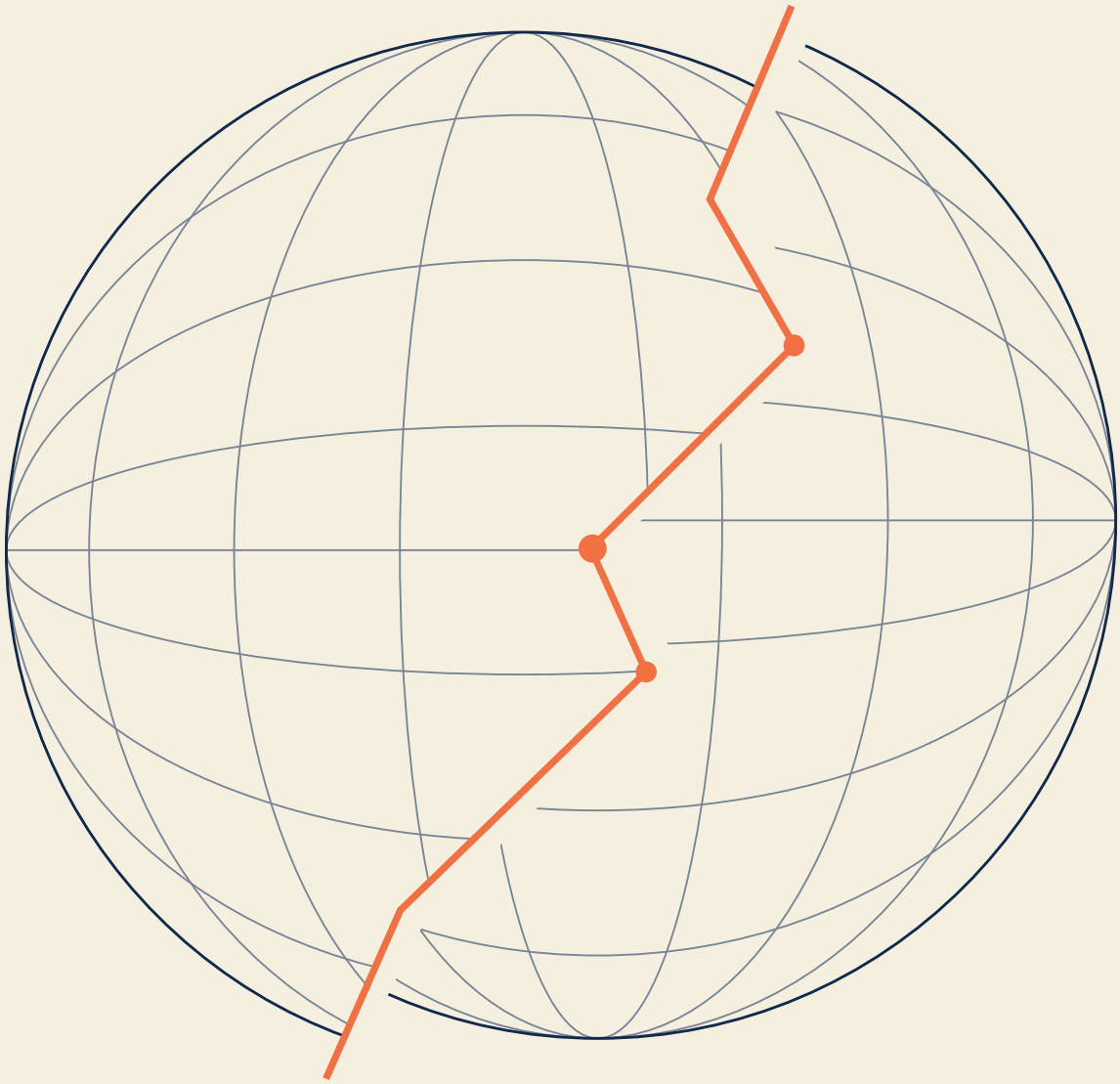
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MOHAMMED BIN RASHID AL MAKTOUM KNOWLEDGE FOUNDATION

UNDP



Global Knowledge Index Report 2026

Navigating crises in a changing world



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KNOWLEDGE PROJECT.

Table of contents

Foreword - Mohammed bin Rashid Al Maktoum Knowledge Foundation	3
Foreword - United Nations Development Programme	4
GKI 2026 results	6
Heat map	8
Sub-index results	13
Regional averages	25
Knowledge: Navigating crises in a changing world	26
Endnotes	58
References	59

Foreword

Mohammed bin Rashid Al Maktoum Knowledge Foundation

The 10th edition of the Global Knowledge Index (GKI) marks an important milestone in the longstanding partnership between the Mohammed bin Rashid Al Maktoum Knowledge Foundation (MBRF) and the United Nations Development Programme (UNDP). This strategic collaboration has helped establish knowledge as a fundamental pillar of comprehensive and sustainable development.

Since its launch, the GKI has evolved into a credible global reference for monitoring the state of knowledge ecosystems. It does so by measuring their performance and identifying opportunities for their development, thereby enhancing nations' ability to leverage knowledge and shape policies that help build a prosperous future.

The GKI 2026 comes amid profound transformations that are reshaping world economies, societies, and production and work systems, placing additional requirements on development pathways. In such a scenario, knowledge is no longer just a supporting factor for progress; it has evolved into a strategic asset and a principal source of competitiveness. It is also what determines a nation's ability to efficiently navigate changes, while transforming challenges into opportunities for growth and innovation. This further reinforces the role of the GKI in providing a highly objective, comprehensive analysis of knowledge development, empowering decision-makers to set priorities, formulate policies, and direct investments toward building a more sustainable future.

Notably, the GKI keeps pace with rapid developments in advanced technologies and AI by focusing on the enablers of future readiness, particularly education, research and development, ICT infrastructure, and governance. This aligns with the idea that technological progress should be measured not only by the access to advanced tools, but by the ability to employ them responsibly in raising productivity, improving quality of life, and generating greater value for the economy and society.

Over the years, the GKI has moved beyond its role as a tool for measuring performance and comparing national progress, emerging as a strategic reference that supports international dialogue and facilitates the exchange of expertise. Its data and analysis further provide a foundation for identifying gaps in knowledge ecosystems and opportunities for their development. However, true impact can only be achieved by transforming these results into actionable insights that contribute to improving policies, allocating resources, and enhancing the overall effectiveness of investments in knowledge sectors.

With the launch of the GKI's latest edition, we at MBRF reaffirm our commitment to strengthening our strategic partnership with UNDP. We further aim to expand the impact of this global project, reinforcing its role in supporting human development as well as nurturing societies capable of producing and utilizing knowledge, fostering more innovative, competitive, and sustainable economies.

Furthermore, our ambition extends beyond just monitoring the state of knowledge. The vision is to contribute to shaping the future of global knowledge ecosystems, consolidating their role as key enablers of development, progress, and prosperity. This also reflects our belief that the future will belong to those capable of producing knowledge, investing in it, and transforming it into meaningful opportunities and sustainable achievements that benefit individuals and society as a whole.

H.E. Jamal bin Huwaireb
CEO of Mohammed bin Rashid Al Maktoum Knowledge Foundation

Foreword

United Nations Development Programme

In a world marked by intensifying conflicts, economic and climate crises and accelerating technological transformations, knowledge has become a strategic imperative for strengthening the resilience of countries and communities, so that they can anticipate, withstand and recover from crises, while safeguarding development gains.

The military escalation in the Middle East this year has once again exposed the vulnerability of development gains to external risks. According to estimates by the United Nations Development Programme (UNDP), the escalation could reduce the region's gross domestic product (GDP) by up to 6 percent and set human development back by as much as one year.

Such crises do not only test the response agility of countries. They also test the resilience of institutions, people's capabilities and their capacity to harness knowledge and innovation to mitigate risks, protect development gains and shape a more sustainable future.

In this context, and under its continued partnership with the Mohammed bin Rashid Al Maktoum Knowledge Foundation, UNDP is publishing the Global Knowledge Index (GKI), with its 2026 edition entitled 'Knowledge: Navigating crises in a changing world'. The Index provides a scientific framework for assessing knowledge capacities of countries, identifying areas requiring improvement and guiding policies and investments that strengthen resilience and enable societies and economies to better navigate uncertainty and withstand crises.

Preliminary analyses of the GKI 2026 data place the global average knowledge performance score at approximately 45 points, compared with 41.4 points in the Arab States, reflecting a gap of around 3.6 points. While the difference in average scores may appear relatively modest, significant disparities persist between countries. These gaps become particularly consequential during crises, when the ability to generate, access and apply knowledge is critical to responding effectively to shocks, accelerating recovery and preserving development gains.

The Human Development Report 2025 sheds more light on these challenges, as it recorded a global Human Development Index (HDI) value of 0.756, compared with 0.719 for the Arab States region. Such a strong relationship between knowledge and human development is also underscored in the GKI, which demonstrates a correlation coefficient of 0.93 between GKI scores and HDI values. Together, these findings reinforce the importance of accelerating human development and strengthening investment in people and knowledge, particularly in countries and communities most affected by conflict and crises.

Despite the progress achieved by several Arab States in developing knowledge-based economies and societies, significant disparities persist across the region. GKI scores reveal a gap of 34.6 points between the highest-performing country, the United Arab Emirates (60.4), and the lowest-performing, Comoros (25.8).

Addressing these challenges requires stronger regional cooperation and integration, greater exchange of expertise and sustained investment in young people, skills, research and innovation. It also calls for concerted efforts to address brain drain and retain the talent needed to advance knowledge ecosystems. These efforts are essential to enabling countries across the region to respond collectively to shared challenges while harnessing emerging opportunities afforded by technological transformation, particularly in artificial intelligence.

Findings of this edition also point to specific areas requiring urgent attention. The widest disparities between countries are evident in the research, development and innovation dimension. Meanwhile, the rapid expansion of artificial intelligence, particularly in countries with already stronger knowledge systems, risks widening existing disparities between countries. These challenges are compounded by a decline of approximately one quarter in official development assistance in real terms in 2025, representing the largest annual reduction on record. In this changing development landscape, greater reliance on national capacities is increasingly critical.

Knowledge must therefore be recognized as both an instrument of progress under stable conditions and a fundamental pillar of crisis prevention, preparedness, response and recovery.

Societies that invest consistently in their people, institutions, education systems and scientific research are better positioned to anticipate and navigate disruptions as well as transform challenges into opportunities for renewal and sustainable growth.

The value of the GKI extends beyond measuring and ranking the performance of countries. More importantly, it serves as a strategic compass for development policymaking in an increasingly complex and changing world. By providing evidence-based insights, the GKI supports decision makers in anticipating risks, setting priorities and strengthening resilience, while helping ensure that crises do not further widen knowledge and development inequalities.

This edition of the GKI reaffirms the central role of knowledge in driving progress, strengthening resilience and enabling recovery. It serves as a bridge between addressing today's crises and shaping a more equitable, inclusive and sustainable future, where opportunities for development are accessible to all and no one is left behind.

I would like to extend my sincere appreciation and gratitude to the Mohammed bin Rashid Al Maktoum Knowledge Foundation for its valued partnership and continued commitment, as well as to the research team, experts and partners whose dedication and contributions have made this edition possible.

Abdallah Al Dardari
United Nations Assistant Secretary-General, and
Director of the Regional Bureau for Arab States, UNDP

GKI 2026 results

RANK	COUNTRY	SCORE
1	Switzerland	69.8
2	Singapore	69.0
3	Sweden	68.4
4	Denmark	66.0
5	Norway	65.9
6	Finland	65.6
7	Netherlands	65.4
8	United Kingdom	65.2
9	Ireland	65.2
10	Germany	65.0
11	Korea (Republic of)	64.7
12	Austria	64.0
13	Belgium	63.9
14	Luxembourg	63.6
15	Australia	62.9
16	France	62.8
17	Slovenia	62.0
18	United States	61.9
19	Israel	61.8
20	Canada	61.5
21	Spain	61.3
22	Japan	61.0
23	Iceland	60.8
24	Portugal	60.5
25	Hong Kong, China (SAR)	60.4
26	United Arab Emirates	60.4
27	Czechia	60.4
28	Malta	60.2
29	Estonia	60.0
30	Lithuania	59.8
31	New Zealand	59.5
32	Italy	59.4
33	Poland	58.9
34	Hungary	58.8
35	Slovakia	57.7
36	Croatia	57.4
37	Latvia	57.2
38	Greece	56.9
39	Cyprus	56.4
40	Bulgaria	55.9
41	China	55.3
42	Serbia	54.7
43	Romania	54.0
44	Chile	52.2
45	Malaysia	51.4
46	North Macedonia	50.8
47	Saudi Arabia	50.4
48	Türkiye	50.2
49	Costa Rica	50.2
50	Georgia	50.1
51	Belarus	49.4
52	Thailand	49.4
53	Uruguay	49.3
54	Montenegro	49.3
55	Russian Federation	49.3
56	Armenia	49.2
57	Ukraine	48.6
58	Brazil	48.4
59	Qatar	48.1
60	Kazakhstan	48.1
61	Mauritius	47.6
62	Brunei Darussalam	47.4
63	Moldova (Republic of)	47.2
64	Bosnia and Herzegovina	46.5
65	Viet Nam	46.5
66	Albania	46.4
67	Bahrain	46.3
68	Mexico	46.2
69	Mongolia	46.0
70	Colombia	45.6
71	India	45.6
72	Oman	45.5
73	Peru	45.3
74	Uzbekistan	44.7
75	Seychelles	44.6
76	Jordan	44.5
77	Argentina	44.4
78	Philippines	44.1
79	Azerbaijan	43.6
80	Iran (Islamic Republic of)	43.5
81	Indonesia	43.3
82	Trinidad and Tobago	43.2
83	Kyrgyzstan	43.0
84	Panama	42.8
85	Tunisia	42.8
86	Ecuador	42.6
87	Kuwait	42.5
88	Grenada	42.4
89	Egypt	42.2
90	Antigua and Barbuda	41.9
91	Lebanon	41.8
92	South Africa	41.3
93	Sri Lanka	41.3
94	Morocco	41.2



GKI 2026 results

RANK	COUNTRY	SCORE
95	Dominican Republic	40.8
96	Bhutan	40.5
97	Saint Lucia	40.4
98	Jamaica	40.1
99	Fiji	39.7
100	Maldives	39.6
101	El Salvador	39.6
102	Samoa	39.4
103	Belize	38.9
104	Tonga	38.2
105	Algeria	38.0
106	Kenya	37.9
107	Cabo Verde	37.7
108	Botswana	37.3
109	Guatemala	37.2
110	Rwanda	37.2
111	Nepal	36.8
112	Ghana	36.6
113	Cambodia	36.6
114	Vanuatu	36.3
115	Guyana	35.9
116	Lao People's Democratic Republic	35.7
117	Namibia	35.4
118	Cuba	34.5
119	Palestine, State of	34.5
120	Pakistan	34.5
121	Senegal	34.5
122	Honduras	34.4
123	Tajikistan	34.0
124	Bangladesh	33.9
125	Cameroon	32.4
126	Mauritania	32.0
127	Tanzania (United Republic of)	31.8
128	Côte d'Ivoire	31.7
129	Zimbabwe	31.5
130	Malawi	31.5
131	Myanmar	31.4
132	Kiribati	31.0
133	Eswatini (Kingdom of)	30.9
134	Sao Tome and Principe	30.9
135	Lesotho	30.3
136	Benin	30.3
137	Ethiopia	30.2
138	Timor-Leste	30.1
139	Togo	30.1
140	Nicaragua	29.6

RANK	COUNTRY	SCORE
141	Madagascar	28.7
142	Mozambique	28.3
143	Gambia	28.1
144	Burkina Faso	27.7
145	Syrian Arab Republic	26.9
146	Congo	26.5
147	Angola	26.0
148	Mali	25.9
149	Comoros	25.8
150	Niger	24.2
151	Afghanistan	22.7
152	Guinea	22.6
153	Congo (Democratic Republic of the)	22.6
154	Burundi	22.4
155	Chad	20.0



Heat map

RANK	COUNTRY	GKI 2026	Pre-university education	TVET and Higher education	RDI	ICT	Economy	ESG
1	Switzerland	69.8	72.3	66.6	69.8	62.4	77.1	71.8
2	Singapore	69.0	68.4	60.6	67.2	77.5	82.5	60.8
3	Sweden	68.4	72.0	61.5	67.0	67.4	69.9	73.1
4	Denmark	66.0	68.3	60.1	64.6	65.3	67.7	70.6
5	Norway	65.9	70.1	64.7	58.3	62.8	68.2	72.6
6	Finland	65.6	69.0	62.9	61.8	68.3	62.7	69.2
7	Netherlands	65.4	66.5	63.5	62.7	67.6	67.5	64.8
8	United Kingdom	65.2	70.8	63.1	61.1	64.9	63.6	68.5
9	Ireland	65.2	62.3	57.2	62.0	71.1	71.6	68.6
10	Germany	65.0	69.8	64.8	63.1	60.6	65.4	66.5
11	Korea (Republic of)	64.7	78.0	57.2	65.9	60.7	65.4	62.9
12	Austria	64.0	65.4	62.9	59.8	61.8	65.8	68.5
13	Belgium	63.9	71.7	63.1	58.2	59.8	67.0	64.1
14	Luxembourg	63.6	61.3	60.6	56.2	68.2	73.1	63.7
15	Australia	62.9	69.3	63.2	61.3	59.6	60.2	64.2
16	France	62.8	70.3	59.4	58.2	63.2	61.5	65.1
17	Slovenia	62.0	73.0	61.8	57.5	57.6	56.6	67.1
18	United States	61.9	68.5	59.7	58.1	66.3	67.2	53.0
19	Israel	61.8	69.6	59.4	61.9	64.4	61.3	55.0
20	Canada	61.5	70.9	57.4	54.0	63.0	61.8	63.1
21	Spain	61.3	70.1	58.4	56.3	59.1	58.4	66.4
22	Japan	61.0	72.5	53.3	55.8	59.5	60.9	65.9
23	Iceland	60.8	60.7	54.5	56.3	66.0	57.6	71.1
24	Portugal	60.5	70.9	57.9	53.0	58.0	59.2	65.6
25	Hong Kong, China (SAR)	60.4	70.0	52.8	61.5	64.5	65.8	50.2
26	United Arab Emirates	60.4	68.5	59.0	49.2	68.1	63.5	56.2
27	Czechia	60.4	63.1	58.9	56.6	58.4	60.7	64.9
28	Malta	60.2	65.1	57.7	50.7	61.3	65.5	62.2
29	Estonia	60.0	68.7	56.7	51.2	65.8	57.9	61.6
30	Lithuania	59.8	69.1	58.7	47.8	61.1	60.0	64.3
31	New Zealand	59.5	61.8	57.9	55.4	60.4	56.9	65.0
32	Italy	59.4	65.8	55.5	59.7	52.8	59.6	63.7
33	Poland	58.9	72.9	58.0	48.5	59.4	56.9	60.2
34	Hungary	58.8	66.7	61.2	51.5	58.4	57.2	58.7
35	Slovakia	57.7	68.4	57.9	48.4	54.0	56.5	63.1
36	Croatia	57.4	67.6	60.0	46.2	58.0	54.9	59.7
37	Latvia	57.2	69.2	59.3	42.5	57.4	57.5	61.2
38	Greece	56.9	62.1	60.4	51.1	53.0	53.7	62.4
39	Cyprus	56.4	66.2	50.9	51.1	56.9	52.7	62.3
40	Bulgaria	55.9	66.0	54.3	47.9	58.8	54.5	55.5



