UNITED NATIONS

E

 ECONOMIC AND SOCIAL COUNCIL

Distr.
LIMITED
E/ESCWA/C.8/2022/9
12 October 2022
ORIGINAL: ENGLISH

Economic and Social Commission for Western Asia (ESCWA)

Committee on Technology for Development
Fourth session
Beirut, 14-15 November 2022

Item 11 of the provisional agenda

Use of technology and innovation for enhanced operations in Arab public institutions

Summary

In the last two decades, several Arab countries have started automating administrative processes and implementing e-government programmes, with varying levels of success. Only few have embarked on the use of emerging technologies, which offer opportunities to improve the inclusiveness, responsiveness and trustworthiness of public institutions. The COVID-19 pandemic has pushed countries to accelerate their digital transformation agendas; however, most Arab countries have yet to exploit the full potential of digital technologies in public institutions.

Against this backdrop, the Economic and Social Commission for Western Asia (ESCWA) has embarked on a project to support Arab countries in their efforts to enhance back-office operations and public sector services, capitalizing on the power of digital and emerging technologies such as artificial intelligence, big data, open data and the metaverse. Special attention will be given to achieving specific aspects of the 2030 Agenda for Sustainable Development, namely trust in and inclusiveness and responsiveness of public sector institutions. The Committee on Technology for Development is invited to take note of the project and provide comments on the way forward.

22-00944

Contents

Introduction

1.   For over two decades, technology has been transforming the way Governments work, thus increasing its usefulness to public institutions and their clients as it evolves. Technology has provided new options for internal government processes and offered unique ways to connect with citizens through various forms of digital services, and the provision of access to government information and data.

2.   Today, digital infrastructure, space technology and emerging technologies, such as artificial intelligence, big data and cloud computing, offer great opportunities to improve the operation of public institutions and the delivery of digital services. Immersive technology and the metaverse can also deepen the digital interaction between Government and citizens.

3.   The impact of technology goes beyond ensuring good processes and services: it can also enhance governance to improve the relationship between a Government and the society it serves. In a future that depends on collaboration between a Government and its people to achieve economic growth, social welfare and environmental health, it is essential that public institutions strive to be inclusive, trustworthy and responsive. By building inclusiveness, responsiveness and trust in Government, public institutions can count on the collaboration and participation of citizens in finding solutions to development issues, thus creating greater prosperity for all.

4.   Government inclusiveness is characterized by equal participation and equal treatment, meaning that citizens have the right to voice their opinions and needs, and that all people have equal rights.[1] In turn, if technology is to be effective, it has to be inclusive. Therefore, any person, regardless of race, gender, age and ability, should be able to use it. All should be provided with the necessary skills to access technology, but technologies should also be developed to ensure that those with various limitations can access them effectively and efficiently.

5.   Responsiveness is the obligation of a Government to react to the needs of its citizens, and to plan and implement services, policies and programmes accordingly.[2] In the same manner, technologies should be responsive to those using them, perhaps in the form of personalization and targeted suggestions, based on user needs and preferences. Technology responsiveness also refers to ease of use, speed and ability to conduct tasks in real time.[3]

6.   Trust is the readiness of one party, such as a citizen, to rely on another party, such as a public institution, to keep its promise.[4] In the context of technology, trust is essential given that people must trust technology to use it. They must also trust in its ability to collect and store personal information without it being used against them.[5]

7.   Technological developments offer opportunities for better services at all levels of Government, in particular local government where technology can be tailored to local needs. Better governance and better public institutions are essential elements in achieving the Sustainable Development Goals (SDGs), namely Goal 16 on promoting peaceful and inclusive societies for sustainable development, providing access to justice for all, and building effective, accountable and inclusive institutions at all levels. Fostering innovation,

---

[1]   Teresa Harrison and Djogo Sigit Sayogo, Transparency, participation and accountability practices in open government: a comparative study, 2014.

[2]   United Nations Department of Economic and Social Affairs (DESA), Responsive and accountable public governance: 2015 World Public Sector Report, 2015; Bjorn-Soren Gigler and others, The Loch Ness model: can ICTs bridge the accountability gap?, 2014.

