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Contribution of ESCWA

to the CSTD 2018-19 priority theme on 'The role of science, technology and innovation in building resilient communities, including through the contribution of citizen science'

New technologies, conflict prevention, and resilience in the Arab region

New technological paradigm and the 2030 agenda

Advancements in information and communications technologies (ICTs) have precipitated the rapid pace of the globalization process initiated in the 1990s. As a result, today's world is highly 'interconnected, for instance, mobile broadband subscriptions have grown more than 20% annually since 2012, and are expected to reach 4.3 billion globally by the end of 2017, bringing more than one third of the world´s population online . New ICTs are blurring the lines between the physical and digital spheres. The extent and depth of these changes are leading to the redefinition of systems of production, consumption, management, and governance. The level of interconnectivity provided by, for example, smartphones, apps, social networks, sharing platforms, geoinformatics, and cloud computing, lend this new paradigm the capability to redefine the way societies interact. The transformative power of ICTs is widely acknowledged and holds many possibilities to spur innovation and improve welfare across societies. This potential is a key mean for achieving the 2030 Agenda, including SDG 16, to promote peaceful and inclusive societies.

Governance and technology

The domain of public governance in the Arab region faces significant structural barriers to achieving responsive, inclusive and participatory decision-making at all levels, as outlined in SDG 16. Two examples of such challenges are: public sector transparency and accountability, and the lack of participation of youth, women, and other at-risk groups in public decision making. This situation challenges the representativeness of the political system and leads to the disenfranchisement of social groups and their institutions. Technological advancements and innovations can provide solutions for increasing the transparency, accountability and effectiveness of government processes, and can facilitate inclusive civic participation through both formal and informal channels of engagement.

With the necessary political will and a receptive social structure, technology can help combat corruption and enhance the effectiveness of government processes at all levels and in all sectors, from collecting taxes to meeting infrastructure needs to improving resilience of communities to external shocks. For example, governments can improve transparency across institutions by incorporating technologies that increase automation, simplification, efficiency, accuracy, and frequency across government processes; by using anti-corruption software tools in e-governance and e-procurement practices to identify processes at risk of fraud or irregularities; by dispatching mobile applications that allow citizens to report corruption; by creating early warning systems; and deepening linkages and two-way communication between communities and their governments. Inclusive governance can be supported by technologies that provide platforms and tools enabling citizens from all walks of life to have more direct access to public institutions, processes and government officials; and to voice their opinions, mobilize, and coordinate their advocacy efforts. Thus, technology can serve as a catalyst for promoting wider engagement between government and

societies, improving civil rights by facilitating the flow of information, and enhancing the quality of public services. Technology however, can be a double-edged sword. Governments can acquire capacities that may be used to increase control over populations and limit freedoms, for example by regulating digital infrastructure, or utilizing universal surveillance programmes.

Conflict and technology

Technologies can support conflict prevention and peacebuilding and enhance existing, traditional conflict prevention frameworks and tools, for example by incorporating mobile technology for early warning and early response, and mapping and geospatial data for early humanitarian interventions. Such innovations are already being deployed by governments and international organizations, for example, in 2010, UNDP used crowdsourcing technology and mapping platforms for collaborative conflict prevention during the Kenyan constitutional referendum. Other examples come from the world of conflict mediation, where big data is being used to analyse and better understand group dynamics and affiliations in a conflict, software has been developed for facilitating mediation, and digital communication tools are being used to initiate contact and dialogue between groups/ stakeholders who otherwise would not interact.

However, technological advances can also be used to aggravate conflict situations, for example if spoilers or criminal actors use it to organize, encourage or coordinate violence (e.g. by promoting their cause on social media and recruiting members). Another dangerous example is the use by non-state actors of the dark web or online black markets to acquire arms, drugs, or engage in human trafficking and other criminal activities, especially during times of fragility and conflict.

