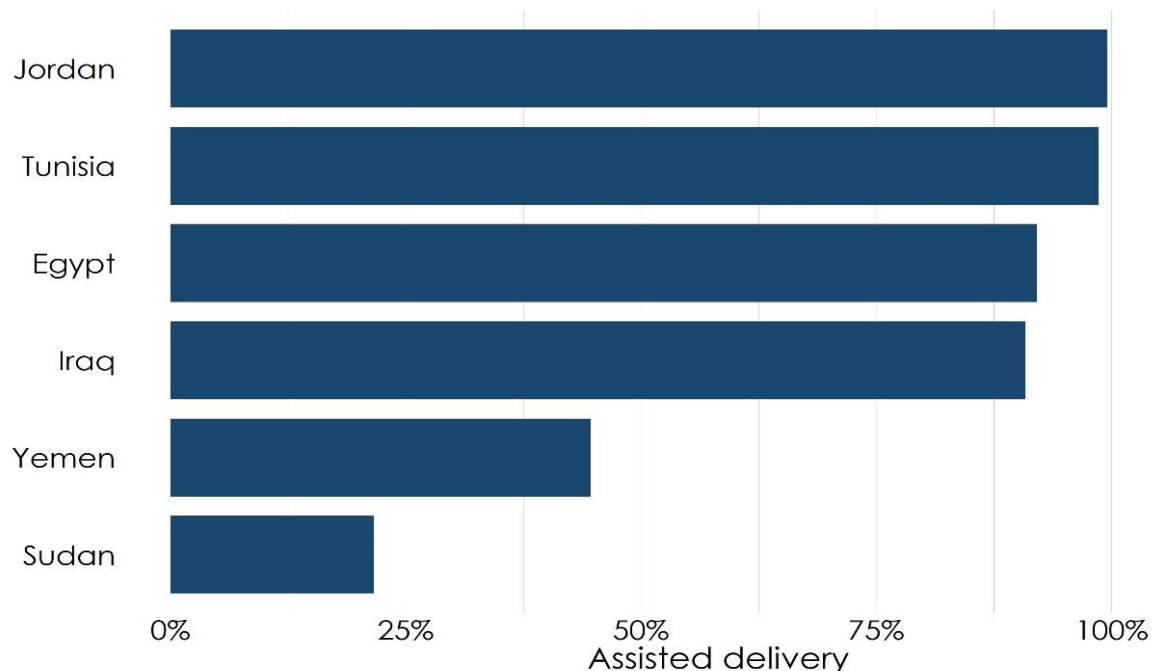
Child mortality in Egypt declined between 2010 and 2014. Between 1996 and 2000, 54 children in 1,000 died before the age of five (El-Zanaty and Way, 2001). Between 2010 and 2014, 27 children per 1,000 died before the age of five. Neonatal mortality has also declined to 14 children per 1,000, a decrease of 41.1 per cent compared to the years between 1996 and 2000.

Children are most vulnerable in rural areas. The percentage of rural population multidimensionally deprived is 2.85 times higher than the percentage of urban population. Multidimensionally deprived rural populations have limited access to clean water, good sanitation facilities, and adequate nutrition. The figure below shows neonatal and under-five mortality rates. Neonatal mortality and under-five mortality rates were 30 per cent and 20 per cent respectively higher than rates in urban areas. In addition to regional disparities, child mortality increased with a decrease in wealth.

#### Summary of Child Mortality indicators by background characteristics



Source: ESCWA calculations based on household surveys: Egypt (DHS 2014).

**Figure 14.** Proportion of births attended by skilled health personnel

**Source:** ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

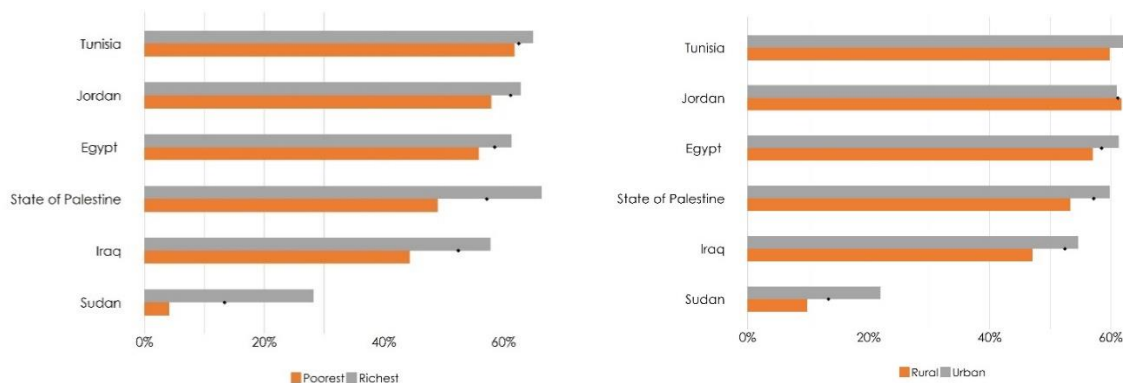
## 2. Women's reproductive health

In 2016, 77 per cent of women of reproductive age worldwide who were married or in a relationship had their family planning needs met with a modern contraceptive method. In crisis-ridden Arab countries, estimates are much lower, with the highest percentage being for Tunisia, with 62 per cent of married or cohabitating women having their needs for family planning met. Stark differences appear both by area and wealth quintile, predominantly in Iraq, the Sudan and Yemen.

A disturbing trend in family planning needs not being met in Arab countries afflicted by crises

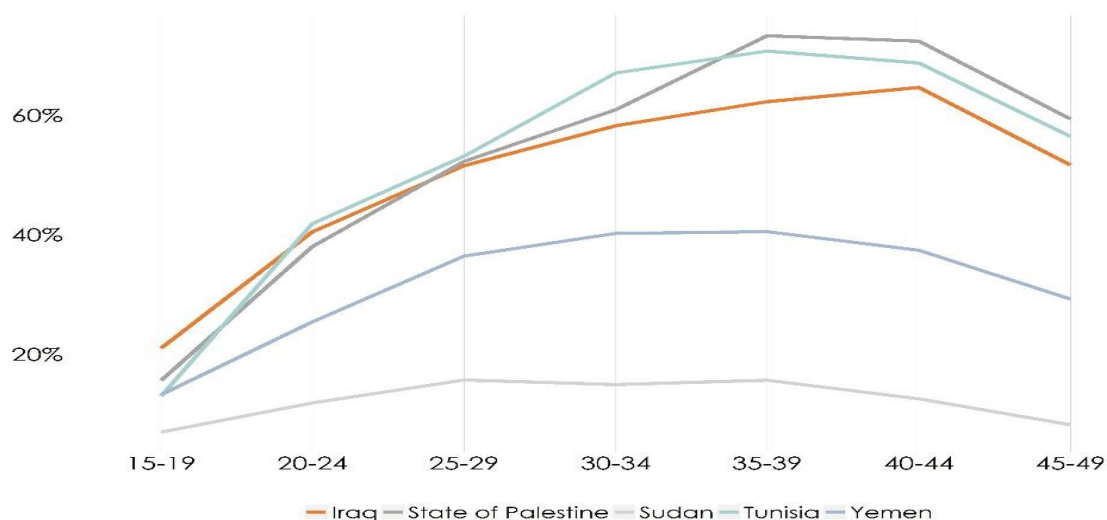
is that younger cohorts of women are less likely to have their family planning needs met, as shown in figure 16. The protracted conflicts across the region have lowered the age of first marriage (ESCWA and UNICEF MENARO, 2018). If younger women do not have access to contraceptives, they will have a larger number of children on average. Preventing unintended pregnancies and reducing adolescent childbearing through universal access to sexual and reproductive healthcare is crucial to the health and well-being of women, children and adolescents. It is also of the foremost importance in conflict-ridden countries, where poverty conditions are expected to deteriorate.

**Figure 15. Met need for family planning satisfied**



Source: ESCWA calculations based on household surveys: Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

**Figure 16. Met need for family planning, across age groups**



Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Tunisia (MICS 2011-2012), and State of Palestine (MICS 2014).

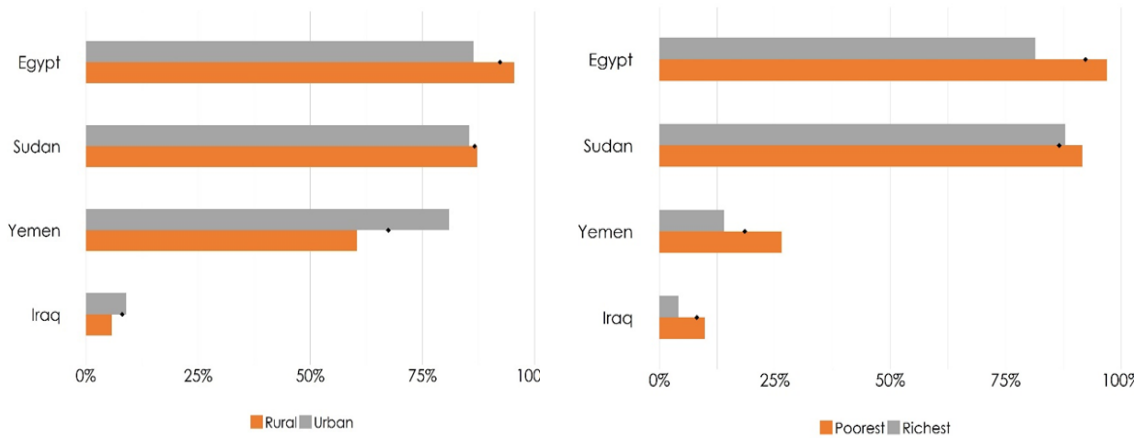
Female genital mutilation (FGM or cutting) is still common in several Arab countries. Recent survey data indicate that more than 9 in 10 girls between the ages of 15 and 19 have undergone the procedure in Egypt. In Sudan, the rate is

more than 8 in 10. In Yemen, the rate is nearly 2 in 10 girls. In Iraq, it is 1 in 10. The high prevalence of FGM in Egypt and Sudan is particularly disconcerting, as it changes little by wealth quintile or area of residence.

In the short term, FGM can lead to infection and death. In the longer term, it can lead to obstetric and sexual difficulties, as well as mental health problems. The fact that FGM is more prevalent in countries with high population growth is even

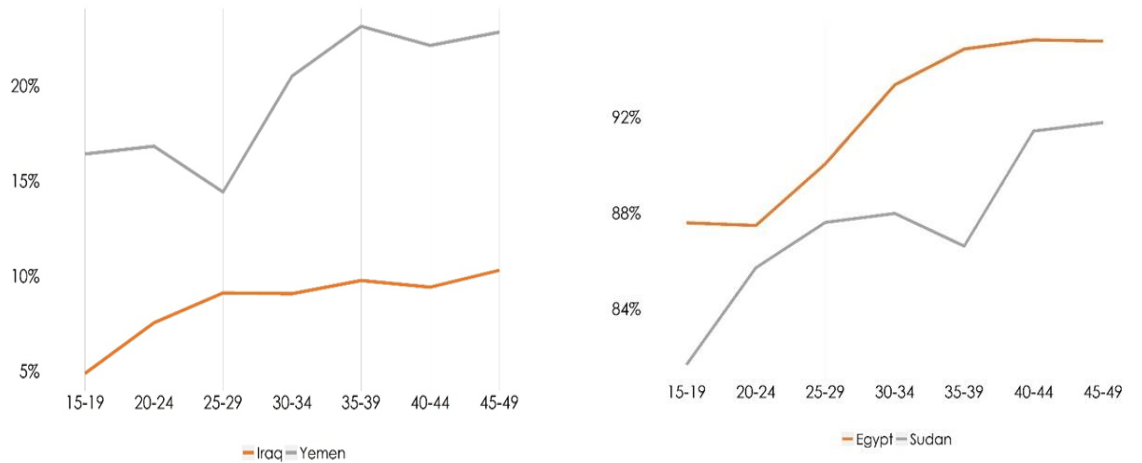
more worrying, as it means that the number of girls undergoing FGM will continue to increase unless efforts to stop the practice are significantly expanded and more successful (United Nations News Centre, 2018).

**Figure 17. Female genital mutilation, by area and wealth quintile**



Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), and Egypt (DHS 2014).

**Figure 18. Female genital mutilation across age groups**



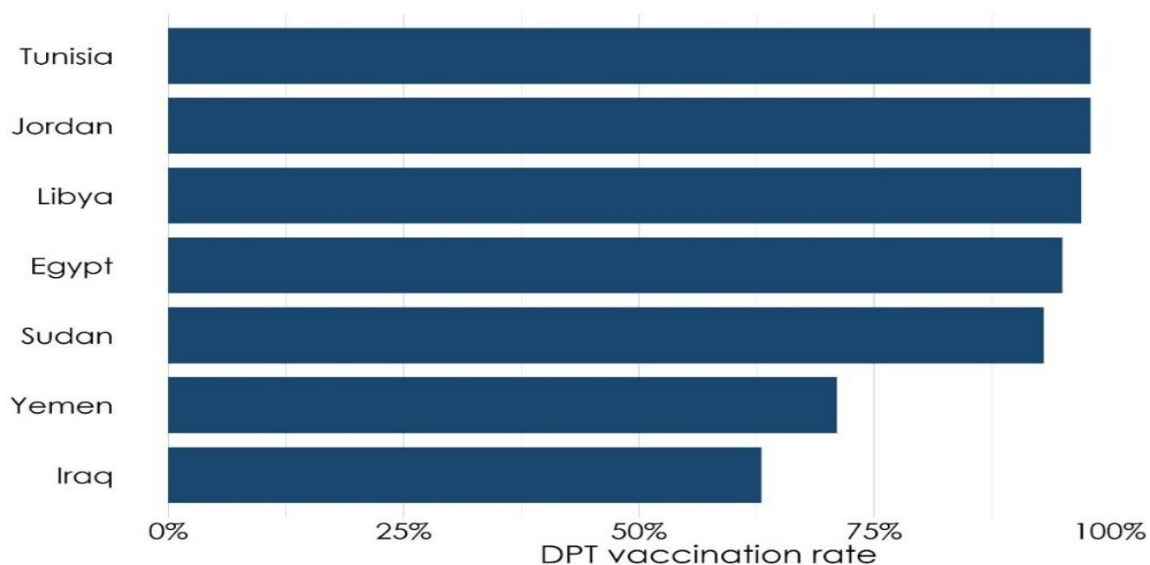
Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), and Egypt (DHS 2014).

### 3. Infectious diseases

Vaccines play a key role in global health and development, but their broader value is still highly underestimated. Increasing the prevalence of vaccination is fundamental for achieving the SDGs. Vaccination is the most successful and cost-effective medical intervention ever introduced, saving millions of lives every year and preventing countless illnesses. Vaccines have also significantly contributed to the dramatic decline in mortality rates witnessed during past decades around the world. The value they currently provide is still far behind the significantly greater potential benefits they could offer. Even today, the success of vaccination coverage is measured using only statistics for the DTP3 vaccine. Using indicators for all 11 vaccines recommended by WHO would be more appropriate (Rappuoli, Breggi and Timmis, 2015).

The United Nations Children's Fund (UNICEF) estimates that almost two-thirds of children who have not been immunised with basic vaccines live in countries that are either partially or entirely affected by conflict. Of countries in conflict, Sudan has the highest percentage of non-immunised children, with 61 per cent not receiving the most basic childhood vaccines, followed by the Syrian Arab Republic, with 57 per cent (UNICEF, 2016a). Conflict-afflicted countries are fertile environments for disease outbreaks, which expose children missing basic immunisations to higher risks of disease. The major causes of childhood illness and death include measles, diarrhoea, respiratory infections and malnutrition, which can worsen in crisis-afflicted countries. For DTP3 vaccination, all countries studied in the present report have close to 100 per cent coverage, with the exceptions of Yemen and Iraq, where DTP3 coverage is below 75 per cent.

**Figure 19. DTP3 vaccination coverage**



Source: UNICEF, Immunisation Data, surviving infants who received DTP3 vaccine in 2016.

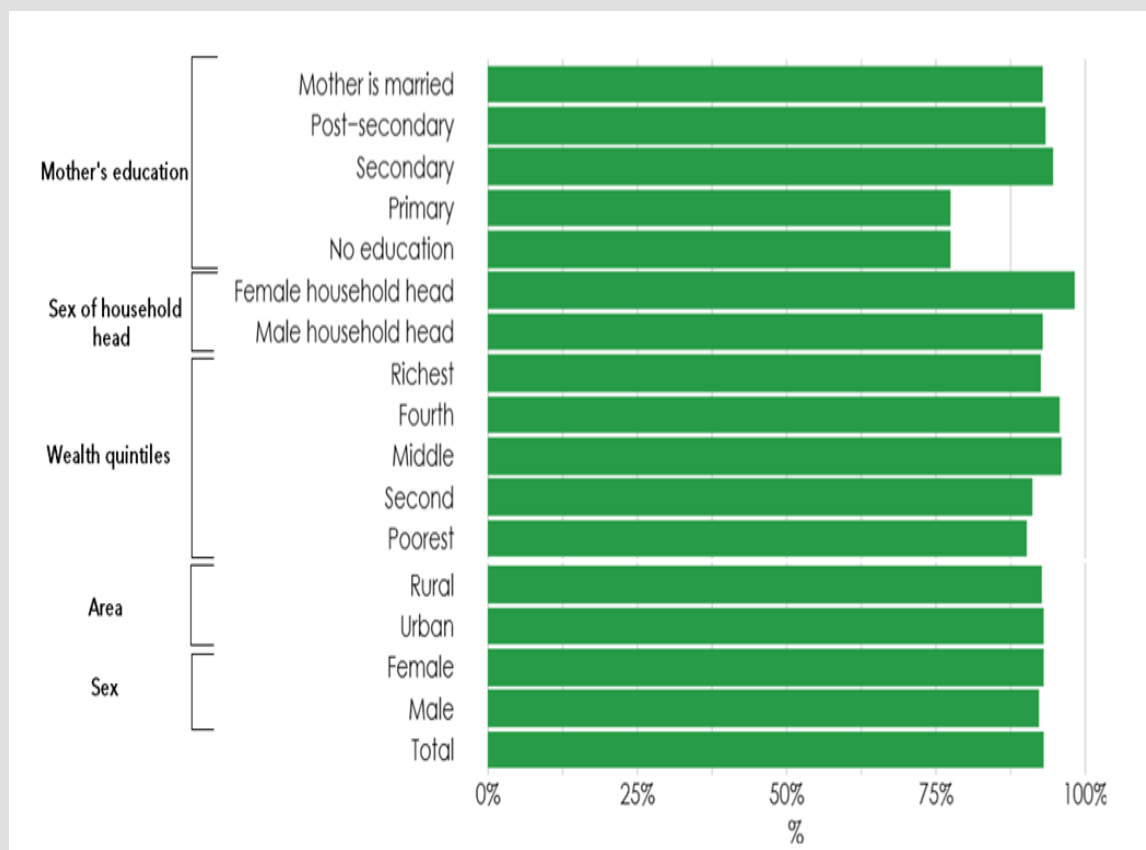


## Box 5. Vaccination in Jordan

In Jordan, more than 93 per cent of children have received all mandatory vaccines, including BCG, measles and three doses each of DPT, plus the polio vaccine.

