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Globalization and interdependence: science, technology and innovation for sustainable development

Resolution adopted by the General Assembly on 19 December 2019

[on the report of the Second Committee (A/74/382/Add.2)]

74/229. Science, technology and innovation for sustainable development

The General Assembly,

Reaffirming its resolution [70/1](#) of 25 September 2015, entitled “Transforming our world: the 2030 Agenda for Sustainable Development”, in which it adopted a comprehensive, far-reaching and people-centred set of universal and transformative Sustainable Development Goals and targets, its commitment to working tirelessly for the full implementation of the Agenda by 2030, its recognition that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development, its commitment to achieving sustainable development in its three dimensions – economic, social and environmental – in a balanced and integrated manner, and to building upon the achievements of the Millennium Development Goals and seeking to address their unfinished business,

Reaffirming also its resolution [69/313](#) of 27 July 2015 on the Addis Ababa Action Agenda of the Third International Conference on Financing for Development, which is an integral part of the 2030 Agenda for Sustainable Development, supports and complements it, helps to contextualize its means of implementation targets with concrete policies and actions, and reaffirms the strong political commitment to address the challenge of financing and creating an enabling environment at all levels for sustainable development in the spirit of global partnership and solidarity,

Reaffirming the Paris Agreement¹ and its early entry into force, encouraging all its parties to fully implement the Agreement, and parties to the United Nations Framework Convention on Climate Change² that have not yet done so to deposit their

¹ Adopted under the UNFCCC in [FCCC/CP/2015/10/Add.1](#), decision 1/CP.21.

² United Nations, *Treaty Series*, vol. 1771, No. 30822.



instruments of ratification, acceptance, approval or accession, where appropriate, as soon as possible,

Recalling its resolution [72/228](#) of 20 December 2017 on science, technology and innovation for development and its previous resolutions on the issue,³

Taking note of Economic and Social Council resolution [2019/25](#) of 23 July 2019 on science, technology and innovation for development and previous Council resolutions on the issue,⁴

Recalling its resolution [73/17](#) of 26 November 2018 on the impact of rapid technological change on the achievement of the Sustainable Development Goals and targets,

Recalling also the World Summit on the Information Society and its outcomes,⁵ as well as other relevant intergovernmentally agreed outcomes,

Taking note of the reports of the Commission on Science and Technology for Development on its fourteenth to twenty-second sessions,⁶

Taking note also of the report of the Secretary-General,⁷

Taking note further of the work of the United Nations System Chief Executives Board for Coordination on the impact of new and emerging technologies and on promoting innovation to accelerate the achievement of the Sustainable Development Goals,

Recognizing that science, technology and innovation, including environmentally sound technologies and information and communications technologies, are critical in the pursuit of sustainable development and are one of the key means of implementation of the intergovernmentally agreed development outcomes, including the 2030 Agenda for Sustainable Development and its Sustainable Development Goals,

Noting that the 2019 *Global Sustainable Development Report* identifies science, technology and innovation as one of the levers for transformation to accelerate progress in achieving the Sustainable Development Goals and that its strategic deployment has the potential to resolve and minimize trade-offs among the Goals and targets, and recognizes that technology transfer to developing countries on mutually agreed terms will be critical to scale up and accelerate the implementation of the 2030 Agenda for Sustainable Development,

Noting also the June 2019 report of the Secretary-General's High-level Panel on Digital Cooperation entitled "The age of digital interdependence",

Emphasizing that science, technology and innovation play a key role in accelerating the pace of economic diversification and transformation, improving productivity and competitiveness, as well as enabling the full participation of developing countries in the global economy,

³ Resolutions [58/200](#), [59/220](#), [60/205](#), [61/207](#), [62/201](#), [64/212](#), [66/211](#), [68/220](#) and [70/213](#).

⁴ Economic and Social Council resolutions 2006/46, 2009/8, 2010/3, 2011/17, [2012/6](#), [2013/10](#), [2014/28](#), [2015/27](#), [2016/23](#), [2017/22](#) and [2018/29](#).

⁵ See [A/C.2/59/3](#) and [A/60/687](#).

