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Follow-up to the Fourth World Conference on Women and to the twenty-third special session of the General Assembly, entitled "Women 2000: gender equality, development and peace for the twenty-first century": implementation of strategic objectives and action in critical areas of concern and further actions and initiatives: review theme: participation in and access of women to the media, and information and communication technologies and their impact on and use as an instrument for the advancement and empowerment of women

Review of the implementation of the agreed conclusions from the forty-seventh session of the Commission on the Status of Women

Report of the Secretary-General

Summary

The present report reviews and assesses the extent to which Member States have implemented the agreed conclusions from the forty-seventh session of the Commission on the Status of Women on "Participation in and access of women to the media, and information and communication technologies and their impact on and use as an instrument for the advancement and empowerment of women". The report summarizes the progress, gaps and challenges relating to action taken at the national level in implementing the agreed conclusions. The current review takes place against a rapidly changing environment in information and communications technology and media, and subsequent to the World Summit on the Information Society and its review, as well as the adoption of the 2030 Agenda for Sustainable Development. The report reflects on related normative developments and actions around their implementation and emerging issues.

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I. Introduction

1. At the fifty-ninth session of the Commission on the Status of Women, Member States agreed on new working methods for the Commission (see Economic and Social Council resolution 2015/6), which included a more rigorous review of the agreed conclusions relating to a priority theme from a previous session in order to encourage the implementation of its outcomes. As part of the review process, the Commission will consider a report on progress made on the theme at the national level.

2. The review theme of the Commission on the Status of Women at its sixty-second session, in 2018, is "Participation in and access of women to the media, and information and communication technologies and their impact on and use as an instrument for the advancement and empowerment of women". The Commission had adopted agreed conclusions on that theme at its forty-seventh session, in 2003 (E/2003/27-E/CN.6/2003/12).

3. The agreed conclusions strengthened the global normative framework on those issues and contributed to the accelerated implementation of the Beijing Declaration and Platform for Action. They also informed subsequent deliberations and agreed conclusions of the Commission on the Status of Women by addressing links between respective priority themes and information and communications technology (ICT) (see, for example, E/2011/27-E.CN.6/2011/12). They also influenced other key normative developments, such as the World Summit on the Information Society (in 2003 and 2005) and more recently, the 2030 Agenda for Sustainable Development.

4. The present report assesses the extent to which Member States have implemented the agreed conclusions in the following areas: strategies and policies for women's participation in the digital revolution and media sector, and applications for women's empowerment; education, literacy and skills development for girls and women on ICT and media; the promotion of women in ICT and media sectors, including in decision-making; and strengthening the evidence base.

5. The report draws on information received from Member States[1] and other sources, including the follow-up to the World Summit on the Information Society, reports of the Secretary-General prepared for related priority and review themes of the Commission, and national reports submitted as part of the review and appraisal of the implementation of the Beijing Declaration and Platform for Action, on the occasion of the twentieth anniversary of its adoption.[2] The present report will be accompanied by presentations by Member States, from different regions, on a voluntary basis, of lessons learned, challenges and best practice, at the sixty-second session of the Commission.

II. Context for the implementation of the agreed conclusions

6. Since the adoption of the agreed conclusions in 2003, the landscape of gender equality and the empowerment of women in the context of the digital revolution and

[1] The following contributed inputs for this report: Argentina, Australia, Azerbaijan, Brunei Darussalam, Colombia, Costa Rica, Czechia, El Salvador, Estonia, Germany, Greece, Italy, Jamaica, Jordan, Latvia, Lithuania, Mali, Malta, Mauritius, Mexico, Mongolia, the Netherlands, Panama, Paraguay, Peru, the Philippines, Romania, Slovenia, Switzerland, Trinidad and Tobago, Turkey, Uganda, the United Kingdom of Great Britain and Northern Ireland and Zimbabwe.

[2] Available from www.unwomen.org/en/csw/csw59-2015/preparations and E/CN.6/2015/3.

media has evolved considerably. In the current digital age, ICT[3] penetrates almost all aspects of life, transforming sectors and influencing interaction, learning, access to services and enjoyment of human rights. Such technology has afforded new avenues for participation in political life and the economy. The digital world has created new avenues for mobilization and change[4] and created innovative forms of services, such as mobile money and digital financial inclusion.[5] It also enables life-enhancing opportunities around health, education and employment. Given the transformative potential, access to digital technologies and the qualitative aspects of their application and impact have gained greater importance and created new demands around skill development.

7. One major development not anticipated in the agreed conclusions was the birth and extraordinary spread of online platforms and social media and how those would transform the way news and other content is developed, shared and consumed. The digital age enables women journalists to develop an online presence that is liberated from newsroom hierarchies and allows citizen journalists and activists to access modes of mass communication in ways that were previously unthinkable.[6] Individual women can make their voices heard, exchange views and create their own, often sizeable audiences; more than half of social media users are women.[7] As the preeminent forum focused on gender equality and women's empowerment and rights, the Commission on the Status of Women is a case in point of the demand-driven growth of social media audiences: social media coverage of the Commission's work in 2012 reached 8 million users; by 2017, the audience reached with news and updates on the Commission had grown to 170 million.

8. There is also, however, a growing awareness that in the digital revolution, despite its potential, the distribution of its benefits is not evenly, nor automatically, felt.[8] Progress can reflect, or be impeded by, offline gender inequalities, discrimination and violence. In addition, progress for some women through digital opportunities does not necessarily translate into transformative change for all women and girls.

9. The data on gender equality and the empowerment of women in the digital age reflect this reality. There is thus a need to increase targeted digital literacy and skill development efforts that enable women and girls to develop the capacities necessary

[3] ICT includes infrastructure (e.g., Internet and devices), content, products and services (e.g., social media platforms, digital media content, mobile, web-based and offline applications, data, artificial intelligence and machine learning and the Internet of things) and offline uses (e.g., three-dimensional printing, robotics and automation).

[4] See, for example, World Pulse, a social network for women's empowerment, information available from www.worldpulse.com/en/about-us/impact. See also the publication *Global Information Society Watch 2013: Women's Rights, Gender and ICTs* (Association for Progressive Communications and Humanist Institute for Cooperation with Developing Countries (Hivos), 2013), available from http://giswatch.org/2013-womens-rights-gender-and-icts.

