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Technology and implementing the 2030 Agenda for Sustainable Development in the Arab region

Summary

The present report overviews the existing mechanisms for harnessing science, technology and innovation to implement the Sustainable Development Goals (SDGs) and integrate the 2030 Agenda for Sustainable Development into national development plans in the Arab region. It also sets forth the most important global initiatives on the role of technology in achieving the SDGs, and suggests how best to take advantage of them.

This document will serve as a background for the round-table discussions under agenda item 9 of the first session of the Committee on Technology for Development.

CONTENTS

Introduction

1.   The Millennium Development Goals (MDGs) constituted the cornerstone of the development process in the first 15 years of the twenty-first century. The 2030 Agenda for Sustainable Development and the Sustainable Development Goals are designed to build on that groundwork and carry forward efforts to achieve the sustainable development to which people aspire. Technology has a major role to play in implementing the 2030 Agenda. The coming phase of development will require innovative thinking, plugging in to the digital revolution.

2.   The present document looks at how a number of mechanisms and tools can be used to facilitate achievement of the SDGs. Some of the stand-out options that focus on the role of technology in regional and global development are highlighted, along with key initiatives aimed at achieving sustainable development.

I. TECHNOLOGY AND DEVELOPMENT AROUND THE WORLD

A. ADDIS ABABA ACTION AGENDA

3.   The 2015 Third International Conference on Financing for Development led to the adoption, under General Assembly resolution 69/313 of 27 July 2015, of the Addis Ababa Action Agenda. The crucial role that science, technology and innovation (STI) play in achieving sustainable development and the importance of overcoming the digital divide are clearly acknowledged in the Agenda. Underlining the importance of knowledge-sharing, collaborative partnerships, the promotion of entrepreneurship, improved education and vocational training, it provides for the creation of a technology facilitation mechanism to help countries fulfil their STI commitments. That mechanism was subsequently launched under the 2030 Agenda for Sustainable Development.

B. 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

4.   The 2030 Agenda for Sustainable Development, adopted in General Assembly resolution 70/1 of 27 September 2015, focuses on the eradication of poverty, including extreme poverty, as an indispensable requirement for sustainable development. It underlines the international commitment to achieving sustainable development in its three dimensions - economic, social and environmental - and to building upon the achievements of the MDGs.

5.   The 2030 Agenda sets forth 17 Sustainable Development Goals (SDGs), which are further subdivided into 169 targets, to be achieved by 2030. Innovation is specifically mentioned in Goal 9 and technology lies at the heart of Goal 17. Some of the SDGs, namely Goals 1, 7, 8, 12 and 14, include targets or implementation means directly related to STI.

6.   Under the 2030 Agenda, monitoring the implementation of the SDGs and targets is to be based on a set of global indicators developed by the Inter-Agency Expert Group on SDG Indicators (IAEG-SDGs). Those indicators are to be complemented by regional and national indicators developed by member States, which are also expected to carry out regular reviews at the national and regional levels. The High-level Political Forum on Sustainable Development, in cooperation with the General Assembly and the Economic and Social Council, oversees follow-up and review of the 2030 Agenda globally through annual progress reports by the Secretary-General. The Economic and Social Council shall carry out regular reviews, which shall be voluntary for States and organizations, and thematic reviews shall be conducted by functional commissions of the Council and other intergovernmental bodies and forums.

C. TECHNOLOGY FACILITATION MECHANISM IN THE 2030 AGENDA

7.   The Technology Facilitation Mechanism (TFM) has three components: the Multi-stakeholder Forum on Science, Technology and Innovation for the SDGs; the Inter-Agency Task Team on Science Technology and

Innovation for the SDGs (IATT); and an online platform to review initiatives and activities. In addition, there is the Technology Bank, the establishment of which was called for in the Programme of Action for the Least Developed Countries for the Decade 2011-2020 (Istanbul Programme of Action) and which is taken up by 2030 Agenda.

1. *Multi-stakeholder Forum on Science, Technology and Innovation for the SDGs*

8.   The first annual meeting of the Multi-stakeholder Forum, held in June 2016, discussed how to harness STI for the SDGs. The forum provides a venue for interaction among stakeholders and discussion of STI needs and the hurdles impeding achievement of the SDGs. The results of its deliberations were submitted to the High-level Political Forum for consideration. The second meeting will be held in May 2017.

