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The digital divide and open government in the Arab region

by

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ABSTRACT

The COVID-19 pandemic has underlined the limitations of prevailing paradigms to effectively manage today's complexities to advance sustainable development. In this context, Open Government (OG) and improved transparency in public management are necessary elements to build back better and ensure that the Sustainable Development Goals can be achieved. In the Arab States the connection between governments and citizens has been under pressure during the last decade, OG is also a tool to build the relationship between citizen and the states.

The pandemic has also accelerated the process of digitalization across the globe. In this context, the issue of the digital divide has exacerbated the inequality in the impact of the pandemic. While many of the coping mechanisms require rely on moving towards online modalities, those with no access remain excluded and therefore more expose to the impact of the virus and its economic consequences. Since OG approaches have a strong digital technology component, digital divides diminish the reach of such strategies and (if unaddressed) might contribute to exacerbate existing disparities.

This paper proposes a framework to assess key elements of the digital divide and open government in the Arab region. This paper further suggests a dashboard to track and monitor the digital divide in the Arab region as well as the state of OG. The goal of such dashboard is to facilitate comparison between countries, so that patterns of success and their correlates can be investigated. It also will allow measurement of progress in terms of closing the digital divide and OG.

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Introduction

Today's world is in a situation where both the progress in development that has been achieved in recent decades and its uneven nature are tied to globalization. The global economy had grown; basic social indicators had improved and the proportion of people living in absolute poverty had fallen dramatically. However, globalization and technological progress have also contributed to growing inequalities. Irrespective of borders or level of development, rising inequalities, and economic vulnerabilities, exacerbated by the interconnectedness of global markets, have contributed to challenge the stability of societies. The spread of COVID-19 has created a tremendous disruption to societies. The unfolding of this crisis at a time characterised by rapid digitalization and increasing inequalities, hampers the ability of societies in the Arab States to build back better.

Before the spread of COVID-19, these global dynamics had already deepened the divide between people and political establishments. Some countries have seen growing instability, social unrest and in the most extreme cases violence and conflict. Across the world, people now tend to reject the status quo. Many have lost confidence not only in their Governments, but also in global institutions. The Arab region did not escape this global phenomenon of disconnection between governments and society. Over the past decades, changes to the government-citizen relationship in the region have reshaped citizens' perceptions of what they owe their governments and what they can expect in return. The 2011 uprisings brought to the fore the weaknesses of the region's governance arrangements in the face of systemic political and economic challenges. One decade later and amidst the impact created by the pandemic, the region remains facing the structural challenge to build back better and accelerate the implementation of the 2030 Agenda. To do so, there is a need to rethink governance models and rebuild the connection between citizens and the state is one of the most pressing issues for societies in the Arab region.

The 2030 Agenda, especially SDG 16 advances the creation of better public institutions and approaches to governance than enhance accountability and the rule of law. However, the lack of or diminished access to and use of technology will result in greater exclusion of those already suffering from inequality and other vulnerabilities, and therefore fail to truly achieve the targets set by SDG 16 as well as SDG 17. In this context, Open Government (OG) and improved transparency in public management are necessary elements to re-build the connection between governments and citizens and the responsiveness of institutions. The concept of open government enfold a paradigm that understands and manages the relationship between governments and citizens under the principles of transparency of public information, more accountability, through audit and checks and balances and inclusiveness through enhanced participation of citizens in the design and implementation of public policies. In this paradigm the role of new technologies and innovation is an enabling critical factor. The rapid change brought by the accelerated pace of digitalization of the economies manifested by COVID-19, demands that the digital divide is addressed to ensure that no one is left behind in more digitalised societies that are emerging after the pandemic.

The purpose of this paper is to explain the digital divide issue and its effects of open government development and to propose a framework to assess the key elements of the digital divide and open government in the Arab region. To do so, this paper elaborates on the concept of the digital divide and open government and suggest a list of key indicators to assess the effects of digital divide on open government. The document is written with a focus on the experience of the public with regards to the digital divide and open government. This is a working paper designed to inform the debates of the intergovernmental bodies of ESCWA discussing the facilitation the development of OG as well as to open venues of research of how the digital divide can impact the success of developing open government.

After this introduction, Section 1 provides a brief review of the definition of digital divide and its dimensions. In Section 2, there is a discussion on the importance of open government and its three principles: openness, participation, and collaboration of citizens in government decision making. Based on the key dimensions acknowledged, Section 3 suggests a dashboard and analyses the evolution of the digital divide and open government the Arab countries. Lastly, Section 4 draws the main findings and conclusions.

I. CHARACTERISTICS OF THE DIGITAL DIVIDE

A. CONCEPT OF THE DIGITAL DIVIDE

More than half of the world's population now has some level of Internet usage. Societies are increasingly leading digital lives, but -as offline lives- digital equity is hampered by social, economic, and political forces.¹ The result is a digital divide among individuals, societies and countries that is rooted in more than the pure physical access to technology. The growing availability of technology and its increasing entanglement with daily life has made digital skills and use and the benefits received from technology a part of the digital divide. The outcome is a three-levelled interconnected digital divide influenced by economic, social and political conditions of individuals and with the potential to bring to the digital world the existing exclusion and inequality already present in societies. The response and recovery to COVID-19 has demonstrated the extend of the digital divide and its complex involvement in society. The pandemic showed that managing the digital divide is a crucial matter to advance human progress envisaged in the 2030 Agenda. Another area of concern for the impact of the digital divide is service delivery, the increasing amount of government services that depend on digital technology demand careful analysis of how the digital divide might limit the outreach of such services.

Until today there is no one definition commonly accepted as to describe the digital divide, due to its complex nature and further complicated by the changing nature of technology and the society that uses it.² The most common understanding of the digital divide is that it is a division between people that have access to and people that do not have access to the Internet, digital media and technology. The continued and increased distribution of technology, alongside its use in and impact on daily life, has however, augmented the understanding of the digital divide in complexity and multidimensionality. Access to technology is no longer as simple as have and have not, but also considers elements such as types and versions of technology and types of connectivity. It is also necessary to consider the levels in skill and capacity necessary to use technology that can vary and lastly the impact of technology on people related to their inclusion, participation and equality in society. This makes the digital divide not purely an issue of technology, but a social issue where the social, economic, cultural and political multidimensionality and complexity of society creates further nuances in access, use and impact.³

Van Dijk (2020) describes the digital divide the best by referring to it as a “gliding scale” with the digitally illiterate with no access and the information elite with full access and use of various applications in their daily lives forming the two opposing ends on the scale. According to the author most people fall between these two opposing ends with some level of access, use and impact, influenced by economic, social, cultural and economic status within society. Therefore, addressing the digital divide is interlinked with addressing the issues of equality and inclusion.

Digital divides exist within a country between individuals, families, communities, businesses, institutions, socioeconomic groups, and geographical areas.⁴ The influence of social, economic, cultural and political status in the digital divide has given rise to “focused” digital divides that is mainly demographic or geographic in nature. The focus of these types of divides is trained on a specific group of people and rooted in their social and economic status in society. Their status in real-life extends to the digital realm, leaving them at an even greater disadvantage, unequal and excluded. In each level of the digital divide social, economic and cultural elements exist that influences the group's access to, use of and impact through technology. Examples of these focused divides include the gender digital divide, disability digital divide, rural vs urban and rich vs poor. When studying and addressing the digital divide actions should consider the needs of specific groups of

¹ Normore and Lahera, 2018.

² Ragnedda, 2017.

³ Van Dijk, 2020; Ragnedda, 2017; Schreeder and others, 2017.

⁴ Normore and Lahera, 2018.

people. Failing to do so, would further exclude those from society, and any services that society renders. However, the digital divide also exists between countries as well as global regions comparing the digital media and ICT development among countries, rather than at individual and community level.

It is important to realise that the digital divide will be an elusive goal. The increased penetration of technology, coupled with the rapid availability of newer technologies, requiring new skills and use with different ways of delivering benefits, is a continuous phenomenon that demands constant investment and training. This is already visible, when considering issues related to physical access of virtual reality and augmentation devices.

B. LEVELS OF THE DIGITAL DIVIDE

The increasing complexity and multidimensionality of the digital divide due to the ever-growing importance of technology in daily life has made it possible to differentiate between different levels within the digital divide. Van Dijk (2020) and Ragnedda (2017), among others agree that today three levels of the digital divide can be distinguished and go together with the development, distribution and increased importance of technology. The levels of analysis are physical access, digital literacy and use, and the outcome and benefits of technology.

The severity of the digital divide experience by persons within levels is influenced by their social, economic, cultural and political status. It is also important to understand that the levels are connected, with the second influenced by the first and the third influenced by both the first and second levels.