[5] GSMA, "Connected women: mapping the mobile money gender gap — insights from Côte d'Ivoire and Mali", April 2017. Available from www.gsma.com/mobilefordevelopment/programme/connected-women/mapping-the-mobile-money-gender-gap-our-insights-from-cote-divoire-and-mali.

[6] United Nations Educational, Scientific and Cultural Organization (UNESCO), "World trends in freedom of expression and media development: global report 2017/2018", (Paris, 2017), available from http://unesdoc.unesco.org/images/0025/002597/259756e.pdf.

[7] Monica Anderson, "Men catch up with women on overall social media use", Pew Research Center, 25 August 2015. Available from www.pewresearch.org/fact-tank/2015/08/28/men-catch-up-with-women-on-overall-social-media-use/.

[8] World Bank, World Development Report 2016 — Digital Dividends, (Washington, D.C., 2016).

to safely navigate, benefit from and, of even greater importance, contribute to the digital revolution. Such measures should be part of a comprehensive approach to the realization of gender equality and the empowerment of all women and girls and their human rights.

10. Figures broadly show that while progress has been made in more widespread access to ICT, including the Internet and mobile phones, the gender gap is in fact widening, as acknowledged by Member States in General Assembly resolution 70/125. In 2016, the global rate of Internet user penetration was 12 per cent lower for women than men, and the gender gap is even larger in the least developed countries, at 31 per cent (see E/2017/66). There is also a gender gap in the use of ICT for empowerment purposes, as data show that between 30 and 50 per cent of women are less likely to use the Internet for economic and political empowerment.[9]

11. The development and application of digital products and services that advance women's empowerment also lag behind. The Women's Rights Online project gave an average score of 4/10 on availability of relevant content and services for women.[10] At the same time, it found that civil society and women themselves are stepping in to create relevant applications.

12. New and emerging threats also have to be addressed, which range from pervasive forms of cyberviolence and harassment against women and girls,[11] to the perpetuation of gender bias in machine learning and artificial intelligence.[12] The online media world also provides channels for entrenching negative social norms and representation of women.[13] Women journalists are experiencing online abuse, stalking and harassment.[14] A World Wide Web Foundation study found that 74 per cent of countries are not doing enough to stop online violence.[15]

13. In order for women to fully benefit from the digital revolution, they need to be equally represented in the workforce and in enterprise and leadership positions in sectors linked to ICT. Such technology is increasingly central to women's economic empowerment, with predictions that 90 per cent of future jobs will require ICT

[9] International Telecommunication Union (ITU) and UNESCO, "Doubling digital opportunities: enhancing the inclusion of women and girls in the information society", Geneva, 2013, available from www.broadbandcommission.org/documents/working-groups/bb-doubling-digital-2013.pdf; see also GSMA Connected Women programme research available from www.gsma.com/mobilefordevelopment/programmes/connected.women; see further World Wide Web Foundation, "Women's rights online: translating access into empowerment", global report, October 2015, pp. 13 and 31.

[10] World Wide Web Foundation, "Women's rights online: report cards". Available from http://webfoundation.org/docs/2016/09/WRO-Gender-Report-Card_Overview.pdf.

[11] Maeve Duggan, "Online harassment", Pew Research Center study, 22 October 2014. Available from www.pewinternet.org/2014/10/22/online-harassment/; and the extensive work of the Association of Progressive Communications (apc.org).

[12] For example, see www.genderit.org/sites/default/upload/csw_map.pdf. On bias in machine algorithms see Tom Simonite, "Machines taught by photos learn a sexist view of women", Wired, 21 August 2017, available from www.wired.com/story/machines-taught-by-photos-learn-a-sexist-view-of-women/; and Claire Cain Miller, "When algorithms discriminate", *New York Times*, 9 July 2015, available from www.nytimes.com/2015/07/10/upshot/when-algorithms-discriminate.html?_r=0.

[13] See www.takebackthetech.net.

[14] UNESCO, "World trends in freedom of expression and media development".

[15] See http://thewebindex.org/report/.

skills.[16] The Secretary-General's High-level Panel on Women's Economic Empowerment stressed the importance of digital skill development in the context of the future of work and the fourth industrial revolution, and such skills are also seen as part of a set of new skills for the twenty-first century[17] and an important component of the education agenda.[18]

14. However, the progress of women's employment and leadership in ICT and media sectors has been slow or stagnated since the adoption of the agreed conclusions in 2003. Globally, studies show a precipitous drop of women in ICT as they progress from secondary school, to university, to employment, and then to retention and promotion.[19] Women make up only around 20 per cent of ICT workforce in countries of the Organization for Economic Cooperation and Development (OECD). They hold on average 12 per cent of decision-making positions, and constitute only 7 per cent of partners in the top venture funding firms.[20] In media, women remain heavily underrepresented in the workforce globally and in decision-making roles. They make up only 1 in 4 of decision makers in media, 1 in 3 reporters and 1 in 5 experts interviewed.[21] The film and advertising industries echo equally low participation of women. Progress in the representation of women through the media also remains limited. Women are the central focus of only 10 per cent of news stories, exactly the same figure as in 2000. The proportion of news that challenges gender stereotypes also remains largely the same, at just 4 per cent. The ambition of critical area of concern J, women and the media, of the Beijing Platform for Action, to increase women's participation in and access to media and to achieve a balanced, non-stereotypical portrayal of women in media, is far from being achieved.

15. With a rapid pace of change, there is growing urgency to build ecosystems that deliberately and more effectively direct ICT and media to contribute to the achievement of gender equality and women's empowerment. To date, policy action to assess and overcome the gender gap has generally been sluggish. Only 30 per cent of the countries on the Web Index of the World Wide Web Foundation countries score higher than 5/10 for implementing concrete targets for gender equality in ICT access and use.[22] Affordability also remains a challenge.[23]

16. It is therefore welcome that efforts to bridge gender gaps and create more gender-responsive ICT policy and governance frameworks have increased. For example, the World Wide Web Foundation, under the Alliance for Affordable Internet

[16] ITU, "A bright future in ICTs: opportunities for a new generation of women", report, February 2012, available from www.itu.int/ITU-D/sis/Gender/Documents/ITUBrightFutureforWomeninICT-English.pdf; and see Gené Teare and Ned Desmond, "The first comprehensive study on women in venture capital and their impact on female founders", Tech Crunch, 19 April 2016, available from https://techcrunch.com/2016/04/19/the-first-comprehensive-study-on-women-in-venture-capital/.