To ensure that the potential of technological innovation is unlocked to the advantage of more prosperous and fairer societies in the Arab region, governments and international organizations must use technology constructively, and overcome the challenges presented by the new technological paradigm. Given the global climate of rapid technological advancements, and their widespread use across society and government, there is increasing pressure to change current approaches to policymaking and public engagement. However, while new technologies have huge potential, they are not a cure-all solution, and should be understood as one more tool for improving governance and preventing conflict. While new technologies are uniformed and consistent, the contexts where they are deployed vary in their cultural, socioeconomic or demographic nature. Therefore, the conditions for the implementation of new technologies and their impact cannot be taken for granted.

1. Can you give examples of projects/policies in your region aimed at using science, technology and innovation (STI) to build resilient communities? What are the main challenges confronted while trying to implement these projects/policies in your region?

- **Development of Digital Transformation Strategy in Mauritania**
  Background:
    o Based on a technical cooperation request, ESCWA assisted the Ministry of Employment, Vocational Training, and ICT in developing a road map for the new ICT/Digital Transformation Strategy (April 2018).
  Challenges:
    o Determine national priorities in digital transformation;
    o Ensure coordination among national stakeholders;
    o Assess the previous ICT strategy and ensure to take into consideration the lessons learned;
    o Availability of local skilled experts to develop the Strategy.

- **Development of Digital Transformation Strategy in Jordan**
  Background:
    o Based on a technical cooperation request, ESCWA assisted the Ministry of ICT in developing a road map for the new Digital Transformation Strategy (November 2017).
  Challenges:
    o Consult with an important number of national stakeholders to identify and consent on the strategy focus areas;
    o Tight time line allocated to strategy development;
    o The necessity to link the new strategy with other national plans (ICT, digital economy, development plan, …);

- **Development of National Strategy for Smart Cities in Morocco**
  Background:
    o Based on a technical cooperation request, ESCWA assisted the Ministry of Industry, Investment, Trade and Digital Economy in developing a road map for national Smart Cities Strategy (July 2018).
  Challenges:
    o Stock taking the already developed Smart Cities initiatives;
    o Update the legal framework to cover Smart Cities requirements;
    o Ensure data openness as a key factor for Smart city development.

- **Development of National Action Plan for e- Accessibility in Morocco**
  Background:
    o Based on a technical cooperation request, ESCWA assisted the Ministry of Social Affairs in developing a national action plan to enact the Accessibility policy (November 2017).
  Challenge:
    o Ensure the availability of funds to cover the planned e-Accessibility activities;
    o Need for high-level administrative commitment to implement e-Accessibility;
    o Update and adopt national e-Accessibility standards to ensure a smooth implementation of related initiatives and projects.

2. Can you provide examples of policies/projects/initiatives aimed at using/promoting citizen science to build resilient communities? Do these projects incorporate a gender approach? What are the main challenges confronted in implementing these projects?

- **Development of Technology Incubators in Sudan (Raed Incubator)**
  Background:
    o Based on a technical cooperation request, ESCWA assisted the National Information Center (NIC) in Sudan, by conduction a study on technology incubators development (April 2017). Consequently, an incubator (Raed) was established and launched in 2018.
  Gender
    o The incubator will host entrepreneurs regardless of their gender.

  Challenge:
    o Enact Public-Private Partnership (PPP) to secure the necessary Incubator funds.
    o Disseminate awareness about Incubator functions and role among youth and entrepreneurs.

- **Development of National Technology Transfer Office (NTTO) in Sudan**
  Background:
    o Based on a technical cooperation request, ESCWA assisted the Africa City of Technology in conducting a project to establish a national technology transfer office in Sudan (December 2017).
  Gender
    o The NTTO strives to commercialize RDI outcomes from researchers regardless of their gender.
  Challenge:
    o Need to build local capacities in patent filling and submission.
    o Adoption of suggested legal amendments to establish and operationalize the office.