1. *Level 1: Physical access*

Simply stated, physical access refers to persons having access to a computer, smartphone or other devices and an Internet connection. This can be devices and connections in private ownership in the home or those that are publicly available in specific settings, such as libraries, knowledge centres, Internet cafes, schools and community centres. The advent of mobile phones and smart phones and their levels of penetration in society have greatly reduced the need for public physical access, however their importance remain as there are still those in developed and developing societies that do not readily have access.⁵ For example the poor that cannot afford ownership of devices or Internet connectivity and those in rural areas where connectivity may be lacking or rudimentary.

Even if devices and connectivity are commonly available within society, the version of a device and the type and speed of connectivity can cause nuances at this level of the digital divide. The number of devices is numerous from personal computers (PCs, laptops) to mobile technologies (internet enabled phones, smartphones, tablets). The fast development of new models with different capabilities is not something that all in society can afford and gain access to on a regular basis. The continuous advancement of technologies renders older technologies either obsolete or incapable of accessing advance applications. This impacts on the use and outcomes and benefits that a person experiences through technology. The same holds for the types of connectivity a person makes use of whether wireless, broadband or satellite and specifically the speeds at which these connections work.

Access also refers to the programmes, applications and networks that a person can or should have access to, effectively use and experience the benefits and outcomes of its use. In this instance access can be conditional requiring payment, membership or entitlement. Conditional access can result in inequality and exclusion of people from certain services and programmes that they cannot afford. It is also necessary to consider elements of access beyond devices and connectivity that can influence the digital divide such as electricity, equipment

⁵ Van Dijk, 2020.

needed for connectivity, technical support and even access to services to repair broken or malfunctioning devices.

Physical access is also influenced by the socioeconomic status of a person. Women, especially those in developing countries, have less access to devices and connectivity especially at home. In some societies a family may only have one device and based on the social status of women, they may not have readily access to it. People with disabilities have less physical access to technology and it mostly relates to the fact that when technology is developed the needs of people with disabilities are not considered, while guidelines available to greater access and use of for example the Internet, are not followed. Rural areas, especially remote rural areas are likely to have less access to infrastructure and connectivity options, resulting in poor access or no access at all, even if the devices are available.

The increase of physical access experienced in the Arab region has been remarkable in the last decades. However increased penetration has not led to closing the digital gap that exist between people, communities and countries. Based on data from the International Telecommunications Union (ITU), in the Arab region 55 per cent of individuals had access to the Internet in 2019, with youth between 15-24 years old representing 67 per cent of that total. When looking at access by gender, 47 per cent of women and 61 per cent of men have access to the Internet in the Arab region this resulted in a gender disparity, according to the ITU, of 0.77 in 2019 slightly lower than 0.81 in 2013. There is also a difference in Internet access between rural and urban areas in the region, while 74 per cent of the urban areas have access to the Internet only 34 per cent of rural areas have access. The differences in speed and quality of Internet access is reflected in the disparity in the availability of mobile networks. Regionally, 4G network coverage stands at 61.9 per cent and 3G network coverage at 28.9 per cent. However, the urban areas have a significant 76 per cent of 4G coverage, while rural areas only count with 44 per cent. However, 3G coverage is bigger (10 per cent) in rural areas than urban areas. Although most people in the Arab region have a mobile telephone, the cost of mobile data and mobile voice remain relatively high. In 2019, the basket prices for mobile data was at 4.1 per cent of the GNI per capita, making it slightly lower than the world average at 4.3 per cent, but much higher than the 2 per cent target set by the Broadband Commission. The cost of mobile voice was lower at 2.9 per cent making it closer to the 2 per cent target.⁶

Digital literacy and the use of technology in daily live to achieve goals has become just as important than having access to technology.⁷ This need for digital skills to effectively use technology and the Internet, gave rise to the second level of the digital divide.

2. *Level 2: Digital literacy and use*

Level 2 of the digital divide refers to the ability of a person to operate and use digital technologies, because access is useless if the skills and knowledge is not available to use it. Therefore, the way a person is capable of interacting with resources, communicating with people and the ability to conduct transactions for goods and services.⁸ Digital literacy and use of technology to conduct activities, such as transactions, find information, and seek entertainment, has been shown as the second-level of the digital divide by various studies that have found that low-use groups, such as the elderly, or people with less education, can become increasingly disconnected from the potential socioeconomic benefits to be had from technology.⁹

⁶ ITU, 2020b.

⁷ Büchi and others, 2015.

⁸ Van Dijk, 2020; Normore and Lahera, 2018.

⁹ Büchi and others, 2015.

To effectively use technology, it is necessary that all have general competency in digital literacy and use. This means that persons should gain skills in a various areas of technology use, such as computer literacy, information literacy and content creation skills. Some of the skills identified by authors are:

(a) Computer literacy can also be referred to operational literacy. These are the skills needed to use a computer, keyboard and other equipment such as computer mouse, touchpads, printers, cameras. It also includes learning operating programmes and software and understand the structure of the Internet and a computer, such as files, menus, access codes, hyperlinks, addresses and connecting to the Internet and other devices.

(b) Information literacy builds on computer literacy and refers to a person's ability to find, select and evaluate online information. Using search engine effectively to find what is needed it is foremost skill learned in this competency. Although search engines today are continually refined to deliver the best results with minimum searching, a more in-depth understanding of using different capabilities of search engines, for example near and far searches, can greatly increase the precision of search results delivering the information needed.

The ability to evaluate information found is essential, because anyone can publish information online and make it available to the general public. It is therefore necessary for people to evaluate the information they find based on its validity and determine if it is true or false and provided by reputable sources. In a post-truth era where focus on the emotional and sharing of misinformation is a growing industry that causes grand scale panic and discontent, it is essential that all users of technologies and its applications can determine the truth of information.

(c) Communication skills and therefore the ability to use e-mail, create profiles, provide opinions, feedback and suggestions. Today with the heavy use of social media and other applications not only for personal communication, but also for professional communication, this is an essential skill. It is also therefore necessary to learn additional skills such as safeguarding personal information, online safety skills as well as responsible use. Responsible use refers to not distributing misinformation, but also language and tones used when communicating as not to offend other users. In many countries there are guards against online hate speech and other forms of discrimination, and it is important that when learning communication skills these be included.

(d) Content creation skills is also a skill that is increasing as more and more social media and applications sites step to the forefront, providing various multi-media options to create content. Basic skills in web design and updating are good skills to have for professional and commercial purposes. In the realm of content creation it is also necessary for persons to understand issues related to copyright and intellectual property and terms of use not only to safeguard their own content, but also to not infringe on the rights of others that can result in penalties.

(e) Lastly it could be prudent to include skills that allow a person to make use of all the other categories of skills, therefore, how to strategically use computer, information, communication and content creation skills to achieve a specific individual outcome. This can be something simple as writing a cover letter for a job application or a journal article to be published in a specific journal or create a profile on social media platform, link Linked-In to professional connect to others in a person's field of expertise.

These skills provide a foundation competency in the use of technology and it is important to learn these from a young age. The assumption that all young people can use technology, is skewed, as some, especially the poor may not have the necessary skills needed to gain a greater advantage.¹⁰ It is not the only skills and as the technologies of daily life become more complex and autonomous it may be necessary to expand these to

¹⁰ Normore and Lahera, 2018.

more technical skills or problem-solving skills, however the foundation skills will always be essential. The lack of these skills would limit the ability of a person not only to use technology effectively.

When referring to the use of technology in the second-level digital divide, it means both the frequency with which an individual uses technology as well as what activities it is used for. It can be for education and employment purposes, health and well-being and/or civic involvement.¹¹ The International Telecommunication Union (ITU) divides the various types of digital skills in three categories for measurement namely basic (copy or moving a file/folder, using copy/paste function in a document, sending e-mails and transferring information between devices), standard (using simple formula in spreadsheet, connecting/installing new devices, create presentations with presentation software and finding, download and installing software) and advance skills (writing computer programmes using specialised software).¹² Table 1 shows that most Arab countries (for which data is available) have developed good basic ICT skills, however, the percentage of individuals with standard and advance skills are much lower.