[3]   Rachel Goldberg, How to increase responsiveness and drive digital transformation, 2018.

[4]   Pedro Arizt and others, "Why trust in government matters", Results, Performance Budgeting and Trust in Government, 2010.

[5]   Frens Kroeger, What is trust in technology? Conceptual bases, common pitfalls and the contribution of trust research, 2021.

achieving universal Internet access, and enhancing the use of enabling technology are also key to realizing SDGs 9 and 17.

8. To support member States in achieving those SDGs, and enhancing trust in and inclusiveness and responsiveness of public institutions, the Economic and Social Commission for Western Asia (ESCWA) has embarked on a project to support Arab countries in their efforts to strengthen back-office operations and public sector services, capitalizing on the power of digital and emerging technologies such as artificial intelligence, big data, open data and the metaverse. The present document provides an overview of the project, which builds on available data regarding digital development in Governments in the Arab region.

I. Selected aspects of technology use in the public sector of the Arab region

9. Arab countries vary greatly in the development and use of digital and emerging technologies. Most Arab countries rely on digital and emerging technologies to enhance their operations and services. In some countries, mainly in the lower-income group, copyright issues, lack of data literacy, accessibility, the digital divide and information mismatch are major challenges limiting the digital skills development needed to benefit from digital technologies.

10. In Qatar, e-government services were deployed through portals such as Hukoomi, which are accessible online and on smart phones. The use of medical e-records has facilitated access to patient records and the creation of a medical information system that connects health-care providers to recipients.

11. In Saudi Arabia, the e-government Unified National Platform provides access to public services through various channels, using the latest technologies. Moreover, the platform Watani enables people to provide feedback on the services of public institutions.

12. During the COVID-19 pandemic, strong digital infrastructure and skills in the United Arab Emirates facilitated national response efforts, and sustained government operations and services. Portals such as Digital Dubai and TAMM Abu Dhabi enabled interaction and access to services and information through mobile phones, tablets and computers.

13. In Jordan, the Bekhedmetkom Platform allows citizens to communicate with the Government, voicing their opinions and suggestions, asking questions, submitting complaints, and reporting any violations. The aim is to improve the relationship between Government and citizens while enhancing public services.

14. The launch of the Chafafiya.ma portal in Morocco has digitized the process of requesting access to information, pursuant to law No. 31-13 (2018) on the right to access information. Through the portal, applicants can submit and track requests for information, which enhances the management and processing of requests, therefore improving government service delivery.

15. The E-People Platform of Tunisia serves as a one-stop-shop where citizens can submit complaints, which are then filtered to the relevant public institution. The objective is to enhance participation and interaction between citizens and Government, while improving the quality of services and the overall performance of public institutions.

## II. Arab digital development as measured by global indices

16. The ranking of Arab countries in recognized international indices and indicators of digital development, such as the ICT Development Index, the E-Government Development Index and the E-Participation Index, can provide an overview on their levels of digital development. ESCWA has developed the Index Simulator for Policymakers (ISPAR) to gather data and information on these and other indices, and to assist member States in identifying effective and efficient procedures that could be implemented in the short, medium and long terms to enhance countries' rankings and improve their socioeconomic development levels.

A. ICT Development Index

17.   The ICT Development Index features use and skills indicators that are linked to inclusiveness, including the percentage of Internet users in Arab countries, and their distribution by location (urban and rural) and by gender.

