



General Assembly

Distr.: General
27 July 2022

Original: English

Seventy-seventh session

Item 22 (d) of the provisional agenda*

Eradication of poverty and other development issues: human resources development

Human resources development

Report of the Secretary-General

Summary

The present report was prepared in response to General Assembly resolution [74/236](#). Since the adoption of that resolution, the global community has encountered a number of external shocks, such as the onset of the devastating coronavirus disease (COVID-19 pandemic), the spread of war and armed conflict and the increasing effects of climate change and environmental destruction, which all endanger the implementation of the 2030 Agenda for Sustainable Development. In the report, the Secretary-General presents some policy recommendations for consideration by the Assembly and discusses the impact of the aforementioned trends on some key elements of human resources development, such as health, education, work and digitalization.

* [A/77/150](#).



I. Key messages and policy recommendations

1. Human resources development is an essential component for sustainable development that will be of benefit to all. It has been at the forefront of the United Nations development agenda for many decades, preceding the 2030 Agenda for Sustainable Development. On the occasion of the fiftieth anniversary of the United Nations, in 1996, the General Assembly recognized that human resources development enlarged the choices available to people in developing their lives and fulfilling their aspirations and reaffirmed that it was an essential means of achieving sustainable development goals (Assembly resolution [50/105](#)).

2. Since the previous report on human resources development ([A/74/284](#)) was submitted to the General Assembly, there have been deep changes in the human condition. The coronavirus disease (COVID-19) pandemic, armed conflicts and the effects of climate change have each had deep impacts on people's well-being, their ambitions and their aspirations. As set out below, those shocks have affected people's health, the way people learn, the way people work and, ultimately, how people live together as a global community. A renewed and concerted effort to reinvest in and rebuild human capacities will be essential in order to recuperate the ground lost in human achievement.

3. The development of human resources is essential for promoting sustainable development for all and for enabling the fulfilment of individual potential and aspirations. Although long-term country-level data indicate that overall progress appears to have been made in many areas, including in the achievement of the Sustainable Development Goals, that progress has been hampered by many disruptions related to the COVID-19 pandemic, and data on different groups, including with regard to human resources, indicate trends of global divergence with regard to achievements.

4. Political commitments, scientific progress and advocacy by many stakeholders have provided the foundations for decades of advancements in human resources development. People live longer; children and adults have better access to education, with significant reductions in gender gaps; and the world of work has benefited from technological advancements through growth and increased productivity. In addition, the increase of digital spheres as a component of everyday life has provided new opportunities for people. However, those positive developments have generally benefited the most advantaged communities more than others, both within and across countries. As indicated above, various external shocks and trends in recent years have increased that tendency.

5. Unexpected challenges, such as the pandemic and armed conflicts, as well as the effects of climate change, have deeply affected individuals' lives and well-being. The impact of those challenges on food security, an essential component of human resources development, will be felt in the foreseeable future. Already, those shocks have had the greatest impact on vulnerable groups, causing increased inequalities and hampering the implementation of the 2030 Agenda for Sustainable Development and the achievement of long-term sustainability.

6. Beyond those shocks, long-term developments, such as increased migration and new patterns thereof, shifting demography, urbanization and technological advancements, are likewise affecting the lives of people globally. On the other hand, they can be harnessed as new opportunities to rethink and overcome structural barriers. To that end, education is not only a goal, but also an essential catalyst for reaching other goals. Integrating such competencies as critical and creative thinking and sustainable awareness into lifelong education efforts is key to providing for a culture that can harness and enable resilient and adaptable societies in the future. In addition,

technological advancements and digitalization can be used as opportunities to reach learners and workers alike and to create access and new opportunities for them.

7. Long-term resilience for human resources development requires the anchoring of efforts in all parts of societies. To that end, policies must be expanded to include holistic and inclusive efforts in decision-making, implementation and enabling agency. Strategies should include the engagement of all relevant stakeholders. One such strategy is reflected in the One Health approach, by combining measures on climate change, environment, mental well-being and physical health. Another example of such a strategy is the whole-school approach, in which the entire system of teachers, learners and stakeholders, and their interrelationships in and around schools, are integrated with the physical conditions for education. The integration of various parts of society and the involvement of stakeholders in the formulation of responses will promote context-based solutions that should enable higher resilience and local legitimacy and, thus, long-term sustainability.

8. To enhance the success of people-centred, holistic recovery policies, it is necessary to enhance evidence-based knowledge on where to target those efforts. Data expanded from country averages to include measures of disadvantaged groups, as well as geographical, gender-based, economic and other indicators, can provide valuable insights for tailored, inclusive and demand-driven responses.

9. As observed below, cross-border challenges to address human resources development require cross-border solutions, thus rendering multilateral cooperation more important than ever. Human resources development is not an issue for the individual alone, but a question of global solidarity and global well-being. Effective global cooperation depends on inclusive and reciprocal determination to act upon common challenges and adapt societies accordingly.

10. On the basis of recent research and analysis, in the present report, the Secretary-General presents some highlights from the past three years in the areas of health, education and work and outlines how technological changes affect those three spheres. The General Assembly may wish to take the messages and policy recommendations set out herein into consideration when reviewing the report.

II. Good health: the basis for human resources development

11. Health indicators are determinants of human resources development and a crucial factor for all other aspects and achievements of people.¹ They relate to every individual's aspiration and personal growth and therefore have significant repercussions for societies worldwide. In the past few decades, significant gains have been made in global health, through scientific progress, the expansion of service coverage and other factors. The global average life expectancy at birth increased from 66.8 to 73.3 years between 2000 and 2019, with the fastest growth seen in Africa. Since 2000, progress has also been made towards reaching universal health coverage, but at an insufficient pace to achieve the Sustainable Development Goals of the 2030 Agenda. Progress has been fastest for infectious diseases and reproductive, maternal, newborn and child health, and slowest for non-communicable diseases and access-to-service capacities.²

12. Most deaths, or 74 per cent globally, were caused by non-communicable diseases in 2019. Nevertheless, progress has been seen in several areas, including declines in the use of tobacco and in suicide rates. The probability of dying from any of the four main non-communicable diseases (cardiovascular disease, cancer, diabetes

¹ Unless otherwise indicated, information presented in section II is based on [E/2022/55](#).