[17] Jenny Soffel, "What are the 21st-century skills every student needs?", 10 March 2016, World Economic Forum, available from www.weforum.org/agenda/2016/03/21st-century-skills-future-jobs-students/.

[18] Incheon Declaration: Education 2030: Towards inclusive and equitable quality education and lifelong learning for all, available from www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/ED/ED/pdf/FinalVersion-IncheonDeclaration.pdf, paras 8 and 10.

[19] UNESCO, Cracking the Code: Girls' and Women's Education in Science, Technology, Engineering and Mathematics (STEM) (Paris, 2017).

[20] See ITU, "A bright future in ICTs".

[21] UNESCO, "World trends in freedom of expression and media development".

[22] See World Wide Web Foundation, "Web index report 2014-15", available from http://thewebindex.org/report/. See also www.broadbandcommission.org/workinggroups/Pages/bbandgender.aspx.

[23] Alliance for Affordable Internet, "2017 affordability report", February 2017, available from 2017 http://a4ai.org/.

and the Women's Rights Online project, has worked with governments to build national ICT policy coalitions[24] that involve women's organizations and activists and articulate priority ICT policy issues from a gender perspective.[25] Similarly, the Association for Progressive Communications has instituted a programme, called Feminist Tech Exchange, which builds ICT understanding of gender equality advocates, enabling them to better influence policy outcomes.[26] At the global level, women's groups have been very active, though still largely underrepresented, in the Internet Governance Forum and identified good practices around policies for women's access to ICT and for preventing online violence against women and girls.[27] Global partnerships such as the Broadband Commission Working Group on Gender and its Working Group on the Digital Gender Divide[28] and the Global Partnership for Gender Equality in the Digital Age, known as the Equals Partnership, are working to raise awareness, generate commitments, share understanding and good practices and rally multiple stakeholders to act.[29]

17. Networks that proactively promote gender equality and women's empowerment in and through media are also growing, including the Global Alliance on Media and Gender initiated by the United Nations Educational, Scientific and Cultural Organization (UNESCO), a partnership of media, civil society, academic, private and governmental organizations; the United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women), through its "Step It Up for Gender Equality" media compact, a network of over 60 international media outlets committed to ending gender-based discrimination in the shaping of public knowledge and opinion; and the Unstereotype Alliance, launched by UN-Women together with some 25 partners representing several of the world's biggest advertisers, advertising agencies and media platforms, to tackle the widespread prevalence of stereotypes, are other examples.

III. Influence and impact of the agreed conclusions on the global normative framework

18. In 2015, UN-Women and the International Telecommunication Union (ITU) highlighted the normative progress on the linkages between gender equality and ICT since 2003.[30] Normative frameworks developed subsequent to the adoption by the Commission of the agreed conclusions at its forty-seventh session reflect the issues raised by the Commission. Commitments on gender equality and the empowerment of women were reflected in the outcomes of the World Summit on the Information

[24] See http://a4ai.org.

[25] See https://webfoundation.org/our-work/projects/womens-rights-online/.

[26] See www.apc.org/en/project/feminist-tech-exchange.

[27] Internet Governance Forum, "Overcoming barriers to enable women's meaningful Internet access", final report of the best practice forum on gender: gender and access, 2016, available from www.intgovforum.org/multilingual/index.php?q=filedepot_download/3406/437; and Internet Governance Forum, "Online abuse and gender-based violence against women", final report of the best practice forum, 2015, available from www.intgovforum.org/cms/documents/best-practice-forums/623-bpf-online-abuse-and-gbv-against-women/file.

[28] See www.broadbandcommission.org/workinggroups/Pages/digital-gender-divide.aspx and www.broadbandcommission.org/workinggroups/Pages/bbandgender.aspx.

[29] See www.equals.org/.

[30] United Nations Entity for Gender Equality and the Empowerment of Women (UN-Women) and ITU, "Action plan to close the digital gender gap", 2015, available from www.itu.int/en/action/gender-equality/Documents/ActionPlan.pdf.

Society, which cover women's full participation in the information society, a gender lens in policy development and the development of the requisite skills and applications that advance women's empowerment.[31] The outcome document of the high-level meeting of the General Assembly on the overall review of the implementation of the outcomes of the World Summit on the Information Society reflected new developments, reaffirmed previous commitments and recognized that ending the gender divide and achieving Goal 5 were mutually reinforcing efforts, as well as placing further emphasis on combating harassment (Assembly resolution 70/125). Relevant United Nations system entities, including UN-Women, are called upon to support the mainstreaming of gender in the World Summit on the Information Society process, including through a new emphasis on gender in the implementation and monitoring of the action lines. The Commission on Science and Technology for Development, in its follow-up to the Summit, has addressed these aspects in its work (see, for example, E/2017/31), and also called for strengthened and deepened collaboration between the Commission on Science and Technology for Development and the Commission on the Status of Women, including by sharing good practices and lessons learned in integrating a gender perspective in science, technology and innovation policymaking and implementation.

19. The 2030 Agenda for Sustainable Development reinforces the centrality of gender equality and the empowerment of all women and girls to sustainable development, and also addresses the role of technology and ICT. Goal 5 includes a means of implementation target 5.b, to enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women. Women's access to and participation in ICT is also implicitly linked to the achievement of other targets under Goal 5, including eliminating all forms of violence against women and girls, leadership and political participation, and economic empowerment. Gender-responsive approaches to ICT are also needed for the achievement of other Goals, including digital applications in areas such as health, agriculture, natural resource management and economic empowerment; access to technology (targets 9.c and 17.8); and quality technical education, ICT and science, technology, engineering and mathematics skill development (targets 4.3, 4.4 and 4.b).

