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General debate: population, education and sustainable development

Review of programmes and interventions for the implementation of the Programme of Action of the International Conference on Population and Development in the context of population, education and sustainable development

Report of the Secretary-General

Summary

Education is a key determinant of development, and relevant for all age cohorts throughout the life cycle. It is among the most powerful predictors of both population health and well-being and national economic growth. The education of women and girls, in particular, contributes significantly to the health and survival of children and the eradication of child marriage, early childbearing and unplanned pregnancy. It provides a critical pathway to women's economic and social empowerment. The Transforming Education Summit (2022) underscored key challenges to achieving universal access to secondary education, reaching those furthest behind, improving the quality of education and expanding lifelong learning. In the present report, the Secretary-General reviews programmes addressing many of these challenges, including efforts to improve infrastructure and the number of qualified teachers, achieve gender equality in all levels of schooling, support the adoption of health and sexuality education, reduce the digital divide and increase lifelong-learning among older persons.

* E/CN.9/2023/1.



I. Introduction

1. In 1994, in its Programme of Action, the International Conference on Population and Development emphasized the centrality of universal access to quality education to sustainable development, both as a component of well-being and as a source of personal dignity and empowerment, enabling people to claim their rights and make choices for their lives. These values have been reaffirmed by numerous agreements,¹ and the 2022 Transforming Education Summit.

2. In the Programme of Action, the International Conference on Population and Development calls for the elimination of gender inequalities in primary and secondary education and the provision of formal and informal education on population and health issues, including sexual and reproductive health. It recognizes the need to address the barriers to education, especially in the least developed countries, with assistance from the international community.

3. Under the Millennium Development Goals, countries throughout the world made substantial gains in primary school coverage, including for girls, and primary school enrolments are now close to equitable for boys and girls. Sustainable Development Goal 4 builds on the progress of the Millennium Development Goals and focuses greater attention on achieving universal secondary education, improving pedagogies and the quality of education and advancing lifelong learning.

4. Education is central to the achievement of most of the Sustainable Development Goals.² If all adults completed secondary education, an estimated 420 million people could be lifted out of poverty (Goal 1).³ Girls' education is among the most effective investments to promote women's empowerment, improve population health and the fulfilment of sexual and reproductive health and rights (Goals 3 and 5). Education is a means to improve employability (Goal 8), achieve behavioural change for sustainable consumption (Goal 12) and raise environmental awareness (Goal 13 and 14). Several countries have also acknowledged the value of education on water knowledge (Goal 6) and energy efficiency (Goal 7) and the link between education, governance and peace (Goal 16).⁴

Shortfalls in progress: the unfinished agenda

5. Achieving Sustainable Development Goal 4, universal, inclusive and equitable quality education and promoting lifelong learning opportunities for all, will be a formidable task. Despite impressive progress, in the last school year before the onset of the coronavirus disease (COVID-19) pandemic, nearly half of all children globally were not enrolled in pre-primary education, and 59 million children of primary school age, 62 million adolescents of lower secondary age and 138 million youth of upper secondary age were still out of school.⁵ After progress in the early 2000s, these figures have improved little over the past decade.⁶

¹ See, inter alia, Addis Ababa Declaration on Population and Development in Africa beyond 2014, Montevideo Consensus on Population and Development and Incheon Declaration for Education 2030.

² A/70/1; and <https://sdgs.un.org/goals>.

³ United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics, "World poverty could be cut in half if all adults completed secondary education", 19 June 2017.

⁴ UNESCO, *Beyond Commitments: How Countries Implement SDG 4* (Paris, 2019).

⁵ See <https://uis.unesco.org/en/topic/out-school-children-and-youth>.

⁶ UNESCO, *Global Education Monitoring Report 2021/2: Non-State Actors in Education – Who Chooses? Who Loses?* (Paris 2021).

6. Deep inequities in education coincide with other forms of disadvantage, perpetuating a cascade of inequalities for adolescent girls, persons with disabilities, those living in remote areas, persons of African descent, Indigenous populations, the incarcerated and those affected by humanitarian crises.

7. The shortfalls for women and girls are particularly notable. Among children of primary school age who never go to school, three quarters are girls, and girls still face more barriers than boys at primary level. Globally, approximately 5.5 million more primary-school-age girls than boys were out of school in 2018; in sub-Saharan Africa, 128 primary-school-age girls were out of school for every 100 boys.⁷ While gender equality in secondary and post-secondary schools varies widely between countries, it continues as a battleground over women's civil and political rights, as for example currently in Afghanistan. Among adults the education shortfalls are decidedly female: of 770 million adults worldwide who are illiterate, two thirds are women.⁸

8. Enrolment shortfalls are compounded by profound deficiencies in infrastructure, digital access, modern pedagogy and qualified teachers. An estimated 69 million additional teachers are needed to reach universal enrolments by 2030. Multiple system failures are evident in recent learning outcomes, with up to 70 per cent of children in poor countries unable to read a basic text by the age of 10.⁹ Many schools are simply not equipping young people with the problem solving, technical knowledge and skills or learning habits needed to thrive in a rapidly changing world; many also lack access to health education, including empowering life skills in reproductive health, relationship-building and equitable gender norms.

9. The COVID-19 pandemic both exacerbated and illuminated the education crisis. Prolonged school closures due to COVID-19 affected the majority of the world's students, and further slowed efforts to achieve universal schooling.¹⁰ Although the long-term impacts are unclear, preliminary evidence suggests that the disruption adversely affected learning outcomes, especially in vulnerable and disadvantaged communities. The pandemic has also contributed to widespread cuts to education budgets, dealing a severe blow to the achievement of Sustainable Development Goal 4 by 2030.¹¹

II. Why education matters

10. The economic development benefits of education, in particular secondary school education, cannot be overemphasized. In a study of 146 nations a 5 per cent to 12 per cent increase in economic growth was documented for each additional year of schooling in the population from 1950 to 2010.¹² In another it was found that the increase in educational attainment accounted for approximately 50 per cent of economic growth – 2.1 per cent per year on average for 30 countries from 1960 to 2008, with more than half of the growth attributable to increased female educational attainment.¹³ In newer studies it is emphasized that learning outcomes are even more strongly associated with economic growth than attainment.

⁷ See <https://unstats.un.org/sdgs/report/2020/Goal-04/>.

⁸ See www.un.org/sustainabledevelopment/education/.

⁹ UNESCO Institute for Statistics, "More than one-half of children and adolescents are not learning worldwide", fact sheet No. 46, September 2017.

¹⁰ UNESCO, Global Education Monitoring Report 2021/2 (see footnote 6).

¹¹ Jasmine De Leon, "7 things we learned about COVID's impact on education from survey of 800 schools", *The 74*, 19 July 2022.