18.   The percentage of individuals using the Internet has risen globally and in the Arab region, yet this increase differs between regions and countries. The increase was fast during the COVID-19 pandemic when Internet use was crucial for communication, learning, working, accessing services, and adapting to pandemic response measures. According to 2021 estimates from the International Telecommunication Union (ITU), some 66 per cent of individuals use the Internet in the Arab region, which is slightly higher than the estimated 63 per cent global average. In 2020, 11 Arab countries had a higher percentage than the world's average of 65 per cent, as shown in figure 1.
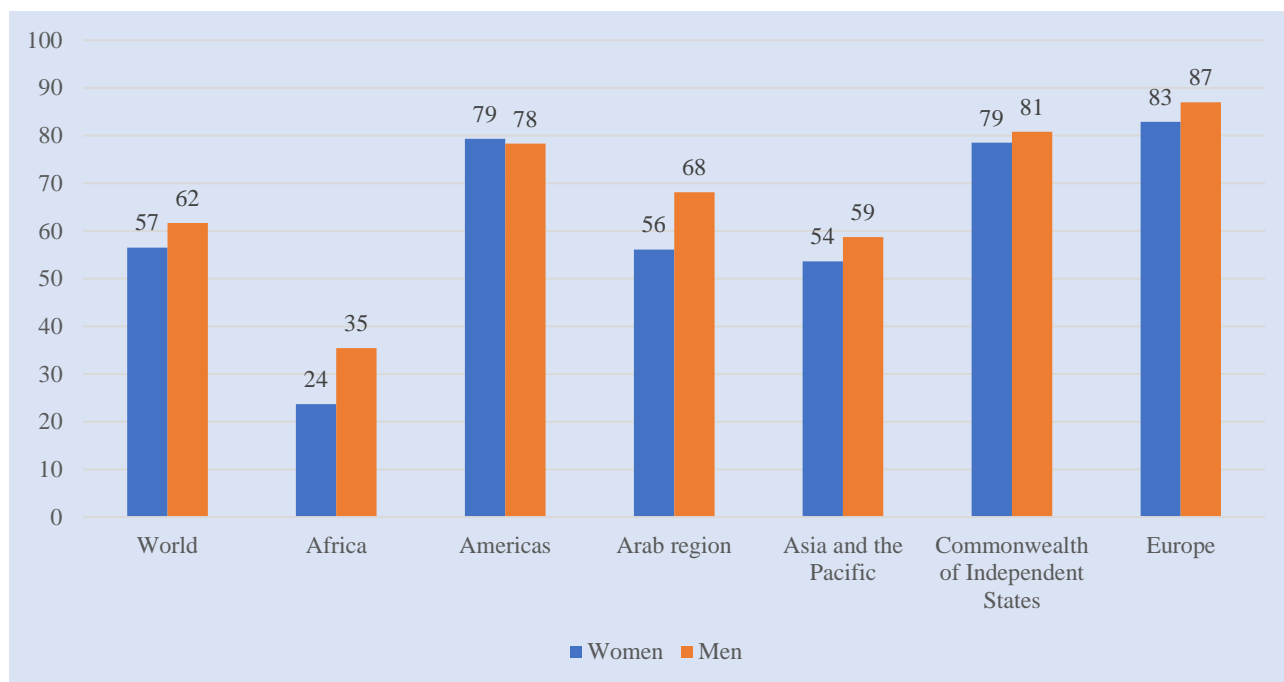
Figure 1. Percentage of Internet users in Arab countries, 2020
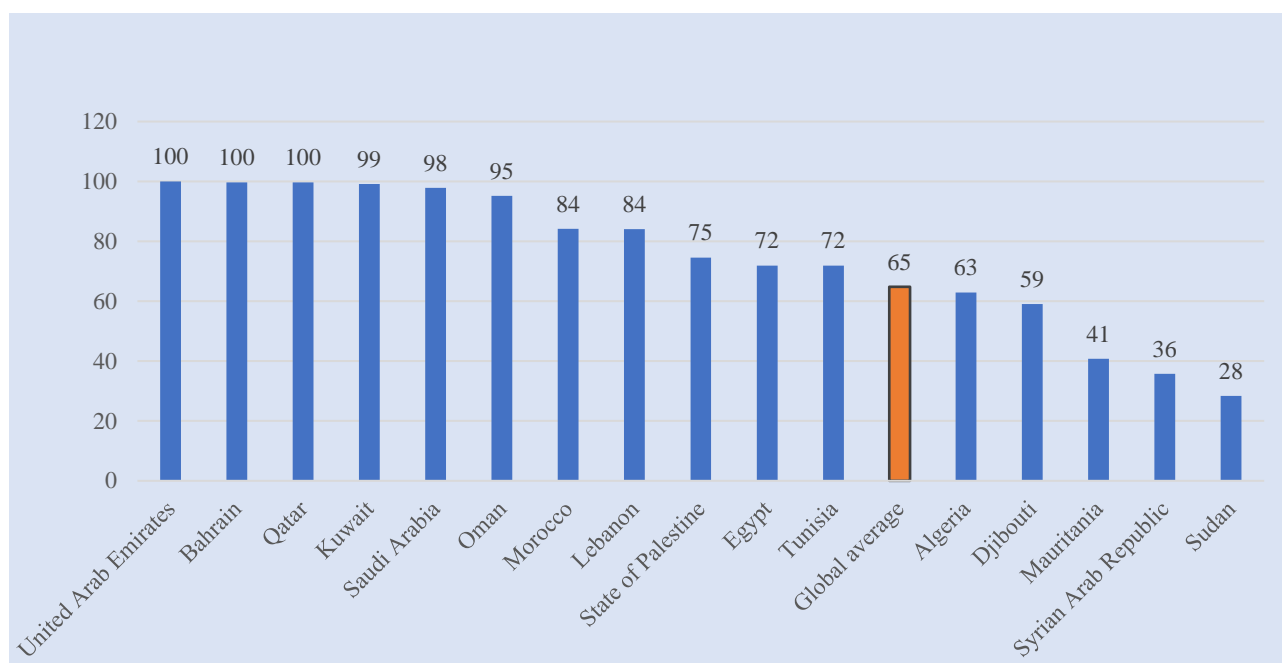
Source: ITU, Country ICT data, 2021.