⁶ *Official Records of the Economic and Social Council, 2011, Supplement No. 11 (E/2011/31)*; *ibid.*, 2012, *Supplement No. 11* and corrigendum ([E/2012/31](#) and [E/2012/31/Corr.1](#)); *ibid.*, 2013, *Supplement No. 11* and corrigendum ([E/2013/31](#) and [E/2013/31/Corr.1](#)); *ibid.*, 2014, *Supplement No. 11 (E/2014/31)*; *ibid.*, 2015, *Supplement No. 11 (E/2015/31)*; *ibid.*, 2016, *Supplement No. 11 (E/2016/31)*; *ibid.*, 2017, *Supplement No. 11 (E/2017/31)*; *ibid.*, 2018, *Supplement No. 11 (E/2018/31)*; and *ibid.*, 2019, *Supplement No. 11 (E/2019/31)*.

⁷ [A/74/230](#).

Reaffirming that the creation, development and diffusion of new innovations and technologies and associated know-how, including the transfer of technology on mutually agreed terms, are powerful drivers of economic growth and sustainable development,

Underscoring that rapid technological change brings enormous opportunities to accelerate progress towards the Sustainable Development Goals, while it also poses new challenges, including perpetuating divides within and between countries,

Recognizing that new technologies increase the demand for digital skills and competencies and that, at the same time, developing countries are experiencing higher numbers of young people entering the labour market and a widening gap between their knowledge, skills and abilities and those sought by employers, and expressing concern that the share of women in specialist information and communications technology occupations remains low, especially in developing countries,

Recognizing also that education, training and capacity-building in science, technology and innovation can provide new skills and so widen employment opportunities, while addressing market needs,

Calling upon the international community and all stakeholders to support efforts by developing countries to provide opportunities for science, technology, engineering and mathematics education and research for all, including youth and women, and particularly in the emerging technologies, and to provide suitable working conditions in order to prevent brain drain,

Recognizing that innovation, such as pro-poor, inclusive, grass-roots and social innovation that seeks to solve problems, is not always addressed by markets,

Recognizing also the importance of utilizing science, technology and innovation in a manner relevant to specific national and local situations and needs,

Recognizing further the importance of data protection and privacy, in particular for developing countries in the context of science and technology for development, especially regarding the adoption of new technologies,

Taking note of the *Digital Economy Report 2019* of the United Nations Conference on Trade and Development, which examines the scope for value creation and capture in the digital economy by developing countries and gives special attention to opportunities for these countries to take advantage of the data-driven economy as producers and innovators, and notes that platformization and the monetization of the rapidly expanding volume of digital data are increasingly driving value creation, while acknowledging the risk that digitalization may contribute to rising inequality and further consolidation rather than to more inclusive development,

Recognizing that realizing gender equality and the empowerment of women and girls will make a crucial contribution to progress across all of the Sustainable Development Goals and targets, and recognizing also that there is a need to ensure full and equal access to and participation in science, technology and innovation for women of all ages, as well as to target science, technology and innovation strategies to address women's empowerment and inequalities, including the gender digital divide,

Recalling the agreed conclusions of the Commission on the Status of Women on women's economic empowerment in the changing world of work, adopted at its sixty-first session,⁸ which, inter alia, highlighted the need for managing technological and digital change for women's economic empowerment, particularly to strengthen the capacities of developing countries, so as to enable women to leverage science and

⁸ *Official Records of the Economic and Social Council, 2017, Supplement No. 7 (E/2017/27)*, chap. I, sect. A.

technology for entrepreneurship and economic empowerment in the changing world of work and to support women's access, throughout their life cycle, to skills development and decent work in new and emerging fields by expanding the scope of education and training opportunities in, inter alia, science, technology, engineering and mathematics, information and communications technology and digital fluency, and to enhance women's and, as appropriate, girls' participation as users, content creators, employees, entrepreneurs, innovators and leaders,

Expressing concern that many developing countries still face serious challenges in building their national science, technology and innovation base, lack affordable access to information and communications technologies, and that, for the poor, the promise of science, technology and innovation remains unfulfilled,

Taking note with appreciation of the United Nations Technology Innovation Labs, in their efforts to facilitate and stimulate innovation for the implementation of the 2030 Agenda for Sustainable Development,

Recognizing that science, technology and innovation cooperation and collaboration with, as well as foreign direct investment in and trade with and among, developing countries, as well as international support, are fundamental to enhancing developing countries' ability to benefit from technological advances and to produce, nurture, access, comprehend, select, adapt and use science, technology and innovation knowledge,

