ORIGINAL ARTICLE

Global Justice Index Report 2023

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Abstract

The Global Justice Index is a multiyear research project based at Fudan Institute for Advanced Study in Social Sciences that assesses the contributions made by each country to achieving greater global justice. We have published results for yeas from 2010 to 2020 in *Global Justice Index Report* from 2019 to 2022, and are now presenting our fifth year of results, covering data from 2021 in *Global Justice Index Report 2023*, which is an updated version of previous years' reports. But, we have been improving our index year by year to with changes that have taken place globally. We have also refined our imputation methodology to better address the challenge of missing data. The report consists of four sections: introduction, findings, main results, and conclusion. In the introduction, we discuss the development of the conceptual framework and evaluative principles to justify our selection of the dimensions and indicators for measurement. Next, in the findings section, we report the data, indicators, and our results for each country for each of the 10 issues we identify, and provide regional comparisons for Asia, Europe, North America, Latin America, Africa, and Oceania. In the following section, we present the main results for the global justice indices, and report the ranking of each country's contribution to achieving greater global justice. In the final section, we discuss the applications and limitations of the index and potential further research trajectories.

Keywords Global Justice Index · Indicators · Measurements · Methods · Country global rankings

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1 Introduction

The Global Justice Index is an ongoing research project conducted by Fudan-IAS to measure the level of global justice achieved by nation-states. From the data collected in this project, we provide a framework for understanding the contribution each country made to greater global justice and show the all-county rankings for each topic. We have published results for yeas from 2010 to 2020[1] and are now presenting our fifth year of results, covering data from 2021. Our report consists of four sections: an introduction, findings, main results, and a conclusion.

Our introduction discusses the conceptual framework for selecting issues, dimensions, and measures. It is important to repeat this information to maintain the integrity of this year's Global Justice Index research, although it has not changed from previous reports. The concept of global justice is widely recognized as a complex one, involving multiple components falling under both normative and empirical realities, requiring an integrated theoretical framework that covers both of these aspects. We clarified our conceptualization of global justice in a theoretical paper and discussed our issue area system on this basis.[2]

Our understanding of global justice draws on diverse theories and intellectual traditions ranging across social, cultural, and political contexts. We recognize three main approaches—rights-based, goods-based, and virtue-based—as the foundations for a coherent theoretical framework that would have a normative basis for measurement. A rights-based approach centers on principles, rules, and the legitimacy of sources. It emphasizes fundamental entitlements and legal protections. A goods-based approach shifts the focus to material and institutional support provided by governments or institutions. It considers the tangible resources necessary for well-being. A virtue-based approach forms a personal pursuit, rather than mere compliance. Motivation and internal willingness drive ethical behavior. These three facets intertwine to form a holistic whole. The rights-based structure provides the foundation (the bones of the body of this report), the goods-based aspect supplies substance (forming the muscle and flesh), and the virtue-focused dimension brings purpose (as the heart).

In our theoretical framework, we propose two evaluative principles to guide the selection of issue areas for assessment. The first principle is the Common but Differentiated and Respective Capabilities (CBDR-RC), which addresses issues "for which no single nation-state can be held directly accountable or responsible, matters that can only be tackled through the globally concerted efforts of all stakeholders".[3] For instance, addressing climate change requires collaboration across countries, as no single nation can address it alone. The second principle is that of Cosmopolitan but Due-diligent Responsibilities (CDDR). This principle holds that "all-nation-states are morally obligated to provide cosmopolitan aid, in which context the least

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[1] Gu et al. (2020, 2021, 2022, 2023).

[2] Guo et al. (2019).

[3] Ibid.

advantaged will have a due-diligent responsibility".[4] This concept aligns with the idea of mutual accountability, as outlined in the Paris Declaration on Aid Effectiveness, which was adopted in 2005 at the Second High Level Forum on Aid Effectiveness to promote improved cooperation among actors in aid and development. According to this principle, all nation-states have a moral obligation to provide cosmopolitan aid, and even the least advantaged have a due-diligent responsibility. Nation-states are expected to offer material and institutional assistance within their territories, including antipoverty measures and education policies.