¹² Gene B. Sperling and others, *What Works in Girls' Education: Evidence for the World's Best Investment* (Washington, D.C., Brookings Institution Press, 2016).

¹³ Ibid.

11. For populations with a young age structure, a demographic dividend is made possible by fertility decline, but only if the demographic transition coincides with major investments in human capital, including education.¹⁴ For ageing populations, a second demographic dividend is possible only where lifelong health and learning have allowed people to accumulate wealth, and they can invest in society as entrepreneurs, mentors and leaders. The first and second demographic dividends are inseparable – and both demand that every person has access to education.

12. Education enhances women's agency, enabling them greater autonomy in decision-making and more power to act, even where gender norms are restrictive.¹⁵ Education is one of the most powerful tools for reducing the likelihood of girls and women experiencing harmful practices or gender-based violence. Girls with little or no education are three times as likely to marry by the age of 18 as those with a secondary or higher education,¹⁶ and women with at least a secondary level education are less likely than their less-educated peers to experience violence. In part, this reflects parallel effects of education on men, as men with at least a secondary education are less likely than their less-educated peers to perpetrate violence.¹⁷

13. Education contributes to healthier families through multiple pathways. Educated women are more likely to access and use modern contraception, plan the timing of children, use skilled birth attendants, experience fewer complications during childbirth and have lower risks of maternal mortality.^{18,19,20} Comprehensive sexuality education further reduces risks of early and unplanned pregnancy, increases young people's skills at negotiating relationships and significantly reduces the risks of acquiring sexually transmitted infections, including HIV.^{21,22}

14. The impact of women's education on population health is evident in its dramatic effects on their health-seeking, improving both their own and their children's health (see E/CN.9/2023/2). Women who complete primary school are more likely than those with no education to seek health care for their children: with increased women's education, both child immunization rates and child nutrition improve.²³ These directly impact child survival. In sub-Saharan Africa the under-5 mortality rate is nearly twice as high for mothers with no education as for those who have completed secondary school.²⁴ Men's education also contributes, but to a lesser degree, and if both women and men had secondary education, under-5 mortality would fall by an estimated 5 per cent worldwide.²⁵

15. In the labour market, education increases women's access to jobs in the formal sector, reduces vulnerable employment and reduces gender wage inequality.²⁶ This is

¹⁴ *Global Population Growth and Sustainable Development* (United Nations publication, 2021).

¹⁵ Ibid.

¹⁶ See www.unfpa.org/icpd/education-health.

¹⁷ Zonta International, "Addressing gender-based violence through education", 24 November 2020.

¹⁸ Caroline H. Bledsoe and others, eds., *Critical Perspectives on Schooling and Fertility in the Developing World* (Washington, D.C., National Academies Press, 1999).

¹⁹ Jahar Bhowmik, Raaj Kishore and Nurjahan Ananna, "Women's education and coverage of skilled birth attendance: an assessment of Sustainable Development Goal 3.1 in the South and Southeast Asian region", *PLoS One*, vol. 15, No. 4, article No. e0231489 (2020).

²⁰ Abigail Weitzman, "The effects of women's education on maternal health: evidence from Peru", *Social Science and Medicine*, vol. 180 (May 2017).

²¹ UNESCO and others, *International Technical Guidance on Sexuality Education: An Evidence-Informed Approach* (Paris, UNESCO, 2018).

²² United Nations Population Fund (UNFPA), *The Evaluation of Comprehensive Sexuality Education Programmes: A Focus on the Gender and Empowerment Outcomes* (New York, 2015).

²³ UNESCO, *Teaching and Learning: Achieving Quality for All* (Paris, 2014).

²⁴ Sperling and others, *What Works in Girls' Education* (see footnote 12).

²⁵ UNESCO, *Teaching and Learning*.

²⁶ Sperling and others, *What Works in Girls' Education* (see footnote 12).

particularly crucial for women in low-income countries, where they are disproportionately employed in vulnerable employment without benefits. Education is also associated with healthy ageing, although long-term effects are difficult to distinguish from the myriad of other consequences of better schooling²⁷ (see [E/CN.9/2023/2](#)).

16. For children with disabilities, school enrolment offers more than the knowledge and skills that they need to prosper, but provides access to school-based special-education and can help shield them from isolation.²⁸ For Indigenous persons, education is a powerful tool for inclusion and equity. In conditions of humanitarian crisis or among displaced populations, education can be life-sustaining, bringing normalcy and protecting children's emotional well-being.²⁹ Among the incarcerated, those who participate in prison-based education have significantly lower recidivism rates and increased chances of employment upon release.³⁰

17. In the context of the fifty-sixth session of the Commission on Population and Development, the present report highlights programmes addressing education and sustainable development. Interventions are reviewed for impact, highlighting programmes that warrant greater investment. The report should be regarded as a companion piece to the report of the Secretary-General on population, education and sustainable development ([E/CN.9/2023/2](#)).

III. Improving participation and learning outcomes

18. A wide range of interventions are implemented by Governments and development partners to improve participation and learning outcomes. Child-centred programmes target children directly, focusing on improving their ability to benefit from schooling or their incentives and motivation for investing in their education. Such interventions include school feeding programmes or school-based health and merit scholarships. Household-level interventions are aimed at removing financial household-level barriers to education, providing incentives for households to invest in the education of their children. They include conditional and unconditional cash transfers and the targeted engagement of parents. School-level interventions are focused on infrastructure, teaching and the learning environment. They include investments in new schools and materials, training and retaining teachers and pedagogy.

Early childhood care and education

19. Sustainable Development Goal target 4.2 and its indicators, 4.2.1 and 4.2.2, affirm the global commitment to universal early childhood care and education. Addressing the period from birth to 8 years of age, early childhood care and education capitalizes on a period of rich brain development, shaping the holistic development of the child.³¹ It lays the foundation for health, social-emotional learning and economic productivity throughout life. Programmatic evidence suggests that early childhood care and education is one of the best investments that a country can make

²⁷ Stephanie R. Psaki and others, "Does education improve health in low- and middle-income countries? Results from a systematic review", GIRL Centre Research Brief, No. 5 (New York, Population Council, 2019).

²⁸ United Nations Children's Fund (UNICEF), *Seen, Counted, Included: Using Data to Shed Light on the Well-Being of Children with Disabilities* (New York, 2021).

²⁹ Nancy Kanwal, "The protective role of education", Education Cannot Wait, April 2019.

³⁰ UNESCO, *Global Education Monitoring Report 2020: Inclusion and Education – All Means All* (Paris, 2020).

³¹ UNESCO, "What you need to know about early childhood care and education", 27 January 2023.

to become a lifelong learning society and boost sustainable development. It also frees parents' (especially the mother's) time for formal work and thereby brings economic gains for families and the country.