2. *Inter-Agency Task Team on STI for the SDGs*

9.   The Inter-Agency Task Team (IATT) was set up on the initiative of the United Nations Department of Economic and Social Affairs and United Nations Environment Programme. It aims to promote coordination and cooperation within the United Nations on STI issues, in particular capacity-building initiatives. ESCWA is represented on IATT by the Technology for Development Division. The tasks of IATT include: following the work of the 10-Member Group to support the Technology Facilitation Mechanism (also known as the group of 10 representatives); preparing meetings of the Multi-stakeholder Forum; developing and running the TFM online platform; mapping STI initiatives; carrying out research and preparing reports for the TFM; and building capacity in the United Nations on that mechanism.

10.   The 10-Member Group supports IATT with proposals, guidance and recommendations. Its members are STI experts from the private sector, civil society and academic institutions, who also submit briefings to the High-level Political Forum and recommendations to the multi-stakeholder forum.

3. *TFM online platform*

11.   The TFM online platform will, when it becomes operation, provide easy one-stop access to the gamut of resources and information on existing STI initiatives, mechanisms and programmes, including technology applications for sustainable development, and best practices and lessons learned with regard to STI policies.

D. WORLD SUMMIT ON THE INFORMATION SOCIETY

12.   General Assembly resolution 70/125 of 16 December 2015 called for close alignment between the World Summit on the Information Society and the 2030 Agenda, and highlighted the importance of the cross-cutting contribution of information and communication technology (ICT) to the SDGs and poverty eradication. Noting with concern the persistence of significant digital divides between and within countries and between women and men, it also underlined the need to take measures, as determined by law, to prevent abuse of the Internet and ICTs, which ranges from harassment and crime to terrorism.

1. *WSIS in summary*

13.   In line with General Assembly resolution 56/183, the WSIS was held in two phases, in Geneva in 2003 and Tunis in 2005. The Summit aimed to reduce the digital divide by increasing awareness of the benefits of the information society, with a view to providing mechanisms to help developing countries move towards the information society. Two key documents emerged from the first phase, the Geneva Declaration of Principles (WSIS-03/GENEVA/DOC/4-E) and the Geneva Plan of Action (WSIS-03/GENEVA/DOC/5-E). The Tunis phase focused on implementation of the Plan of Action, financial mechanisms for ICTs for development and Internet governance. The key outcome documents were the Tunis Commitment (WSIS-05/TUNIS/DOC/7-E) and the Tunis Agenda for the Information Society (WSIS-05/TUNIS/DOC/6(Rev.1)-E). The latter detailed

actions required to implement the Plan of Action and identified international organizations that will contribute to the coordination and facilitation of its implementation.

2. *United Nations Group on the Information Society*

14.   The United Nations Group on the Information Society (UNGIS) was set up in 2006 and plays a crucial role in the WSIS process, including through the strengthening of cooperation and creation of partnerships. Bringing together 30 international institutions, it is a mechanism designed to coordinate policy issues on implementing WSIS outcomes, harmonize programmes and establish guidelines to promote progress towards the information society. ESCWA has an ongoing role in UNGIS and works to highlight achievements in the Arab region with regard to the information society. The matrix in figure 1 shows the linkages between the WSIS action lines link and the SDGs.

Figure 1. WSIS-SDG matrix

	C1	C2	C3	C4	C5	C6	e-gov	e-bus	e-lea	e-hea	e-emp	e-env	e-agr	e-sci	C8	C9	C10	C11
SDG 1	■	■	■	■	■		■	■		■	■		■	■			■	
SDG 2			■	■		■		■			■		■		■		■	
SDG 3	■		■		■									■		■	■	■
SDG 4			■	■	■				■		■		■	■		■		
SDG 5	■		■					■		■					■		■	■
SDG 6			■	■									■	■				
SDG 7					■								■				■	
SDG 8		■			■			■			■		■		■	■		
SDG 9				■			■							■		■	■	
SDG 10	■		■			■					■				■		■	
SDG 11		■		■								■	■		■		■	
SDG 12			■	■							■		■					
SDG 13			■		■							■	■			■		
SDG 14			■		■							■		■				
SDG 15			■								■		■					
SDG 16	■		■			■	■										■	■
SDG 17	■		■							■	■		■		■	■		■

Source: https://www.itu.int/net4/wsis/sdg.

3. *Internet Governance Forum*

15.   The Secretary-General launched the global Internet Governance Forum in 2006, following the second phase of the WSIS, as a platform for stakeholder dialogue. At its eleventh meeting, held in Mexico in December 2016, it discussed how the Internet can help implement the 2030 Agenda.