Following out the principles of CBDR-RC and CDDR, we have selected two clusters of issue areas for global justice in our measurement. The issue areas relating to CBDR-RC are (1) climate change (global warming), (2) peacekeeping, (3) humanitarian aid, (4) terrorism and armed conflicts, (5) cross-national criminal police cooperation, and (6) refugee concerns. The issue areas relating to CDDR are (7) antipoverty, (8) education, (9) public health, and (10) the protection of women and children. In the following sections, we provide rankings for nations' contribution to global justice across these 10 issue areas for 2021. We also incorporate regional comparisons, in depth policy analyses, and visualization tools to enhance our understanding of the role that each country has played in advancing global justice.

This *Global Justice Index report 2023* forms an updated version of previous years' reports, but it is not simply a continuation of them. We have been improving our index year by year to with changes that have taken place globally. For example, to better account for the COVID-19 pandemic in 2019 and related aspects of justice, we incorporated new indicators in certain issue areas (health and humanitarian aid) to measure nations' contributions to promoting global justice in response to COVID-19. In addition, we have bolstered our analysis section by including additional literature and policy implications while delving further into the data from the key countries. We also refined our imputation methodology to better address the challenge of missing data, which has been a persistent issue in compiling our report. Through adopting a more integrated approach utilizing data across issues, we have significantly enhanced the efficacy of our imputation process. These methodological advancements have produced to a more reliable index, with increased imputation rates and reduced errors, allowing for a broader comparison of countries. To maintain comparability and continuity, our methodology, main indicator system, and sources of data remain consistent with last year's report.

1.1 Issue 1: Climate Change

1.1.1 Introduction

In recent years, climate change has rapidly intensified, producing unprecedented effects across centuries that have not been seen across the scale of thousands of years. In 2021, extreme weather increased around the world, including disastrous

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[4] Ibid.

rainstorms in China, mudslides in Japan, and record-breaking heat waves and wildfires in North America.

According to the report "Climate Change 2021: The Physical Science Basis" by Working Group 1 of the United Nations Intergovernmental Panel on Climate Change (IPCC), heavy rainfalls are likely to become more intense and frequent in most regions.[5] There is also evidence that sea levels will continue to rise, and ice will continue to melt, as global warming progresses. In the next 20 or 30 years, the occurrence of extreme weather events will increase significantly, such as hurricanes, flooding, and tornados. With each additional increment of warming, these environmental changes will grow, leading to long-lasting, irreversible implications, in particular with respect to rising sea levels.

The United Nations Secretary-General António Guterres has stated that "the evidence is irrefutable" and "we see the warning signs in every continent and region." Climate change is a global emergency that ignores national borders. It requires international cooperation and coordinated solutions at all levels. The operational details for the practical implementation of the Paris Agreement were agreed upon at the UN Climate Change Conference (COP24) in Katowice, Poland, in December 2018, in what is colloquially called the Paris Rulebook, and were finalized at COP26 in Glasgow, Scotland, in November 2021.

1.1.2 Dimensions and Indicators

Previous reports, assessed the performance of each country's climate change mitigation based on 17 distinct indicators in four dimensions, including energy consumption, electricity production, CO_2 emissions, and forest cover. Due to the data limitations for primary energy consumption, results were obtained for only 75 countries, resulting in the insufficient coverage of this issue. CO_2 emissions are produced in the manufacture of cement and the combustion of fossil fuels, including solid, liquid, and gas fuels, as well as in gas flaring and other primary energy sources. There is a high coupling relationship between CO_2 emission data and primary energy consumption, and the aggregated value of CO_2 emissions are calculated with reference to different fossil fuel consumption by Global Carbon Project. For this reason, we altered our evaluation system for this year's data, removing the indicator of energy consumption and related indicators, and retaining the remaining 14 indicators to maintain consistency. With these adjustments, this covers 186 countries to measure the performance of each country in addressing climate change in relation to global justice. The dimensions and indicators are displayed in Table 1.

Climate change is caused by increasing concentrations of greenhouse gases (GHGs) in the atmosphere. These increases are largely due to CO_2 emissions that result from human activities, such as the use of fossil fuels or agriculture. The changing climate is impacting the environment, human health, and the economy. The annual total emissions of CO_2 into the atmosphere is largely influenced by population size, so consequently we analyzed each country's CO_2 emissions per capita. Furthermore, when examining the carbon intensity, which measures CO_2 emissions

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[5] IPCC (2021).