Heat map

RANK	COUNTRY	GKI 2026	Pre-university education	TVET and Higher education	RDI	ICT	Economy	ESG
41	China	55.3	68.0	43.2	58.4	61.3	51.7	52.3
42	Serbia	54.7	69.0	52.0	46.2	56.2	52.0	55.3
43	Romania	54.0	60.8	53.3	43.4	54.5	52.9	60.9
44	Chile	52.2	58.3	55.2	38.8	53.3	50.7	59.9
45	Malaysia	51.4	58.7	39.9	49.1	54.6	56.4	52.0
46	North Macedonia	50.8	62.3	45.4	40.2	52.9	50.2	57.1
47	Saudi Arabia	50.4	57.5	52.6	43.9	57.4	48.6	44.4
48	Türkiye	50.2	65.3	56.7	44.3	42.6	50.4	45.6
49	Costa Rica	50.2	66.3	51.3	34.8	46.8	47.4	60.9
50	Georgia	50.1	66.6	57.3	35.6	46.0	47.7	53.4
51	Belarus	49.4	75.5	53.5	35.4	46.6	48.3	45.4
52	Thailand	49.4	61.8	45.4	40.6	45.1	52.1	54.5
53	Uruguay	49.3	59.3	45.6	36.8	49.6	46.0	63.5
54	Montenegro	49.3	64.7	50.9	31.9	49.6	47.0	58.6
55	Russian Federation	49.3	69.2	53.3	38.1	46.3	50.2	43.9
56	Armenia	49.2	66.3	49.7	34.9	48.1	48.9	52.2
57	Ukraine	48.6	65.0	56.2	37.3	46.8	41.6	50.0
58	Brazil	48.4	60.3	45.9	40.1	47.3	45.8	53.5
59	Qatar	48.1	53.9	45.3	38.8	53.1	56.0	43.9
60	Kazakhstan	48.1	69.6	47.8	34.0	46.2	46.6	50.8
61	Mauritius	47.6	62.4	41.9	31.5	51.8	51.2	52.9
62	Brunei Darussalam	47.4	55.0	46.7	36.9	55.2	48.8	44.7
63	Moldova (Republic of)	47.2	58.6	48.6	31.8	49.2	46.5	53.1
64	Bosnia and Herzegovina	46.5	55.7	46.1	36.2	43.5	49.2	50.9
65	Viet Nam	46.5	62.7	42.3	37.4	40.6	51.2	48.8
66	Albania	46.4	56.9	41.2	34.1	44.8	45.8	60.5
67	Bahrain	46.3	56.5	35.5	38.9	54.9	49.7	46.6
68	Mexico	46.2	59.5	48.5	34.9	38.7	49.3	50.5
69	Mongolia	46.0	65.9	51.0	32.6	40.0	42.4	50.9
70	Colombia	45.6	60.2	46.6	34.1	41.4	43.4	52.6
71	India	45.6	58.5	44.7	36.4	40.0	41.4	57.2
72	Oman	45.5	51.3	43.7	39.6	46.6	46.5	46.1
73	Peru	45.3	66.0	43.8	34.9	40.0	38.5	55.6
74	Uzbekistan	44.7	69.8	46.6	30.9	41.0	36.7	52.6
75	Seychelles	44.6	51.0	49.4	31.4	44.8	46.6	47.4
76	Jordan	44.5	57.0	41.7	38.5	38.7	39.8	54.7
77	Argentina	44.4	51.3	40.3	36.3	41.4	45.1	54.7
78	Philippines	44.1	53.8	45.4	32.4	39.3	43.3	54.8
79	Azerbaijan	43.6	59.3	51.8	35.2	41.8	36.3	42.0
80	Iran (Islamic Republic of)	43.5	59.2	48.7	38.9	40.7	40.0	37.2
81	Indonesia	43.3	51.4	43.3	32.9	38.6	44.0	52.9



Heat map

RANK	COUNTRY	GKI 2026	Pre-university education	TVET and Higher education	RDI	ICT	Economy	ESG
82	Trinidad and Tobago	43.2	59.6	42.4	28.2	45.1	47.1	43.1
83	Kyrgyzstan	43.0	72.0	46.9	27.6	36.5	37.3	49.6
84	Panama	42.8	53.4	44.1	24.9	39.2	53.6	50.0
85	Tunisia	42.8	52.1	35.4	38.5	39.2	44.2	49.8
86	Ecuador	42.6	58.5	48.7	32.3	36.1	37.9	47.1
87	Kuwait	42.5	49.1	35.9	34.8	52.9	43.3	42.0
88	Grenada	42.4	50.5	46.9	33.3	37.5	43.4	45.2
89	Egypt	42.2	53.6	46.2	34.1	35.8	39.3	47.5
90	Antigua and Barbuda	41.9	58.0	38.0	33.1	34.7	44.5	48.5
91	Lebanon	41.8	56.6	45.9	33.9	35.8	42.4	39.7
92	South Africa	41.3	48.3	43.1	34.4	39.0	38.2	46.7
93	Sri Lanka	41.3	54.2	38.9	28.6	35.9	41.9	55.0
94	Morocco	41.2	47.7	42.0	33.5	40.8	38.9	46.0
95	Dominican Republic	40.8	54.7	35.1	24.6	38.0	45.8	55.8
96	Bhutan	40.5	65.7	39.5	21.7	36.9	39.9	53.5
97	Saint Lucia	40.4	62.6	37.3	27.8	36.7	40.1	45.8
98	Jamaica	40.1	64.8	37.1	25.4	32.9	38.4	53.7
99	Fiji	39.7	59.0	34.1	29.2	31.5	39.4	53.6
100	Maldives	39.6	55.9	38.8	25.3	42.6	41.3	40.2
101	El Salvador	39.6	55.6	39.6	23.2	33.2	46.1	49.4
102	Samoa	39.4	51.2	42.0	36.3	26.5	36.1	49.9
103	Belize	38.9	48.9	37.6	30.4	36.6	36.7	46.1
104	Tonga	38.2	56.0	41.4	28.2	29.8	34.1	46.9
105	Algeria	38.0	58.4	42.0	30.8	32.0	31.2	40.2
106	Kenya	37.9	58.8	37.2	27.5	26.1	36.7	51.6
107	Cabo Verde	37.7	57.6	37.6	26.1	31.9	32.9	48.6
108	Botswana	37.3	52.1	31.4	28.4	31.9	33.8	53.6
109	Guatemala	37.2	45.0	42.3	22.9	34.0	40.6	44.1
110	Rwanda	37.2	54.3	42.0	26.0	24.3	34.4	53.0
111	Nepal	36.8	58.4	35.7	23.9	27.3	34.0	53.4
112	Ghana	36.6	53.8	36.5	26.6	30.9	31.6	47.4
113	Cambodia	36.6	42.9	39.3	22.4	33.4	44.0	43.3
114	Vanuatu	36.3	47.4	49.7	24.4	30.0	32.7	40.8
115	Guyana	35.9	54.5	30.2	24.6	32.8	39.6	40.5
116	Lao People's Democratic Republic	35.7	43.3	44.1	21.0	27.9	41.3	45.1
117	Namibia	35.4	44.0	36.0	26.1	27.4	37.0	46.8
118	Cuba	34.5	60.9	40.6	23.6	17.9	33.2	49.0
119	Palestine, State of	34.5	52.9	37.6	23.5	32.0	32.8	34.6
120	Pakistan	34.5	41.7	36.0	27.1	24.7	35.7	47.1
121	Senegal	34.5	44.7	44.4	19.0	25.4	34.2	51.6



Heat map

RANK	COUNTRY	GKI 2026	Pre-university education	TVET and Higher education	RDI	ICT	Economy	ESG
122	Honduras	34.4	47.1	37.3	20.4	26.8	39.2	43.7
123	Tajikistan	34.0	60.5	42.4	15.1	24.9	34.0	46.9
124	Bangladesh	33.9	53.1	28.1	22.6	27.2	35.6	46.2
125	Cameroon	32.4	46.0	37.2	24.0	24.5	27.9	40.7
126	Mauritania	32.0	52.4	44.8	16.4	23.9	30.6	38.0
127	Tanzania (United Republic of)	31.8	45.2	31.4	22.2	21.5	32.7	47.1
128	Côte d'Ivoire	31.7	36.4	42.2	16.8	24.2	34.1	47.7
129	Zimbabwe	31.5	43.3	40.7	22.5	19.7	30.7	41.2
130	Malawi	31.5	44.8	39.5	23.3	19.1	24.6	50.9
131	Myanmar	31.4	40.2	38.4	18.1	22.3	39.7	38.4
132	Kiribati	31.0	58.5	41.4	14.2	21.4	24.7	49.2
133	Eswatini (Kingdom of)	30.9	54.0	19.9	24.9	27.7	32.4	36.6
134	Sao Tome and Principe	30.9	61.7	37.1	23.0	20.1	21.9	37.3
135	Lesotho	30.3	50.9	33.5	17.7	23.1	28.7	39.1
136	Benin	30.3	40.4	32.5	19.3	21.6	29.9	47.8
137	Ethiopia	30.2	41.1	46.7	17.3	15.8	31.7	46.0
138	Timor-Leste	30.1	50.8	41.4	13.5	24.4	30.7	35.2
139	Togo	30.1	41.1	35.1	13.1	23.4	36.6	46.0
140	Nicaragua	29.6	38.3	33.5	16.5	25.0	32.8	38.9
141	Madagascar	28.7	39.1	28.9	19.4	18.4	30.9	45.1
142	Mozambique	28.3	45.7	35.5	16.1	16.4	30.7	38.9
143	Gambia	28.1	44.4	27.2	19.3	15.1	29.1	47.6
144	Burkina Faso	27.7	34.1	30.1	20.0	19.8	25.5	44.0
145	Syrian Arab Republic	26.9	47.5	25.4	21.6	23.2	15.3	41.1
146	Congo	26.5	35.6	34.6	19.8	18.6	22.3	34.8
147	Angola	26.0	34.6	33.0	11.9	21.0	27.9	39.0
148	Mali	25.9	33.4	36.6	11.6	17.1	28.9	43.4
149	Comoros	25.8	46.3	29.1	16.3	18.0	22.5	33.2
150	Niger	24.2	27.9	40.8	10.2	13.9	29.1	42.7
151	Afghanistan	22.7	26.4	30.9	14.9	14.6	28.9	26.6
152	Guinea	22.6	29.3	17.6	12.0	21.3	24.7	41.5
153	Congo (Democratic Republic of the)	22.6	39.1	28.4	10.1	14.5	22.7	36.3
154	Burundi	22.4	33.4	38.6	12.0	8.7	23.2	40.1
155	Chad	20.0	23.6	32.5	10.6	11.2	18.8	37.6
n/a	Andorra	n/a	61.1	48.2	35.5	63.3	n/a	n/a
n/a	Bahamas	n/a	62.3	n/a	n/a	40.6	41.3	52.2
n/a	Barbados	n/a	n/a	23.8	31.5	43.1	46.4	53.5
n/a	Bolivia (Plurinational State of)	n/a	57.9	n/a	21.8	28.6	39.9	42.1
n/a	Central African Republic	n/a	n/a	n/a	11.7	9.4	15.3	33.1
n/a	Djibouti	n/a	44.6	n/a	20.7	n/a	33.4	37.7



Heat map

RANK	COUNTRY	GKI 2026	Pre-university education	TVET and Higher education	RDI	ICT	Economy	ESG
n/a	Dominica	n/a	60.9	n/a	n/a	36.2	n/a	n/a
n/a	Equatorial Guinea	n/a	n/a	n/a	n/a	20.7	31.6	29.5
n/a	Eritrea	n/a	n/a	28.2	n/a	n/a	n/a	33.5
n/a	Gabon	n/a	50.6	n/a	23.3	28.6	31.4	41.3
n/a	Guinea-Bissau	n/a	n/a	n/a	10.5	14.6	18.7	37.1
n/a	Haiti	n/a	39.1	n/a	n/a	21.6	20.2	37.1
n/a	Iraq	n/a	n/a	n/a	27.2	28.0	25.5	43.0
n/a	Korea (Democratic People's Republic of)	n/a	n/a	n/a	n/a	n/a	n/a	41.7
n/a	Liberia	n/a	40.5	n/a	17.0	18.0	26.0	45.7
n/a	Libya	n/a	n/a	n/a	17.3	39.0	29.3	31.9
n/a	Liechtenstein	n/a	n/a	49.9	63.4	68.1	n/a	n/a
n/a	Marshall Islands	n/a	64.1	46.3	n/a	22.7	34.8	43.1
n/a	Micronesia (Federated States of)	n/a	n/a	n/a	n/a	23.5	n/a	n/a
n/a	Monaco	n/a	62.4	53.2	n/a	68.0	n/a	n/a
n/a	Naoero (Republic of)	n/a	50.8	n/a	n/a	n/a	n/a	n/a
n/a	Nigeria	n/a	48.3	n/a	20.2	28.4	30.1	44.3
n/a	Palau	n/a	57.7	n/a	n/a	32.8	46.8	n/a
n/a	Papua New Guinea	n/a	n/a	n/a	11.8	18.5	29.4	37.9
n/a	Paraguay	n/a	51.2	n/a	21.7	38.5	43.8	50.7
n/a	Saint Kitts and Nevis	n/a	55.2	n/a	36.4	41.5	n/a	n/a
n/a	Saint Vincent and the Grenadines	n/a	57.0	n/a	25.8	36.0	33.0	n/a
n/a	San Marino	n/a	65.2	44.8	n/a	57.0	n/a	n/a
n/a	Sierra Leone	n/a	42.1	n/a	16.0	12.9	28.9	45.8
n/a	Solomon Islands	n/a	44.0	n/a	16.8	15.2	22.4	n/a
n/a	Somalia	n/a	n/a	n/a	n/a	18.0	28.3	29.8
n/a	South Sudan	n/a	n/a	n/a	n/a	7.8	n/a	15.8
n/a	Sudan	n/a	n/a	n/a	15.3	15.8	19.2	30.1
n/a	Suriname	n/a	44.8	n/a	27.6	37.4	34.7	39.9
n/a	Turkmenistan	n/a	59.9	35.3	n/a	18.0	32.5	31.1
n/a	Tuvalu	n/a	54.4	25.9	n/a	27.0	32.9	n/a
n/a	Uganda	n/a	n/a	n/a	21.1	17.4	34.7	46.8
n/a	Venezuela (Bolivarian Republic of)	n/a	41.2	n/a	18.3	27.2	23.0	33.8
n/a	Yemen	n/a	n/a	n/a	20.9	17.1	19.9	29.7
n/a	Zambia	n/a	46.2	n/a	19.5	24.3	32.1	47.2



Sub-index results

Pre-university education

RANK	COUNTRY	SCORE
1	Korea (Republic of)	78.0
2	Belarus	75.5
3	Slovenia	73.0
4	Poland	72.9
5	Japan	72.5
6	Switzerland	72.3
7	Kyrgyzstan	72.0
8	Sweden	72.0
9	Belgium	71.7
10	Canada	70.9
11	Portugal	70.9
12	United Kingdom	70.8
13	France	70.3
14	Norway	70.1
15	Spain	70.1
16	Hong Kong, China (SAR)	70.0
17	Germany	69.8
18	Uzbekistan	69.8
19	Kazakhstan	69.6
20	Israel	69.6
21	Australia	69.3
22	Latvia	69.2
23	Russian Federation	69.2
24	Lithuania	69.1
25	Finland	69.0
26	Serbia	69.0
27	Estonia	68.7
28	United Arab Emirates	68.5
29	United States	68.5
30	Slovakia	68.4
31	Singapore	68.4
32	Denmark	68.3
33	China	68.0
34	Croatia	67.6
35	Hungary	66.7
36	Georgia	66.6
37	Netherlands	66.5
38	Costa Rica	66.3
39	Armenia	66.3
40	Cyprus	66.2
41	Bulgaria	66.0
42	Peru	66.0
43	Mongolia	65.9
44	Italy	65.8
45	Bhutan	65.7
46	Austria	65.4
47	Türkiye	65.3
48	San Marino	65.2
49	Malta	65.1
50	Ukraine	65.0
51	Jamaica	64.8
52	Montenegro	64.7
53	Marshall Islands	64.1
54	Czechia	63.1
55	Viet Nam	62.7
56	Saint Lucia	62.6
57	Mauritius	62.4
58	Monaco	62.4
59	North Macedonia	62.3
60	Ireland	62.3
61	Bahamas	62.3
62	Greece	62.1
63	New Zealand	61.8
64	Thailand	61.8
65	Sao Tome and Principe	61.7
66	Luxembourg	61.3
67	Andorra	61.1
68	Cuba	60.9
69	Dominica	60.9
70	Romania	60.8
71	Iceland	60.7
72	Tajikistan	60.5
73	Brazil	60.3
74	Colombia	60.2
75	Turkmenistan	59.9
76	Trinidad and Tobago	59.6
77	Mexico	59.5
78	Uruguay	59.3
79	Azerbaijan	59.3
80	Iran (Islamic Republic of)	59.2
81	Fiji	59.0
82	Kenya	58.8
83	Malaysia	58.7
84	Moldova (Republic of)	58.6
85	Ecuador	58.5
86	Kiribati	58.5
87	India	58.5
88	Nepal	58.4
89	Algeria	58.4
90	Chile	58.3



RANK	COUNTRY	SCORE
91	Antigua and Barbuda	58.0
92	Bolivia (Plurinational State of)	57.9
93	Palau	57.7
94	Cabo Verde	57.6
95	Saudi Arabia	57.5
96	Saint Vincent and the Grenadines	57.0
97	Jordan	57.0
98	Albania	56.9
99	Lebanon	56.6
100	Bahrain	56.5
101	Tonga	56.0
102	Maldives	55.9
103	Bosnia and Herzegovina	55.7
104	El Salvador	55.6
105	Saint Kitts and Nevis	55.2
106	Brunei Darussalam	55.0
107	Dominican Republic	54.7
108	Guyana	54.5
109	Tuvalu	54.4
110	Rwanda	54.3
111	Sri Lanka	54.2
112	Eswatini (Kingdom of)	54.0
113	Qatar	53.9
114	Philippines	53.8
115	Ghana	53.8
116	Egypt	53.6
117	Panama	53.4
118	Bangladesh	53.1
119	Palestine, State of	52.9
120	Mauritania	52.4
121	Botswana	52.1
122	Tunisia	52.1
123	Indonesia	51.4
124	Oman	51.3
125	Argentina	51.3
126	Samoa	51.2
127	Paraguay	51.2
128	Seychelles	51.0
129	Lesotho	50.9
130	Naoero (Republic of)	50.8
131	Timor-Leste	50.8
132	Gabon	50.6
133	Grenada	50.5
134	Kuwait	49.1
135	Belize	48.9
136	South Africa	48.3
137	Nigeria	48.3
138	Morocco	47.7
139	Syrian Arab Republic	47.5
140	Vanuatu	47.4