Table 1. Individuals ICT skill levels for Arab States (2019) (percentage)

Arab States	Basic Skills		Standard Skills					Advance Skills
	Using copy & paste tools	Sending e-mails with attached files	Using basic formula in a spreadsheet	Connecting and installing new devices	Finding, downloading, installing & configuring software	Creating electronic presentations	Transferring files between a computer & other device	Using specialized programming language
Algeria*	17.7	16.1	9.4	16.2	15.5	7.2	17.3	6.9
Bahrain	57.9	66.5	36.0	42.0	54.0	36.0	58.0	18.1
Egypt	58.8	59.8	18.6	53.5	51.5	21.3	53.8	7.9
Iraq*	24.7	37.6	6.8	8.3	23.0	7.2	6.9	4.7
Kuwait	...	63.2	38.4	49.3	66.0	21.1	52.1	13.4
Morocco	49.1	34.9	22.5	34.3	35.8	18.5	25.8	9.3
Oman	84.5	92.5	25.5	31.5	66.9	23.7	49.2	8.0
Qatar	44.3	58.2	24.9	36.3	37.1	22.2	31.9	5.1
Saudi Arabia	67.9	67.8	47.3	55.6	49.0	46.6	34.5	13.8
State of Palestine	14.9	11.3	7.6	7.1	4.7	6.0	11.7	2.8
Sudan**	3.6	2.4	1.8	2.8	2.4	1.9	2.9	1.6
Tunisia	22.6	21.2	18.2	17.2	16.6	16.2	16.3	16.1
United Arab Emirates	90.8	90.0	76.0	70.0	56.0	39.7	36.0	17.9

Source: Compiled by ESCWA from ITU, 2020a.

Notes:

*Latest data available for Algeria and Iraq is 2018.

**Latest data available for Sudan is 2016

In the context of digital skill and use the impact on women can be severe, especially if these are skills taught at school or if training programmes for adults are not available. Women show less ICT skills at basic, individual and advance levels in the Arab region. In Oman, Qatar and Saudi Arabia women have a higher percentage in basic ICT skills, but lower percentages than men in both standard and advance skills. It is only in Bahrain where women have a higher percentage of skills than men across the board.¹³ However, in recent years a lot of effort has been made to ensure that women have the same opportunities as men to gain digital

¹¹ Schreeder and others, 2017.

¹² ITU, 2020b.

skills that they can use in daily and professional lives, these include programmes that focus on young girls as well as training courses for women.

In many cases it forms part of empowerment programmes that work towards better employment opportunities for women. The gender digital divide in the high technology with specialised skills for professionals are smaller as more women are entering fields related to science, technology engineering and mathematics at university level, but few female graduates pursue STEM careers.¹⁴ Women also require development in the basic skills and related skills, such as safety and privacy.

3. *Level 3: Outcomes and benefits*

At the third level of the digital divide the focus falls on the positive and negative outcomes and benefits that is experience through the access and use of technology. It looks at the social, economic, cultural and political impact (positive or negative) that technology and digital media has on the life of individuals and society. Therefore, what are the social and cultural benefits that a person can get from accessing technology and using the Internet.¹⁵

The benefits or positive outcomes of technologies can be described as follows¹⁶:

- In the economic sphere the benefits that can be experience is the finding of employment and improve productivity while saving money by purchasing goods and services online and making money by selling products and services online.
- In the social sphere benefits include social contact and meeting various people with similar interests but also civic engagement through publishing opinions and making suggestions on more general developments of communities.
- In the political sphere positive outcomes is the greater participation in government services and communities, readily available information about elections and decisions, online voting for better participation, and participating in activism for better services and treatment.

E-Commerce (the online trading of goods and services) has been increasing in the Arab region. In 2019 online sales were estimated at 2 per cent of the total retail revenue. E-commerce were estimated at 1.9 per cent of all retail sales and totalled at about USD 34 billion. In the region 80 per cent of online sales were related to electronics, beauty, fashion and grocery.¹⁷ Most online shoppers are between the ages of 25 to 34, while people located in urban areas are more likely to shop online than those in rural areas. A gender disparity also exists with online consumers more likely to be men than women. Despite the growth of e-commerce in the region, most people do not trust online payment systems. The development of this sector is further hampered the lack of regulatory frameworks that provide consumer protection.¹⁸

By the end of 2019 mobile social media penetration in the Arab region was at 44 per cent, with 9 out of 10 young Arabs using at least one social media channel every day. Facebook has 187 million users across the region and Instagram 63 million, while Saudi Arabia is the biggest user of YouTube per capita worldwide. Across the region people, especially young people look toward social media, especially Facebook, for daily news. YouTube is becoming the most relied on resource for parenting tips and advice with more than half the

¹⁴ Wood, 2020.

¹⁵ Van Dijk, 2020; Ragnedda, 2017.

¹⁶ Ibid.

¹⁷ Go-Gulf, 2019.

¹⁸ Consumers International, 2019.

mothers in the region using the platform. Social media across the region is also used to highlight economic, social and political issues. Protestors, activists and the general public have used these platforms to provide information on upcoming actions, level critique at governments and officials. However, social media have also been used by governments and other institutions to promote their ideas through sponsored actors resulting in hundreds of accounts being closed by both Facebook and Twitter in 2019.¹⁹

People with greater access, skills and use of technologies stand to benefit more from technology, therefore leading to greater inequality and exclusion of those that cannot access or use ICT effectively. At the same time, negative outcomes and new areas of concern, such as cybercrime and abuse (fraud, hacking, harassment, bullying) and loss of privacy and security (identity and data theft, malicious software), might emerge. While legislative and regulatory processes are at one of the first lines of protection for individuals, greater skills and digital literacy, allow to better cope with such potential threats.

C. COVID-19 AND THE LEVELS OF THE DIGITAL DIVIDE

Nothing highlighted the digital divide more than the Coronavirus pandemic sweeping through the globe. It not only showed that the digital divide still exist within countries, but also made it clear that physical access is only part of the digital divide and that the other levels are equally important and in need of attention to ensure that all people benefit from technologies.

Lockdowns and quarantine required people to stay at home, work from home, connect socially and culturally from home and conduct their personal matters from home. The believe of course being that technology and the Internet will provide the connections needed to continue life as “normal”. Although most have some form of physical access, 3.6 billion people still lacked accessed at the end of 2019.²⁰ This means that just over 50 per cent of the world population still do not have physical access to basic technologies. People forced to stay home without the necessary access to technologies and thus could not continue employment. This also means children cannot continue their schooling if it moved online, people cannot access essential information about COVID-19 or make use of any services during the pandemic, unless they leave their houses. The socioeconomic situation of a person has an impact on the physical access with many finding the students in poorer neighbourhoods being less likely to have access to technologies necessary to continue their education online.²¹

The pandemic highlighted the urgent need to move to a digital environment for service delivery, education, health, and the need for digital literacy. The amount of information available and the number of people publishing information about the virus and the pandemic highlighted the need for digital literacy. Every person needed the necessary information skills to determine the validity of the information published about COVID. This became especially important when organizations such as WHO focused on using technologies to distribute essential information about the pandemic and the efforts to curb its spread.²² This is especially true of groups of people that previously made less use of the Internet and social media for information, such as people with disabilities and the elderly.

However, the need for digital skill and the ability to perform activities using technology is not just limited to accessing information on health and well-being during COVID. It is also essential to conduct business, successfully participate in online learning platforms, handle personal matters, such as account payments, banking or shopping. In the online learning environment students, teachers and parents were challenged in their skills and capacities of use, as it required for many learners across the world a new way of

¹⁹ Radcliffe & Abuhmaid, 2020.

²⁰ Junio, 2020.

²¹ Stelitano and others, 2020.

²² Junio, 2020.

working, which was made especially difficult if computer literacy skills were limited.²³ Parents with limited skill in computer literacy struggled to help children in their school work, while teachers lacked the necessary skills to adapt lessons to an online environment. This for many students and teachers led to a negative experience with online learning, that could have an overall negative impact on those learners and students that grow up during the COVID pandemic.

Third-level digital divide during COVID-19 is more difficult to determine, but it is clear in enterprises that were unable to leverage technologies to continue their operations online. This is especially true for small and medium retail companies. These businesses are major employers as well as essential elements in the economic growth of many developing countries. Their inability to leverage technology for socioeconomic benefits, unlike bigger companies with better physical access and digital literacy and use, gives a clear indication of the digital divide.²⁴

In the Arab region COVID-19 has also highlighted the persistence of the digital divide among people and between countries. All countries have implemented means to continue with “business as usual”, while in some switch to digital environments were easier due to existing platforms, in others these were more difficult due to lack of quality in access and skills, but also due to a general lagging in benefits, such as e-commerce and government service delivery (See Box 1).

Box 1. COVID-19 and the digital divide in Lebanon

To curb the spread of COVID-19 within Lebanon the government implemented a full lockdown that made it possible for people to only purchase necessities online. After the ending of the full lockdown, the government started a four phased step back to reopen sectors and enable the movement of people.

