Economic and Social Commission for Western Asia (ESCWA)

SDG situation report for the Arab region: the case of SDG 3

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Summary:

1. Introduction

The UN resolution of 25 September 2015, entitled Transforming our world: the 2030 Agenda for Sustainable Development, outlined the Sustainable Development Goals – SDGs (UN GA 2015a). They are to be achieved by 2030, contain 17 goals and 169 targets, with 232 indicators in the revised list provided by the UN STATS (UN GA 2017b, UN STATS 2017). SDGs can be expected to be in the center of UN's and international community's development efforts up to 2030.

There are multiple national, regional and global reports monitoring the state of SDGs. With regional reports in particular, the challenge lies firstly in different definitions of the Arab region. International "organizations and in fact UN bodies do not subscribe to the western Asia as comprising of either only the Arab countries as defined by LAS, or UN ESCWA member countries. The World Bank uses the definition Middle East and North Africa, which apart from the LAS member countries includes also Iran, Israel and Malta (and instead of States of Palestine uses the name West Bank and Gaza), but misses on other countries. This and similar definitions are also used by think tanks, researchers and authors around the globe (Kuncic 2016)." Secondly, there is a challenge of reporting on progress of Arab subregions in a suboptimal manner, which happens when countries are combined in a group (and stay there) based on one criteria only, regardless of whether that criteria is relevant to the topic of examination, in which we are trying to look at subregional discrepancies. This can be either GDP levels (World Bank, IMF), geographic position (Maghreb, Mashreq, GCC), level of human development as measured by HDI (UNDP), oil riches and resource rents per capita (Cammet et al. 2015), etc. For many of the SDGs, these regional subgroups would produce uninformative subregional averages and performance measures.

The aim of this paper is thus resolving the two challenges, by establishing a regional baseline in which League of Arab States members are taken as forming the Arab region, and secondly, to provide an alternative to a static grouping for subregional exploration, by making the groups flexible. In both cases, the paper provides a situation report based on official UN STATS indicators, taking SDG 3 as an example.

The outline of this paper is the following. Section 2 provides a brief overview of the relevant reports on SDGs. Section 3 discusses methodological issues. Section 4 presents the SDG 3, and the targets and data underneath. Section 5 examines where the Arab region stands on SDG 3. Finally, section 6 concludes.

2. Overview of work on SDG progress and snapshots

There are several relevant report on the global level, regional level as well as country reports – mainly in the form of voluntary national reviews. Globally, within the Secretariat of the UN, two annual reports should be mentioned in addition to one following a four year cycle. Additionally, specialized agencies of the UN and NGOs are investing in further situation and progress reports.

Global focus

The Global Sustainable Development Report (UN 2016) aims to strengthen the science-policy interface, and a third edition was published in 2016, with plans for a new edition in 2019, to inform the high-level political forum convened under the auspices of the General Assembly. The structure of the report follows pre-identified nexus of infrastructure, inequality and resilience (chapter 2); followed by two cross-cutting dimensions of technology (chapter 3) and institutions (chapter 4), while finally identifying emerging issues for sustainable development (chapter 5).

The Sustainable Development Goals Report (UN 2017) aims to evaluate where the world stands on the 17 Goals, 2017 is the second edition. The structure of the report follows the SDGs, with a chapter on the importance of harnessing the power of data, and reporting on selected indicators under each goal also in a predetermined regional geographic disaggregation, where the largest overlap with the Arab region is the country grouping Northern Africa and Western Asia.

Progress towards the Sustainable Development Goals report of the Secretary-General is a yearly report to the GA which aims to provide a global overview of the current situation regarding the SDGs (UN, 2017). As such, it provides an overview of global progress towards the 17 SDGs, based on available and selected indicators form UNSTATs. As opposed to a consistent geographical disaggregation of the Sustainable Development Goals Report (UN 2017), the Progress report of the UNSG sparingly provides regional aggregates on selected issues and regions only.

The World Bank also developed its own dashboard for SDGs based on World Development Indicators, that help to monitor the SDGs, however under each goal several indicators are presented, and they are not always the official indicators for SDG monitoring (http://datatopics.worldbank.org/sdgs/). They report on predetermined regional geographical groupings as well, with the group most interesting for the Arab region being Middle East & North Africa.

In addition to that, The Sustainable Development Solutions Network (SDSN) (commissioned by UN Secretary-General Ban Ki-moon in 2012 to mobilize scientific and technical expertise from academia, civil society, and the private sector) has issued a report creating a country level SDG Index in 2016 (Sachs et al. 2016). The new 2017 version of SDG Index & Dashboards revises methodology, revises and adds metrics for the SDGs, including a total of 99 indicators and bringing the total coverage to 157 UN member states. The country progress dashboards also introduce an additional "orange" evaluation of progress, falling between "yellow" and "red". Also, a set of nine new international spillover indicators are added, spanning over six SDG goals, and accounting for cross-country spillovers in the areas of a) environment, b) economy, finance, and governance and c) security. Their country groupings Middle East and North Africa is the closest match to the Arab region (Sachs et al. 2017).

All of the mentioned: Progress towards the Sustainable Development Goals, Report of the Secretary-General , SDG Index and Dashboards, and WB SDGs Dashboards provide also regionally aggregated data, although for the purpose of the Arab region, their definitions of what is either MENA, Northern Africa and Western Asia, do not overlap entirely with the LAS membership.

Regional focus

An overview of how the Arab region is doing as compared to others and in time, is provided in Arab Sustainable Development Report, First Edition, 2015, all 22 Arab states are examined against each of the

17 SDG goals. The report provides Arab weighted averages as well as subregional weighted averages using a geographical and economic classification: LDCs, Mashreq, Maghreb and GCC. Additionally, there are symbols used to characterize sustainable development trends over the past two decades, which correspond to a symmetric ordinal scale of -2 to 2 (2 - Trend is clearly favourable in relation to SDGs, 1 - Moderately favourable changes in trend in relation to SDGs, 0 - No clear trend or little change). It is also noted whether the Arab region met the MDG target (that is, it is Over or Under), and if there is no MDG target, whether the region's average is Over or Under the world average. Additionally, several thematic nexuses are examined in more detail (UNESCWA, 2015).