20. Other intergovernmental bodies, as well as the mechanisms created by them, have also contributed to normative development. The General Assembly has, for example, addressed thematic applications of ICT for women's economic empowerment[32] and political participation.[33] It has also addressed girls' and women's education and skills, as well as the representation of women in ICT and media.[34] The Human Rights Council and the General Assembly have addressed women's human rights in the digital age.[35] The implications of digital technology for combating or perpetuating violence against women have been considered by the General Assembly and by the Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression.[36]

21. Regional frameworks, partnerships and norms have also been enhanced. For example, the European Commission's Strategic Engagement for Gender Equality

[31] ITU, *World Summit on the Information Society: Outcome Documents — Geneva 2003— Tunis 2005* (Geneva, 2005).

[32] See General Assembly resolutions 66/129, 66/195, 66/216, 68/139, 68/209 and 68/227.

[33] See General Assembly resolutions 66/130 and 71/212.

[34] See General Assembly resolutions 65/141, 66/184, 66/211, 67/195, 68/198, 68/220 and 70/213.

[35] See Human Rights Council resolutions 20/8, 26/13 and 32/13; see also A/HRC/35/9 and General Assembly resolution 71/199.

[36] See General Assembly resolution 68/181; see also A/HRC/31/55 and A/HRC/32/38.

2016-2019 contains provisions on women in ICT careers and studies and on cyberbullying.[37]

IV. National implementation efforts

22. Member States' responses incorporated into the present report indicate a varied approach to the implementation of the agreed conclusions. In general, they point to important advances as well as remaining gaps, thus highlighting the urgency for accelerated action so as to seize existing and emerging opportunities, and to fully align action with the implementation of the Sustainable Development Goals, with a focus on target 5.b.

A. Strategies and policies for women's participation in the digital revolution and media sector, and applications for women's empowerment

23. Concerns about the gender digital divide have galvanized Member States to integrate gender equality considerations into national ICT policies. Increasingly, gender equality strategies also respond to the opportunities presented by digital technology. As part of such efforts, Member States have taken steps to ensure that the principles of non-discrimination and of equal opportunities also apply to the field of ICT (Australia, Colombia, Costa Rica, El Salvador, Italy, Jordan, Mauritius, Slovenia, Trinidad and Tobago). Given the persistent gender digital divide, the explicit integration of gender equality considerations in ICT strategies and the targeting of women as a beneficiary group will boost results in this sector.

24. Examples of mainstreaming gender perspectives in ICT frameworks include those of Peru, where the ICT strategy addresses unequal power relations between men and women, and of the Philippines, which includes gender equality as a pillar in its Declaration on Internet Rights and Principles. Mexico and Zimbabwe have mainstreamed gender perspectives in the implementation of ICT policies, laws and programmes. In steps to ensure that digital content and applications meet women's needs, Czechia prioritized the mainstreaming of gender perspectives in those sectors.

25. Several Member States reported on ICT priorities within gender equality strategies aimed at increasing the number of women in non-traditional sectors of studies and employment, including ICT, and on equality for women in related labour markets (Czechia, El Salvador, Lithuania, Mexico, Mongolia, Switzerland). Such efforts respond to the opportunities created by the digital revolution and help to ensure digital equality in all its forms. Other Member States have integrated gender equality and digital empowerment within national development and cross-sectoral plans, largely with a focus on women's ICT skill development and employment (Brunei Darussalam, Jamaica).

26. The agreed conclusions called for the establishment of an affordable and accessible ICT-related infrastructure for all women and girls. In line with this, as well as target 5.5 of the Sustainable Development Goals, countries are focusing on

[37] See European Union, *Strategic Engagement for Gender Equality 2016-2019* (Luxembourg, Publications Office of the European Union, 2016), available from http://ec.europa.eu/justice/gender-equality/document/files/strategic_engagement_en.pdf; and the European Union Digital Agenda, see **Error! Hyperlink reference not valid.**.

enhancing girls' and women's access to ICT, including for rural women and marginalized groups of women (Costa Rica, Mali, Mauritius, Peru, Switzerland, Zimbabwe). Community empowerment programmes located in places frequented by women such as community centres, health centres, women's centres and schools (Mauritius), and the provision of subsidized connections at the household level for women in poverty (Costa Rica) are examples of efforts to reach underserved populations.

27. Women's digital empowerment requires funding, and universal access/service funds is an available, but underutilized resource.[38] Only Uganda reported on the use of such funds to support women's access in rural areas. Gender-responsive budgeting is another tool to ensure adequate funding for women's ICT-related needs, which Latvia plans to use.

28. In response to the call in the agreed conclusions for promoting gender equality in and through media, Member States have taken legal and regulatory steps, including on the development of a legal framework for broadcasting that provides for equal opportunities for women in television and radio services (United Kingdom), the harmonization of acts and the implementation of regulations that are inclusive of the principle of gender equality (Slovenia), restrictions on the dissemination of certain media content (Switzerland) and prohibitions on discrimination in granting broadcasting concessions (Mexico).

29. Action was also taken in support of equal opportunities and gender-balanced content among mass media, broadcasters and publishers (Latvia), and the elimination of stereotypes through the advertising standards authority (United Kingdom). Policies on the use of airtime were enhanced and a set of guidelines for television networks developed in the form of a media kit, entitled "Towards a gender fair media", which includes a code of ethics, guidance on gender equality and an anti-discrimination guide (Philippines). The Netherlands' national gender-responsive media policies focus on behaviour change among opinion leaders and news providers and the advertising and public communication industries.

30. Governments used special measures for women regarding tendering, the issuance of licences, funding and the acquisition of broadcast licences (Jamaica). Also with regard to broadcast licences, equality of opportunity as regards employment, for women and men (United Kingdom) became a requirement, as did gender diversity in co-financing of radio or television programming (Slovenia). The use of awards and other recognitions as incentives for the promotion of gender equality by the media and within media institutions was highlighted (Greece, Philippines).

31. The agreed conclusions emphasized the early and full participation of women and women's organizations in the development, implementation and monitoring of ICT and media policies and programmes and building capacities towards this end. In some instances, national gender equality mechanisms, as well as women's organizations, participated in the development of the national policy on science and technology and in creating equal opportunities for women in ICT (Costa Rica, Panama). Such opportunities were also created in the context of media policy development (Argentina, Jamaica, Netherlands). Gender focal points have been established to mainstream gender equality considerations within media institutions (Jamaica) and the Philippines established a Gender Equality Committee for media, made up of multiple government departments. The United Kingdom monitors the

[38] World Wide Web Foundation, "Closing the digital divide: a briefing note", April 2016 (briefing note to UN-Women).

implementation of diversity policy by the media and broadcasters, while the Netherlands involved civil society in the development of monitoring mechanisms.