There is little variation in the vaccination rate at subnational levels. The highest rate is in Zarqa, where 98.8 per cent of children have received full vaccinations. Interestingly, there is little gap between the wealth quintiles, as 90.14 per cent of children born to families in the lowest quintile are fully vaccinated, compared to 92.53 per cent for children born into families in the richest quintile. However, the lowest percentage of vaccinated children is in Ma'an, where 84.2 per cent of children are fully vaccinated. M'an is the governorate with the highest percentage of women with no education or only primary school education. A mother's education seems to be a leading factor in terms of whether or not her children have been vaccinated. Only 77 per cent of children born into families where the mother has no education or primary level schooling are fully vaccinated, compared to 94.4 per cent in families where the mother has secondary level education.

### Vaccination rate by background characteristics



Source: ESCWA calculations based on household surveys: Jordan (DHS 2012).

## D. Conclusions

Data on household nutrition and health dimensions are readily available from routine household surveys conducted by international agencies. The surveys include MICs and DHS, plus others conducted by some national statistical offices (including budget surveys, income and expenditure surveys, living standards measurement surveys, and integrated household surveys). Those surveys serve multiple sectors and could be generally used to monitor progress towards SDG 2 and SDG 3, as the surveys collect information not only on

nutrition and health outcomes but sometimes also on health expenditures.

SDG 2 is a challenging goal because it looks at agriculture, nutrition and food security in an integrated manner. However, information on those three metrics is rarely collected simultaneously in household surveys. Food security modules are an important part of integrated efforts and should be added to surveys traditionally collected across the region. Data on dietary quality is also absent from most surveys. If added, it would also provide relevant information for devising interventions across countries in the region.



## 4. Measuring Inclusive and Quality Education in Conflict Settings (SDG 4)





## 4. Measuring Inclusive and Quality Education in Conflict Settings (SDG 4)

**A. SDG 4 focuses on inclusive and quality education for all. It represents an improvement of the MDG on education, which focused on increasing educational access, without including a measure of quality. The SDGs represent the first attempt to focus on the quality of education worldwide**

Since the early 1990s, most countries in the Arab region expanded access to education dramatically. Almost all countries in the region had achieved universal primary attainment by the mid-2000s, including Yemen, one of the LDCs of the world. Gender gaps across the region were almost non-existent. Net enrolment rates for children in primary school age rose from 90 per cent to 95 per cent between 2000 and 2010 (UNICEF and UNESCO Institute for Statistics, 2015). While there was also progress in secondary school enrolment, it was not as pervasive as in primary education. Net enrolment rates for children of secondary school age rose from 62 per cent to 70 per cent during the same period. In recent years, the protracted conflicts across the region reversed those promising trends. Even in countries where education had improved significantly, conflict has exacerbated exclusions due to poverty, gender, ethnicity, disability and location (World Bank, 2018b).

Despite considerable gains in education enrolment during the past 15 years, those trends are reversing in crisis-affected countries across the region. Quality of education is also an issue. In recent decades, average years of schooling attained by people 15 and over increased from 4.68 in 1990 to 7.38 in 2010 (Barro-Lee, 2016). But many of those attending school are not acquiring basic skills, because the expansion in educational attendance has not been met by an expansion in educational quality. Even though more children are going to school than before, many do not acquire basic skills. A profound disconnection between the skills demanded by the labour market and the supply of those skills is evident from the persistence of high youth and global unemployment rates. Equality issues also constitute a major challenge to education across the region, those challenges having been exacerbated by conflict. Conflicts disproportionately affect the most vulnerable populations and increase the skills gap between those exposed to conflict relative to those with means to protect against violent shocks.

The youth bulge is exacerbating the situation, especially in crisis-affected countries, where populations are predominantly young, with children under 15 accounting for a third of the population in the region. More than 40 per cent of the population in Iraq and Yemen is

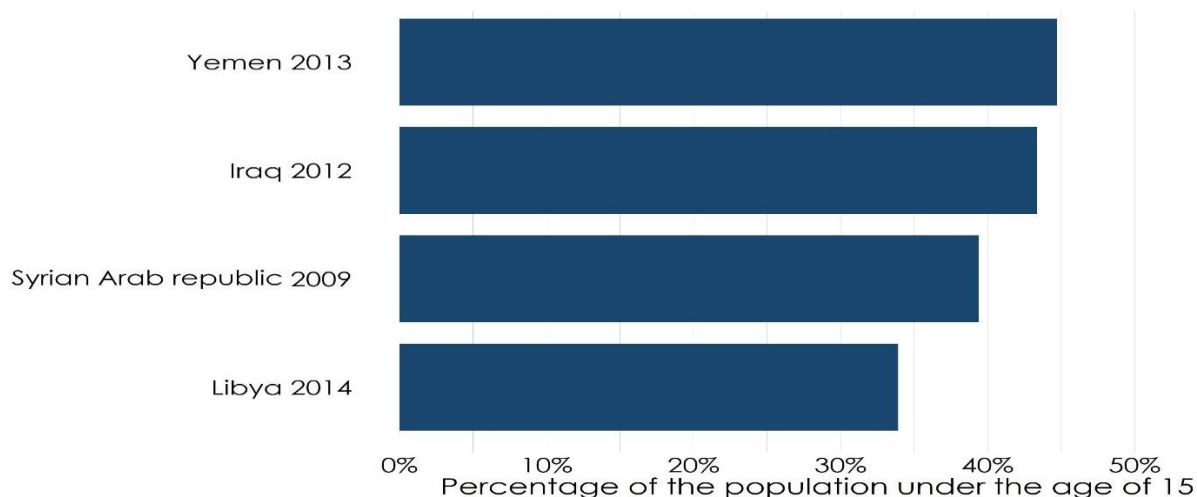
15 or under. Yet the increased demand for educational services is not being met by an increase in quality education. Figure 20 shows the proportion of the population under the age of 15 in Iraq, Yemen, Libya and the Syrian Arab Republic, using the most recent survey data.

Conflicts have directly disrupted the skill-formation process of many children in the countries studied, causing inequalities and disadvantages (ESCWA, 2018). Childhood circumstances are an important determinant of adult outcomes and the outcomes of future generations. Adverse environments place children at risk for social and economic failure (Heckman and Masterov, 2007). The lifecycle framework underscores the importance of well-being at early ages. Risks associated with experiencing conflict during such important developmental stages are dire.

The prospects of children in those countries are discouraging. Children face serious disadvantages, being exposed to more frequent and intense shocks that directly affect their development and well-being. Sadly, the youth bulge in those countries represents a risk rather than an opportunity, jeopardising opportunities for generations to come.

Ensuring that all girls and boys finish quality, free and equal primary and secondary education in the Arab region will be a tremendous challenge. Many children are out of school because of numerous protracted conflicts, but access to quality education is being denied even in countries only indirectly affected by conflict. The gains of the MDGs have mostly been erased in crisis-affected countries across the region. To meet the 2030 SDGs, countries will have to make large investments to restore access to schools, in addition to boosting educational quality.

**Figure 20. Population under 15 years of age in conflict-affected countries**



**Source:** ESCWA calculations based on data from Iraq (LSMS 2012), Yemen (DHS 2013), Libya (PAPFAM 2014), and Syrian Arab Republic (PAPFAM 2009).

**Note:** The Syrian Arab Republic in 2009 was not a conflict-affected country. However, we included the most recent data available in order to have a sense of where the country stood in terms of baseline indicators.

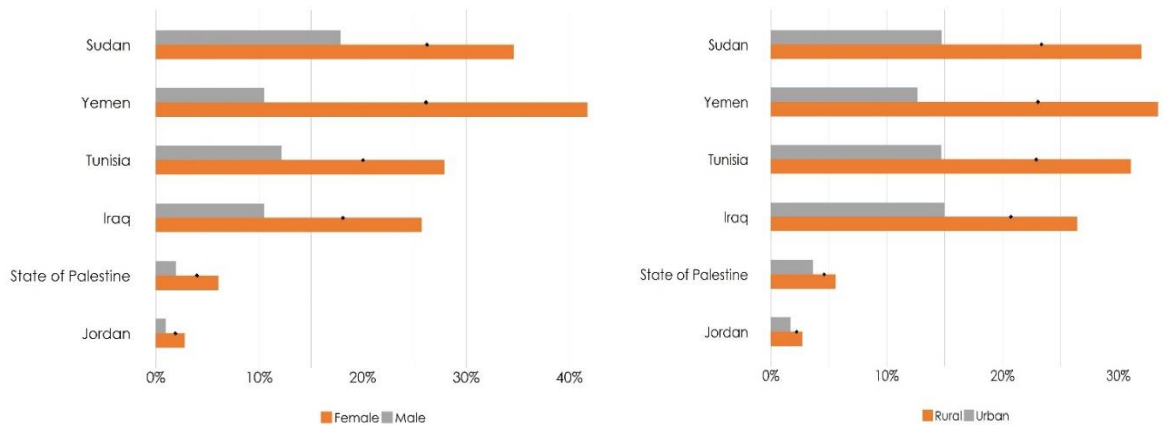
## 1. Access to education

Access to education involves large disparities among different Arab countries. Despite general outstanding progress in educational access across the region, many countries still lag behind and include large disparities along gender and geographical lines. As shown in

figure 21, large percentages of the populations of Iraq, Tunisia, Sudan and Yemen have no education.

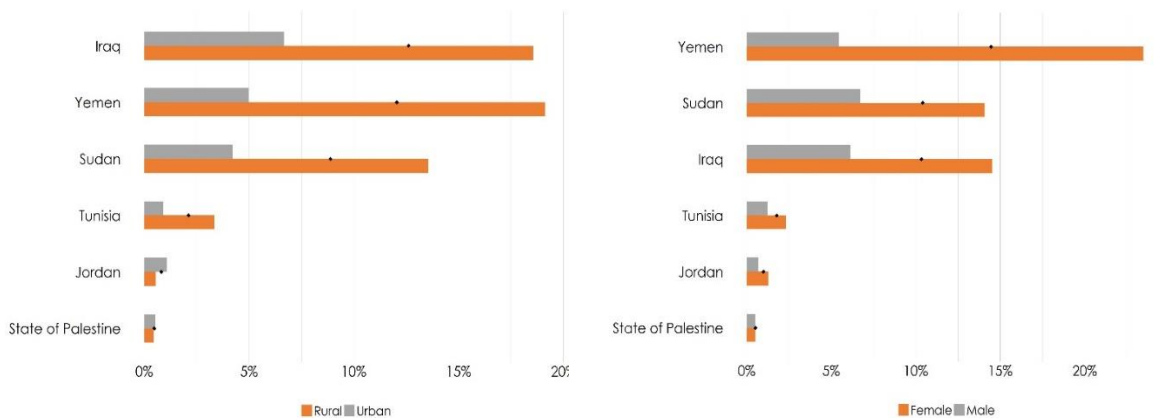
As shown in figure 22, the problem is not confined to older generations. Large proportions of youth in Iraq, Sudan and Yemen have had no access to education.

**Figure 21. Population aged 15 and over without education, by area and gender**



Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

**Figure 22. Youth aged 15 to 24 without education, by area and gender**



Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012) and Jordan (DHS 2012).

Note: In 2009 was not a conflict-affected country. However, we included the most recent data available to have a sense of where the country stood in terms of baseline indicators.



For the countries studied, women in general and people in rural areas are less likely to have access to education. Female literacy rates have increased across the region. For most of the countries studied in the present report, such access does not exceed 90 per cent, with lower literacy rates for women in rural areas.

The recent expansion in education is impressive by historical standards. All countries across the region made great strides in expansion, mostly in primary education. Many countries experiencing conflict today were well on their way to achieving universal primary net enrolment rates and were making impressive efforts to increase net enrolment in secondary education. Sadly, conflict has reversed much of the gains in educational expansion at all levels in countries across the region.

## **2. Yemen: Conflict is delaying the prospects for LDC status graduation and reversing development accomplishments**

In the last triennial review of the list of LDCs conducted in 2015, the United Nations Committee for Development acknowledged that Yemen was approaching the threshold for graduation from the LDC category. The country met the Gross National Income (GNI) per capita requirement and was nearing the threshold in the Human Assets and Economic Vulnerability Indexes (E/2015/33). However, in 2016, the United Nations Conference on Trade and Development (UNCTAD) report on the LDCs noted that the prospects for graduation of Yemen, scheduled for the period 2021-2024, had shrunk and would most likely be

delayed due to the security situation (UNCTAD, 2016b).

The evidence of that downward trend can be corroborated by analysing the level of achievement of MDGs. In a context of low general levels of achievement, for example, one of the MDGs where Yemen experienced a positive trend was the universal enrolment in basic education, acknowledged by national authorities and international partners as one of the goals the country was likely to achieve (UNDP and Yemen, Ministry of Planning and International Cooperation, 2010; United Nations and Government of Yemen, 2011). That positive trend towards universal primary enrolment was reversed by the instability and violence affecting the country since the uprisings of 2011. The situation has had a particularly detrimental effect on already vulnerable groups, such as girls.

Figure 23 shows the difference in enrolment rates by age in 2006 and 2013. In 2006, more than 90 per cent of primary school-aged children were enrolled in school, with virtually no gender disparities until the age of 12. Yemen was well on its way to ensuring that all boys and girls completed full primary schooling. However, the data for 2013 show a turn for the worse. There was a substantial decline in overall enrolment rates across periods for all children, but especially for girls. Delayed entry and higher rates of early dropout led to an “inverted-U” age-enrolment profile. That pattern is of concern because evidence suggests that children who enter school late are also more likely to exit early, further reducing their human capital accumulation and exposing them to other negative outcomes.

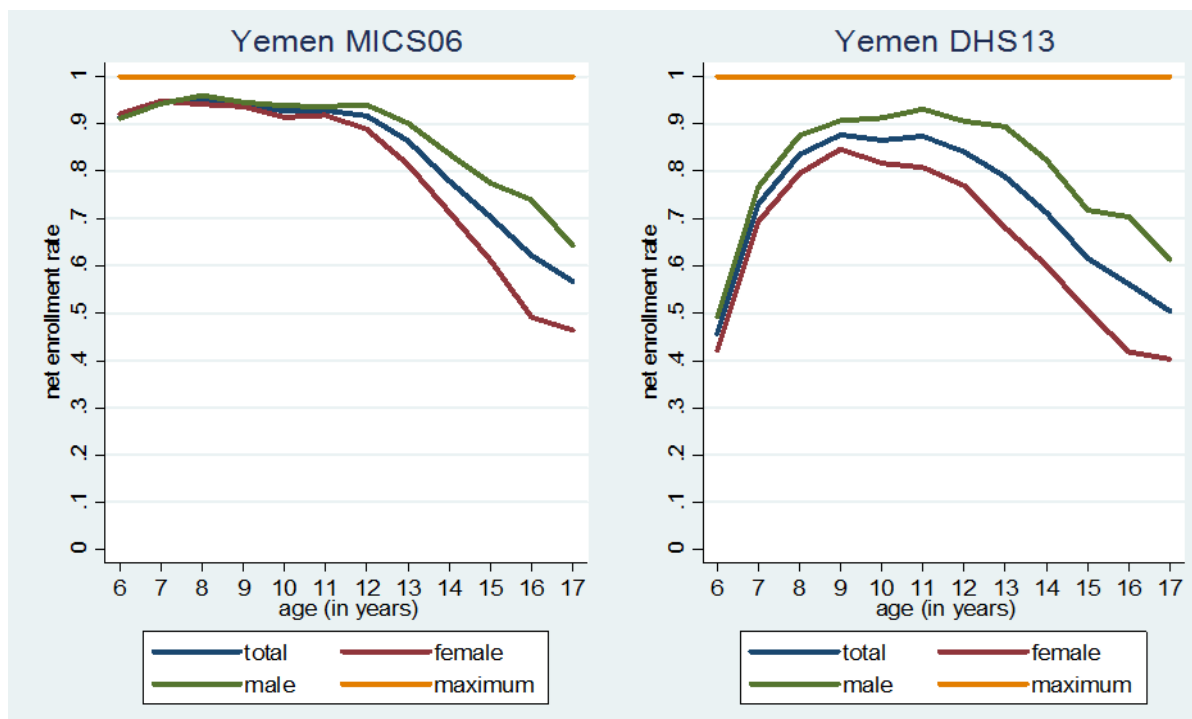
An important caveat regarding the results for Yemen is that the situation has changed considerably in the country since the beginning of the war in 2015. Recent reports by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA, 2017) reveal that education, health and food insecurity in Yemen have deteriorated significantly, especially for children, because of the conflict. The situation is likely to get worse.

Yemen is experiencing a downward spiral. Reversals could take decades to overcome. Particularly alarming is the setback in educational outcomes. Children not enrolled in school today will face worse earning prospects than children who completed their

education. The associated reduction in earnings potential will have adverse repercussions. Children who interrupt their educational trajectories will be more likely to rely on government assistance and have a higher incidence of poverty. Similar downward trends are evident for other developmental factors, including nutrition and mortality.

Box 6 shows school enrolment rates for children in the Syrian Arab Republic during 2006 and 2009, prior to the Syrian conflict. The impact of conflict on educational outcomes for Syrian children is likely to be devastating, with more than 80 per cent of schools destroyed or not functioning, and a similar percentage of children not attending school.