The Economic and Social Commission for Asia and the Pacific published an Asia-Pacific Sustainable Development Goals Outlook in 2017, which provides a regional outlook and continues to examine every SDG separately. It aims to develop an understanding of the opportunities and challenges confronting the region and it provides a goal by-goal snapshot of where the region stands, including bright spots, hot spots and emerging issues. It also looks into selected subregional differences, disaggregating the region geographically into East and North-East Asia, South-East Asia, South and South-West Asia South, North and Central Asia and Pacific, but only for selected indicators and not across the board (ESCAP 2017).

The Sustainable Development Goals Center for Africa (SDGC/A), whose mission is to support governments, civil society, businesses and academic institutions to accelerate progress towards the SDGs, issued a report called Africa 2030: How Africa Can Achieve the Sustainable Development Goals in 2017. Rather than examining the continent SDG by SDG, this report focuses on thematic issues of Health; Education; Agriculture, Food Production and Nutrition; Information and Communication Technology; Energy and Infrastructure; Jobs; and Demography. In the second part of the report, there is also subregional analysis based on five geographical regions defined by the African Development Bank Guidelines (AfDB, 2016); namely Central Africa; East Africa; North Africa; Southern Africa; and West Africa (SDGC/A 2017).

National focus

As part of its follow-up and review mechanisms, the 2030 Agenda for Sustainable Development encourages in paragraph 79, for the member states to "conduct regular and inclusive reviews of progress at the national and sub-national levels, which are country-led and country-driven". "These national reviews are expected to serve as a basis for the regular reviews by the high-level political forum (HLPF), meeting under the auspices of ECOSOC. As stipulated in paragraph 84 of the 2030 Agenda, regular reviews by the HLPF are to be voluntary, state-led, undertaken by both developed and developing countries, and involve multiple stakeholders. The voluntary national reviews (VNRs) aim to facilitate the sharing of experiences, including successes, challenges and lessons learned, with a view to accelerating the implementation of the 2030 Agenda. The VNRs also seek to strengthen policies and institutions of governments and to mobilize multi-stakeholder support and partnerships for the implementation of the Sustainable Development Goals" (https://sustainabledevelopment.un.org/vnrs/)

In 2016 and 2017, there were 65 VNRs presented at the two meetings of the HLPF. Additionally, 48 VNRs are planned for 2018. Out of those, four Arab countries already presented, Egypt and Morocco in 2016, Jordan and Qatar in 2017, and eight more are planned for 2018: Bahrain, Lebanon, Saudi Arabia, Palestine, Sudan, UAE, Egypt, and Qatar (Egypt and Qatar presenting for the second time).

3. Data source and methodological issues

Data

The global indicator framework was adopted by the General Assembly on 6 July 2017 and is contained in the Resolution adopted by the General Assembly on Work of the Statistical Commission pertaining to the 2030 Agenda for Sustainable Development (A/RES/71/313). The Annex contains the global list of 232 indicators (with 9 of those indicators repeat in different goals, leading to an enumerated list of 244 SDG indicators).

All indicators are classified by the Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs - composed of Member States and including regional and international agencies as observers) into three tiers on the basis of their level of methodological development and the availability of data at the global level, as follows:

- **"Tier 1:** Indicator is conceptually clear, has an internationally established methodology and standards are available, and data are regularly produced by countries for at least 50 per cent of countries and of the population in every region where the indicator is relevant.
- **Tier 2:** Indicator is conceptually clear, has an internationally established methodology and standards are available, but data are not regularly produced by countries.
- **Tier 3:** No internationally established methodology or standards are yet available for the indicator, but methodology/standards are being (or will be) developed or tested." (https://unstats.un.org/sdgs/iaeg-sdgs/tier-classification/)

In terms of the tier classification, as of 20 April 2017, the updated tier classification contains 82 Tier I indicators, 61 Tier II indicators and 84 Tier III indicators. In addition to these, there are 5 indicators that have multiple tiers (different components of the indicator are classified into different tiers). The tier classification for many indicators is expected to change as methodologies are developed and data availability increases. Therefore, the IAEG-SDGs has developed a mechanism to annually review the tier classification.

UNSTATS provide an SDG Indicators Global Database (https://unstats.un.org/sdgs/indicators/database/) as well as the accompanying metadata. In the Global Database, apart from country level data, UNSTATS include aggregates of countries, based on the geographic regions defined under the Standard Country or Area Codes for Statistical Use of the UNSTATS, which are the following:
- Sub-Saharan Africa (SSA)
- Northern Africa and Western Asia (NAWA)
- Central and Southern Asia (CSA)
- Eastern and South-Eastern Asia (ESEA)
- Latin America and the Caribbean (LAC)
- Oceania
- Europe and Northern America (ENA)
- Least Developed Countries (LDC)
- Landlocked developing countries (LLDC)
- Small island developing States (SIDS)

These geographical groupings, shown again in Figure 1 below, are used in Section 5 on regional comparisons, albeit for consistency, all regional averages are re-calculated, using UNSTATs definitions.

Figure 1: UNSTATS regional classification
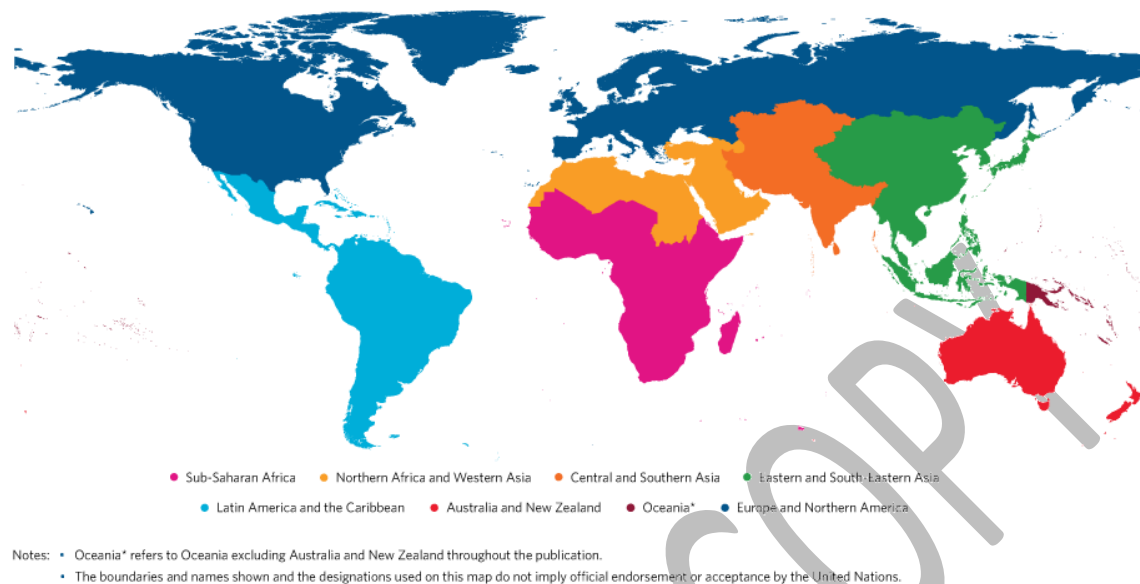
Source: UNSTATS