32. The agreed conclusions made it clear that women should be able to fully enjoy the benefits of the information society and recognized information technologies and the media as central tools for women's empowerment and the promotion of gender equality. Responses for the present report confirmed that Governments recognize digital technologies primarily as tools for women's economic empowerment and entrepreneurship, as well for enhancing women's education and skill development, political participation and social development (Costa Rica, Mauritius, Mexico, Peru, Zimbabwe).

33. Digital applications that contribute to women's economic empowerment encompass financial inclusion and mobile money, access to information for enhanced agricultural productivity (Mali, Uganda, United Kingdom) and the training of women entrepreneurs in ICT skills so as to enable them to better grow their businesses (Slovenia, United Kingdom). The 2016 Women and the Economy Forum of the Asia-Pacific Economic Cooperation focused on digital literacy for economic inclusion as one of five sub-topics, and Ministers pledged to support the development of content and applications for women's economic empowerment, as reported by Peru.

34. Digital technology is used by non-governmental organizations to enable women to monitor service delivery (Uganda). Such technology can also support women when running for office or in monitoring elections (Mali). Other application areas have included improving social networking and mobilization of women and building literacy skills for out-of-school youth and supporting their participation in society (Uganda). Telemedicine is increasingly being used to improve women's health, including through the use of text messaging and online consultations, also in the context of development cooperation (Mali, Mexico, United Kingdom).

35. A number of Member States are integrating women's empowerment priorities through digital technologies in regional and multilateral cooperation. This can take the form of aid programmes (United Kingdom) that include gender equality and ICT elements. Germany drew attention to the Group of 20 digital agenda and efforts for gender equality. Switzerland emphasized the need to represent women's perspectives within global Internet governance.

36. Member States reported on the use of media to promote positive and non-traditional images and representation of women. Towards this end, capacity-building efforts were undertaken through workshops, conferences and sensitization training with media groups on advancing the balanced and positive representation of women (Azerbaijan, Slovenia, Turkey, Uganda), on gender perspectives in audio and video content and tackling the use of sexist language (Mexico), monitoring of news for gender equality issues (Zimbabwe) and the development of guidelines on the role of media in influencing public opinion (Slovenia). In an effort to promote diversity of women's perspectives, including those of minority and indigenous groups, opportunities were created for such groups to create news content on the Internet (Mexico).

37. Media was used to increase public awareness about discrimination, gender equality and women's roles and responsibilities in public and private life. This included such initiatives as public service announcements on gender equality (Mongolia) and annual achievers awards that highlight women's contributions to development and provide a platform for the identification of role models for young girls to emulate (Uganda). Other examples included advertisements and media

campaigns focused on women's rights, women's empowerment in politics and the promotion of positive popular media images of girls and women in science, technology, engineering and mathematics (Germany, Mexico, Switzerland).

38. In line with the agreed conclusions, which called for the prevention of any adverse impact of the digital revolution on gender equality, Member States have focused in particular on the elimination and prevention of violence against women and girls. Digital technology has been used to create online maps of areas considered unsafe, or to share information about incidents of violence against women. Digital games and mobile services have helped to raise awareness about violence against girls and women. A culture that condones violence against women has been challenged through the use of media and radio programmes have discussed issues of violence against women and girls. Stereotypes and sociocultural patterns that perpetuate violence against women and girls are being tracked by observatories, and guidelines and codes of ethics for media on reporting on and portraying violence against women are in wide use (Argentina, El Salvador, Jamaica, Mexico, Slovenia, United Kingdom).

39. Media and ICT are also instrumental in preventing or responding to new forms of violence against women and girls, especially those that are emerging through the online environment. Legislative interventions aim at protecting women online from misogynist attacks, including through the imposition of penalties (Philippines). The prevention of violence against women and girls is included in national digital strategies (Mexico) and cyberbullying is being addressed through national educational policies (Trinidad and Tobago). Colombia has a national pact on zero tolerance for child sexual abuse on the Internet. Governments also reported on tools to flag incidents of inappropriate content and abuse and the availability of services to support victims of online abuse. Tools for addressing cyberviolence, harassment and sexual abuse are becoming available, and service providers are being trained in how to recognize and respond to cyberabuse. Assistance to women bloggers and online journalists around digital safety was also provided, including through development cooperation (Australia, Germany, Uganda).

B. Education, literacy and skills development for girls and women on ICT and media

40. The agreed conclusions stressed the need for the inclusion of education on ICT and in science, technology, engineering and mathematics for girls and young women in curricula at all levels, for increasing the number of women in these areas, for offering digital vocational and lifelong learning opportunities and for building digital literacy. They also called for the creation of women's and girls' capacity to develop ICT content. Since 2003, digital skills have become even more central to participation in all spheres of life, from learning to participation in the labour market, as well as social and political engagement. The understanding of digital literacy has evolved from a focus on basic skills to more sophisticated use of ICT, as well as the need to equip girls and women with the ability to assess and respond to many of the existing and potential threats that ICT and the Internet pose.[39] There has also been a convergence of information and media literacy[40] with digital literacy. The ability of women, girls, men and boys to critically assess media and ICT and their

[39] The Mozilla Foundation provides a useful definition of web literacy. See **Error! Hyperlink reference not valid.** and https://mozilla.github.io/womenandweb/.

[40] See https://en.unesco.org/themes/media-and-information-literacy.

representation of women and girls has become more urgent with the pervasiveness of social media and, often, the vitriolic misogyny found online.

41. In an effort to increase capacity to address risks and realize opportunities in the digital age, countries have implemented different measures to strengthen support for girls in building digital literacy skills, including through training offered to, for example, parents, teachers, parent-teacher associations, school communities, tertiary institutions and other actors. Sometimes, such efforts also extended to other leaders and role models, such as women community leaders and public and elected officials, including at the local level (Brunei Darussalam, Costa Rica, Czechia, Germany, Jamaica, Turkey, Zimbabwe).

