# HARNESSING SCIENCE, TECHNOLOGY AND INNOVATION AND SHAPING DIGITAL TRANSFORMATION...

© UNDP/Freya Morales

## ...because leaving no one behind means leaving no one offline

In 2020-2021, UN DESA highlighted and promoted the role of science, technology and innovation to shape inclusive, resilient, and sustainable recovery and development. The Department's work emphasized that the digital divide and other forms of inequality are mutually reinforcing, and both need to be tackled in tandem.

### UN DESA...

- Brought together 6,000 participants connecting from 173 countries in the virtual 15th annual meeting of the Internet Governance Forum (IGF).
- Mobilized more than 10,000 scientists, innovators, technology specialists, entrepreneurs, and representatives of governments and civil society for discussions and action to harness science, technology, and innovation for the SDGs.
- Brought together 45 UN system entities for joint analysis, pilot projects and capacity building around science, technology, and innovation for the Sustainable Development Goals.
- Provided data for policymakers on digital responses to COVID-19 through the UN E-Government Survey.
- Produced periodic reviews on the impacts of emerging science and frontier technologies on sustainable development.
- Analysed the implications of COVID-19 for science-policy advisory systems and showcased solutions.

# 04

# Harnessing science, technology and innovation

*The COVID-19 pandemic revealed the centrality of digital solutions in addressing isolation, ensuring basic business continuity, delivering services, and keeping people informed. At the same time, digital transformation presents risks and challenges, especially for countries in special situations. UN DESA continued to provide forward looking policy advice and support global dialogue for addressing the challenges and leveraging opportunities.*



promote health in the Internet.
Under-Secretary-General Zhenmin.

© Chengetai Masango, IGF Secretariat

## Amplifying digital cooperation and bridging the digital divide

6,000 participants connecting from 173 countries took part in the 15th annual meeting of the Internet Governance Forum (IGF), supported by UN DESA. Under the overarching theme of *Internet for human resilience and solidarity*, the IGF 2020 featured engaged discussions about Internet policies, amplifying digital cooperation and shaping the Internet into a driver for respecting human rights, bridging the digital divide and achieving the SDGs.

A high-level leaders' track involved global experts and leaders from all disciplines in discussions on the role of the Internet in health, economy, security, social development,

and environment. A Youth Summit brought together young Internet leaders from different parts of the world. Parliamentarians from around the world also gathered at a roundtable to discuss trust online during the COVID-19 pandemic. At the grassroots level, a network of national, regional and youth IGF initiatives collected more than 100 contributions on the transformative potential of the Internet in emergency situations.

UN DESA continued to administer the IGF Secretariat and work with members of the Multi-stakeholder Advisory Group (MAG) of the IGF, to implement the measures of the Secretary-General's Roadmap for Digital Cooperation and enhance the Internet Governance Forum.

**IGF** Internet Governance Forum

**400,000+** page views
**20,929** connections to the sessions
**295** webinars and meetings

United Nations Department of Economic and Social Affairs

Capacity Development Webinar

**Developing institutional capacities in digital transformation for a more inclusive and equitable recovery**

14-15 December 2020 | 8:00am - 12:00pm EST

# STRENGTHENING PUBLIC INSTITUTIONS

## Accelerating digital transformation

UN DESA organized a capacity building webinar on *Developing Institutional Capacities in Digital Transformation for a More Inclusive and Equitable Recovery* in December 2020. One of the webinar's key messages is that the global community can best support the digital transformation of developing countries by forging effective partnerships. During the webinar, country lessons were shared in addressing emerging requirements and challenges for policy and decision-making in the age of digital transformation. Overall, more than 300 Member States representatives and other stakeholders benefitted from the webinar, helping to develop country capacity to participate in, and benefit from, the growing opportunities of digitalization while mitigating the risks.

The webinar, Accelerating Digital Transformation for Sustainable and Resilient Recovery from COVID-19, further provided a platform for sharing different country experiences on effective digital government strategies and supporting countries' efforts in strengthening digital capacities for accelerating the digital transformation to address recovery from COVID-19. The Webinar was pre-registered by a total of 425 participants, from 120 countries. Among them 168 participants were from Africa, and 106 from Asia. The actual number of viewers of the videoconferencing tools is much higher than this number. The number of views of the Facebook livestream video exceeded 3,800.