20. Despite the evidence of individual social and economic benefits, early childhood care and education is often underfunded in education budgets, with marginalized groups suffering acute exclusion. For instance, only 3 per cent of development assistance to crisis-affected countries and 2 per cent of humanitarian funding goes to providing quality early childhood programmes or services.³² In 2019, 75 per cent of children globally were enrolled in pre-primary education one year before the official primary entry age, but in sub-Saharan Africa and in Northern Africa and Western Asia, the rate was approximately 50 per cent. In low- and middle-income countries, differentials in attendance rates showed a huge disadvantage for rural areas and households in the lowest quintile compared with urban areas and households in the wealthiest quintile.

21. Plan International and Equimundo offer programmes that promote men's engagement in early childhood development, with significant benefits to the health and development of children, fathers and their partners.³³ Early childhood care and education programming that encourages fathers' engagement strengthens paternal-child bonding, and gender equality in parenting.

22. Interventions that integrate protection and nurturing care – health, nutrition, safety and security, responsive caregiving, and early learning – can mitigate multiple risks to development.³⁴ Such programmes include the “Educate Your Child” programme in Cuba, a community-based, family-centred intervention with the objective of developing and improving the emotional communication, intelligence, language, motor development, health and nutrition of children up to the age of 6.³⁵ Currently, the programme accounts for two thirds of the nearly 700,000 Cuban children below the age of 6 who are enrolled in early childhood care and education,³⁶ and children participating in it fare better in all areas of development compared with non-participants. Similar interventions are now being replicated in Brazil, Chile and Ecuador and the Bolivarian Republic of Venezuela.

23. In Mozambique, the Ministry of Education is collaborating with Save the Children to promote a community preschool programme with strong results in increasing school readiness and facilitating the transition to primary school.³⁷ Communities provide land and labour to construct classrooms and commit to establishing a committee for managing the preschools. Assessments show a 43.9 per cent increase in preschool enrolment among children aged 3 and 4, a 14.6 per cent increase in cognitive development scores and a 10.2 per cent increase in primary school enrolment. Key dimensions of successful early childhood care and education interventions include their early engagement with households, efforts to improve parenting and the emphasis on shared responsibility among government, communities and families.

³² See www.unesco.org/en/education/early-childhood.

³³ Promundo and Plan International, *Promoting Men's Engagement in Early Childhood Development: A Programming and Influencing Package* (2021).

³⁴ Pia R. Britto and others, “Nurturing care: promoting early childhood development”, *The Lancet*, vol. 389, No. 10064 (January 2017).

³⁵ Early Learning Partnership, “Promising approaches in early childhood development: early childhood development interventions from around the world”, March 2017.

³⁶ See www.unicef.org/cuba/en/quality-early-childhood-education.

³⁷ Early Learning Partnership, “Promising approaches in early childhood development”.

Primary and secondary education

24. Primary and secondary enrolments have hardly changed in the past decade, and gender differentials in enrolment have also stalled since 2012 in sub-Saharan Africa, Northern Africa and Western Asia.³⁸ Promoting timely enrolment and completion are also critical (Sustainable Development Goal indicator 4.1.5),³⁹ as delayed enrolment leads to delayed completion. Key policy actions to increase participation include: making education compulsory, as it is in 159 countries;⁴⁰ guaranteeing free education through secondary school; adding school feeding programmes in locations of food insecurity; improving infrastructure and pedagogy; and eliminating barriers that deny education to pregnant girls, young parents, children with disabilities, migrants, refugees or displaced children.

Addressing cost

25. The most effective interventions for increasing school participation are those that reduce the cost of schooling.⁴¹ Only 53 per cent of countries guarantee free education through secondary school.⁴² Important as they are, policies for reducing school fees need to be accompanied by programmes that also address indirect costs such as school uniform and transport to school and prepare for increased enrolments by ensuring added infrastructure, materials and teaching support. Otherwise, higher student-teacher or student-material ratios can result in reduced quality, leading to dropouts or declines in enrolment. When Kenya removed fees, the sudden increase in class sizes worsened teaching and learning conditions, and families with means moved their children from public to private schools.⁴³

26. To determine the benefits of free secondary education, research in Ghana tracked students who randomly received secondary school scholarships for eight years. Scholarships increased educational attainment, knowledge, skills and health behaviours, while reducing fertility.⁴⁴ At the age of 25, scholarship winners were 55 per cent more likely to have completed secondary school and scored significantly better in reading and mathematics. Women had fewer children, and scholarship winners were 30 per cent more likely to have enrolled in tertiary education; women almost doubled their tertiary enrolment. Scholarships for students admitted to vocational tracks increased their earnings by 19 per cent by the age of 25.⁴⁵

27. Evidence shows consistent positive effects of cash transfers across all school participation outcomes, including enrolment, attendance, retention, school progression and completion rates, but not on learning outcomes.^{46,47} Factors that mediate the outcomes of programmes include the size of the transfer vis-à-vis the age of the child, whether the household, mother or student receives the transfer and the quality of education available.

³⁸ UNESCO, *Global Education Monitoring Report 2022: Gender Report – Deepening the Debate on Those Still Left Behind* (Paris, 2022).

³⁹ See https://tcg.uis.unesco.org/wp-content/uploads/sites/4/2020/09/SDG4_indicator_list.pdf.

⁴⁰ UNESCO, *Global Education Monitoring Report 2021/2* (see footnote 6).

⁴¹ Ibid.

⁴² Ibid.

⁴³ Birte Snilstveit and others, *Interventions for Improving the Access to Education in Low- and Middle-Income Countries: A Systematic Review* (London, International Initiative for Impact Evaluation, 2015).

⁴⁴ Esther Duflo, Pascaline Dupas and Michael Kremer, *The Impact of Free Secondary Education: Experimental Evidence from Ghana*, NBER Working Paper No. 28937 (Cambridge, Massachusetts, National Bureau of Economic Research, 2021).

⁴⁵ Ibid.

⁴⁶ Snilstveit and others, *Interventions for Improving the Access to Education* (see footnote 43).

⁴⁷ If the quality of education remains poor, the impact on learning outcomes will be limited.