- **Government Electronic and Mobile Service (GEMS) maturity index (regional initiative)**
  Background:
    o In partnership with Prime Minister's Office (PMO) in UAE, ESCWA initiated an index to measure the maturity of e-Services in the Arab region. This index has been piloted in several countries and is being implemented during this year (2018).
  Gender
    o This index focuses on selected citizen-centric services, offered to individuals regardless of their gender.
  Challenge:
    o Need to fund GEMS related activities on national level;
    o Enhance data collection mechanisms related to e-Services.

3. What are the actions that the international community, including the CSTD, can take to leverage the potential of STI in building resilient societies, including through the contribution of citizen science? Can you give any success stories in this regard from your region?

- Need for capacity building activities in the role of STI in development;
- Provision of advisory services and best practices in STI related policies to public agencies;

- Raise awareness of policy makers and Gov officials in new technology topics, such as IoT, Big Data, AI, and Cloud computing.
- Continute supporting the national efforts to increase internet penetration rates as well as other forms of technology penetrations.

4. Could you suggest some contact persons of the nodal agency responsible for projects/policies, related to resilient communities, STI and the citizen science as well as any experts (from academia, private sector, civil society or government) dealing with projects in this area?   We might contact them directly for further inputs or invite some of them as speakers for the CSTD inter-sessional panel and annual session.

- Sudan, National Information Center, Director General;
- Sudan, Africa City of Technology, Director General;
- Mauritania, Ministry of Employment, Vocational Training and ICT, Director of ICT;
- Morocco, Agency for Digital Development (ADD), Director General;
- Jordan, Ministry of ICT, Secretary General;
- UAE, Prime Ministry's Office, Director General.

5. Do you have any documentation, references, or reports on the specific examples on the priority theme in your region?

- NTTO reports (UN-ESCWA website).

Below are a variety of ESCWA projects and research that directly or indirectly address STI, citizen science, and resilience issues (From ESCWA's webpage):

Regional Workshop on Open Government in the Arab Region. 25-27 September 2018

Open government is a relatively new and innovative concept that refers to a government, which is effective and efficient in the performance of its duties, transparent in and accountable for its actions, and accessible to all through its services. It also refers to a government that is responsive to the needs of its citizens, values their knowledge and expertise in decision-making, and embraces new and emerging technologies to enhance its governance. Open government, has the potential to increase trust in Government, fight corruption, and improve growth, while citizen engagement through shared responsibilities and open collaboration can lead to tailored services and policies in line with the needs of the people and the future vision of the Government.

Implementing open government is not an easy task, as it requires changes to long-standing systems, changes in the way government thinks and changes in the way citizens perceive their responsibility and role in governance. To aid in the implementation of open government in the Arab region, ESCWA developed an open government framework. Build on existing systems, this four-phased model, can be used by government institutions, departments, and ministries to systematically introduce and develop open government. The phases are openness, participation, collaboration and involvement. To successfully achieve such implementation, it is necessary to build the capacity of government decision-makers and employees that can drive the development and innovative services, products, programmes, processes and procedures to bring about open government.

The workshop forms part of a broader Development Account project entitled "Institutional development for better service delivery towards the achievement of the sustainable development goals in Western Asia" which was launched in 2016 by the United Nations Economic and Social Commission for Western Asia (ESCWA). The overall objective of the project is to build the capacity of ESCWA Member States to utilize emerging technologies for increasing transparency, accountability and to adopt a more effective and efficient participatory approach to governance. In its part of the project, the Technology for Development Division focus specifically on the employment of emerging technologies and embracing the openness concept to achieve the project objective.

The workshop, its objective and topics stand in direct support of the 2030 Agenda for Sustainable Development, especially Goal 16 "Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels". Under Goal 16, the development of effective, accountable and transparent institutions (16.6), responsive, inclusive participatory and representative decision-making (16.7), and public access to information is promoted (16.10), are all in-line with the purpose and objectives of open government.