# DRIVING INNOVATION

## UN Public Service Awards

The United Nations Public Service Awards (UNPSA) programme recognizes the creative achievements and contributions of public service institutions in realizing the 2030 Agenda for Sustainable Development, especially in advancing effective, efficient, transparent, accountable, innovative and citizen-centered public governance and services for sustainable development.

The 2021 UNPSA featured four categories:
1. Fostering innovation to deliver inclusive and equitable services for all including through digital transformation
2. Enhancing the effectiveness of public institutions to reach the SDGs
3. Promoting gender-responsive public services to achieve the SDGs
4. Institutional preparedness and response in times of crisis

A total of 214 nominations from 44 countries were received for the 2021 Awards. Category 1 had the greatest number of submissions and SDG 3, 5, 16 and 17 were the most ubiquitous SDGs for innovation. Asia-Pacific was a leading region with the largest number of initiatives submitted.

The winning initiatives were invited to share their experiences and lessons learned at the UN Public Service Forum in Dubai, UAE, in October 2021.

## UN innovation competition and exhibition

The 2021 STI Forum included a virtual exhibition featuring the winners of two innovation competitions organized by UN DESA, in 2020 and 2021, in partnership with the Global Innovation Exchange. The 2021 competition sought innovations developed or adapted to address COVID-19-associated disruptions, while the 2020 competition focused on innovations for transformative change more broadly. The 10 winners of the 2021 competition were chosen from more than 625 entries, and the 15 winners of the 2020 competition were selected from among nearly 350 entries. The virtual exhibition consisted of a series of moderated roundtables that allowed the innovators to describe their cutting-edge initiatives and share insights from continuing to implement their innovations in context of the covid-19 pandemic. The roundtables were organized around themes: food systems, vulnerable communities, education, maternal and child health and environmental sustainability.

UN DESA also supported the annual World Summit on the Information Society (WSIS) Forum, which provides a multi-stakeholder platform to foster global cooperation and provide meaningful connections to information society by ensuring Information and Communication Technologies (ICTs) as a key enabler for sustainable development. The final week of the WSIS Forum was held in May 2021 with pre-events held from January onwards under the theme of *ICTs for Inclusive, Resilient and Sustainable Societies and Economies*. The Forum focused on accelerating action on the impact of COVID-19 pandemic towards SDG achievement by 2030. The WSIS Forum is co-organized by ITU, UNCTAD, UNESCO, and UNDP with the engagement of other UN Agencies, including UN DESA.

## Promoting e-governance and digital service delivery

To build local capacity for public service delivery, UN DESA developed a 5-module introductory course outlining aspects and tools for developing and improving local e-government. Participants gain an understanding of the importance of local e-government services and linking these with the SDGs, major challenges of local e-government and various uses of emerging technologies to enhance service delivery. UN DESA has so far trained more than 483 local government officials with 5 additional workshops planned.

UN DESA's Project Office on Governance (UNPOG) organized a regional symposium on public institutions and digital government that promoted knowledge sharing and the exchange of innovative practices on leveraging public governance and digital technologies for SDG implementation, especially in response to COVID-19. The Regional Symposium was attended by more than 200 participants from 64 countries with a diversified representation from government agencies, think tanks, academia, private sector, civil society and international organizations.

The capacity development webinar, Leveraging ICTs and Digital Government for Innovative Solutions to Address the COVID-19 Pandemic - Responses in Africa, also helped to equip African countries with strengthened


© World Bank


© Angelo Moleele on Unsplash

capacity in leveraging ICTs and digital government to fight COVID-19. This webinar was organized in collaboration with the African Association for Public Administration and Management, the African Union Development Agency, the UN Economic Commission for Africa and ITU Regional Office for Africa. The Webinar was pre-registered by a total of 299 participants with the participation of 70 countries with more than 3000 additional views of the Facebook livestream video.