28. Programmes that are explicitly conditional, monitor compliance and penalize non-compliance have substantially larger effects than those with no conditions or conditions that are not monitored. In the Zomba cash transfer experiment in Malawi, girls who were monitored for compliance and penalized for non-compliance had a 60 per cent improvement in the odds of enrolment compared with an 18–25 per cent improvement for those who received unconditional transfers or were not monitored for compliance.⁴⁸

29. The Más Familias en Acción (More Families in Action) programme of Colombia serves 2.7 million poor families, with cash transfers conditional upon both children's school attendance and health service use. It targets poor families with children under 18 years of age from Indigenous and displaced communities.⁴⁹ An evaluation of the programme found that it did not increase the enrolment of children aged 7 to 13 because their enrolment rates were already high (above 90 per cent). However, for the 14–17 age group, enrolment increased 14 per cent in urban areas.⁵⁰

30. Scholarship programmes can benefit all students to facilitate attendance in times of economic shocks, as in Indonesia during the Asian financial crisis and among lower income students in Cambodia and girls in Western Kenya.⁵¹ The Japan Fund for Poverty Reduction Scholarship Program in Cambodia, which provided scholarships to girls in the sixth grade (the last year of primary school), increased their secondary school enrolment and attendance by approximately 30 per cent. The effects were largest for the most disadvantaged – girls from the poorest households, girls from households with lower parental education levels and those who lived far from a secondary school.⁵²

Increasing infrastructure and geographical access

31. Inadequate school infrastructure is a major obstacle to universal, quality education. For example, in sub-Saharan Africa, secondary schools are currently sufficient to accommodate only 36 per cent of qualifying secondary students.⁵³ Relevant interventions include building new schools, including community schools,⁵⁴ and increasing the scale of and access to online learning. Geographical proximity to schools is crucial, especially for the youngest children. In Ethiopia, when the number of primary schools was doubled in five years, there was a widespread increase in school enrolment rates, especially among girls.⁵⁵ Studies have also shown that having a secondary school nearby increases the likelihood that students will complete primary school.⁵⁶

32. The increasing availability of geospatial population data, collected in a majority of countries for the first time during the 2020 round of population and housing census, provides Governments with new data to rationalize the optimal location of schools. When georeferenced population data are combined with the geotagged location of schools, Governments can estimate the distance that children must travel to schools, project subnational population growth and plan school locations accordingly.

⁴⁸ Sperling and others, *What Works in Girls' Education* (see footnote 12).

⁴⁹ UNESCO, *Global Education Monitoring Report 2020* (see footnote 30).

⁵⁰ Orazio Attanasio and others, *Baseline Report on the Evaluation of Familias en Acción* (London, Institute for Fiscal Studies, 2004).

⁵¹ Snilstveit and others, *Interventions for Improving the Access to Education* (see footnote 43).

⁵² Sperling and others, *What Works in Girls' Education* (see footnote 12).

⁵³ Africa-America Institute, "State of education in Africa report 2015: a report card on the progress, opportunities and challenges confronting the African education sector", 2015.

⁵⁴ UNESCO defines community schools as schools that open beyond ordinary hours for use by students, their parents and the community at large.

⁵⁵ Sperling and others, *What Works in Girls' Education* (see footnote 12).

⁵⁶ UNESCO, *Global Education Monitoring Report 2021/2* (see footnote 6).

33. Establishing community schools in remote areas increases enrolments as well as improves performance. For example, in remote areas in the Balochistan province of Pakistan, community schools enrolled 87 per cent of the girls, compared with the provincial average of 18 per cent. In Bangladesh, community schools run by the Bangladesh Rural Action Committee account for 50 per cent of total enrolment in rural areas and have led to increased enrolment, attendance and completion.⁵⁷ A 16-country review in Africa affirms that community schools increase enrolment, retention and quality, and, on average, have lower dropout rates. In Upper Egypt, a joint United Nations Children's Fund (UNICEF) and Ministry of Education initiative implemented community schools through local non-governmental organizations (NGOs), resulting in increased access to primary education for girls in rural hamlets, and improved academic performance overall, with 97 per cent of fifth graders passing national exams, compared with 73 per cent of students in public schools. Given the success of the programme, the Government is applying lessons learned to its public schools.⁵⁸

Double-shift schooling

34. Insufficient school infrastructure has turned Governments to double-shift schooling as a means to accommodate increased enrolments. Two groups of students attend the same school, but one in the morning and one in the afternoon or evening. The practice is widespread throughout Latin America and Africa. Double-shift schools reduce overcrowding, maximize the use of limited resources, allow working students to attend school in the evenings and generate more earnings for teachers. Double shifts are especially useful when countries receive a large influx of displaced students into the school system. In Jordan and Lebanon, for example, double-shift schools have been essential to providing Syrian children with access to education.

35. However, where students spend less time in class than their peers, it can result in reduced learning, and where double shift schools serve predominantly poor populations, it can increase inequities.⁵⁹ School systems do best if they compensate for reduced teaching and learning time, for example by extending the school year or adding more school time in a week, adding summer school and/or adding pedagogies for remote learning, including self-directed learning.

Tertiary education

36. The economic returns for tertiary education graduates are the highest in the entire educational system – an estimated 17 per cent increase in earnings as compared with 10 per cent for primary and 7 per cent for secondary education.⁶⁰ However, the quality, relevance and affordability of tertiary institutions varies considerably within and across countries.

37. Globally, participation in tertiary education reached 236 million (123 million women and 113 million men) in 2020, more than double that of 2000.⁶¹ Despite this increase, the overall enrolment ratio (Sustainable Development Goal indicator 4.3.2)⁶² is only about 40 per cent, ranging from 9 per cent in sub-Saharan Africa to 80 per cent in Europe and Northern America. While increasing in absolute terms, access to tertiary education remains low among the most vulnerable population

⁵⁷ Sperling and others, *What Works in Girls' Education* (see footnote 12).

⁵⁸ Ibid.

⁵⁹ Toby Linden, "Double-shift secondary schools: possibilities and issues", Human Development Network, Secondary Education Series, working paper No. 22861 (Washington, D.C., World Bank, 2001).

⁶⁰ See www.worldbank.org/en/topic/tertiaryeducation.

⁶¹ UNESCO, *Global Education Monitoring Report 2021/2* (see footnote 6).

⁶² See footnote 39.

groups, for instance, only 5 per cent of qualifying refugees are enrolled in institutions of higher learning.⁶³

38. In all regions except sub-Saharan Africa, more females than males are now enrolled in tertiary education. Globally, the gender parity index for tertiary enrolments was 114 women enrolled per 100 men in 2020. In sub-Saharan Africa, 78 women are enrolled for every 100 men.⁶⁴

39. Demand for quality tertiary education will continue to rise in regions such as sub-Saharan Africa, Northern Africa and Western Asia, Latin America and South Asia, owing to the dramatic increases in graduation rates from secondary education⁶⁵ and population growth in sub-Saharan Africa and South Asia. In Africa, the expansion of tertiary education, in particular at PhD level, partly reflects pressure at the national level to upgrade the qualifications of higher education staff.⁶⁶ In South Africa, the Government set a target of 75 per cent PhD holders among permanent university faculty by 2030. In Senegal, a PhD qualification became mandatory for all teacher-researchers in public universities as part of the 2012 *licence-maîtrise-doctorat* reform.