RANK	COUNTRY	SCORE
141	Honduras	47.1
142	Comoros	46.3
143	Zambia	46.2
144	Cameroon	46.0
145	Mozambique	45.7
146	Tanzania (United Republic of)	45.2
147	Guatemala	45.0
148	Suriname	44.8
149	Malawi	44.8
150	Senegal	44.7
151	Djibouti	44.6
152	Gambia	44.4
153	Namibia	44.0
154	Solomon Islands	44.0
155	Zimbabwe	43.3
156	Lao People's Democratic Republic	43.3
157	Cambodia	42.9
158	Sierra Leone	42.1
159	Pakistan	41.7
160	Venezuela (Bolivarian Republic of)	41.2
161	Ethiopia	41.1
162	Togo	41.1
163	Liberia	40.5
164	Benin	40.4
165	Myanmar	40.2
166	Congo (Democratic Republic of the)	39.1
167	Madagascar	39.1
168	Haiti	39.1
169	Nicaragua	38.3
170	Côte d'Ivoire	36.4
171	Congo	35.6
172	Angola	34.6
173	Burkina Faso	34.1
174	Mali	33.4
175	Burundi	33.4
176	Guinea	29.3
177	Niger	27.9
178	Afghanistan	26.4
179	Chad	23.6



Sub-index results

TVET and Higher education

RANK	COUNTRY	SCORE
1	Switzerland	66.6
2	Germany	64.8
3	Norway	64.7
4	Netherlands	63.5
5	Australia	63.2
6	Belgium	63.1
7	United Kingdom	63.1
8	Finland	62.9
9	Austria	62.9
10	Slovenia	61.8
11	Sweden	61.5
12	Hungary	61.2
13	Luxembourg	60.6
14	Singapore	60.6
15	Greece	60.4
16	Denmark	60.1
17	Croatia	60.0
18	United States	59.7
19	France	59.4
20	Israel	59.4
21	Latvia	59.3
22	United Arab Emirates	59.0
23	Czechia	58.9
24	Lithuania	58.7
25	Spain	58.4
26	Poland	58.0
27	New Zealand	57.9
28	Portugal	57.9
29	Slovakia	57.9
30	Malta	57.7
31	Canada	57.4
32	Georgia	57.3
33	Korea (Republic of)	57.2
34	Ireland	57.2
35	Türkiye	56.7
36	Estonia	56.7
37	Ukraine	56.2
38	Italy	55.5
39	Chile	55.2
40	Iceland	54.5
41	Bulgaria	54.3
42	Belarus	53.5
43	Russian Federation	53.3
44	Japan	53.3
45	Romania	53.3

RANK	COUNTRY	SCORE
46	Monaco	53.2
47	Hong Kong, China (SAR)	52.8
48	Saudi Arabia	52.6
49	Serbia	52.0
50	Azerbaijan	51.8
51	Costa Rica	51.3
52	Mongolia	51.0
53	Cyprus	50.9
54	Montenegro	50.9
55	Liechtenstein	49.9
56	Vanuatu	49.7
57	Armenia	49.7
58	Seychelles	49.4
59	Ecuador	48.7
60	Iran (Islamic Republic of)	48.7
61	Moldova (Republic of)	48.6
62	Mexico	48.5
63	Andorra	48.2
64	Kazakhstan	47.8
65	Grenada	46.9
66	Kyrgyzstan	46.9
67	Brunei Darussalam	46.7
68	Ethiopia	46.7
69	Uzbekistan	46.6
70	Colombia	46.6
71	Marshall Islands	46.3
72	Egypt	46.2
73	Bosnia and Herzegovina	46.1
74	Lebanon	45.9
75	Brazil	45.9
76	Uruguay	45.6
77	North Macedonia	45.4
78	Philippines	45.4
79	Thailand	45.4
80	Qatar	45.3
81	San Marino	44.8
82	Mauritania	44.8
83	India	44.7
84	Senegal	44.4
85	Lao People's Democratic Republic	44.1
86	Panama	44.1
87	Peru	43.8
88	Oman	43.7
89	Indonesia	43.3
90	China	43.2



RANK	COUNTRY	SCORE
91	South Africa	43.1
92	Trinidad and Tobago	42.4
93	Tajikistan	42.4
94	Viet Nam	42.3
95	Guatemala	42.3
96	Côte d'Ivoire	42.2
97	Morocco	42.0
98	Samoa	42.0
99	Algeria	42.0
100	Rwanda	42.0
101	Mauritius	41.9
102	Jordan	41.7
103	Timor-Leste	41.4
104	Tonga	41.4
105	Kiribati	41.4
106	Albania	41.2
107	Niger	40.8
108	Zimbabwe	40.7
109	Cuba	40.6
110	Argentina	40.3
111	Malaysia	39.9
112	El Salvador	39.6
113	Bhutan	39.5
114	Malawi	39.5
115	Cambodia	39.3
116	Sri Lanka	38.9
117	Maldives	38.8
118	Burundi	38.6
119	Myanmar	38.4
120	Antigua and Barbuda	38.0
121	Belize	37.6
122	Palestine, State of	37.6
123	Cabo Verde	37.6
124	Honduras	37.3
125	Saint Lucia	37.3
126	Cameroon	37.2
127	Kenya	37.2
128	Sao Tome and Principe	37.1
129	Jamaica	37.1
130	Mali	36.6
131	Ghana	36.5
132	Pakistan	36.0
133	Namibia	36.0
134	Kuwait	35.9
135	Nepal	35.7
136	Bahrain	35.5
137	Mozambique	35.5
138	Tunisia	35.4
139	Turkmenistan	35.3
140	Togo	35.1

RANK	COUNTRY	SCORE
141	Dominican Republic	35.1
142	Congo	34.6
143	Fiji	34.1
144	Lesotho	33.5
145	Nicaragua	33.5
146	Angola	33.0
147	Chad	32.5
148	Benin	32.5
149	Tanzania (United Republic of)	31.4
150	Botswana	31.4
151	Afghanistan	30.9
152	Guyana	30.2
153	Burkina Faso	30.1
154	Comoros	29.1
155	Madagascar	28.9
156	Congo (Democratic Republic of the)	28.4
157	Eritrea	28.2
158	Bangladesh	28.1
159	Gambia	27.2
160	Tuvalu	25.9
161	Syrian Arab Republic	25.4
162	Barbados	23.8
163	Eswatini (Kingdom of)	19.9
164	Guinea	17.6



Sub-index results

Research, development and innovation (RDI)

RANK	COUNTRY	SCORE
1	Switzerland	69.8
2	Singapore	67.2
3	Sweden	67.0
4	Korea (Republic of)	65.9
5	Denmark	64.6
6	Liechtenstein	63.4
7	Germany	63.1
8	Netherlands	62.7
9	Ireland	62.0
10	Israel	61.9
11	Finland	61.8
12	Hong Kong, China (SAR)	61.5
13	Australia	61.3
14	United Kingdom	61.1
15	Austria	59.8
16	Italy	59.7
17	China	58.4
18	Norway	58.3
19	Belgium	58.2
20	France	58.2
21	United States	58.1
22	Slovenia	57.5
23	Czechia	56.6
24	Iceland	56.3
25	Spain	56.3
26	Luxembourg	56.2
27	Japan	55.8
28	New Zealand	55.4
29	Canada	54.0
30	Portugal	53.0
31	Hungary	51.5
32	Estonia	51.2
33	Greece	51.1
34	Cyprus	51.1
35	Malta	50.7
36	United Arab Emirates	49.2
37	Malaysia	49.1
38	Poland	48.5
39	Slovakia	48.4
40	Bulgaria	47.9
41	Lithuania	47.8
42	Croatia	46.2
43	Serbia	46.2
44	Türkiye	44.3
45	Saudi Arabia	43.9
46	Romania	43.4
47	Latvia	42.5
48	Thailand	40.6
49	North Macedonia	40.2
50	Brazil	40.1
51	Oman	39.6
52	Bahrain	38.9
53	Iran (Islamic Republic of)	38.9
54	Qatar	38.8
55	Chile	38.8
56	Jordan	38.5
57	Tunisia	38.5
58	Russian Federation	38.1
59	Viet Nam	37.4
60	Ukraine	37.3
61	Brunei Darussalam	36.9
62	Uruguay	36.8
63	India	36.4
64	Saint Kitts and Nevis	36.4
65	Argentina	36.3
66	Samoa	36.3
67	Bosnia and Herzegovina	36.2
68	Georgia	35.6
69	Andorra	35.5
70	Belarus	35.4
71	Azerbaijan	35.2
72	Armenia	34.9
73	Mexico	34.9
74	Peru	34.9
75	Costa Rica	34.8
76	Kuwait	34.8
77	South Africa	34.4
78	Egypt	34.1
79	Albania	34.1
80	Colombia	34.1
81	Kazakhstan	34.0
82	Lebanon	33.9
83	Morocco	33.5
84	Grenada	33.3
85	Antigua and Barbuda	33.1
86	Indonesia	32.9
87	Mongolia	32.6
88	Philippines	32.4
89	Ecuador	32.3
90	Montenegro	31.9



RANK	COUNTRY	SCORE
91	Moldova (Republic of)	31.8
92	Barbados	31.5
93	Mauritius	31.5
94	Seychelles	31.4
95	Uzbekistan	30.9
96	Algeria	30.8
97	Belize	30.4
98	Fiji	29.2
99	Sri Lanka	28.6
100	Botswana	28.4
101	Trinidad and Tobago	28.2
102	Tonga	28.2
103	Saint Lucia	27.8
104	Suriname	27.6
105	Kyrgyzstan	27.6
106	Kenya	27.5
107	Iraq	27.2
108	Pakistan	27.1
109	Ghana	26.6
110	Cabo Verde	26.1
111	Namibia	26.1
112	Rwanda	26.0
113	Saint Vincent and the Grenadines	25.8
114	Jamaica	25.4
115	Maldives	25.3
116	Panama	24.9
117	Eswatini (Kingdom of)	24.9
118	Guyana	24.6
119	Dominican Republic	24.6
120	Vanuatu	24.4
121	Cameroon	24.0
122	Nepal	23.9
123	Cuba	23.6
124	Palestine, State of	23.5
125	Gabon	23.3
126	Malawi	23.3
127	El Salvador	23.2
128	Sao Tome and Principe	23.0
129	Guatemala	22.9
130	Bangladesh	22.6
131	Zimbabwe	22.5
132	Cambodia	22.4
133	Tanzania (United Republic of)	22.2
134	Bolivia (Plurinational State of)	21.8
135	Paraguay	21.7
136	Bhutan	21.7
137	Syrian Arab Republic	21.6
138	Uganda	21.1
139	Lao People's Democratic Republic	21.0
140	Yemen	20.9

RANK	COUNTRY	SCORE
141	Djibouti	20.7
142	Honduras	20.4
143	Nigeria	20.2
144	Burkina Faso	20.0
145	Congo	19.8
146	Zambia	19.5
147	Madagascar	19.4
148	Gambia	19.3
149	Benin	19.3
150	Senegal	19.0
151	Venezuela (Bolivarian Republic of)	18.3
152	Myanmar	18.1
153	Lesotho	17.7
154	Libya	17.3
155	Ethiopia	17.3
156	Liberia	17.0
157	Côte d'Ivoire	16.8
158	Solomon Islands	16.8
159	Nicaragua	16.5
160	Mauritania	16.4
161	Comoros	16.3
162	Mozambique	16.1
163	Sierra Leone	16.0
164	Sudan	15.3
165	Tajikistan	15.1
166	Afghanistan	14.9
167	Kiribati	14.2
168	Timor-Leste	13.5
169	Togo	13.1
170	Burundi	12.0
171	Guinea	12.0
172	Angola	11.9
173	Papua New Guinea	11.8
174	Central African Republic	11.7
175	Mali	11.6
176	Chad	10.6
177	Guinea-Bissau	10.5
178	Niger	10.2
179	Congo (Democratic Republic of the)	10.1



Sub-index results

Information and communications technology (ICT)

RANK	COUNTRY	SCORE
1	Singapore	77.5
2	Ireland	71.1
3	Finland	68.3
4	Luxembourg	68.2
5	United Arab Emirates	68.1
6	Liechtenstein	68.1
7	Monaco	68.0
8	Netherlands	67.6
9	Sweden	67.4
10	United States	66.3
11	Iceland	66.0
12	Estonia	65.8
13	Denmark	65.3
14	United Kingdom	64.9
15	Hong Kong, China (SAR)	64.5
16	Israel	64.4
17	Andorra	63.3
18	France	63.2
19	Canada	63.0
20	Norway	62.8
21	Switzerland	62.4
22	Austria	61.8
23	Malta	61.3
24	China	61.3
25	Lithuania	61.1
26	Korea (Republic of)	60.7
27	Germany	60.6
28	New Zealand	60.4
29	Belgium	59.8
30	Australia	59.6
31	Japan	59.5
32	Poland	59.4
33	Spain	59.1
34	Bulgaria	58.8
35	Hungary	58.4
36	Czechia	58.4
37	Portugal	58.0
38	Croatia	58.0
39	Slovenia	57.6
40	Saudi Arabia	57.4
41	Latvia	57.4
42	San Marino	57.0
43	Cyprus	56.9
44	Serbia	56.2
45	Brunei Darussalam	55.2
46	Bahrain	54.9
47	Malaysia	54.6
48	Romania	54.5
49	Slovakia	54.0
50	Chile	53.3
51	Qatar	53.1
52	Greece	53.0
53	North Macedonia	52.9
54	Kuwait	52.9
55	Italy	52.8
56	Mauritius	51.8
57	Montenegro	49.6
58	Uruguay	49.6
59	Moldova (Republic of)	49.2
60	Armenia	48.1
61	Brazil	47.3
62	Ukraine	46.8
63	Costa Rica	46.8
64	Belarus	46.6
65	Oman	46.6
66	Russian Federation	46.3
67	Kazakhstan	46.2
68	Georgia	46.0
69	Trinidad and Tobago	45.1
70	Thailand	45.1
71	Albania	44.8
72	Seychelles	44.8
73	Bosnia and Herzegovina	43.5
74	Barbados	43.1
75	Türkiye	42.6
76	Maldives	42.6
77	Azerbaijan	41.8
78	Saint Kitts and Nevis	41.5
79	Colombia	41.4
80	Argentina	41.4
81	Uzbekistan	41.0
82	Morocco	40.8
83	Iran (Islamic Republic of)	40.7
84	Viet Nam	40.6
85	Bahamas	40.6
86	Mongolia	40.0
87	India	40.0
88	Peru	40.0
89	Philippines	39.3
90	Tunisia	39.2



RANK	COUNTRY	SCORE
91	Panama	39.2
92	South Africa	39.0
93	Libya	39.0
94	Mexico	38.7
95	Jordan	38.7
96	Indonesia	38.6
97	Paraguay	38.5
98	Dominican Republic	38.0
99	Grenada	37.5
100	Suriname	37.4
101	Bhutan	36.9
102	Saint Lucia	36.7
103	Belize	36.6
104	Kyrgyzstan	36.5
105	Dominica	36.2
106	Ecuador	36.1
107	Saint Vincent and the Grenadines	36.0
108	Sri Lanka	35.9
109	Lebanon	35.8
110	Egypt	35.8
111	Antigua and Barbuda	34.7
112	Guatemala	34.0
113	Cambodia	33.4
114	El Salvador	33.2
115	Jamaica	32.9
116	Guyana	32.8
117	Palau	32.8
118	Algeria	32.0
119	Palestine, State of	32.0
120	Botswana	31.9
121	Cabo Verde	31.9
122	Fiji	31.5
123	Ghana	30.9
124	Vanuatu	30.0
125	Tonga	29.8
126	Gabon	28.6
127	Bolivia (Plurinational State of)	28.6
128	Nigeria	28.4
129	Iraq	28.0
130	Lao People's Democratic Republic	27.9
131	Eswatini (Kingdom of)	27.7
132	Namibia	27.4
133	Nepal	27.3
134	Bangladesh	27.2
135	Venezuela (Bolivarian Republic of)	27.2
136	Tuvalu	27.0
137	Honduras	26.8
138	Samoa	26.5
139	Kenya	26.1
140	Senegal	25.4
141	Nicaragua	25.0

RANK	COUNTRY	SCORE
142	Tajikistan	24.9
143	Pakistan	24.7
144	Cameroon	24.5
145	Timor-Leste	24.4
146	Rwanda	24.3
147	Zambia	24.3
148	Côte d'Ivoire	24.2
149	Mauritania	23.9
150	Micronesia (Federated States of)	23.5
151	Togo	23.4
152	Syrian Arab Republic	23.2
153	Lesotho	23.1
154	Marshall Islands	22.7
155	Myanmar	22.3
156	Benin	21.6
157	Haiti	21.6
158	Tanzania (United Republic of)	21.5
159	Kiribati	21.4
160	Guinea	21.3
161	Angola	21.0
162	Equatorial Guinea	20.7
163	Sao Tome and Principe	20.1
164	Burkina Faso	19.8
165	Zimbabwe	19.7
166	Malawi	19.1
167	Congo	18.6
168	Papua New Guinea	18.5
169	Madagascar	18.4
170	Liberia	18.0
171	Turkmenistan	18.0
172	Comoros	18.0
173	Somalia	18.0
174	Cuba	17.9
175	Uganda	17.4
176	Mali	17.1
177	Yemen	17.1
178	Mozambique	16.4
179	Sudan	15.8
180	Ethiopia	15.8
181	Solomon Islands	15.2
182	Gambia	15.1
183	Guinea-Bissau	14.6
184	Afghanistan	14.6
185	Congo (Democratic Republic of the)	14.5
186	Niger	13.9
187	Sierra Leone	12.9
188	Chad	11.2
189	Central African Republic	9.4
190	Burundi	8.7
191	South Sudan	7.8



Sub-index results

Economy

RANK	COUNTRY	SCORE
1	Singapore	82.5
2	Switzerland	77.1
3	Luxembourg	73.1
4	Ireland	71.6
5	Sweden	69.9
6	Norway	68.2
7	Denmark	67.7
8	Netherlands	67.5
9	United States	67.2
10	Belgium	67.0
11	Hong Kong, China (SAR)	65.8
12	Austria	65.8
13	Malta	65.5
14	Korea (Republic of)	65.4
15	Germany	65.4
16	United Kingdom	63.6
17	United Arab Emirates	63.5
18	Finland	62.7
19	Canada	61.8
20	France	61.5
21	Israel	61.3
22	Japan	60.9
23	Czechia	60.7
24	Australia	60.2
25	Lithuania	60.0
26	Italy	59.6
27	Portugal	59.2
28	Spain	58.4
29	Estonia	57.9
30	Iceland	57.6
31	Latvia	57.5
32	Hungary	57.2
33	Poland	56.9
34	New Zealand	56.9
35	Slovenia	56.6
36	Slovakia	56.5
37	Malaysia	56.4
38	Qatar	56.0
39	Croatia	54.9
40	Bulgaria	54.5
41	Greece	53.7
42	Panama	53.6
43	Romania	52.9
44	Cyprus	52.7
45	Thailand	52.1