² World Health Organization (WHO) and World Bank, *Tracking Universal Health Coverage: 2021 Global Monitoring Report* (Geneva, 2021).

and chronic respiratory disease) before age 70 declined slightly, from 19.9 to 17.8 per cent, between 2010–2019. That progress, however, is insufficient to meet the Sustainable Development Goal target.

13. The spread of infectious diseases has been reduced, including a global decline of 39 per cent of HIV infections between 2010 and 2020 and a yearly drop of about 2 per cent in tuberculosis incidents globally, except between 2019 and 2020, which saw the first rise in a decade. Nevertheless, those progress rates are significantly lower than the targets required to achieve the Sustainable Development Goals, and that progress has been disrupted, and in many cases reversed, by the COVID-19 pandemic.

14. Sexual, reproductive and maternal health has likewise improved globally. The proportion of safe births, namely those assisted by skilled health professionals, was, on average, 84 per cent of births during the period 2015–2021, as compared with 77 per cent in the period 2008–2014. However, only 57 per cent of women aged 15–49 make their own decisions on sexual and reproductive health.

15. Levels of malnutrition persist at unacceptable levels, and average diets are not getting healthier, but are, on the contrary, posing increased demands on the environment. More than 40 per cent of all men and women, or 2.2 billion people, are overweight or obese.³ Meanwhile, around 768 million people faced hunger in 2020, an increase of 118 million people as compared with 2019, owing to the pandemic, persisting conflicts and climate change.⁴

16. More than 1 billion people live with some form of disability. That number is expected to grow in the future, owing to demographic shifts and increases in chronic health conditions. People with disabilities often encounter physical, financial and attitudinal challenges to obtaining access to health-care services.⁵

17. On mental health, there has been overall progress in the adoption of policies, improvements of capacities and reporting of core mental health indicators. Nevertheless, people with mental disorders experience disproportionately higher rates of disability and mortality.⁶ The overall global rate of death by suicide declined by 29 per cent between 2000 and 2019, but is nevertheless the second-most common cause of death among young people worldwide, after road accidents.⁷

18. Climate change is now the biggest health threat facing humanity. The changing environment, as a consequence of climate change and environmental crises, is increasingly harming health conditions, through air pollution, extreme weather events and forced displacement, which results in jeopardized access to clean air, safe drinking water and a nutritious food supply. That changing environment is currently estimated to cause around 13 million annual deaths, a number that is expected to increase by approximately 250,000 additional deaths per year between 2030 and 2050.⁸

19. In a nutshell, over the past few decades, before the onset of the pandemic, scientific progress and global awareness had provided for a generally healthier world, in which people live longer and healthier lives. However, conflicts and climate change

³ Development Initiatives, *2021 Global Nutrition Report: The State of Global Nutrition* (Bristol, United Kingdom of Great Britain and Northern Ireland, 2021).

⁴ Food and Agriculture Organization of the United Nations and others, *The State of Food Security and Nutrition in the World 2021: Transforming Food Systems for Food Security, Improved Nutrition and Affordable Healthy Diets for All* (Rome, 2021).

⁵ WHO, “Disability and health”, fact sheet, 24 November 2021.

⁶ WHO, *Comprehensive Mental Health Action Plan 2013–2030* (Geneva, 2021).

⁷ Ibid. See also [E/2022/55](#).

⁸ WHO, “Fast facts: on climate and health”, Climate Action Series, 2021; and “Climate change and health”, fact sheet, 30 October, 2021.

have presented and highlighted new challenges for global health systems. Deep and persisting disparities became visible during the pandemic: such factors as income, gender, education, ethnicity, occupation, living in rural areas and disability made vulnerable groups more exposed, and many groups faced obstacles in obtaining access to health-care services. Similarly, patterns of mental health issues and risks disproportionately affected vulnerable groups, including minority groups, indigenous populations, older people and people living in poverty.

20. Overall, the development of global health, expressed as the “global burden of disease”, is one of many improvements, including increased life expectancy, healthier lives and decreases in age-standardized rates for communicable, maternal, neonatal and nutritional diseases.⁹ The nuances of the global burden of disease reveal that health depends on more than just health systems; it also strongly correlates with sociodemographic factors. Future demographic shifts, such as ageing populations and new patterns of migration, will have a crucial influence on future global health. New and complex demographic circumstances require rethinking health strategies to go beyond matters of health care to embrace a broader approach, taking into account the quality of education, economic growth and its distribution, gender equality and migration policy.

Impact of the pandemic

21. Since early 2020, the COVID-19 pandemic has placed the world in an abrupt and unprecedented health crisis, causing enormous setbacks to human resources development. As at May 2022, according to data compiled by the World Health Organization and the Department of Economic and Social Affairs of the Secretariat, 14.9 million excess deaths have been associated with the pandemic.¹⁰ The virus was transmitted the fastest in areas of high population density, under conditions that made social distancing difficult, turning cities into pandemic epicentres. Consequently, many people in urban areas – including more than 1 billion living in poor and underserved areas – were left highly exposed.

22. Frontline personnel, who were necessary to keep societies functioning, were at a higher risk of transmission. Health-care workers were at the forefront of the pandemic response and accounted for 115,500 deaths globally between January 2020 and May 2021.