Methodological issues

There are multiple options for subregional averages. The World Bank disaggregation is based on GDP per capita, UNDP's on HDI, there are economic classifications such as rich in natural resources or not – or diversified or not, classifications based on conflict, and finally, on geography.

We firstly use the geographical regional disaggregation, which is comparable to a lot of the literature and is constant in time:
  o GCC: Saudi Arabia, Bahrain, Kuwait, Qatar, Oman, UAE
  o Mashriq: Jordan, Iraq, Syria, Lebanon, Palestine, including sometimes Egypt
  o Maghreb: Morocco, Algeria, Tunisia, and Libya
  o Suthern: Yemen, Djibouti, Somalia, Comoros, Sudan and Mauritania

Secondly, we use a flexible performance based regional disaggregation, which employs hierarchical cluster analysis to form groups of countries which are very homogenous within, but heterogenous without. The advantage of this approach is that it reveals more meaningful performance based groups, and shows the sub regional variation better. The drawback, however, is that clustering solutions are not constant but depend on the data used, which is why report on the geographical disaggregation as well.

For ease of understanding, we use a simple arithmetic mean in construction of regional and subregional averages. Whether weighted or not, has to be decided case by case, e.g. when our focus is country progress, unweighted, when our focus are the people, weighted by the population (which also depends on the language of the goal and target). However, since the SDGs are global and universal, and apply to all states, the starting position is that each state should engage with SDGs, and thus is of equal importance – implying weighting is not necessary.

Additionally, with targets that have more than one indicator, the indicators are combined in a specific target index. To do so, the variables need to be on the same scale, which allows a simple mean or a sum as the index. However, for indicators that are not on the same sign scale within a particular target, the scales of variables where a lower value implies a better performance are firstly reversed by using the following transformation: maximum value + minimum value – old values. Secondly, all the indicators are normalized using the following: 100*(value-min/max-min), and thirdly, their arithmetic average provides the target index.

4. SDG 3 targets and indicators

Table 1 below presents SDG 3, the targets underneath, the official indicators associated with those targets, the Tier they belong to, and data availability for Arab States, as described further by Annex 1.

Table 1: Targets, indicators, Tiers and Arab data availability

Goal 3. Ensure healthy lives and promote well-being for all at all ages			
3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births	3.1.1 Maternal mortality ratio	Tier II	22
	3.1.2 Proportion of births attended by skilled health personnel	Tier I	x
3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births	3.2.1 Under-five mortality rate	Tier I	22
	3.2.2 Neonatal mortality rate	Tier I	22
3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	3.3.1 Number of new HIV infections per 1,000 uninfected population, by sex, age and key populations	Tier II	10
	3.3.2 Tuberculosis incidence per 100,000 population	Tier I	22
	3.3.3 Malaria incidence per 1,000 population	Tier I	x
	3.3.4 Hepatitis B incidence per 100,000 population	Tier II	x
	3.3.5 Number of people requiring interventions against neglected tropical diseases	Tier I	21
3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being	3.4.1 Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic respiratory disease	Tier II	21
	3.4.2 Suicide mortality rate	Tier II	21
3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol	3.5.1 Coverage of treatment interventions (pharmacological, psychosocial and rehabilitation and aftercare services) for substance use disorders	Tier III	x
	3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol	Tier I	21
3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents	3.6.1 Death rate due to road traffic injuries	Tier I	22
3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes	3.7.1 Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods	Tier I	x
	3.7.2 Adolescent birth rate (aged 10-14 years; aged 15-19 years) per 1,000 women in that age group	Tier II	x
3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all	3.8.1 Coverage of essential health services (defined as the average coverage of essential services based on tracer interventions that include reproductive, maternal, newborn and child health, infectious diseases, non-communicable diseases and service capacity and access, among the general and the most disadvantaged population)	Tier III	x
	3.8.2 Proportion of population with large household expenditures on health as a share of total household expenditure or income	Tier II	x
3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	3.9.1 Mortality rate attributed to household and ambient air pollution	Tier I	21
	3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)	Tier II	21
	3.9.3 Mortality rate attributed to unintentional poisoning	Tier II	21
3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate	3.a.1 Age-standardized prevalence of current tobacco use among persons aged 15 years and older	Tier I	x

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3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all	3.b.1 Proportion of the target population covered by all vaccines included in their national programme	Tier III	x
	3.b.2 Total net official development assistance to medical research and basic health sectors	Tier I	16
	3.b.3 Proportion of health facilities that have a core set of relevant essential medicines available and affordable on a sustainable basis	Tier III	x
3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States	3.c.1 Health worker density and distribution	Tier I	18
3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks	3.d.1 International Health Regulations (IHR) capacity and health emergency preparedness	Tier II	20

Source: https://unstats.un.org/sdgs/indicators/indicators-list/

5. Where do we stand

We report on how the region is doing in the following way. Firstly, we compare the regional Arab average to the world average, and other regions as determined by UNSTATS, and to the 2030 target, if available. Secondly, we look at the subregional means using a geographical disaggregation, and a substance one based on cluster analysis, which forms groups out of countries, which are as similar as possible within the group, and as different as possible between the groups. Clustering will naturally produce the best groups to use on a subregional Arab level for the purpose of intra regional comparison, SDG roadmapping, planning and monitoring. Those clustering solutions are shown in Annex 2 and show as well which countries are grouped together for each particular target.

