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their efforts in 2018 to implement the outcome of the WSIS**

Submission by

United Nations Department of Economic and Social Affairs

This submission was prepared as an input to the report of the UN Secretary-General on "Progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society at the regional and international levels" (to the 22nd session of the CSTD), in response to the request by the Economic and Social Council, in its resolution 2006/46, to the UN Secretary-General to inform the Commission on Science and Technology for Development on the implementation of the outcomes of the WSIS as part of his annual reporting to the Commission.

<p>DISCLAIMER: The views presented here are the contributors' and do not necessarily reflect the views and position of the United Nations or the United Nations Conference on Trade and Development.</p>



Report on the Implementation of the Outcomes of the World Summit on the Information Society (WSIS)

(January – December 2018)

United Nations Department of Economic and Social Affairs (UNDESA)

The United Nations Department of Economic and Social Affairs (UNDESA) through the Division for Public Institutions and Digital Government (DPIDG) serves as facilitator for the implementation of and follow-up to the action lines:

- C1 - The role of public governance authorities and all stakeholders in the promotion of ICTs for development
- C7 - ICT Applications: E-government
- C11 - International and regional cooperation

Introduction	1
Key Trends	2
A. Continued rapid changes in technology	2
B. Digital Government	2
II. Facilitation of action lines and selected implementation of UNDESA activities	3
A. The role of public governance authorities and all stakeholders in the promotion of ICTs for development (C1)	3
B. ICT applications (C7): E-government	4
C. International and regional cooperation (C11)	6
III. Implementation of themes	9
A. Internet governance	9
B. Measuring information and communications technology for development	10
IV. Findings and Suggestions	10

Introduction

1. As the leading facilitator for Action Lines C1, C7eGov, and C11, as member of the United Nations Group on the Information Society (UNGIS), and institutional manager of the IGF Secretariat¹, UNDESA continued its efforts to promote policy dialogue and advocacy among United Nations bodies, governmental and non-governmental stakeholders and partners for the implementation of the outcomes of the World Summit on the Information Society (WSIS). UNDESA has ensured a comprehensive exchange

¹ <http://www.intgovforum.org/>

of views, information and experiences among WSIS stakeholders; and has provided advisory services and technical assistance to some developing countries.

2. During the annual WSIS Forum 2018, which took place on 19-23 March 2018, in Geneva, UNDESA organized facilitation meetings on WSIS Action Lines C1, C7eGov and C11. The participants at the facilitation meeting representing various governments and various stakeholders debated on how governments can better incorporate ICT and e government strategies within their National Development Strategies to reap the benefits of these technologies in building resilience and sustainable development.
3. Action Lines C1 and C11 facilitation meetings highlighted below issues during the WSIS Forum 2018: (i) Digital government is an important enabler for achieving the SDGs including eliminating poverty and increasing prosperity. (ii) Exploiting ICTs through digital government allows to provide far-reaching new services or improve on existing ones that are critical to ending poverty, achieving food security, protecting the environment, ensuring healthier lives and empowering women and girls. (iii) Increasing access to digital technologies brings more choices, opportunities and greater convenience to the most vulnerable; ensures inclusion and participation thus supporting the goal to leave no one behind.
4. The 2018 WSIS Action Lines C7 e-Government meeting highlighted: (i) The importance of promoting common principles and standards and Openness in designing e-government systems (i.e., open source, open data, open standards, open communities, open markets, open culture). (ii) Taking human rights issues into consideration in designing ICT and E-Government Strategies (cyber security, data protection, access to information). (iii) The need to use more user-friendly and non-threatening language in promoting ICTs for development e.g. service at doorsteps instead of e-government, time, cost, value instead of corruption or transparency. (iv) The essential partnership of the private and public sectors in delivering digital services.

I. Key Trends

A. Continued rapid changes in technology

5. UNDESA organized an expert group meeting on the “role of the public institutions on the transformative impact of rapid technological changes” on 5-6 December 2018. The meeting discussed the role of government in taking advantage of the new technologies in public service delivery and in adapting legislative/regulatory/strategic frameworks to advance Information Communication Technologies (ICTs) for sustainable development with a focus of “leaving no-one-behind” at both national and local levels. The meeting also addressed possible ethical, social labor and ethical challenges introduced by new technologies.