23. As vaccines were distributed, large populations increased their resistance to the virus and limited its prevalence. Meanwhile, vaccination rates have revealed great regional and country-based disparities in proportions of people vaccinated. Although 72 per cent were vaccinated with at least one dose in high-income countries, only 18 per cent received at least one dose in low-income countries.¹¹ Countries throughout Africa in particular faced difficulties, having received about 6 per cent of all globally available vaccines, despite accounting for around 17 per cent of the global population.¹² In order to vaccinate 40 per cent of their populations, African countries were required to spend more than 10 per cent of their national health budgets, compared with much of the rest of the world, which needed to spend less than 2.5 per cent of theirs.¹³ Meanwhile, given the high number of unreported cases in Africa and

⁹ *The Lancet*, “Global health: time for radical change?”, editorial, vol. 396, No. 10258 (2020).

¹⁰ WHO, “14.9 million excess deaths associated with the COVID-19 pandemic in 2020 and 2021”, 5 May 2022.

¹¹ United Nations Development Programme (UNDP), Global Dashboard for Vaccine Equity, available at <https://data.undp.org/vaccine-equity> (accessed on 9 June 2022).

¹² Michel Sidibé, “Vaccine inequity: ensuring Africa is not left out”, Brookings, 24 January, 2022.

¹³ UNDP, Global Dashboard for Vaccine Equity.

the fact that natural immunity has proved to be higher than anticipated, the number of deaths recorded in 2022 is expected to be much lower than in 2021.¹⁴

Secondary effects of the pandemic

24. Beyond the health crisis in itself, the pandemic triggered widespread secondary effects. The additional patient load caused stress on health systems and contributed to a scarcity of resources, especially in low-income countries.¹⁵ Globally, infant immunization coverage dropped from 86 per cent in 2019 to 83 per cent in 2020, resulting in a total of 22.7 million children missing out on vaccinations. Malaria deaths increased by 69,000 from 2019 to 2020, owing to a lack of health systems capacity. However, considerable data on the consequences of the disruptions of services are still missing.

25. Mental health issues increased significantly during the pandemic. The prevalence of anxiety and depression increased 25 per cent worldwide. This reflects fear of contracting the virus, disruptions and restrictions to everyday lives and the lack of physical contact with family, friends and colleagues, all while facing uncertain situations with unknown consequences for personal livelihood. Stay-at-home orders and remote work accelerated increases in mental health issues, contributing to stress and anxiety.¹⁶ Likewise, school closures caused an increased risk of domestic violence, child labour and mental health issues. The increase in the prevalence of anxiety and depression for young people aged 10–19 years was disproportionately higher, at around 34 per cent.¹⁷

26. The pandemic has had severe financial consequences on many people's everyday lives, causing financial hardship and constraints on access to health care, which will worsen health protection globally. In that regard, the pandemic is likely to halt two decades of global progress, and the increased costs for health services could push more than half a billion people into extreme poverty.¹⁸ Capitalizing on continued progress in health-care innovations and knowledge, while recovering from the pandemic and overcoming exacerbating inequalities, requires a proactive and holistic approach. By using a One Health approach, future health planning should include recognition of the interconnection between people, animals, plants and their shared environment and involve local, national, regional and global levels through transdisciplinary efforts. As confirmed in the ministerial declaration of the high-level segment of the 2022 session of the Economic and Social Council and the high-level political forum on sustainable development, convened under the auspices of the Council, achieving success in resilient and inclusive health systems requires efforts that target those in greatest need, including pro-poor focused increases in public spending and public health protection support. It is also necessary to harness the power of digital technologies. New technologies have already transformed health care, and new innovations are being developed all the time, with the potential to catalyse the impact and reach of health care.¹⁹

¹⁴ WHO Regional Office for Africa, "COVID-19 deaths in African region to fall by nearly 94% in 2022: WHO analysis", 2 June 2022.

¹⁵ WHO and World Bank, *Tracking Universal Health Coverage*.

¹⁶ International Labour Organization (ILO), "Teleworking arrangements during the COVID-19 crisis and beyond", paper prepared for the Group of 20 Employment Working Group, April 2021.

¹⁷ United Nations Children's Fund (UNICEF), *Where Are We on Education Recovery?* (New York, 2022).

¹⁸ WHO, "More than half a billion people pushed or pushed further into extreme poverty due to health care costs", 12 December 2021.

¹⁹ WHO, *Global Strategy on Digital Health 2020–2025* (Geneva, 2021).

III. The global state of play in education

27. Education enables people to contribute to society and benefit from an inclusive and sustainable future.²⁰ As both a public and a private good, education plays a vital role in the development of knowledge, skills and values. It is thus a fundamental feature of human resources development and a key enabler of social inclusion, economic growth and sustainable development.

28. Historically, achieving universal access to education for all has been uneven. The 2030 Agenda was aimed at overcoming gaps in access to education, by ensuring inclusive and equitable quality education and promoting lifelong learning for all. But despite decades of progress, significant inequalities remain. In 2022, only 19 per cent of students in low-income countries will complete secondary school, compared with 91 per cent in high-income countries.²¹ Three out of four children who are likely never to set foot in school are girls.²²

29. Significant progress has been made on closing gender gaps during the past two decades, and girls tend to outperform boys in general learning.²³ However, other persistent structural barriers remain a problem for addressing gaps. Access and quality of education is lowest in low-income countries and for marginalized groups within countries. With the onset of the pandemic, inequality in educational attainment increased and, in some areas, progress has even been reversed. More than 100 million children fell below proficiency levels in reading and other areas of academic learning in 2020. In that year, the global average of reading proficiency for grades one to eight was 45 per cent, a decrease from 54 per cent in 2019.²⁴

30. The impact of the pandemic on in-person instruction has been varied across countries and communities. While some countries ordered school closures for up to 93 per cent of the total number of instruction days during the pandemic, others remained fully open. In some developing countries, school closures often lasted longer than in developed countries, and typically with a less effective alternative to in-person instructions, owing to technical constraints and limited professional support for teachers providing online learning.²⁵

31. The impact of school closures is likely to be one of the most costly long-term consequences of the pandemic, with potential impacts lasting for generations. A growing body of evidence shows that school closures have resulted in large learning losses, with younger and more marginalized children missing out the most. It is estimated that 147 million children have missed more than half of their in-person instruction in the last two years. In financial terms, those losses can cause a total of \$17 trillion in losses in present value of lifetime earnings for the current generation of children. In addition, in low- and middle-income countries, learning losses due to

²⁰ Unless otherwise indicated, information presented in section III is based on United Nations Educational, Scientific and Cultural Organization (UNESCO), *Global Education Monitoring Report 2021/2: Non-State Actors in Education – Who Chooses? Who Loses?* (Paris, 2021).

