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Charting the Contours of the Post-2030 Development Agenda

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Embedding Resilience in Higher Education Interventions

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As we look beyond 2030, converging global challenges are disproportionately affecting developing countries and vulnerable populations. With the deadline for the Agenda for Sustainable Development on the horizon, it is timely to consider interventions that will embed resilience in our societies. This essay recognises that higher education plays an instrumental role in multiple Sustainable Development Goals (SDGs)[1] and, as such, is critical to promoting resilience and sustainable development beyond 2030. It explores the impact of global emergencies, enrolment trends, human resource disparities, and technological advancements like artificial intelligence (AI) on the sector, and offers recommendations for prioritising diverse talent retention and developing AI proficiency.

Lessons from the COVID-19 Emergency

Global emergencies—be they natural disasters arising from climate change, geopolitical conflicts, health crises, or mass displacement—expose vulnerabilities. This is true for education systems, which have struggled to maintain continuity and quality in such contexts of crisis and conflict,[2] thereby revealing heightened inequalities. The COVID-19 pandemic carried broad and long-term impacts across nine interrelated higher education domains: geopolitics and jurisdictions; system regulation; financing; infrastructure; teaching and learning; research and training; pathways, governance and leadership; and human resources.[3] To effectively prepare for future crises, it is necessary to analyse the post-pandemic recovery trajectories of countries, alongside parallel developments occurring in this time period (2020-2024). The following sections examine three key areas: system size (focusing on enrolment trends); human resource considerations; and AI deployment in education and research.

Enrolment Trends

There is now evidence that the COVID-19 pandemic disrupted education globally, intensified learning poverty,[4] and increased the divide between the Global North and Global South.[5] Enrolment in higher education, however, remained positive, reflecting adaptations instituted to shift from traditional and hybrid formats to remote, technology-enabled learning. Globally, the number of enrolments in higher education increased from 223 million to 254 million between 2017 and 2022. Notable increases occurred in regions with the largest education systems (i.e., China and India). Women's higher education enrolments throughout this period exceeded men's in most regions (see Table 1).[6]

Table 1: Enrolment in Higher Education, All Programmes, Males and Females (2017-2022)

	2017	2018	2019	2020	2021	2022	% Women (2022)
East Asia and the Pacific	72,813,215	72,830,538	75,270,971	79,146,789	83,365,972	87,078,222	51%
South and West Asia	43,183,345	44,084,843	45,991,424	47,114,707	49,908,901	51,879,542	48%
North America and Western Europe	37,767,217	38,012,678	38,522,697	38,927,294	39,199,988	39,726,213	56%
Latin America and the Caribbean	28,079,335	28,407,344	28,791,645	29,311,412	30,255,818	30,241,462	57%
Central and Eastern Europe	19,488,896	19,505,567	19,499,020	19,526,828	19,790,716	19,708,252	52%
Arab States	11,348,085	11,925,149	12,367,167	12,696,929	12,798,505	13,003,988	51%
Sub-Saharan Africa	8,350,615	8,663,079	8,902,061	9,505,146	9,621,994	N/A	43% (2021)
Central Asia	2,075,198	2,082,028	2,215,371	2,385,649	2,600,446	2,654,737	51%
Small Island Developing States	1,362,538	1,369,961	1,387,564	1,394,068	1,428,551	1,412,422	61%
World	223,105,905	225,511,226	231,560,355	23,8614,753	247,542,341	254,323,818	52%

Source: UNESCO UIS (2024)[7]

Yet, historical challenges within higher education, such as gender disparities, have also been persistent. The gaps are particularly observable in the fields of science, technology, engineering, and mathematics (STEM)[8] and at different programme levels and types (undergraduate/postgraduate coursework; research).[9] Similarly, discrimination and stigmatisation continue based on students' disability, sexual identity, race, and class.[10,11]

Human Resources

The profiles of human resources in higher education have shifted in recent decades. As of 2022, women comprised over 50 percent of teaching faculty in some regions (including Central and Eastern Europe and Central Asia); that share, however, is only 43 percent on average worldwide. Lower representation was reported in several regions, including South and West Asia (40 percent).[12] The gender gap is more pronounced in research, with women comprising only 32 percent of roles globally in 2021. The highest proportions of women in research are in Central Asia and Latin America (45 percent), while Europe, Northern America, and Western Asia marginally exceed the world average at 35 percent. Of concern are Southern and Eastern Asia, which lag behind.[13] A particular challenge is that women remain underrepresented in STEM and senior academic positions,[14] and the pandemic disproportionately impacted individuals who have historically been marginalised because of their gender and/or other socio-economic characteristics.[15,16]

The prevalence of labour market discrimination compounds the loss.[17,18] Women and marginalised faculty exiting higher education (e.g., through non-renewal of casual/short-term contracts, or redundancies) often struggle to secure alternative employment and utilise their specialist

knowledge and skills in the wider job market. This phenomenon results in a loss of talent for both academia and the broader economy, with a significant underutilisation of diverse intellectual resources, impeding economic growth. It illustrates the urgent need for purposive affirmative action strategies that anticipate and mitigate potential discrimination during emergency recovery phases, and future crises. By strategising targeted interventions now, higher education institutions can better protect the progress made by women and marginalised communities, ensuring that their representation and contributions remain resilient in the face of future disruptions. Simultaneously, the knowledge and skills of others more readily absorbed into alternative labour markets outside higher education can be utilised effectively across the economy.

AI Deployment and Competency: Teaching, Research, and Operations

In addition to tensions and vulnerabilities exposed during the COVID-19 pandemic, parallel developments are proving similarly transformational for higher education. The emergence of generative AI (including Large Language Models such as ChatGPT) presents both known and unknown opportunities and challenges. AI tools that generate text, images, music, and videos are changing the landscape of teaching, research, and operations while also raising questions about academic integrity, ethical standards, the digital divide, and resourcing profiles.

Institutions urgently need to increase AI exposure and proficiency and explicitly acknowledge that students, faculty, professional staff, and industry are increasingly deploying AI to automate and augment tasks and occupations.[19] Higher education institutions must balance these radical educational, technological, and industrial transformations, alongside the contraction and casualisation of the academic labour

market, with an emphasis on enabling students' deep disciplinary knowledge, innovation, and excellence. The challenge lies in incorporating AI into curricula, pedagogy, research, and operations—amid increasing fiscal constraints—while maintaining a quality educational experience and ethical research environment. The aim should be to nurture people capable of contributing meaningfully to a society characterised by disinformation, cyber insecurity, job displacement, uncertainty, and polycrisis.[20]

Recommendations

- **Prioritise the retention of diverse talent during emergency response and recovery phases**

  By protecting women and those from marginalised communities, purposefully retaining high-level knowledge and skills within academia and the broader economy, institutions can mitigate the loss of human capital and contribute to more equitable economic growth and sustainable development.

- **Develop faculty and student proficiency in AI**

  By embedding AI education within core curriculum, pedagogy, and research training, institutions can enhance faculty and student proficiency in AI. They can also ensure that graduates are well equipped to navigate an increasingly AI-driven world, fostering a workforce that is both technologically adept and socially responsible.

Higher education institutions must proactively address the challenges and opportunities presented by global emergencies, persistent disparities, and rapidly emerging AI technologies to build resilience and promote sustainable development beyond 2030. By prioritising diverse talent retention and developing AI proficiency, higher education can play a vital role in shaping a more equitable, sustainable, and resilient future.

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