B. Digital Government

6. As part of its work on C7 e-Government, UNDESA launched the 2018 edition of the United Nations E-Government Survey² in July 2018. The UN E-Government Survey report looks at how e-government can facilitate integrated policies and services across the three dimensions of sustainable development, and is produced every two years by the UN Department of Economic and Social Affairs. It is the only global report that assesses the e-government development status of the 193 UN Member States. It serves as a tool for countries to learn from each other, identify areas of strength and challenges in e-government and shape their policies and strategies in this area. It is also aimed at facilitating discussions of intergovernmental bodies, including the United Nations General Assembly and the Economic and Social Council, on issues related to e-government and development and to the critical role of ICT in development.

II. Facilitation of action lines and selected implementation of UNDESA activities

A. The role of public governance authorities and all stakeholders in the promotion of ICTs for development (C1)

7. In 2018, UNDESA continued to enhance its existing tools in promoting digital government, e-participation and ICTs for development. The Measurement and Evaluation Tool for E-Government Readiness (METER) is an online interactive tool designed to assist governments and decision makers at all level in developing, monitoring, refining and improving the context within which information and communication technologies are used to transform government, thus creating the context for digital government development. The Measurement and Evaluation Tool for Engagement and E-Participation (METEP) is an interactive tool designed to assist governments, civil society, private sector and multi-stakeholder communities to measure and qualitatively assess performance levels and development of civic engagement and e-participation through ICTs at both national and local levels. The Open Government Data (OGD) Readiness Assessment was created to assist governments in assessing the readiness of a country to adopt and implement an OGD initiative.
8. DESA through the United Nations Public Service Award (UNPSA) programme³, promotes good practices and peer-to-peer learning in ICTs for development at the local, national, regional and international level. In 2018, the categories were reformulated and a category dedicated to ICT included. This category “promoting digital transformation in public sector institutions” that focuses on (i) innovative ideas, policies, practices, structure and tools that promote digital transformation; (ii) use of frontier technologies to transform public administration; (iii) promote cross-sectoral

² <https://publicadministration.un.org/egovkb/en-us>

³ <https://publicadministration.un.org/en/UNPSA>

digital cooperation and understanding; (iv) ensure equal access to public service and citizen engagement to all, especially the poorest and most vulnerable; (v) improve public sector workforce skills and productivity; and (vi) improve effectiveness, efficiency, openness, and accountability. The award also aims to facilitate transfer of the innovative ideas for possible adaptation and impact in the areas of ICTs for development. It provides venue to take stock of initiatives at local, national, regional and international level in ICTs for development and exchange inspiring stories, share challenges and find possible solutions that are relevant in similar context.

9. UNDESA launched one of its flagship publications – the World Economic and Social Survey (WESS) – at the 73rd Session of the General Assembly. The 2018 WESS, entitled “Frontier Technologies for Sustainable Development”, analyzes the impact of frontier technologies – particularly automation and artificial intelligence – on employment, wage and income inequality. The Survey highlights how a great technological gap persists, and explains the “development divide” between developed and developing countries. It notes, for example, that more than 1 billion people in developing countries still do not have access to electricity and an additional 2.5 billion are “under-electrified”, experiencing weak connections and frequent power outages. In addition, millions of people who depend on human or animal muscle power for cultivation and other forms of production are still reliant on technologies from the pre-industrial era. They also lack access to modern education and health systems, which are crucial for accumulation of a threshold level of human capital needed for the adoption of many frontier technologies. In this context, the report explains how frontier technologies present new and unique challenges, with great potential, but also with associated risks (such as unemployment, underemployment and inequality) and “raise new ethical and moral challenges”.⁴