RANK	COUNTRY	SCORE
46	Serbia	52.0
47	China	51.7
48	Mauritius	51.2
49	Viet Nam	51.2
50	Chile	50.7
51	Türkiye	50.4
52	Russian Federation	50.2
53	North Macedonia	50.2
54	Bahrain	49.7
55	Mexico	49.3
56	Bosnia and Herzegovina	49.2
57	Armenia	48.9
58	Brunei Darussalam	48.8
59	Saudi Arabia	48.6
60	Belarus	48.3
61	Georgia	47.7
62	Costa Rica	47.4
63	Trinidad and Tobago	47.1
64	Montenegro	47.0
65	Palau	46.8
66	Seychelles	46.6
67	Kazakhstan	46.6
68	Oman	46.5
69	Moldova (Republic of)	46.5
70	Barbados	46.4
71	El Salvador	46.1
72	Uruguay	46.0
73	Dominican Republic	45.8
74	Albania	45.8
75	Brazil	45.8
76	Argentina	45.1
77	Antigua and Barbuda	44.5
78	Tunisia	44.2
79	Cambodia	44.0
80	Indonesia	44.0
81	Paraguay	43.8
82	Colombia	43.4
83	Grenada	43.4
84	Philippines	43.3
85	Kuwait	43.3
86	Lebanon	42.4
87	Mongolia	42.4
88	Sri Lanka	41.9
89	Ukraine	41.6
90	India	41.4



RANK	COUNTRY	SCORE
91	Lao People's Democratic Republic	41.3
92	Bahamas	41.3
93	Maldives	41.3
94	Guatemala	40.6
95	Saint Lucia	40.1
96	Iran (Islamic Republic of)	40.0
97	Bolivia (Plurinational State of)	39.9
98	Bhutan	39.9
99	Jordan	39.8
100	Myanmar	39.7
101	Guyana	39.6
102	Fiji	39.4
103	Egypt	39.3
104	Honduras	39.2
105	Morocco	38.9
106	Peru	38.5
107	Jamaica	38.4
108	South Africa	38.2
109	Ecuador	37.9
110	Kyrgyzstan	37.3
111	Namibia	37.0
112	Kenya	36.7
113	Belize	36.7
114	Uzbekistan	36.7
115	Togo	36.6
116	Azerbaijan	36.3
117	Samoa	36.1
118	Pakistan	35.7
119	Bangladesh	35.6
120	Marshall Islands	34.8
121	Suriname	34.7
122	Uganda	34.7
123	Rwanda	34.4
124	Senegal	34.2
125	Tonga	34.1
126	Côte d'Ivoire	34.1
127	Nepal	34.0
128	Tajikistan	34.0
129	Botswana	33.8
130	Djibouti	33.4
131	Cuba	33.2
132	Saint Vincent and the Grenadines	33.0
133	Cabo Verde	32.9
134	Tuvalu	32.9
135	Palestine, State of	32.8
136	Nicaragua	32.8
137	Vanuatu	32.7
138	Tanzania (United Republic of)	32.7
139	Turkmenistan	32.5
140	Eswatini (Kingdom of)	32.4

RANK	COUNTRY	SCORE
141	Zambia	32.1
142	Ethiopia	31.7
143	Ghana	31.6
144	Equatorial Guinea	31.6
145	Gabon	31.4
146	Algeria	31.2
147	Madagascar	30.9
148	Mozambique	30.7
149	Timor-Leste	30.7
150	Zimbabwe	30.7
151	Mauritania	30.6
152	Nigeria	30.1
153	Benin	29.9
154	Papua New Guinea	29.4
155	Libya	29.3
156	Gambia	29.1
157	Niger	29.1
158	Mali	28.9
159	Sierra Leone	28.9
160	Afghanistan	28.9
161	Lesotho	28.7
162	Somalia	28.3
163	Cameroon	27.9
164	Angola	27.9
165	Liberia	26.0
166	Iraq	25.5
167	Burkina Faso	25.5
168	Kiribati	24.7
169	Guinea	24.7
170	Malawi	24.6
171	Burundi	23.2
172	Venezuela (Bolivarian Republic of)	23.0
173	Congo (Democratic Republic of the)	22.7
174	Comoros	22.5
175	Solomon Islands	22.4
176	Congo	22.3
177	Sao Tome and Principe	21.9
178	Haiti	20.2
179	Yemen	19.9
180	Sudan	19.2
181	Chad	18.8
182	Guinea-Bissau	18.7
183	Syrian Arab Republic	15.3
184	Central African Republic	15.3



Sub-index results

Environmental, social and governance (ESG)

RANK	COUNTRY	SCORE
1	Sweden	73.1
2	Norway	72.6
3	Switzerland	71.8
4	Iceland	71.1
5	Denmark	70.6
6	Finland	69.2
7	Ireland	68.6
8	United Kingdom	68.5
9	Austria	68.5
10	Slovenia	67.1
11	Germany	66.5
12	Spain	66.4
13	Japan	65.9
14	Portugal	65.6
15	France	65.1
16	New Zealand	65.0
17	Czechia	64.9
18	Netherlands	64.8
19	Lithuania	64.3
20	Australia	64.2
21	Belgium	64.1
22	Italy	63.7
23	Luxembourg	63.7
24	Uruguay	63.5
25	Slovakia	63.1
26	Canada	63.1
27	Korea (Republic of)	62.9
28	Greece	62.4
29	Cyprus	62.3
30	Malta	62.2
31	Estonia	61.6
32	Latvia	61.2
33	Costa Rica	60.9
34	Romania	60.9
35	Singapore	60.8
36	Albania	60.5
37	Poland	60.2
38	Chile	59.9
39	Croatia	59.7
40	Hungary	58.7
41	Montenegro	58.6
42	India	57.2
43	North Macedonia	57.1
44	United Arab Emirates	56.2
45	Dominican Republic	55.8
46	Peru	55.6
47	Bulgaria	55.5
48	Serbia	55.3
49	Israel	55.0
50	Sri Lanka	55.0
51	Philippines	54.8
52	Jordan	54.7
53	Argentina	54.7
54	Thailand	54.5
55	Jamaica	53.7
56	Botswana	53.6
57	Fiji	53.6
58	Bhutan	53.5
59	Brazil	53.5
60	Barbados	53.5
61	Georgia	53.4
62	Nepal	53.4
63	Moldova (Republic of)	53.1
64	United States	53.0
65	Rwanda	53.0
66	Mauritius	52.9
67	Indonesia	52.9
68	Colombia	52.6
69	Uzbekistan	52.6
70	China	52.3
71	Armenia	52.2
72	Bahamas	52.2
73	Malaysia	52.0
74	Senegal	51.6
75	Kenya	51.6
76	Malawi	50.9
77	Bosnia and Herzegovina	50.9
78	Mongolia	50.9
79	Kazakhstan	50.8
80	Paraguay	50.7
81	Mexico	50.5
82	Hong Kong, China (SAR)	50.2
83	Panama	50.0
84	Ukraine	50.0
85	Samoa	49.9
86	Tunisia	49.8
87	Kyrgyzstan	49.6
88	El Salvador	49.4
89	Kiribati	49.2
90	Cuba	49.0



RANK	COUNTRY	SCORE
91	Viet Nam	48.8
92	Cabo Verde	48.6
93	Antigua and Barbuda	48.5
94	Benin	47.8
95	Côte d'Ivoire	47.7
96	Gambia	47.6
97	Egypt	47.5
98	Ghana	47.4
99	Seychelles	47.4
100	Zambia	47.2
101	Ecuador	47.1
102	Pakistan	47.1
103	Tanzania (United Republic of)	47.1
104	Tonga	46.9
105	Tajikistan	46.9
106	Namibia	46.8
107	Uganda	46.8
108	South Africa	46.7
109	Bahrain	46.6
110	Bangladesh	46.2
111	Belize	46.1
112	Oman	46.1
113	Ethiopia	46.0
114	Togo	46.0
115	Morocco	46.0
116	Sierra Leone	45.8
117	Saint Lucia	45.8
118	Liberia	45.7
119	Türkiye	45.6
120	Belarus	45.4
121	Grenada	45.2
122	Lao People's Democratic Republic	45.1
123	Madagascar	45.1
124	Brunei Darussalam	44.7
125	Saudi Arabia	44.4
126	Nigeria	44.3
127	Guatemala	44.1
128	Burkina Faso	44.0
129	Qatar	43.9
130	Russian Federation	43.9
131	Honduras	43.7
132	Mali	43.4
133	Cambodia	43.3
134	Trinidad and Tobago	43.1
135	Marshall Islands	43.1
136	Iraq	43.0
137	Niger	42.7
138	Bolivia (Plurinational State of)	42.1
139	Kuwait	42.0
140	Azerbaijan	42.0

RANK	COUNTRY	SCORE
141	Korea (Democratic People's Republic of)	41.7
142	Guinea	41.5
143	Gabon	41.3
144	Zimbabwe	41.2
145	Syrian Arab Republic	41.1
146	Vanuatu	40.8
147	Cameroon	40.7
148	Guyana	40.5
149	Maldives	40.2
150	Algeria	40.2
151	Burundi	40.1
152	Suriname	39.9
153	Lebanon	39.7
154	Lesotho	39.1
155	Angola	39.0
156	Nicaragua	38.9
157	Mozambique	38.9
158	Myanmar	38.4
159	Mauritania	38.0
160	Papua New Guinea	37.9
161	Djibouti	37.7
162	Chad	37.6
163	Sao Tome and Principe	37.3
164	Iran (Islamic Republic of)	37.2
165	Haiti	37.1
166	Guinea-Bissau	37.1
167	Eswatini (Kingdom of)	36.6
168	Congo (Democratic Republic of the)	36.3
169	Timor-Leste	35.2
170	Congo	34.8
171	Palestine, State of	34.6
172	Venezuela (Bolivarian Republic of)	33.8
173	Eritrea	33.5
174	Comoros	33.2
175	Central African Republic	33.1
176	Libya	31.9
177	Turkmenistan	31.1
178	Sudan	30.1
179	Somalia	29.8
180	Yemen	29.7
181	Equatorial Guinea	29.5
182	Afghanistan	26.6
183	South Sudan	15.8



Regional averages

RANK	REGION	GKI 2026	Pre-university education	TVET and Higher education	RDI	ICT	Economy	ESG
1	OECD	60.6	67.6	58.8	54.8	59.5	60.7	63.6
2	Europe and Central Asia	49.5	64.6	50.1	38.6	49.2	47.0	52.2
3	Latin America and the Caribbean	42.0	55.1	41.3	28.8	36.8	40.9	48.7
4	Asia and the Pacific	41.8	54.8	41.9	30.8	35.1	41.4	47.2
5	Arab States	41.4	53.3	41.4	30.2	36.7	36.4	41.2
6	ICESCO	37.5	49.6	39.4	25.8	31.7	35.1	43.0
7	Africa	31.4	44.2	35.5	19.8	22.1	30.2	43.0





Knowledge: Navigating crises in a changing world

Introduction

Crises today rarely arrive alone. In the space of a few years, the world has experienced a pandemic that, at its peak, closed schools for more than 1.6 billion learners and plunged the global economy into its deepest recession since the Second World War (UNESCO, 2020; World Bank, 2020a); a war in Europe that sent energy and food prices soaring; attacks on shipping in the Red Sea that cut transits through the Suez Canal by 42 percent from their peak (UNCTAD, 2024); and climate disasters including the 2022 floods in Pakistan, which affected 33 million people and caused more than US$30 billion in damage and economic losses (Government of Pakistan et al., 2022). Over the same period, generative artificial intelligence (AI) moved from research laboratories into the hands of hundreds of millions of users, reshaping expectations about work, learning and research almost overnight.

A further stark reminder of how quickly development gains can come under pressure came in 2026. The events that unfolded in the Middle East that began at the end of February cut shipping through the Strait of Hormuz – which carries roughly one fifth of world petroleum consumption – by more than 70 percent, sent Brent crude from around $72 to nearly $120 a barrel and halved traffic through the Suez Canal. Schools in several Gulf countries moved online within days, while in Lebanon the academic year was suspended and more than 325 public schools became shelters for displaced families. UNDP estimates that the escalation could reduce regional gross domestic product (GDP) by between 3.7 and 6.0 percent ($120 billion–$194 billion), eliminate between 1.6 million and 3.6 million jobs (more than a full year of the region's job-creation capacity), set human development back by up to a year and push nearly 4 million additional people into poverty (UNDP, 2026a). Moreover, the underlying development challenge remains sobering: 1.2 billion of the 6.3 billion people covered by the 2026 global Multidimensional Poverty Index – 18.9 percent – live in acute multidimensional poverty and more than half of them are children (UNDP and OPHI, 2026).

These shocks are part of a wider pattern. The world recorded 61 state-based armed conflicts across 36 countries in 2024, the highest number since 1946 (Rustad, 2025). Some 117 million people were forcibly displaced by mid-2025 (UNHCR, 2025) and disasters triggered 45.8 million internal displacements in 2024 alone (IDMC, 2025). Poverty is increasingly concentrated where fragility is greatest: the 61 contexts classified as 'fragile' are home to a quarter of the world's population but 72 percent of its extreme poor (OECD, 2025a). The direct costs of disasters average around $202 billion a year but rise to more than $2.3 trillion once cascading and ecosystem costs are taken into account (UNDRR, 2025). At the same time, the resources available to respond to these disasters are contracting. Official development assistance fell by 23 percent in real terms in 2025, the largest annual drop on record (OECD, 2026a) and 3.7 billion people live in countries that spend more on interest payments than on health or education (UNCTAD, 2026a). With only 35 percent of Sustainable Development Goal (SDG) targets on track or making moderate progress (United Nations, 2025) and global human development advancing at its slowest pace since 1990 outside the pandemic years (UNDP, 2025), the margin for error has narrowed.

Crises not only damage economies; they also strike at the foundations of knowledge itself. In Syria, more than a decade of conflict has destroyed schools and universities, interrupted the education of a generation and driven many academics and skilled professionals abroad. By contrast, Ukraine's experience suggests that knowledge systems can help a country withstand even a full-scale war: digital public services, online and blended schooling and a resilient IT sector appear to have helped preserve essential functions and human capital under extreme pressure.

Crises are also self-perpetuating. Conflict is both a cause and a consequence of underdevelopment: war destroys the incomes, institutions and human capital that sustain peace, leaving countries caught in a 'conflict trap' (Collier et al., 2003). Some 90 percent of the civil wars of the 2000s occurred in countries that had already experienced civil war in the previous 30 years (World Bank, 2011). The same logic applies to knowledge systems. Shocks that close schools, scatter researchers and erode institutions weaken the very capabilities that countries need to recover, while strong knowledge systems help turn vicious circles into virtuous ones.

These shocks have not affected all countries equally. Some absorbed the impact, recovered quickly and used the disruption to accelerate change while others suffered setbacks that will take years, or even a generation, to reverse. Under the theme of 'Knowledge: Navigating crises in a changing world', the Global Knowledge Index Report 2026 asks how this difference can be explained. It argues that a large part of the answer lies in the strength and connectedness of national knowledge systems: the capabilities of people and institutions to learn, to create and share knowledge, to put it to productive use and to sustain and renew development when conditions change.

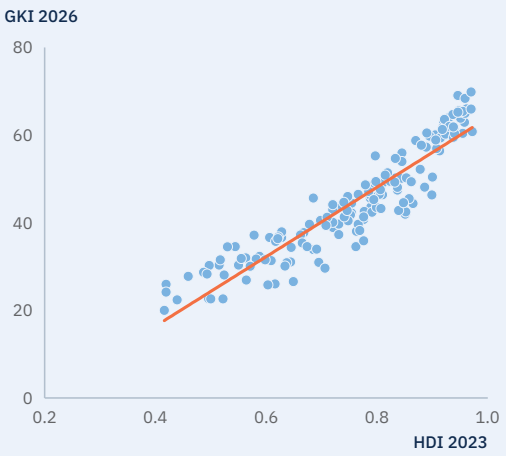
The report rests on a simple premise: knowledge contributes to development not only through its production, but through the capabilities and systems that put it to use. Progress depends on the capabilities that enable individuals, organizations and institutions to create, acquire, adapt and apply knowledge, as well as on the systems that transform these capabilities into economic, social and environmental outcomes (Sen, 1999; Lundvall, 1992). Education develops human capital and learning capacities (Becker, 1964); research, development and innovation expand the knowledge frontier (Romer, 1990); information and communications technology facilitates the circulation and application of knowledge (Castells, 2010); economic systems determine how knowledge is translated into productive and societal outcomes (Foray, 2004); and environmental, social and governance conditions shape the sustainability and resilience of these processes (Folke, 2006). Development emerges not from any single component but from the interactions between them.

Countries with stronger knowledge systems, as measured by the Global Knowledge Index (GKI), tend to achieve higher levels of human development and economic prosperity (Figure 1), although the economic returns to knowledge depend on the institutional and economic environment (Hanushek and Woessmann, 2015).

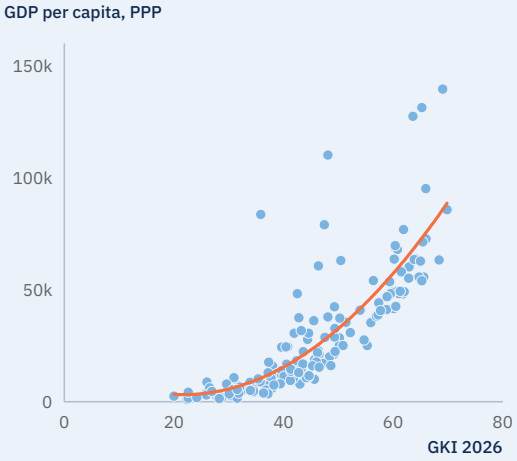
The strength of the relationship between knowledge systems, development and prosperity is striking. Across the 155 countries for which complete data are available, the correlation between GKI scores and the Human Development Index (HDI) is 0.93, and the correlation with (the logarithm of) GDP per capita is 0.83. Countries in the top quarter of the GKI distribution have an average HDI of 0.93 (compared with 0.57 in the bottom quarter) and a median GDP per capita around 13 times higher.[1] Independent studies drawing on GKI data point in the same direction: in Arab countries, for example, knowledge performance as measured by the GKI has been found to be positively and significantly associated with GDP (Khreisat et al., 2024).

FIGURE 1

Knowledge performance, human development and economic prosperity



Source: Team calculations based on data from GKI 2026 and HDI 2023.