Recognizing also the importance of supporting policies and activities of developing countries in the fields of science, technology and innovation through North-South, South-South and triangular cooperation in the areas of financial and technical assistance, capacity-building and technology transfer on mutually agreed terms,

Recognizing further the need to mobilize and scale up financing for science, technology and innovation, especially in developing countries, in support of the Sustainable Development Goals,

Welcoming the increase in official development assistance targeting the development of science, technology and innovation capacities in developing countries in the past two decades, however, remaining concerned that official development assistance for science, technology and innovation capacities directed to the least developed countries, landlocked developing countries, small island developing States and African countries has remained at about the same levels for the past decade,

Recognizing the central role that the Commission on Science and Technology for Development plays, as the United Nations focal point for science, technology and innovation for sustainable development, in analysing how science, technology and innovation, including information and communications technologies, serve as enablers of the 2030 Agenda for Sustainable Development by acting as a forum for strategic planning, sharing lessons learned and best practices, providing foresight about critical trends in science, technology and innovation in key sectors of the economy, the environment and society, and drawing attention to emerging and disruptive technologies,

Reaffirming the need to enhance the science, technology and innovation programmes of the relevant entities of the United Nations system, and in this regard recalling the mandate of the Technology Facilitation Mechanism on science, technology and innovation for the achievement of the Sustainable Development Goals to promote coordination, coherence and cooperation within the United Nations system,

Recognizing the need to strengthen the collaboration and exchange between policymakers and scientific and technological communities,

Welcoming the convening of the first to fourth annual multi-stakeholder forums on science, technology and innovation for the Sustainable Development Goals, noting with appreciation the ongoing work of the United Nations inter-agency task team on science, technology and innovation for the Sustainable Development Goals, and looking forward to the development of an online platform as a gateway for information on existing science, technology and innovation initiatives, mechanisms and programmes, as the three components of the Technology Facilitation Mechanism,

Noting the ongoing efforts of the World Intellectual Property Organization to assist Member States in establishing intellectual property strategies and national ecosystems that promote innovation and creativity and support the flow of knowledge and technical expertise,

Noting also the existing efforts and contributions of the regional economic commissions on science, technology and innovation for sustainable development,

Recalling the importance of supporting the African Union's Agenda 2063, as well as its 10-year plan of action, as a strategic framework for ensuring a positive socioeconomic transformation in Africa within the next 50 years, and its continental programme embedded in the resolutions of the General Assembly on the New Partnership for Africa's Development and regional initiatives, and in this context noting the Declaration of Sharm el-Sheikh, adopted by the African Union in October 2019, which commits to work towards an integrated and inclusive Digital Society and Economy in Africa that improves the quality of life of Africa's citizens,

Reiterating the pledge that no one will be left behind, reaffirming the recognition that the dignity of the human person is fundamental, and the wish to see the Goals and targets met for all nations and peoples and for all segments of society, and recommitting to endeavour to reach the furthest behind first,

1. *Reaffirms its commitments* made in the Addis Ababa Action Agenda of the Third International Conference on Financing for Development⁹ on, inter alia, science, technology and innovation, as an important action area for sustainable development;

2. *Also reaffirms its commitment* to continue promoting the use of science, technology and innovation in facilitating efforts to address global challenges, such as efforts to eradicate poverty; achieve food security and nutrition; increase agricultural productivity; enhance access to affordable, reliable, sustainable and modern energy for all; fight diseases; improve education; protect the environment and address climate change;

3. *Further reaffirms its commitment* to the actions agreed upon by the least developed countries and development partners on science, technology and innovation, as outlined in paragraphs 52 and 53 of the Programme of Action for the Least Developed Countries for the Decade 2011–2020;¹⁰

4. *Notes* the central role of Governments, with active contribution from stakeholders from the private sector, civil society, academia and research institutions, in creating and supporting an enabling environment at all levels, including enabling regulatory and governance frameworks, in accordance with national priorities, to nurture science, innovation, entrepreneurship and the dissemination of knowledge and technologies that is on mutually agreed terms, particularly to micro-, small and medium-sized enterprises, as well as industrial diversification and value added to commodities;

⁹ Resolution 69/313, annex.

