

**UNITED NATIONS COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT (CSTD), twenty-sixth session
Geneva, 27-31 March 2023**

**The role of science, technology and innovation in accelerating the recovery
from the coronavirus disease (COVID-19) and the full implementation of the
2030 Agenda for Sustainable Development at all levels**

Statement by

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27 March 2023

**Session on Technology and Innovation for Addressing
Sustainable Development Goals (SDGs)**

Science, Technology, and Innovation (STI) have played a critical role in the response to the COVID-19 pandemic and will continue to play an essential role in the recovery phase. STI can contribute to several aspects of recovery, including improving healthcare, supporting economic growth, and strengthening social resilience. Development and distribution of COVID-19 vaccines has been an exemplary in India. Innovative technologies such as mRNA vaccines have been developed to provide a rapid response to the pandemic. Improved healthcare systems through the development of digital health solutions, telemedicine, treatment at a decentralized level and mobile medical diagnostic devices can reach millions in remote areas. Moreover, COVID has also helped to enhancing public health surveillance and monitoring systems, to better detect and respond to future outbreaks.

Combining recovery from COVID-19 disease along with attaining the 2030 Agenda for Sustainable Development highlights the importance of STI. Following are some ways where STI can be used to support the SDGs along with recovery from COVID-19.

- a) **Developing sustainable technologies:** Technology can be used to develop sustainable solutions that help achieve the SDGs. For example, renewable energy technologies can reduce carbon emissions and improve access to clean energy. India has nearly achieved the target of 175 GW by 2022 for renewable energy generation. To achieve this goal, the government has implemented policies that promote innovation in renewable energy technologies, such as solar and wind power. Similarly, agricultural technologies can improve crop yields and food security. Climate-smart

agriculture (using technology and other practices to adapt to and mitigate the effects of climate change on agriculture); precision agriculture (using technology, such as sensors and drones, to collect data on crops and soil conditions to optimize crop yields, reduce waste, and conserve resources) are being supported in the country.

- b) **Enhancing data collection and analysis:** Data is critical for tracking progress towards the SDGs, but many countries lack reliable data collection and analysis systems. STI can help by developing new tools and methods for collecting, analyzing, and disseminating data on development indicators. This can help identify areas that need improvement, track progress and allocate resources more effectively.
- c) **Promoting innovation and entrepreneurship:** Digital platforms, online marketplaces, and e-commerce tools can connect people, businesses, and organizations from all over the world to share knowledge and collaborate. The innovation value chain is strengthened through Technology Business Incubators (TBIs) by supporting innovators and entrepreneurs at different stages of their journey to take their innovative ideas to market and further scale up its operations. Startups are actively engaged in various technology domains like agritech, manufacturing, electronics, IoT, health-tech, biotech, AI/ML, deep-tech etc.
- d) **Improving access to education:** With the advancement of technology, e-learning platforms and digital libraries have emerged as a popular and effective mode of education delivery. Many educational institutions in India have resorted to the use of virtual reality technology to create immersive learning experiences that enable students to visualize concepts and gain a better understanding of complex topics. When used under proper regulations, mobile learning apps too can provide students with access to educational resources, quizzes, and interactive games.
- e) **Improving access to healthcare:** SDG 3 (Good Health and Well-being): India faces a range of healthcare challenges, including high rates of communicable diseases and maternal and child mortality. Teleconsultations, telemedicine, mobile health apps, and other

digital tools can help expand access to healthcare services in remote and underserved areas. Complimenting these measures with health camps in remote areas can create awareness about diseases, their early detection and treatment.

- f) **Supporting sustainable infrastructure development:** Infrastructure development is critical for achieving many of the SDGs. STI can be used to develop sustainable infrastructure solutions, such as green buildings, solar and wind power projects, energy-efficient office space and malls, sustainable transportation solutions etc. Use of technology in smart cities such as sensor networks, data analytics, and automation systems to optimize resource use, reduce traffic congestion, improve public safety, and enhance the overall quality of life in urban areas would be a step towards achieving SDG 11 (Sustainable cities and Communities).
- g) **Clean water and Sanitation:** Sustainable Development Goal 6: STIs has helped to improve access to clean water and sanitation by developing new technologies for water treatment and management, as well as improving the efficiency and sustainability of water and sanitation systems. For example, nanotechnology, membrane filtration, and solar-powered desalination have been used to provide clean water in areas with limited resources, while smart water management systems, leak detection sensors, and other digital tools can help reduce water waste and improve water quality.
- h) **Climate Action:** Climate modelling technologies have been used to predict the impact of climate change on different regions and ecosystems which helped our policymakers to make informed decisions to mitigate the effects of climate change. Apart from these, a suite of technologies in Carbon capture, usage and storage (CCUS) has gained significant momentum in recent years, driven by strengthened climate targets and subsequently increased policy support for the implementation of technology across the industry and sectors.

COVID-19 pandemic has also highlighted the concept of "one-health" where STI driven initiatives can further integrating both human health and planetary health. This will also address pandemic prevention,

preparation and response, as well as antimicrobial resistance. Despite the widespread acknowledgement of the importance of cross-sectoral collaboration, a myriad of factors operated to either constrain or facilitate the success of cross-sectoral convergence at different stages of cross-sectoral action.