Table 1 Data on climate change

Category	Dimension	Indicator	Data source	Coverage
performance	Electricity production	Total electricity production	International Renewable Energy Agency	186 countries
		Electricity production from nuclear sources		
		Electricity production from hydroelectric sources		
		Electricity production from renewable sources excluding hydroelectric		
	CO_2	CO_2 emissions	Global Carbon Project	221 countries
		CO_2 emissions per GDP		
		CO_2 emissions per capita		
	Forest	Total forest area	UNEP	192 countries
		Rate of change in forest area		
		Forest area per capita		
		Forest coverage		
		Planted forest area		

per $1000 US of economic output, we also measured the environmental efficiency of the country. To maintain data consistency, we draw on CO_2 data from the Global Carbon Project.

To incorporate a wide range of countries' data of electricity generation, we collected data from International Renewable Energy Agency (IRENA). Each country's own overall electricity production, electricity production from nuclear sources, electricity production from hydroelectric sources, and electricity production from non-hydroelectric renewable sources were calculated using the energy balance tables on the IRENA website.

Forests are emphasized because they are major reservoirs for terrestrial biodiversity and contain about 50% of the global terrestrial biomass carbon stocks (IPCC 2007).[6] Emissions from deforestation and degradation remain a significant source of annual GHG emissions into the atmosphere (IPCC 2007), and therefore the conservation, appropriate management, and restoration of forests will produce a significant contribution to climate change mitigation. Further, forests have a certain natural capacity to adapt to climate change due to their biodiversity. Using data collected from the open-source UN Environment Program (UNEP), we select five indicators for the forest dimension: forested area in total, rate of change of forested area change rate, forested area per capita, forest coverage, and planted forest area. Because updated data for forest area change rate and planted forest area are only available through 2020 and 2018 respectively, we developed estimated values for 2021 to supplement and impute the missing data.

1.1.3 Results

Adopting the method of index construction developed for this project, this section reports the ranking results for 186 countries' performance in terms of global justice from a climate change perspective in 2021. Table 2 presents the detailed rankings.

Our calculations indicate that China, the United States, Guyana, Brazil, the Russian Federation, Suriname, Canada, Gabon, Solomon Islands, and France contributed to mitigating climate change and global warming to a greater degree in 2021 than their competitor countries. Of the top 10, 3 were located in Latin America (Mexico and countries southward), and 2 each were in North America and Europe. Of these, only the United States, Canada, and France are developed countries, suggesting that developing countries continue to take the lead in tackling with climate change.

The bottom-ranked countries were Bahrain, the United Arab Emirates, Saudi Arabia, Oman, Libya, Turkmenistan, Kuwait, Trinidad and Tobago, Mongolia, and Qatar, most of which feature state owned petroleum and national gas companies and are large exporters of fossil fuels. The very limited forest area in these countries and their deep reliance on fossil fuels for energy generation are the major contributors to their unsatisfying performance in this inherently global issue.

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[6] IPCC (2007).

1.1.4 Regional Analysis

As was done in previous reports, this section offers a regional analysis of the rankings in this issue, obtained by calculating average scores for countries by continent. The geographic breakdown of regions according to their ranking of mitigating climate change and promoting global justice from best to worst is as follows: North America, Oceania, Latin America, Europe, Africa, and Asia (see Fig. 1).

Asia The top three Asian countries by performance on climate were China, Bhutan, and Japan. China played a leading role in tackling climate change, ranking first among all countries in 2021. With the goal of achieving carbon neutrality by 2060, China has increased its capacity and hence the generation volume of electricity from renewable sources and become one of the leading nations in the area of renewable energy, scoring highest in the world in the dimension of electricity generation. China has actively carried out South–South cooperation to address climate change. Since 2016, it has launched 10 low-carbon demonstration zones, 100 climate change mitigation and adaptation projects, and 1000 climate change training sites in developing countries, and it has implemented more than 200 international cooperation and foreign aid projects to address climate change.[7]

As the world's first carbon-negative country, Bhutan ranked fourteenth among 186 countries in 2021, with its vast forests (covering 71.5% out of the total geographical area of the country) absorbing more CO_2 than the country emits from all of its activities.