²¹ See also UNESCO, Visualizing Indicators of Education for the World, available at <https://education-estimates.org> (accessed on 23 May 2022).

²² UNESCO, *Global Education Monitoring Report 2020: Gender Report – A New Generation: 25 Years of Efforts for Gender Equality in Education* (Paris, 2020).

²³ UNESCO, *Global Education Monitoring Report 2022: Gender Report – Deepening the Debate on Those Still Left Behind* (Paris, 2022).

²⁴ *The Sustainable Development Goals Report 2021* (United Nations publication, 2021).

²⁵ UNESCO, UNICEF and World Bank, *The State of the Global Education Crisis: A Path to Recovery* (Washington, D.C., Paris and New York, 2021).

school closures have left up to 70 per cent of 10-year-olds unable to read or understand a simple text, up from 57 per cent, pre-pandemic.²⁶

Restoring educational access to all

32. In order to advance on Sustainable Development Goal 4, while recovering from the pandemic, there is a need to expand the provision of education, both quantitatively and qualitatively. Efforts to advance with regard to quantitative measures of education include increasing the number of years of education for all groups and ages. Education will also need to be inclusive and targeted in those locations and for those social groups where needs are highest. That includes all marginalized groups and individuals that have missed out on formal education during their formative years. Furthermore, inclusionary efforts must be integrated into other areas of life, in order to promote societies' agility to respond to external shocks, such as those related to climate change and the pandemic. In 2021, gross enrolment in tertiary education reached 39 per cent, having grown about one percentage point per year since 2000. However, that ratio varies significantly across the world, ranging from 9 per cent in sub-Saharan Africa to 78 per cent in Europe and North America.

33. Education must be expanded to reach people living in conflict situations or on the move. Migrants, refugees and internally displaced people are often denied entry to schools, which results in great losses of human potential. Education is often the first door to integration and inclusion into the society of the recipient country. As has been demonstrated in the context of large-scale armed conflicts, children of refugees often present an immediate and urgent demand on education systems in recipient countries. For young refugees, the rapid provision of relevant vocational training opportunities can often create significant benefits for both the refugee population and recipient countries.²⁷

34. It is critical to take note of lessons learned during the pandemic. The increased use of digital technologies has provided evidence containing valuable insights for the future of education. While the overall consequence of school closures caused learning losses and increased inequalities, some useful innovations and strategies that were developed must be expanded and incorporated into recovery policies. If managed wisely, digital education can contribute to reaching more learners, who would otherwise face difficulties in attending education, and to creating alternative learning opportunities.²⁸

Learning for the future

35. Advancing human resources development through increased provision of education is a required but insufficient condition for achieving the Sustainable Development Goals. It is just as necessary to rethink the content of the provided education. As acknowledged in the ambition of Goal 4 and its targets, more than simply ensuring that children make it through the school doors, what happens inside the school is equally important. Education must be continuously renewed to adapt and prepare for new circumstances. Technological changes affect not only the composition of tasks, but also the demand for skills and knowledge.

²⁶ UNICEF, "70 per cent of 10-year-olds in 'learning poverty', unable to read and understand a simple text", press release, 23 June 2022.

²⁷ Rocio Sanz, *Education and Migration: An Assessment of the Types and Range of IOM's Education and Vocational Training Projects* (Geneva, International Organization for Migration (IOM), 2018).

²⁸ UNICEF, "Effectiveness of digital learning solutions to improve educational outcomes: a review of evidence", 1 April 2021.

36. As discussed below, the increasing automation of jobs globally has changed the skills needed by the workforce and its human contributions. The importance of lifelong learning becomes more vital, as the world is changing rapidly. In particular, there will be an increased need for technical skills to facilitate that process, predominantly with regard to occupations related to science, technology, engineering and mathematics.²⁹ As encapsulated in Sustainable Development Goal 4, it will be necessary to increase the number of young people and adults with technical and vocational skills in order to implement the 2030 Agenda. Support for technical and vocational education systems was severely hampered by the COVID-19 pandemic, as obtaining those competencies required in-person presence in up to 80 per cent of programmes.

37. On information and communications technology (ICT) capabilities and skills, large challenges remain everywhere. A recent survey of 91 countries at all income levels demonstrated that a majority of respondents in only 10 of those countries possessed at least five of the nine defined ICT skills needed to undertake certain computer-related activities, such as sending an attachment in an email message. In around half of the 91 countries surveyed, a majority of adults lacked most of those skills.

38. In addition to technical skills, creativity, reflection, empathy, ethics, critical thinking and social skills are all key to navigating the modern world. Beyond just the acquisition of knowledge, it is crucial for every learner to be able to mobilize skills and information to make informed decisions when needed and when empowered to act upon critical challenges of the present time. By promoting awareness and critical reflections on the surrounding world, education will contribute to achieving human and development objectives, beyond the goal of completing a course of school. That will help societies to be better prepared to respond to environmental, social and economic challenges.