B. ICT applications (C7): E-government

10. UNDESA launched the 2018 edition of the United Nations E-Government Survey. The *2018 Survey* highlights a persistent positive global trend towards higher levels of e-government development. In this edition, 40 countries scored “Very-High”, with EGDI values in the range of 0.75 to 1.00, as compared to only 10 countries in 2003, and 29 countries in 2016. Since 2014, all 193 Member States have been delivering some form of online presence. The share of countries with low e--government levels, in the range of 0 to 0.25, has dropped by a significant 50 percent, from 32 countries to 16 countries in 2018.
11. In the ranking of countries on e--government development, Denmark, Australia, and Republic of Korea came out on top of a group of 40 countries, scoring very high on the E--Government Development Index (EGDI), which measures countries’ use of information and communications technologies to deliver public services. The Index

⁴ UNDESA “World Economic and Social Survey 2018: Frontier Technologies for Sustainable Development” 2018 [online]. Available at: https://www.un.org/development/desa/dpad/document_gem/wess-report/

captures the scope and quality of online services, status of telecommunication infrastructure and existing human capacity.

12. According to the 2018 Survey, in an effort to make public institutions more inclusive, effective, accountable and transparent, many governments across the globe are opening up their data for public information and scrutiny. The number of countries with **Open Government Data** (OGD) portals has reached 139 in 2018, comprising 72 per cent of the United Nations Member States, a significant improvement compared to only 46 countries in 2014 and 106 in 2016.
13. The Survey shows that **e-participation** is expanding all over the world. With growing access to social media, an increasing number of countries now proactively use networking opportunities to engage with people and evolve towards participatory decision-making as recommended by one of the targets of the SDGs. The 2030 Agenda calls for equitable, tolerant, open and socially inclusive world in which the needs of the most vulnerable are met. In line with this, new questions were introduced in 2018 assessing the participation of vulnerable groups through provision of targeted information, including in open formats, as well as the support being provided to these groups in terms of policies, budget, and legislation. Comparing the results from 2016 and 2018 Surveys, the number of countries with Very-High EPI level has doubled from 31 to 62. The number of countries with High-, Middle- and Low-EPI levels decreased slightly thanks to their transition into higher EPI level groups. Total number of countries with low EPI decreased from 56 to 35. This positive trend along with improvements in other digital indexes showcases countries' commitments in implementing further tools for engaging citizens.
14. According to the Survey, **digital divides** persist despite some gains and major investments in e-government development made by many countries. Fourteen countries out of sixteen with low scores are African and belong to the least developed countries group. The regional average index scores for countries in Africa and Oceania are significantly lower than the world average EGDI of 0.55, comprising 0.34 for Africa and 0.46 for Oceania. This indicates that the digital divide could deepen between people who have access to Internet and online services and those who do not, jeopardizing the vision of the 2030 Agenda for sustainable development for leaving no one behind.
15. The 2018 Survey also discusses transformative technologies, such as data analytics, Artificial Intelligence including cognitive analytics, robotics, bots, high-performance and quantum computing. It explains how forces driving such technologies are the result of long-term and painstaking research and development, their use by businesses and citizens as well as the increased processing power of hardware, increasing data availability and society's driving needs and expectations.

C. International and regional cooperation (C11)

16. The 2018 High Level Political Forum (HLPF), held under the theme of “Transformation towards sustainable and resilient societies”, was held in New York on 9-18 July 2018. Forty-six countries presented their Voluntary National Reviews (VNRs) on their efforts to achieve the 2030 Agenda, and the Forum also reviewed in depth six out of the 17 SDGs (SDGs, 7, 11, 12, 15 and 17). The theme and much of the content of the Forum generally was relevant to the work of digital government and ICTs for development, as highlighted in the following sections of the ministerial declaration ([E/HLS/2018/1](#)) adopted at the conclusion of the HLPF:

- a. Paragraph 10 notes that the Member State VNRs highlight the importance of “innovation-driven development underpinned by high-quality, timely, reliable and disaggregated data.”
- b. Paragraph 14 emphasizes a commitment to “A world where innovation, industrialization and cooperation in productive capacity can accelerate economic growth” and affirms the need to “enhance infrastructure connectivity with concrete actions and by maximizing synergies in infrastructure planning and development to achieve resilient societies.”
- c. Paragraph 18 emphasizes that “high-quality, accessible, timely and reliable data and statistics are central to the implementation of the 2030 Agenda” and urges countries to “further strengthen collaboration at the bilateral, regional and global levels for capacity-building and sharing of best practices for collecting, producing, disseminating, analysing and using quality data and statistics, disaggregated by income, sex, age, race, ethnicity, migration status, disability, geographical location and other characteristics relevant in national contexts.”
- d. Paragraph 25, with respect to resilience in cities and urbanization, embraces “innovation-driven development, digitalization and new technologies, especially information and communications technologies, in managing cities more effectively and holistically, including intelligent and resource-efficient transport systems and new efficiencies in energy consumption and waste management.”
- e. Paragraph 28 recognizes with respect to implementing the 2030 Agenda, among other things, “the progress made towards operationalization of the Technology Facilitation Mechanism” and encourages “all development partners to provide financial and technical assistance to ensure their full and effective implementation.”
- f. Paragraph 29 stresses “the critical role of science, technology and innovation in achieving the Sustainable Development Goals”. It acknowledges “the positive transformative potential of technology, both existing and emerging, as well as its challenges and risks, which should be addressed by appropriate policy and regulatory frameworks and international cooperation, working with the private sector, academia, research institutions and other stakeholders” and that a “substantial digital divide persists, both between and within countries and

between women and men, and between girls and boys”. It stresses “the need to act proactively to avoid exacerbating inequalities between and within countries in the coming years and that the introduction of new technologies should never blind us to our pledge to leave no one behind”.

17. In the sidelines of the 2018 High Level Political Forum, UNDESA:

- a. supported the Permanent Missions of Bangladesh and Norway in organizing a side event on mobilizing the data revolution to advance SDGs and leave no one behind. The need for developing countries to have access to quality and disaggregated data, as well as resources and capacity on data collection, and the need to minimize risks related to privacy and confidentiality, were highlighted.
- b. provided organizational and substantive support to a high-level luncheon event was hosted by the World Economic Forum and organized by the Permanent Missions of Bangladesh Mexico. The event was entitled “Using artificial intelligence to combat social exclusion: what can governments do?”. More than 50 senior officials including deputy ministers, Permanent Representatives, experts and practitioners discussed over lunch, how governments can tap on AI to ensure social inclusion and leave no one behind. The USG, along with the Deputy Foreign Minister of Mexico and Senior Policy Advisor of Bangladesh, delivered welcome remarks. The event allowed a joint candid reflection and dialogue on various challenges and opportunities on AI applications, with representatives from the World Economic Forum, Berkman Klein Center for Internet & Society, Harvard University, and the International Telecommunication Union sharing expert views and research findings.

18. The third annual Multi-stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals (STI Forum), organized by UNDESA, was held in New York from 5-6 June 2018, and attended by more than 900 participants representing a cross-section of scientists, innovators, technology specialists, entrepreneurs, policy makers and civil society representatives. The theme of the STI Forum was This year’s theme is: “Science, Technology and Innovation for sustainable and resilient societies” and it focused on SDGs 6, 7, 11, 12 and 15, reflecting the SDGs under review at the HLPF 2018. The Forum’s summary report, [E/HLPF/2018/6](#), noted the key messages of necessity of a multi-stakeholder approach (through the TFM and other for a); recognizing and better understanding the impacts of rapid technological change on developed and developing countries; the need for road maps, action plans and “holistic approaches” that properly address the cross-cutting nature of STI and the SDGs, with multidisciplinary “deep dives” into each SDG; and, increased investment and engagement from governments and the private sector.

19. In addition to convening the annual STI Forum, UNDESA is responsible delivering the Technology Facilitation Mechanism (TFM) as mandated by the 2030 Agenda and the Addis Ababa Action Agenda. A new 10-member group was appointed by the

Secretary-General to advise over the 2018-19 period, and held their first meeting on 3 May 2018.