19.   In the Arab region, as in other regions, there is a digital divide between urban and rural areas. According to ITU, in 2020, 75 per cent of urban dwellers worldwide used the Internet, whereas only 39 per cent of rural dwellers did. A similar gap existed in the Arab region, where 76 per cent of the urban population used the Internet versus 42 per cent of the rural population.

20.   The level of digital inclusiveness also relates to the digital gender gap in Internet use. Figure 2 shows the digital gender gap per region according to ITU 2020 data, with a global average of 57 per cent of women versus 62 per cent of men using the Internet. Women continue to be digitally more marginalized in poor countries. In the Arab region, the gender gap is around 56 per cent of women versus 68 per cent of men using the Internet.

**Figure 2. Percentage of individuals using the Internet by gender, 2020**

21. Existing gaps in Internet use could also stem from a lack of ICT skills, which are crucial for reducing the risks that people face online, and must be developed by enhancing connectivity. Gaps in Internet use are also related to connectivity, affordability, access to devices, and digital content. The Arab region, like the rest of the world, needs to sustain skills development as part of national digital strategies to continually enhance the capabilities of both people and institutions, so as to keep up with digital development.

B. E-Government Development Index

22. The E-Government Development Index (EGDI) is the most internationally recognized composite measure for the willingness and capacity of public administrations to use ICT to deliver public services. It includes subindices on the status of telecommunications infrastructure, human capital, and quality of online services.

23. Figure 3 shows the EGDI ranking of Arab countries in 2018 and 2022, revealing significant progress for most. In 2022, eight Arab countries had an overall score equal to or higher than the world's average.