Strengthening the education sector for the future

39. In order to bridge education gaps and ensure that education contributes to a sustainable and resilient future, efforts must be more broadly oriented. The Sustainable Development Goals on education cannot be achieved by Governments and teachers alone. A holistic, whole-school approach combines education content with education methods, teacher training, extracurricular activities and physical and environmental surroundings and involves the wider community and its various stakeholders. An inclusive process, from decision-making to implementation and financing, is therefore key to advancing quality, inclusive and contextually tailored education.

40. Teachers are regarded as the most significant factors in enabling learning achievements and student motivation. Consequently, they bear a great responsibility for future generations. As observed, the complexity of the new global challenges, and the urgency of acting upon them, will require students to think creatively, collectively and critically and to be action-oriented and able to adapt to new challenges. The need for those skills places an even bigger responsibility on the shoulders of the teachers. Beyond the cognitive requirements, proper teacher training must include pedagogical techniques to engage and equip students with essential skills for the future. To achieve that end, teachers need to be supported and provided with clear, adequate and updated guidance, as well as fair working conditions.

41. Unfortunately, only 3 per cent of COVID-19 stimulus packages went to education. Although international assistance is important, domestic revenues remain the main solution for adequately financing education goals. There is consensus that countries should spend at least 15 or, ideally, 20 per cent of public expenditure on

²⁹ ILO, “Skills policies and systems for a future workforce”, Issue Brief No. 8, prepared for the second meeting of the Global Commission on the Future of Work, Geneva, 15–17 February 2018.

education. Sadly, fewer than 4 in 10 countries globally reach the lower benchmark of 15 per cent, and only 1 in 10 the higher benchmark of 20 per cent.³⁰ Moreover, many countries appear to lack a plan to address the education gap.³¹ To overcome education gaps and further disproportionate impacts of the COVID-19 pandemic, efforts need to be student-centred and target those with the biggest learning needs. Because school closures disproportionately affected some groups, such as girls, people with disabilities, low-income households and rural populations, recovery policies need to prioritize the reschooling of those groups, who are at risk of being left behind. Efforts should go beyond learning losses to also address children's socioemotional struggles. Even before the pandemic, schools served as an important platform for services to promote children's well-being, through social interactions, psychosocial support, nutrition and health services, including menstrual hygiene information and supplies.³² Consequently, school closures disrupted not only education, but also the overall well-being and mental health of children.³³

42. Effective responses reflect the importance of timely and nuanced data and policy analyses for policymakers, school administrators and teachers. The recovery process is an opportunity to reorient education towards accelerating individual and collective learning, by aiming to make education more inclusive, more competent and more resilient. Participants at the Transforming Education Summit, to be held in September 2022, will seek to mobilize political action, solutions and solidarity in order to transform education, which is expected to result in new commitments related to education.

IV. The changing world of work

43. For centuries, the world of work has undergone transformations in its structure and character. The current world of work is immensely disrupted by interconnected external trends, such as technological advancements, the COVID-19 pandemic, social values, globalization, changes in trade patterns, armed conflicts and environmental changes, including the effects of climate change and weather-related calamities, that are shaping the nature, purpose, quality and demand for work.

44. In addition, the workforce is undergoing changes in its internal composition. As longevity and health generally increase, people can stay active and employed for longer periods. Consequently, employers will need to adjust to this ageing workforce, enhancing flexibility in working conditions, reskilling continuously and involving different competencies and needs across generations.

How the pandemic changed work

45. The COVID-19 pandemic severely disrupted the world of work everywhere. The impact varied greatly across geography and economic sectors, as some businesses were forced to shut down, while others became absolutely crucial for keeping societies functioning. That had damaging effects on working time and income worldwide. Many spillover effects worsened conditions for workers: major supply

³⁰ UNICEF, "Financing education recovery: a piece of cake?", June 2022.

³¹ "Less than half of countries are implementing learning recovery strategies at scale to help children catch up", joint statement by the Assistant Director-General for Education of UNESCO, the Director of Education of UNICEF and the Global Director for Education of the World Bank, 29 March 2022.

³² UNICEF, *Where Are We on Education Recovery?*

³³ UNESCO, UNICEF and World Bank, *The State of the Global Education Crisis*.

chain disruptions, policy uncertainties, rising inflation and unsustainable debt have led to a slowdown for the global economy in 2022.³⁴

46. Recovery processes have also followed very asymmetric patterns and vary significantly across regions, countries and sectors. Key labour market indicators have yet to return to pre-pandemic levels for all regions; however, developing countries have been hardest hit. Nevertheless, the global economy did start rebounding during 2021. The global unemployment rate declined slightly, to 6.2 per cent, although that was still higher than the pre-pandemic rate of 5.4 per cent. Meanwhile, global labour productivity rebounded significantly, by 3.2 per cent, in 2021.

47. Lockdown measures to avoid the spread of the COVID-19 virus included several variations of quarantines, curfews, geographical limitations and other societal restrictions. Many people in non-essential sectors were encouraged or obliged to work remotely, if possible. However, owing to uneven capacities and resources for working remotely, including access to ICT and adequate physical surroundings, the effectiveness of teleworking varied significantly, creating barriers for the least capable to carry out their work. In sectors requiring the physical presence of workers, the use of lockdown measures had severe primary and secondary effects. Lockdowns of industrial facilities in countries that have dominant shares in the global supplies sector led to large disruptions through multiple supply chains worldwide. Employment growth trends in low- and middle-income countries have remained significantly below those observed in richer economies. Lower vaccination rates and tighter fiscal space are crucial factors causing those trends.

48. The consequences of the pandemic on job security also varied in scope across sectors and geography. Impacts were especially high for workers in informal employment, which represented 60.2 per cent of global employment in 2019, concentrated in low-income countries.³⁵ Those workers' jobs were largely affected by containment measures and mobility restrictions. A lack of social security schemes, job security and regular incomes meant that stopping work or working from home was not an option. Consequently, informal workers and their families were left in a highly precarious position, exposed to increased risks of falling into poverty and exacerbating inequalities.