Figure 2 shows that for Maternal mortality ration, the Arab region with its average of 148 deaths per 100,000 live births is close to the world average of 169, but still more than twice as much as the target of 70. In comparison to other regions, only SSA is doing worse with 480. Within the Arab region, GCC is doing the best and is at par with ENA, while the Southern countries are doing the worst and are at par with SSA. The performance disaggregation shows Mauritania and Somalia in the most problematic Cluster 3, 14 Arab countries in the best Cluster 1, and 6 more in the middle Cluster 2, still very high.

Figure 2: SDG 3.1.1 Maternal mortality ratio
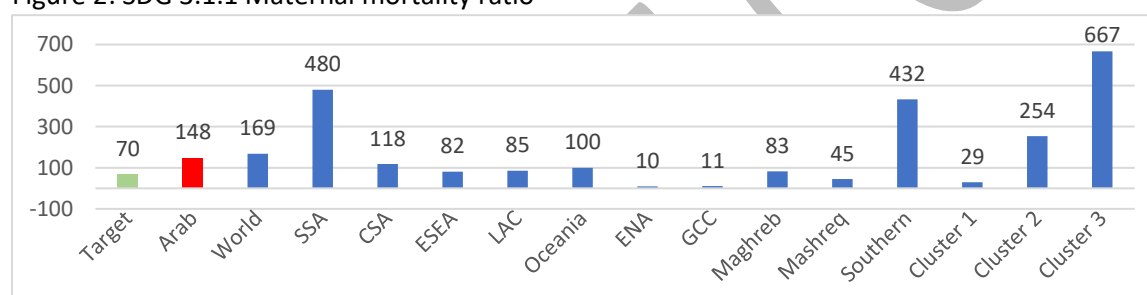
Source: Own calculations

Figure 3 presents the combined indicators of under-five and neonatal mortality rate. With their respective 2030 targets of 12 per 1,000 live births and 25 per 1,000 live births, respectively, the regional sum of 48 is above the target, but very close to the World average, and better than two other regions. In fact all Arab sub regions apart from the Southern countries have already met the target. Even within Southern countries, there is variation, as the worst Cluster 4 is an outlier of Somalia only, while Comoros, Djibouti, Mauritania and Sudan are in Cluster 3. The best Cluster 1 has 10 countries is, followed by another 7 in the middle Cluster 2.

Figure 3: SDG 3.2 Under-five mortality rate and Neonatal mortality rate
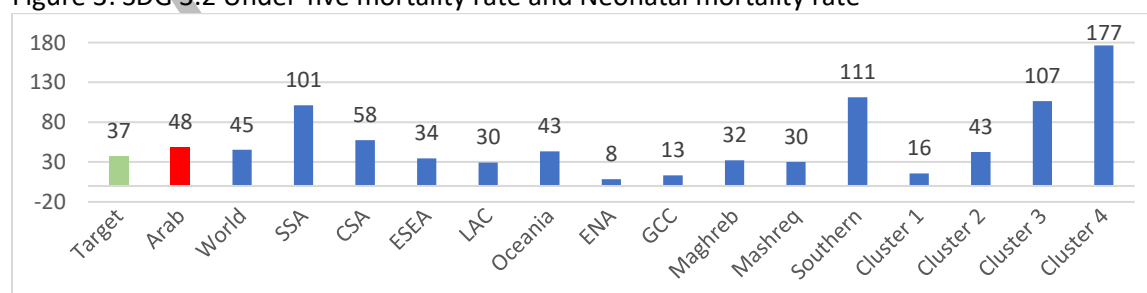
Source: Own calculations.

With SDG target 3.3, we exclude the indicator on Number of new HIV infections, as it would limit our Arab sample to only 10 countries. Additionally, we adjust the indicator 3.3.5, which marks an absolute number of people, to be expressed as number of people per 100.000 of population, to eliminate the effect of the size of population (value*100.000/population). Figure 4 shows the average normalized score for these two indicators under this target. The Arab region is only beaten by LAC and ENA, and is well below the world average, albeit still under the target of elimination of incidences. The intra regional variation reveals the GCC and Mashreq doing quite well, with Maghreb closer to the world average and Southern countries as most problematic. In the performance based light, there are Somalia and Djibouti which present the worst Cluster three, while 14 Arab countries are in the best Cluster 1, and 5 in the intermediate cluster.

Figure 4: SDG 3.3 Tuberculosis incidence and people requiring interventions against neglected tropical diseases
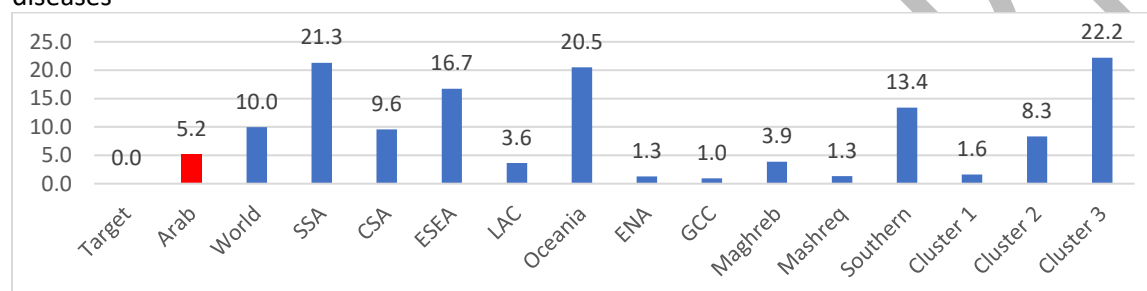
Source: Own calculations.

The normalized average (since they are not using the same scale, the summation would not be appropriate) of Mortality rate attributed to non-communicable diseases and Suicide mortality rate show a surprising good performance of the Arab region, below the world average, and the best out of all regions. Within the region the GCC and Maghreb are already under the world target, while Mashreq is also doing well, and the Southern countries facing the most challenges. In a performance disaggregation, the two outliers composing the worst Cluster 3 are Yemen and Sudan, while the best Cluster 1, which is under the world target, has 12 Arab countries.