Note: GDP per capita data correspond to 2024 and 2025, except for Syria and San Marino, for which the latest available data are from 2022 and 2023, respectively.

Source: Team calculations based on data from GKI 2026 and World Bank, World Development Indicators.

The graphs illustrate the relationship between countries' knowledge performance (GKI scores) and two development measures: the HDI and GDP per capita. In both cases, a positive association is observed, with countries recording higher GKI scores generally also exhibiting higher levels of human development and GDP per capita.

The association between GKI and HDI is particularly strong and consistent. Higher GKI scores are closely associated with higher levels of human development, with countries clustering relatively closely around the overall trend. This pattern holds across different levels of performance, highlighting the close relationship between knowledge capacities and human development. At the same time, some variation among countries with similar HDI levels suggests that comparable levels of human development do not necessarily translate into the same level of knowledge performance.

The relationship between GKI and GDP per capita is also strongly positive but more pronouncedly non-linear. At lower GKI levels, differences in GDP per capita are relatively modest, whereas higher GKI scores are associated with increasingly pronounced differences in income levels. However, the wider dispersion of observations indicates that countries with similar knowledge capacities can experience markedly different income levels, reflecting the influence of factors such as economic structure, institutional quality, resource endowments and market conditions.

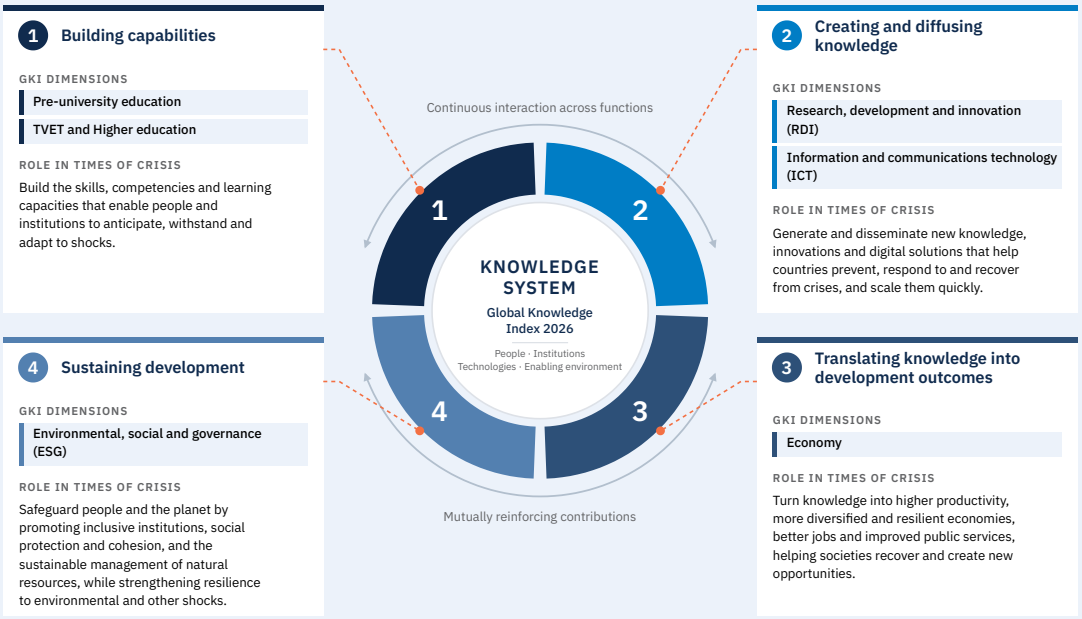
The GKI covers six dimensions that together reflect the multidimensional nature of knowledge-driven development. These dimensions form an integrated system in which performance across different areas is mutually reinforcing and interdependent. The GKI therefore approaches knowledge performance not as the simple sum of achievements across individual dimensions, but as the outcome of their interaction and the broader conditions that shape them (UNDP and MBRF, 2017):

- **Pre-university education:** Provides the foundation for building knowledge and developing the skills and capacities needed for further learning. It captures access, participation, educational attainment and learning outcomes, as well as the quality of the learning environment, including students' well-being.
- **Technical and vocational education and training (TVET) and Higher education:** Encompasses tertiary and non-tertiary learning pathways for post-secondary students and reflects their complementary roles in developing advanced knowledge, skills and competencies. Assesses access, participation, equity and learning conditions, educational attainment and employment outcomes, as well as contributions to research and knowledge exchange.
- **Research, development and innovation (RDI):** Evaluates a country's ability to generate, diffuse and apply new knowledge through research, scientific publications, patents, innovation performance and investment in research and development (R&D).
- **Information and communications technology (ICT):** Reflects the role of digital technologies and infrastructure in enabling access to, exchange and application of knowledge across the knowledge system. It covers connectivity, access, digital skills, technology use and adoption and the conditions supporting digital transformation.
- **Economy:** Examines the extent to which an economy supports knowledge creation and utilization through productivity, competitiveness, economic diversification, entrepreneurship, investment and knowledge-intensive activities.
- **Environmental, social and governance (ESG):** Assesses the sustainability and inclusiveness of development by measuring environmental stewardship, social well-being, institutional quality, governance effectiveness, transparency and societal resilience.

Figure 2 groups these six dimensions into four interrelated functions that explain how knowledge contributes to development, structural transformation and long-term resilience.

FIGURE 2

Knowledge systems and crises: The GKI 2026 framework



Source: GKI 2026 team.

The framework links the six GKI dimensions to four functions of knowledge: building capabilities, creating and diffusing knowledge, translating knowledge into development outcomes and sustaining development. The functions reinforce one another through feedback loops rather than operating as a linear sequence. The lower band shows the four stages through which knowledge systems help countries navigate crises: anticipate, absorb, recover and transform.

The first function is **building capabilities**. Knowledge ultimately depends on the capacity of people to acquire, interpret and apply it. Education provides the foundation for this capacity, enabling individuals to participate in increasingly knowledge-intensive economies and societies and to respond to changing technological and skills demands. As AI and other emerging technologies accelerate the pace at which knowledge and skills evolve, the ability to learn and adapt becomes increasingly important (UNDP, 2025). In times of crisis, these capabilities take on added significance, shaping how effectively people and institutions can respond to disruption, adapt to new circumstances and preserve the foundations for future development.

The second function is **creating and diffusing knowledge**. RDI expands the frontier of what societies know and can do by generating new knowledge, technologies, products and solutions, while ICT allows knowledge and information to circulate at greater speed and scale. Knowledge creation and knowledge diffusion are deeply interconnected because the value of new knowledge depends on the networks, institutions and technological infrastructures through which it circulates (Castells, 2010).

The third function is **translating knowledge into development outcomes**. Knowledge contributes to development when it is transformed into innovation, productivity growth, entrepreneurship, improved public services and broader social and economic opportunities. The capacity to convert knowledge into economic and societal value is a key feature of resilient knowledge systems. It depends on the productive capacities that combine resources, skills and linkages across the economy, enabling knowledge to support sustained growth, job creation and development gains (UNCTAD, 2026b).

The fourth function is **sustaining development**. Knowledge-driven development is not only about what societies are able to create and produce, but also whether progress is sustainable, inclusive and supported by effective institutions. Knowledge and innovation can contribute to better environmental and social outcomes, while sound governance helps ensure that these gains are sustained and widely shared. During crises, these foundations can help protect development gains, reduce vulnerabilities and support a more sustainable and inclusive recovery.

The four functions are interdependent and the balance between them differs across countries. Strengths in one area often coexist with persistent gaps in another and the interactions between dimensions are frequently as important as performance within each. High-quality research depends on skilled people, supportive institutions and collaboration across universities, industry and international partners. Digital infrastructure yields greater returns when users have the skills to exploit it; economic diversification depends on the capacity to develop and apply knowledge. Sustainability transitions require coordinated investment across education, innovation, technology and governance. By bringing these dimensions together in a single framework, the GKI makes such interactions, and the bottlenecks they create, visible. Countries' positions cannot be fully understood by examining individual dimensions in isolation.[2] This systemic perspective becomes particularly important in a rapidly changing world. Economic, technological, environmental and institutional disruptions frequently expose weaknesses that remain hidden during periods of stability. The COVID-19 pandemic revealed which countries could move teaching, work and public services online, and which could not, while the 2021–2022 semiconductor shortage exposed how dependent entire industries had become on a handful of suppliers; and the 2022 energy price shock tested countries' capacities to find alternatives at speed. Such disruptions can also create incentives for innovation, learning and structural transformation.[3] The critical question is not simply whether countries possess knowledge resources, but whether their knowledge systems generate the capabilities, connections and adaptive capacities needed to respond to change, recover from shocks and transform disruption into long-term development opportunities (Folke, 2006).

The lower band of Figure 2 illustrates how knowledge systems help countries navigate crises in four overlapping stages. To anticipate shocks, countries need research capacity, data systems and foresight allowing risks to be monitored and early action to be taken, from disease surveillance to climate early warning systems. Countries with limited multi-hazard early warning coverage record disaster mortality nearly six times higher than those with substantial or comprehensive coverage (UNDRR and WMO, 2024). When a shock hits, the ability to absorb it depends on protecting people and critical capabilities and keeping essential functions running: schools that can switch to remote or blended learning, firms and public administrations that can operate digitally and social protection systems that prevent households from selling assets or withdrawing children from school. To recover, countries must restore the capabilities that had been lost (learning, jobs, research teams, institutional know-how) and learn from the experience. The most resilient systems go further and transform, using disruption as an opportunity to emerge with more diversified economies, more inclusive institutions

and more sustainable development pathways. This sequence is consistent with the Sendai Framework for Disaster Risk Reduction 2015–2030 (UNDRR, 2015) and with the three fronts of the UNDP 'Moving Beyond Crisis Action Agenda' (prepare and prevent; respond and recover; transition and transform), which places development, rather than relief alone, at the centre of crisis response from the first day (UNDP, 2026b). Each GKI dimension contributes towards several of these stages, and weakness in any one of them can turn a temporary shock into a lasting setback.

Three terms are used throughout this report in a specific sense. 'Resilience' refers to the capacity of a society and its knowledge system to anticipate, absorb, recover from and adapt to shocks while preserving – and ideally strengthening – its core development capabilities (Walker et al., 2004). It is therefore about bouncing forward as well as bouncing back. 'Innovation' is understood broadly, as the attempt to create new or improved products, processes or ways of doing things (Fagerberg et al., 2010). It includes the adoption and adaptation of technologies and practices that are new to a firm, sector or country, not only research at the global frontier, which matters because most innovation in developing and crisis-affected economies takes this form. 'Transformation' refers to structural change towards more productive, knowledge-intensive, inclusive and sustainable patterns of development, as distinct from 'recovery', which restores that which previously existed.

The remainder of this report follows the four functions of the framework. It examines how countries build capabilities through pre-university education, TVET and higher education; how research, innovation and digital technologies create and diffuse knowledge; how the economy translates knowledge into development outcomes; and how environmental, social and governance conditions sustain and renew development. Throughout, cross-country relationships are reported as associations rather than causal estimates, showing where knowledge capabilities and development outcomes move together rather than a direction of causality.

Building capabilities: From foundational learning to advanced skills

All parts of the knowledge system depend on people and their ability to learn, master new skills and keep adapting as circumstances change (Deming, 2022). These capabilities become particularly important during periods of disruption, shaping how individuals, institutions and economies respond to change and recover from shocks.

Within the GKI framework, Pre-university education and TVET and Higher education represent two connected stages of this process. While Pre-university education lays the foundations of literacy, numeracy and learning capacity, TVET and Higher education turns them into the specialized skills that connect people to work, innovation and wider opportunity.

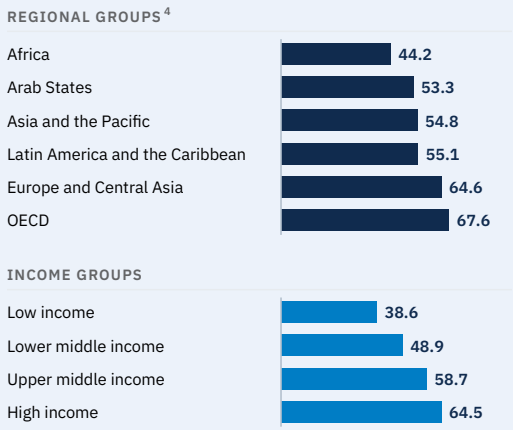
The GKI 2026 results show how unevenly these capabilities are distributed across regions and income groups (Figures 3 and 4). For Pre-university education, high-income countries score an average of 64.5, about 1.7 times the 38.6 recorded by low-income countries, and the ratio is similar in terms of TVET and Higher education (54.4 compared with 34.1). Regional disparities are also substantial. The gap between the Organisation for Economic Co-operation and Development (OECD) and Africa regional groups stands at 23.4 points in relation to Pre-university education and 23.3 points in relation to TVET and Higher education, while the Arab States record averages of 53.3 and 41.4, respectively. Because skills acquired early make later learning easier, early disadvantages tend to compound over time (Cunha and Heckman, 2007), which is why investment in foundational learning shapes everything the knowledge system can later achieve.

Global participation in education has expanded considerably over the past two decades. In 2024, 327 million more students were enrolled in primary and secondary education worldwide than in 2000, marking an increase of about 30 percent (UNESCO, 2026). The focus now extends beyond participation to the quality of learning and the knowledge and skills students gain from their time in education. Enrolment rates and years of schooling provide an important measure of access, while a fuller picture also considers the quality of teaching, the availability of resources, the learning environment and students' well-being (World Bank, 2018). These conditions shape students' ability to learn and develop and are particularly important in pre-university education, where literacy, numeracy, problem-solving and other foundational skills are built, laying the groundwork for further education and lifelong learning.

Building a knowledge society requires that education systems develop capabilities that remain relevant as economic, technological and social conditions evolve. Digitalization, AI, climate transitions, demographic change and recurring economic disruptions are reshaping how people live and work, increasing the value of both strong foundations and the capacity to acquire new knowledge and skills throughout life. Education systems consequently play a broader role, enabling participation in contemporary economies and societies while equipping individuals with the capacity to continue learning and adapting throughout their lives (OECD, 2021).

FIGURE 3

Unequal foundations: Pre-university education across regions and income groups

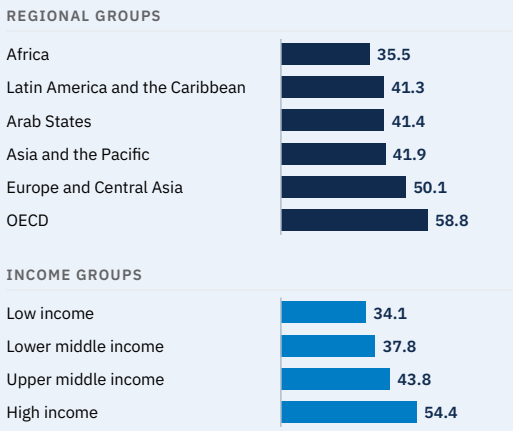


Source: Team calculations based on data from GKI 2026.

Pre-university education performance varies substantially across countries, with outcomes generally improving alongside income levels. OECD and high-income countries achieve the strongest results, while Africa, the Arab States and low-income countries face significant educational challenges, highlighting persistent global inequalities in foundational learning.

FIGURE 4

The advanced skills divide: TVET and Higher education across regions and income groups



Source: Team calculations based on data from GKI 2026.

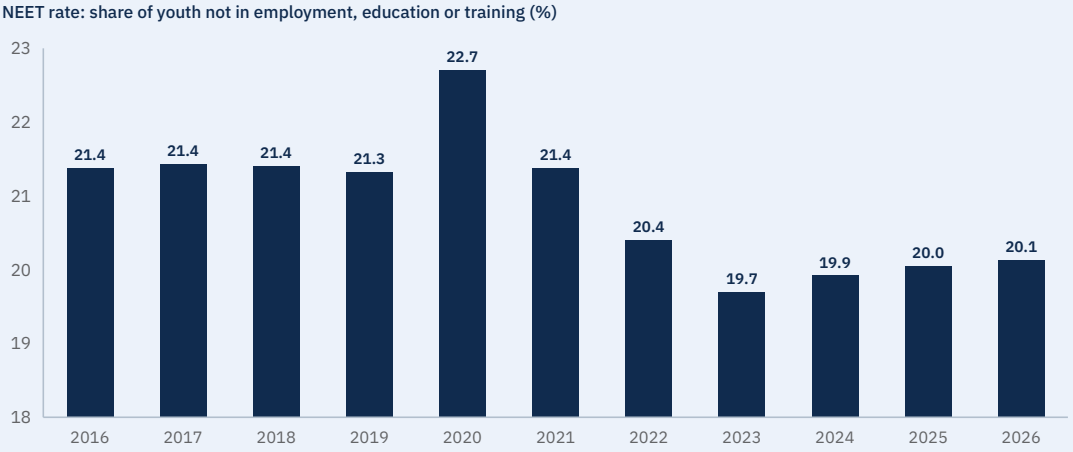
For TVET and Higher education, the results reveal a pronounced development divide, with advanced economies consistently outperforming other groups. Strong performance is concentrated in OECD and high-income countries, while Africa and low-income countries remain well behind, underscoring the importance of institutional capacity, investment and enabling conditions for sustained progress.

Recent crises have shown how quickly learning can be lost and how long these losses can last. During the COVID-19 pandemic, World Bank simulations estimated that a five-month school closure could cost students 0.6 learning-adjusted years of schooling, raise the share of students below minimum proficiency from 40 to 50 percent and reduce the lifetime earnings of the affected cohort by about US$10 trillion in present-value terms (Azevedo et al., 2020). Today, some 234 million school-aged children affected by crises need urgent support to access quality education and 85 million of them are out of school (ECW, 2025). Conflict, displacement and climate-related disasters continue to interrupt education in many parts of the world, with consequences extending well beyond the immediate loss of schooling when learning losses accumulate or learners do not return. The relationship between education and resilience runs in both directions. Education builds the capabilities that help individuals and societies respond and adapt to change, but sustaining those capabilities requires education systems that are themselves prepared for disruption, with contingency plans, flexible delivery models, trained teachers and the digital and physical infrastructure needed to keep learning going when normal arrangements break down.

Educational inequality does not arise at a single point in the learning trajectory. Disadvantage can accumulate as learners move through education. Differences in socio-economic circumstances and access can be compounded by inequalities in the quality of teaching, resources and learning environments, which in turn shape learning, well-being, completion and progression into more advanced levels of education. These disadvantages can also intersect, with wealth, location, gender, disability, language and displacement status influencing educational opportunities in different and overlapping ways (UNESCO, 2024; 2026). This perspective also draws attention to students' experience of education itself. Safe and supportive learning environments, positive relationships and student well-being are not separate from educational quality; they form part of the conditions that enable students to engage, learn and develop. For a knowledge system, these implications extend beyond equity in education itself: unequal opportunities to develop strong foundational capabilities can shape who is subsequently able to acquire advanced skills, participate in research and innovation and adapt to changing technologies and labour markets.