40. Programmes that offer counselling and advisory services are crucial for connecting and preparing students from disadvantaged groups for higher education. In the United States of America, students who benefit from one-on-one counselling are more than three times as likely to attend college and almost seven times as likely to apply for financial aid as those who do not. A growing number of programmes use virtual models and peer-counselling with success. For example, College Possible programmes offer counselling via telephone, text or email. College Advising Corps uses videoconferencing, and a programme in New York City uses college students as near-peer counsellors.⁶⁷

41. Well-designed financing mechanisms can be cost-effective and lead to significant increases in enrolment and graduation; student loans, scholarships and grants are common instruments for such financing. In Colombia, a World Bank-funded programme, ACCES, provided tertiary education loans to 400,000 qualifying students from underserved communities from 2012 to 2017, increasing the proportion of students from disadvantaged backgrounds from 58 to 64 per cent, with women representing 57 per cent of beneficiaries.⁶⁸

42. Concerns have been raised about the social and economic impact of student debt.⁶⁹ A promising policy reform has been to shift from time-based to income-contingent repayments. A growing number of countries have adopted full or partial income-contingent loan systems,⁷⁰ including Australia, Ethiopia, Hungary, the Netherlands, New Zealand, the Republic of Korea, South Africa, the United States and the United Kingdom of Great Britain and Northern Ireland.⁷¹

43. Apprenticeships are another means to deliver technical and vocational education and training outside of school, responding to skills shortages and boosting school-to-work transitions and youth employment.⁷² Targeted provision of such training was

⁶³ UNESCO, “What you need to know about higher education” (see footnote 31).

⁶⁴ UNESCO, *Global Education Monitoring Report 2022* (see footnote 38).

⁶⁵ See www.worldbank.org/en/topic/tertiaryeducation (see footnote 60).

⁶⁶ Ibid.

⁶⁷ UNESCO, *Global Education Monitoring Report 2022* (see footnote 38).

⁶⁸ World Bank, “Increasing Access to Tertiary Education for Disadvantaged Youth in Colombia”, 18 December 2020.

⁶⁹ UNESCO, *Global Education Monitoring Report 2021/2* (see footnote 6).

⁷⁰ When the regular (e.g., monthly) amount to be paid by the borrower depends on his or her income.

⁷¹ UNESCO, *Global Education Monitoring Report 2021/2* (see footnote 6).

⁷² UNESCO, *Global Education Monitoring Report 2022* (see footnote 38).

embedded within the 2018–2022 Jordan Response Plan for the Syria Crisis, “Provision of technical and vocational education and training for Jordanian and Syrian Youth”⁷³ graduating hundreds of youth and supporting a further 500 Syrian refugees and vulnerable Jordanian women with life skills and training for entrepreneurship.⁷⁴ Despite evidence that technical and vocational education and training boosts economic inclusion and growth, it remains underfunded, in particular in low-income countries, where only 1 per cent of young people benefit.⁷⁵

Digitalization

44. Ensuring that all learners have the digital skills to succeed in today’s world is of global importance. However, digital inequalities were brought into sharp relief during the COVID-19 pandemic. Working with private sector partners, UNICEF Project Connect maps the real-time connectivity of every school in the world, as a means to locate those left behind and support Governments to connect all schools to the Internet. The project has georeferenced 2.1 out of an estimated 6 million schools globally, mapped connectivity information for 332,000 schools across 43 countries and found that only half of these have Internet connections.

45. The digital divide is especially pronounced for women and girls. Globally, women are 21 per cent less likely to be online compared with men, rising to half as likely in the least developed countries.⁷⁶ This digital exclusion does more than prevent women from accessing online education. It prevents them from participating in the digital economy, stifling economic growth. Using data from 32 low and lower-middle-income countries, representing 70 per cent of total gross domestic product (GDP) of all such countries, the Alliance for Affordable Internet estimates that these countries cumulatively lost over \$1 trillion in GDP from 2011 to 2020 as a result of women’s exclusion from the digital world, and the loss is projected to surpass \$1.5 trillion by 2025.⁷⁷

46. Numerous NGO initiatives are dedicated to breaking the gender digital divide. The “Girls Who Code” programme has offered training to 500,000 girls in Canada, India and the United States, using Clubs, a virtual summer immersion programme and “Code From Home” activities.⁷⁸ The #eSkills4Girls Fund provides financial resources to local initiatives providing gender-sensitive skills training throughout the global South. The United Nations Educational, Scientific and Cultural Organization (UNESCO), through financial support from Intel, Prada and other partners, is also enhancing girls’ digital skills for learning using role models and mentorship.⁷⁹

Science, technology, engineering and mathematics

47. Science, technology, engineering and mathematics education is crucial to assure a workforce capable of capitalizing on new technologies and addressing present and emerging complex global challenges.⁸⁰ Inclusive problem solving requires equitable access to science, technology, engineering and mathematics education, yet girls and women remain underrepresented in such education and careers. In tertiary education, female students account for only 35 per cent of those enrolled in science, technology,

⁷³ See <https://en.unesco.org/fieldoffice/amman/TVET-Higher-Education>.

⁷⁴ Ibid.

⁷⁵ UNESCO, *Global Education Monitoring Report 2022* (see footnote 38).

⁷⁶ Alliance for Affordable Internet, “The costs of exclusion: economic consequences of the digital gender gap”, 2021.

⁷⁷ Ibid.

⁷⁸ See <https://girlswhocode.com/2021report/#work>.

⁷⁹ See www.unesco.org/en/gender-equality/education/stem.

⁸⁰ Soo Boon Ng, *Exploring STEM Competences for the 21st Century*, In-Progress Reflection, No. 30 (UNESCO International Bureau of Education, 2019).

engineering and mathematics-related fields of study worldwide,⁸¹ and women are especially underrepresented in engineering, manufacturing and construction, mathematics and statistics.

48. UNESCO uses role models and mentors to boost women participation in science, technology, engineering and mathematics,⁸² building on country-level partnerships with Airbus, HNA, Intel, L'Oréal, Prada and WomEng. In Kenya, annual scientific camps of excellence for mentoring girls in science, technology, engineering and mathematics⁸³ have been identified by the United Nations as good practice that warrants replication and scaling.

Improving teacher training and pedagogy

49. Worldwide, 69 million teachers (24.5 million in primary and 44.3 million in secondary education) are currently needed to reach universal education by 2030. The largest deficit is in sub-Saharan Africa,⁸⁴ where needs will increase further as populations of school-age children continue to rise (see [E/CN.9/2023/2](#)). National investments in teacher training, recruitment and retention are sorely needed to keep pace with demand, especially given the low level of official development assistance provided for education (see [E/CN.9/2023/4](#)).