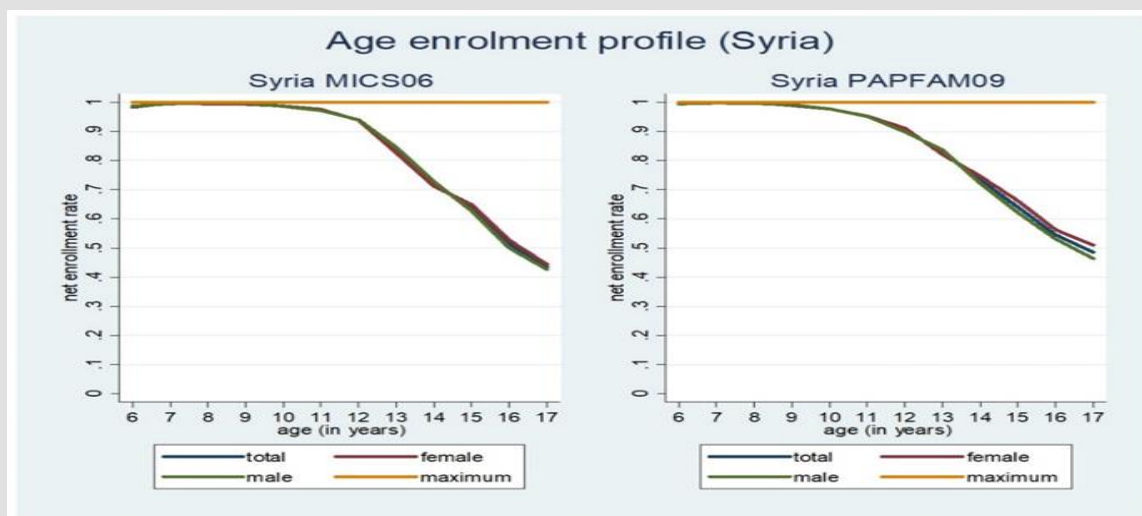
**Figure 23.** Age enrolment profile for Yemen



Source: ESCWA, 2018.

## Box 6. School enrolment rates in the Syrian Arab Republic during the pre-conflict period

School enrolment profiles in the Syrian Arab Republic, 2006 and 2009



Source: ESCWA calculations based on data from MICS 2006 and PAPFAM 2009 for Syrian Arab Republic.

In both 2006 and 2009, school enrolment rates were above 90 per cent until age 13, when they started to decline. During those years, there were no statistical differences between enrolment rates of girls and boys, as observed in other countries in the region. The country also showed one of the largest youth bulges of the region, with 46 per cent of the population 18 years of age or younger in 2009.\*

Since the war started in 2011, at least a quarter of schools in the Syrian Arab Republic have been closed, destroyed, used as shelter by the internally displaced, or used as military bases. Save the Children (2015) estimates that school enrolment rates have plummeted to less than 50 per cent at the national level for primary education and are even lower where prolonged heavy fighting has taken place (Save the Children, 2015). UNICEF estimates that at least 2.26 million children are out of school in the Syrian Arab Republic, and 7 out of 10 school-age refugee children are not attending school outside the Syrian Arab Republic (UNICEF, 2013). More dramatically, many Syrian children have never enrolled in school inside or outside the Syrian Arab Republic, and many children are dropping out of schools and not returning, especially among displaced populations.

\*. Authors' estimates, based on PAPFAM 2009 for the Syrian Arab Republic.

### 3. Quality of education

While the expansion in educational attendance has been remarkable for most countries across the region, it has not been accompanied by

equal improvements in educational quality. As a result, schooling does not necessarily translate into learning. Children learn very little in many education systems across the region. Even after several years in school, millions of students lack

basic literacy and numeracy skills (World Bank, 2018b). As shown in figure 24, recent assessments in Iraq and Yemen show that more than 30 per cent of students at the end of grade 2 were unable to read a single familiar word; and more than 60 per cent of children in Iraq were unable to perform a two-digit subtraction.

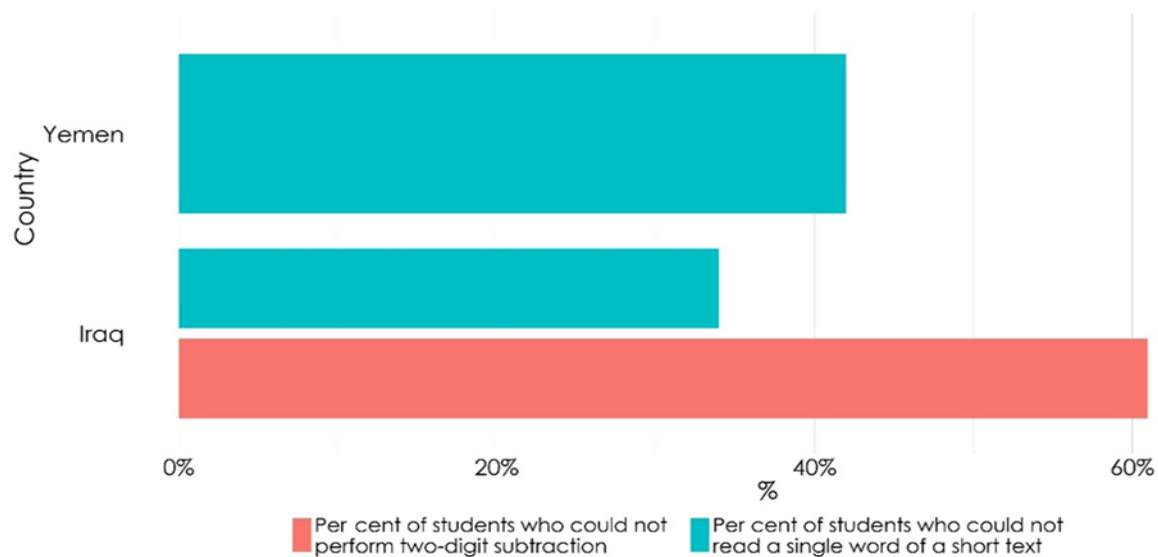
Many educational systems across the Arab region are failing to provide students with meaningful skills. The numerous conflicts across the region are also failing to provide the same educational opportunities for all. The conflicts exacerbate inequalities. Thus, education systems are widening social gaps rather than narrowing them.

Existing standard household survey data collected across the region does not systematically collect information on education quality. The authors of the present report

suggest incorporating those measures in standard household surveys for countries across the region, as well as in international competency tests used to collect data on education quality.

Equality issues constitute a major challenge in education for the region. However, in crisis-affected regions, certain groups of children are likely to be disproportionately disadvantaged. Lack of access and/or poor-quality education, manifested by the lack of trained teachers and the poor condition of schools, are jeopardising prospects for equal quality education for all. Moreover, children are starting at a disadvantage, and those shortcomings are further intensified by conflict exposure. The learning crisis is reinforcing inequality (World Bank, 2018b). Conflict is amplifying it, with the already most vulnerable populations disproportionately affected.

**Figure 24.** Percentage of grade 2 students who could perform simple reading or math tasks in Iraq and Yemen



Source: World Bank, 2018b.

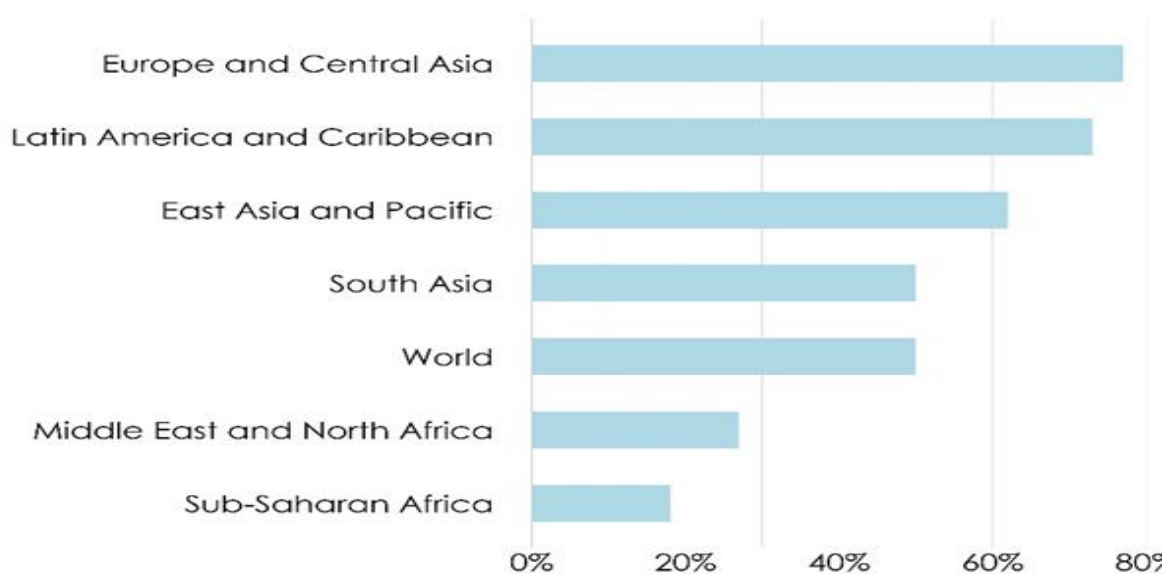
## B. Ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education

There is a growing body of evidence coming from economics and psychology on the importance of investments in early childhood development (ECD). Promoting ECD will shape not only the life course of young children, but also the trajectories of countries' development (El-Kogali and Krafft, 2015). School success and labour-market outcomes are grounded in those early investments. Recent research establishes the existence of critical and sensitive periods in the formation of skills during the lifecycle (ESCWA, 2018). Sensitive periods are those periods where investment is especially productive; critical periods are those periods

when investment is essential. All investments in skills should target those periods.

Unfortunately, the Arab region still lags behind in terms of early childhood development initiatives. Pre-primary schooling rates are relatively low, as shown in figure 25. Early childhood education and early learning play an important role in school success. However, the Arab region is substantially under-investing in that important stage of education (El-Kogali and Krafft, 2015). Despite the mounting evidence that early childhood development improves cognition and socioemotional development, endowing lifetime benefits, pre-primary gross enrolment across the region is almost half that of the world average (El-Kogali and Krafft, 2015). According to World Bank estimates, early childhood education attainment is lower than in every other region of the world except Sub-Saharan Africa.

**Figure 25. Gross enrolment rates in pre-primary—regional comparison, 2011**



Source: El-Kogali and Krafft, 2015, chap. 2.

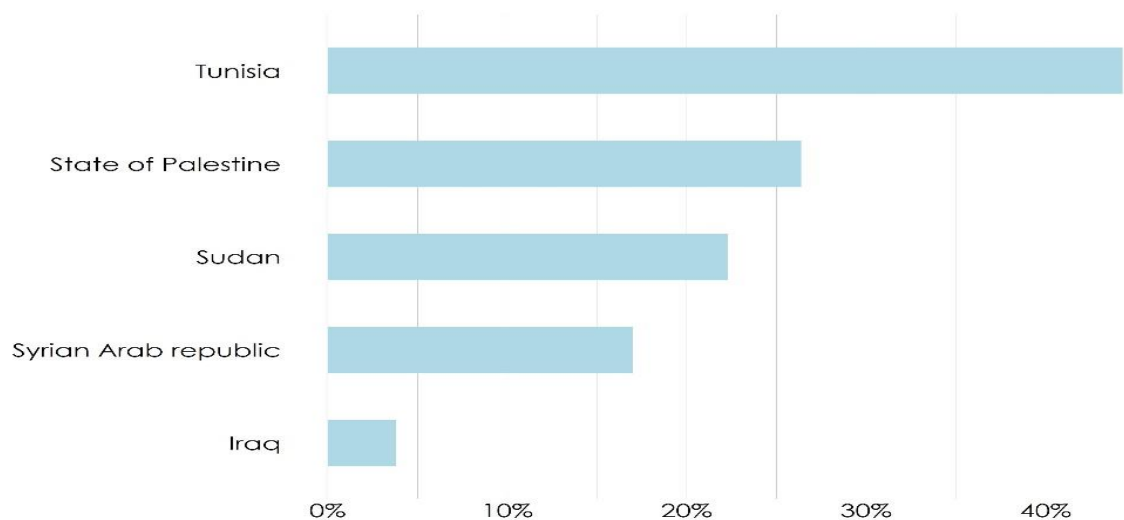
While under-investment is high across all countries in the region, it is particularly worrisome in countries directly and indirectly affected by conflict. In those settings, children most likely will be deprived of access to ECD programmes in education and health, with detrimental long-term consequences for their lifetime outcomes. The large youth bulge across countries in the region represents a significant challenge in the context of conflict, because a greater number of children in sensitive and critical periods for skilled development are exposed to disadvantage (ESCWA, 2018).

Figure 26 shows early childhood education attendance in Iraq, Sudan, the State of Palestine and Tunisia. No country in the sample manages

to have at least 50 per cent of children under five enrolled in early childhood programmes.

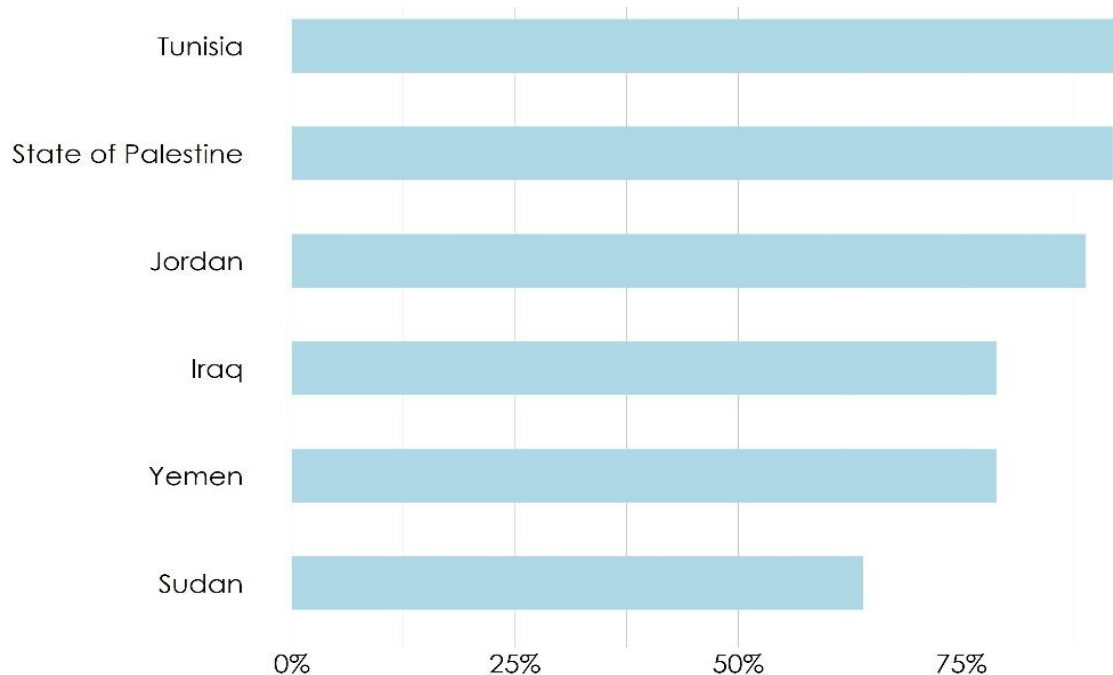
The most recent microdata available shows a low early childhood education attendance rate. The rate remains low compared to the world average of more than 50 per cent. In conflict-affected countries, access to early childhood education programmes is limited. As noted in chapter 3, the lack of early childhood education is likely to be linked to other areas of under-investment, such as nutrition and healthcare access. The conflicts across the region seem to have a particularly large detrimental effect on children in critical and sensitive stages of development. Household survey microdata needs to include more information on early childhood education, in order to understand the central role it plays in long-term development.

**Figure 26.** Early childhood education attendance



**Source:** ESCWA calculations based on household surveys: Sudan (MICS 2014), Iraq (MICS 2011), Syrian Arab Republic (PAPFAM 2009), Tunisia (MICS 2011-2012), and State of Palestine (MICS 2014).

**Note:** Number of children in the relevant age group (one year before the official primary entry age) who are attending an early childhood education programme/total number of children in the relevant age group. The Syrian Arab Republic in 2009 was not a conflict-affected country. However, we show the most recent data available in order to provide a sense of where the country stood in terms of baseline indicators.

**Figure 27. Violent discipline**

**Source:** ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

**Note:** Children between 2 and 14 subject to any form of psychological aggression or physical punishment by their caretakers or other household members. The Syrian Arab Republic in 2009 was not a conflict-affected country. However, we show the most recent data available in order to understand where the country stood in terms of baseline indicators.

The Arab region has the highest prevalence of violent discipline among children aged 2 to 14 compared to other regions of the world (UNICEF, 2017d). The prevalence is high for all countries with recent household survey microdata available. While it is widespread practice for parents across the region to discipline their children with physical and/or psychological aggression, exposure to conflict is directly associated with an increased likelihood of violent discipline. Parents more exposed to violence are more likely to take out their stress on their children, critically affecting their children's well-being.

### C. SDG 4: ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university

Figure 28 shows the discrepancy between urban and rural literacy rates across the Arab region for women. Worldwide, female literacy rates lag behind those of males, but the global average discrepancy is about 5 per cent for youths and 9 per cent for adults (International Literacy Data). Only half of the women aged 15 to 49 in Sudan and Yemen are able to read, whereas about two-thirds of women are

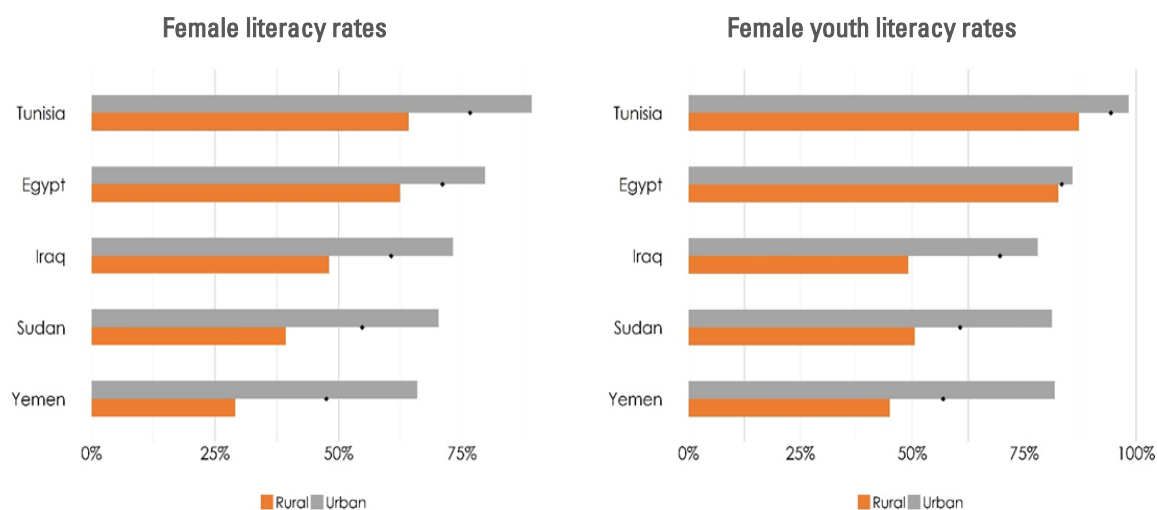
literate in Iraq and Egypt. Yet increasing literacy rates for the women between 15 and 24 reveals a positive development for female youth. In every Middle Eastern nation included in the present study, female literacy in urban areas is significantly higher than for rural areas. Egypt and the Syrian Arab Republic will be examined more closely later in the report.