Box 1. Eleventh Internet Governance Forum in Mexico

More than 2,000 participants from 123 countries took part in around 200 sessions over the four days during which the eleventh Internet Governance Forum was held (Zapopan, Jalisco, Mexico, 6-8 December 2016). It was agreed that the Internet and its governance were powerful tools for promoting social inclusion and economic growth, using transparent and comprehensive approaches. Many meetings were devoted to exploring how to harness Internet governance to support development efforts in line with the SDGs.
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Source: www.intgovforum.org/multilingual/index.php?q=filedepot_download/12/428.

II. TECHNOLOGY AND DEVELOPMENT IN THE ARAB REGION

16.   ESCWA has collaborated with the other regional commissions to develop a framework[1] to follow up and review the 2030 Agenda at the national, regional and international levels. The framework sets out several regional mechanisms under ESCWA, most notably the Arab Forum on Sustainable Development that tackles various development issues covered by the 2030 Agenda, including STI and ICT. In early 2016, ESCWA formed a unit tasked with following up on the 2030 Agenda, covering all development fields, especially STI.

A. ARAB FORUM ON SUSTAINABLE DEVELOPMENT

17.   The Arab Forum on Sustainable Development[2] is a regional platform for dialogue and coordination on implementation, follow-up and review mechanisms of the 2030 Agenda in the Arab region. The Forum provides a space for discussing regional issues from a multi-sectoral perspective, involving various stakeholders, such as Governments, civil society and the private sector.

18.   Since 2014, ESCWA has organized three Forum sessions, in collaboration with the League of Arab States, United Nations agencies and sustainable development stakeholders. The outcomes and recommendations of the Forum constitute inputs or key messages from the Arab region to the High-level Political Forum on Sustainable Development.

19.   The Arab Forum held its third session in Jordan on 29 and 30 May 2016, following its first session held in Jordan in 2014, and its second session held in Bahrain in 2015. Participating Arab countries expressed their great interest in contributing to the implementation of the 2030 Agenda. The messages from the Forum's third session can be divided into four categories: global frameworks and processes from the Arab region's perspective; cooperation and integration between countries and partners in the Arab region; implementation, follow-up and review at the national level; and the Arab Forum for Sustainable Development. This messages included a special recommendation on STI.

20.   Countries focused on the importance of global and regional agendas, given that they form a framework for their national plans. They stressed the need to build the capacity of statistical institutions, and improve data quality and data collection and publication methods, so as to facilitate the monitoring of quantitative progress in achieving goals and targets. Egypt and Morocco volunteered to be part of the first group to submit national follow-up reports to the High-level Political Forum held in July 2016. Participants reached several messages in various fields, which were unanimously endorsed at the closing meeting. They agreed that Goal 16 on peace, security and good governance was pivotal to implementing the 2030 Agenda in the Arab region, and that priority development issues for the region were youth development needs, job creation, increased productivity, improved education, stronger scientific research and technology, and regional cooperation.

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[1]   Regional Reflections on 2030 Agenda Follow up and Review Framework. Available from www.regionalcommissions.org/FUR2015.pdf.

[2]   ESCWA, 2016 Arab Forum on Sustainable Development. See www.unescwa.org/arab-forum-sustainable-development-2016.

B. TECHNOLOGICAL CHALLENGES IN IMPLEMENTING THE 2030 AGENDA
IN THE ARAB REGION

21.   Technology plays a critical role in achieving the SDGs in their three dimensions – economic, social and environmental. Technology fundamentally contributes to production capacity and competitiveness, and to promoting cybersecurity. It is a key driver of change for achieving inclusive development, and supporting the international processes adopted in the Addis Ababa Action Agenda to implement the SDGs, such as developing a technology facilitating mechanism and operationalizing a technology bank, a database on international technology initiatives and the matrix of the World Summit on the Information Society issued by the General Assembly.

22.   Strong cooperation between Arab countries, ESCWA and the League of Arab States in needed to fully implement the Addis Ababa Action Agenda, and to support the joint working group of United Nations agencies aimed at harnessing STI to achieve the SDGs and the work of the World Summit on the Information Society, including the outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society to achieve the SDGs and their targets.

23.   ESCWA aims to strengthen the development process of Arab countries through technical assistance and capacity-building in implementing comprehensive reform programmes in all fields, especially in the area of achieving the SDGs and the 2030 Agenda by incorporating sustainable development indicators in national development plans. As such, ESCWA established a specialized division in 2016 to support member States in harmonizing national development plans with the SDGs. At the sectoral level, it focused on harmonizing sectoral policies at the national and regional levels to adapt sectoral plans to development and technology priorities.