Figure 3. E-Government Development Index, 2018 and 2022
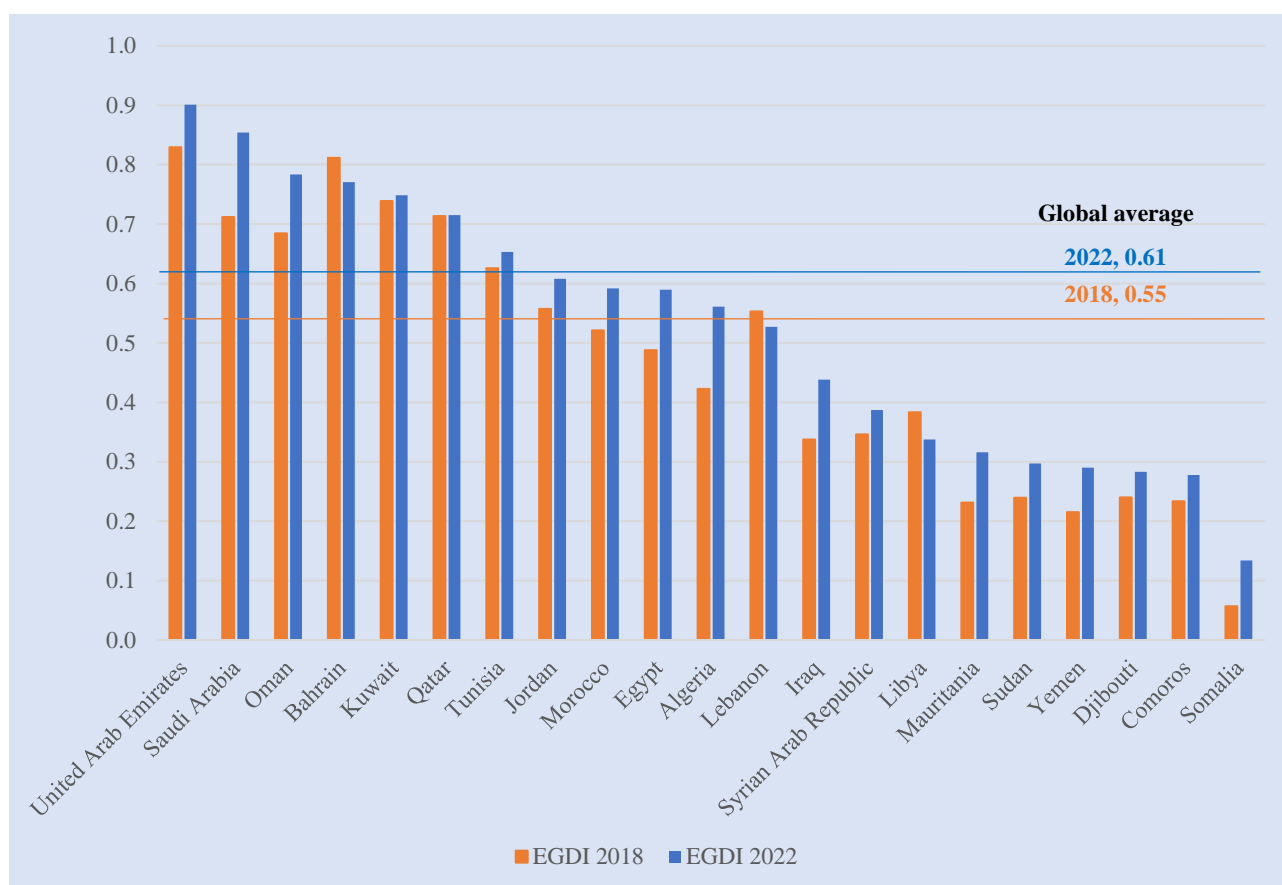
Source: Compiled from the results of the United Nations E-Government Survey 2022.

C. E-Participation Index

24. The E-Participation Index assesses the quality and usefulness of information and services provided by a country to engage people in public policymaking, through the use of e-government programmes relating to government responsiveness to citizens' needs. The Index covers the following three stages: provision of e-information that enables public participation; empowerment for participation in e-decision-making; and public engagement in e-consultations on public policies and services. Figure 4 sets out the 2022 results of the Index for Arab countries, where six countries have scores above the world's average.