One of the sectors in the first phase of the step-back were grocery stores and supermarkets. Citizens that want to visit such stores need to abide by safety rules, but also procure permissions to go to these stores using a digital application. Once the application grants permission the person receives a QR code which is then scanned at the store before a person can enter and leave. This application follows on the development of other measures during the year of COVID (2020) such as online learning, and online forms for service delivery.

Despite the developments to help people continue their "normal" lives during COVID-19, many feel that the necessary measures have amplified the digital divide among the citizenry. In order to use the measures a person must have Internet access. In 2017 only 78 per cent of the individuals in Lebanon had access to the Internet and although mobile coverage of the population was at 99 per cent in 2019, this does not necessarily enable the use of online platforms and measures created, especially if not enabled for mobile technologies.

Citizens that are poor may not have access to technologies or digital skills necessary to request permission to access stores, leaving them stranded with few options to obtain necessary articles. The same was experienced by older citizens that do not have the skills to understand the use of QR codes. The lack of access and skills in the time of COVID-19 negatively impacted on the ability of people within Lebanon to reap the benefits, but also placed them and others at greater risk of infection that would negate measure taken by the government to curb the spread in the first place.

Source: Ramadan, T. (2021) Getting through Lebanon’s COVID-19 lockdown amid a digital divide. *Alarabiya News*, 12 February. Available from <https://english.alarabiya.net/features/2021/02/12/Lebanon-crisis-Getting-through-Lebanon-s-COVID-19-lockdown-in-the-midst-of-a-digital-divide>

COVID-19 and the ensuing pandemic has brought a lot of change in the way people live and work, and in the process, it brought the digital divide back into the limelight. It also exacerbated the existence of the

²³ Sargrad, 2020.

²⁴ Brito, 2020.

digital divide with the need to move online and go digital, more people were excluded from various aspects of society either due to the lack of physical access, the lack of digital skills and the ability to use or the inability to leverage technology for positive outcomes.

II. THE DIGITAL DIVIDE AND THE ADVANCEMENT OF OPEN GOVERNMENT

After its mainstreaming in the late 2000's, the concept of Open Government has evolved as citizens' expectations are fluid and subject to change depending on the interactions between those that rule and the ruled. Nonetheless, the common thread of demands is driven by greater transparency, increased accountability of their actions and meaningful participation in decision-making. The understanding of open government has also evolved alongside the digital revolution brought about by the Internet, mobile phones, and applications, making the active role of all citizens, in all aspects of government work easier and attainable.

Broadly described, OG is an approach in public administration reform and governance to better respond to the demands of citizens. Delving further into the concept of open government is done by ESCWA (2018) which adds to the OG concept the principles of effectiveness and efficiency in governmental performance, as well as transparency, accountability and accessibility of its actions and services. Furthermore, OG also entails a commitment to be responsive to the needs of citizens, allowing effective participation, knowledge and expertise in decision-making. Lastly, OG is closely interlinked with maximizing the benefits of new and emerging technologies to enhance the attributes of inclusive and strong institutions as represented in SDG 16.²⁵

The ESCWA description is just one of many definitions and explanation given to OG by various organizations and institutions. The formulation of the definitions greatly depends on the organization and its purpose and therefore they vary greatly in cover. However, regardless of the description of open government, its focus is the achievement of three principles, namely transparency, participation and collaboration and engagement.

It is important to note that OG is not synonymous with technology as it is possible to strive for an open government without using technology at all. However, life is increasingly digital, even more so since the COVID-19 pandemic, and therefore a lot of governments that work towards openness employ technologies to help attain the principles they strive for. It is this digital component of open government that has the potential of being hampered by the digital divide. If unaddressed, digital divides will complicate the implementation of OG principles of equality and inclusiveness envisaged in the 2030 Agenda principle of leaving no one behind.

A. TRANSPARENCY

Transparency is a characteristic shared by governments, organisations and individuals that openly disclose their information, rules, plans, processes and actions. It is also the foundation principle of open government as it supports good governance and openness, while promoting accountability and effectiveness.²⁶

To ensure transparency government should set forth a policy that describes the understanding of the concept and the way they want to see it developed. This is supported by the provision of tools that ensures effective and timely access to information about the functions and work of the Government, public complaints and objections, and integrity standards. By developing transparency as a part of the government, corruption can be reduced, and it sets the foundations for open and shared decision-making, in-line with the other open government principles.²⁷

²⁵ ESCWA, 2018.

²⁶ Ball, 2009; Carolan, 2016.

²⁷ ESCWA, 2018.

Access to information law and the provision of open data are two of the most common aspects associated with transparency. Access to information can be considered an enabling factor that provides citizens, civil society and organizations with the right to see information on the work of the government, their processes and decisions. Such laws also commit the government to provide information to requestors, with penalties if it fails to do so. In the Arab region there are only a few “access to information laws” or related mechanisms (see Table 2).

Table 2. Right to access information in the Arab region

Country	Year	Legal instrument
Jordan	2007	Law on Securing Access to Information (LSATI)
Morocco	2011	Article 27 of the Constitution
Yemen	2012	Access to Information Law
Sudan	2015	Access to Information Law
Tunisia	2016	Access to Information Law
Lebanon	2017	Right to Access to Information Law

Source: ESCWA, 2020.

Access to information laws and requirements and they are proving very difficult to implement. There are however some success stories from the region. Tunisia adopted the law in 2016 and it is considered one of the most progressive laws worldwide. The law makes greater provision for citizens to gain access to information and commits to foster awareness amongst the public on their rights to access information. The Access to Information Authority (AIA) was also created to oversee the implementation of the law and rule on requests for information.²⁸

Open data is one of the mechanisms that articulate the right to access information. As such, is associated with transparency of government and involves the release of data so that it can be accessed, used and shared by anyone. It also implies all data that a government holds, meaning that all data is open by default. Although open data supports the open government principle of transparency, it is also a source for economic and social development and growth. The insight gained as well as the right to re-use the data can bring about new decisions, policies and innovations needed to improve socioeconomic situations.²⁹ Most countries world-wide have implemented open data initiatives and have reaped the benefits in greater transparency.

In Tunisia, for example, the government recognised the important of open data and implemented plans accordingly. The government has opened datasets and created an open data portal to improve access and transparency. To further involve citizens in the government transformation process open government data hackathons were organized. These events bring together citizens, innovators, activists, researchers and data scientist and explore the use of open government data sets to create mobile and web applications for new and better services to the public.³⁰

However, the digital divide could have a severe impact on the achievement of transparency. The lack of physical access may limit access to open data platforms and citizens also may not have the necessary skills to make use of such platforms (see Box 2).

Box 2. Open Budget Transparency Portal, Brazil

In 2002 Luiz Inácio Lula da Silva won the Brazilian election promising greater transparency and fighting corruption. One of the projects put into place was the Transparency Portal in 2004 created by the Comptroller

²⁸ Democracy Reporting International, 2019.

²⁹ Carolan, 2016.

³⁰ Chaouachi and others, 2020.

General. The portal improves the transparency of government by publishing open government budget data. The portal has seen great success in reducing corruption in Brazil and aided in reducing public spending.

The accessibility and impact of the portal has however negatively affected by the digital divide in Brazil, due to low Internet penetration rates. The government tried to resolve this using public information kiosks that the state-owned banks would manage. Unfortunately, the cost of these kiosks was considered too high and it was not implemented. Instead the Comptroller is working with partners to alleviate the digital divide nationwide with different projects.

Source: Graft, A. and others (2016). *Brazil's open budget transparency portal: making public how public money is spent*. January. Available from <https://odimply.org/case-brazils-open-budget-transparency-portal.html>

The lack of physical access does not only refer to the absence of technology, but also to incompatible technology, making it impossible for people to access using the technology that they have. Some citizens are not fully aware of their rights to access government information as well as what actions they may take to make the authorities accountable for their actions. The limited access together with limited skill can hamper the deployment of open government. It may lead to an unequal deployment of open government and the further exclusion of those already marginalised in the digital divide due to their socioeconomic status.

B. PARTICIPATION

The second principle that open government is built on is participation and focus fall on establishing basic lines of communication between the government and its citizenry. In part, it is in-line with keeping the government or authorities accountable for their actions. This two-way communication can use feedback loops, comments on online services, social media to establish communication between the government and citizens, but through the feedback citizens provide, they can hold authorities accountable for some of their actions.³¹

The same technologies that is used to provide the government with feedback on their work and services, are also used to obtain ideas from citizens and their input in policy formulation. Involving the citizens and organizations in the decision-making of the government or using their ideas in policy formulation and service development helps to build trust in the government but also helps to develop a sense of community.