Workshop on Planning for Population and Housing Censuses by Using Technology in Selected Arab Countries, Beirut, 24-27 July 2018

Population and housing censuses provide fundamental information for development planning including the 2030 Agenda for Sustainable Development, on the size, growth, distribution, location and characteristics of population. It covers a wide range of statistical information allowing detailed data disaggregation by small geographic areas and small population groups and diverse population characteristics such as by sex, age, education, migration, labour force and disability. Until recent decades, countries have conducted a census mostly once a decade using traditional methods. However, recent developments in technology and census methodology have created a variety of approaches in conducting a census with the use of technology throughout the census process.

There are many drivers for using technology in census taking. Among them, increasing census coverage and response rate, improving data quality, providing more timely information and digital-data dissemination might be the most important ones. However, as use of technology for census enumeration is a relatively new phenomenon in a census, countries often have limited capacity because of lack of expertise and experiences. A clear understanding of the benefits and requirements for the use of technology in censuses is necessary for developing appropriate strategy in a country context. In this regard, the experience of the countries which used these technologies for census enumeration would be useful for other countries planning to use similar technology in the 2020 census round.

In the Arab region, Egypt, The Emirates of Sharjah and Ajman in the United Arab Emirates, Jordan and Palestine have carried out a successful census using the technology, whereas other countries such as Sudan, Algeria and the Gulf Cooperation Council countries are undertaking intensive activities in planning and preparing for the coming census by using new technology. The implementation of censuses in other countries such as Iraq, Syria, Yemen, Libya, Somalia and Lebanon remain subject to security and political conditions.

Within the framework of the 2020 round of Population and Housing Censuses, ESCWA and the United Nations Population Fund (UNFPA) organized several regional meetings on census methodologies, use of technology in census management and data usage and dissemination. During the regional workshop on the use of technology in Population and Housing Censuses in Arab countries, held in Cairo during the period 29-31 January 2018, the meeting concluded with a number of recommendations, including, conducting training workshop on census planning and implementation especially in countries where implementing a census is

difficult. In a related context, a consultative workshop on censuses has been organized in Iraq to determine the extent to which technology is used in censuses. The meeting concluded with the importance of working on the preparation of the comprehensive framework for the census, including the work plan, timetable, estimated budget, structure of the census, use of geographic information systems in the various stages of the census and data collection using tablets and modern technologies, and to benefit from the experiences of countries that have implemented a census in the 2020 round.

In this context, ESCWA, in collaboration with the United Nations Population Fund(UNFPA), is organizing a workshop on planning for population and housing censuses by using technology in selected Arab countries (Iraq, Libya, Sudan, Syria and Yemen) to be held in Beirut during the period 24-27 July 2018.

National Workshop on "Environment Statistics and sustainable development goals" under the Development Account Programme 10th tranche on Statistics and Data (environmental pillar). Country: Jordan. 25 March 2018

ESCWA statistical committee in its 12th session held in April 2017 and the Consultative meeting on the Implementation Framework for the Environmental Dimension of the 2030 Agenda in the Arab Region held in September 2017 recommended to support member countries on SDGs reporting in environment related SDGs, Accordingly, and in response to the recommendations, UNESCWA, UNSD and UN Environment (UNEP), are planning to organise a national workshop on environmental statistics and sustainable development goals (SDGs) for Jordan as part of the Development Account Programme on Statistics and Data under which Jordan is identified as a beneficiary country of the project.

UN-Wide Capacity Building Workshop on Technology for Development: Innovation Policies for SDGS in the Arab Region. Amman, 15-19 April 2018

The 2030 Agenda for Sustainable Development, by the Addis Ababa Action Agenda (AAAA), identifies key Science Technology and Innovation (STI) policies and actions for meeting the Sustainable Development Goals (SDGs). The Paris Agreement on Climate Change also proposes a framework for enhanced action on technology development and transfer.

Among the outcomes of these agreements has been the establishment of a Technology Facilitation Mechanism (TFM) as an important tool to mobilize STI solutions for the SDGs. UN specialized agencies with STI-intensive mandates have joined to promote improved technology cooperation and enable the transfer of necessary technological know-how needed to build up economic, technical and managerial capacities targeting the SDGs.