Figure 5: SDG 3.4 Premature mortality from non-communicable diseases and mental health issues
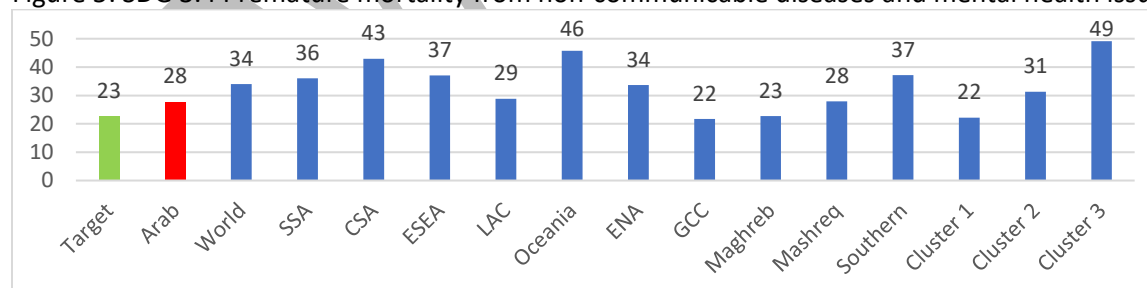
Source: Own calculations.

On the SDG 3.5 on strengthening the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol, we can only examine the harmful use of alcohol. On this particular indicator, the Arab region is excelling, only a fraction of the world average, and by far the best among all regions. Even within the Arab region itself, the variation is small and no geographical or performance based subregional grouping is doing bad.

Figure 6: SDG 3.5 Harmful use of alcohol
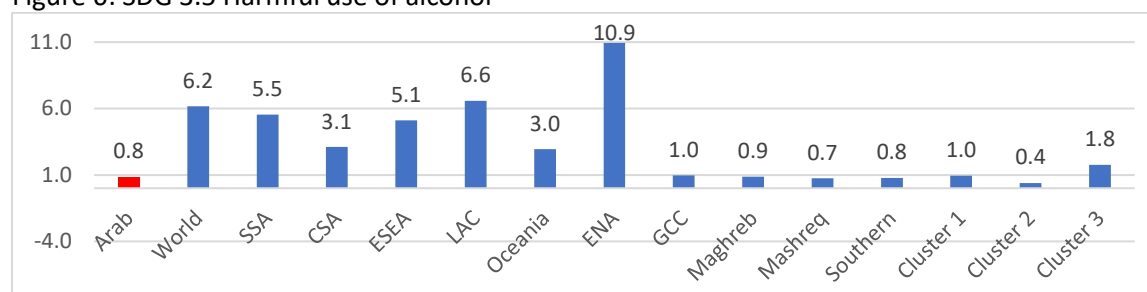
Source: Own calculations.

For the target 3.6 on the number of global deaths and injuries from road traffic accidents, we have one indicator available, namely the Death rate due to road traffic injuries. Figure 7 shows that the Arab region with its average of 23 traffic deaths per 100,000 people is considerably above the world average of 17. In comparison to other regions, only SSA is doing worse, with the rate of 27. The best performer is ENA at 9, which shows that achieving the goal of halving this fatality rate is possible. There are large variations within the Arab region as well. The geographical definition reveals that the subregion with the highest problem is by far Maghreb at 36, twice as high as the best performing GCC at 18. Very close to the GCC is also Mashreq with 18, while the Southern developing countries are in between at 25. This does however hide some important variations and loses important information on differently performing groups of countries within the Arab region. If we regroup the countries according to their respective performances, we can see that in fact we have an outlier Libya with an extremely high rate of 73, and then three relatively homogenous groups of performers. The 5 Best performers, with a score of 11, consisting of Bahrain, Egypt, Qatar, State of Palestine and United Arab Emirates are doing much better than the worst. They are doing much better that the world average and almost all the other regions in the world, and are almost at par with ENA. The Worst group is the largest at 11, with a score of 25, consisting of Algeria, Comoros, Djibouti, Jordan, Lebanon, Mauritania, Oman, Saudi Arabia, Somalia, Sudan and Tunisia, and is almost at par with SSA. The 5 Middle performers, with a score of 20, consisting of Iraq, Kuwait, Morocco, Syria and Yemen, are closest to LAC.

Figure 7: 3.6.1 Death rate due to road traffic injuries
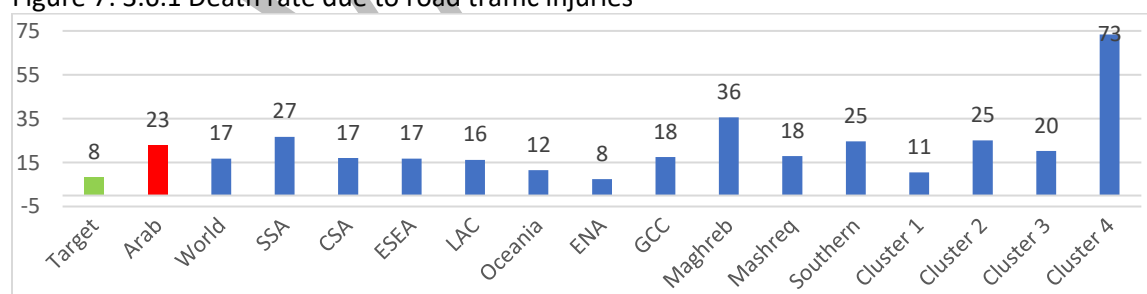
Source: Own calculations.

For SDG 3.9 on reducing the number of deaths and illnesses from hazardous sources, the world mean for mortality rate attributed to household and ambient air pollution is the highest at 37 per 100.000 people, followed by water and sanitation at 13, and unintentional poisoning at a bit over 1. Since the largest strides must be made with the first two, the combined indicator is a simple sum of the three mortality rates and reflects the importance of each cause. The Arab region is performing much better than the world average and is close to the top two performing regions of LAC and ENA. Within the Arab region, mortality rates are extremely low, apart from the Southern countries – and even there large variations

can be found. Somalia is an outlier and forms Cluster 4 with an extremely high rate, followed by Comoros, Mauritania, and Sudan in Cluster 2, and Djibouti and Yemen in Cluster 3.