In the digital age citizen participation leans heavily on technologies. Most government services and feedback loops are digital programmes available via a variety of technological devices and programmes. Technology ensures that the maximum number of citizens can participate and share their ideas or comments on service delivery or policy being formulated, regardless of their geographic location (see Box 3).

Box 3. Citizens connect, Nigeria

In Nigeria the need arose to provide a platform where citizens can access information about government services as a communication gap exists between citizens and service providers. The result is that most citizens do not know where to send feedback or voice grievances about poor service delivery or which government agencies could be informed about criminal behaviour such as extortion and corruption. At the same time the government is not forthcoming in providing ready access to this information. The result is frustrated citizens that do not believe the government takes their concerns seriously.

“Citizens Connect” is a civic platform that address these issues and raise awareness on issues related to public services using the Internet and social media. The tool not only gather information but can voice the concern to the relevant government authority in hope of a resolution.

³¹ ESCWA, 2018.

One of the considerations in the choosing the use of web-based technology to launch this platform is the fact that figures indicated that there are 92 million active Internet users in Nigeria. This means that over 50 per cent of the population make use of the Internet and would be able to access and effectively use the platform to their benefit. However, the creators was concerned about the possible exclusion of citizens that would result in unequal access to the service due to the fact that some people still have limited knowledge and skills on how to use technology while many communities have poor access, meaning that it could affect the effectiveness of platform.

The guard against the potential negative impact of the digital divide, the creators of “Citizens Connect” developed strategies to reach out to non-active Internet users. These include town hall meetings, newspaper, and radio programmes to collate feedback from citizens.

Source: OECD (2018). *Citizens Connect*. 9 April. Available from <https://oecd-opsi.org/innovations/citizens-connect-platform-in-nigeria/>.

The digital divide can have a negative impact on participation (see Box 2). Limited or the lack of physical access can make it impossible for citizens to provide feedback or give their opinion effectively. A lack of digital literacy can hamper citizens ability to interact with online participation systems, as well as make use of services and facilities. This could be specifically difficult for women and people with disabilities with less skills and access than others. Rural areas can also be adversely affected, as access and skills are unequal to those the people in city centres and urban areas have access to.

The unequal distribution of technologies to achieve participation can further alienate and marginalise those that are already at the periphery. Instead of creating an open community it can create elitist pockets of those that can fully participate as they have the access and the skills to use technology effectively, while others are filled with resentment seeing no change.

C. COLLABORATION & ENGAGEMENT

The third principle that open government is built on is collaboration and engagement. The focus of the principle is beyond lies two-way communication and flow of information, and centres around shared responsibility through co-creation and co-management. Therefore, citizens are engaged in more complex tasks, activities and projects with the purpose of delivering outputs, such as writing and reviewing documents, innovation in products and services, and the organization of events.³²

Box 4. Collaborative constitution writing, Mexico

In 2018 Mexico City published the city’s first ever constitution. The write to formulate a constitution for the city was given by the federal government, but citizens believed that they would not be able to provide feedback, ideas or input as 60 per cent of the officials were not elected to their positions. The little trust that existed in the government before the announcement of the city constitution diminished further afterward.^a

The mayor of the city wanted the input of the citizens and launched a campaign to collect their ideas and included a survey and a work group. They also created a petition platform, called Change.org. Citizens could launch a petition for their ideas and ones it reached more than 10,000 votes the idea was represented to members of the work group and if it reached more than 50,000 votes it was presented to mayor who would decide if it would be included in the constitution. Citizens could also form discussion groups to talk about specific issues, such as indigenous rights.

The final constitution has 14 articles based on the petitions and outcomes of the mechanisms implemented for citizen collaboration. The draft was accepted by the national assembly and went into effect in September 2018.

³² ESCWA, 2018.

Internet user penetration was at 58 per cent for Mexico in 2018 with most users being between the age of 25 and 34.^b In the same year the connectivity penetration rate of 67 per cent. Most people owned a smartphone and preferred to access the Internet through mobile technology.^c However, millions of people still do not have access to the Internet and very few have the necessary skill to make effective use of the technology. People in cities like Mexico City is better off where 7 out of 10 people have access to high-speed Internet.

The lack of access and use among people in Mexico, even in cities like Mexico City could have had a negative impact on the collaborative initiative rolled out by the mayor. However, in the planning of the campaign and the online petitions the mayor and his people considered that people would require different methods to voice their ideas and opinions that did not exclusively focus on digital, therefore a multi-tiered approach was followed that allowed for both digital participation and in-real life participation. Using the approached ensured that all citizens, regardless of economic, social, cultural and political status were included in the initiative.

Sources:

^a Chevalier, S. (2020). *Mexico: internet user penetration 2015-2025*. 20 July. Available from <https://www.statista.com/statistics/379973/mexico-internet-user-penetration/>.

^b OECD (2018). *Crowdsourcing the Mexico City Constitution*. January. Available from <https://oecd-opsi.org/innovations/crowdsourcing-the-mexico-city-constitution/>.

^c Viasat (2018). *Internet Penetration Has Grown in Mexico over the Past Decade—But a Digital Divide Still Exists*. 17 September. Available from <https://viasat.com.mx/2018/12/05/internet-penetration-has-grown-in-mexico-over-the-past-decade-but-a-digital-divide-still-exists/?lang=en>.

The digital divide could potentially impact collaboration, the same as it can impact the achievement of transparency and participation. Programmes and initiatives made available online, such as the online petition part of the campaign (see Box 4) could lead to the exclusion of those of no access or less access. People with limited access caused by, for example slow connections or older software, could make it impossible for citizens to fully collaborate in initiatives. This places them at a disadvantage, but also adds to their frustration with government and government services.

The same is true of digital literacy and use. People with complete skills that can strategically use technology to achieve their goals, such as submitting an idea or discussing activities with a government co-lead in a project, can readily benefit from open government. However, those that do not have the necessary skills and are unsure of the use, without any recourse to query or gain skill, will feel themselves left-out and left-behind. They may begin to believe their opinion does not matter and neither does the skills they do have in collaboration and cooperation, just because they do not have the necessary digital skills. This will negatively impact the achievement of the principle of collaboration and therefore also the implementation of open government.

Even though people may have the needed access and skills, the achievement of transparency, participation and collaboration can be negatively impacted by actions to curb the exploitation of the benefits of these technologies. The principles of open government cannot be accomplished when decisive actions are taken against the use of social media and other technologies that give people a voice and call them to action (See Box 5).

Box 5. Social media and activism, Arab region

Social media has been an essential tool for social, economic and political activism in the Arab region. Many people and organizations across the region have used social media platforms, such as Facebook and Twitter as a means of bringing attention to issues within countries and ask for support and action from the community. This coincides with the principles of transparency, participation and collaboration and level three of the digital divide. During the 2011 uprisings in Bahrain, Egypt, Libya, Tunisia and Syria social media was widely used to inform the public about actions as well as a vehicle for the voice of opinions.

However, throughout the region governments have reacted decisively against the use of platforms for activism. During the 2011 uprising some governments ordered the blocking of social media sites or the shut-down of Internet access country-wide. This also happened in Algeria (2019) where Internet access was blocked because of demonstrations against the influence of army. Some countries use cybercrime law and counter-terrorism laws to pass harsh sentences for those that are in violation based on online postings on social media and the web. Arab governments have also blocked access to specific websites, such as those the promote human rights.

Source:

Fatafta, M. (2020). *From Free Space to a Tool of Oppression: What Happened to the Internet Since the Arab Spring?* 17 December. The Tharir Institute of Middle East Policy. Available from <https://timep.org/commentary/analysis/from-free-space-to-a-tool-of-oppression-what-happened-to-the-internet-since-the-arab-spring/>.

Even though open government is not solely dependent on technology, the digital divide will impact its implementation and achievement. The reason being that most people live their lives digitally and to meet the demands of these citizens, but also to ensure a wider impact of open government the digital component is essential. However, to ensure that the government is responsive, effective and accountable to all its citizens, it is necessary to bridge digital divide and plan beyond digital technologies to ensure transparency, participation and collaboration.

III. TOWARDS AN ASSESSMENT FRAMEWORK ON OPEN GOVERNMENT AND THE DIGITAL DIVIDE

As argued above, OG is a key element to design policies to build back better and rebuild the connection between states and citizens in the Arab region. The digital divide possesses serious challenges which require regular monitoring to better advise policymaking and mobilise regional responses. Based on the concepts discussed above and the relevance of the topic it is important that the region creates a fact-based monitoring and evaluation mechanism to observe progress towards closing the digital divide and advancing OG. The purpose of advancing towards such a framework are multiple:

- 1) To frame the issue. The compilation of quite different metrics encourages holistic thinking about the digital divide and open government and encourages data driven policymaking.
- 2) To facilitate comparison between countries, so that patterns of success and their correlates can be investigated.
- 3) To allow measurement of progress in terms of closing the digital divide and open government.
- 4) To draw attention to open government and the digital divide as an important issue, leading to increased planning and resource-allocation for future policy interventions.