50. Where teachers' own education has been poor, they enter the profession lacking core subject knowledge. Ghana has teacher trainees pass an examination on subject knowledge in their first year, before they can continue training.⁸⁵ Teacher shortages result in qualified teachers being assigned to teach subjects outside their areas of expertise. Such out-of-field teaching has detrimental consequences on learning, including heavy reliance on textbooks and prepared materials and lack of creativity in the classroom.⁸⁶ Dedicated preparation of teachers for neglected subjects requires proactive attention by Governments: Ireland, for example, implemented a Professional Diploma in Mathematics for Teaching programme, reducing out-of-field mathematics teaching from 48 to 25 per cent from 2009 to 2019.⁸⁷

51. Structured pedagogy programmes have the largest, most consistent positive effects on learning outcomes,⁸⁸ with key elements including: student materials; daily lesson plans; teacher training; and ongoing support to teachers, such as coaching and/or communities of practice.⁸⁹ In Liberia, when a third of grade 2 students were unable to read, the Government implemented an in-service teaching training programme, followed by two years of classroom-based support. The programme showed a 130 per cent increase in reading comprehension among students of participating teachers.⁹⁰

52. Shortages of qualified teachers and large student-teacher ratios can be addressed through deliberate teacher distribution incentives. For example, the Republic of Korea assigns more qualified and experienced teachers to disadvantaged areas. Over three quarters of teachers in villages have at least a bachelor's degree, compared with

⁸¹ UNESCO, *Cracking the Code: Girls' and Women's Education in Science, Technology, Engineering and Mathematics (STEM)* (Paris, 2017).

⁸² See www.unesco.org/en/gender-equality/education/stem.

⁸³ See www.unesco.org/en/articles/unesco-inspires-girls-kenya-embrace-science-and-engineering-through-scientific-camps-excellence.

⁸⁴ UNESCO, "Transforming education from within: current trends in the status and development of teachers – World Teachers' Day 2022", 2022.

⁸⁵ UNESCO, *Teaching and Learning* (see footnote 23).

⁸⁶ UNESCO, *Global Education Monitoring Report 2021/2* (see footnote 6).

⁸⁷ Ibid.

⁸⁸ Snilstveit and others, *Interventions for Improving the Access to Education* (see footnote 43).

⁸⁹ Benjamin Piper and others, "Structured pedagogy: how-to guides and literature review", 2021.

⁹⁰ UNESCO, *Teaching and Learning* (see footnote 23).

32 per cent in large cities, and 45 per cent have more than 20 years of experience, compared with 30 per cent in large cities. Teachers working in remote or disadvantaged schools can be incentivized through additional stipends, smaller class sizes, less teaching time, the chance to choose their next school after teaching in a difficult area and promotion opportunities.

Addressing social barriers

53. Marginalized youth, including those living in remote areas including small islands, those living in poverty, children with disabilities, displaced, migrant or refugee children and Indigenous young people and those from neglected minorities, need education programmes that address their specific learning needs, which may include remedial education, language training and social or cultural support. Remedial education is an important means for allowing students to catch up if early learning was substandard, or when students arrive from different education systems. Remedial programmes are frequently attached to secondary or tertiary schools, testing and providing entering students with opportunities to recover learning.

54. Pregnant girls and young mothers and fathers are often unable to remain in school to complete their education. At least 30 African Union countries now have laws, policies or strategies to protect the right of pregnant students and adolescent mothers to education.⁹¹ Since 2019, at least five of these countries have either revoked restrictive or discriminatory policies or adopted laws or policies that allow pregnant students and adolescent mothers to stay in school under certain conditions.

55. *Abriendo Oportunidades* (Opening Opportunities) has been implemented in Guatemala for almost two decades, and expanded to Belize and Mexico. The programme trains girl leaders to run community-based girls' clubs and creates safe spaces in rural communities where Mayan girls, aged 8 to 18, receive a rights-based curriculum on gender, sexual and reproductive health and life skills. The programme increases participation of *Abriendo* girls in school, and reduces early childbearing.⁹²

56. School-based and community-based menstrual education and free or subsidized menstrual products can support girls' enrolments. However, these interventions work best when part of comprehensive sexuality education programmes that address broader psychosocial and economic barriers to menstrual health. In South Africa, the Government approved the Sanitary Dignity Implementation Framework in 2019, to ensure access to free sanitary products among indigent girls and women to protect, restore and maintain their dignity.

57. An estimated 246 million children and adolescents experience violence, including bullying, in and around school each year, with girls and those perceived not to conform to prevailing sexual and gender norms disproportionately affected.⁹³ To ensure safe and inclusive learning environments, UNESCO advocates a comprehensive school health approach. Efforts to increase awareness about school violence and bullying include the declaration of the first Thursday of November of every year as International Day against Violence and Bullying at School, including Cyberbullying. Important interventions include: strengthening legal frameworks to protect children and punish perpetrators; making teachers aware of codes of conduct and the penalties for violating them; and implementing no tolerance policies, reporting procedures and links to services and counselling.⁹⁴ In Kenya, the National Union of Teachers worked

⁹¹ Human Rights Watch, "Africa: rights progress for pregnant studies", 29 September 2021.

⁹² See www.popcouncil.org/research/abriendo-oportunidades-opening-opportunities.

⁹³ See <https://en.unesco.org/themes/school-violence-and-bullying>.

⁹⁴ UNESCO and United Nations Entity for Gender Equality and the Empowerment of Women, *Global Guidance on Addressing School-Related Gender-Based Violence* (Paris and New York, 2016).

with the Teachers' Service Commission, Ministry of Education and Children's Department to draft a parliamentary bill that reinforces procedures for reporting abuse or violence by teachers and requires that teachers convicted of sexual offences against a pupil be deregistered rather than transferred to other schools. A range of penalties is available to discipline teachers in breach of professional conduct, including suspension and interdiction.

Migrants

58. An objective of the Global Compact for Safe, Orderly and Regular Migration is ensuring that Member States recognize migrants' and refugees' right to education in law and fulfil this right in practice. Legislation that guarantees such rights increases the likelihood that they will be fulfilled. Under the Russian Federation Constitution and education law, every child has the right to education. Foreign citizens, including recognized refugees and stateless persons, enjoy equal rights to free public preschool, primary basic and general secondary education.⁹⁵

59. In some cases, adjustments to laws and policies may be needed to reduce discrimination in practice, as schools may require documents that are missing for migrants and refugees (e.g., birth certificates, education credentials, identification papers or proof of residency). Education may need to be tailored for migrants and refugees. Ireland, where immigrants represented 15 per cent of the population under 15 in 2015, developed an Intercultural Education Strategy, aimed at supporting language and cultural proficiency.⁹⁶ The needs of children in nomadic and pastoral cultures, and those whose parents migrate seasonally for work, can be addressed through flexible admissions, adjusting education to seasonality and establishing residential schools and/or mobile schools. In Kenya and Somalia, teachers travel with nomads to deliver education. Pastoralist field schools in Djibouti, Ethiopia, Kenya, South Sudan and Uganda teach courses focused on livestock management and mitigating the effects of climate change. The needs of refugee children with disabilities can be addressed by making new refugee camps accessible to existing services in host or refugee communities. For example, the Uganda National Association of the Deaf runs schools for hearing-impaired children near two refugee settlements.