49. The pandemic revealed how many of the lowest-paid jobs in the economy were among the most essential in times of crises, including work in grocery stores, delivery, cleaning, public transportation, nursing and childcare. That observation highlights a need to reconsider the realignment of relative wages. Changes in the appreciation of the value of different professions have contributed to increased bargaining power for essential workers.

50. Many advanced economies are facing a large-scale labour shortage. This situation reflects several factors, including changed demands for skills due to an uneven rebound of the economy across sectors, a steadily ageing population, low wages and increased concerns about workplace safety, as well as migration patterns and barriers.³⁶ Avoiding severe long-term impacts stemming from that gap will require active and flexible labour market policies and a realignment of wages, within and between borders.

51. Recovery is correspondingly unequal between countries and across groups within countries, with a disproportionate impact on women and other vulnerable

³⁴ United Nations, Department of Economic and Social Affairs, "World economic situation and prospects as of mid-2022", 18 May 2022.

³⁵ [E/2022/55](#).

³⁶ United Nations, Department of Economic and Social Affairs, "World economic situation and prospects", Monthly Briefing, No. 155, 1 November 2021.

groups. In 2020, both women and young people had a disproportionately high share of global employment losses. In addition, more than 2 million women left the labour force owing to the increased pressures of unpaid care work. Domestic and care work was already unevenly distributed prior to the pandemic. Data from 90 countries collected between 2001 and 2019 show that, on an average day, women spent about 2.5 times as many hours as men doing such unpaid work.³⁷

52. The global proportion of young people who are not in education, employment or training is at its highest level since 2005, having increased to almost 20 million young people in 2020, meaning that, at that time, almost one in every four young people (23.3 per cent) worldwide were neither at work nor in school. This is a significant factor in human resources development, with possible severe long-term consequences, not only for young people of today and the countries and communities of which they form a part, but also, ultimately, the world's ability to achieve the Sustainable Development Goals.

People on the move

53. The increasing number of people on the move has a significant impact on the world of work and the achievement of access to decent work. The global number of international migrants, estimated at 281 million people in 2020, has increased in the past five years.³⁸ By mid-2021, the number of people who were forced to flee their countries owing to war, conflict, human rights violations or other unsafe circumstances was at its highest absolute number on record, an estimated 24.5 million people. In addition, some 5 million new refugees had fled across Europe by the middle of 2022.³⁹

54. Displacement is disruptive to peoples' employment and life prospects, making access to decent work and education fundamental for well-being, dignity and durable livelihoods. Access to decent work is strongly determined by the socioeconomic conditions of the host country, policies and legislation on rights to work, as well as other practical issues that can limit such access. Consequently, many displaced workers are often concentrated in low-skilled informal employment or sectors characterized by precarious conditions.⁴⁰

55. In 2022, the world is in a paradoxical situation of globally high unemployment levels accompanied by a serious shortage of labour in many countries and sectors.⁴¹ The global misfit between the supply of and demand for workers could be better balanced with more flexible systems of labour migration, through the efficient reallocation of skills, thereby meeting specific demands.

Technological advancements

56. Technological innovations are key drivers for economic development and improvements in living standards over the long term. In particular, the automation of many manufacturing and service-related functions has improved overall productivity and, consequently, increased per capita income and consumption. Past technological advances have led to a decline of average working hours and, conversely, an increase

³⁷ E/2022/55.

³⁸ IOM, *World Migration Report 2022* (Geneva, 2021).

³⁹ Office of the United Nations High Commissioner for Refugees, Operational Data Portal, Ukraine refugee situation, available at <https://data.unhcr.org/en/situations/ukraine> (accessed on 10 June 2022).

⁴⁰ ILO, *Employment and Decent Work in Refugee and Other Forced Displacement Contexts: Compendium of ILO's Lessons Learned, Emerging Good Practices and Policy Guidance* (Geneva, 2020).

⁴¹ United Nations, Department of Economic and Social Affairs, "World economic situation and prospects", Monthly Briefing.

in leisure time. At the same time, some jobs in advanced economies are argued to have become less productive, with workers spending more time on unnecessary tasks with little benefit. At the same time, job automation has been shown to benefit high-skilled workers more, causing rising inequality through wage divergence. Analyses of new technologies, including artificial intelligence, suggest that this asymmetry will continue. Low- and medium-skilled workers are expected to face a higher degree of pressure from more advanced technologies, which could exacerbate the decline of middle-skilled jobs and the rise in wage inequality.⁴²

57. The relationship between automation and productivity is, however, complex and multifaceted. Historically, it has enhanced overall productivity and thus led to the creation of new products, markets and related jobs. Nevertheless, there are also concerns that new innovations will replace human jobs, generating a disruption of labour markets and increased unemployment and suppressing wages, thus leading to greater income inequality and impoverishment. Increased use of artificial intelligence has improved the effectiveness of work in many sectors, for example, through question answering technology in customer service, the matching of supply and demand, the identification of patterns in big data sets and the use of algorithms, all of which can guide workers in carrying out their jobs more effectively and with higher quality. However, the use of and gains from those technologies is most widespread in countries with advanced technological and economic capacities, adding to existing inequalities in decent work creation.⁴³

58. Rapid innovations and the use of digital platforms present new opportunities and challenges for workers. Those innovations can increase access to jobs for workers, by connecting supply and demand and further enhancing individual autonomy for workers, by making it easy to compare competing companies and by providing flexibility in work time and location. At the same time, the rapid introduction of new platforms poses legal challenges, as many segments of the sector remain largely unregulated. Limited social security and occupational safety or health protection mean that accidents for self-employed workers on those platforms could catalyse the risks to workers and their families.