Within this context, a UN Interagency Task Team (IATT) on STI for the SDGs1 was established to operationalize the TFM through seven Working Streams whereby IATTS's Work Stream 6 (WS6) is responsible for the capacity building component of the TFM2.

An effective STI policy is a prerequisite to achieve sustainable development. Designing and implementing impactful policies in turn requires building capacity among policy makers to prepare those polices, prior to engaging in policy reform.

IATT WS6 proposes a capacity building programme on the framework, policies, and measurement of innovation in the context of SDGs in three different modes:

a) Foundational mode: focuses on STI rationale, policies, tools, monitoring and evaluation frameworks;
b) Advanced mode: specializes on STI issues based on specific national, sectoral or regional needs;
c) Complementary mode: based on study/exposure visits and the development of follow up initiatives.

Against this backdrop, ESCWA is collaborating with the IATT WS6 to organize a 5-day foundational capacity building course in the ESCWA region that focuses on innovation policies and their relation to SDGs.

Arab Forum for Sustainable Development: "Natural Resources, Future Generations, and The Common Good." Beirut, 24-26 April 2018

The Economic and Social Commission for Western Asia (ESCWA), under the patronage of the Lebanese Prime Minister, Mr. Saad Hariri, and in collaboration with the League of Arab States and other United Nations organizations operating in the Arab region, organized the 2018 Arab Forum for Sustainable Development (AFSD) on the theme "Natural resources, future generations and the common good", which was held in Beirut from 24 to 26 April 2018. Lebanon chaired the Forum, which was opened by Mr. Ghattas Khoury, the Lebanese Minister of Culture, representing the Prime Minister.

The AFSD is a high-level regional platform for reviewing and following up on the implementation of the 2030 Agenda for Sustainable Development in the Arab region. The Doha Declaration on the Implementation of the 2030 Agenda for Sustainable Development, emanating from the twenty-ninth ESCWA session (Doha, 13-15 December 2016), enshrines the Forum as an annual meeting of Arab Governments and sustainable development stakeholders to consider national and regional experiences and the implementation mechanisms of the 2030 Agenda at the national and regional levels.1 The outcomes of the Arab Forum are submitted to the High-Level Political Forum on Sustainable Development (HLPF).

The 2018 Arab Forum was preceded by six regional preparatory meetings, namely: the Arab High-level Forum on the World Summit on the Information Society and the 2030 Agenda for Sustainable

Development (Beirut, 8-12 May 2017); the Regional Seminar for Parliamentarians on the 2030 Agenda (Beirut, 8-9 November 2017); the Arab Preparatory Meeting on Energy-related Issued for the 2018 AFSD and the HLPF (Beirut, 27-28 March 2018); the Arab Preparatory Meeting on Water Issues for the 2018 AFSD and the HLPF (Beirut, 28-29 March 2018); the Arab Preparatory Meeting on Environmental and Natural Resources Issues for the 2018 AFSD and the HLPF (Cairo, 11-12 April 2018); and the Regional Meeting of Civil Society on Sustainable Development in the Arab Region (Beirut, 22-23 April 2018) (see annex to the present report).

The 2018 Arab Forum coincided with the third year of implementation of the 2030 Agenda. More Arab countries have begun adapting their national plans and strategies to the 2030 Agenda, establishing the necessary institutional structures to support the implementation of the 2030 Agenda at the national level, and designing follow-up and review mechanisms at the national and regional levels.

The Forum's work programme included plenary sessions on the main theme "Natural resources, future generations and the common good", the means of implementation at the regional level and national experiences in implementing the 2030 Agenda; and special sessions focusing on priority issues for the Arab region.