Education in crisis-affected settings

60. In crisis-affected populations, education is about more than the right to learn: it can be lifesaving and life-sustaining. Paradoxically, despite the enormous benefits to children, societies and entire countries, education is often the first service suspended and the last to be restored during a crisis, and it is acutely underfunded, receiving less than 3 per cent of humanitarian aid on average.⁹⁷ Staff shortages prevent education systems from meeting children's many needs in emergency settings, while data gaps hinder programmatic adjustments. According to the United Nations global fund for education in emergencies and protracted crises, Education Cannot Wait, 222 million crisis-affected children and adolescents need education support globally, and the number is increasing.⁹⁸ Of these children, nearly 120 million are in school, but not achieving minimum proficiency in maths or reading.

⁹⁵ UNESCO, *Global Education Monitoring Report 2019: Migration, Displacement and Education – Building Bridges, not Walls* (Paris, 2018).

⁹⁶ Ibid.

⁹⁷ See www.unicef.org/education/emergencies.

⁹⁸ Education Cannot Wait, "Global estimates: number of crisis-affected children and adolescents in need of education support", June 2022.

61. Education Cannot Wait programming addresses educational needs of children and adolescents in emergency settings using different types of context-specific assistance, including upgraded learning spaces, teacher training, learning materials, school feeding, financial support and psychosocial support. Since 2018, Education Cannot Wait has mobilized \$1.089 billion and its programmes have reached 6.9 million child refugees and internally displaced persons and trained 84,000 teachers in 41 crisis-affected countries.⁹⁹ UNICEF¹⁰⁰ and UNESCO¹⁰¹ support Governments in implementing the Safe Schools Declaration and Guidelines for Protecting Schools and Universities from Military Use during Armed Conflict.

Health education

62. The Programme of Action of the International Conference on Population and Development included an objective to introduce and improve the content of curricula to promote greater responsibility and awareness on the interrelationships between population, sustainable development and health issues, including reproductive health and gender equity, and “to encourage attitudes in favour of responsible behaviour in ... areas such as environment, family, sexuality, reproduction, gender and racial sensitivity”.¹⁰²

63. With the advent of the HIV epidemic, the promotion of sexuality and gender education took on life-saving urgency, and experience in HIV-endemic countries demonstrated the significant public health value of providing information on HIV and sexually transmissible infections in a context in which negotiation skills, gender roles and risks and young women’s right to bodily autonomy were also addressed.¹⁰³

64. Over the years, such education has been given a variety of names, including health education, education for health and well-being, family life education, life skills education, sexual and reproductive health education, sex and relationship education, respectful relationships education, sex education and comprehensive sexuality education. Many of these terms underscore the value of including topics beyond reproductive health, contraception and sexually transmitted infections, and address important issues of gender and power, relationships, discrimination, violence, the right to bodily autonomy, healthy life habits, negotiation and peacebuilding.

65. There continues to be a wide variety of titles and content available across countries, yet its essence is to develop the health knowledge, negotiation skills, non-discriminatory values and attitudes and agency that enable young people to lead healthy and fulfilled lives, develop respectful relationships, make informed decisions and thrive in increasingly diverse and rapidly changing societies. Sexuality education helps young people delay sex, reduces the frequency of unprotected sexual activity and increases their adoption of contraception,¹⁰⁴ thereby reducing adolescent and unplanned pregnancy, reducing the risk of sexually transmitted infections including HIV and changing discriminatory gender norms. Such education must be age and developmentally appropriate, but also culturally relevant and context appropriate. To be most effective, evidence shows that it should be gender-transformative,¹⁰⁵ rights-

⁹⁹ Education Cannot Wait, Main Results Dashboard, available at www.educationcannotwait.org/impact-results/main-results-dashboard.

¹⁰⁰ See www.unicef.org/education/emergencies.

¹⁰¹ UNESCO, “What you need to know about education in emergencies”, 13 June 2022.

¹⁰² See A/CONF.171/13/Rev.1.

¹⁰³ Abigail Harrison and others, “HIV prevention for South African youth: which interventions work? A systematic review of current evidence”, *BMC Public Health*, vol. 10, No. 102 (2010).

¹⁰⁴ UNESCO and others, *International Technical Guidance on Sexuality Education* (see footnote 21).

¹⁰⁵ UNFPA, Gender Strategy (2022). Gender-transformative approaches are defined as analysis of root causes of gender inequality, and a commitment to (a) develop initiatives that sustainably change the conditions enabling those root causes and (b) promote gender equality.

based and comprehensive,¹⁰⁶ and include training to help teachers clarify their values before addressing sensitive topics with learners.¹⁰⁷

66. In recent years, more and more countries have broadened their curricula in related areas. Sustainable Development Goal indicator 5.6.2 provides for Governments' self-reports on their laws and regulations related to different components of reproductive health care, including the extent to which a Government has laws and regulations to provide comprehensive sexuality education. The latest self-reports from 148 countries indicate that 66 per cent have the requisite policies or laws in place to make sexuality education a mandatory component of the national school curriculum.

67. In 2021, 20 Eastern and Southern African countries reaffirmed and expanded their joint 2013 Eastern and Southern Africa Commitment to promote adolescent sexual and reproductive health and committed to ensuring that 95 per cent of adolescents and young people are reached with good-quality, age-appropriate, culturally relevant and evidence-based sexuality education by 2025. The Commitment is aimed at increasing the coverage of comprehensive sexuality education and access to sexual and reproductive health services, thereby reducing unintended pregnancies and eliminating child marriage and gender-based violence among young people in the region.

68. Program H, a community education approach developed in Brazil to promote gender equitable attitudes and behaviours among young men has now been implemented in India, the United Republic of Tanzania, Croatia, Viet Nam and countries in Central America. Small groups of boys are provided with regular interactive educational sessions over four to six months, combined with advocacy and lifestyle social marketing aimed at changing community norms. Yaari-Dosti, the Indian version, resulted in a significant positive shift from "low gender equity" attitudes to "moderate" and "high gender equity" attitudes. Communication with a partner about condoms, sex, sexually transmitted infections and/or HIV more than doubled in rural sites, condom use at last sex increased 1.9 times in urban and 2.8 times in rural areas, relative to control sites, and self-reported violence against a partner declined significantly.¹⁰⁸

69. Governments need to take into account the changing ways that young people pursue learning on sensitive topics, and provide content accordingly. Online resources on comprehensive sexuality education are now widely available in varied formats and languages, in particular since the onset of the COVID-19 pandemic. Websites such as Amaze.org provide a large repository of short, animated videos that are translated and adapted for local use by education ministries, NGOs and school systems throughout the world. In India, the Centre for Catalysing Change (C3) partners with a dating application reaching 9 million subscribers, providing access to information on sexual and reproductive health and rights in an entertaining and easy-to-understand format. As information on comprehensive sexuality education and related content are increasingly accessible online, the responsibility of Governments to assure quality information is increasingly important.

