COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)

Twenty-fifth session
Geneva, 28 March to 1 April 2022

Submissions from entities in the United Nations system, international organizations and other stakeholders on their efforts in 2021 to implement the outcomes of the WSIS

Submission by

United Nations Children's Fund

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 25th 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.

UNICEF WSIS Report 2020

UNICEF's reporting for 2021 focuses on the reporting template **Part Three: Innovative policies, programmes and projects** which have been undertaken, and future actions.

Technology for Development – a core programme-facing function supported by ICTD – supports UNICEF to scale digital programmes, digital innovations and mature digital solutions and accelerate results for children across the organization. To date, more than 1,400 T4D and innovation initiatives have been registered in INVENT, UNICEF's global digital hub for T4D and innovation. The INVENT platform is both an inventory of initiatives and a portfolio tool that allows promising ideas across UNICEF to benefit from greater visibility. It is helping to focus the organization's resources and investment on the specific programme problems for which innovation is an effective change strategy.

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

Artificial intelligence and child rights

UNICEF, in partnership with the Government of Finland, is leading a two-year project to better understand how Artificial Intelligence (AI) systems can protect, provide for, and empower children. Key to this project is the development of a Policy Guidance for governments, businesses, the non-profit sector and the Organization itself for creating and implementing AI policies and systems that protect children's rights. To develop the guidance over 200 experts were consulted in 5 regions, and almost 250 children were consulted on AI issues. In 2021, a diverse group of eight organization "piloted" the guidance – their learnings have been written as case studies. These findings will feed into version 2 of the Policy Guidance, to be released in November 2021 at the world's first Global Forum on AI for Children. The Government of Scotland officially adopted the Policy Guidance in its national AI strategy in 2021.

Good data governance for children

Since data is a key element of the digital environment, the good governance of children's data is critical. UNICEF developed a Manifesto that sets aspirational benchmarks to guide governments, the private sector and international organizations in developing data governance frameworks that take full account of children's issues and rights. The Manifesto proposes the digital world befitting for children, and aims to address ambiguous or sensitive areas where there are no straightforward answers. To develop this Manifesto, a working group of 17 global experts from the private sector, academia, think tanks and others provided analysis, insights, guidance and comments. They wrote short commentaries examining data governance approaches, evidence, gaps and grey or conflicting areas. A wider group of experts was engaged through convenings, webinars and consultations throughout the year.

U-Test is transforming the HIV Epidemic among young people in Côte d'Ivoire with the Innovative use of digital and social media channels to optimize HIV self-testing and pre-exposure prophylaxis among at-risk adolescents and provide life skills and empowerment to youth.

C2. Information and communication infrastructure / C7. ICT Applications: e-Learning / WSIS Target 2: To connect universities, colleges, secondary schools and primary schools with ICTs, To connect all secondary schools and primary schools with ICTs

Giga for school connectivity

Giga is a global initiative by UNICEF and ITU to connect every school to the Internet. Giga has mapped the school location and connectivity of over 1 million schools and is currently reporting daily live connectivity for over 30,000 schools on Project Connect. In the next 3 years, Giga aims to have school locations and live connectivity data for 6 to 9 million schools in order to accurately assess the gaps, aggregate demand, mobilize resources, and explore innovative technologies that can ensure the most vulnerable and the hardest to connect are connected.

Giga has connected over 3,200 schools in Latin America and the Caribbean, Africa, and Central Asia which provides over 1 million students and teachers with increased access to the internet. Giga is working with partner countries to launch procurement processes that prioritize innovation, affordability and sustainability to connect the remaining unconnected schools. In 9 countries, Giga is prototyping innovative technologies including TV white space and radio relay link to reach the hardest to connect schools in addition to business models focused on extending the school connectivity to the surrounding community as means to offset or reduce the connectivity costs for the schools. Towards connectivity, Giga is also prototyping a Connectivity Credit framework that can create incentives for service providers and other technology companies to extend networks to the poorest regions and difficult to reach populations including through tax breaks or other incentives.

It is estimated that approximately $428 billion is needed to connect every school in the world to the Internet, a gap that cannot be fielded by one stakeholder. Since its launch, Giga has mobilized over $200m from public and private donors targeted towards financing connectivity. Giga is also proposing to launch a $5 billion Connectivity Bond that will provide the significant upfront funding needed to accelerate critical infrastructure investments and mobilize public and private capital.

Juniper is a suite of blockchain-based tools for visualization, created in response to the lack of available, open source, user-friendly solutions needed to operate UNICEF's CryptoFund. Juniper was built in collaboration with divisions across UNICEF, developed with and for public sector organizations looking to receive, hold, and disburse crypto-denominated assets.