¹⁰ Report of the Fourth United Nations Conference on the Least Developed Countries, Istanbul, Turkey, 9–13 May 2011 (A/CONF.219/7), chap. II.

5. *Underscores* the need to adopt science, technology and innovation strategies as integral elements of national sustainable development plans and strategies that help to strengthen knowledge-sharing on mutually agreed terms and collaboration and scale up investment in science, technology, engineering and mathematics education, and enhance technical, vocational and tertiary education and training;

6. *Recognizes* the importance of addressing the gap in capabilities across and between countries, sectors and segments of society so that all parts of society, especially people in vulnerable situations and the poor, can adapt and benefit from technological changes;

7. *Also recognizes* the importance of the creation of a conducive environment that attracts and supports private investment, entrepreneurship and corporate social responsibility, including an efficient, adequate, balanced and effective intellectual property framework, while encouraging access to science, technology and innovation by developing countries;

8. *Encourages* Member States to strengthen and foster investment in research and development for environmentally sound technologies and to promote the involvement of the business and financial sectors in the development of those technologies, and invites the international community to support those efforts;

9. *Encourages* all stakeholders in an effort to prepare for existing and future opportunities and challenges presented by technological change, including the fourth industrial revolution, among others, to explore ways and means of conducting inclusive national, regional and international technology assessment and foresight exercises on existing, new and emerging technologies to help to evaluate their development potential and mitigate possible negative effects and risks;

10. *Encourages* Member States, individually and collectively, to support policies that increase financial inclusion, including through making use of financial technology, with a view to deepening and diversifying the sources of financing and of direct investments towards science, technology and innovations that address the Sustainable Development Goals;¹¹

11. *Also encourages* Member States to promote local innovation capabilities for inclusive and sustainable economic development by bringing together local scientific, vocational and engineering knowledge, mobilizing resources from multiple channels, improving information and communications technology and supporting infrastructure development;

12. *Further encourages* Member States to promote digital inclusion and literacy and to consider incorporating digital competencies into the education system, with a special focus on encouraging girls and enhancing digital skills and competences development, including through investment in digital qualification, specialization in digital technologies, digital infrastructure, public policies and institutional development and multi-stakeholder and international collaboration;

13. *Underlines* that addressing barriers to equal access for women and girls to science, technology and innovation requires a systematic, comprehensive, integrated, sustainable, multidisciplinary and multisectoral approach, and in this regard urges Member States to mainstream a gender perspective in legislation, policies and programmes, and encourages efforts to mentor, attract and retain women and girls in science, technology, engineering and mathematics education and research and to support women in leveraging science and technology for entrepreneurship and economic empowerment in the changing world of work;

¹¹ See resolution 70/1.

14. *Emphasizes* the importance of the participation of women and girls in science, technology and innovation, and further encourages the United Nations development system to support efforts to reduce gender disparity in these areas, with the cooperation of Member States and international collaborative research organizations;

15. *Notes* the importance of facilitating access to and sharing accessible and assistive technologies, through the transfer of technology on mutually agreed terms and other actions, to advance disability-inclusive development, ensure accessibility for persons with disabilities and promote their empowerment;

16. *Encourages* efforts to increase the availability of data to support the measurement of national innovation systems (such as the existing Global Innovation Index) and empirical research on innovation and development to assist policymakers in designing and implementing innovation strategies in order to measure the impact of digital technologies for sustainable development;

17. *Emphasizes* the need to effectively harness technology to bridge the digital divides within countries and between developed and developing countries;

18. *Encourages* enhanced capacity-building support for developing countries in order to generate the use of high-quality, timely and reliable disaggregated data, and also encourages international cooperation, including through technical and financial support, to strengthen the capacity of national statistical systems;

19. *Also encourages* existing arrangements and the further promotion of international, regional, subregional and interregional joint multi-stakeholder research and development projects, as well as training programmes and university-to-university collaborations where feasible, by mobilizing scientific and research development resources, facilities and equipment;

20. *Calls upon* Member States and the United Nations development system, and encourages other stakeholders, as appropriate, to continue to initiate, implement and support measures to improve the level of participation of scientists and engineers from developing countries in international collaborative research, science, technology and innovation projects;