Figure 4. E-Participation Index for Arab countries, 2022
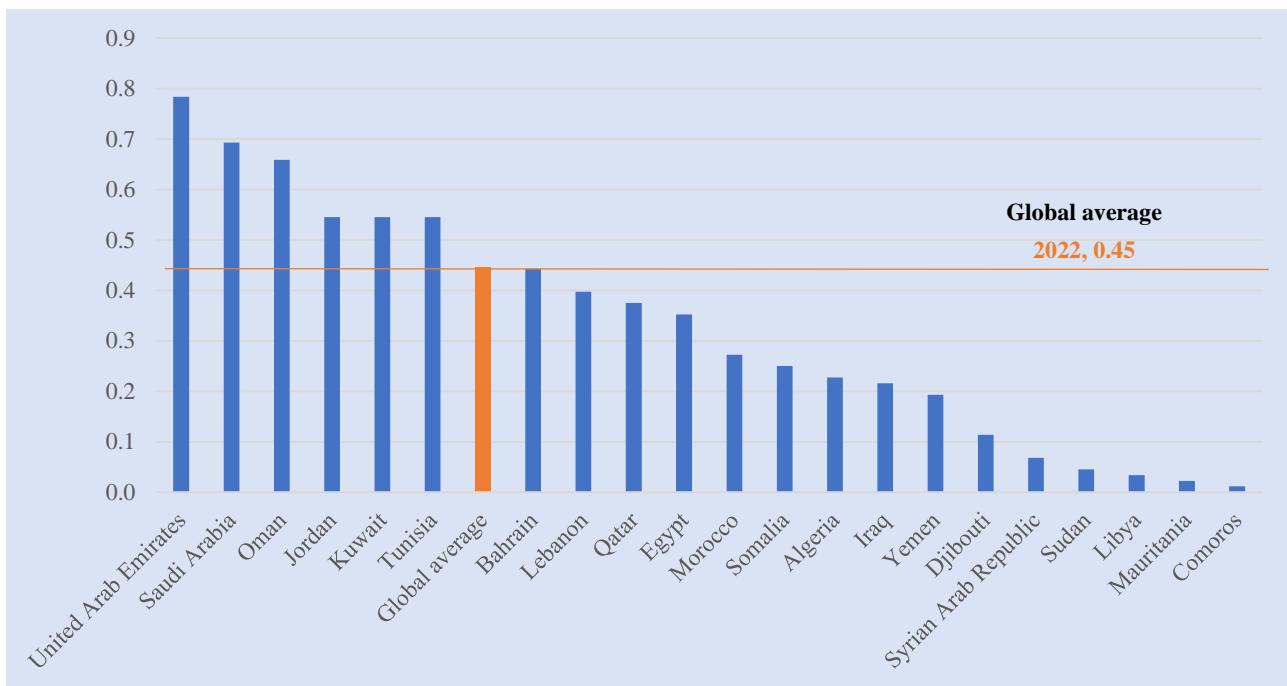
Source: Compiled from the results of United Nations E-Government Survey 2022.

D. Network readiness

25.   The digital divide in Internet use is also attributed to network connectivity, and affects inclusiveness levels. The Network Readiness Index (NRI) gives an insight into the level of connectivity and digital development, along four themes (technology, people, governance and impact) and 12 sub-themes,[6] including access, use of technologies by individuals and Governments, trust and inclusion, and impact on the economy and quality of life.

26.   NRI covered 12 Arab countries[7] in 2021, six of which had scores higher than the world's average, namely Qatar, Saudi Arabia and the United Arab Emirates, which are considered the region's leaders; and Bahrain, Jordan and Oman. The remaining Arab countries either score less than the world's average or are not covered by the Index.

27.   Arab countries' NRI results for 2021 on the themes of technology and people show good scores when compared with the world's average. The technology theme is related to access and use of technologies and the distribution of its benefits in the post-pandemic period; and the people theme is related to how individuals and people in businesses and Governments use ICTs.

28.   The governance theme in NRI is related to governance structures that ensure an integrated network guaranteeing safety and security for users, and it is concerned with network systems that promote activities related to trust, regulation and inclusion. The sub-theme of trust is related to the safety of users in the network economy, and reflects the environment and level of trust. Arab countries' NRI 2021 scores for governance and its sub-theme on trust are lower than those for technology and people.

---

[6] NRI themes and sub-themes: (1) Technology - access, content, future technologies; (2) People - individuals, businesses, government; (3) Governance - trust, regulation, inclusion; and (4) Impact - economy, quality of life, SDG contribution.

[7] Algeria, Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, and United Arab Emirates.

III. Objectives of the project

29.   The main objective of the ESCWA project on the "use of technology and innovation for enhanced operations in Arab public institutions" is to improve the internal operations and services of public institutions in Arab countries, by relying on digital technology, innovation and emerging technologies to accelerate SDG achievement, especially Goal 16. Furthermore, the project aims to enhance interactions between public institutions through better data sharing and data usage for better government decision-making.

30.   In line with the vital challenges of public institutions in the Arab region, the project will focus on the following three important aspects: inclusiveness, trust, and responsiveness. These aspects are essential for the achievement of the SDGs, and they complement the main aspects of open government, namely transparency, accountability, participation, and citizen engagement.