Figure 8: 3.9 Reduce the number of deaths and illnesses from hazardous sources
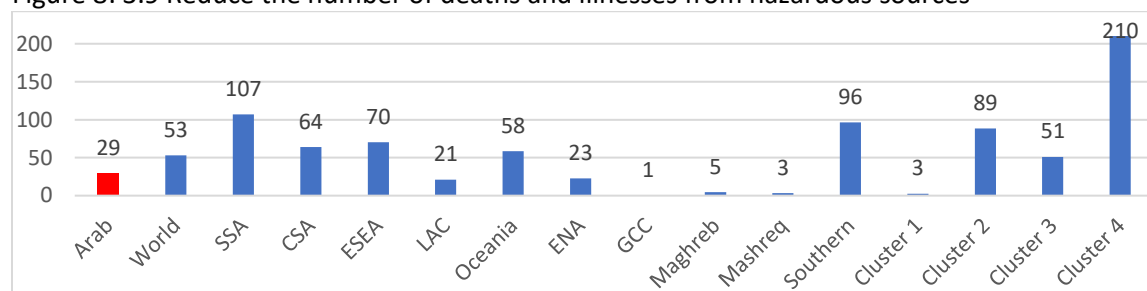
Source: Own calculations.

With the target SDG 3.9, only one indicator is available, which is in support of medical research and basic health sectors. The Arab region is at about half of the world average and collects more development assistance than three other regions. Within the region, there is no data for the GCC, but highest recipients can be found Mashreq and Southern countries, more specifically, Cluster 2 composed of Palestine and Sudan.

Figure 8: 3.b.2 Total net official development assistance to medical research and basic health sectors
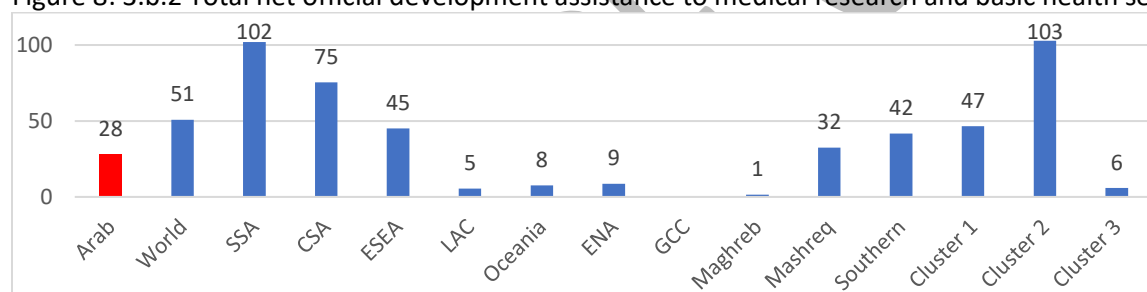
Source: Own calculations.

With SDG target 3.c on increasing health financing and the recruitment, development, training and retention of the health workforce, we look at the density of physicians, defined as the number of physicians per 1000 population. The Arab regional average of 1.5 physicians is only about half of the world average, at par with CSA and lower than other regions except SSA. Within the Arab region, the Southern countries are doing the worst with the other three geographical regions being similar, but performance based groupings reveal larger differences. The worst Cluster 1 has 7 Arab countries:
Bahrain, Egypt, Iraq, Morocco, Djibouti, Yemen and Somalia, the middle 7 as well, and the better cluster has 5: Jordan, Lebanon, Saudi Arabia and Sudan.

Figure 8: 3.c.1 Health worker density and distribution

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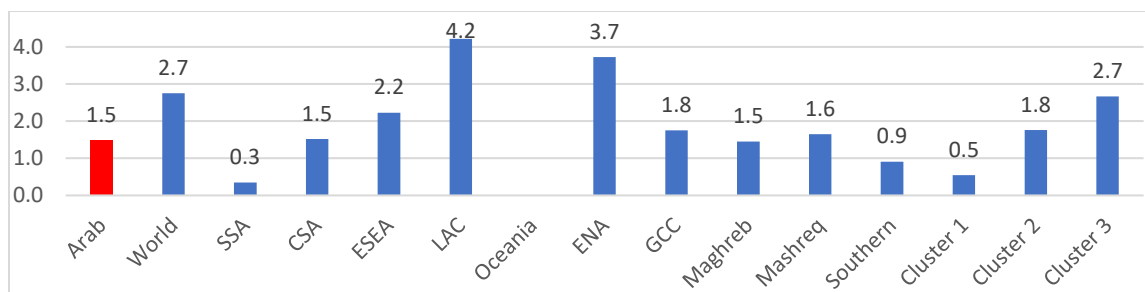
Source: Own calculations.

SDG target 3.9 is about early warning, risk reduction and management of national and global health risks, and the indicator 3.d.1 International Health Regulations (IHR) capacity and health emergency preparedness is examined. The Arab region is close to the world average, but outperforming only SSA and Oceania. Within the region, GCC is doing the best, Maghreb and Mashreq are around the world average, and the Southern countries the worst. Performance based, Djibouti, Mauritania, Somalia and Yemen form its own worst Cluster 3, while the middle Cluster 2 has 7 countries, and the best Cluster 1 has 9 countries.

Figure 8: SDG 3.d.1 International Health Regulations (IHR) capacity and health emergency preparedness

Source: Own calculations.

6. Conclusion

The analysis of how the Arab region is doing on SDG 3 as compared to other regions in the world as well as what the differences within the Arab region are, yield several interesting results. There are findings related to statistical capacity, general performance, and internal discrepancies, which are summarized below.
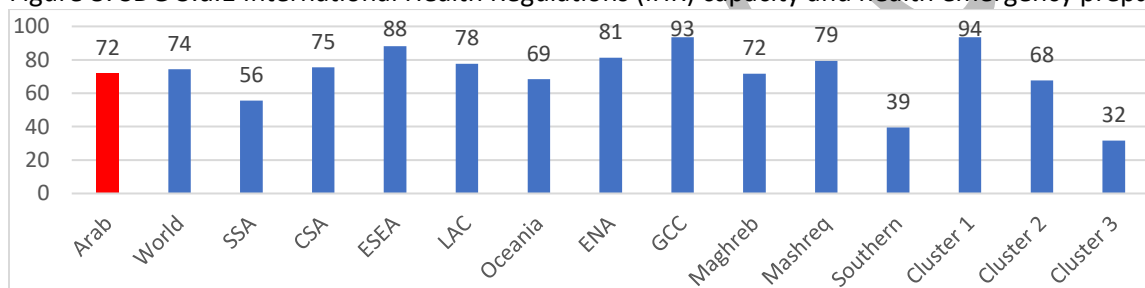
The first finding is on the need for improved statistical capacity of Arab states. Even though SDG 3 is one of the richest SDGs in terms of data, there are still 9 indicators out of 27 indicators with very poor or no data availability. This leaves us without workable date for the following three targets: 3.7, 3.8 and 3a. The national statistical offices thus have to improve their data collection for the purpose of tracking the SDGs better.