Higher education is mentioned in target 4.3 of SDG 4, which aims to ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education by 2010. It is associated with other goals related to the eradication of poverty (SDG1), gender equality (SDG5), governance and economic growth (SDG8). While Jordan and the State of Palestine reach tertiary education rates for women close to tertiary education averages

in industrialized countries such as the Czech Republic (Organisation for Economic Co-operation and Development, 2016), rates in Tunisia and Iraq are below 20 per cent.

When assessing equal access to primary schooling, the State of Palestine and Tunisia perform well, as shown in figure 30. Their parity indices for primary school range are close to 1 (depicting parity). Iraq exhibits much lower net attendance ratios for women compared to men; for rural populations compared to urban ones; and for the poorest compared to the richest wealth quintile. Those disparities become dramatically large for secondary school enrolment. The State of Palestine and Tunisia are also not able to maintain equality in terms of secondary enrolment rates. However, the gender parity indices for secondary school largely shift towards women.

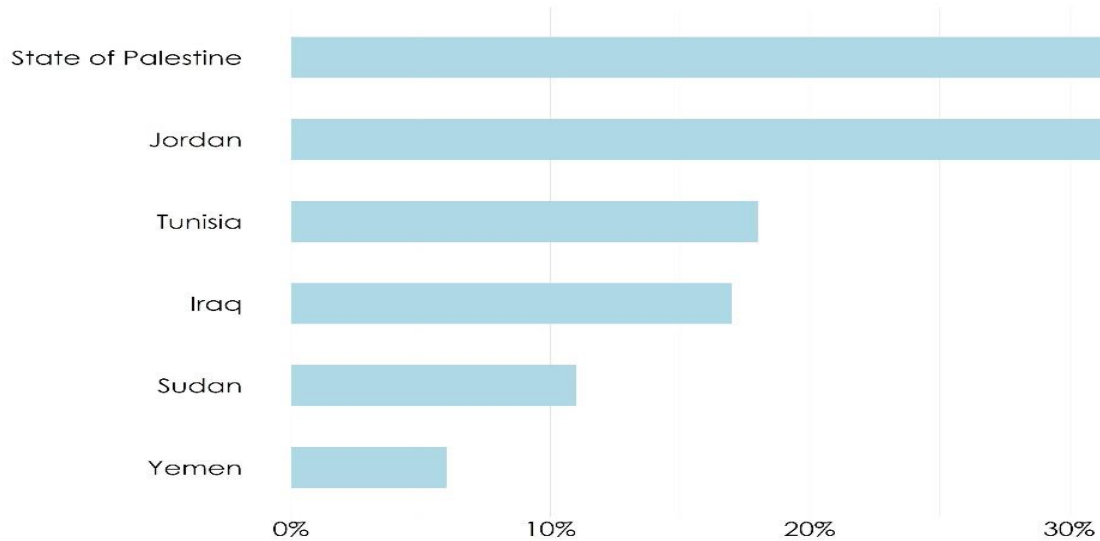
**Figure 28. Women's literacy rates**



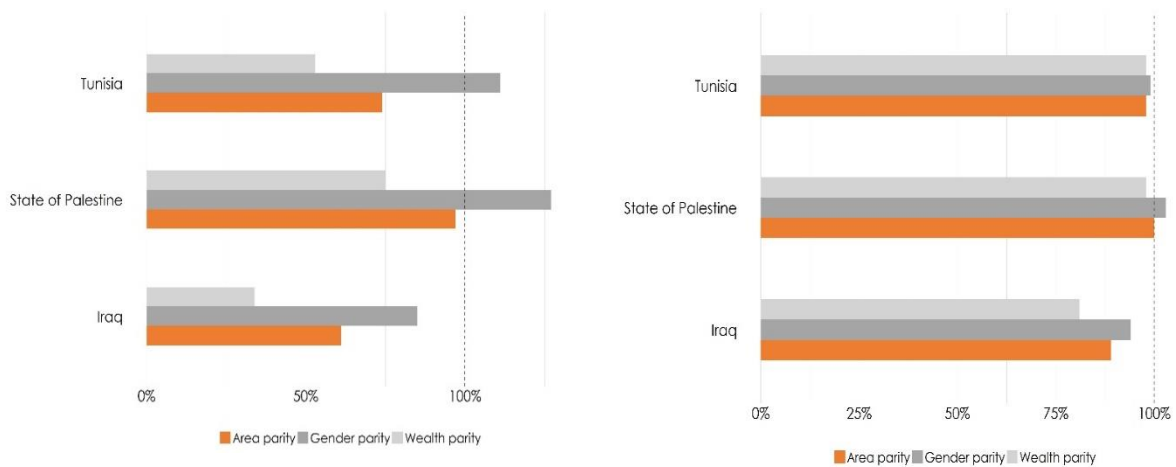
**Source:** ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), and Tunisia (MICS 2011-2012).

**Note:** Percentage of women aged 15 to 49 and 15 to 24 who are literate.



**Figure 29. Women with tertiary education**

Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

**Figure 30. Parity indices in primary and secondary school**

Source: ESCWA calculations based on household surveys: Iraq (MICS 2011), Tunisia (MICS 2011-2012), and State of Palestine (MICS 2014).

Note: The gender parity index is calculated as the adjusted net attendance ratio (NAR) for girls divided by NAR for boys. Wealth Parity is calculated as adjusted NAR for the richest wealth quintile divided by NAR for the poorest wealth quintile. Area Parity is calculated as adjusted NAR for the rural area divided by NAR for the urban region.

## D. SDG 4: ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy

### Education in the Arab region – high enrolment but low quality of learning

As previously noted in the present study, Arab countries reached several of the education targets of the MDGs and were on the way to achieving the SDGs. By 2005, gross enrolment rates in primary education reached 83 per cent across the region, 54 per cent in secondary education, and 21 per cent in tertiary education (UNESCO, 2007). Yet that attainment did not measure the quality of education provided, the skills imparted, or the requirements necessary to gain employment.

International policy analysis and advice have shifted focus from school enrolment alone to include education quality as well (World Bank, 2011). Such analysis recognised that progress towards MDG 2 of universal primary education did not necessarily equate to preparedness for higher education or the workforce, and that quality of education remained a significant challenge (ESCWA, 2012). Furthermore, enrolment in some cases referred only to a few sporadic days of counting pupils in attendance rather than sustained daily attendance, and measurements of literacy did not necessarily address functional literacy. Therefore, quality measures must accompany enrolment figures, including but not limited to national and global standardised tests, quality of teacher training

and regularity of teacher attendance, and employability of graduates as rated by employers. Although female enrolment in school had improved, that did not necessarily mean quality of education or preparedness for opportunities after graduation had improved.

One measure of educational quality is the Organisation for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA), which in 2015 tested more than half a million students in 72 countries. Conducted every three years, PISA assesses mathematics, science and reading capabilities in a manner comparable across countries. The tests are conducted in the language of local instruction and are implemented randomly within participating schools. The Arab countries covered by PISA testing have fared poorly when compared with other countries. Scoring scales are based on an average of 500 across OECD countries. Figure 31 indicates that scores have remained significantly below that average for Jordan and Tunisia, the two countries affected by conflict with data available across time. The relative ranking of these countries compared to others involved in PISA is very low. Science was generally the subject in which students performed relatively better, and mathematics the area with the lowest relative results, although all three subject areas indicate that significant improvement is needed.

Similarly, Lebanon, which has PISA data available only for 2015, ranks very low on reading and science, although less so in mathematics (as shown in figure 32). To corroborate those findings, the global

assessments of student achievement in mathematics and science (TIMSS) results for 2011 indicated that Tunisia ranked 47<sup>th</sup> and 48<sup>th</sup> out of 50 countries in mathematics and sciences respectively, and Yemen ranked 50<sup>th</sup> in both categories. Results of those international assessments drew attention to Arab policymakers of the significant shortfall in quality of education provided (Thacker and Moreno, 2015).

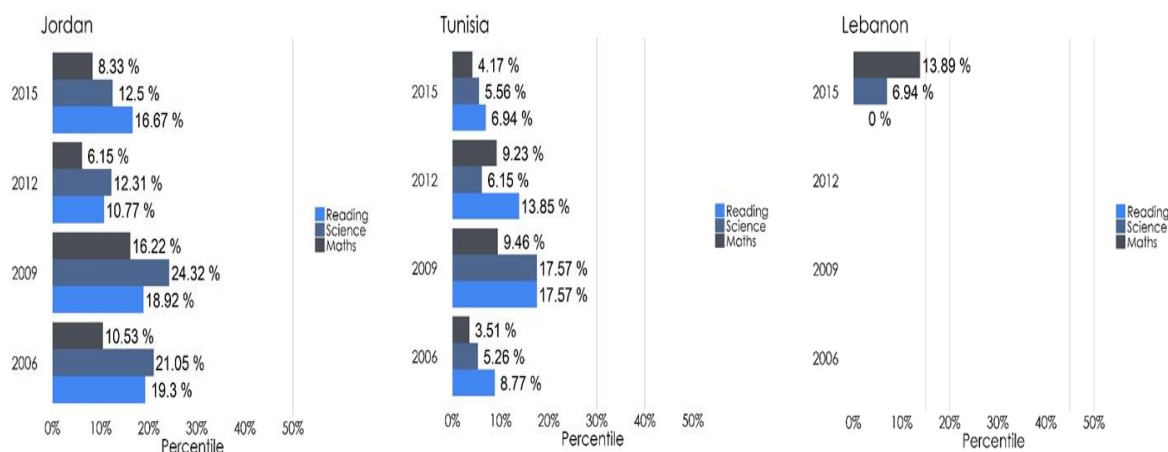
The effect of poor quality in education, with a population receiving many years of schooling yet not necessarily having the skills to succeed, has been evident in the high unemployment and lack of opportunities for graduates, oft-cited causes of the unrest leading to the “Arab Spring”. High enrolment rates masked severe shortfalls in the quality of education and training provided. Those shortfalls remain a key constraint across the region (UNESCO, 2014).

While analysis of that mismatch between years of school and employment opportunities has

focused mainly on the lack of economic opportunities for school graduates, due attention should also be paid to whether those graduates have the required cognitive reasoning, skills and know-how to achieve success as employees or entrepreneurs. That mismatch continues to persist today, with no evidence of improvement.

Given the persisting challenges of stagnation and lack of opportunities, which led to recent protests and unrest in Tunisia, the fact that measures of educational quality have, in fact, been decreasing does not bode well for future graduate opportunities. In addition, demographic trends mean that there will be even more young Tunisians leaving school, expecting their education to pay dividends. Education reform must improve the quality of education provided; invest more in teachers, course materials and other factors for educational attainment; and match instruction with the abilities and skills needed to help students succeed.

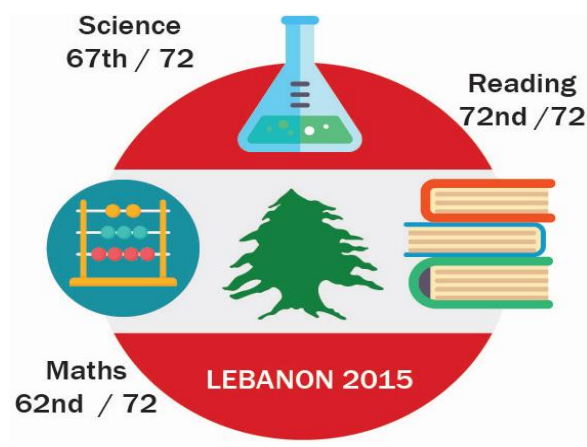
**Figure 31. PISA Score and Ranking**



Source: ESCWA calculations based on OECD, 2018.

Note: Score (Y-axis) based on scale of OECD average of 500. Ranking (number above bar) reflects different survey sizes in different years.

**Figure 32. PISA Score and Ranking for Lebanon 2015**



Source: ESCWA calculations based on OECD, 2018.

Note: Score (Y-axis) based on scale of OECD average of 500. Ranking (number above bar) reflects different survey sizes in different years.

## E. Conclusions

Several household survey programmes collected across the Arab region by national statistical offices and international organisations include important education data that can be used to produce key education statistics, including those on educational attainment, literacy rates, attendance rates, out-of-school rates, dropout rates, average years of a

population's schooling, and highest grades attended. Several other regions and countries of the world have household survey programmes that collect data on reading and mathematics skills. Such data have not been collected in household surveys for Arab countries.

The new round of UNICEF's MICs is set to collect data assessing education quality. Understanding the role of education quality is critical for sustainable development. Inequalities in the quality of education across and within Arab countries have caused enormous discontent among youth, which increasingly face dire labour-market opportunities.

The present chapter combined education data from micro-level surveys with administrative data on quality provided by international tests carried out in a subset of Arab countries. We used those data to highlight two important suggestions for micro-level data in the region. First, we should encourage data collection efforts on data quality to be added to existent regularly collected surveys. Second, micro-level data should be combined with other sources of administrative data to provide a better tracking mechanism for reaching SDGs.



## 5. Living Standards and Conflict (SGD 6, SDG 7 and SDG 11)





## 5. Living Standards and Conflict (SGD 6, SDG 7 and SDG 11)

Access for all to clean water, adequate sanitation, clean fuels and electricity is essential for sustainable development. Such access has an impact on many areas of development, including agriculture, energy, disaster resilience, human health, the environment and, ultimately, economic growth. Improved sanitation is an important condition for reducing mortality and disease at the household level. Deaths due to unsafe water and sanitation in the Arab region are higher than the global average and particularly high in crisis-affected countries (World Bank, 2018). As a result, improved sources of water and sanitation are strongly linked to the achievement of the sustainable development agenda by 2030, including SDG 3 (good health and well-being), SDG 11 (sustainable cities and communities), and SDG 12 (sustainable consumption).

SDG 6 (clean water and sanitation) and SDG 7 (affordable and clean energy) recognise that ensuring the availability and sustainable management of water, as well as affordable and clean energy, goes beyond mere access to improved water, sanitation and energy. Water and energy must meet quality standards. Their supply must be reliable, affordable and sustainable in terms of the country's whole population. Unsafe water can cause diarrhoea and cholera, ultimately leading to malnutrition and increased mortality risk. Diarrhoea is the second-largest cause of under-five mortality

globally and is associated with a higher risk of stunting (UNICEF, 2018b). UNICEF has estimated that diarrhoea-related diseases, linked to a lack of safe water, sanitation and basic hygiene, kill approximately 1,400 children under five every day (UNICEF, 2018b).

Most countries of the Arab region are extremely water scarce. Protracted conflicts across the region, coupled with other demographic factors such as rapid population growth, are challenging the achievement of sustainable access to water and sanitation, and are putting additional pressure on existing energy infrastructure. Violent conflicts in the Arab region pose a serious challenge to the progress that has been achieved in increasing access to improved water supply and sanitation since 1990. The conflicts have caused severe destruction of water infrastructure and institutions, and have halted the provision of public services. Refugees and displaced persons also increase pressure on the water, sanitation and energy infrastructure in host communities and neighbouring countries.

The World Bank estimates that the costs of inadequate water supply and sanitation amount to about 1 per cent of regional GDP annually. In conflict-affected countries, the economic costs increase to between 2 per cent and 4 per cent of GDP annually (World Bank, 2018a). Refugees



and internally displaced populations who were forced from their homes are more vulnerable to water-related and sanitation-related health threats (UNICEF, 2018a). In transit, safe drinking water sources and sanitation facilities often are not available, exposing people to high risks of disease and malnutrition. Refugee communities are increasing pressures on water usage in host countries. In Jordan, for example, Syrian refugees pose enormous challenges to water sustainability. Groundwater depletion has become a major concern because total water extraction rates now exceed total renewable water sources (Farishta, 2014).

Large-scale household surveys, such as DHS and MICS, provide important and unique data required to measure the progress towards achieving the SDGs. The surveys comprise standardised and comparable information on housing characteristics across the Arab region critical for measuring the current state of development in the areas of water, sanitation, housing conditions and hygiene. Based on data availability, the present chapter discusses indicators on the accessibility of improved water sources, sanitation and hand-

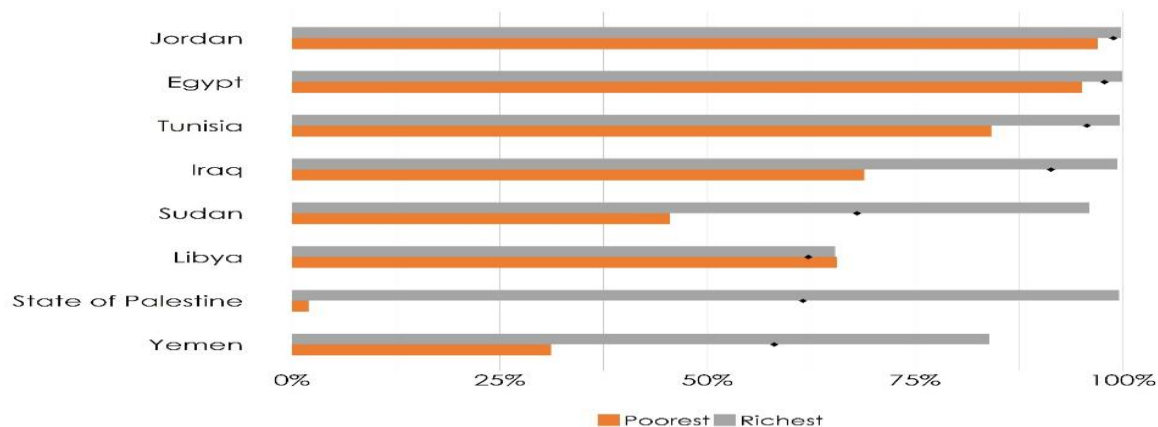
washing facilities, electricity, and clean cooking fuels for countries in the region.

## A. SDG 6: ensure availability and sustainable management of water and sanitation for all

### 1. Improving access to drinking water

Target 6.1 of the Agenda aims to achieve universal and equitable access to safe and affordable drinking water for all by 2030. Most countries of the Arab region are extremely water scarce. The region's demographic, pollution and environmental factors put additional pressure on achieving universal access to clean water and efficient water management. Infrastructure and environmental damages brought about by conflict have strained the situation even further. Host communities face exacerbated pressures on limited water resources brought about by increased water demands of refugees and displaced persons.