24.   Financing technology is a key implementation method. STI potential has not been reached in most Arab countries. Eradicating poverty and inequality within and between countries will contribute to bridging technology gaps. Investment and trade play a vital role in disseminating and developing national technology by tackling impediments to technology transfer, securing funding, reducing technology costs, investing in human capital, and increasing the capacity of domestic industries and basic structures to support technology attraction and assimilation, with special focus on protecting intellectual property rights in line with national priorities and international commitments.

25.   Regional sectoral action plans must therefore be urgently developed under the 2030 Agenda, especially regarding the STI sector, the information society, digital economy and the smart society sector. Comprehensive sectoral strategies on electronic services must also be developed as part of national and regional strategies. Arab Governments must allocate more efficient budgets to finance research, development and innovation, benefit from STI to develop domestic products with added value, and facilitate the shift towards a digital and a knowledge-based economy.

C. STI FOR SUSTAINABLE DEVELOPMENT

1. *Overview*

26.   National IST capacity is a fundamental pillar of social, economic and scientific development. Developed countries recognized this fact early on, and worked on developing IST infrastructure that allowed them to make qualitative leaps in economic and social growth. The experiences of these countries highlight the need for basic conditions to achieve economic and social development, chiefly an environment conducive to the dissemination of STI applications, the main components of which are policies strengthening technology capacity given its importance in achieving qualitative development in various fields. Such policies focus on the following:

(a)   Lifting restrictions on the rapid dissemination of new technologies;

(b)   Providing incentives to support innovation companies;

(c)   Focusing on learning skills and continual learning;

(d)   Investing in innovative inputs to strengthen productivity, given its importance in increasing competitiveness;

(e)   Promoting the establishment of new companies based on appropriate technology applications, by coordinating between relevant departments and institutions;

(f)   Providing sufficient institutional structures to support technology and innovation;

(g)   Linking STI policies to national development goals.

27.   To build their STI capacity, developing countries must first identify their national priorities and develop strategic and operative policies and plans in line with national visions and urgent needs in sustainable development, in collaboration and consultation with all actors. It is preferable to complete these efforts with the support of initiatives aimed at achieving clear and specified goals in the area of national capacity-building. The following pillars can be used to build and develop STI capacity in the Arab region:

(a)   Build the capacity of universities and research centres in the field of knowledge production and dissemination;

(b)   Develop cooperation programmes and strong partnerships between the public and private sectors, on the one hand, and universities and research centres, on the other, so as to transfer, adapt and apply knowledge;

(c)   Strengthen human resources and support scientific and technical training programmes;

(d)   Provide the necessary funding to the public and private sectors to carry out the necessary shifts towards ICT applications;

(e)   Develop infrastructure to disseminate science and technology and to stimulate innovation;

(f)   Improve technology transfer mechanisms by establishing linkages between research centres and industrial institutions;

(g)   Establish centres and networks for technology transfer and to derive economic value from science research outputs;

(h)   Create a sustainable environment that encourages innovation and assists in implementing technology projects;

(i)   Enact legislation and laws that ensure the free exchange of expertise and knowledge and technology transfer in practical and efficient ways, and that facilitate free scientific communication between science elites.

28.   Box 2 sets out the technology bank project, which is a global project enabling least developed countries to benefit from technology.

Box 2. Technology bank for least developed countries

The Istanbul programme of Action for the Least Developed Countries for the Decade 2011-2020, launched in 2011, called for the establishment of a technology bank[a] and a mechanism to support STI in least developed countries. The 2015 Addis Ababa Action Plan stressed the need for a technology bank to facilitate technology transfer to least developed countries, to face sustainable development challenges in the fields of water, climate and food, to create employment opportunities for young people, and to achieve economic and social growth. Goal 17 of the SGDs indicates the need to fully operationalize by 2017 the technology bank and its STI capacity-building mechanism to benefit least developed countries, and to promote the use of enabling technology, especially ICT.

The Secretary-General formed a high-level committee of experts from least developed and developed countries to prepare a feasibility study on the technology bank, highlighting the importance of its establishment, identifying its functions, and tackling organizational matters. The study was completed in 2015, with support from Turkey.[b] It set out recommendations showing the capabilities of the technology bank in strengthening national capacity and providing expertise to least developed countries in the field of harnessing STI to achieve the SDGs. As such, the General Assembly requested the Secretary-General to take the necessary steps to launch and activate the technology bank by 2017.