Second finding, in the 9/12 targets for which there is enough data to compare the Arab region to the world average and other regions in the world, the Arab region is underperforming in relation to the world in only 4 targets. So generally speaking, in terms of health, the Arab region is doing relatively well, often outperforming similarly developed regions and even more developed regions. The best positive deviation from the world mean can be found in the indicator on the harmful use of alcohol, while the worst deviation

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is with the number of physician per 1000 people, where the Arab region is only at 55% of the world average.

Third finding is, that there are very large differences within the Arab region, which are noted. The performance on a large number of indicators is positively related to incomes, so in most cases the GCC is the geographical subregion performing best, while the Southern countries are analogously the ones with the most challenges. The Maghreb and Mashreq are normally between the other two groups on performance, but closer to the GCC. Nevertheless, the geographic subregional aggregation hides some crucial differences, uncovered with performance based clustering. In several cases, there are extremely problematic outliers discovered, and in other, the disaggregation reveals one or two very large group of very decent performers, and another one or two of very problematic ones, which do not coincide with the geographical groups. Moreover, the performance based groupings reveal that countries are not consistently in a group of good or bad performers, so are meeting SDG 3 challenges with various levels of success, depending on the subarea. Lastly, the very large differences between performance clusters, normally much more pronounced than between geographical clusters, imply the existence of extreme inequalities in SDG 3 performance among Arab countries.

The policy implications for the international development sphere would follow the three group of major findings. Firstly, to assist member countries in improving their statistical capacities. Secondly to advise the Arab countries on areas where they are underperforming most visibly, and to at the same time learn from cases where the Arab region is performing better than its counterparts. Finally, thirdly, to tailor assistance and monitoring to either country level or at least to an appropriately defined subregional level, as there are very large discrepancies in performance and challenges faced.

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Annex 1: Data

We examine data availability under each and every target in the UNSTATS global database. Under several targets, the data in the global database provides several indicators. Out of a total of 27 indicators, 4 of them are Tier 3 for which no data is available. Table 1 below provides the data availability for the Arab States for all the indicators for all the years in the database.

We apply the following steps to the raw data:
a) We remove the indicators for which data is available for less than roughly half of Arab States population (less than 200 million)
b) We select the indicators where there are several indicators under a target, including selecting the most viable year of the data, supplementing the year 2015
c) We explore data substition and addition

In the first step, the following 3 indicators are dropped on account of not covering more than half of Arab population: SDG 3.1.2 - Proportion of births attended by skilled health personnel, SDG 3.3.3 - Malaria incidence per 1,000 population, SDG 3.7.1 - Proportion of women married or in a union of reproductive age (aged 15-49 years), SDG 3.7.2 - Adolescent birth rate per 1,000 adolescent women aged 15-19.

With that, we lose the ability to determine the position for the region on the target SDG 3.7 - By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

Additionally, UNSTATs does not provide enough data coverage for any of the indicators under the following targets, which consequently can not be evaluated using only UN STATs:
- SDG 3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all
- SDG 3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate

In the second step, we select/aggregate the indicators where there are several indicators under a target, including selecting the most viable year of the data. For the 4 indicators available under 3.2.1 Under-five mortality rate, we only keep the one measuring Under-five mortality rate. For the two indicators under 3.2.2 Neonatal mortality rate, we only keep the one indicator measuring Neonatal mortality rate. For the two indicators available under 3.4.2 Suicide mortality rate, we only keep the one measuring Suicide mortality rate. For the indicator 3.5.2 Harmful use of alcohol, defined according to the national context as alcohol per capita consumption (aged 15 years and older) within a calendar year in litres of pure alcohol, we use the 2016 data in lieu of the missing 2015 data. For the indicator for 3.6.1 Death rate due to road traffic injuries, we use 2013 data in lieu of the missing 2015 data. For the indicator 3.9.1 Mortality rate attributed to household and ambient air pollution, we use 2012 data in lieu of the missing 2015 data. Same for 3.9.2 Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services). For the indicator 3.b.2 Total net official development assistance to medical research and basic health sectors, only the indicator measuring Total net official disbursements for medical research and basic heath sectors is taken. For the indicator 3.c.1 Health worker density and distribution, we have data on four type of healthcare professionals: dentistry personnel per 1,000 population, nursing and midwifery personnel per 1,000 population, pharmaceutical personnel per 1,000 population and physicians per 1,000 population. As Morocco is missing the data for

pharmaceutical personnel, and Somalia for dentistry and pharmaceutical personnel, we select only the physicians per 1,000 population as our indicator, and replace the 2015 value with the 2014 value, in lieu of the missing 2015 value. For the indicator 3.d.1 International Health Regulations (IHR) capacity and health emergency preparedness, we supplement the missing 2015 data with 2016 and 2014 data.

We then compare and contrast the data from UNSTATS with data from Sachs et al. (2017) SDG Index & Dashboards report. With applying the same two filters as with UNSTATS data, there are 14 usable indicators for the Arab region in that database, out of those, 11 are identical or similar to UNSTATS, and 3 are different. In cases where for an identical or similar indicator, Sachs et al. (2007) have more data available than UNSTATS, that one is used instead of UNSTATS or added to UNSTATS. There are 3 indicators which are different and not utilized: Universal health coverage tracer index (0-100), Healthy life expectancy at birth (years) and Subjective wellbeing (0-10).

Table 2 below shows the final data availability for SDG 3, showing also what the difference between raw UNSTATS data is and the possible supplemented data, and where additional data could be used to either substitute or add to the database. We have good potential data availability, with most indicators having data for 22 or 21 Arab countries, and only three indicators having data availability of 20, 18 and 16. In addition, all targets with the exception of SDG 3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate, would have at least one indicator available, if we use the supplemented data.