**Figure 33.** Access to improved sources of drinking water by wealth quintile



Source: UNICEF and WHO, 2015.

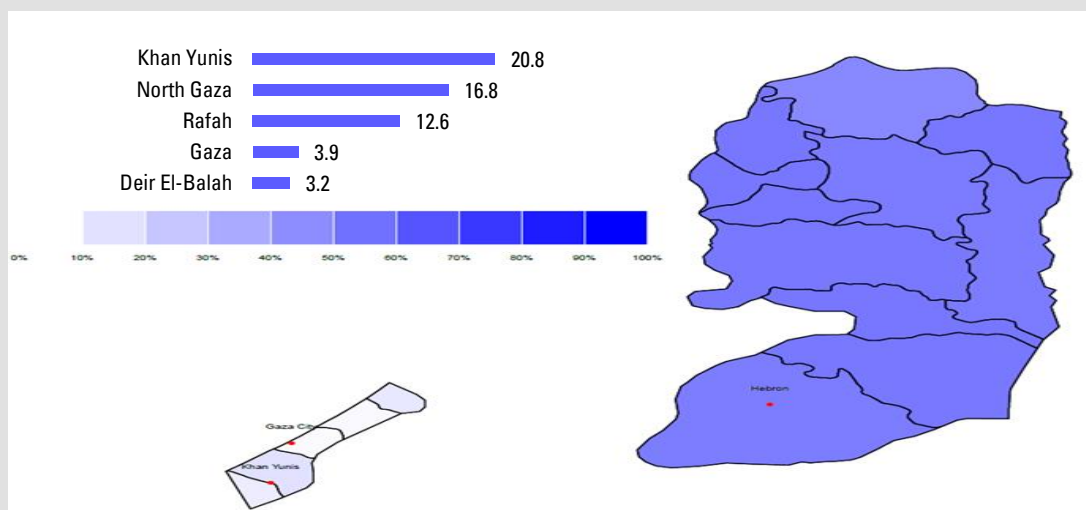
### Box 7. Water accessibility in the State of Palestine

The State of Palestine faces several challenges in the supply of improved water sources. The coastal aquifer in Gaza is in a state of extreme overuse, with water extraction rates exceeding the renewable supply. About 95 per cent of Gaza's water is supplied by the aquifer, which overuse has led to contamination by seawater, making it too salty to drink. Other problems include protracted conflict, groundwater contamination, and high population density. Consequently, disparities in the water accessibility between and within the West Bank and Gaza remain particularly large.

In Gaza, prolonged conflict has resulted in extensive damage to water and wastewater infrastructure, amounting to an estimated \$225 million between September 2000 and July 2003 (World Bank, 2018a). Infrastructure development, including necessary desalination plants, have been hampered by the Israeli blockade since June 2007.

As a result, only 10.4 per cent of the population in Gaza have access to improved drinking water sources, compared to 90 per cent of the population in the West Bank. The figure below shows that all governorates in Gaza fall significantly short of adequate water accessibility. In the governorates of Gaza and Deir El-Balah, only 3 per cent to 4 per cent of the population have access to improved water sources. Clean drinking water in Gaza often can be obtained only from private vendors and tanker trucks, exacerbating wealth inequalities in terms of water access. Water shortages and untreated sewage represent a severe health risk for many Palestinians in Gaza.

#### Population with access to improved water sources in the State of Palestine



Source: ESCWA calculations based on household surveys: State of Palestine (MICS 2014).

Among the Arab states, there is a wide statistical difference of access to improved water sources, ranging from almost universal access to less than two-thirds of the population. Jordan, Egypt and Tunisia established access to

improved water sources for more than 95 per cent of the population, but Yemen, the State of Palestine, Libya and the Sudan showed much lower rates, of between 58 per cent and 68 per cent.

There are significant disparities between the accessibility of improved water sources across wealth quintiles and between urban and rural areas. While the disparity between urban and rural areas is sizeable – about 13 per cent on average – the disparity between wealth quintiles is more pronounced. Most notable is that countries with restricted total accessibility have difficulties in providing equal access to all citizens, across their area of residence or income status.

Jordan and Egypt, for example, manage to supply their citizens with almost equal access to water in urban and rural areas. Wealth endowment in those countries does not significantly affect their population's access to improved water sources. On the other side of the spectrum, Yemen, the Sudan and Iraq supply water access to between 15 per cent and 26 per cent less of the population in rural areas than to the population in urban areas. In the Sudan and Yemen, the population with access to improved water sources in the wealthiest quintile is twice as large as that of the population in the poorest quintile. The State of Palestine represents an extreme case, where only 2 per cent of the population in the poorest wealth quintile has access to improved water, while the richest wealth quintile reaches almost 100 per cent accessibility. The extreme disparity originates from the fact that most of the population in the poorest wealth quintile lives in the Gaza strip, an area exposed to prolonged crisis and a weak institutional capacity, as discussed in box 7.

## 2. Improving access to sanitation facilities

Target 6.2 of the SDGs aims for access to adequate, equitable sanitation and hygiene for

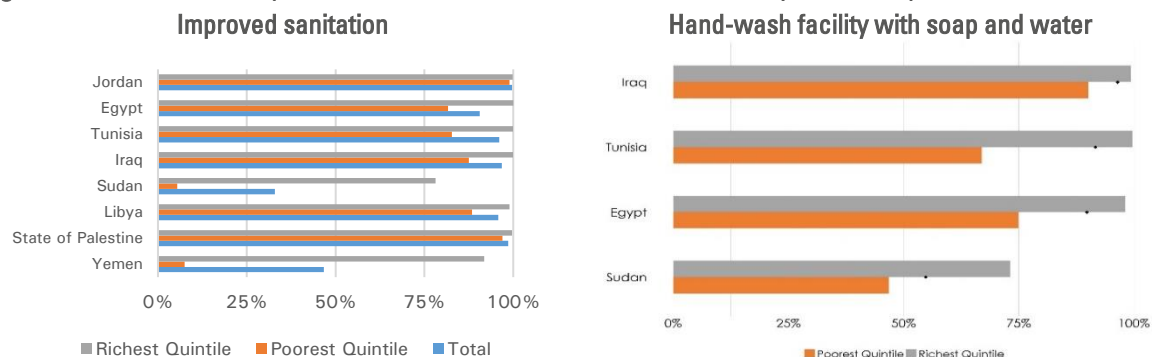
all by 2030. Sanitation facilities have a significant impact on the transmission of infectious diseases, the risk of illness and death (WHO, 2015). Access to improved sanitation facilities is crucial for achieving child health and reducing malnutrition.

While most Arab states have succeeded in providing access to improved sanitation facilities for more than 90 per cent of their populations, the LDCs of the Sudan and Yemen have significantly lagged behind in terms of adequate sanitation infrastructure. In the Sudan, only 33 per cent of people have access to improved sanitation, while 55 per cent have access to a hand-washing facility with soap and water. In the Sudan and Yemen, there is a serious shortage of hygienic toilet facilities in rural areas and for the poorest population quintile.

In countries exposed to high-intensity conflict, water networks have collapsed, increasing the risks of cholera and acute diarrhoea. In Yemen, violent conflict has damaged water supply networks and cut off about 15 million people from regular access to water and sanitation. A major cholera outbreak occurred in 2017. Between April and June 2017, 400,000 cases of suspected cholera and almost 1,900 associated deaths were recorded (UNICEF, 2017c).

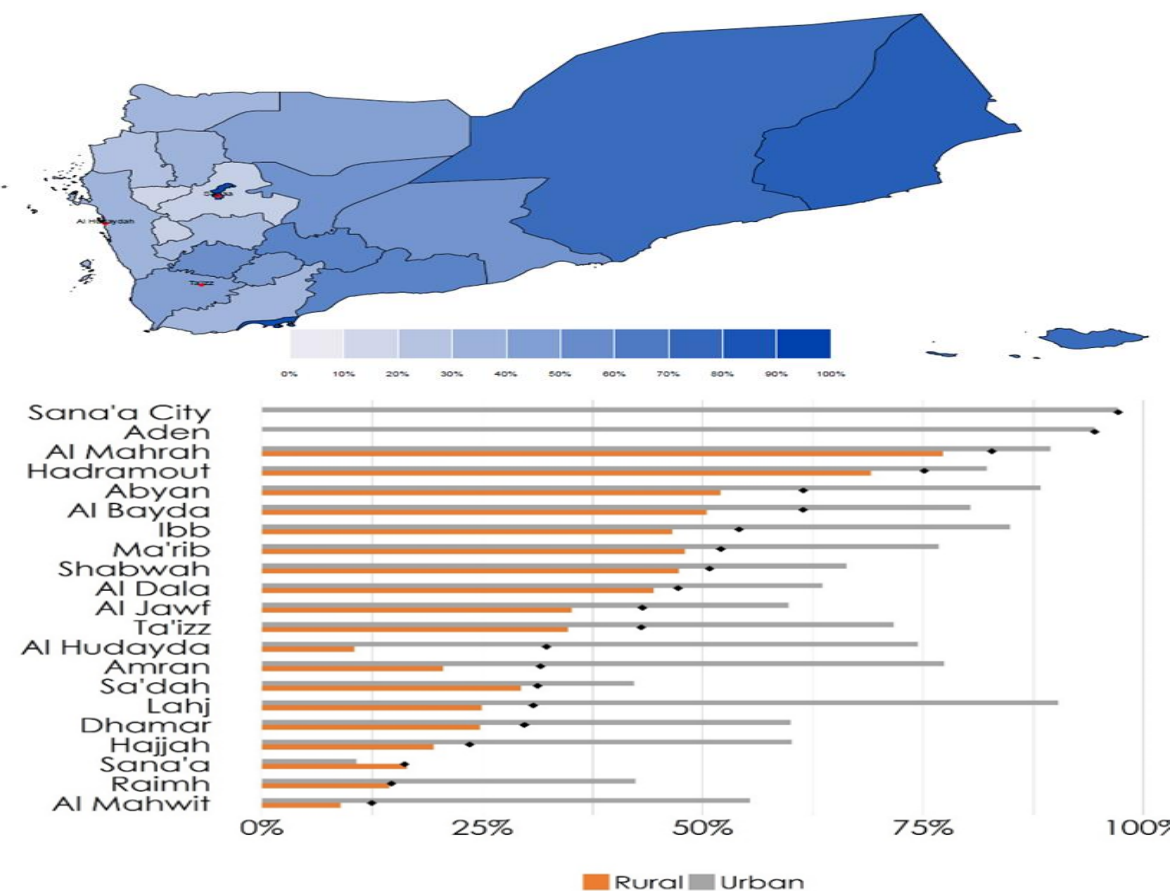
Figure 35 shows the access to improved sanitation facilities by governorates in Yemen for 2013. Even before the outbreak of civil war, a majority of the population lacked access to improved water facilities. Rural households in the eastern governorates were largely exposed to bad sanitation conditions.

**Figure 34.** Access to improved sanitation and hand-wash facility with soap and water



Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), State of Palestine (MICS 2014), Libya (PAPFAM 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

**Figure 35.** Access to improved sanitation facilities in Yemen, by governorate and area of residence

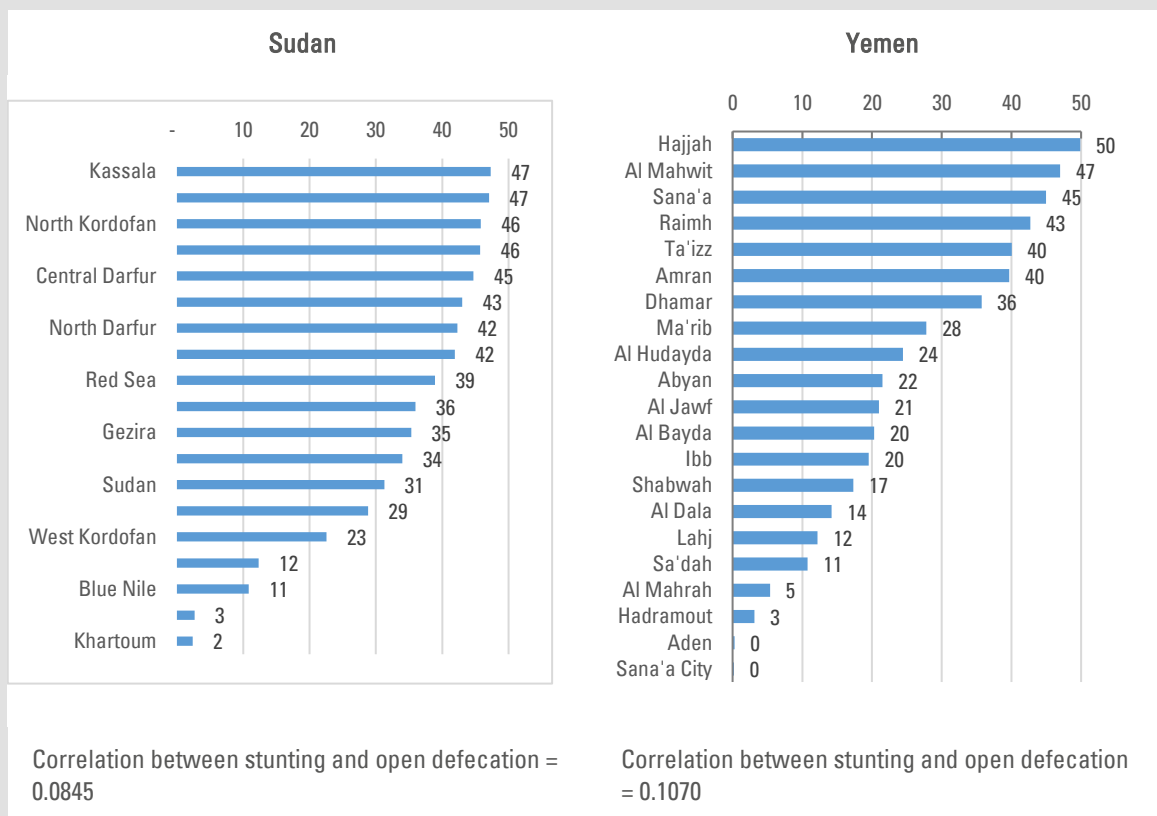


Source: ESCWA calculations based on household surveys: Yemen (DHS 2013).

### Box 8. Open defecation in the Sudan and Yemen

Global rates of access to improved water and sanitation remain far from 100 per cent. For improved sanitation, global access is 68 per cent; for water, it is 91 per cent (JMP, 2015). About 13 per cent of the world's population practises open defecation (UNICEF and WHO, 2015). Poor sanitation remains a major public health concern linked to several important health outcomes, including a link to childhood stunting. In the Sudan and Yemen, about one third of the population defecates in the open. The prevalence of stunting remains among the highest in the world. For Yemen, more than 45 per cent of children under five are stunted; in the Sudan, about 38 per cent of children under five are stunted. The global figure for stunting is 23 per cent (UNICEF, 2017b). Recent evidence from several developing countries suggests a strong correlation between open defecation and/or poor sanitation and disease generally (UNICEF, 2017b; Spears, Ghosh and Cumming, 2013). Sanitation measures must consider the correlation with childhood stunting.

#### Prevalence of open defecation in the Sudan and Yemen



Source: ESCWA calculations based on household surveys: Yemen (DHS 2013) and Sudan (MICS 2014).

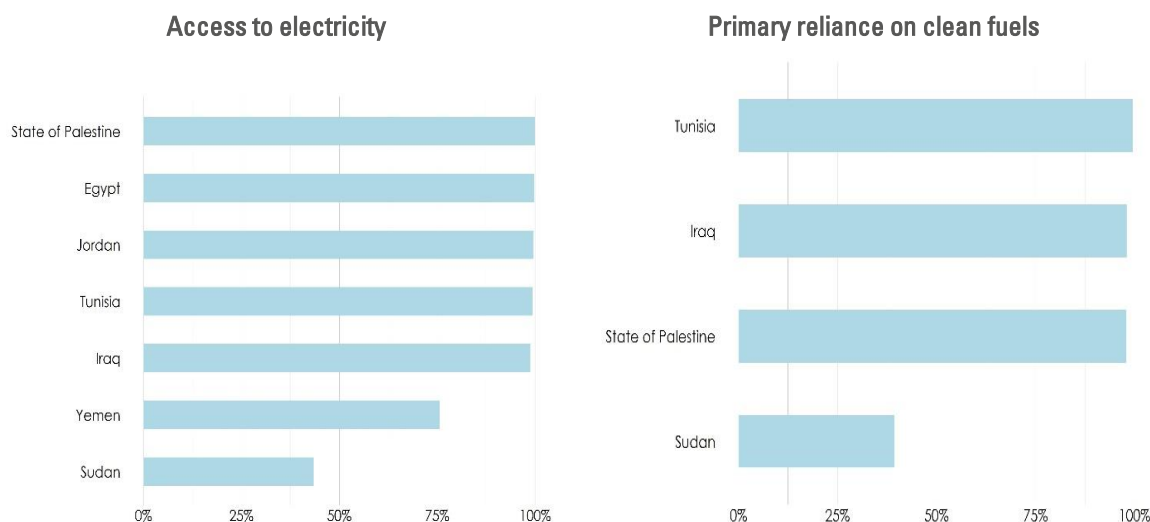
## B. SDG7: ensure access to affordable, reliable, sustainable and modern energy for all

Target 7.1 of the SDGs aims to ensure universal access to affordable, reliable and modern energy services by 2030. Improving access to clean and modern energy technologies in the home will improve health and social well-being, as well as contribute to long-term sustainability goals. The inefficient combustion of solid fuels and traditional biomass leads to household air pollution and safety concerns. As women in the region are traditionally responsible for household chores, they are disproportionately affected by the lack of clean energy. Research on access to electricity and clean energy stresses the adverse impact on socioeconomic

development (Aklin and others, 2017) and gender equality (Halff, Sovacool and Rozhon, 2014).

Most of the conflict-affected countries for which survey data are available are performing well at the country level in terms of providing access for their citizens to electricity and clean fuels. Jordan and the State of Palestine reach almost 100 per cent in terms of electricity coverage. Iraq, Tunisia and Libya reach about 96 per cent of electricity coverage. In Egypt, about 90 per cent of households report electricity access and the use of clean fuels for cooking. The Sudan and Yemen lag significantly behind. In the Sudan, less than 45 per cent of the population can access electricity, and less than 42 per cent of the population primarily rely on clean fuels.