## Providing perspective on the impacts of emerging science and frontier technologies

The fast pace of science and technology in many fields, such as robotics, artificial intelligence, biotechnology, and nanotechnology is having broad impacts on economy, society, and the environment. To support decision-makers to make sense of the rapid changes, UN DESA brought together hundreds of experts and stakeholders and synthesized a wide range of research, science-policy briefs, UN publications and assessments. In partnership with IEEE, the Department initiated a new series of online

events on *New Technologies, Ethics and Policy Engagement for Sustainable Development*. It further synthesized state-of-the art findings from integrated assessments, scenario, and technology studies to identify promising technology scenarios and high impact digital technology solutions for the SDGs.

As co-lead in the research and analysis work stream of the United Nations Interagency Task Team on Science, Technology and Innovation for the SDGs (IATT), the Department contributed to the report, **Emerging science, frontier technologies, and the SDGs - Perspectives from the UN system and science and technology communities**, released in May 2021.

UN DESA, jointly with ITU, explored the development implications of quantum information technology in the online event , The Era of Quantum Information Technology - Promises and Pitfalls, held in May 2021. The event included an exchange of views among academic and private sector experts on the rapidly evolving cluster of quantum sensors, quantum computing and the emerging quantum internet.

It served as a reality check and offered a rough timeline of technology applications, their potential development impacts, and important actions to be taken by public and private sectors, to build the necessary infrastructure and skills in preparation for these new possibilities.

The Department also continued its periodic review of how emerging and frontier technologies matter for sustainable development. The Department's quarterly publication, **Frontier Technology Issues** (FTI) serves to stimulate technology-related discussions within the Department and other UN agencies, and serve as a springboard for broader discussions to enrich policy discourse on frontier technologies. The November 2020 FTI examined the role of digital technologies in creating decent work (SDG 8), improving health services and outcomes (SDG 3), and promoting education and learning (SDG 4), but warns that despite the benefits, technology is widening disparities and those on the wrong side of the digital divide risk being left further behind. The June 2021 FTI examined the growing importance of lithium-ion batteries in laying the foundation for a fossil fuel-free (3Fs) economy.

### Putting STI to the service of the SDGs

More than 10,000 scientists, innovators, technology specialists, entrepreneurs, and representatives from governments and civil society participated in or listened live to the formal sessions of the 6th Annual Multi-stakeholder Forum on Science, Technology, and the SDGs (STI Forum). The potential social media reach neared 980 million. Convened by the President of ECOSOC and co-chaired by Latvia and Indonesia, the UN DESA-supported Forum discussed the theme, *Science, technology and innovation for a sustainable and resilient COVID-19 recovery, and effective pathways of inclusive action towards the Sustainable Development Goals*.

The Forum comprised ministerial and thematic sessions, an exhibition featuring the winners of the UN innovation competition, and 33 side events. It deliberated on lessons from the COVID-19 pandemic for shaping a better science-policy-society interface, a resilient recovery, and rapid responses to global challenges. It identified STI solutions for "building back better" and accelerating progress towards the SDGs and for ensuring inclusion in innovation. The co-chairs' summary of the Forum informed the 2021 High-level Political Forum on Sustainable Development.

"

**The [UN DESA] Webinar [on Toolkit on Innovation and Digital Government for Public Service Delivery] was an eye opener for the many possibilities and opportunities of innovation in my country .**

**Akylbek Sultanov, Chairman of the NSC of the Kyrgyz Republic**



Facilitated Online Capacity Development Training

**Innovation, Digital Government and Public Service Delivery for Sustainable Development in the Caribbean Region**

**Capacity Development Webinar Series**

# SUPPORTING COUNTRIES IN SPECIAL SITUATIONS

### Promoting integrated digital government

Through a development account project, UN DESA is working with two landlocked LDCs (Bhutan and Lao PDR) and two Pacific SIDS (Fiji and Vanuatu) on institutional arrangements for policy integration, coordination and stakeholder engagement in SDG implementation and reviews in Asia and the Pacific. The focus is to support the transition from analog silos in public administration towards innovation and integrated digital government for public service delivery.