21. *Also calls upon* Member States and the United Nations development system, and encourages other stakeholders, as appropriate, to continue to strengthen their support for the different science, technology and innovation partnerships with developing countries in primary, secondary and higher education, vocational education and continuing education; business opportunities for the private sector; science, technology and innovation infrastructure; and science, technology and innovation advice for developing countries;

22. *Requests* the Commission on Science and Technology for Development to continue to assist the Economic and Social Council as the focal point in the system-wide follow-up to the outcomes of the World Summit on the Information Society⁵ and to continue its science, technology and innovation activities;

23. *Encourages* the Commission on Science and Technology for Development to discuss and explore innovative financing models, such as impact investment, as a means of attracting new stakeholders, innovators and sources of investment capital for science, technology, engineering and innovation-based solutions, in collaboration with other organizations, where appropriate;

24. *Encourages* the United Nations Conference on Trade and Development, in collaboration with relevant partners, such as the World Intellectual Property Organization, the International Telecommunication Union, the United Nations Educational, Scientific and Cultural Organization and the United Nations University,

to continue to undertake science, technology and innovation policy reviews, with a view to assisting developing countries, upon request, in identifying the measures needed to integrate science, technology and innovation policies into their national development strategies and ensuring that they are supportive of national development agendas, as appropriate, and in this regard takes note of the new science, technology and innovation policy review framework developed by the United Nations Conference on Trade and Development;

25. *Emphasizes* the importance of better coordination and coherence among existing mechanisms, including the Technology Facilitation Mechanism, United Nations agencies and international organizations in providing support to Member States in the field of science, technology and innovation directed towards development priorities and needs;

26. *Invites* the Commission on Science and Technology for Development and the Technology Facilitation Mechanism to strengthen synergies and mutually reinforce their work on science, technology and innovation, and invites the Secretariat to coordinate the dates of their meetings in order to avoid overlap and to ensure coherence and coordination between both entities;

27. *Continues to encourage* the United Nations inter-agency task team on science, technology and innovation for the Sustainable Development Goals to further refine and update its mapping of science, technology and innovation activities in the United Nations system with a view to guiding further efforts at collaboration and capacity-building and formulating coherent advice for Member States advancing national science, technology and innovation frameworks within the 2030 Agenda for Sustainable Development,¹¹ including through developing STI for SDGs road maps;

28. *Reiterates its call for* voluntary contributions for resources from both the private and the public sectors to support the full operationalization of all components of the Technology Facilitation Mechanism, in particular the online platform;

29. *Encourages* the World Intellectual Property Organization to continue to undertake technical support activities, including helping countries to design, develop and implement national intellectual property and innovation strategies aligned with their development strategies;

30. *Welcomes* the operationalization of the Technology Bank for the Least Developed Countries, and calls upon Member States and other stakeholders to provide voluntary funding to the trust fund of the Technology Bank so that it can pursue its objectives in the area of science, technology and innovation for the least developed countries;

31. *Continues to encourage* the United Nations system to take an active role in forging a closer link with national science advisory bodies to optimally leverage science, technology and innovation for the Sustainable Development Goals, and looks forward to receiving updates and outcomes of the actions through the report of the Commission on Science and Technology for Development;

32. *Calls upon* the United Nations funds and programmes and the specialized agencies, at the request of Member States, to support, as appropriate, technical and scientific cooperation and North-South, South-South, triangular, regional and international cooperation on access to science, technology, innovation and knowledge-sharing, on mutually agreed terms;

33. *Reiterates its call for* continued collaboration between United Nations entities and other international organizations, civil society and the private sector in implementing the outcomes of the World Summit on the Information Society;

34. *Reaffirms* the commitment at the very heart of the 2030 Agenda to leave no one behind and commit to taking more tangible steps to support people in vulnerable situations and the most vulnerable countries and to reach the furthest behind first;

35. *Requests* the Secretary-General to submit to the General Assembly at its seventy-sixth session a report on the implementation of the present resolution and recommendations for future follow-up, including lessons learned in integrating science, technology and innovation policies into national development strategies as well as concrete recommendations in supporting the implementation of the 2030 Agenda for Sustainable Development, and decides to include in the provisional agenda of its seventy-sixth session, under the item entitled “Globalization and interdependence”, the sub-item entitled “Science, technology and innovation for sustainable development”.

*52nd plenary meeting
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