Table 1: Data availability of UNSTATs throughout all the years for the Arab countries

	sdg311	sdg312	sdg321inf	sdg321inf	sdg321un	sdg321un	sdg322mo	sdg322de	sdg332	sdg333	sdg335	sdg341	sdg342mo	sdg342de	sdg352	sdg361	sdg371	sdg372	sdg391	sdg392	sdg393	sdg3b2ne	sdg3b2gr	sdg3c1de	sdg3c1nu	sdg3c1ph	sdg3c1phy	sdg3d1
1990	22	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	22	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	22	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1995	22	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1996	22	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1997	22	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1998	22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	22	10	22	22	22	22	22	22	22	9	0	21	21	21	0	22	1	7	0	0	21	0	16	4	6	5	6	0
2001	22	4	22	22	22	22	22	22	22	0	0	0	0	0	0	22	2	5	0	0	0	0	17	6	4	6	6	0
2002	22	4	22	22	22	22	22	22	22	0	0	0	0	0	0	22	1	5	0	0	0	0	17	5	6	6	5	0
2003	22	5	22	22	22	22	22	22	22	0	0	0	0	0	0	22	1	5	0	0	0	0	16	2	5	3	5	0
2004	22	7	22	22	22	22	22	22	22	0	0	0	0	0	0	22	1	4	0	0	0	0	15	14	13	12	12	0
2005	22	6	22	22	22	22	22	22	22	9	0	21	21	21	0	22	1	6	0	0	21	0	16	7	8	8	10	0
2006	22	14	22	22	22	22	22	22	22	0	0	0	0	0	0	22	1	8	0	0	0	0	15	8	8	9	9	0
2007	22	9	22	22	22	22	22	22	22	0	0	0	0	0	0	22	2	6	0	0	0	0	16	8	8	8	12	0
2008	22	6	22	22	22	22	22	22	22	0	0	0	0	0	0	22	2	6	0	0	0	0	16	8	11	10	12	0
2009	22	6	22	22	22	22	22	22	22	0	0	0	0	0	0	22	1	5	0	0	0	0	16	10	13	11	14	0
2010	22	9	22	22	22	22	22	22	22	9	21	21	21	21	0	22	2	7	0	0	21	16	16	8	9	9	10	6
2011	22	7	22	22	22	22	22	22	22	0	21	0	0	0	0	22	3	5	0	0	0	16	16	3	5	4	4	6
2012	22	10	22	22	22	22	22	22	22	0	21	0	0	0	0	22	4	5	21	21	0	16	16	2	3	4	3	8
2013	22	5	22	22	22	22	22	22	22	0	21	0	0	0	0	22	2	3	0	0	0	16	16	1	1	1	1	9
2014	22	7	22	22	22	22	22	22	22	0	21	0	0	0	0	0	3	3	0	0	0	16	16	17	18	16	18	9
2015	22	0	22	22	22	22	22	22	22	9	21	21	21	21	0	0	1	0	0	0	21	16	16	0	0	0	0	1
2016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	0	0	0	0	0	0	11
2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table 2: Data availability for SDG 3

Indicator	Handle	UNSTATS Arab States, original	**Arab States, potential**	Sachs et al. Arab States	Sachs et al. overlap with UNSTATS
Maternal mortality ratio	sdg311	22	**22**	21	IDENTICAL
Proportion of births attended by skilled health personnel	sdg312	0	**DROPPED**	20	IDENTICAL
Infant mortality rate	sdg321infa~y	22	**DROPPED**		
Number of infant deaths	sdg321infa~s	22	**DROPPED**		
Under-five mortality rate	sdg321unde~t	22	**22**	21	IDENTICAL
Number of under-five deaths	sdg321unde~s	22	**DROPPED**		
Neonatal mortality rate	sdg322mort~y	22	**22**	21	IDENTICAL
Number of neonatal deaths	sdg322deaths	22	**DROPPED**		
Estimated HIV incidence rate	sdg331	10	**COULD BE REPLACED WITH SACHS**	21	SIMILAR
Tuberculosis incidence per 100,000 population	sdg332	22	**22**	21	IDENTICAL
Malaria incidence per 1,000 population	sdg333	9	**DROPPED**		
Number of people requiring interventions against neglected tropical diseases	sdg335	21	**21**		
Mortality rate attributed to cardiovascular disease, cancer, diabetes or chronic	sdg341	21	**21**	21	IDENTICAL
Suicide mortality rate	sdg342mort~y	21	**21**		

Number of deaths attributed to suicide	sdg342deaths	21	**DROPPED**		
Alcohol per capita consumption (aged 15 years and older) within a calendar year	sdg352	21	**21**		
Death rate due to road traffic injuries	sdg361	22	**22**	19	IDENTICAL
Proportion of women married or in a union of reproductive age (aged 15-49 years)	sdg371	1	**DROPPED**		
Adolescent birth rate per 1,000 adolescent women aged 15-19	sdg372	0	**COULD BE REPLACED WITH SACHS**	21	IDENTICAL (although SIMILAR according to Sachs et al.)
Infants who receive 2 WHO-recommended vaccines (min % of DTP3 & MCV1)	sdg381	0	**COULD BE ADDED FROM SACHS**	21	SIMILAR
Mortality rate attributed to household and ambient air pollution	sdg391	21	**21**	21	IDENTICAL
Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene	sdg392	21	**21**		
Mortality rate attributed to unintentional poisonings	sdg393	21	**21**		
Total net official disbursements for medical research and basic heath sectors, b	sdg3b2net	16	**16**		
Total gross official disbursements for medical research and basic heath sectors,	sdg3b2gross	16	**DROPPED**		
Health worker density of dentistry personnel per 1,000 population	sdg3c1dent~y	0	**DROPPED**		
Health worker density of nursing and midwifery personnel per 1,000 population	sdg3c1nurs~g	0	**DROPPED**		
Health worker density of pharmaceutical personnel per 1,000 population	sdg3c1pharma	0	**DROPPED**		
Health worker density of physicians per 1,000 population	sdg3c1phys~s	18	**18**		

International Health Regulations (IHR) core capacity index	sdg3d1	20	**20**		

Annex 2: Performance based regional breakdown

SDG 3.1

SDG 3.2

SDG 3.3

SDG 3.4

SDG 3.5

SDG 3.6

SDG 3.9

SDG 3.b

SDG 3.c

SDG 3.d