59. Technological advancements and automation of tasks have changed the demand for skills and labour. The increased pace of new innovations has accelerated the transformation of the world of work and thus requires more proactive efforts to adapt to those circumstances. A changed demand for skills will need to be accompanied by a rapid expansion and upgrade of workers' skills, as outlined in section III above.

Responses to the challenges of work

60. The interconnected trends of accelerated technological advancements, impacts of the COVID-19 pandemic and increasing numbers of displaced people all reflect the complexity of recent disruptions, structural deficiencies and risks in promoting access to decent work. As all of those trends possess inherent risks of further disadvantaging already vulnerable groups, efforts must actively ensure an inclusive work environment. In that respect, inclusive growth and employment, as well as protection and recognition for all workers, including in the informal sectors and in domestic work, are critical. A lesson learned from the global state of emergency at the onset of the pandemic is that there must be a recalibration of decent work, recognizing the importance of all parts in the bigger system.

⁴² United Nations, Department of Economic and Social Affairs, "The impact of the technological revolution on labour markets and income distribution", *Frontier Issues*, 31 July 2017.

⁴³ Ekkehard Ernst, Rossana Merola and Daniel Samaan, *The Economics of Artificial Intelligence: Implications for the Future of Work*, ILO Future of Work Research Paper Series, No. 5 (Geneva, ILO, 2018).

61. The pandemic has highlighted the need for a renewed appreciation of frontline work and other essential sectors, including domestic work. Meanwhile, recovery must be aimed at reversing trends of inequalities, by securing inclusive, adequate and fair access to work. Those efforts must include the advancement of equal treatment. In 87 per cent of countries with recent data, women are paid 19 per cent less than men, while professionals earn more than double per hour on average than workers in elementary occupations.⁴⁴ The future world of work must include a recalibration of perceptions and recognition of decent work to acknowledge the contributions of all sectors and efforts.

62. To advance on the achievement of decent work for all, it will be necessary to rebuild the economy on a more comprehensive set of indicators, in order to address those disruptions and structural inequalities that would otherwise imply long-term social and economic challenges. That also applies to the management of new technological changes. Disruptions to economic sectors are not only the result of technological feasibility but also economic, legal, regulatory and sociopolitical factors.⁴⁵

63. Adapting the world of work to the changing circumstances of new technology and the movement of people requires that skills be portable and recognized in common standards at the national and international levels. The movement of labour is important for balancing supply and demand for work, but requires universal recognition of degrees and skills. In addition, there must be access to the continual acquisition of skills and quality assurance to ensure truly lifelong learning, so as to keep up with the pace of changing circumstances. Special attention needs to be given to social inclusion, through access by and the participation of young people who are not in employment, education or training. To that end, multilateral cooperation is crucial to facilitating those transitions.

V. Harnessing the potential of digitalization

64. Rapid innovations in digital technologies are increasingly affecting all spheres of human life and resources, including and beyond education, work and health.⁴⁶ If managed wisely, those developments can be an important instrument in achieving progress on the 2030 Agenda and generating better livelihoods for all. To ensure that technological advancements are harnessed to improve conditions for human capital in support of the overarching goal of leaving no one behind, appropriate measures should be taken.

65. Digital and technological transformation has, for several decades, increasingly affected lives all over the world. With the arrival of the COVID-19 pandemic, that trend accelerated significantly, increasing the importance of the impacts of digitalization. Recent experience shows that technological advancements can serve many beneficial ends for human resources, including harnessing greater value for education, improving the quality of health systems and increasing the effectiveness and productivity of labour, as described in other sections of the present report.

66. However, although digitalization can serve many beneficial ends, the distribution of those gains has shown to be uneven. That has created a digital divide that contributes to expanding existing inequalities. As the pandemic increased the

⁴⁴ [E/2022/55](#).

⁴⁵ United Nations, Department of Economic and Social Affairs, “The impact of the technological revolution on labour markets and income distribution”.

⁴⁶ Unless otherwise indicated, information presented in this section is based on International Telecommunication Union, *Measuring Digital Development: Facts and Figures 2021* (Geneva, 2021).

importance of digital usage, it revealed the current barriers to and inequalities in benefiting from digitalization, characterized by huge gaps in coverage, usage and institutional capacity.

67. The digital divide consists of several dimensions, the first resting in the essential need for Internet coverage. While significant improvements have been made in global coverage, with 95 per cent of the global population now living within range of a mobile broadband network, blind spots remain: 18 per cent of the population of Africa still lacks coverage.

68. Although coverage is essential, it is not in itself sufficient to engage in digitalization. Beyond the coverage gap, other barriers contribute to upholding the digital divide, encapsulated as a usage gap: 43 per cent of people with access to mobile broadband do not use it.⁴⁷ The degree of usage varies greatly between countries. In developed countries, 86.6 per cent of individuals use the Internet, while that proportion is 19.1 per cent in the least developed countries.⁴⁸ The most frequently cited reason for the absence of usage is the lack of digital literacy and skills to navigate in the digital world.⁴⁹ Besides issues of digital literacy, there are barriers of affordability. In sub-Saharan Africa, 600 million people have no access to electricity to power digital devices or are hampered by the high cost of data and devices.⁵⁰ In 2021, the affordability of mobile broadband was further reduced in many developing countries.⁵¹ The usage gap has created clear cleavages, not only between countries, but also among social groups within countries. In particular, the lack of usage of the digital world is disproportionately higher among women, non-youth populations and rural populations. In 2021, only 19 per cent of all women in least developed countries used the Internet, compared with 88 per cent in developed countries.