In May 2016, before the United Nations Conference on the Least Developed Countries, the Secretary-General established a board of governors to provide support in operationalizing the technology bank,[c] and a trust fund to finance the bank's preparatory phase.

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[a] See http://unohrlls.org/technologybank.

[b] Feasibility Study for a United Nations Technology Bank for the Least Developed Countries, United Nations Secretary-General's High-Level Panel on the Technology Bank for the Least Developed Countries. Available from https://sustainabledevelopment.un.org/content/documents/2106Feasibility-Study-for-a-United-Nations-Technology-Bank-for-the-Least-Developed-Countries.pdf.

[c] See www.un.org/apps/news/story.asp?NewsID=54063#.V_9oMfl97Ra.

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2. *Role of ESCWA in promoting STI for sustainable development*

29.   ESCWA is working on implementing a project to establish and develop a technology transfer system in several Arab countries, namely Egypt, Lebanon, Mauritania, Morocco, Oman, the Sudan and Tunisia. The project aims to strengthen the capacity of participating countries in creating an enabling policy environment for research, development and innovation, and in deriving an economic value from scientific research outcomes.

30.   The project's implementation phases included several workshops to build the capacity of leaders, technicians and national stakeholders in various fields, such as formulating a plan for national innovation systems, intellectual property rights and technology transfer policies at the institutional level, and developing a reference framework. Experts from those countries prepared national studies to identify related policy gaps, available on the ESCWA website.

Box 3. Technology and creativity to support the Jordanian national development plan

The ESCWA Technology Centre, in collaboration with the Ministry of Planning and International Cooperation of Jordan and the Higher Council for Science and Technology, held a workshop on the theme "Employing national STI capacity in implementing national priorities and the SDGs". The workshop reviewed Jordanian priorities for the period 2017-2018, in line with the 2025 national agenda, the country's STI capacity, the science and innovation strategy, and practical processes to use domestic scientific capabilities in achieving national priorities towards inclusive sustainable development. The workshop concluded with a roundtable discussion involving all stakeholders. They agreed upon a road map with the following key provisions:

1.   Providing capacity-building assistance through ESCWA divisions to the Jordanian Ministry of Planning and International Cooperation to measure the achievement of the SDGs and their targets.

2.   Ensuring cooperation between the ESCWA Technology Centre and the Higher Council for Science and Technology in working with universities, research centres and the Ministry to fund research projects on solutions to challenges impeding the implementation of SDGs, in accordance with the Jordan 2025 vision and global development goals.

3.   Brokering an agreement with the private sector to assist the ESCWA Technology Centre in promoting private sector and United Nations participation in harnessing capabilities to implement the SDGs.

4.   Upholding the commitment by the Jordan Chamber of Industry, in collaboration with the ESCWA Technology Centre and the Higher Council for Science and Technology, to harness science and technology to achieve inclusive and sustainable industrial development.

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31.   ESCWA has launched many activities to assist member States in formulating innovation policies and developing national innovation systems, so as to achieve the SDGs. It has also published several studies on the status of innovation in the Arab region and compared it with other regions, and has launched initiatives to measure innovation and establish STI observatories in Arab countries. ESCWA is currently implementing a regional project to establish technology transfer offices in several Arab countries.

32.   There are clear disparities in countries' STI capacity. Developed countries already have suitable infrastructure for information, communication and related services, but least developed countries require concerted efforts to provide the same. The technology divide is a reality with considerable impact, especially on the most vulnerable groups such as persons with disabilities, women and young people. In view of the above, access to technology must be a fundamental element in any strategy aimed at benefiting from STI capacity in achieving the SDGs. Everyone must benefit from technology by promoting the participation of all individuals in innovation and entrepreneurship. Technology tools, when available to individuals and societies, can assist in developing solutions that identify social priorities, thus making technology a way of bringing people together rather than a factor in social segregation.

33.   Consequently, Arab countries must formulate plans and policies to promote STI and build capacity at the national level to shift towards innovative knowledge-based societies. These plans and policies must focus on protecting and managing intellectual property rights. They must also encourage active learning, motivate young people to study science, technology, engineering and mathematics, facilitate teaching children with no access to schools, and promote literacy. Governments must redesign scientific systems to stimulate research that tackles sustainable development challenges.