Participants in the 2018 AFSD agreed on several key messages for submission to the HLPF, which will be held in New York from 9 to 18 July 2018 on the theme "Transformation towards sustainable and resilient societies". The outcomes of the Arab Forum will also be presented at the thirtieth ESCWA session and at the fifth meeting of the ESCWA Executive Committee.

Regional Workshop on the Collection, Elaboration, and Reporting of Human Settlements Indicators in Arab Countries. Cairo, 03 to 05 July 2018

The regional workshop aims at strengthening the capacity of staff from national statistical offices, city authorities, local urban observatories and service providers, in: the identification of statistical gaps, collection, classification and analysis of data, and the periodic reporting on selected human settlements indicators; the development of action plans and means to collect data related to the implementation of SDG11; and the development of follow-up mechanisms to serve Arab countries in statistical capacity-building.

Technology as a Renewed Hope to Achieving Gender Equality in the Arab Region: A Fact or Illusion

Women rights and gender issues have been high on the development agenda of Arab countries in the last few decades. There has been important progress on many fronts. However, the progress made did not succeed to entirely redress the situation of women in the region and achieve gender equality. One out of three women in the Arab region experience one form of violence. Gains in education attainments for girls has not translated into a significant increase of female participation in the labour force, which remains extremely low in Arab countries. Women's political representation remains low when compared to the global average at various governance levels.

Therefore, this study seeks to promote the realization of gender equality and women's empowerment through the use of technology, particularly ICTs. The Sustainable Development Goals (SDGs) framework serves as basis for the analysis. The study is expected to conceptualize how technology can be challenged to boost the realization of all targets of SDG 5 on achieving gender equality and empowering all women and girls. It will build on good practices tackling the different targets of SDG 5 and drawn from international experiences to analyze their potential customization to the regional context taking into consideration the existing regional challenges. The study will conclude with a set

of policy recommendations for government and non-government stakeholders on how to harness technology to redress gender inequalities in the region.

Expert Group Meeting on "Frontier Technologies and the 2030 Agenda in the Arab Region: Implications on Employment and Youth". Beirut, 21-22 June 2018

Technological innovations, and today's frontier technologies (FT), cause lasting change to our lives, particularly in terms of economic and social development. While convinced of its numerous benefits, the Arab region shares global concerns regarding technology's harmful effects, notably on unemployment and inequality. Adequate policies and regulation can ensure that FT are optimally aligned with desired development outcomes, chiefly the 2030 Agenda and its Sustainable Development Goals (SDGs).

70% of Internet users in this region are concerned with Artificial Intelligence (AI)'s potential for privacy infringement, while 46% worry that AI could cause loss of jobs, with robots and AI replacing human jobson a large scale, resulting in mass un/underemployment and impoverishment. This, in a region already racked with high youth unemployment, is a formidable challenge. New opportunities in analytical and consultant roles are significant to Arab educated youth, who tend to possess relevant mathematical and scientific knowledge but are not currently engaged with FT. The mismatch of skills between market requirements and educational outcomes is widespread and severe.

Many Arab countries have already developed initiatives and policies to tackle AI. These rapidly advancing areas will require the region to develop adequate legislative tools to promote and regulate a safe eco-system for the businesses and humans involved. Governments will need to lead at critical junctions, from ethics to governance, in addition to education and retraining.

ESCWA can assist member States in promoting and drafting template policies and regulations, encouraging continuous revision of the relevant programs in education, retraining and research, highlighting the enabling roles of AI and FT in the service of SDG implementation, and promoting appropriate tax and regulatory measures such as Research, Development and Innovation (RDI) incentives.

1. *Could you suggest some contact persons of the nodal agency responsible for projects/policies, related to resilient communities, STI and the citizen science as well as any experts (from academia, private sector, civil society or government) dealing with projects in this area? We might contact them directly for further inputs or invite some of them as speakers for the CSTD inter-sessional panel and annual session.*

At ECSWA:

- Roula Majdalani, Director, Sustainable Development Division (majdalani@un.org)
- Juraj Reican, Director, Statistics Division (riecan@un.org)
- Haidar Fraihat, Director, Technology for Development Division (fraihat@un.org)
- Tarik Alami, Director, Emerging and Conflict Related Issues Division (alamit@un.org)

2. *Do you have any documentation, references, or reports on the specific examples on the priority theme in your region?*

With respect to the events and workshops noted above, you can find related project documents on our website. In addition to these project documents, please note the following publications that can also be found on our website.