The suggested dashboard is composed by 18 indicators articulated across the three pillars that are considered the minimum to understand digital divides in the Arab region and the status of OG: divides on infrastructure and adoption, socio-economic divides, and open government environment.

- **Infrastructure and adoption:** include three indicators related to internet infrastructure and adoption by households and individuals. (1) Active mobile-broadband subscriptions per 100 inhabitants; (2) Proportion of households with Internet access at home and, (3) percentage of Internet users.
- **Socio economic indicators:** groups 7 variables known to impact the use and access to technology and therefore serve to gauge probability of adoption. (1) percent population ages 65 and over; (2) Disability prevalence rates; (3) Gender Gap Index; (4) Proportion of population living below the national poverty line (%), (5) Education School Completion rate (upper secondary) and, (6) Basic digital skills: Sending e-mails with attached files and (7) Standard digital skill: Finding, downloading, installing and setting software.

- **Open Government environment:** includes indicators to reflect key elements that determine the potential to advance open government strategies in a country. (1) Right to Information Rating (RTI), (2) Press Freedom Index, (3) Open Data Barometer, (4) WGI Voice and Accountability Index, (5) E-Participation Index, (6) CIVICUS Monitor: Tracking Civic Space; ((7) WGI Effectiveness Index; and (8) E-government services (OSI).

The dashboard does not include an index of digital divide or open government that can be used for unique ordering or ranking of the countries. Instead, for each indicator in the table, countries are divided into five groups of roughly equal sizes, indicated by colour. The closer the colour is to green indicates that the country is a relative top performer of the group in a particular variable. The closer to colour is to red in the dashboard indicates that the result it is closer to the lower performers of the region. Between red and green there is a progression of orange and yellow markers. The intention is not to suggest thresholds or target values for the indicators, but to allow a crude visual assessment of a country performance relative to others.

The first pillar of the dashboard covers infrastructure and adoption of Internet technologies. The indicators included reflect three essential elements that serve to gauge the level of penetration of the Internet and telecommunication technologies. By looking at the number of internet users, it is possible to have a good understanding of how many people potentially have access to online services, while knowing the active mobile broadband subscriptions and the percentage of households with access to internet provides clarity on the means used to access to the Net. This first pillar therefore provides a first understanding on how accessible the Internet and associated technologies is. When observing these indicators (see table 3) it is clear that they are highly correlated with income groups. Meaning that countries with higher GDPs per capita exhibit better performances. As a result, the countries with higher numbers of internet users are the high-income countries of the Gulf region. Among the middle-income countries they seem to have a percentage of internet users between 65 to 60 per cent of the population (Tunisia, Morocco, Algeria, and the State of Palestine) while the amount of internet users in Egypt does not reach half of its population (46.9 per cent of internet users). Access to the Internet from the household has demonstrated to be a key component to deal with the lockdowns and restrictions associated to COVID-19, therefore it would be critical to expand the data availability in this domain. Data gaps in conflict affected countries and the Least Developed Countries (LDCs) of the region also point to a lack of infrastructure and possibility of adoption of internet access among big portions of population groups across the region.

Table 3. Indicators suggested to Measure the Digital Divide in terms of Infrastructure and Adoption

Country	Digital Divide Infrastructure / Adoption		
	Active mobile-broadband subscriptions per 100 inhabitants (%)	Households with Internet access at home (%)	Internet users (%)
Algeria	96.0	74.4	49.0
Bahrain	122.6	99.7	99.7
Egypt	59.3	59.9	57.3
Iraq	42.1	73.1	75.0
Jordan	77.0	37.4	66.8
Kuwait	131.8	100.0	99.5
Lebanon	42.8	84.4	78.2
Mauritania	55.5	14.3	20.8
Morocco	64.9	80.8	74.4
Oman	109.1	94.5	92.4
Qatar	124.8	93.6	99.7

Saudi Arabia	116.9	99.2	95.7
State of Palestine	19.3	79.6	70.6
Sudan	37.9	33.6	30.9
Syrian Arab Rep.	11.5	45.0	34.3
Tunisia	77.8	51.5	66.7
United Arab Emirates	239.9	99.1	99.1
Yemen	6.0	6.3	26.7

Source: Compiled by ESCWA based on various sources (see Annex 1)

To augment the understanding of how the results of this first pillar is necessary to delve into the socioeconomic divides that might affect the level of penetration of the Internet. As discussed in Section 1 of the paper the experience of individuals in relation to the digital divide is greatly influenced by their socioeconomic status as well as related factors such as gender, age, geographical location, income or disability, among other determinants. Therefore, the indicators suggested to cover this second pillar of the dashboard capture these socio-economic aspects (see Table 4). Indicators on aged population, disability and gender relates to social status that can influence that access and use of technologies. Indicators on poverty relates to the economic status of individuals, while indicators on education and skills also refers to both economic and social status that also influences the potential access, skills and benefits that a person can experience through technologies.

The socioeconomic divides indicators show interesting features about gaps in development that filter down through the development of public policies and open governments. Most significant are the gender gaps were countries regardless level of income show similar performances in terms gender of discrimination. The numbers of people in situation of multidimensional poverty are worrisome and well as the potential pockets of population that are in situation of vulnerability to multidimensional poverty. Given that several countries are suffering situations of violent conflict and forced displacement, it would be interesting to add a dimension measuring the number of refugees and IDPs as another metric to measure potential digital divides.

Table 4. Indicators to monitor socioeconomic divides

Country	Socioeconomic Divides						
	Population aged 65 and above (%)	Disability prevalence rates (%)	Gender Gap Index 2020 (WEF)	Proportion of population living below the national poverty line (%)	Education School Completion rate (upper secondary) (%)	Basic Skill (Sending e-mails with attached files) (%)	Standard Skill (Finding, downloading, installing & setting software) (%)
Algeria	6.6	..	0.634	5.5	37.8	16.1	15.5
Bahrain	2.5	2.4	0.629	..	..	66.5	54.0
Egypt	4.6	1.9	0.629	27.8	69.9	59.8	51.5
Iraq	3.4	2.0	0.530	18.9	44.3	37.6	23.0
Jordan	3.9	2.7	0.623	14.4	55.7	..	..
Kuwait	2.8	..	0.650	..	..	63.2	66
Lebanon	4.5	..	0.599	27.4	..	..	..
Mauritania	3.2	1.0	0.614	31.0	14.7	..	..
Morocco	7.3	5.1	0.605	4.8	..	34.9	35.8
Oman	2.4	1.5	0.602	..	..	92.5	66.9
Qatar	1.5	0.2	0.629	..	..	58.2	37.1
Saudi Arabia	3.4	1.9	0.599	..	..	67.8	49
State of Palestine	1.2	2.0	..	29.2	62.2	11.3	4.7
Sudan	3.2	4.8	..	46.5	31.5	2.4	2.4
Syrian Arab Rep.	2.9	1.5	0.567	..	..	..	..

Tunisia	3.6	1.2	0.644	15.2	48.7	21.2	16.6
United Arab Emirates	8.6	..	0.655	..	..	90.0	56.0
Yemen	4.7	2.2	0.494	48.6	29.5	..	..

Source: Compiled by ESCWA based on various sources (see Annex 1)

Table 5 concludes the assessment framework in that it focuses on indicators that highlights aspects associated with the three principles of open government. The table also includes indicators that reflects government readiness. The assumption being that this gives an idea of the potential for government to implement actions to achieve the principles of open government.

Open government environment indicators (see table 5) show an interesting mis match between the purely technical capacities of governments to facilitate e-participation and e-services and the real levels of broader participation and civil society engagement. The legal frameworks seem not to facilitate an inviting environment to develop open governments yet.