34.   When developing national sectoral policies, it is vital to ensure their inter-compatibility. STI policies aim to expedite technology transfer and dissemination, and to stimulate innovation to achieve the SDGs. It is therefore vital that they are compatible with sectoral policies on SDGs. Plans to implement STI policies must be flexible and inclusive, involving all stakeholders in their implementation and in evaluating technology needs. The institutional infrastructure can create a suitable environment for providing scientific guidance, by relying on scientific rules in public policymaking.

35. ICT platforms assist in connecting individuals, innovators, entrepreneurs, donors and finance offices in an unprecedented way. They enable Governments to consider suggested innovations at the national level. These platforms can be used as a business directory, by providing a clear picture of innovations and their financing, and limiting work duplications between development stakeholders. In short, establishing knowledge databases on research and innovations related to the SDGs provides innovators with enabling tools.

36. In this context, the Arab Forum on Sustainable Development tackles several key topics, such as the education system and its role in stimulating scientific research and sustainable development, the role of research and development in achieving sustainable industrial development, scientific research in the field of nanotechnology and desired outcomes, the status of Arab scientific research and tools to measure its impact and returns for Arab societies, innovation policies for economic and social development, and Arab women's role in science and culture.

D. ICT FOR SUSTAINABLE DEVELOPMENT

1. *Overview*

37. ICT is included in all the SDGs, especially Goal 9 on building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation, and Goal 17 on strengthening the means of implementation and revitalizing the global partnership for sustainable development.

38. Using appropriate technology supports the achievement of sustainable development in all Goals, and ICT contributes to ensuring sustainable development in all sectors, including education, water, energy, health, environment, governance and agriculture (Goals 1, 2, 4, 5, 6, 9, 11 and 13).

39. ICT, geographic information systems, remote sensing and the Internet enable the broad exchange of information and knowledge across the world. ICT has caused a productivity revolution, and resulted in the development of new virtual and e-learning, e-health and e-commerce programmes. It has also built societies' capacity to manage natural resources, such as water, energy and food. Green technologies have provided environmentally friendly growth opportunities, through jobs, small and medium projects, and entrepreneurship initiatives.

40. The present document focuses on Goal 17 as a gateway to implementing all the Goals of the 2030 Agenda. Goal 17 has 19 targets divided over 6 topics. The present document aims to highlight the role of ICT in operationalizing several of the 19 targets under the following topics:

(a) *Finance*

17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.

17.2 Developed countries to implement fully their official development assistance commitments.

17.3 Mobilize additional financial resources for developing countries from multiple sources.

17.5 Adopt and implement investment promotion regimes for least developed countries.

41. ICT plays a key official role in achieving the targets under this topic by developing institutions and strengthening their relationship with citizens, through technology mechanisms to gather funds for specific activities, by providing the infrastructure necessary for promoting investment, by developing the finance sector and e-banking services, and by offering independent investment opportunities in the ICT sector. Developed countries can fully implement their development assistance commitments by providing ICT support.

(b) *Technology*

    17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing.

    17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017.

42.   ICT is a key element in achieving both these targets.

(c) *Capacity-building*

    17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation.

(d) *Trade*

    17.10 Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda.

    17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access.

43.   ICT plays a key role is increasing developing country exports and their share of global exports by 2020. It also provides export opportunities to marginalized societies and least developed countries, especially exports of services and related products. ICT information, trade and marketing systems contribute to achieving these targets.

2. *Role of ESCWA*

44.   The world is currently witnessing an unprecedented technology revolution, known as the digital revolution, causing fundamental changes in human lives. It is characterized by a combination of digital technologies that blur the lines between the physical, digital and biological worlds.[3] New concepts have evolved, such as the information society, the knowledge economy, the digital economy and smart societies.

45.   ESCWA has prepared a number of documents on the digital revolution, two of which are presented to the first session of the Committee on Technology for Development, namely "Digital economy and the shift towards smart societies in the Arab region", which reviews qualitative issues related to the digital economy and the shift towards smart societies in the region; and "International and regional ICT processes for development", which sets out the international processes that emerged from United Nations mechanisms to promote the role of ICT in development and the role of ESCWA in supporting these processes. Both documents aim to assist decision-makers and policymakers in member States in preparing and implementing national development plans.

46.   Those documents are linked to various activities under the ISDEHAR programme (Information Society and Digital Economy Hub for the Arab Region). ISDEHAR aims to promote the digital economy and smart societies in the Arab region; build the capacity of policymakers and stakeholders in the business sector, civil

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[3]   Klaus Schwab, The Fourth Industrial Revolution, World Economic Forum, 2016.