In Lao PDR, UN DESA is supporting an incremental digital approach to support One-Door-Service Centers. In Fiji, UN DESA supported implementation of their Sustainable Development Coordinating Committee to count on digital improvements to highlight inter-Ministerial dialogue and workflows.

The project also supported the development of a Digital Government Capability Assessment (DGCA) which was pilot tested with 14 Caribbean countries.

### Taking caribbean public service delivery into the digital future

UN DESA, in collaboration with the Caribbean Centre for Development Administration (CARICAD) and the Caribbean Community (CARICOM), organized a series of 10 training webinars on Innovation, Digital Government and Public Service Delivery for Sustainable Development that engaged 14 Caribbean countries. The Virtual Training on Innovation, Digital Government and Public Service Delivery for Sustainable Development in the Caribbean resulted in ideas for regional cooperation with concrete follow-up actions such as the creation of a virtual Regional Innovation Lab for Innovation and Digital Government in the Caribbean, with support from CARICAD and CARICOM. In view of COVID-19, the Webinar Series was an adaptation of the Toolkit on Innovation and Digital Government for Public Service Delivery developed as part of UN DESA's Curriculum on Governance for the SDGs.

© Charles Deluvio on Unsplash

## PLACING WOMEN AT THE CENTRE

### Gender equality in post-pandemic recovery

The "gender digital divide" stymies women's access to online learning, finance and other essential online services. Without gender sensitive policies in the hybrid work environment, a two-tier workforce is real threat, with men able to socialize with peers at the office while women juggle work and care at home. UN DESA's June 2021 economic briefing highlighted the importance of this and other factors of gender equality for post-pandemic recovery.

## BOOSTING PARTNERSHIPS AND MULTISTAKEHOLDER ENGAGEMENT

### National science, technology and innovation roadmaps for the SDGs

National science, technology and innovation roadmaps for the SDGs (STI4SDG roadmaps) are helping chart the way forward for coherent STI policy making in support of the SDGs.

UN DESA has led UN interagency work on STI4SDGs roadmaps, bringing together UN entities, the World Bank and other international partners, such as OECD, the Joint Research Centre of the European Commission, and the Government of Japan. As a member of the IATT, the Department contributed to a joint Guidebook for the Preparation of STI for SDGs Roadmaps. In November 2020, a Partnership in Action on STI4SDGs Roadmaps was launched, aimed at mobilizing a much wider range of actors for effective and visionary STI4SDG roadmaps.

### 2030 Connect – a one-stop entry point for technology solutions and STI information

The UN has launched "2030 Connect," an online platform that taps the expertise and networks of the UN system and its partners, to provide access to the latest science and evidence, disaggregated data, and technology solutions. The platform also provides resource for building capacity and fostering innovation for applying STI to development policy and practice.

# FACILITATING MULTILATERAL ACTION AND COMMITMENTS

## Leveraging digital technologies for social inclusion

UN DESA supported deliberations at the 59th session of the Commission for Social Development, addressing *Socially just transition towards sustainable development: the role of digital technologies on social development and well-being of all*. The Department undertook analytical work, which helped inform deliberations, that addressed the role of the pandemic in accelerating the pace of digital transformation, opening the opportunities for advancing social progress and fostering social inclusion, while simultaneously exacerbating the risk of increased inequalities and exclusion of those who are not digitally connected. The outcome of the Commission, adopted by consensus, highlighted the need for a whole-of-government and whole-of society approach to close the digital divides and promote digital inclusion, by addressing the challenges associated with access, affordability, digital literacy and digital skills in national and regional contexts to ensure that new technologies benefit all.

## Strengthening the science-policy-society interface

The 2021 High-level Political Forum (HLPF) included a dedicated session on mobilizing science, technology and innovation and strengthening the science-policy-society interface. The 2021 session built on the outcomes of the 2021 STI Forum, to explore measures to ensure that science and technology support the realization of the SDGs for all and bridge the digital divide.



© Science in HD on Unsplash