42. Member States reported on a range of efforts to strengthen the digital literacy of girls and women. Malta promotes the European Computer Driving Licence, a computer skills certification programme, for women and girls. The United Kingdom promotes girls' and women's digital literacy through its development cooperation efforts, in partnership with private sector mobile providers. Those living in underserved areas have been a target of government investments, including through travelling outreach programmes such as a "Cyber Caravan" (Mauritius) and by providing girls and women refugees with computer skills (Azerbaijan).

43. Governments increasingly recognize ICT and education in science, technology, engineering and mathematics as necessary for successful learning, as a basis for active and informed citizenship and as drivers for achieving the Sustainable Development Goals (Australia, Jamaica). Member States have improved the overall ICT infrastructure in schools, including for enhanced learning in science, technology, engineering and mathematics (Jamaica, Jordan, Paraguay, Turkey). The availability of ICT at school is also important for girls, who may lack such access at home. Steps have also been taken to integrate learning and skills development in the area of ICT and science, technology, engineering and mathematics into educational strategies as part of efforts to bring more girls and women into the related studies and career pipeline. Such skills are also seen as necessary for reducing and eliminating occupational segregation and economic barriers for women (Argentina).

44. Educational systems also contribute to addressing stereotypes, bias and unconscious bias around girls and science, technology, engineering and mathematics and ICT, including by engaging with teachers, instructors and teacher training institutions and communities. Shifting the perceptions, assumptions and attitude about girls and women in science, technology, engineering and mathematics has involved redesigning pedagogies, curricula and the content used by educators, training on awareness of bias and linking educators with relevant professionals and with industry (Australia, Czechia, Greece, Jamaica, Lithuania, Netherlands, Paraguay). Reaching girls directly to shift their self-perception and confidence in science, technology, engineering and mathematics (Italy, Switzerland), as well as their parents as partners of teachers (Netherlands), have also been key in raising awareness about gender stereotypes.

45. Financial incentives to advance girls' and women's formal education in science, technology, engineering and mathematics have also been put in place, such as free education for those enrolled at the advanced level in those areas of studies, with affirmative action to ensure access for women (Zimbabwe) and a science, technology, engineering and mathematics academy and fund to reach indigenous girls in particular (Australia).

46. Awareness of ICT and science, technology, engineering and mathematics and related skill development initiatives outside of the formal educational system have complemented the school-based curricula, sometimes being undertaken through partnerships with industry and universities. Targeted at young women, such initiatives include coding, seek to challenge negative stereotypes and provide mentoring and role models. Programmes, initiatives and competitions, such as a commitment by the Group of 20, known as "#eSkills4Girls" (Germany), TeacHer (Costa Rica), TechFuture Girls, Techmums, Mums in technology (which as a good practice provides free child care) and Digigirlz (United Kingdom), Curious Minds and Girl Geek Academy (Australia), Engineer Girls of Turkey (Turkey), Código X and Girls Power Tech (Mexico), #ChicasProgramadoras (Argentina), a science, technology, engineering and mathematics mentoring network and youth start-up weekend, organized by OECD in Mexico (Mexico), the development of applications (Brunei Darussalam) and support from professional associations such as the Federation of German Employers' Associations in the Metal and Electrical Engineering Industries (Germany) provide a range of opportunities and approaches.

C. Promotion of women in information and communications technology and media sectors, including in decision-making

47. The agreed conclusions called for equal opportunities for women and their participation in different categories and all levels of work in ICT and media sectors. In response, Member States have directed outreach and awareness-raising efforts at women, including young women, encouraging them to pursue more advanced ICT studies and skill development and to enter into related careers. Campaigns, such as Girls in ICT Day,[41] are being implemented in many countries (Brunei Darussalam, Costa Rica, Italy, Jamaica, Malta, Netherlands, Romania, Switzerland, Trinidad and Tobago). Other examples are the European "e-skills" and "Get online" weeks, where girls learn about digital skills for employment (Latvia), the "Women and girls go digital" campaign of the European Union Grand Coalition for Digital Jobs (Greece) and the development of a platform that provides information on vocational and academic opportunities in ICT, as well as through the development of a "Pact for women in science, technology, engineering and mathematics" partnership with industries that reaches out to girls and their families on career opportunities (Germany). Working directly with career counsellors and providing guidance to them on how to better recruit young women (Lithuania), including content in the form of a website and a campaign on how to avoid stereotypes in presenting and discussing job opportunities (Germany) has also advanced the issue. With regard to media, Jamaica deploys efforts within universities to highlight career opportunities within the media sector to young women.

48. Supporting women to build more advanced and in-demand skills in ICT through vocational and higher education has also been a priority. In addition to breaking down occupational segregation and generating economic opportunities for women, this is also necessary to meet workforce gaps in ICT.

49. In the area of higher education, guidelines and policies on promoting women in non-traditional university studies have been instituted (Switzerland), goals to bring more women into ICT and science, technology, engineering and mathematics sectors have been integrated into national education and career development strategies

[41] See www.itu.int/en/ITU-D/Digital-Inclusion/Women-and-Girls/Girls-in-ICT-Portal/Pages/Portal.aspx.

(Australia, Greece), and scholarships for women in such studies provided at the tertiary level (Australia, Greece, Mexico, Trinidad and Tobago).

50. Governments have also focused on increasing vocational and technical training for women in ICT and science, technology, engineering and mathematics skills (Lithuania, Netherlands, Switzerland). Technical training has been provided to women as part of lifelong learning strategies and programmes (Greece, Switzerland). In order to make technical training attractive and responsive to women, ICT industry organizations and technical training schools are working with women role models, undertaking gender audits of curricula and reducing bias and stereotypes (Netherlands, United Kingdom). The United Kingdom has set a target of 50 per cent enrolment of women in its National College for Digital Skills. Vocational education for women in male-dominated technology careers has also been a priority of development cooperation (Germany).

51. An example of good practice is a programme that sought to increase women's employment in ICT through multiple avenues such as outreach to schools, technical job training for young women, increased visibility of women in technology and technology job schemes with the private sector (Jordan).