69. Digital transformation is not merely a technological process. Besides the efforts of closing coverage and usage gaps, there is a need to focus on the policy challenges faced by Governments in digital transformations, which have created regulatory gaps. Making digitalization work for sustainable development and the 2030 Agenda will require institutional capacity-building. Many countries with limited social protection face complex challenges regarding the transition of informal workforces to digital sectors, as well as in facilitating digital tools and platforms. Digital technology, and its disruptions to the labour market, can exacerbate informality and lead to greater precariousness for workers, by raising new challenges for worker protections, representation and fair treatment.⁵²

70. The process of digitalization involves new and complex regulatory demands, which require highly technical resources, to prevent misuse and digital crimes. Consequently, institutional capacity-building must enhance both resources and technical and legal know-how. In addition, increased political capacity to make informed and value-based decisions with regard to preferences for the digital future is needed, owing to the complexity of the issues and their impacts. There is therefore a need for joint action, including shared know-how and lessons learned, to ensure that

⁴⁷ Organisation for Economic Co-operation and Development, *Development Co-operation Report 2021: Shaping a Just Digital Transformation* (Paris, 2021).

⁴⁸ United Nations, "Report of the Secretary-General: roadmap for digital cooperation", June 2020 (see also [A/74/821](#)).

⁴⁹ GSMA, *Connected Women: The Mobile Gender Gap Report 2021* (London, 2021).

⁵⁰ International Energy Agency, *Africa Energy Outlook 2022*, World Energy Outlook Special Report (Paris, 2022).

⁵¹ Ana María Rodríguez and Teddy Woodhouse, "Mobile data costs have increased, making Internet connectivity unaffordable for many", Alliance for Affordable Internet, 17 March 2022.

⁵² Guy Ryder, "Digitalisation and decent work for all", United Nations Conference on Trade and Development, 14 July 2020.

institutional frameworks are capable of enhancing the development of human resources with regard to digital transformation.

71. Those coverage, usage and regulatory gaps have all exposed the vulnerability of countries, groups and individuals falling behind in digital transitions. It is crucial to target efforts to make sure that no one is left behind in digitalization efforts. That priority must be a global one, not only to enhance a just transition, but also from an economic perspective: it is estimated that 32 low- and lower-middle-income countries have lost \$1 trillion in the past decade owing to the gender gap in Internet use.⁵³

Risks and pitfalls in the digital transformation

72. As digital technology will inevitably play an increasingly important role in everyday lives throughout the world, it will become more critical to address the risks and pitfalls of the transition. The alternative will not only be to miss the opportunities to benefit from the transition but will also imply risks that the digital transition will even work against the sustainable development of human resources and rights. These risks are present in various dimensions. Exposure to digital security threats can have serious consequences, as the lack of digital literacy, mostly in least developed countries and among marginalized individuals, does not only prevent Internet usage. It also increases the risks of exposure to cyberattacks, scams, disinformation or harmful content.

73. Furthermore, there is a need for improvements in the functioning of digital services. The use of artificial intelligence is estimated to generate nearly \$4 trillion of added value for global markets in 2022.⁵⁴ However, algorithms have been demonstrated to contain biases, that effectually reinforce or even catalyse inequalities and polarization. A growing body of evidence shows how racial and gender inequalities are exacerbated by biases in algorithmic decision-making.⁵⁵ Increased reliance on digital services can thus inherently contribute to reinforcing existing gaps and inequalities for marginalized groups, with devastating consequences for overall human development.

74. Beyond technical improvements, there is a growing need to address ethical questions relating to the risks of misuse and unintended consequences. That requires discussions on governance of the use and scope of existing and emerging technologies. Those issues, including questions of surveillance, the regulations on digital platforms, restrictions on access and the management of personal data, are complex and constantly evolving. Digital technologies are often misused in ways that reinforce inequality, exclusion, discrimination and even violence. It is crucial to ensure that no one experiences violations of personal freedom, including being excluded from access to information and freedom of speech.

Safe and just digital future

75. The COVID-19 pandemic forged a sudden need for digital solutions, while exposing the uneven distribution of, access to and benefits of those solutions. Those patterns provide valuable insight into existing structural barriers that must be used in the creation and implementation of recovery policies and in designing pathways for sustainable development. The digital world does not operate within territorial borders, which is why the challenges of digitalization, including taxation, cybersecurity,

⁵³ Ana María Rodríguez Pulgarín and Teddy Woodhouse, "The costs of exclusion: economic consequences of the digital gender gap," (Washington D.C., Alliance for Affordable Internet, 2021).

⁵⁴ United Nations, "Report of the Secretary-General: roadmap for digital cooperation".

⁵⁵ UNESCO, "Artificial intelligence and gender equality: key findings of UNESCO's global dialogue", document GEN/2020/AI/2 REV.

privacy, data leaks and human rights abuses, are transnational by nature and therefore best handled through international cooperation. Previous crises involving cross-border data-sharing, the spread of mis- and disinformation and cyberattacks have already demonstrated the levels of risk at hand.

76. The borderless character of the challenges, which are constantly evolving in scope and complexity, increases the importance of harmonizing governance frameworks. While respecting digital sovereignty and individual countries' choice of digital path, the need for shared norms on the governance of digital technologies is urgent. There is a need for global coordination of efforts and the full participation of the global community. In his Road Map for Digital Cooperation, the Secretary-General welcomed many initiatives that have already been adopted.

77. Better evidence, through enhanced scope and quality of data, can inform strategic targeted efforts for the digital inclusion of those who are currently excluded. As stated in the Road Map, it is necessary for all people to have equal opportunities to become empowered through ICT. Beyond physical access, that includes designs that respect the needs of all people. To that end, global efforts need to be people-centred and inclusive, in all their dimensions, which implies efforts that are based on in-depth context analyses, to provide an understanding of the best way to achieve the greatest impact. As highlighted in the Road Map, digital capacity-building has, to date, been too supply-driven. Rather, efforts should be needs-based, grounded in a holistic and inclusive understanding of local circumstances and taking into account intersectional inequalities. People-centred approaches require the involvement and participation of all stakeholders, from the very first steps until the final implementation stage, to foster a sustainable, resilient and long-lasting recovery that leaves no one behind.