20. In connection to the work of the STI Forum and the TFM, UNDESA engaged in the following activities: (i) the Co-chairs of the 2018 STI Forum, with the support of UNDESA, convened a briefing on 3 May 2018 for Member States on the 2018 Forum; (ii) UNDESA, with UNCTAD, the World Bank and the Japan Science and Technology Agency (JST), organized an EGM on Science, Technology, and Innovation Roadmaps for the SDGs, in New York, March 26-27, 2018; (iii) UNDESA, in collaboration with IATT members and the Government of Japan, organized a Workshop on Science, Technology and Innovation Roadmaps for the Sustainable Development Goals (SDGs) in Tokyo, Japan, from 7-8 May 2018; (iv) UNDESA participated in a meeting of the UNFCCC Technology Executive Committee (TEC) to present an update on the TFM; and, (v) UNDESA met representatives from WIPO-Match on 16 November 2018 to discuss potential collaboration around the development of a fully functional online platform for the TFM and related capacity-building activities.
21. The UN World Data Forum, under the theme of “Harnessing the power of data for sustainable development”, was held in Dubai, United Arab Emirates, on 22-24 October 2018. The Forum featured more than 80 sessions on a wide range of initiatives and issues covering six thematic areas. Approximately 2,000 participants, including major producers and users of data from around the world, launched initiatives and examined challenges to deliver better data and use innovative data sources – all to improve data on health, migration, poverty, hunger, the environment and other aspects of sustainable development.
22. In 2018, UNDESA’s United Nations Project Office on Governance, based in South Korea, contributed to WSIS work in the area of ICT for development with activities including but not limited to: (i) Executive Development Course on Digital Government for Transformation Towards Sustainable and Resilient Societies on 2-6 April 2018, in Singapore aimed to enhance the capacities of the SIDS, LDCs, and LLDCs in leveraging ICTs and digital government to address the special vulnerabilities they face and assist them in building sustainable and resilient societies. (ii) Practitioner-to-Practitioner Forum on Strengthening Capacities of Public Administration in Island States on 20-24 August 2018 in Sri Lanka which included Sessions on the themes of ICT Innovations for Disaster Risk Reduction (DRR) to discuss how Island States leverage e-government and open data to build sustainable and resilient societies and (iii) Policy Workshop on ICT-based Innovative Industries for Sustainable Local Development on 23-26 May 2018 in Republic of Korea. (iv) ITU Asia-Pacific Young ICT Leaders Forum 2018 on 4-7 September 2018 in Republic of Korea by delivering a presentation on the topic of "Transforming Governance to Ensuring Innovation Ecosystem as a Driver of Smart Cities".

III. Implementation of themes

A. Internet governance

23. The thirteenth annual Internet Governance Forum (IGF) brought together representatives from governments, the technical community, business and civil society in France to discuss amplifying digital cooperation. Over the course of three days, more than 3000 delegates participated in 171 sessions both onsite and remotely. Paris welcomed participants from 143 different countries and 62% of these were first time comers and 43% of them were female. 101 different countries were represented online, with the majority coming from France, United States, Brazil, Nigeria, United Kingdom and Great Britain, India, Iran, Bangladesh, and Germany.
24. New on the road to IGF 2018 was the public call for issues to better understand which themes or topics the broader IGF community wished to see discussed. This resulted in a more thematic program, answering to the community's request for more concrete, focused and cohesive discussions during the IGF annual meeting. Eight themes formed the backbone of the 2018 agenda: (i) Cybersecurity, Trust and Privacy; (ii) Development, Innovation and Economic Issues; (iii) Digital Inclusion and Accessibility; (iv) Human Rights, Gender and Youth; (v) Emerging Technologies; (vi) Evolution of Internet Governance; (vii) Media and Content; and (viii) Technical and Operational Issues.
25. In addition to the Opening and Closing Sessions, the IGF 2018 programme featured 8 main/special sessions; 71 workshops; 27 open forums; 5 individual best practice forum (BPF) sessions; 15 individual dynamic coalition (DC) sessions; 5 individual national, regional, and youth (NRIs) collaborative sessions; 14 sessions classified as "other"; and 24 lightning sessions; for a total of 171 sessions in the overall programme. The reduced number of sessions in the programme compared to previous years is the result of the MAG's new 'programme shaping approach', which aimed at having more concrete, focused discussions, and fewer parallel or duplicate sessions, with a clear thematic orientation.
26. There were 111 National, Regional, and Youth IGFs (NRIs) present at the IGF 2018 compared to 97 NRIs in the 2017 annual meeting. Since the 2017 annual meeting of the IGF, 9 more countries have established IGF processes, increasing the number of national IGFs to 80, and 5 communities established Youth IGFs, increasing the total number to 14. The total number of regional NRIs did not change during this time.
27. The IGF 2018 clearly recognised the rapid evolution of the Internet and the huge potential of new technologies in bringing growth and benefits to all. There are concerns that impacts of the new developments on security, human rights, might limit or jeopardize the positive effects for humankind as a whole. The growing complexity of the policy issues pertaining to the Internet calls for a strengthened multistakeholder and multidisciplinary Internet Governance approach.