FIGURE 5

The decline in the share of young people not in employment, education or training (NEET) has stalled and begun to reverse in recent years



Source: International Labour Organization, ILOSTAT.

The youth NEET rate surged in 2020 as the COVID-19 pandemic disrupted education, training and employment opportunities. It subsequently declined, reaching its lowest levels in 2023, before edging upwards again. This recent increase may point to challenges in young people's transition from education to work, as labour markets evolve and demand for digital and other skills continues to change.

Building capabilities does not end with education. Their value depends on whether people have opportunities to deepen their knowledge, apply their skills and contribute to economic and social life. TVET and Higher education sit at this critical intersection, linking foundational learning with more specialized knowledge and pathways into employment, research and innovation. Yet these connections are not always strong. In many developing economies, rising educational attainment has not been matched by sufficient growth in suitable high-skilled jobs, contributing to persistent skills and qualification mismatches among young people (ILO, 2024), and progress in reducing the share of young people not in employment, education or training has stalled (Figure 5). For knowledge systems,

this represents more than a labour-market challenge: when skills are underused, countries are also underusing capabilities that could contribute to productivity, innovation and adaptation. Skills are also mobile: when opportunities at home are scarce, talent developed in one country may emigrate and strengthen another country's knowledge system instead, a loss that weighs most heavily on smaller and lower-income countries. Strengthening the pathways between learning, advanced skills and opportunity is therefore central to turning educational progress into knowledge and development gains. Costa Rica shows that strong educational foundations are necessary but not sufficient: their returns depend on the strength of the wider knowledge system (Box 1).

BOX 1

Costa Rica: Investing in people to build resilience

Costa Rica illustrates how relatively strong foundations in education and sustainability can coexist with gaps in other parts of the knowledge system. The country has a long-standing commitment to education and is internationally recognized for its environmental achievements, including forest conservation and the widespread use of renewable energy (OECD, 2025b).

These strengths have developed alongside the country's success in attracting foreign investment and expanding into increasingly knowledge-intensive exports. Yet these gains have not translated evenly across the domestic knowledge system. Participation in global value chains remains below the OECD average, with relatively few domestic small and medium-sized enterprises participating in them, and productivity remains comparatively low (OECD, 2025b).

This unevenness is reflected in the GKI results, with RDI emerging as the most significant area of weakness, alongside challenges in ICT and the Economy. The RDI gap is particularly notable: R&D investment remains low, innovation outputs are limited and links between universities and businesses remain weak. Gaps in digital infrastructure and connectivity also constrain the wider diffusion and use of digital technologies (OECD, 2025b).

Costa Rica's experience highlights an important challenge for knowledge-based development: strong foundations and success in attracting knowledge-intensive activities are not sufficient on their own. Their benefits depend on the capacity of the wider knowledge system to generate, diffuse and apply knowledge across the economy and society.

Technological change is a slower-burning but no less consequential form of disruption. According to the World Economic Forum, 60 percent of employers expect that efforts to broaden digital access will transform their businesses by 2030, while 86 percent expect AI and information-processing technologies to do so. These shifts are expected to affect 22 percent of today's jobs by 2030, through the creation of 170 million new roles and the displacement of 92 million existing ones, while 39 percent of workers' core skills are expected to change over the same period. Alongside AI, big data, networks, cybersecurity and technological literacy, the skills that employers expect to grow fastest include creative thinking, resilience, flexibility, agility, curiosity and lifelong learning (World Economic Forum, 2025). Education cannot prepare learners for a fixed set of future jobs. It needs to combine specialized and technological skills with transferable capabilities and, above all, the capacity to keep learning. The data point in the same direction, showing that educational attainment is closely associated with broad-based learning outcomes (Figure 6).

For TVET and Higher education, this creates a particular challenge: how to remain responsive to technological and labour-market change without becoming narrowly oriented towards immediate skills needs. Specialized technical and professional expertise needs to be accompanied by broader capabilities that enable people to apply knowledge across different contexts and build on it over time. Because initial education can no longer provide all the capabilities people will need throughout their working lives, post-secondary systems are also becoming part of a wider lifelong-learning ecosystem that includes employers, professional bodies and continuing education providers. Flexible learning pathways, short-cycle and modular qualifications and mechanisms to recognize skills acquired outside formal education help individuals adapt to changing labour markets and support economic adjustment during periods of structural change (OECD, 2021).

FIGURE 6

Stronger learning outcomes go hand in hand with higher educational attainment

ATTAINMENT LEVEL	HARMONIZED TEST SCORES
Post-secondary non-tertiary	**0.720**
Bachelor's degree	**0.789**
Master's degree	**0.711**
Doctoral degree	**0.435**

Note: Pearson correlation coefficients (all values significant at 1 percent).

Source: Team calculations based on data from UNESCO Institute for Statistics database and the World Bank Human Capital Index.

Stronger learning outcomes are closely associated with higher educational attainment, particularly at Bachelor's level. The consistently positive correlations suggest that broad-based foundational learning provides an important basis for progression into advanced education, although the relationship becomes weaker at doctoral level, where more specialized factors are likely to play a greater role.

The importance of education also extends beyond knowledge creation to knowledge absorption. Access to technologies, international research networks, foreign investment and global information does not automatically generate development benefits. Firms, workers, universities and public institutions must possess the capabilities required to understand, adapt and apply external knowledge. A workforce with strong foundational and specialized skills is better able to adopt new technologies, adapt them to local conditions and integrate them into productive activities. TVET systems help translate technological advances into occupational capabilities (Cohen and Levinthal, 1990; Nelson and Phelps, 1966), while higher education institutions contribute through specialized expertise and links to research. As the next section shows, the same capabilities shape how widely new general-purpose technologies such as AI are taken up.

Post-secondary institutions play a particular role in recovery. Universities, colleges and TVET providers do more than educate students: they sustain professional communities, generate expertise and connect individuals to wider knowledge networks. After a crisis, they train the engineers, health workers, teachers and technicians needed to rebuild infrastructure, services and economic activity. At their best, they help societies rebuild differently, updating programmes and skills for the economy that is emerging rather than the one that existed before the shock. TVET systems and employment services can also serve as rapid-response infrastructure, offering short-cycle training linked to reconstruction for refugees, internally displaced persons and host communities (UNDP, 2026b). Opening up education and work to displaced people preserves the human capital that recovery will eventually require.

Taken together, the GKI results highlight the cumulative nature of capability formation. Strong foundations support progression into advanced learning, while TVET and higher education deepen the knowledge and skills needed to absorb, adapt and apply knowledge in increasingly complex economies. Education is thus an upstream capability for the knowledge system as a whole (Fagerberg et al., 2010): it supplies the researchers, technicians, managers, entrepreneurs and digitally skilled workers on whom innovation, digital transformation and economic diversification depend. Building these capabilities widely, protecting them through disruption and renewing them as circumstances change are central to the resilience of knowledge systems. Learning lost in a crisis is not simply recovered when schools reopen but resurfaces years later in the form of weaker skills, lower earnings and slower productivity growth.

Creating and diffusing knowledge: Research, innovation and digital capabilities

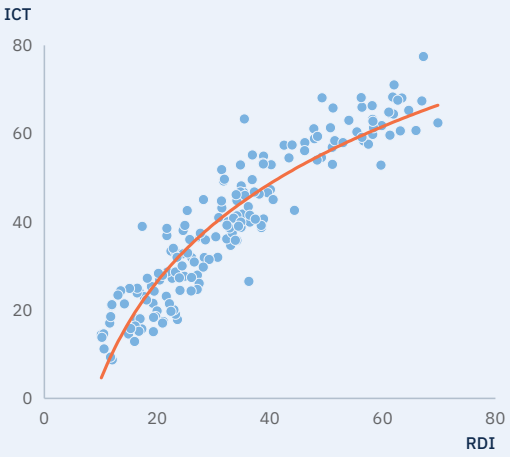
The capabilities developed through education provide the human foundation of a knowledge system. The next challenge is whether countries can turn those capabilities into new knowledge and ensure that it can circulate widely enough to be used. RDI and ICT occupy a central position within this process and perform complementary roles. RDI generates new scientific knowledge, technologies and solutions, while ICT provides the infrastructure through which knowledge can be accessed, shared and used across organizations, sectors and borders. Together, they connect human capabilities to broader economic and societal outcomes.

The relationship between knowledge creation and diffusion is not automatic. Scientific and technological advances can remain concentrated within particular institutions, firms or locations, while access to digital technologies does not necessarily translate into their productive use or further innovation. Recent OECD evidence points to this as an important challenge for knowledge-driven development: innovation remains concentrated among leading firms, sectors and regions, and its wider benefits depend on how effectively technologies and knowledge diffuse beyond the frontier (OECD, 2025c). Diffusion is therefore not simply the movement of information but involves the capacity to adopt, adapt and build on knowledge developed elsewhere.

This is consistent with the close connection between RDI and ICT (Figure 7). Digital technologies expand the possibilities for researchers, firms and institutions to access knowledge, collaborate across distance and participate in wider innovation networks. In turn, the adoption of advanced digital technologies itself depends on complementary capabilities. Evidence regarding technology adoption shows that firms with stronger digital foundations and human capital are better positioned to adopt more advanced technologies, including AI (OECD, 2026b). ICT can widen the reach of knowledge, while RDI and related capabilities shape countries' ability to contribute to, adapt and build on what circulates through these networks.

FIGURE 7

RDI and ICT are interconnected but in a non-linear way



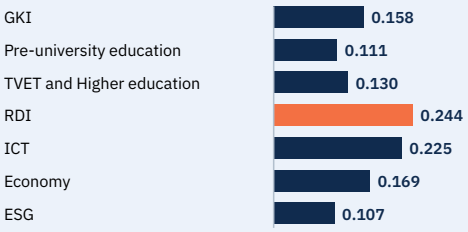
The relationship between RDI and ICT is strongly positive but non-linear. Countries with stronger research and innovation systems tend to achieve higher ICT performance, although gains diminish at higher levels of RDI. The pattern suggests that countries that are able to build sophisticated research and innovation systems also tend to have the infrastructure, skills and institutions needed to develop and use digital technologies effectively.

Source: Team calculations based on data from GKI 2026.

However, these capabilities are unevenly distributed across countries, even more so than in other GKI dimensions (Figures 8 and 9).[5] Research and innovation systems are highly cumulative, relying on advanced skills, researchers, financial resources, research infrastructure, capable firms and strong connections between organizations that create and use knowledge. These elements reinforce one another over time, allowing established innovation systems to build on existing expertise, networks and resources. Conversely, progress in education or digital connectivity does not necessarily translate into strength in research and innovation if broader innovation ecosystems remain underdeveloped (OECD, 2025c).

FIGURE 8

RDI stands out as the most unequal knowledge dimension



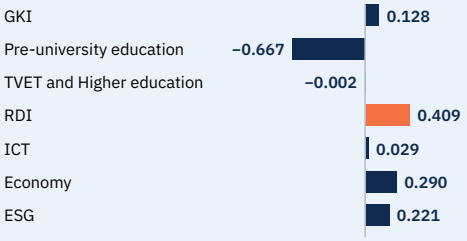
Source: Team calculations based on data from GKI 2026.

The Gini coefficient measures the inequality of the distribution of scores, ranging from 0 (perfect equality) to 1 (perfect inequality).

Global knowledge disparities are largest in innovation and digital capabilities, while Pre-university education and ESG are distributed comparatively more evenly across countries.

FIGURE 9

RDI: A few leaders, many followers



Source: Team calculations based on data from GKI 2026.

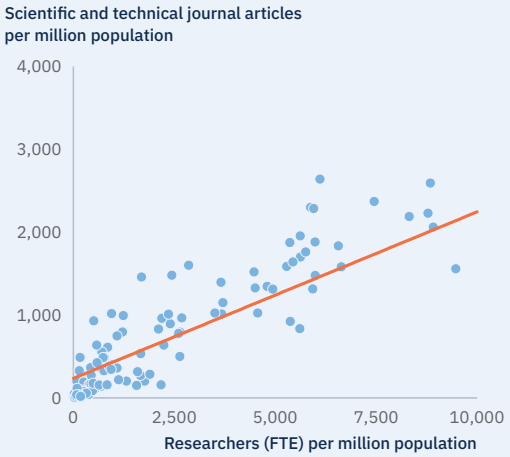
Skewness measures the asymmetry of the distribution: high positive skewness indicates that a few countries have high scores while many have low scores.

While Pre-university education has become widespread globally, innovation and knowledge-based economic performance remain concentrated among a limited number of leading countries.

This highlights an important characteristic of RDI systems: expanding individual inputs does not necessarily produce proportional gains in innovation. Research systems generate different kinds of outputs and their performance cannot be understood through a single input/output relationship. The contribution of science to innovation depends on a wider range of outputs and complementary elements within the system (OECD, 2025c). The GKI results bear this out, showing that researcher density is strongly associated with both scientific publications and patenting, but that the relationships follow markedly different patterns (Figures 10 and 11).

FIGURE 10

Scientific and technical journal articles compared with the number of researchers

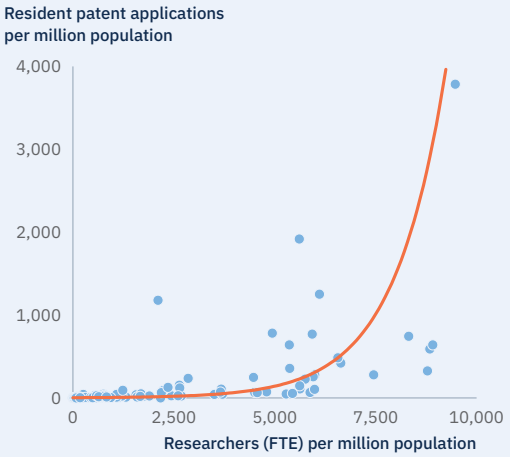


Source: Team calculations based on data from Elsevier Scopus by Analytical and Data Services; the United Nations Department of Economic and Social Affairs, World Population Prospects; and UNESCO Institute for Statistics database.

A strong and nearly linear relationship exists between researcher density and scientific publication output, indicating that countries with larger research communities consistently generate more scientific knowledge.

FIGURE 11

Patent applications compared with the number of researchers



Source: Team calculations based on data from World Intellectual Property Organization, Intellectual Property Statistics Data Center; United Nations Department of Economic and Social Affairs, World Population Prospects; and UNESCO Institute for Statistics database.

Patenting activity increases with researcher density, but the relationship is highly non-linear. Gains remain modest at lower levels of research capacity before accelerating sharply among countries with more mature and research-intensive innovation systems.

This distinction between knowledge creation and knowledge mobilization is particularly important for countries seeking to strengthen their innovation systems. Strong research institutions do not automatically translate into equivalent economic or societal benefits, while countries with more limited frontier research capabilities can still gain from technologies and knowledge developed elsewhere if they are able to identify, absorb, adapt and apply them. Recent OECD evidence places this absorptive capacity at the centre of effective technology diffusion, particularly for firms, regions and countries further from the technological frontier (OECD, 2025c).

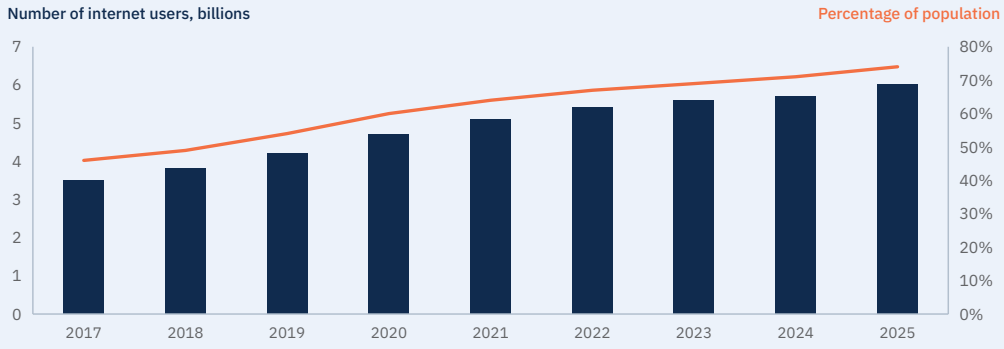
ICT has transformed the scale and speed at which this diffusion can occur. Digital networks allow researchers to collaborate across borders, firms to access technologies and markets, institutions to exchange data and citizens to reach information and services at unprecedented speeds. Global connectivity has expanded rapidly. The International Telecommunication Union (ITU) estimates that around six billion people – close to three quarters of the world's population – were online in 2025 (Figure 12). Yet this expansion has not eliminated the digital divide. ITU's concept of 'universal and meaningful connectivity' emphasizes that effective participation depends not simply on being connected, but on the quality, availability, affordability and security of connectivity, access to appropriate devices and the skills to use them effectively (ITU, 2025a). Affordability is a case in point: although fixed broadband has become markedly cheaper in recent years, it still absorbs a far larger share of income in low-income countries than in wealthier ones (Figure 13).

Wider access to digital infrastructure and global knowledge does not in itself determine how effectively countries can use them. Technological catch-up depends on the capacity to identify relevant technologies, adapt them to local circumstances and integrate them into economic and social activities. Individuals, firms and institutions need the skills and organizational capacity to use digital tools effectively and translate knowledge into productive activity. Advanced technologies tend to build on existing digital foundations and human capital, which strongly shape firms' ability to adopt them (OECD, 2026b).

The rapid development of AI brings these interdependencies into sharper focus. AI is simultaneously a product of advanced research, a tool that can accelerate research and knowledge production and a technology the diffusion of which depends heavily on digital infrastructure, data, skills and institutional capacity. Research output in AI has grown rapidly, with publications in AI journals nearly tripling between 2017 and 2024 (Scimago, 2026). Yet the capabilities required to develop AI remain highly concentrated, with the United States and China together accounting for around one third of all AI publications and 60 percent of AI patents. Access to computing infrastructure and advanced AI skills is also unevenly distributed (UNCTAD, 2025).

FIGURE 12

The number and share of Internet users are growing consistently over time



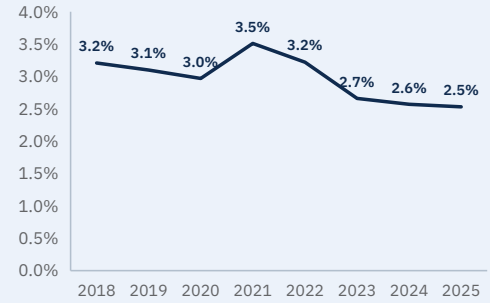
Source: ITU, Facts and Figures 2025.

Global digitalization has advanced steadily, with Internet use expanding from around half of the world's population in 2017 to nearly three quarters in 2025, reflecting the growing importance of digital connectivity while also highlighting the need to address remaining gaps in access and inclusion.