Table 5. Indicators to monitor the Open Government Environment

Country	Transparency			Participation		Collaboration	Governmental readiness	
	Right to Information Rating (RTI) (Highest 150, Lowest 0)	Press Freedom Index (highest 0 lowest 100)	Open Data Barometer (highest 100 lowest 0)	WGI Voice and Accountability Index (highest 2.5, lowest -2.5)	E-Participation Index	CIVICUS Monitor: Tracking Civic Space (Open 1 – Close 5)	WGI Effectiveness Index (highest 2.5, lowest -2.5)	E-government services (OSI)
Algeria	0	45.52	..	-1.038	0.517	4	-0.516	0.277
Bahrain	0	60.13	19	-1.413	0.821	5	0.299	0.788
Egypt	0	56.82	14	-1.429	0.553	5	-0.424	0.571
Iraq	0	55.37	..	-0.945	0.436	5	-1.336	0.335
Jordan	56	42.08	13	-0.665	0.531	3	0.099	0.359
Kuwait	0	34.3	..	-0.635	0.791	4	0.018	0.841
Lebanon	70	33.19	6	-0.494	0.496	3	-0.833	0.418
Mauritania	0	32.54	..	-0.780	0.282	4	-0.498	0.100
Morocco	73	42.88	17	-0.627	0.573	3	-0.119	0.524
Oman	0	43.42	..	-1.136	0.775	4	0.259	0.853
Qatar	0	42.51	19	-1.291	0.717	4	0.705	0.659
Saudi Arabia	0	62.14	19	-1.617	0.799	5	0.306	0.688
State of Palestine	0	55.45	..	-1.008	..	5	-0.744	0.294
Sudan	64	55.33	..	-1.636	0.315	4	-1.622	0.306
Syrian Arab Rep.	0	72.57	..	-1.980	0.476	5	-1.711	0.541
Tunisia	120	29.45	32	0.281	0.653	3	-0.102	0.624
United Arab Emirates	0	42.69	26	-1.122	0.856	5	1.377	0.900
Yemen	103	58.25	0	-1.766	0.305	5	-2.279	0.324

Source: Compiled by ESCWA based on various sources (see Annex 1)

IV. CONCLUSION AND RECOMMENDATIONS

The digital divide and its impact on individuals and the whole of society is a complex and multi-dimensional phenomenon that goes beyond the basic existence of infrastructure. Therefore, it is not entirely rooted in technology, but also in social, cultural, economic and political stratifications that exist within

societies. If unaddressed, technology will further cement inequalities, rather than ensuring the equality and inclusion of all. This was clearly visible during the rapid acceleration of digitalization trends during the mobility restrictions associated with the COVID-19 pandemic.

Traditionally the digital divide is considered to focus on access to computers or technological devices. This paper advocates that this is only the starting point, the foundation. However, due to the increase in the importance of technology in the daily life of people and communities, the concept of the digital divide needs to go beyond and have a deeper understanding of the socioeconomic divides in societies that are also carried out to the online interactions of societies. This wider understanding will result in different levels of the digital divides, each with its own sub-groupings, causes and characteristics.

Since the implementation of OG, has a strong roots in initiatives associated with new or emerging technologies, addressing the digital divide becomes a critical issue to ensure that OG initiatives are successful and reach the promised goals of more inclusive, responsive and accountable institutions. It is therefore necessary to consider how digital divides might affect the goals of OG interventions as well as how it is limiting the achievements of current ones.

Further recommendations on that could be considered include:

- (a) Due to the complex and multidimensional nature of the digital divide it is necessary that any policies formulated to alleviate it take these issues into account, especially those influenced by economic, social, political and cultural issues.
- (b) The digital divide has a changing nature although it can be bridged, the nature of the divide and therefore the needs of those impacted change when technology changes, when different skills are required and when new benefits can be garnered. Any policy instruments and initiatives to alleviate the digital divide should consider its changing nature.
- (c) Therefore, establishing metrics that help to develop holistic interventions on the digital divide and open government. A common monitoring framework would also facilitate comparison between countries, so that patterns of success and their correlates can be investigated, and joint interventions based on regional cooperation can be devised.
- (d) Closing the digital divide through providing upgrades and enabling infrastructure to provide basic access to the Internet is still very necessary for many in the region. The required funding and financial resources required will need creative partnerships and coordination between private and public donors as well as the role of the developing banks operating in the region. While these are being negotiated and implemented, it is necessary to advance lower costs solutions, such as:
 - i. Public access centres and knowledge hubs where the public can access the Internet
 - ii. Free wi-fi access points in community centres and perhaps office parks where small business owners and start-ups can conduct business;
 - iii. Multiple access points for services, platforms and government information, so that all can participate and collaborate regardless of technology they use.
- (e) It is essential that access and skills of all people be developed to ensure equal access to open government initiatives. Without equal access open government become the advantage of a privileged few, while the voices of a great number of citizen's remain quiet and unheard.
- (f) Build a programme or system for systematic skills development that cover all needed skills, from computer to content-creation, for all levels of society. Focus on information skills, especially the

evaluation of information and staying safe digitally are essential. Programmes should be developed for all people within the society, children, women, the elderly, and people with disabilities to ensure that no-one is left behind.

This working paper suggests a dashboard to assess digital divide and its potential effects on open government in the Arab region. This suggestion should be considered by the Arab States and civil society across the region to refine and agree on the key metrics that are relevant to understand better the digital divide and the advancement of OG. The streamline of indicators for tracking progress on open government and the digital divide (as well as in any other domain) is an evolving process where indicators and metrics can be set and adapted depending on its progress. Also new indicators may appear, particularly as a result of the data revolution associated to the production of the SDGs indicators.

Finally, this working paper touches on issues related to the digital divide and open government from the perspective of citizens in general. However, there are some areas that should be considered for future research in this area to get a wider picture of the impact of the digital divide on the achievement of open government. One such an area is the role of government. ESCWA has done work related the framework that government can follow and policies that can be introduced, however a more in-depth look at the manifestation of the levels of the digital divide within government is necessary to better understand the changes that is necessary.

Another area of concern is those of refugees, internally displaced people (IDP) and migrants within the Arab region. In 2019, 15 per cent of all refugees and migrants were found in the Arab region. The displacement of people due to conflict, political unrest and economic instability impacts their ability to access, use and reap the benefits of technology. Consequently, this impacts any possibility to benefit from open government initiatives. A more in-depth look at the digital divide among refugees, IDP and migrants will bring about a better understanding of actions that can be taken, not only to reduce the digital divide, but also so that they may better benefit from open government initiatives.

Annex1: List of indicators and sources

	Indicator	Source
1	Active mobile-broadband subscriptions per 100 inhabitants (%)	ITU World Telecommunication/ICT Indicators (WTI) Database (2020). 24h Edition. December
2	Proportion of households with Internet access at home (%)	ITU World Telecommunication/ICT Indicators (WTI) Database (2020). 24h Edition. December
3	Internet users (%)	ITU World Telecommunication/ICT Indicators (WTI) Database (2020). 24h Edition. December
4	Population aged 65 and above (%)	World Development Indicators (WGI) Dataset (2020). Available from here: https://databank.worldbank.org/source/world-development-indicators
5	Disability prevalence rates (%)	ESCWA (2018) <i>Disability in the Arab region</i> . Available from: https://www.unescwa.org/sites/www.unescwa.org/files/publications/files/disability-arab-region-2018-english_1.pdf
6	Gender Gap Index 2020 (WEF)	World Economic Forum (2019). Global Gender Gap Report 2020: Global Gender Gap Index: Data Explorer. Available from https://reports.weforum.org/global-gender-gap-report-2020/dataexplorer/
7	Proportion of population living below the national poverty line (%)	UNSTATS (2021). <i>SDG Global Database</i> . Available from https://unstats.un.org/sdgs/indicators/database/
8	Education School Completion rate (upper secondary) (%)	UNESCO Institute for Statistics (2020). Available from http://uis.unesco.org/en/
9	Basic Skill (Sending e-mails with attached files) (%)	ITU World Telecommunication/ICT Indicators (WTI) Database (2020). 24h Edition. December
10	Standard Skill (Finding, downloading, installing & setting software) (%)	ITU World Telecommunication/ICT Indicators (WTI) Database (2020). 24h Edition. December
11	Right to Information Rating (RTI) (Highest 150, Lowest 0)	Centre for Law and Democracy (n.d). <i>Global Right to Information Rating</i> . Available from https://www.rti-rating.org/
12	Press Freedom Index (highest 0 lowest 100)	Reporters Without Borders (2020). <i>World Press Freedom Index</i> . Available from https://rsf.org/en
13	Open Data Barometer (highest 100 lowest 0)	World Wide Web Foundations (2019). <i>The Open Data Barometer</i> . Available from https://opendatabarometer.org/?_year=2017&indicator=ODB
14	WGI Voice and Accountability Index (highest 2.5, lowest -2.5)	World Bank (2020). <i>World Governance Indicators</i> . Available from https://databank.worldbank.org/reports.aspx?source=worldwide-governance-indicators
15	E-Participation Index	DESA. Division for Public Institutions and Digital Government (2020). <i>E-Participation Index</i> . Available from https://publicadministration.un.org/egovkb/en-us/Data-Center
16	CIVICUS Monitor: Tracking Civic Space (Open 1 - Repressed 5)	CIVICUS (2020). <i>Monitor</i> . Available from https://monitor.civicus.org/
17	WGI Effectiveness Index (highest 2.5, lowest -2.5)	World Bank (2020). <i>World Governance Indicators</i> . Available from https://databank.worldbank.org/reports.aspx?source=worldwide-governance-indicators
18	E-government services (OSI)	DESA. Division for Public Institutions and Digital Government (2020). <i>E-Government Development Index</i> . Available from https://publicadministration.un.org/egovkb/en-us/Data-Center