C3. Access to Information and Knowledge

UNICEF is supporting a series of research papers aimed at uncovering gender inequalities, including this **paper** that looks into evidence and literature on the gender digital divide.

UNICEF has been exploring the application of drones for imagery, delivery, and connectivity across programmes, leading to the development of four humanitarian drone corridors, the funding of seven drone companies, and the support of UNICEF Country Offices in using drones for medicine and vaccine delivery. It has now developed the **Drones for SDGs Toolkit** as a collaborative repository to contribute and share drones software, data, models, and other resources.

C4. Capacity building

Digital Learning to Earning is about launching young peoples' careers through market-driven digital upskilling trainings and then connecting them with remote career opportunities with leading

companies from around the globe. This project has already upskilled and provided work for more than 10,000 young people in Jordan, Lebanon and Tajikistan.

C5. Building confidence and security in the use of ICTs

The rapid expansion of digital programming over the last year is also evidenced by the acceleration and uptake of **digital real-time information solutions** employed by countries at scale – a metric that ICTD tracks each year. In 2020, 113 countries (72 per cent) used real-time information technology at scale, exceeding UNICEF's target of 60 per cent by 2020. Forty-three per cent of country offices reported using RapidPro – a global digital public good used to power messaging programmes – for real-time information, and 43 per cent of countries also reported using platforms such as Kobo, Open Data Kit (ODK), Ona, Commcare and District Health Information Software 2 (DHIS2), among others. More than 40 per cent of countries where UNICEF operates (of 196) reported using U-Report, powered by RapidPro, for youth/citizen engagement at scale

C6. Enabling environment

The **School Innovation Challenge** launched in October 2021 in India's Telangana state, (with a population of more than 30 million people) providing adolescents from 8,000 schools the opportunity to complete the UPSHIFT curriculum. UPSHIFT is an adaptable and scalable approach, which supports the development of skills for life and livelihood and supports youth to positively engage with their local communities as change-makers. Rollouts to four more states are planned in the coming months.

ASE Generation Social Innovation Platform was born from a vision of scale to develop the next generation of young innovators and entrepreneurs. Currently in use in 10,000 schools the platform is expanding across south Asia and there is a momentum for global rollout reaching over 40 million young people.

The **Digital Public Goods Alliance,** incubated by UNICEF and Norway, is a multi-stakeholder initiative working to accelerate the attainment of the SDGs in low- and middle-income countries by facilitating the discovery, development, use of, and investment in digital public goods. The DPG Registry has over 600 nominees and 67 vetted digital solutions that do no harm, adhere to privacy and other best practices, and help attain the SDGs.

The **UNICEF Innovation Fund** is a $35M+2527 ETH+8 BTC pooled fund specifically designed to finance early-stage, open source emerging technology that can benefit children; it is the first venture capital vehicle in the UN for investing in digital public goods, supporting internal UNICEF capacity as well as entrepreneurial capacity in programme countries. It has made 113 investments across 67 countries, and 40% of its Portfolio consists of female-founded/led startups.

C7. ICT Applications: e-Government

UNICEF also used digital technologies to vastly expand its **cash transfer programmes** to reach families impacted by the socioeconomic effects of COVID-19. During the year, UNICEF implemented technology-enabled cash transfer solutions in 30 country offices. In Yemen alone, UNICEF reached 2.8 million households – including 8.4 million children – using digital and other technology solutions. In Jordan, UNICEF supported the Government to expand the existing cash transfer programme to 200,000 daily wage workers who had lost their income due to the COVID-19 response; and adapt the programme to adhere to infection prevention and control measures. Using RapidPro, UNICEF helped the Government

reach new recipients quickly, remotely, and safely via mobile wallets, at no cost to beneficiaries. In the first five days of implementation, the number of targeted daily workers with an active mobile wallet increased from 18,000 to 80,000. After two weeks, 188,000 workers had an active mobile wallet and had received cash transfers.

C7. ICT Applications: e-Business

Child Rights and Business

In May 2021, UNICEF launched a second edition of the Child Rights Impact Self-Assessment Tool for Mobile Operators (MO-CRIA). The tool is primarily designed to offer an easy-to-use and comprehensive self-assessment framework for mobile operators to more fully understand the child rights impacts related to their industry and their operations; analyze and manage their potential and actual impacts on child rights; and build plans to enhance child rights management within the organization as well as mitigate potential negative impacts. In addition to simplifying and streamlining the guidance based on feedback from companies, the second edition of the MO-CRIA self-assessment tool also features a new section dedicated to children's rights in the digital environment. Following the launch, UNICEF collaborated with GSMA (the industry association for mobile operators) to host a series of action workshops with companies from around the world aimed at building capacity on practical implementation of the tool.