FIGURE 13

Falling broadband costs, enduring digital divides

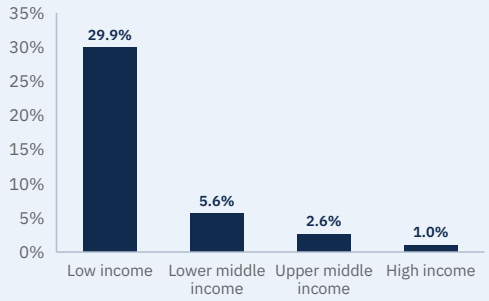
Fixed-broadband Internet 5GB, as a % of GNI per capita



Source: ITU, ITU DataHub.

Fixed-broadband Internet became markedly more affordable between 2022 and 2025, with the cost of a 5GB subscription falling from around 3.2 percent to 2.5 percent of gross national income (GNI) per capita.

Fixed-broadband Internet 5GB, as a % of GNI per capita, by income group



Source: Team calculations based on data from ITU, ITU DataHub.

Broadband affordability remains highly unequal across income groups, with households in low-income countries spending a substantially larger share of their income on Internet access than those in wealthier economies, underscoring a persistent digital divide.

This concentration increases the risk that countries with weaker research and digital capabilities may participate primarily as users of technologies developed elsewhere, rather than as contributors towards their development and adaptation. Unless absorptive capacity is built deliberately, today's knowledge divide risks hardening into tomorrow's AI divide.

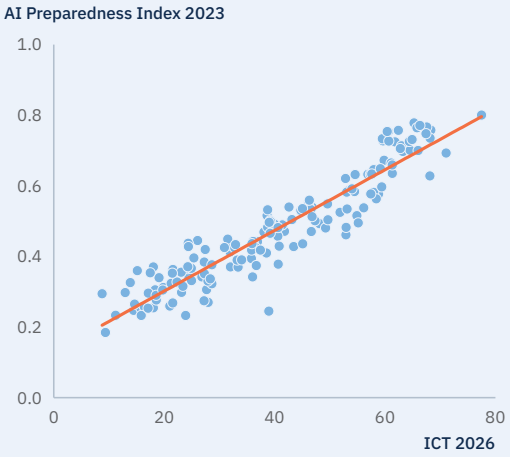
These inequalities extend beyond the development of AI to countries' capacity to adopt and benefit from it. Effective use depends on a range of capabilities, including digital infrastructure, human capital, innovation capacity and institutional readiness. Figure 14 captures this relationship, showing that countries with stronger ICT performance also tend to record higher levels of AI readiness.

Readiness and use follow the same pattern. Access to AI tools may become widespread, but countries will differ considerably in their ability to integrate them into firms, public services and educational institutions, depending largely on the capabilities embedded in individuals and organizations (UNESCO, 2023). Early evidence on adoption bears this out, where AI diffusion is markedly higher in countries with stronger knowledge performance, and the gap widens at higher GKI scores (Figure 15; Microsoft AI Economy Institute, 2026).

The resilience value of these capabilities becomes especially visible during periods of disruption. Digital infrastructure can help maintain essential services and economic activity through remote work, online learning, telemedicine, e-government services and digital commerce. How effectively it does so depends on the capabilities and institutions around it. Countries with stronger ICT performance also tend to have a more resilient Internet infrastructure, although the gains level off as they approach the frontier (Figure 16).

FIGURE 14

Digital foundations for AI: Readiness increases with ICT development



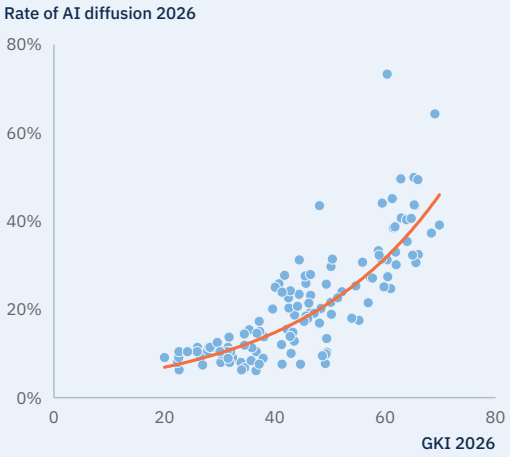
Source: Team calculations based on data from GKI 2026 and IMF AI Preparedness Index 2023 results (IMF, 2023).

The International Monetary Fund (IMF) AI Preparedness Index measures countries' preparedness to adopt and benefit from AI, based on digital infrastructure, human capital, innovation capacity, economic integration and regulatory and ethical frameworks.

AI readiness rises strongly with ICT development, consistent with digital capabilities serving as a foundation for the adoption, diffusion and effective use of AI.

FIGURE 15

AI diffusion is higher where knowledge performance is stronger



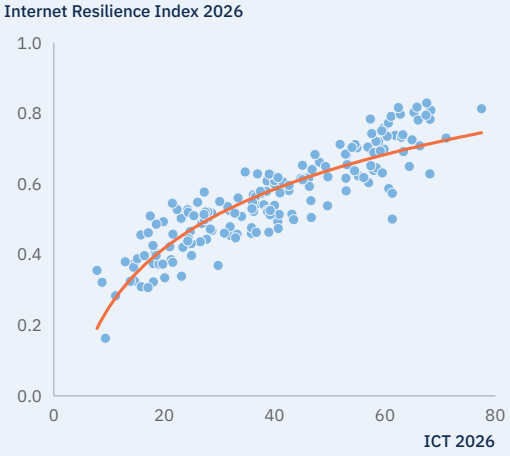
Source: Team calculations based on data from GKI 2026 and Microsoft AI Economy Institute, Global AI Diffusion 2026 results.

Countries with stronger knowledge ecosystems tend to exhibit significantly higher levels of AI diffusion.

The relationship is positive and appears to strengthen at higher levels of knowledge performance, consistent with the view that education, skills, research and digital infrastructure underpin the widespread adoption of AI.

FIGURE 16

Internet resilience increases with ICT development, but gains diminish at higher levels



Source: Team calculations based on data from GKI 2026 and the Internet Society, Internet Resilience Index 2026 results.

The Internet Resilience Index (IRI) measures how well a country's Internet infrastructure can withstand traffic surges, cyber threats and service disruptions.

Internet resilience increases alongside the development of ICT with the largest gains occurring at lower levels of digital maturity and more gradual improvements at higher levels, indicating diminishing returns as countries approach the technological frontier.

The growing digitalization of economies introduces a new dimension to resilience. The systems that support communication, finance, health care, transport, public administration and other essential activities are increasingly interconnected, allowing disruptions in digital infrastructure to spread across sectors and borders (ITU, UNDRR and Sciences Po, 2026). Digital development can strengthen societies' capacity to respond to shocks while also increasing the consequences of failures in the systems upon which they increasingly depend. Resilience in a knowledge economy is thus also about ensuring that growing technological dependence does not itself become a source of vulnerability. Digital expansion also carries an environmental cost, with global electricity consumption by data centres being projected to more than double by 2030 (IEA, 2025). Estonia shows how digital capabilities, combined with solid education and effective governance, can help keep essential services running through a crisis (Box 2).

BOX 2

Estonia: Digitalization and resilience in practice

Estonia provides a compelling example of how resilience can emerge from the interaction of multiple knowledge-system capabilities. While the country performs well across most GKI dimensions, its highest ranking is in ICT, where it ranks twelfth globally. Combined with solid educational outcomes, effective governance and a knowledge-intensive economy, these capabilities have supported Estonia in developing one of the world's most advanced digital societies.

These foundations proved particularly valuable during the COVID-19 pandemic. Estonia's prior investments in digital public services and digital learning infrastructure helped maintain access to essential services and supported the rapid transition to remote learning (World Bank, 2020b). The country's experience highlights how capabilities across the knowledge system can work together to support resilience in times of disruption.

GKI DIMENSION	SCORE	RANK	CONTRIBUTION TO RESILIENCE
Pre-university education	**68.75**	27th	Strong foundational skills and educational attainment support adaptability and lifelong learning.
TVET and Higher education	**56.69**	36th	Produces a skilled workforce capable of adopting and applying new technologies.
RDI	**51.20**	32nd	Supports innovation and problem-solving, although weaker than the digital capabilities of Estonia.
ICT	**65.80**	12th	The strongest dimension of Estonia, underpinning digital government, connectivity and online service delivery.
Economy	**57.87**	29th	Reflects a relatively knowledge-intensive and digitally integrated economy.
ESG	**61.63**	31st	Strong governance and institutional quality support effective crisis management and social resilience.

For countries seeking to strengthen their knowledge systems, the challenge is not simply to expand domestic knowledge production. Knowledge and technological capabilities are unevenly distributed globally, and participation in international research networks, technology clusters and innovation ecosystems remains highly concentrated (Balland et al., 2020). Countries need to combine the development of domestic capabilities with the capacity to access knowledge and expertise from elsewhere, absorb them and adapt them to local needs. Knowledge diffusion is not simply a matter of transmitting information but a process of learning, adaptation and application (Lundvall, 1992).

RDI and ICT therefore shape how knowledge moves from creation to wider use. Their contribution extends across the knowledge system, supporting innovation, technological adoption and the exchange of knowledge across firms, institutions and society. Ultimately, what matters is whether these capabilities can be mobilized in ways that translate knowledge into economic and societal value.

Translating knowledge into development outcomes: From knowledge capabilities to economic and social transformation

Building knowledge capabilities does not guarantee that they will translate into development outcomes. Countries may expand education, research capabilities and digital infrastructure but still struggle to create productive employment, raise firm-level innovation or move into more sophisticated economic activities. The share of high-skilled employment – one marker of how far knowledge is put to work – ranges from 8.5 percent in low-income countries to 42.4 percent in high-income countries (Figure 17). The challenge is therefore one of translation and whether the capabilities accumulated across the knowledge system are absorbed and applied across the productive economy.

The Economy sub-index of the GKI captures how knowledge and capabilities are put to productive use and translated into economic opportunities and broader development outcomes. This depends on a country's capacity to mobilize investment, labour and finance; connect firms to markets through trade and logistics; and create the conditions in which technologies and productive capabilities can be adopted and used effectively. These conditions influence the sophistication and productivity of economic activity, the opportunities available for skilled employment and the ability of economies to develop new sources of value.

FIGURE 17

High-skilled employment as a marker of knowledge-based development

REGIONAL GROUPS	
Africa	**10.5**
Latin America and the Caribbean	**21.6**
Asia and the Pacific	**22.0**
Arab States	**22.3**
Europe and Central Asia	**32.2**
OECD	**43.8**

INCOME GROUPS	
Low income	**8.5**
Lower middle income	**13.4**
Upper middle income	**23.4**
High income	**42.4**

Source: Team calculations based on data from International Labour Organization, ILOSTAT.

The share of high-skilled employment rises consistently with both regional development levels and national income, ranging from only 8.5 to 10.5 percent in low-income countries and Africa to around 42 to 44 percent in high-income and OECD countries. This pattern underscores the close link between economic development, knowledge capabilities and the demand for high-skilled labour.

At the centre of this process are productive capabilities: the resources, skills and connections that enable economies to produce goods and services and progressively expand what they are able to do (UNCTAD, 2026c). These capabilities are accumulated over time. Moving into new and more sophisticated activities requires combinations of knowledge, technologies, skills and organizational capabilities that cannot always be acquired quickly or in isolation. The diversity and complexity of what an economy is able to produce can therefore provide insight into the productive knowledge and capabilities it has accumulated (Hidalgo and Hausmann, 2009).

Productive capabilities emerge through interactions between multiple components of the knowledge system. Education develops skills and learning capacity. Research and innovation create new knowledge and technological opportunities. ICT enables communication, coordination and access to information. Firms and productive organizations apply these capabilities to economic activity, while institutions shape the incentives and conditions under which they operate. Economic transformation therefore depends less on isolated investments in individual areas than on the capacity to combine and mobilize complementary capabilities across the economy. This is also reflected in the SDG 8 framework, which emphasizes the interdependence of investment, technological change, innovation and structural transformation, supported by the collective capabilities that enable societies to learn and adapt (ILO, 2023). Sustained economic progress requires these capabilities to deepen and evolve over time, supporting higher productivity, greater diversification and increasingly sophisticated forms of economic activity.

Firms occupy a central position within this process because they are key actors in turning knowledge and technological capabilities into economic value. They invest in research and innovation, adopt and adapt technologies and bring new products, services and production processes to market. Firms are also important creators of knowledge through learning-by-doing, experimentation, organizational innovation and technology adaptation. Their role extends beyond applying knowledge generated elsewhere. Productive activity itself can generate new knowledge and contribute to its diffusion across the economy (OECD, 2025d). Firm-level innovation does not, however, follow a simple income gradient. The share of firms introducing new products or services is highest in Latin America and the Caribbean, ahead of the OECD, and is higher in low-income than in lower-middle-income countries, suggesting that market dynamics and sectoral structures matter as much as income (Figure 18).

Yet the ability to access technology is different from the ability to use it productively. The process of technological upgrading depends on firms' capacity to identify relevant knowledge and technologies, integrate them into production and adapt them to their own needs. Countries close to the technological frontier often focus on generating new knowledge and technologies. Countries further from the frontier may achieve substantial gains by adopting and adapting technologies developed elsewhere. Recent firm-level evidence shows that technology adoption is closely associated with complementary capabilities, including workforce skills, technological capacity and existing levels of digitalization (OECD, 2026b).

These complementarities help explain why similar technologies can produce different results across firms and countries. The impact of technology is highly dependent on workers' skills, organizational practices, access to finance and the wider environment in which a firm or a country operates. Productivity growth reflects more than technological adoption alone – it depends on how effectively firms combine technology with human, organizational and financial capabilities to generate greater value from available resources.

FIGURE 18

Where firms innovate most: A global comparison

REGIONAL GROUPS	
Arab States	18.6
Europe and Central Asia	19.6
Asia and the Pacific	23.5
Africa	24.3
OECD	37.6
Latin America and the Caribbean	48.8

INCOME GROUPS	
Lower middle income	21.4
Low income	27.3
Upper middle income	30.7
High income	35.6

Note: Data correspond to the 'Percentage of firms producing new products or services' indicator.

Source: Team calculations based on data from World Bank, Enterprise Surveys.

Firm-level innovation does not follow a simple income or regional gradient. While high-income countries record the highest average among income groups, low-income countries outperform lower-middle-income countries, suggesting that the prevalence of product innovation is not determined by income alone. Regional differences are even more pronounced: Latin America and the Caribbean records the highest share of firms introducing product innovations, ahead of the OECD, while the Arab States and Europe and Central Asia record the lowest averages. These patterns suggest that firm innovation reflects not only the level of economic development, but also differences in market dynamics, sectoral structures, competitive pressures and the wider conditions in which firms operate.

These considerations are especially important for economies seeking to reduce dependence on a narrow range of activities. Resource-rich countries, for example, may generate substantial revenues without developing equivalent capabilities in sophisticated production (Hausmann et al., 2007). While resource wealth can finance investments in education, infrastructure and innovation, long-term development depends on whether these investments contribute to capability accumulation (Lall, 1992). Diversification is ultimately about creating durable productive capabilities rather than relying on temporary economic advantages. It requires firms and workers capable of entering new activities, stronger links between research and industry, more advanced technological capabilities and a greater capacity to absorb and apply knowledge.

Diversification also strengthens resilience by reducing dependence on a limited number of products, technologies, markets or trading partners. From a knowledge perspective, it reflects the ability to recombine existing capabilities in new ways, allowing skills, technologies and research capabilities developed in one area to support growth in others (Hidalgo et al., 2007). Diversification reflects the adaptability of a country's knowledge base as much as the composition of its economy. Innovation capabilities contribute to resilience not only by supporting productivity growth but also by enabling firms and economies to adjust to changing technologies, markets and external conditions. Resilience therefore depends not only on the diversity of economic activities but also on the knowledge and innovation capacities that underpin diversification itself.

The supply-chain disruptions and geopolitical tensions discussed earlier illustrate the vulnerabilities associated with excessive dependence on a narrow range of suppliers, technologies or export markets. Economies with more diversified productive structures and stronger domestic capabilities have generally been better positioned to adapt to changing trade patterns, substitute disrupted inputs and maintain economic activity. These experiences reinforce the importance of economic complexity and diversification as sources of resilience. The United Arab Emirates illustrates how sustained investment in knowledge capabilities can support diversification away from hydrocarbons (Box 3).

BOX 3

United Arab Emirates: Diversifying for resilience

The United Arab Emirates shows how a resource-rich economy can use investment in knowledge capabilities to diversify and prepare for future shocks. Although historically dependent on oil and gas revenues, the country has invested heavily in education, digital infrastructure, innovation, advanced technologies and knowledge-intensive industries. These investments are reflected in its strong performance in the ICT dimension (fifth globally) and the Economy dimension (seventeenth globally), complemented by solid educational outcomes and growing innovation capabilities.

In its development strategy, the United Arab Emirates has sought to reduce vulnerability to fluctuations in global energy markets by expanding sectors such as financial services, logistics, renewable energy, tourism, aerospace and digital technologies. The aim is to broaden the base of growth and reduce exposure to energy-market shocks over time. The regional escalation of 2026 has underlined why this agenda matters; its longer-term effects on the country's knowledge system will only become clear in the years ahead. The GKI results show the foundations on which this strategy rests – world-class digital infrastructure and an increasingly diversified economy – as well as the area where further strengthening matters most for sustaining diversification: research and innovation (Government of the United Arab Emirates, 2024), where the country ranks 36th.

GKI DIMENSION	SCORE	RANK	CONTRIBUTION TO RESILIENCE
Pre-university education	**68.53**	28th	Strong educational foundations support skills development and adaptability.
TVET and Higher education	**59.01**	22nd	Expanding advanced skills and talent development support economic transformation.
RDI	**49.25**	36th	Growing innovation capabilities support technological upgrading and diversification.
ICT	**68.13**	5th	World-class digital infrastructure enhances connectivity, service delivery and economic flexibility.
Economy	**63.52**	17th	Highly diversified and increasingly knowledge-intensive economy helps reduce dependence on hydrocarbons.
ESG	**56.18**	44th	Institutional and sustainability capabilities support long-term development and adaptation.

The importance of productive capabilities becomes particularly evident during periods of disruption. Economies with stronger knowledge linkages and more diversified structures are generally better positioned to adjust to changing conditions. Major shocks affect not only physical infrastructure but also the human, organizational and institutional capabilities upon which development depends. Universities, firms, research institutions and professional networks embody accumulated expertise and relationships that can be difficult to replace once lost. As well as physical capital, recovery requires knowledge assets and productive capabilities to be rebuilt.

Institutions play a critical role in this process because knowledge translation occurs within specific regulatory, legal, financial and governance environments. Institutions influence incentives for entrepreneurship, investment, innovation and technology adoption (North, 1990; Rodrik et al., 2004). They also affect the extent to which knowledge circulates between organizations and sectors. This creates an important distinction between knowledge capacity and knowledge utilization. A country may possess substantial human capital and technological capabilities but still fail to realize their full value if institutional barriers prevent their effective use (Acemoglu and Robinson, 2012).