**Figure 36.** Population with access to electricity and primary reliance on clean fuels



**Source:** ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

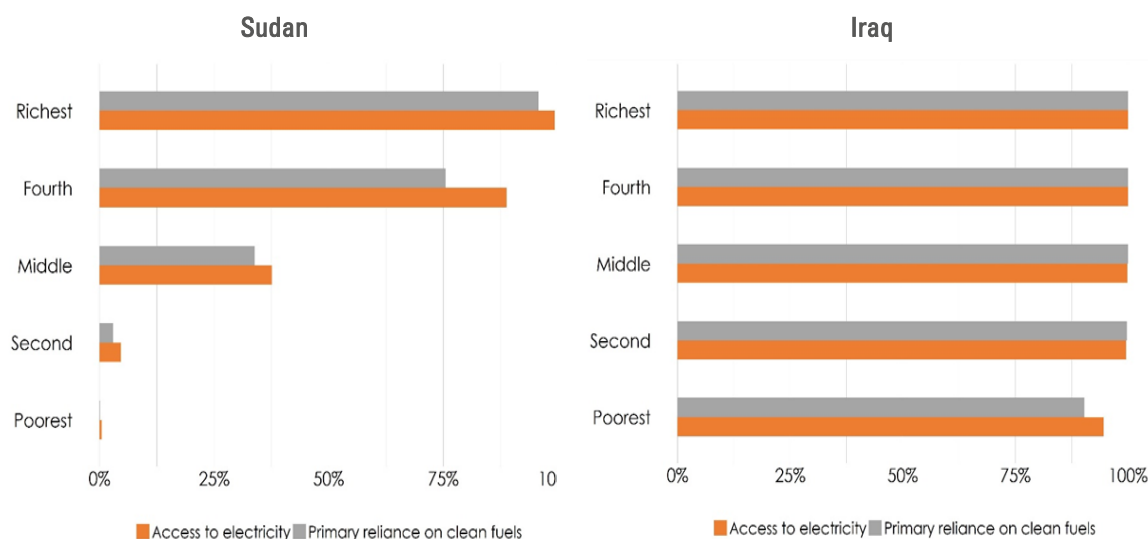
In the Sudan and Yemen, low levels of electricity access and clean fuel use are coupled with wide inequality across income distributions and area of residence. Breaking down access to electricity and clean fuels by wealth indicator in the Sudan shows that mainly the poor and the middle-income quintile are affected by restricted electricity and availability of clean fuels. Between 95 per cent and 100 per cent of the population in the poorest and second-poorest wealth quintiles still rely on traditional biofuels such as wood, charcoal, crops or other agricultural waste and dung. Rural and lower-income populations suffer from the least access to electricity and clean fuels.

Further disparities become obvious when looking at the regional breakdown of energy usage in the Sudan. While the Nubia province and Gezira governorate reach electricity and clean energy coverage close to their regional peers, the populations living in the Darfur and

Kordofan provinces in south-western Sudan face substantial restrictions in access to energy (figure 38). By contrast, Egypt, Iraq, Jordan, the State of Palestine and Tunisia provide equal access to electricity across their governorates, as illustrated in figure 39 for Tunisia.

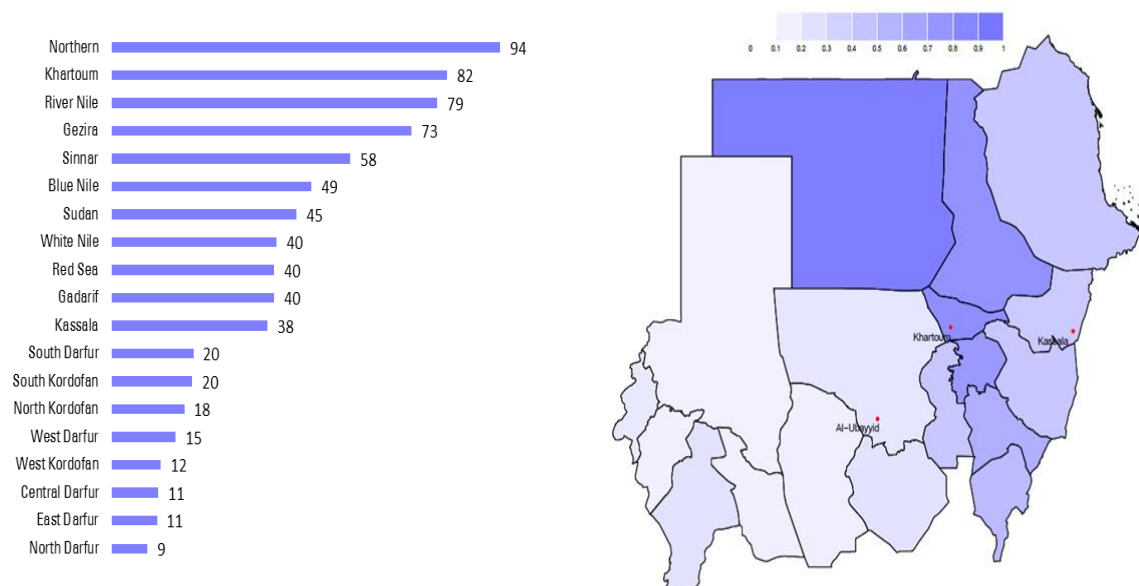
Looking at the electricity access across urban and rural areas within the governorates of the Sudan shows that mainly rural households are affected by the lack of electricity infrastructure. That disparity becomes even larger in governorates with low electricity access. In the Darfur and Kordofan provinces, only 5 per cent of the rural population have access to electricity, compared to up to 47 per cent in some rural areas of the north-eastern provinces, although access rates are diverse within rural governorates (figure 40). Limitations in access to electricity and clean fuels primarily affect rural and lower-income populations.

**Figure 37. Access to electricity and primary reliance on clean fuels in the Sudan and Iraq**



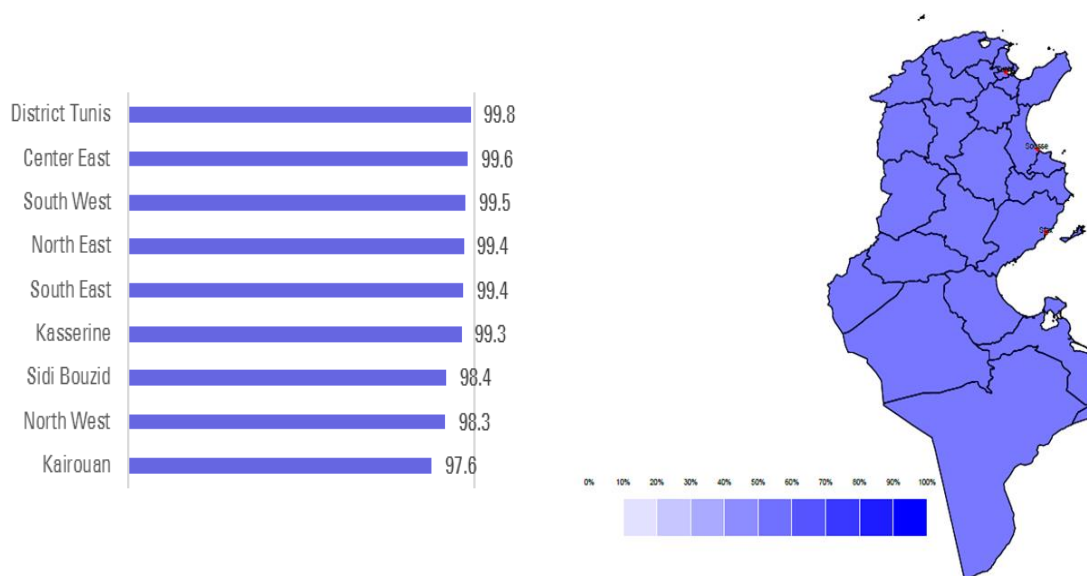
Source: ESCWA calculations based on household surveys: Sudan (MICS 2014), and Iraq (MICS 2011).

**Figure 38.** Access to electricity across governorates in the Sudan



Source: ESCWA calculations based on household surveys: Sudan (MICS 2014).

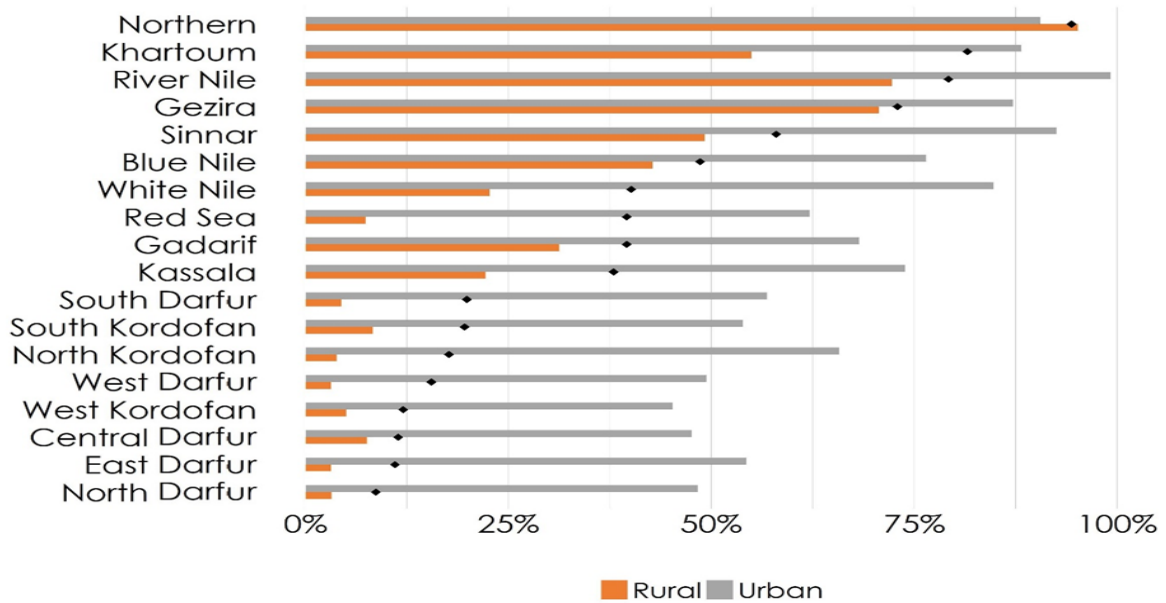
**Figure 39.** Access to electricity across governorates in Tunisia



Source: ESCWA calculations based on household surveys: Tunisia (MICS 2011-2012).

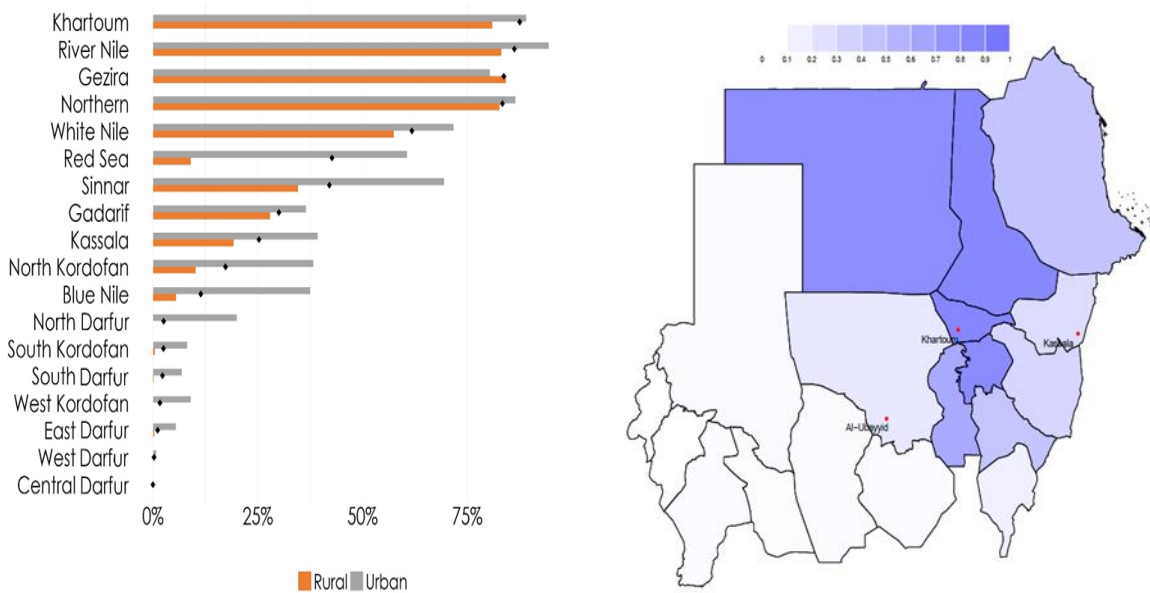


**Figure 40.** Access to electricity across governorates in the Sudan, by area of residence



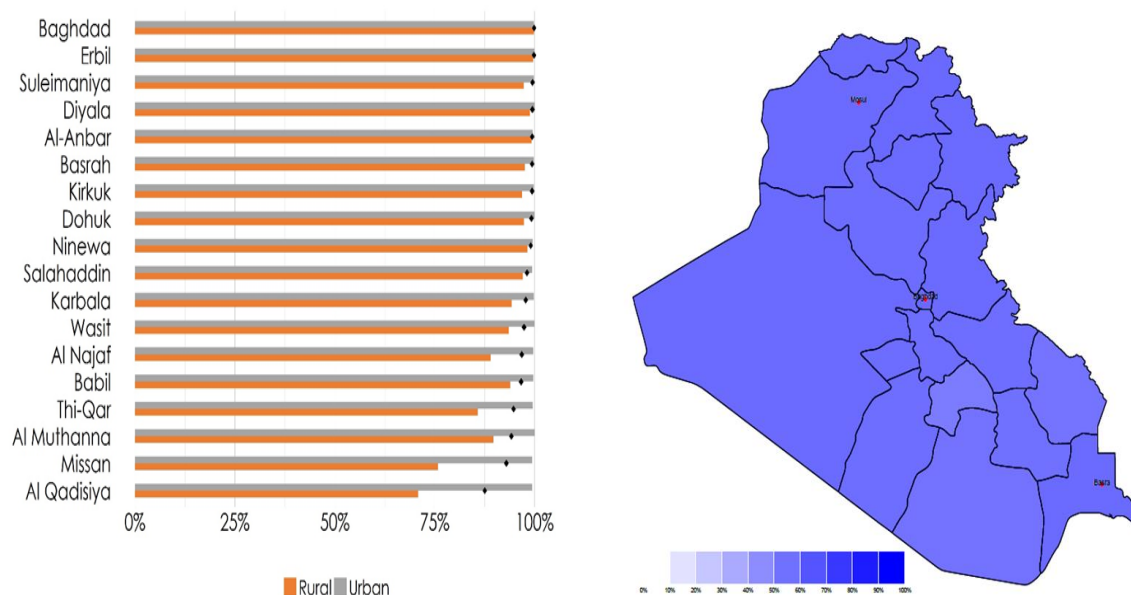
Source: ESCWA calculations based on household surveys: Sudan (MICS 2014).

**Figure 41.** Primary reliance on clean fuels across governorates in the Sudan, by area of residence



Source: ESCWA calculations based on household surveys: Sudan (MICS 2014).

**Figure 42.** Primary reliance on clean fuels across governorates in Iraq



Source: ESCWA calculations based on household surveys: Iraq (MICS 2011).

Examining the use of clean fuels across governorates reveals a similar picture. While the Sudan shows large differences in the use of clean fuels, with populations in the south-eastern provinces of Kordofan and Darfur primarily using solid fuels, Iraq, the State of Palestine and Tunisia have equality of access to clean fuels for cooking. However, figure 42 shows that lower rates of clean fuel use in governorates are driven by lower access in rural areas.

### C. SDG 11: make cities and human settlements inclusive, safe, resilient and sustainable

Target 11.1 of the SDGs seeks to ensure access to adequate, safe and affordable housing and

basic services for all by 2030. Inadequate housing is a determinant of poverty and has a negative impact on children's health and people's well-being. Impediments to child health and the development of cognitive abilities prevent social mobility; can consolidate intergenerational poverty; and impede young people's opportunities. The people most vulnerable to health problems are those who spend the most time indoors: infants, children, the elderly, and the ill. Refugees and internally displaced persons are also among the most vulnerable groups in terms of inadequate housing, as they are forced to live in temporary shelters with little space.

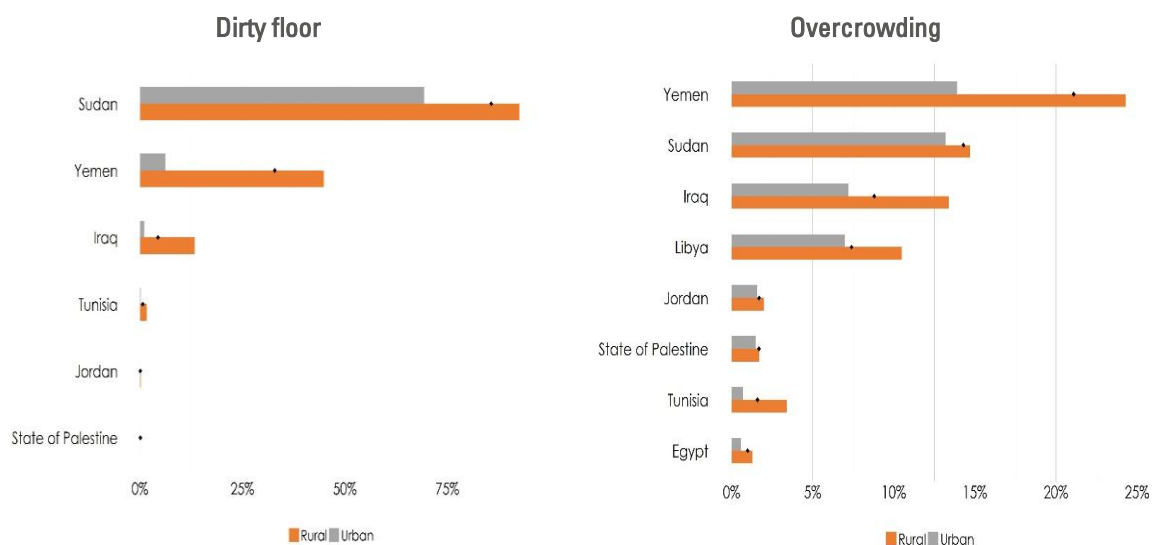
Research on housing conditions show that several dimensions of children's well-being

suffer when exposed to crowded living conditions, including academic achievement, behaviour, and health (Solari and Mare, 2012). The World Bank examined health outcomes of families which had their dirt floors replaced by cement floors during a large-scale government programme in Mexico (Cattaneo and others, 2007). The study found large health improvements of programme participants, with parasitic infestations falling by 78 per cent; cases of diarrhoea decreasing by 49 per cent; and an improvement in cognitive development of up to 96 per cent.