52. Recruitment efforts targeted at women already in science, technology, engineering and mathematics studies and careers are also being implemented. The Ministry of Economic Affairs and Communications in Estonia is actively reaching out to women through its website, whereas Czechia has tasked science and research bodies with developing career systems and selection processes that are non-biased and support women's advancement. In Switzerland, a toolkit has been developed for use by universities on how to recruit women to research positions in science, technology, engineering and mathematics.

53. Measures have also been taken to retain and promote women once they are in ICT employment or entrepreneurial tracks. Such measures include the identification of models of supportive career paths and structures, which were shared with companies for implementation (Germany), addressing gender pay gaps (Australia, Estonia), instituting practices around flexible working arrangements and awareness-raising regarding parental leave (Australia), supporting women's re-entry into the workforce after extended career breaks (United Kingdom), the accreditation of employers who support gender equality (Australia), the training of company employees in male-dominated science, technology, engineering and mathematics sectors on combating bias and stereotypes (Lithuania), and supporting women in science, technology, engineering and mathematics research (Switzerland). Women-headed businesses and women innovators have also been supported through grants and incubation programmes (Australia, Jordan).

54. In order to support women advancing within the media sector, professional associations are playing an important role, including through holding workshops and conferences and providing mentoring (Germany). In the context of its development cooperation, Germany has provided women journalists the opportunity to gain practical experience through specially created publishing platforms.

55. In order to implement the call for the provision of management, negotiation and leadership training, actions have included training for women in leadership skills and critical competencies (Jordan, Lithuania), structural changes to help women professors advance in the science system through a programme entitled "Women to the top" (Germany), and the creation of directories of women in technology and media with a view to helping them secure high-level appointments (Malta).

56. In the media sector, countries have implemented capacity-building programmes for professional women to participate in decision-making processes and training in

new technologies (Jamaica). Women journalists have been recognized through awards (Uganda), and young journalists and women journalists have been trained in leadership skills (Mongolia, Zimbabwe). Awareness of gender issues has been raised within media institutions, both among decision makers and others in the workforce (Greece, Mongolia, Slovenia). Jordan reported on a subregional project, supported by Sweden and Norway, to address gender imbalance in media in middle and senior management positions. Towards this end, women were given the opportunity to gain skills and develop strategies and support networks so as to foster their becoming leaders.

57. Member States also worked towards increasing the number of women in the workforce as well as in leadership positions through special measures. These include the issuance of directives on equal representation in state-owned enterprise boards (Italy, Zimbabwe) and government-subsidized salaries for young women in technology jobs (Jordan, Mexico). Czechia is exploring positive measures to promote higher representation of women in science and research and in bodies responsible for the creation of national policies and decision-making in universities and research institutions.

D. Strengthening the evidence base

58. The agreed conclusions highlighted the need for research into all aspects of the impact of the media and ICT on women and girls, for good practices and for more and better data. Data availability remains a challenge, as only 39 per cent of countries produce regular gender statistics on information and communications technologies and 15 per cent on gender and media.[42]

59. At the same time, efforts are under way to help address those challenges and to build a robust evidence base through adequate data collection and research and analysis. Gender statistics on ICT and media are being captured under a range of modalities. A number of countries reported that in their annual statistical collections, gender statistics as well as data reflecting linkages between science, technology, engineering and mathematics and ICT with the labour force and education are included (Australia, Czechia, Jamaica, Latvia, Netherlands, Slovenia). Slovenia aligns its data collection with European Union model questionnaires and Eurostat norms pertaining to household surveys on individual and household use of ICT. In one example, the collection of such data is promoted through an inter-agency committee on gender statistics (Philippines). Data are also collected in the context of national frameworks such as Switzerland's information society agenda, Australia's national innovation and science agenda and Jamaica's national development plan and gender strategy.

60. Data collection on gender statistics, science, technology, engineering and mathematics/ICT and media contributes to the monitoring of the implementation of the Beijing Platform for Action (Latvia). Through its participation in the science, technology, engineering and mathematics and gender advancement project of UNESCO, Argentina also monitors progress in these areas.

61. The collection of gender statistics on ICT and media is sometimes also part of periodic or special undertakings, including on topical issues such as e-skills (Slovenia), girls in science, technology, engineering and mathematics studies (Australia, Netherlands, Slovenia) and the gender pay gap (Estonia). Research and data needs can also drive data collection (Czechia), including on attitudes about

[42] E/CN.3/2013/10.

gender roles (Estonia). Given the importance of measuring the impact of ICT and media on women's empowerment, Switzerland and Australia reported on capturing statistics on women's use of ICT and the benefits derived therefrom.

62. Governments also developed guidance on gender statistics, such as Mongolia's gender-sensitive indicators for media. Various platforms make relevant data more accessible. These include a national evidence base that brings data on gender issues and science, technology, engineering and mathematics education across different levels of study together to better understand the related pathways (Australia), as well as observatories on aspects of gender and ICT education (Italy), gender, ICT and media indicators (Jamaica), and on mainstreaming a gender perspective in government policies around critical area of concern J of the Beijing Platform for Action (Greece).

63. Research studies were conducted to inform policy and action, including in the areas of internet applications and their use (Switzerland), and women in science, technology, engineering and mathematics, ICT, innovation and employment and entrepreneurship (Germany, Greece, Jordan). In the context of media, research focused on gender stereotypes and media representation and their effects on young women and their choices (Netherlands, Turkey), the harmful effects of portrayals of sexism and violence (Netherlands, Turkey), language and prejudice, the opinions of media professionals (Germany, Netherlands) and the history of women's representation and women in media, as well as media monitoring of women's ownership of media businesses and related barriers (Germany, Jamaica). Impact analysis has also been applied to media trainings, gender mainstreaming in ICT and the impact of the implementation of legislation (Czechia, Jamaica, Lithuania).