Innovation Policy for Inclusive Sustainable Development in the Arab Region

E/ESCWA/TDD/2017/1

The aim of this study is to provide decision-makers in Arab countries with a framework for the formulation of policies for economic growth and achievement of the 2030 Agenda for Sustainable Development. It takes its inspiration from internationally recognized frameworks, the experience and best practices of developed countries, and the strategies employed by emerging economies to achieve technological and social development comparable to those of advanced countries.

The study looks at how to address innovation challenges in the region and shape related policy to fulfil the Sustainable Development Goals (SDGs). In particular, it explores how innovation policy can be applied to tackle key issues such as youth employment and climate change. In coming years, ESCWA will publish a series of follow-up reports on the role of innovation in specific sectors and in relation to particular SDGs.

The Innovation Landscape in Arab Countries: A Critical Analysis

E/ESCWA/TDD/2017/TECHNICAL PAPER.1

The present study proposes a framework for analysing the innovation landscape in Arab countries, which relies on the innovation policy framework described in an ESCWA study entitled "Innovation policy for inclusive sustainable development in Arab countries". It also builds on other innovation frameworks designed by international agencies, such as the United Nations Conference on Trade and Development (UNCTAD). ESCWA is focusing on innovation to support its member States in achieving the 2030 Agenda for Sustainable Development, especially Goal 9 on building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation. The present study discusses the innovation landscape from the perspective of the Global Innovation Index. Arab countries are assessed as a function of their wealth (GDP PPP per capita), and are compared with other countries. In the overall Index, Western Asia and North Africa are ranked fourth after North America; Europe; South East Asia, East Asia and Oceania.

The innovation landscape, vision, strategies and outcomes are discussed based on available literature for six Arab countries: Egypt, Jordan, Lebanon, Morocco, Saudi Arabia and the United Arab Emirates. The report assesses these countries' approaches to innovation and the challenges they face. It also covers public and private investment in research and development, and the social and economic impact of innovation. Conclusions and recommendations were formulated based on the results of this analysis.

Improving Arab Regional Development Planning: An Assessment of Good Economic Governance Tools to Support Science, Technology, and Innovation Policy-Making

E/ESCWA/EDID/2018/Tp.4

The adoption of the 2030 Agenda and the sustainable Development Goals (SDGs), reemphasized the importance of governance as a critical ingredient to and precursor of development. As a contribution to the debate on how to improve economic governance especially, this paper draws the focus away from policy recommendations that concentrate on good governance outcomes and emphasizes on the need to improve the quality of policy-making processes themselves and of the institutions involved. To illustrate the application of the principles drawn from Global Administrative Law (GAL), the paper looks at policy processes to address challenges in the field of science, technology, and innovation (STI), as it is a crucial enabler of economic development. The paper applies the governance discussion to regional STI policy planning, a subset of economic development policy that is of concern to the Arab region.

Economic Governance for Entrepreneurs in the MENA Region: Prioritizing Policy Challenges

This paper identifies priority policy challenges to facilitate entrepreneurship in countries of the Middle East and North Africa (MENA). Based on evidence from the Doing Business and Worldwide Governance Indicators projects and a systematic review of relevant literature, the paper identifies three priority policy challenges for economic governance reform: i) competition policy, ii) access to finance, iii) entrepreneurial education. The paper argues that the improvement of economic governance in these three policy areas constitutes a crucial lever to promote entrepreneurship in MENA countries. By highlighting the interdependencies between these policy areas, the paper derives a set of policy recommendations for each of the identified policy challenge areas.