B. Measuring information and communications technology for development

28. UNDESA continued its work on ICT indicators development as part of the Partnership on Measuring ICT for Development in the Task Group on ICT for SDGs (TG). The Task Group is co-chaired by ITU and UNDESA and its main objective is to propose a thematic list of ICT indicators that could be used to measure ICT availability and use in sectors relevant to the SDGs that are not covered in the SDG indicators framework. In 2018, the task group produced a document including the set of indicators proposed for selected SDG targets along with their definitions, benchmarks and the methodologies.

IV. Findings and Suggestions

29. ICTs play an important role in ensuring disaster response and recovery are fast and efficient. Therefore, there is a need to protect critical ICT infrastructure from disaster impacts. Given that some disasters such as floods, cyclones and typhoons, and droughts are transboundary in nature, inter-regional and global data sharing and coordination among concerned countries and regions are crucial.

30. By using digital technology, governments can and are responding to shocks emanating from natural or man-made disasters and various types of other crises such as reliance on digital technologies in managing emergency responses, performing essential functions, and swiftly recovering from crises.

31. E-government improves public services, citizen engagement, and transparency and accountability of authorities at the local level. E-government also strengthens resilience and sustainability and better aligns local government operations with national digital strategies.

32. According to the *2018 United Nations E-Government Survey*, there is a negative correlation between digital use and social exclusion. Online use, offers an opportunity for e-inclusion but also risks a new digital divide, owing to insufficient access in low-income countries, either because of a lack of devices or of bandwidth and speed. The research also indicates that the greater ease with which information is gathered, stored, analyzed and disseminated and the decreasing cost and coverage of mobile-cellular and mobile broadband subscriptions have improved e-service delivery to vulnerable populations.

33. Politicians, policy-makers and public officials are creating new policies to promote resilience and sustainability especially in the areas of poverty eradication, equal opportunity for all, support for vulnerable groups, land development and planning, economic development, smart growth, pollution prevention, energy, resources and water conservation, inner-city public transit, eco-projects and alternative energy. Public administration processes are being reengineered to integrate these policies into local planning and development efforts, even as these administrations are striving to keep pace with the speed of technological innovation.

34. Artificial Intelligence, Big Data, botchats, and deep machine learning indeed are powerful tools to increase government efficiency, effectiveness, accountability and inclusiveness in providing service delivery. The use of these frontier technologies may create new opportunities for development and economic growth in almost every aspect of government such as health care, law enforcement, food security, crisis mitigation. The rise in use of new technologies carries uncertainty in terms of employment. It is feared that AI, particularly robotic automation, will leave low-skilled workers without jobs⁵. The fourth industrial revolution and convergence of innovative technologies such as Big Data, Internet of things, cloud computing, geo-spatial data and broadband, AI and machine learning, is promoting a dramatic shift towards more data and machine-driven societies. Governments need to respond to this revolution and support a more resilient workforce by continuously updating their skills as well as revamping the education of younger generations to meet the demands of evolving technologies and new ways of doing things.
35. New technologies are already an indispensable and universal resource for the humanity but must be equally distributed within and among countries and be available for everyone or every government, no matter its own level of development or capacity. For this reason, the 2030 Agenda's principle of leaving no one behind should always be applied for new technologies for achieving Sustainable Development Goals.

⁵ *United Nations E-Government Survey 2018 - UNDESA*