Bibliography

- Almadhoun, S. (n.d.). *Access to Information in the Middle East and North Africa Region: An overview of recent developments in Jordan, Lebanon, Morocco and Tunisia*. Available from https://www.transparency.org/files/content/activity/2012_RDAAIMNA_ATIMNARRegion_EN.pdf.
- Ball, C (2009). What Is Transparency? *Public Integrity*, vol. 11, Iss. 4, pp. 293-308. Available from <https://www.tandfonline.com/doi/abs/10.2753/PIN1099-9922110400?journalCode=mpin20>.
- Brito, C. (2020). *COVID-19 has intensified the digital divide*. world Economic Forum. 24 September. Available from <https://www.weforum.org/agenda/2020/09/covid-19-has-intensified-the-digital-divide/>.
- Büchi, M. and others (2015). Modeling the second-level digital divide: A five-country study of social differences in Internet use. *New Media and Society*, vol. 18, Nr. 11, 2703-2722. Available from <https://journals.sagepub.com/doi/10.1177/1461444815604154>.
- Carolan, L. (2016). *Open data, transparency and accountability: Topic guide*. Birmingham, UK: GSDRC, University of Birmingham. Available from <https://gsdrc.org/topic-guides/open-data-transparency-and-accountability/>.
- Chaouachi, M. and others (2020). *Tunisia's first ever open data hackathon taps into digitalization's potential for greater development impact*. 11 December. Available from <https://blogs.worldbank.org/governance/tunisiass-first-ever-open-data-hackathon-taps-digitalizations-potential-greater>
- Chatwin, M. & Arku, G. (2017). Beyond Ambiguity: Conceptualizing Open Government through a Human Systems Framework. *eJournal of eDemocracy and Open Government*, vol. 9, Nr. 1: pp. 52-78. Available from: <https://jedem.org/index.php/jedem/article/view/468>.
- Clarke, A. & Francoli, M. (2014). What's in a name? *eJournal of eDemocracy and Open Government*, vol. 6, No. 1, pp. 248-266. Available from <https://jedem.org/index.php/jedem/article/view/227>.
- Consumers International (2019). *Regional Briefing: E-Commerce and Consumer Protection in the Middle East and North Africa*. December. Available from <https://www.consumersinternational.org/media/314596/e-commerce-mena-briefing-dec2019.pdf>
- Council of Europe. Congress of Local and Regional Authorities (2018). *Transparency and open government*. 35th Session report. 7 November. Available from <https://rm.coe.int/transparency-and-open-government-governance-committee-rapporteur-andre/16808d341c>.
- Democracy Reporting International (2019). *Assessing Freedom of Information in Tunisia: Much achieved, much left to do*. 12 April. Available from <https://democracy-reporting.org/assessing-freedom-of-information-in-tunisia-much-achieved-much-left-to-do/>.
- ESCWA (2018). *Fostering Open Government in the Arab region*. Beirut. Available from <https://www.unescwa.org/publications/fostering-open-government-arab-region>.
- ESCWA (2020). *Legal aspects of open government and open data*. Beirut. Available from <https://www.unescwa.org/publications/legal-aspects-open-government-open-data>
- Go-Gulf (2020). *E-commerce in Middle East – Statistics and Trends*. 4 December. Available from <https://www.go-gulf.ae/e-commerce-in-middle-east-statistics-and-trends/>
- ITU (2020a). ITU World Telecommunication/ICT Indicators (WTI) Database. December. Geneva.

- ITU (2020b). *Measuring digital development: facts and figures 2020*. Geneva: ITU. Available from <https://www.itu.int/en/ITU-D/Statistics/Pages/facts/default.aspx>
- Junio, R. (2020). *Digital Divide in the Time of COVID-19*. United Nations University. 15 April. Available from <https://cs.unu.edu/news/news/digital-divide-covid-19.html>.
- Normore, A.H. and Lahera, A.I. (eds.) (2018). *Crossing the Bridge of the Digital Divide: a Walk with Global Leaders*. Kindle edition. Charlotte: Information Age Publishing. Available from <http://www.amazon.com>.
- Radcliffe, D. and Abuhmaid, H. (2020). *Social media in the Middle East: 2019 in Review: key developments, stories and research findings from the past 12 months*. January. [S.l.]: University of Oregon. Available from https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/25119/social_media_middle_east_2019.pdf?sequence=3&isAllowed=y
- Ragnedda, M. (2017). *The Third Digital Divide: a Weberian approach to digital inequalities*. London: Routledge. Kindle Edition. Available from <http://www.amazon.com>.
- Sargrad, S. (2020). Why Computer Literacy Matters During the Covid-19 Pandemic. *Forbes*, 16 September. Available from <https://www.forbes.com/sites/scottsargrad/2020/09/16/why-computer-literacy-matters-during-the-covid-19-pandemic/?sh=731da2fc58d7>.
- Scheerder, A. and others (2017). Determinants of Internet skills uses and outcomes. A systematic review of the second- and third-level digital divide. *Telematics and Informatics*, July. Available from <http://dx.doi.org/10.1016/j.tele.2017.07.007>.
- Stelitano, L. and others (2020). *The Digital Divide and COVID-19: Teachers' Perceptions of Inequities in Students' Internet Access and Participation in Remote Learning*. Available from https://www.rand.org/pubs/research_reports/RRA134-3.html.
- Stoicheva, M. (2001). The Digital Divide and its Implications for the Language Arts. *ERIC Digest*, No. 153. Available from <https://www.ericdigests.org/2001-1/divide.html>.
- United States of America. Department of Commerce (1995). *Falling through the Net: A Survey of the "Have Nots" in Rural and Urban America*. July. Available from <https://www.ntia.doc.gov/ntiahome/fallingthru.html>.
- United States of America. Department of Commerce (1998). *Falling through the Net II: new data on the digital divide*. 28 July. Available from <https://www.ntia.doc.gov/report/1998/falling-through-net-ii-new-data-digital-divide>.
- United States of America. Department of Commerce (1999). *Falling through the Net II: Defining the Digital Divide*. 8 July. Available from <https://www.ntia.doc.gov/report/1999/falling-through-net-defining-digital-divide>.
- Van Dijk, J. (2020). *The Digital Divide*. Kindle Edition. Cambridge: Polity Press. Available from <http://www.amazon.com>
- Wood, J. (2020). *3 things to know about women in STEM*. 11 February. Available from <https://www.weforum.org/agenda/2020/02/stem-gender-inequality-researchers-bias/>

Databases:

- Centre for Law and Democracy (n.d). Global Right to Information Rating. Available from <https://www.rti-rating.org/>.
- CIVICUS (2020). Monitor. Available from <https://monitor.civicus.org/>.
- DESA. Division for Public Institutions and Digital Government (2020). *E-Government Development Index Dataset*. Available from <https://publicadministration.un.org/egovkb/en-us/Data-Center>.
- DESA. Division for Public Institutions and Digital Government (2020). *E-Participation Index Dataset*. Available from <https://publicadministration.un.org/egovkb/en-us/Data-Center>.
- ITU World Telecommunication/ICT Indicators (WTI) Database (2020). 24h Edition. December
- Reporters Without Borders (2020). *World Press Freedom Index*. Available from <https://rsf.org/en>.
- UNESCO Institute for Statistics (2020). Dataset. Available from <http://uis.unesco.org/en/>.
- UNSTATS (2021). *SDG Global Database*. Available from <https://unstats.un.org/sdgs/indicators/database/>.
- World Bank (2020). World Governance Indicators. Available from <https://databank.worldbank.org/reports.aspx?source=worldwide-governance-indicators>.
- World Development Indicators (WDI) Dataset (2020). Available from here: <https://databank.worldbank.org/source/world-development-indicators>.
- World Economic Forum (2019). Global Gender Gap Report 2020: Global Gender Gap Index: Data Explorer. Available from <https://reports.weforum.org/global-gender-gap-report-2020/dataexplorer/>.
- World Wide Web Foundations (2019). The Open Data Barometer. Available from https://opendatabarometer.org/?_year=2017&indicator=ODB.