Households with dirt floors are widespread in the Sudan and rural areas of Yemen. In Yemen, the regional disparities are large and depend

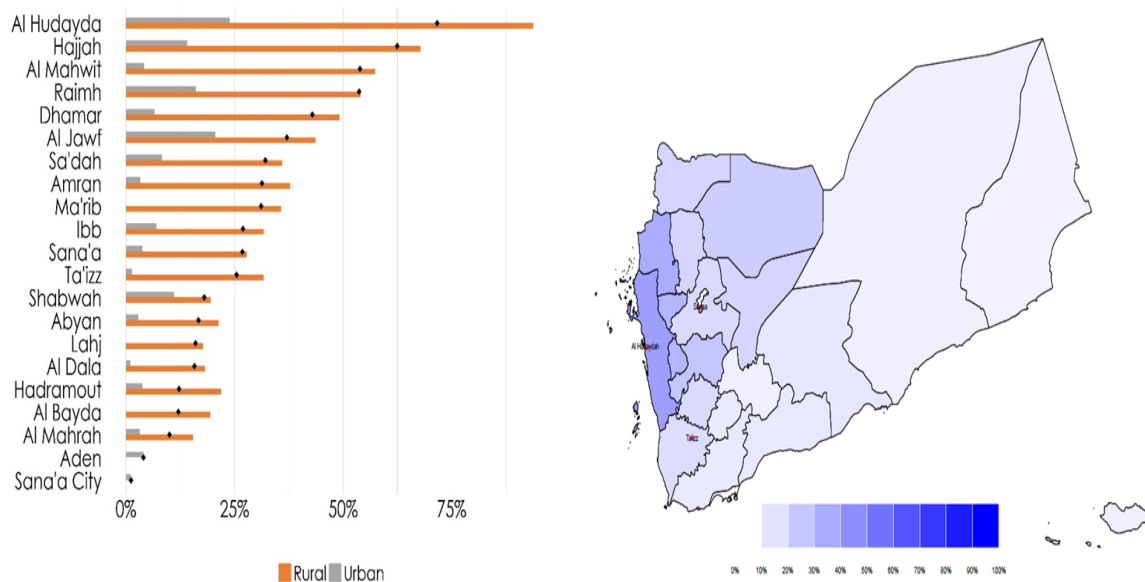
mainly on the percentage of rural residential areas in governorates (see figure 43). Overcrowded housing, to a certain extent, affects all countries experiencing conflict across the Arab region. The Sudan and Yemen have higher average overcrowding rates, with 21 per cent of overcrowded households in Yemen and 14 per cent in the Sudan. Within those countries, disparities do not seem to play a major role. The remaining countries exhibit lower overcrowding rates, but crowded housing is a greater concern in Libya and Iraq. Less than 2 per cent of households in the State of Palestine, Jordan and Tunisia are overcrowded. In Libya, 7 per cent of households are overcrowded. In Iraq, 9 per cent of households are overcrowded.

**Figure 43.** Population living with dirt floors and in overcrowded households



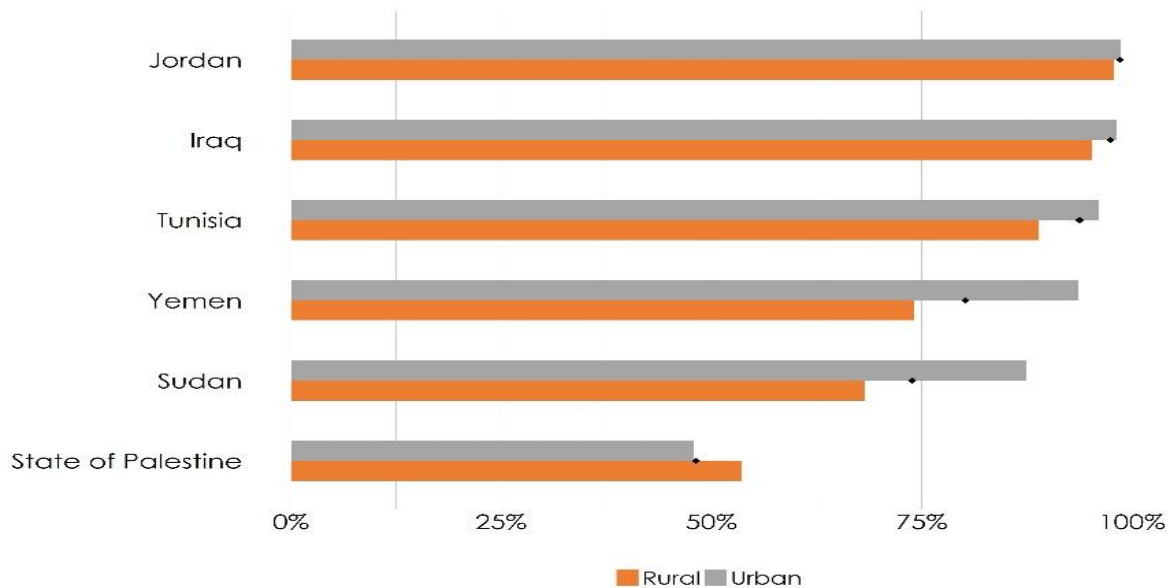
**Source:** ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), Egypt (DHS 2014), State of Palestine (MICS 2014), Libya (PAPFAM 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

**Figure 44.** Households with dirt floors across Yemen's governorates



Source: ESCWA calculations based on household surveys: Yemen (DHS 2013).

**Figure 45.** Households covered by a mobile phone network



Source: ESCWA calculations based on household surveys: Yemen (DHS 2013), Sudan (MICS 2014), Iraq (MICS 2011), State of Palestine (MICS 2014), Tunisia (MICS 2011-2012), and Jordan (DHS 2012).

Note: Mobile phone network in the State of Palestine refers to individuals with smart mobile phones.

## D. SDG 9: promote inclusive and sustainable industrialisation and foster innovation

One of the targets included in SDG 9 aims to significantly increase access to information and communications technology by 2030. The proportion of population covered by a mobile phone network is quite high in the Arab region, although the State of Palestine, the Sudan and Yemen significantly lag behind their regional peers. However, data on the State of Palestine are restricted to information on the availability of smart mobile phones, which makes that data less comparable with the rest of the region.

## E. Conclusions

Living standards, including access to improved water and sanitation, have steadily increased across the region. Only the LDCs studied in the present report are behind in terms of access to improved water and sanitation. The interconnectedness of those goals with good health was described throughout the chapter. Reaching the SDG target of universal access to water and sanitation by 2030 will require disproportionately higher efforts by the LDCs in the region. Our indicators point to the importance of narrowing the urban-rural divide.

While progress was made in most countries in the region during previous decades, exposure to

conflict decelerated those trends and, in many cases, wiped out the progress made. In the State of Palestine during the 1990s, there was universal improved water access. In recent years, the provision of improved water sources declined. In addition to the provision of water and sanitation, the SDGs seek to ensure access to adequate, safe and affordable housing and basic services for all by 2030. Dirt floors and overcrowding are prevalent in the Sudan and Yemen. In the Sudan and Yemen, low levels of electricity access and clean fuel use are coupled with high inequality across income distributions and the areas of residence.

While many indicators can be calculated from standardised household surveys such as MICs and DHS, there are limitations to the information contained in such surveys. With respect to SDG 6, we have little information on several major issues. Those issues include water use efficiency, water resources management, plus quality and reliability of water access. They also include environmental considerations, such as pollution, contamination, and untreated sewage. The data on clean energy access cannot tell us whether a household's energy supply is affordable, reliable and/or complies with modern standards. The authors of the present report encourage the collection of such information in surveys in order to provide a greater source of information from which to track progress towards sustainable development.

## 6. Measuring Labour-Market Progress in Conflict Settings (SDG 8)





## 6. Measuring Labour-Market Progress in Conflict Settings (SDG 8)

### A. Introduction: the importance of employment for achieving SDG 8

SDG 8 is pivotal in addressing how people can emerge from poverty and provide sustainable, healthy lifestyles through productive employment. Indeed, one of the key implications of the 2030 Agenda is clear in SDG 8 — that long-term socioeconomic progress will be reached and financed through sustainable economic opportunities, plus employment and earnings, rather than through reliance on aid or assistance programmes. It also emphasises the importance of mutually reinforcing relationships among citizens, job seekers, the state, the private sector and society in general.

Given the importance of gainful employment, and the severity of unemployment, in the Arab region, especially among youth, the following analysis focuses on job prospects for citizens, particularly women and youth, in countries affected by conflict. Poor and unequally distributed economic opportunities are one of the most oft-cited causes of the anger and despair among Arab populations at the time of the Arab uprisings in 2011 (ESCWA, 2016). Economies ravaged by conflict, or suffering from uncertainty, offer even fewer opportunities for employment. Shops, factories and offices have been destroyed. Trade routes

for agricultural and manufactured products have been blocked. Demand for services has fallen. All those factors perpetuated and exacerbated the already existing problem of access to work and economic opportunities in the region.

Labour indicators are also a key measure of the link between economic activity and socioeconomic development, through the welfare of individual wage earners and the households that depend on them. Other economic indicators, such as growth or income per capita, can in isolation be superficial and ignore the gap in opportunities or poor distribution of earning potential. High per capita incomes based on resource exports indicate nothing of the often low propensity of such resource sectors to generate jobs (ECA, 2017). Growth is also misleading in that a post-conflict rebound might look impressive in aggregate figures yet might merely reflect the return to production that had faltered during the period of conflict. Other indicators, including those of productivity and diversification, are difficult to measure in conflict-affected countries. Also, they do not prioritise job creation to meet a growing population's demand. The large and growing proportion of young people in the Arab region has been presented as both a possible opportunity for productive



dividend and a potential liability for unemployment and discontent (World Economic Forum, 2014).

## B. Status of employment opportunities in Arab countries affected by conflict

Data from available national labour force surveys conducted in Arab countries experiencing conflict, or affected by conflict in neighbouring countries, indicate the status of employment opportunities in those countries. Sampling methodologies consider regional and country context specificities. Households are sampled to match characteristics of the subnational and national population. The main indicators calculated from the surveys include:

- The unemployment rate, which is the rate of unemployed persons available and seeking work (that is, active in the labour force);
- The employment rate, which is the rate of employed persons in the working age population (persons above 15 years old);
- The labour-force participation rate, calculated as the ratio of the labour force to the working age population (persons above 15 years old).

All three indicators are disaggregated by gender and for youth (aged 15 to 24).

The availability of finance and expertise to conduct household surveys is limited at the best of times but, in conflict- and crisis-prone countries, it is especially difficult. Survey results are available for only some years and some crisis-affected countries in the region.

The countries and years for which data are available are presented below. The results for each indicator are compared with the corresponding average across States, in each country's sub-region for the year in question, based on International Labour Organization Stat-modelled outcomes.<sup>9</sup> Those modelled outcomes closely resemble the results of national labour force surveys, with the notable exception of Yemen, highlighting the impact that crises can have on previous estimates and the resulting need to collect microdata in areas of conflict and crisis.

### 1. Unemployment

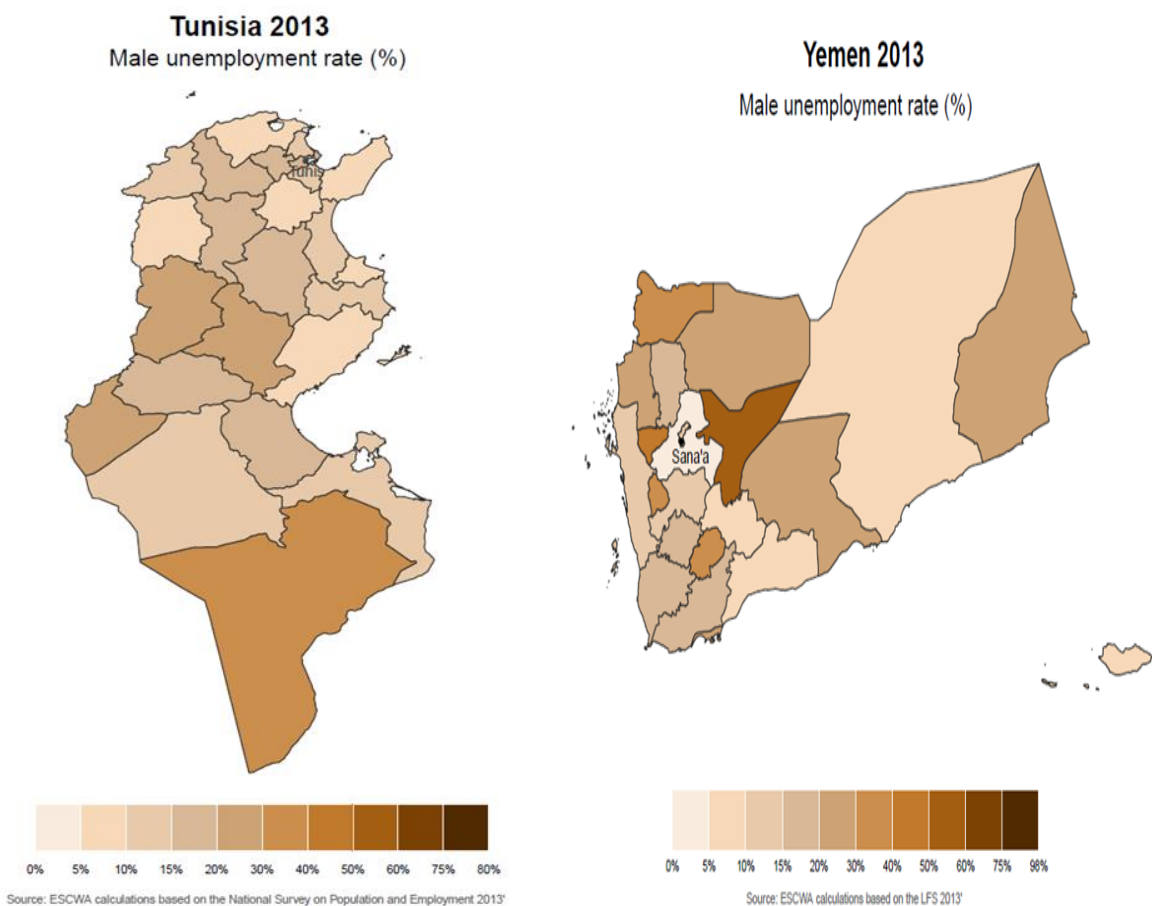
A general trend in unemployment across the countries discussed is clear, with rates for countries in and affected by conflict at the same level or higher than subregional averages, regarding total unemployment, youth unemployment, and employment for men and women measured separately. Iraq is the only outlier in which survey data reveals unemployment rates lower than the regional average. Not surprisingly, in general, youth unemployment is higher than for the other groups measured, followed closely by unemployment of women, with male and total unemployment considerably lower. However, in Yemen, unemployment of women is the highest category, followed by youth unemployment. Those findings confirm observations of the limited economic opportunities and severe difficulties in finding work across the region, particularly in countries in crisis and particularly for the young.

**Figure 46. Unemployment, Employment-to-population ratio, and Labour force participation**



Source: ESCWA calculations for all histograms based on national labour force surveys, ILO, 2018.

**Figure 47.** Unemployment for the male population in Tunisia and Yemen



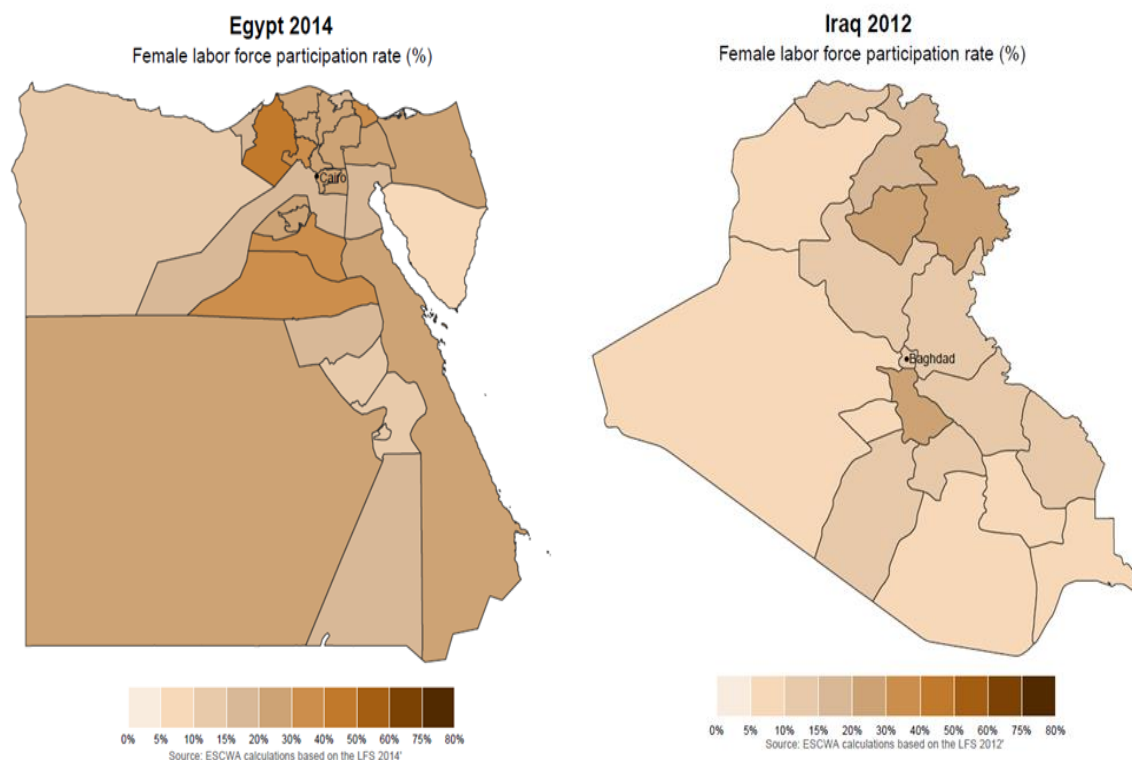
Source: ESCWA calculations based on Labour Force Surveys for Tunisia (2013) and Yemen (2013).