31.   Digital technologies, including artificial intelligence, open data, big data, the Internet of Things, cloud computing and blockchain, offer great opportunities to improve public sector operations and digital services. They also facilitate interaction between the Government and other stakeholders, and improve government responsiveness to citizens' needs. Moreover, ICT and space technologies are vital for enhancing inclusiveness and leaving no one behind. Immersive technologies offer new features and will deepen the digital interaction between Government and citizens towards greater citizen engagement in government policy and decision-making.

32.   In the Arab region, most countries have not yet exploited the full potential of digital technologies in public institutions; however, some have formulated digital development plans or digital transformation strategies. The aim of the ESCWA project is to support Arab countries in their efforts to enhance back-office operations and public sector services by capitalizing on the power of digital and emerging technologies. This aim will be realized by developing practical mechanisms to accelerate the implementation of adopted strategies and plans, and applying these mechanisms to facilitate the use of digital and emerging technologies and innovation in the public sector.

33.   The practical mechanisms will be inspired by best practices from Arab countries and other regions. Available resources from international organizations and recognized entities, including previous work by ESCWA, will also inform the project's outcomes.

34.   The project aims to build the capacity of Arab government officials to better use technology and innovation in public institutions. Special attention will be paid to Arab countries that are less advanced in technological development. Through this project, ESCWA also aims to provide civil servants in Arab public institutions with an increased understanding of innovative technology-based solutions to enhance inclusion, effectiveness, trust and responsiveness.

35.   Since many Arab countries have success stories in the use of technology and innovation for advancing the public sector, ESCWA will work together with its member States to transfer success stories and solutions from selected Arab countries to others through twinning processes.

36.   Implementation in interested Arab countries will be carried out through the formulation of customized solutions to implement national digital transformation strategies and plans, and to ensure public institution development. Action plans will be jointly formulated for implementation in specific public institutions in target countries, based on their priorities and needs.

IV. Planned activities

37.   The project is set to run until 2024. Several activities are planned to achieve its objectives, such as research reports, expert group meetings, training workshops, digital information resources and tools.

38. ESCWA will prepare a working paper and an online tool on innovation in the public sector, so as to support innovations in determining solutions for specific needs, namely in technology deployment and adaptation. Another study will focus on investigating and identifying mechanisms that can be used to deploy adequate technology within government services and processes to ensure more impactful public institutions.

39. To build the capacity of officials, regional and national workshops will be organized to enhance effectiveness of Arab public institutions using technology and innovation. National workshops will serve as vehicles for capacity building, and provide an opportunity to draft an action plan on enhancing specific public entity services.

40. The Arab Open Government Portal was launched in 2020 as part of an ESCWA project on open government. The digital platform is domain specific, focused on open and innovative government, and currently offers access to resources, information and case studies from Arab countries. Phase 2 of the portal will be undertaken as part of the current project, and will entail expanding the portal to include other resources and case studies.

41. Various promotional material will be developed to raise awareness on available mechanisms, tools and issues. Social media campaigns will also be launched to inform officials and citizens of the possibilities and roles that they can play in building better Arab public institutions.

V. Recommendations

42. ESCWA aims to implement the project in close collaboration with member States to maximize the benefits of planned work and accelerate the realization of the SDGs. The proposed collaboration could be achieved through the following actions:

(a) Collecting best practices and success stories from Arab countries on the use of technology and innovation to enhance inclusiveness, trust and responsiveness in Government. These success stories will be made available on the ESCWA portal;

(b) Conducting periodic discussions and brainstorming sessions between ESCWA and member States on the priorities and requirements for strengthening public institutions through technology;

(c) Holding discussions between ESCWA and Arab experts on the design of innovative mechanisms for better use of technology to advance the operations and services of public institutions;

(d) Encouraging member States to take part in twinning processes to share their experiences and solutions with other countries, or to aid in implementing solutions inspired by success stories in other Arab countries;

(e) Collaborating with ESCWA in customizing innovative mechanisms to local needs, and formulating action plans to enhance operations and services in selected public institutions of some Arab countries.