C7. ICT Applications: e-Employment

The **Bridge. Outsource. Transform (B.O.T.)** project matches trained youth with digital freelancing jobs in Lebanon, providing access to income generation and career opportunities to young people. In 2021, the B.O.T. project developed an AI, CV and NLP curriculum, trained more than 200 girls and launched a competition for AI startups in the Arab region.

C7. ICT Applications: e-Learning

UNICEF has led international efforts to bring virtual and other forms of remote learning to children across the world. This has involved collaborating with partners to provide online and distance learning to millions of outof-school children, and helping children return to school via remote means using information and communication technologies. UNICEF is also supporting school connectivity, education technology strategies, and needs assessment, planning and deployment. With the launch of the **Reimagine Education initiative**, UNICEF is seeking to connect every child and young person with world-class digital solutions that offer personalized learning.

FunDoo is a free chat-based platform for children and young people to equip themselves with relevant skills for life at their own pace, including self-awareness, collaboration, communication, critical thinking, and problem solving, which are best learnt by doing real-world activities. More than USD 9.5 million has been transferred to launch and scale innovations in the field, including FunDoo Learner's Journey, which provides learning content. Some 75,000 young people joined the platform recently in India, ahead of its expansion to Indonesia.

C7. ICT Applications: e-Health

COVID-19 pandemic response

As part of its response to the pandemic, UNICEF reached 3 billion people through risk communication and community engagement initiatives – many of which employed digital solutions – to help

communities halt the transmission of COVID-19 and mitigate its socioeconomic impacts. UNICEF deployed chatbots, short message service (SMS), interactive voice response and other technologies through multiple channels, including U-Report, RapidPro, Infolines, HealthBuddy, VIAMO Services and Commcare, to reach affected communities with life-saving information.

UNICEF also worked with national authorities and implementing partners to adapt service delivery systems to cope with the socioeconomic impacts of the COVID-19 pandemic, limit service interruptions and secure equitable access. This effort has raised the profile and value of digital health – for delivering life-saving services in the short term and strengthening national systems, capacities and infrastructures over the long term. With information and communication technology support, countries are leapfrogging into the digital realm where the pandemic has accelerated interest and action; further digitizing health systems where this process was already underway; and mapping existing digital health solutions with the potential to support vaccine rollout.

In 2021, UNICEF accelerated its transformation into a modern, digital organization. As part of this strategic shift, UNICEF approved a new **Digital Centre of Excellence** based in Nairobi to serve as a dedicated, field-facing global structure anchored in ICTD. Among other areas, the Digital Centre of Excellence will support COVID-19 vaccine delivery and risk communication and community engagement through the UNICEF-World Health Organization (WHO) COVID-19 **Digital Health Centre of Excellence (**or **DICE)**, which will provide thought leadership, surge capacity and technical assistance to governments on digital health programmes, in collaboration with development partners. DICE will be a mechanism to deliver agile and coordinated technical assistance to National Governments on sustainable and scalable deployment of carefully chosen mature digital health solutions that address health priorities in the context of the COVID-19 pandemic and post-pandemic health system needs.

UNICEF assisted 20+ countries with direct technical assistance **for digital, data and geospatial health solutions** for primary health care and COVID-19 response. It also developed nine digital COVID-19 course modules for remote health worker learning and supported deployment in four countries. The courses are publicly available on the Compass website.

Other health-related initiatives

UNICEF launched and disseminated the **CHW guidance on strategic information and service monitoring** together with partners in the Health Data Collaborative. It also launched and disseminated **the guidance on improving the civil registration of births and deaths in low-income countries** together with WHO, which describes the mutual benefits that would accrue to individuals and societies from enhanced collaboration between the health and civil registration systems.

Oky is the world's first period tracker and reproductive health education app by girls, for girls, with information about their periods and their bodies presented in fun, creative, and positive ways. Developed by UNICEF's East Asia and the Pacific Gender section with the Mongolia and Indonesia Country Offices, Oky is being scaled to 10 new countries across the globe and is now recognizes as a digital public good.

USupportMe provides on demand, remote access for young people to existing psychosocial support services through an Uber-like app with potential to reach tens of millions of adolescents.

C10. Ethical dimensions of the Information Society

Predictive Analytics for Children: An assessment of ethical considerations, risks, and benefits

This paper examines potential ethical issues, including benefits and risks, associated with predictive analytics as they pertain to children. It is designed to support readers in gaining an overview of the current state of the field, knowledge of real-world deployments of predictive analytics and ultimately, a deeper understanding of the opportunities and potential harms of deploying predictive analytics that directly or indirectly target children.