64. Such efforts are complemented and enhanced through a number of global multi-stakeholder efforts. The Partnership on Measuring of ICT for Development,[43] a multi-stakeholder group to follow up on World Summit commitments, includes a working group on gender, which seeks to better understand the different ways in which men and women experience ICT and to present a more accurate picture of the scope and intensity of the gender-based digital divide. The Working Group issued a report on existing and proposed indicators on gender and ICT access, education and employment, as well as the use of ICT for economic and social development.[44] ITU also maintains statistics on women's access to ICT as called for under the agreed conclusions, which will also contribute to tracking progress on target 5.b and other targets of the Sustainable Development Goals.[45]

65. The recently established Equals Partnership brings together United Nations system entities, governments, the private sector and civil society organizations to advance gender equality in the digital age. Its core mandate is to raise awareness, secure action-oriented commitments and identify and replicate good practices through coalitions around policy, leadership and skills.[46] Its dedicated research component will carry out primary research and collect secondary data on gender equality and track progress towards the Equals Partnership goals. It will produce an annual report on the state of digital gender equality, the first of which is to be published in 2018.

[43] See www.itu.int/en/ITU-D/Statistics/Pages/intlcoop/partnership/default.aspx.

[44] United Nations Conference on Trade and Development, *Measuring ICT and Gender: An Assessment* (New York and Geneva, 2014), available from http://unctad.org/en/PublicationsLibrary/webdtlstict2014d1_en.pdf.

[45] See www.itu.int/en/ITU-D/Statistics/Documents/statistics/2017/Individuals using the Internet by gender_corrected.xls.

[46] See www.equals.org and the action map www.equals.org/actionmap.

66. The Global Alliance on Media and Gender of UNESCO is at the forefront of data collection, monitoring and knowledge-sharing.[47] UNESCO also developed gender-sensitive indicators for media and the global survey on gender and media,[48] which are important contributions to strengthening the data and evidence base on women and the media.

67. Other new knowledge-sharing and collaborative partnerships include the #eSkills4Girls initiative launched by the Group of 20 under Germany's presidency in 2017 and in partnership with United Nations system entities and OECD. In addition to creating flagship projects on gender digital equality, the initiative seeks to collect and disseminate information, policy recommendations and good practices on education and employment in the digital economy.[49]

V. Conclusions, recommendations and future priorities

68. The agreed conclusions of the forty-seventh session of the Commission on the Status of Women strengthened the normative framework on women's access to and participation in ICT and the media and provided the impetus for other intergovernmental processes to subsequently address the issue.

69. Since the adoption of the agreed conclusions, Member States and other stakeholders have enhanced policy frameworks, built new partnerships, expanded data collection and addressed new and emerging issues. However, significant implementation gaps remain that require urgent attention, in particular in the context of the commitments made in the 2030 Agenda for Sustainable Development and the focus on ICT in the Sustainable Development Goals.

70. Implementation efforts have concentrated on women's participation in the ICT sector, including in decision-making, women's and girls' education and training in science, technology, engineering and mathematics, and subsequent employment opportunities, the use of ICT in education and the economy and the representation of women and girls in and through media. Areas such as online violence and the harassment of women and girls received increased attention.

71. Globally, the persistent and even widening gender gaps in ICT access and usage, declining enrolment of women and girls in computer science, in some regions, and virulent forms of online violence against women are significant concerns that need to be addressed.

72. In order to address these concerns, Member States and other stakeholders are encouraged to take a comprehensive and integrated approach to promoting gender equality and the empowerment of all women and girls and their human rights in the digital age, especially through the following measures:

(a) Strengthen linkages among, and align the implementation of, national sustainable development, ICT and gender equality strategies and action plans, and

[47] See www.unesco.org/new/en/communication-and-information/crosscutting-priorities/gender-and-media/global-alliance-on-media-and-gender/homepage/.

[48] See UNESCO, *Gender-Sensitive Indicators for Media: Framework of Indicators to Gauge Gender Sensitivity in Media Operations and Content* (Paris, 2012), available from www.unesco.org/new/en/communication-and-information/resources/publications-and-communication-materials/publications/full-list/gender-sensitive-indicators-for-media-framework-of-indicators-to-gauge-gender-sensitivity-in-media-operations-and-content/ and www.unesco.org/new/en/communication-and-information/crosscutting-priorities/gender-and-media/women-make-the-news-2016/facts-and-figures/.

[49] See www.eskills4girls.org/.

include targets, time frames and allocate resources for achieving those strategies and plans; enhance collaboration among relevant ministries and national gender equality mechanisms; and apply gender-responsive budgeting in ICT and media sectors;

(b) Prioritize the closing of the gender gap in ICT access and use, including by expanding affordability, providing community access models and ensuring women's control over technology resources (for example, access to and use of mobile phones);

(c) Ensure that girls' and women's access to ICT effectively contributes to their empowerment through their increased participation in the development of content, applications, products and services that meet women's needs and promote their empowerment; support such efforts through government funding and programmes; and build partnerships and directly engage with and support women's organizations in such efforts;

(d) Work with the technology and ICT sectors to enhance attention to the gender-specific impact of digital products and services and to give priority to the needs of women and girls; and anticipate and leverage emerging opportunities in technology for gender equality and the empowerment of women and girls;

(e) Reflect girls' and women's differentiated experiences and needs in the making, implementation and monitoring of policy relating to ICT and media, and strengthen related capacities;

(f) Address existing and emerging threats, including online violence against women and girls, violations of privacy and the gender-specific implications of artificial intelligence, as well as automation and other disruptors of sectors that have a disproportionate impact on women and girls, in collaboration with women's organizations, the ICT community and other stakeholders;

(g) Take targeted measures, including temporary special measures, to increase the number, retention and promotion of women in ICT and media sectors and in science, technology, engineering and mathematics, including in employment and entrepreneurship;

(h) Increase the quality and scope of digital literacy efforts to encompass women's ability to contribute to content development and applications of ICT, including through coding, as well as to understand implications relating to privacy, security, data use and the societal impacts of ICT;

(i) Strengthen efforts to eliminate gender stereotypes and social norms and practices that discriminate against women and girls in ICT and media, and strengthen the use of ICT and the media for such change;

(j) Improve the collection, compilation and dissemination of gender statistics and analysis on all aspects of women's and girls' access to, use of and participation in ICT and media; increase evidence regarding the impact of ICT on gender equality and the empowerment of women;

(k) Support and engage in global and regional partnerships that seek to deepen understanding, knowledge-sharing and action on gender-responsive ICT and media, including through the development of innovative approaches and the replication and scaling of proven practices, so as to accelerate the realization of gender equality and the empowerment of all women and girls.