## 2. Labour-force participation

Like the case of unemployment, although to a lesser degree, labour-force participation (LFP) in conflict-affected countries reflects a more negative picture than in the Arab region in general. Some countries have a higher LFP than

the regional average for certain groups measured. For all countries, LFP for women is the lowest of all groups measured, with no country having more than 30 per cent of women of working age in the labour force. LFP becomes progressively higher, although still low, for youth, then total LFP, and finally for men.

**Figure 48.** Female labour-force participation rates across governorates in Egypt and Iraq



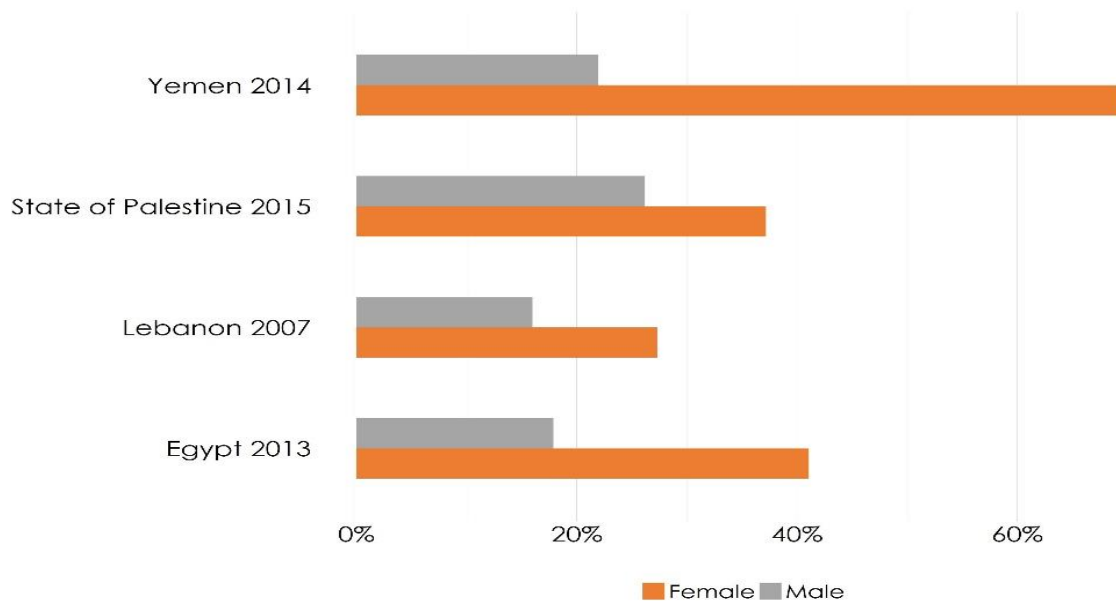
Source: ESCWA calculations based on Labour Force Surveys for Egypt (2014) and Iraq (2012).

### 3. Employment

The employment-to-population ratio for the countries studied is, with very few exceptions, significantly lower than subregional averages. As with LFP, this ratio is lowest for women, followed by youth, total employed, and highest for men. The fact that employment and LFP rates are relatively worse for women than unemployment rates are reveals that the situation for women looking for work is particularly bleak, across the region in general but more acutely in conflict-affected countries.

### 4. Proportion of youth not in education, employment or training

A final indicator that illustrates the severity of lack of opportunities is the proportion of youth not in education, employment or training. Based on labour force surveys, that proportion is nearly one-third of all youth in the countries for which data is available, apart from Yemen, in which nearly half of all youth fitted into that category. The proportion for women was considerably higher.

**Figure 49.** Proportion of youth (15-24 years) not in education, employment or training

Source: ESCWA calculations based on ILO, 2018.

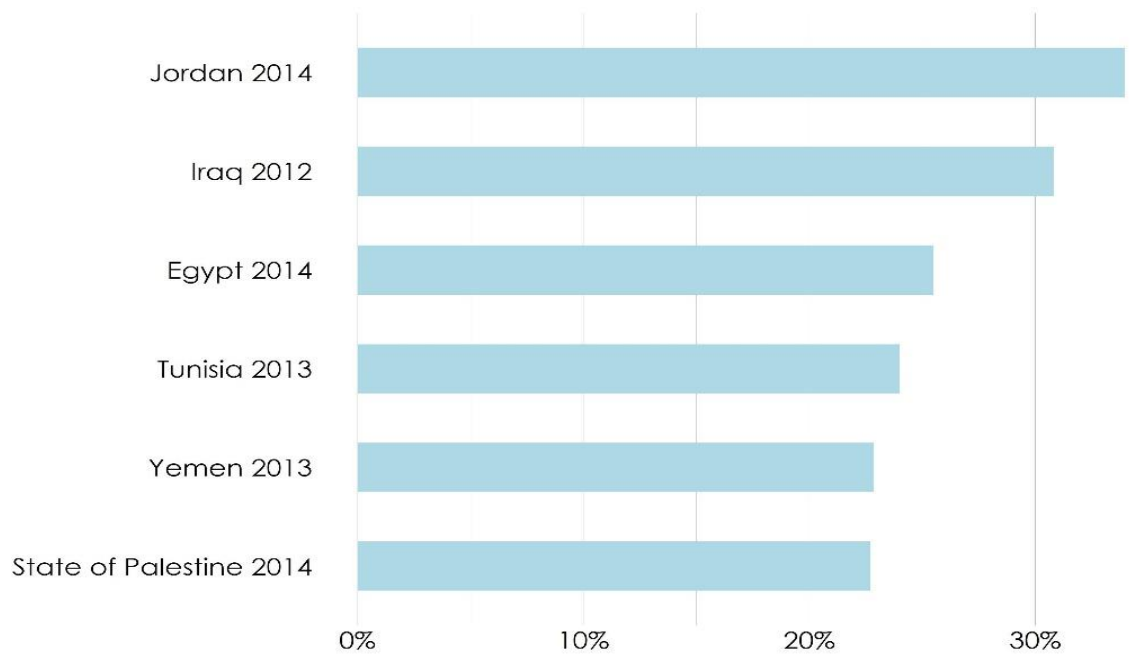
## 5. Informality

Labour markets in Arab States are widely characterised by predominantly public sector employment and a weak private sector coupled with a large informal economy. The countries studied in the present report exhibit overall high public sector employment levels, ranging from 23 per cent to 34 per cent of total employment, exceeding the OECD average of 21 per cent (see figure 50) (OECD, 2015). Moreover, most economies in Arab States suffer from structural rigidities in labour markets that have limited job-creation possibilities in the private sector (Yousef, 2004). As a result, labour markets in the Middle East and North Africa are among the most informal economies in the world (Angel-Urdinola and Tanabe, 2012). Informal

economies offer employment opportunities outside the often heavily regulated and bureaucratic private sector. Among other consequences, income from informal employment is not taxed.

Yet informal employment is vulnerable in nature, associated with low wages; high insecurity; difficult working conditions; no access to health insurance or social protection, such as pensions or income security. Therefore, it ultimately conflicts with achieving decent work conditions as stipulated by SDG 8. Given the Arab youth bulge and associated youth unemployment ranging from 18 per cent in Iraq to 42 per cent in Yemen, the informal economy offers the only income prospect for many young people during their transition to adulthood.

**Figure 50. Public Sector employment in Arab States in conflict**



Source: Labour Force Surveys and Living Standards Measurement Studies.

In the absence of sufficient employment opportunities in the public and private sectors, particularly for youth, the informal economy has provided a source of income for a large proportion of the population in Arab States. The informal sector also represents the main employment market for refugees, because refugees often face onerous restrictions in the formal labour markets of their host communities. The current conflict and terrorism in the region, with the associated forced migration and internal displacement, have exacerbated the prevalence of unemployment and informal employment.

Reliable data on informal labour are available for even fewer countries and years than the other indicators assessed above. By their nature, jobs

that are not formally registered with authorities for tax and census purposes are difficult to measure and count formally. In the absence of tax information or formal registration in the informal economy, household surveys provide useful information capturing informal and precarious employment data. The definition of informal jobs of employees from microdata surveys is employment where employees do not have an employment contract, or where employees are not entitled to paid annual leave, sick leave or social security registration (ILO, 2013).

Available data on the informal sector reveal that, in 2009, 51.2 per cent of employment was in the informal sector in Egypt. In the State of Palestine, the proportion increased from 57.2 per cent in 2010 to 62 per cent in 2016 (ILO,

2018). Four North African countries for which data was available reveal informal employment accounting for between 40 per cent and 80 per cent of non-agricultural employment (ILO, 2009).<sup>10</sup> Data from the Labour Force Survey for Yemen reveals that 73 per cent of employed persons worked in the informal sector in 2013. The proportion was slightly higher for men than for women and particularly high for persons between 15 and 24, with the percentage of youth working in the informal sector accounting for up to 83 per cent (ILO, 2015). In the State of Palestine, about 80 per cent of waged employees in the private sector have no benefits in terms of contributions to a pension fund, paid annual leave or sick leave. About 73 per cent have no written work contract (State of Palestine, Central Bureau of Statistics, 2015).

## 6. Subnational results

The labour surveys used for the analysis above also provide data at subnational levels, disaggregated by governorate and urban compared to rural areas. With regard to the urban-rural divide, labour indicator outcomes are slightly better in rural areas, with unemployment lower for three of the five countries.<sup>11</sup> LFP is higher or at the same level for four of the five countries, and employment is higher for three of the five countries. Jordan and Yemen have slightly better labour outcomes for urban areas.

The differing results reflect differing mobility of workers and labour markets in urban and rural

areas. Workers often move from rural areas, which have relatively high levels of employment in agriculture but lower incomes and standards of living, to urban areas in search of higher wages and better opportunities. On the one hand, those opportunities are difficult to secure in what is a more competitive labour market. Movement of people in search of better economic opportunities and safer areas to live and work reduce the labour-to-employment ratio in cities dependent on industry services, trade and exports, especially in conflict-affected countries. On the other hand, there are more opportunities for employment in a diverse range of service and industry sectors in urban rather than rural areas, as well as better infrastructure and other services, which can lead to better labour outcomes in urban centres (Boughzala and Hamdi, 2014).

To assess regional disparities further, given the protests during the Arab Spring that economic opportunities did not extend beyond well-connected elites in Arab capitals and major cities, we compared labour indicators for those capitals and the rest of the country. Table 6 shows the rank of each capital or largest city compared to other regions of comparison in each country. With some exceptions, capital cities rank roughly in the middle of regional performance on labour indicators. Therefore, political and economic centres do not outperform the rest of the country or reveal a favourable bias in economic opportunities, depending on the country in question, as far as the general measures of unemployment, employment and LFP are concerned.

**Table 5.** Labour indicators in urban and rural areas, for available countries and years

	Unemployment		Labour Force Participation		Employment	
	urban	rural	urban	rural	urban	rural
Egypt, 2014	15.6	10.9	45.8	49.9	38.7	44.5
Iraq, 2012	11	6.3	43	45.1	37.3	40.6
Jordan, 2014	11.5	12.9	37.6	37	33.3	32.2
State of Palestine, 2014	24.7	17.9	43.6	47.5	32.8	39
Yemen, 2013	20.1	26.3	43	43	34.3	31.7

Source: ESCWA calculations based on *National Labour Surveys*.

**Table 6.** Rank of labour indicators in largest city compared to the rest of the country

	Unemployment	LFP	Employment
Cairo, Egypt, 2014	24th/27	23rd/27	24th/27
Baghdad, Iraq, 2012	16th/18	6th/18	11th/18
Amman, Jordan, 2014	2nd/12	6th/12	5th/12
Tunis, Tunisia, 2013	12th/24	10th/24	10th/24
Sana'a, Yemen, 2013	6th/21	15th/21	11th/21

Source: ESCWA calculations based on *National Labour Surveys*.

### C. Challenges and conclusions

Research findings illustrate several challenges facing labour and employment across the Arab region, which was a key issue contributing to the 2011 Arab uprisings, and was exacerbated by a series of crises that escalated into conflict and spread across borders. Progress in terms of achieving SDG 8 was compromised, one of many factors in which negative trends both contributed to, and exacerbated, crises, in a destructive cycle. Unemployment, poor access to economic opportunities, low participation of women, and limited prospects for the young were all issues before the crises, despite some

progress, especially female empowerment and economic participation in terms of the SDGs (ESCWA, 2017a). Even in the case of de-escalation of some violent conflicts, Arab countries could continue to face the pressures that caused the crises in 2011. There are clear long-term implications of extended periods of unemployment and failure to secure job opportunities, with job seekers – particularly the young – discouraged and exiting the formal labour market (ILO, 2012).

Several systemic challenges also affect job prospects in the region. There has been an overall lack of diversification into new job-



creating sectors, with continued dependence on oil and gas sectors in many countries. Those sectors have fewer job-creating multipliers and externalities than industry and services. Most of the structural changes achieved have not yielded enough formal, high-paying jobs (ESCWA, 2017b). The slump in oil prices, and the poor outlook for global oil demand, have exerted negative pressure on jobs created by the sector directly and indirectly. The large proportion of public sector employment, and the domination of well-connected university graduates in the limited opportunities offered by the formal private sector, have reduced the attractiveness of the formal private sector to

those not part of the elite, leading to reduced competition within the formal private sector (World Economic Forum, 2014).

Low investments in education outcomes and limited focus on the quality of learning have led to a mismatch between skills demanded by the private sector and skills attained by graduates (as was pointed out in Chapter 3). Arab countries suffer from overall lack of incentives to change that structure. Economic rents accrue from resource exports regardless of job creation, and the systemic issues and economic structures in place would require concerted efforts to transform them.

## 7. Conclusion





## 7. Conclusion

The United Nations 2030 Agenda for Sustainable Development has generated great expectations for development progress. To ensure that countries in the Arab region can progress towards achieving the 17 Sustainable Development Goals (SDGs) and their targets, high-quality and disaggregated data are required. They must be reliable and easy to use for a large range of users, including decision makers at all levels. Current data collection efforts across the region fall short in terms of tracking progress towards the Agenda. Better data availability is crucial for designing public policy across the Arab region, especially in countries experiencing conflict and the neighbouring countries affected.

While the infrastructure is in place to collect microdata across the region, substantial efforts are required to produce more timely and better quality data, including information on populations touched by crises and conflicts. Increased investment in data collection across the region is required. The present report provides guidance on how to leverage existing data, so that it can be used better by policymakers and academics. The regular collection of micro-level data across countries is possible because it is part of the existing statistical infrastructure of most countries in the region. The data are highly representative of national populations; are collected at regular intervals; and include measures of population characteristics required for SDG indicator disaggregation.

Capacity building is required to improve the availability and quality of data on sustainable development. High-quality and sustainably produced statistics are essential, both for setting targets and for monitoring progress. With the data already collected across countries in the region, we can set baselines for tracking and monitoring SDG progress in crisis-affected countries. Measuring progress requires comprehensive monitoring and a robust accountability mechanism. Further investment in national statistical systems and capacity development are needed for national data collection, data processing and analysis, and the extraction of high-quality, further disaggregated data.

We have summarized a set of SDGs and the corresponding indicators that can be produced from existing microdata collected across the region. Those indicators will need to be complemented by other sources of aggregated and administrative data but represent an opportunity for the region as a whole, and for conflict-affected countries in particular, to establish baselines and tracking mechanisms that can be further improved over time. The indicators produced in the present report are meant to present complex data and trends in simplified form for policymakers, so that policy formulation can be based on information that is evidence based and transparent.



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# Endnotes

1. Two recent exceptions in the Arab region are the Iraq Household Socioeconomic Survey (2012), part of the Living Standards Measurement Study (LSMS) developed by the World Bank, which includes questions on the impact of armed conflict on living conditions and internal displacement, and the 2014 Survey on Socioeconomic Conditions for Palestinian Households (2014), which examines the impact that the 2014 armed conflict with Israel had on households in Gaza.
2. We assign conflict by location and not by the origin of the warring parties. That means that, if country A is involved in an armed conflict in which the fighting takes place entirely inside the territory of country B, the conflict will be assigned to country B. We follow that convention because we are interested in studying the impact of armed conflict on the development of the population directly hit by the violence, rather than by the conflict's political and/or other consequences.
3. In its current (18.1) version, the UCDP/PRIO Armed Conflict Dataset provides information on armed conflicts across the world between 1946 and 2016. The data are available from <http://ucdp.uu.se/downloads>.
4. An incident/event is included if the incident/event contains one battle death. However, the definition of a conflict remains 25 or more battle deaths. Therefore, unless an incident/event can be clearly tied to an identified conflict, the incident/event is not recorded in the dataset. The threshold for the definition of a conflict is unchanged. Much anonymous or disorganized violence (for example, much terrorist activity) is excluded from the dataset.
5. In its current (18.1) version, the UCDP Georeferenced Event Dataset provides information on conflict event for all countries of the world, except the Syrian Arab Republic, from 1989 to 2016. The data can be downloaded from <http://ucdp.uu.se/downloads>.
6. The main dataset of the Correlates of War project ([www.correlatesofwar.org](http://www.correlatesofwar.org)), the COW War Data, was for a long time one of the main sources of armed conflict used in political science. However, it has not been updated beyond v.4.0 (which covers the period 1816 to 2007). Other databases relating to the project have had more recent updates.
7. The IBC database provides monthly information of the number of civilians killed since 2003. The minimum geographical precision is at governorate level. Details are available from [www.iraqbodycount.org/about](http://www.iraqbodycount.org/about).
8. <https://sustainabledevelopment.un.org/sdg2>.
9. The regional averages are for North Africa, and for the Arab region excluding North Africa. Thus, Egypt and Tunisia are compared with the former; Iraq, Jordan, the State of Palestine and Yemen are compared with the latter.
10. The countries are Algeria, Morocco, Tunisia, and Egypt.
11. Rural-urban disaggregated data is not available for Tunisia.

The 2030 Agenda for Sustainable Development stresses the importance of quality, accessible, timely and reliable disaggregated data to measure progress and to ensure that no one is left behind. Current data collection efforts across the Arab region fall short in terms of tracking progress towards the Agenda. Better data availability is crucial for designing public policy concerning poverty, hunger and malnutrition; access to education and other basic services; and social discrimination and exclusion, especially in countries experiencing conflict and in conflict-affected neighbouring countries.

Reliable figures to evaluate how conflict has affected prosperity goals should be a priority in the region. Major investment is required in data collection and processing to provide policymakers around the region with the information they need to inform their decisions. Mapping 12 of the 17 SDGs and presenting figures based on microdata that could serve as the most relevant to the sustainable development indicators, this report identifies data gaps and demonstrates the importance of using microdata for measuring and monitoring progress towards achieving the goals and targets of the 2030 Agenda.