In the same year, Japan generated among the most CO_2 in the world, with its energy conversion sector being responsible for most of the CO_2 emissions. After the nuclear disaster in Fukushima in 2011, nuclear energy has tended to be replaced by fossil fuels, resulting in increased emissions, beginning shortly after the disaster. Coal and natural gas constituted 70% of electricity production and accounted for the largest share of energy generation. Nevertheless, Japan's forest coverage was 68.4%, scoring very high in the forestry dimension.

The lowest ranking Asian countries were Oman, Turkmenistan, Kuwait, Mongolia, and Qatar. Oman, Kuwait, and Qatar, as oil exporters, had lower scores due to their poor performance in CO_2 emissions per inhabitant, carbon intensity, and forest coverage. Qatar ranked the 186th in this year, making it the lowest ranking worldwide. In pursuit of a greener and more sustainable future, Qatar pledged to reduce its GHG emissions in 2030 by 25% relative to a business as usual scenario, and it has set a new objective to capture over 11 Mt CO_2/year by 2035 using further deployment of carbon capture and storage technology to reduce its carbon intensity. Kuwait, Turkmenistan, and Mongolia are wholly reliant on fossil fuels for their energy generation, putting them in the group of countries that emit the most CO_2 per capita. The forest coverage in Mongolia was 9.1% of the land area in 2021. More than 140,000 hectares of Mongolia's forests are lost every year due to fires and illegal logging, among other causes, presenting a serious challenge to this country's achievement of a climate-resilient, sustainable forestry sector that benefits local livelihoods. Coal is the largest share of electricity generation source

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[7] Wang et al. (2023a, 2023b), Chen et al. (2023), Zhaoet al. (2023), Chen (2023).

Table 2 Country rankings in the climate change aspect of promoting global justice in 2021

Country	Ranking	Country	Ranking
China	1	Guatemala	94
United States of America	2	Cabo Verde	95
Guyana	3	Lithuania	96
Brazil	4	Croatia	97
Russian Federation	5	United Kingdom of Great Britain and Northern Ireland	98
Suriname	6	Guinea	99
Canada	7	Romania	100
Gabon	8	Bosnia and Herzegovina	101
Solomon Islands	9	Slovakia	102
France	10	Rwanda	103
Papua New Guinea	11	Mali	104
Sweden	12	Belarus	105
Micronesia (Federated States of)	13	Bulgaria	106
Bhutan	14	Burkina Faso	107
Equatorial Guinea	15	Burundi	108
Liberia	16	Lebanon	109
Japan	17	Greece	110
Finland	18	Tonga	111
Fiji	19	Togo	112
Saint Vincent and the Grenadines	20	Ethiopia	113
Guinea-Bissau	21	Serbia	114
Palau	22	Nigeria	115
Democratic Republic of the Congo	23	El Salvador	116
Zambia	24	Bangladesh	117
Seychelles	25	Azerbaijan	118
Timor-Leste	26	Barbados	119
Costa Rica	27	Australia	120
Dominica	28	Czechia	121
Peru	29	Hungary	122
Colombia	30	Denmark	123
Central African Republic	31	Belgium	124
Samoa	32	Eritrea	125
India	33	Mauritius	126
Belize	34	Cambodia	127
Montenegro	35	Afghanistan	128
Angola	36	Poland	129
Grenada	37	Syrian Arab Republic	130
Latvia	38	Kenya	131
Republic of Korea	39	Kiribati	132
Marshall Islands	40	Ireland	133
Spain	41	Lesotho	134
Democratic People's Republic of Korea	42	Kyrgyzstan	135

Table 2 (continued)