Governance quality, institutional effectiveness and social conditions influence how successfully capabilities convert into outcomes. Economic transformation increasingly takes place within the context of sustainability transitions that require new forms of innovation, skills and organizational capabilities. As economies move towards greener production models and more sustainable resource use, economic competitiveness and sustainability become increasingly interconnected.

Social inclusion is equally important. When access to quality education, digital technologies and economic opportunities remains uneven, significant parts of the population may be unable to participate fully in innovation and productive activity. Inclusive institutions expand the effective utilization of a country's knowledge resources and strengthen the foundations of long-term development.

These observations highlight the risk of a disconnect between investments in knowledge and development outcomes. Governments may expand higher education without creating opportunities for graduates to apply their skills. They may increase research spending without strengthening links to industry. They may invest in digital infrastructure without ensuring that firms and workers possess the capabilities needed to use it effectively. In such situations, investments are not necessarily ineffective, but their impact is constrained by missing complementary capabilities elsewhere in the system. Skills that are not used depreciate and talent that finds no opportunity at home tends to leave.

The value of the GKI lies in its ability to reveal such bottlenecks by examining interactions across multiple dimensions simultaneously. Strong educational performance combined with weak innovation capabilities, strong digital infrastructure combined with limited skills or strong research performance combined with weak economic application all point to different development challenges. The countries profiled in this report reflect these patterns: Costa Rica combines solid educational foundations with much weaker research and innovation (Box 1); the United Arab Emirates ranks 5th in ICT but 36th in RDI (Box 3); and Estonia ranks 12th in ICT but 32nd in RDI (Box 2). Understanding these relationships is essential for identifying where interventions are most likely to generate system-wide benefits.

The Economy dimension can act as a transmission mechanism linking investments in human capital, innovation and technology to development outcomes. In turn, successful economic activity generates new demand for skills, stimulates research and creates resources for further capability development. Development depends not simply on the accumulation of knowledge assets but on their effective mobilization through firms, institutions and productive systems (Lall, 1992). Translating knowledge into development is a systemic process in which knowledge is continuously applied, recombined and renewed, creating opportunities for growth, diversification and resilience (Hidalgo and Hausmann, 2009).

Sustaining development: Environmental, social and governance conditions as enablers of knowledge-driven development

Sustainable development requires more than the accumulation and application of knowledge. Education, innovation, digitalization and economic transformation may generate growth and technological progress but do not automatically ensure that development will be environmentally sustainable, socially inclusive or resilient to disruption (Sachs et al., 2019). Many of the processes that drive progress can also create new vulnerabilities. Economic expansion may increase pressure on natural resources; technological change can widen inequalities and disrupt labour markets; and economic specialization may heighten exposure to external shocks. In addition to generating development, the challenge is also to ensure that development can be sustained and adapted as circumstances change.

The ESG dimension of the GKI provides an important perspective on this challenge by incorporating environmental sustainability, social inclusion and governance into the knowledge-system framework. It extends the analysis beyond productivity and innovation to consider whether societies possess the capabilities needed to maintain development over time while responding effectively to changing conditions. ESG is both an input to and an outcome of the knowledge system: environmental, social and institutional conditions shape how knowledge capabilities are used, preserved and renewed, while those capabilities in turn influence ESG outcomes.

Figure 19 reveals another tension that the knowledge agenda can no longer ignore. Every knowledge dimension is strongly and positively correlated with social resilience and sound governance, but negatively correlated with environmental performance, most markedly for ICT (–0.393), Pre-university education (–0.343) and the Economy (–0.297). Countries with stronger knowledge systems tend to be richer and to consume more energy and materials, placing greater pressure on the planet. So far, knowledge-driven development has not automatically meant green development. The challenge for the coming decade is to put knowledge capabilities to work to decouple prosperity from environmental pressure. The planetary pressures-adjusted HDI tells a similar story: the gap between human development and its planetary cost widens as countries move up the development ladder (UNDP, 2020). The countries with the strongest knowledge systems therefore carry both the greatest responsibility and the greatest capacity to lead this shift.

Aggregate ESG scores can also conceal very different profiles. Countries with similar overall results may combine environmental, social and institutional strengths and weaknesses in very different ways. It is important to understand these differences, because resilience depends not only on outcomes but on the capabilities that sustain them. Singapore, which ranks first in both the ICT and Economy dimensions, shows how strengths across dimensions can reinforce one another to support adaptation (Box 4).

FIGURE 19

Knowledge, society and governance move together; the environment does not

GKI DIMENSION	ENVIRONMENTAL PERFORMANCE	SOCIAL RESILIENCE	SOUND GOVERNANCE	ESG
Pre-university education	−0.343	0.847	0.639	0.698
TVET and Higher education	−0.230	0.789	0.691	0.751
RDI	−0.265	0.830	0.777	0.810
ICT	−0.393	0.873	0.778	0.776
Economy	−0.297	0.825	0.786	0.799

Note: Pearson correlation coefficients

Source: Team calculations based on data from GKI 2026.

The strongest correlations are observed between the knowledge dimensions and social resilience, sound governance, and ESG performance, with Pre-university education, RDI and ICT showing particularly high correlations. In contrast, environmental performance is weakly to moderately negatively associated with all knowledge dimensions, suggesting that advances in knowledge ecosystems do not automatically translate into better environmental outcomes.

BOX 4

Singapore: Building resilience through knowledge and adaptability

Singapore provides a striking example of how resilience can be built through sustained investments in knowledge capabilities. Despite limited natural resources and a high dependence on international trade, the country has developed one of the world's most knowledge-intensive economies. Singapore ranks first globally in both the ICT and Economy dimensions of the GKI, reflecting exceptional digital capabilities and a highly sophisticated economic structure. It also performs strongly in RDI (second globally) and TVET and Higher education (fourteenth), consistent with the role of advanced skills and innovation in adaptation and renewal.

These complementary strengths appear to have supported Singapore's response to successive disruptions, including the COVID-19 pandemic, supply-chain shocks and rapid technological change. Its experience highlights how resilience can be reinforced by a combination of strong institutions, technological capabilities, innovation, workforce skills and the capacity to adjust economic structures in response to emerging challenges (Government of Singapore, 2026). The case points to a central lesson of the GKI framework: resilience is not derived from any single capability but from the interaction between education, innovation, digitalization, economic sophistication and effective governance. Together, these capabilities enhance a country's ability to anticipate challenges, adapt to changing circumstances and sustain long-term development.

GKI DIMENSION	SCORE	RANK	CONTRIBUTION TO RESILIENCE
Pre-university education	**68.36**	31st	Strong educational foundations support skills development, adaptability and lifelong learning.
TVET and Higher education	**60.57**	14th	Produces advanced skills and facilitates continuous workforce upgrading in response to technological change.
RDI	**67.23**	2nd	Strong innovation capabilities support the development and adoption of new technologies and solutions.
ICT	**77.48**	1st	World-leading digital infrastructure and digital readiness enable rapid adaptation and continuity during disruptions.
Economy	**82.52**	1st	Highly sophisticated and diversified economy capable of adjusting to changing global conditions.
ESG	**60.81**	35th	Effective institutions and long-term policy planning support stability and crisis response.

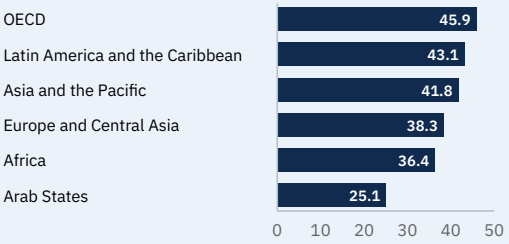
Increasingly, environmental sustainability is itself a knowledge challenge. The transition to lower-carbon, more resource-efficient development depends on new technologies, production systems, organizational practices and technical expertise (Geels, 2011), and scientific and analytical capabilities have become essential for environmental policy, resource management and sustainable investment decisions. An important distinction must be drawn here between economies that have low environmental impacts because they are less industrialized and those that achieve low impacts through efficient and sustainable production. Sustainable development requires improving living standards while reducing the environmental intensity of economic activity, something that depends heavily on innovation and technological capability (Porter and van der Linde, 1995). Advances in renewable energy, resource efficiency, environmental monitoring, circular production and sustainable materials all rely on education, research and digital technologies. Over time, environmental performance is likely to depend more on a country's capacity to create and apply knowledge.

Sustainability is spreading faster in classrooms than in laboratories. Its integration into school curricula varies relatively little across countries. In contrast, climate-related research remains concentrated in wealthier countries with stronger research systems while many of the countries most exposed to climate risks have the least capacity to produce the knowledge they need to adapt (Figure 20).

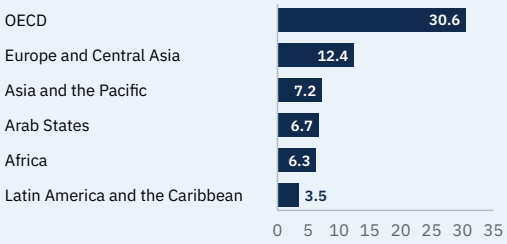
FIGURE 20

From green learning to green knowledge creation: Comparing sustainability in education and research

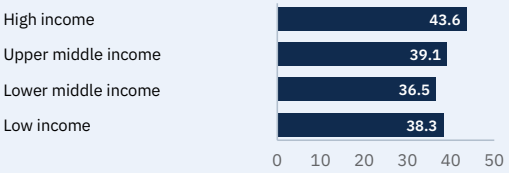
Greening education by region



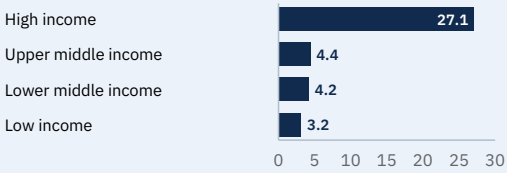
Greening research by region



Greening education by income group



Greening research by income group



Source: Team calculations based on data from the UNESCO Institute for Statistics database.

Greening education measures how well sustainability, climate change and biodiversity are integrated into school curricula, indicating countries' commitments to environmental education and sustainable development.

Source: Team calculations based on data from the Monitoring and Evaluating Climate Communication and Education Project database.

Greening research measures the extent of climate-related research conducted by higher education institutions, relative to the size of the higher education sector. It reflects countries' capacities to generate climate-related knowledge and scientific output.

Greening education and greening research show contrasting patterns across regions and income groups. While sustainability, climate change and biodiversity are increasingly integrated into school curricula worldwide, climate-related research output remains concentrated in wealthier countries with stronger research systems.

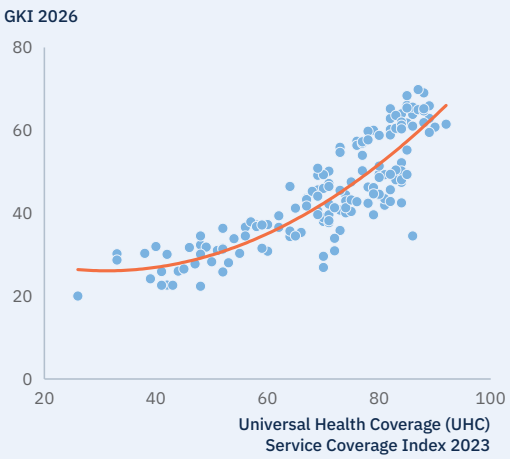
Differences in greening education are relatively modest, suggesting that environmental sustainability has become a widely shared policy priority. In contrast, greening research exhibits much larger disparities, reflecting unequal research capacity and resources.

Overall, although sustainability is becoming embedded in education systems across countries, the production of climate-related knowledge remains closely linked to levels of economic and scientific development.

This relationship generates important feedback loops. Green innovation creates new industries and economic opportunities (Mazzucato, 2021). Emerging sectors increase the demand for skills, research and technological capabilities. Educational institutions adapt by developing new expertise and curricula, while digital technologies support implementation, monitoring and continuous improvement (Lundvall, 2010). Sustainability becomes both an outcome of knowledge development and a driver of further knowledge accumulation (Geels, 2011).

FIGURE 21

Health systems and knowledge performance



Source: Team calculations based on data from World Health Organization, Global Health Observatory and GKI 2026 results.

Higher levels of universal health coverage are associated with markedly stronger knowledge performance. The relationship is non-linear, with knowledge performance rising increasingly steeply once countries achieve relatively high levels of access to essential health services.

The social dimension is equally important because resilience ultimately depends on people and communities. Economic downturns, environmental disasters, technological disruptions and public-health emergencies often impose disproportionate burdens on vulnerable populations. Social protection systems help households maintain income, health and educational participation during periods of disruption, reducing the risk that temporary shocks will result in persistent losses of human capital and opportunity (Barrientos, 2013). Health systems are part of the same foundation. Countries with wider universal health coverage also tend to record stronger knowledge performance (Figure 21).

Education develops capabilities, health systems help maintain them and social protection reduces the likelihood that shocks will permanently erode them. Together, these functions help societies preserve and renew human capital, maintain social cohesion and support long-term recovery and adaptation.

Inclusion represents another important element of sustainable development. Legal rights and formal equality are important, but they do not automatically translate into equal participation in education, employment, leadership or innovation (Sen, 2000). When significant groups face barriers to participation, societies cannot fully utilize their available human capital. Inclusion contributes not only to social equity but also to economic performance and innovation capacity by expanding the pool of talent available for entrepreneurship, research, leadership and knowledge creation (Acemoglu and Robinson, 2012).

Institutional quality is equally central to sustainable and resilient development. Effective institutions coordinate resources, create incentives, establish trust and support cooperation among different actors.

The importance of governance becomes particularly visible during periods of disruption. Governments and institutions play a central role in mobilizing resources, communicating information, implementing policies and supporting adaptation. Educational systems, innovation networks and digital infrastructures all depend on institutional arrangements that facilitate cooperation and collective action (Lundvall, 2010).

This perspective suggests a broader understanding of resilience itself. Contemporary challenges such as climate change, demographic shifts, AI and technological restructuring increasingly require adaptation and transformation rather than a simple return to previous conditions. Under such circumstances, resilience is not merely the capacity to recover from disruption but also the ability to adjust to changing realities and build new capabilities (Folke, 2006).

Ultimately, environmental stewardship, social inclusion and effective governance are not separate from the processes of capability formation, knowledge creation and economic transformation. They shape whether those processes generate durable and broadly shared outcomes. Sustainability and resilience represent the capacity of a knowledge system not only to generate progress, but also to maintain, adapt and renew that progress in response to evolving environmental, social, economic and technological challenges.

Conclusion

Crises do not wait for countries to be ready. In the space of a few years, a pandemic, wars, disrupted trade routes and climate disasters have tested every society. In 2026, the escalation in the Middle East moved schools online within days and put a year of human development at risk across an entire region. Countries have differed widely in how well they coped. Some anticipated these shocks, absorbed them and recovered quickly, in some cases emerging stronger, while others suffered setbacks that will take years to reverse. This report has argued that much of this difference lies in the strength of national knowledge systems, meaning the capabilities that people, firms and institutions build over time and how well those capabilities connect.

The GKI 2026 results support this view. Across 155 countries, knowledge performance moves closely with human development and prosperity. The GKI is correlated at 0.93 with the HDI, and countries in the top quarter of the index have a median GDP per capita around 13 times that of countries in the bottom quarter. These are associations and do not establish cause. Still, they are consistent with a proposition that runs through every section of this report, namely that resilience owes as much to capabilities accumulated patiently and connected deliberately as it does to geography or wealth.

Four findings stand out. First, capabilities take a long time to build and can be lost quickly. Pre-university education lays the foundations that TVET and Higher education turn into specialized skills. At both stages, high-income countries score roughly 1.6 to 1.7 times as high as low-income countries, and a single crisis, such as a school closure, a displacement or a war, can erase in months what took a generation to build. Breadth matters as much as depth: broad-based learning is what sustains advanced skills at scale. Protecting knowledge systems during a crisis is therefore a condition for recovery.

Second, the capacity to create knowledge is highly concentrated. RDI is the most unequal of the six GKI dimensions, and the capabilities required to develop AI are more concentrated still. Connectivity has spread far faster than the capacity to use it, and both readiness for AI and its actual diffusion follow the strength of countries' wider knowledge systems. For most countries, the most important capability is the ability to absorb, adapt and apply knowledge developed elsewhere, which depends on skills, firms and institutions as much as on research laboratories. Without deliberate effort, the current knowledge divide could widen into an AI divide.

Third, capabilities create value only when they are put to use. High-skilled employment accounts for 8.5 percent of jobs in low-income countries, compared with around 42 percent in high-income countries. The relationship works in both directions. More sophisticated and diversified economies create demand for advanced skills and generate the resources to invest in them, which helps explain why similar investments in education or technology yield very different returns across countries. Where economies cannot absorb skills, graduates emigrate, research findings are left unapplied and digital infrastructure remains underused. The structure of the economy largely determines whether knowledge translates into development outcomes.

Fourth, knowledge-driven development has yet to become green development. Every knowledge dimension is positively associated with social resilience and sound governance, but negatively associated with environmental performance. Countries with the strongest knowledge systems carry the greatest responsibility for changing this pattern and also have the greatest capacity to do so. They are well placed to show that the knowledge that has fuelled growth can also help decouple it from planetary pressure.

The country experiences in this report confirm that there is no single path. Costa Rica built on educational foundations and environmental leadership, Estonia on digital government, the United Arab Emirates on economic diversification and Singapore on an integrated, adaptive economy. Each case also shows the limits of relying on any one strength. Resilience comes from the interaction between learning and work, research and diffusion, and technology and institutions. For this reason, the GKI measures knowledge performance as a system in which weakness in one dimension cannot be fully offset by strength in another. Institutions shape each of these connections. They influence the incentives to learn, invest and innovate, and determine whether a society can mobilize its knowledge when a crisis strikes. The main value of the GKI lies in helping each country identify the bottlenecks in its own knowledge system and the connections most worth strengthening.

Knowledge systems must now perform in a world of more frequent and overlapping shocks, rapid technological change and shrinking resources for response. Official development assistance fell by almost a quarter in real terms in 2025, the steepest drop on record. In these conditions, investment in knowledge cannot be postponed until calmer times, since it is how societies prepare for the next crisis while recovering from the last. Its ultimate test is whether people can keep learning, working and shaping their own futures when the next shock comes. Countries that build strong, connected and inclusive knowledge systems will be better able to carry development through disruption and to use each recovery to transform their economies and societies.

Endnotes

1 The median GDP per capita is approximately $55,697 for countries in the top GKI quartile, compared with $4,167 for those in the bottom quartile.

2 This is why the GKI aggregates its six dimensions using a geometric mean: weak performance in one dimension cannot be fully offset by strong performance in another, so the GKI rewards balanced progress across the knowledge system. See the Statistical methodology for further information.

3 The first mRNA vaccines against COVID-19 were developed and authorized in less than a year, building on decades of publicly funded research.

4 Regional groupings adopted follow the UNDP official regional divisions (https://data.undp.org/countries-and-territories), with OECD being added to fully classify countries not included in the UNDP structure.

5 This more uneven distribution also explains why average RDI scores are lower than those of the other GKI dimensions.

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