¹⁰⁶ UNESCO and others, *International Technical Guidance on Sexuality Education* (see footnote 21).

¹⁰⁷ UNFPA, *The Evaluation of Comprehensive Sexuality Education Programmes* (see footnote 22).

¹⁰⁸ Ravi K. Verma and others, "Promoting gender equity as a strategy to reduce HIV risk and gender-based violence among young men in India", 2008.

Adult education and lifelong learning

70. Research has shown that high educational attainment across all ages is the most powerful predictor of economic growth.¹⁰⁹ As people live longer, healthier lives, many will want to work longer, presenting an opportunity for Governments, employers and people to reimagine what it means to earn and learn over a lifetime.¹¹⁰

71. The greatest challenge in adult learning and education is reaching those who need it most. In all countries, participation is highest among those who already have a solid educational base and income, but lowest among those with little or no education (see E/CN.9/2023/2). Globally, over 770 million adults, most of whom are women, are illiterate, and many more lack the skills and knowledge required to navigate the demands of a digital twenty-first century,¹¹¹ and in nearly half of all countries, lifelong learning accounts for less than 2 per cent of education budgets.¹¹²

72. Community learning centres are a common source for adult learning. They provide literacy and post-literacy classes, vocation-oriented programmes, cultural and leisure courses and second-chance education, as well as thematic training on issues ranging from health to business skills. In anticipation of a 100-year life expectancy, in 2018 Japan developed its Third Basic Plan for the Promotion of Education, including continuing education, and nearly 15,000 centres nationwide now offer classes. The Governments of Malaysia, the Philippines, Singapore, Thailand and Viet Nam have each developed e-learning systems that provide formal and workplace learning. The Republic of Korea developed its own large-scale open online course (K-MOOC) to provide lifelong learners and job seekers, as well as young people and college students, with access to reliable and excellent higher education content.¹¹³

Data for universal, inclusive and quality education

73. Policies for the successful implementation of Sustainable Development Goal 4 need to be anchored on reliable, timely, high-quality population and education data. A national statistics system that combines regular censuses, household surveys and fully functional civil registration and vital statistics systems is an essential foundation for allowing Governments to anticipate the demand for education services and to rationalize the optimal location of educational infrastructure, including schools, and the related demand for teachers. In many countries, in particular in the global South, civil registration and vital statistics systems are not yet fully functional, and require serious investment. For example, an estimated 290 million children under the age of 5 lack a birth certificate, making them invisible to Governments.¹¹⁴ Despite progress in the past 20 years, 41 per cent of countries, representing 13 per cent of the global population, have not had a household survey since 2014 to provide disaggregated data on key education indicators; the region with the lowest coverage is Northern Africa and Western Asia.

74. Standardized metrics on learning outcomes are crucial for tracking and comparing progress within and between countries on the quality of education, and thereby guiding Governments on needed improvements. While high-income countries routinely participate in comparative rankings of school quality through surveys, such as the Organisation for Economic Co-operation and Development (OECD)

¹⁰⁹ Wolfgang Lutz, Jesus Crespo Cuaresma and Warren Sanderson, “The demography of educational attainment and economic growth”, *Science*, vol. 319, No. 5866 (February 2008).

¹¹⁰ See www.aarpinternational.org/initiatives/future-of-work/living-learning-and-earning-longer.

¹¹¹ UNESCO, “The right to lifelong learning: why adult education matters”, 16 June 2022.

¹¹² UNESCO Institute for Lifelong Learning, *5th Global Report on Adult Learning and Education: Citizenship education – Empowering Adults for Change* (Hamburg, 2022).

¹¹³ See www.kmooc.kr/about.

¹¹⁴ Leah Selim, “What is birth registration and why does it matter?”, UNICEF, 10 December 2019.

Programme for International Student Assessment, which offer a valuable means for tracking shortfalls and progress, very few developing countries participate to date. All Member States would benefit from having their students participate in such assessments.

IV. Recommendations

75. Consistent with the vision and values of the Programme of Action of the International Conference on Population and Development, Governments and development partners are encouraged to recognize the transformative role of education for sustainable social and economic development and the fulfilment of the Sustainable Development Goals, and to provide the necessary investments in infrastructure, digitization and teachers, to ensure that every child, regardless of circumstance or location, has access to quality early childhood care and education and primary and secondary education.

76. Domestic financing should be mobilized to address shortfalls in education infrastructure, digitization and quality teaching. Supplementary finance from official and private aid should cover recurring expenditures in the poorest countries, to ensure that schools provide essential facilities and equipment and to increase the recruitment, training and distribution of teachers.

77. Governments are encouraged to capitalize on the latest georeferenced population census data to identify where enrolments are low, where future population growth demands new schools and develop long-term investment plans to serve all school-age children in the coming decades.

78. Governments are encouraged to adopt national laws, policies and programmes to assure universal access to quality schooling for out-of-school young people, pregnant girls and young mothers and fathers, students with disabilities, Indigenous and minority children, children living in remote or nomadic circumstances and migrants, refugees and children displaced by crises.

79. Governments are encouraged to make early childhood care and education, primary and secondary education compulsory and free, and to consider conditional cash transfers as an enrolment incentive in the poorest communities and to promote gender equality in schools; and, where enrolments are increasing, to assure corresponding investments in infrastructure, digitization and quality teaching.

80. Governments are encouraged to adopt globally recognized tools to track learning outcomes at all levels of schooling, and act upon such data to improve pedagogy and the quality of education, including through the redistribution of teachers to reach those furthest behind.

81. Member States are encouraged to invest in programmes that overcome sociocultural and pedagogical barriers to participation in science, technology, engineering and mathematics, with targeted attention to women and girls.

82. Member States are called upon to increase awareness about school violence and bullying, to recognize the International Day against Violence and Bullying at School, including Cyberbullying, to strengthen legal frameworks to protect children and punish perpetrators, and to implement no tolerance policies, reporting procedures and links to services.

83. Governments are encouraged to adopt proven strategies to promote the necessary knowledge and life skills for the adoption of healthy life habits; to promote values of gender equality, non-discrimination and healthy relationships;

and to provide comprehensive sexuality education that is rights-based, age-appropriate and consistent with their evolving capacities, and which assures that young people are cognizant of their right to bodily integrity.

84. Governments are encouraged to implement the Recommendation on Adult Learning and Education of UNESCO by offering to adults of all ages formal and non-formal learning opportunities to make up for shortfalls in childhood education, to improve literacy and mastery of digital communication and provide new skills and active participation in work and community.