Country	Ranking	Country	Ranking
Bahamas	43	Morocco	136
Norway	44	Luxembourg	137
Panama	45	Malawi	138
United Republic of Tanzania	46	Antigua and Barbuda	139
Vanuatu	47	Brunei Darussalam	140
Germany	48	Maldives	141
Indonesia	49	Argentina	142
Bolivia (Plurinational State of)	50	Somalia	143
Honduras	51	Sudan	144
Cameroon	52	Netherlands	145
Slovenia	53	Republic of Moldova	146
Sao Tome and Principe	54	Armenia	147
Jamaica	55	Cyprus	148
Mozambique	56	Singapore	149
Dominican Republic	57	Gambia	150
Mexico	58	Namibia	151
Italy	59	Nauru	152
Eswatini	60	Iceland	153
Tuvalu	61	Haiti	154
Nepal	62	Benin	155
Saint Kitts and Nevis	63	Malta	156
Turkey	64	Yemen	157
Switzerland	65	Tajikistan	158
Viet Nam	66	Uganda	159
Estonia	67	Tunisia	160
Austria	68	Ukraine	161
Ecuador	69	Egypt	162
Cuba	70	Israel	163
Saint Lucia	71	Pakistan	164
Ghana	72	Algeria	165
New Zealand	73	Uzbekistan	166
Zimbabwe	74	Nicaragua	167
Myanmar	75	Jordan	168
Sri Lanka	76	Niger	169
Malaysia	77	Iraq	170
Sierra Leone	78	Mauritania	171
Djibouti	79	Chad	172
Botswana	80	Iran (Islamic Republic of)	173
Venezuela (Bolivarian Republic of)	81	South Africa	174
Portugal	82	Kazakhstan	175
Madagascar	83	Côte d'Ivoire	176
Paraguay	84	Bahrain	177

Table 2 (continued)

Country	Ranking	Country	Ranking
Chile	85	United Arab Emirates	178
Andorra	86	Saudi Arabia	179
Philippines	87	Oman	180
Senegal	88	Libya	181
Georgia	89	Turkmenistan	182
Uruguay	90	Kuwait	183
Albania	91	Trinidad and Tobago	184
Thailand	92	Mongolia	185
Republic of North Macedonia	93	Qatar	186
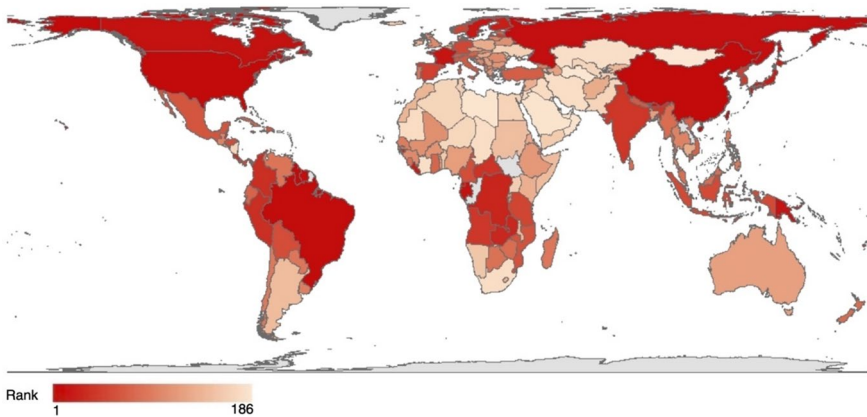
Fig. 1 2021 index ranking for climate change on a world map (When measuring China's index results, we only used the data of China's mainland areas in our calculation. Therefore, the province of Taiwan was plotted as missing value on the map. This situation applies to all other visualization maps in this report.)

in Mongolia, but the use of hydro, solar, and wind power is growing, and Mongolia has adopted a law aiming to increase and regulate the use of renewables. Finally, Oman aims to reach 30% of renewables in power generation by 2030.

Europe Europe performed only slightly better than Asia and Africa and significantly worse than the rest of the world on the climate issue. The top ranking European countries were Russia, France, and Sweden, while the lowest ranking countries were Iceland, Malta, and Ukraine. Russia owns more than one-fifth of the world's forests, putting it at the forefront in the forest dimension, with an upward trend in forest coverage (49.8%). As among the top five countries in the world for total nuclear power generation, Russia ranked the fourth in terms of electricity generation. Russia aspires to lead the transition toward low-carbon

energy mix, taking part in the construction of new nuclear power plants in China, India, and the Islamic Republic of Iran, and others.

France has the largest share of nuclear generated electricity in the world at 68% and the largest absolute amount of nuclear energy generation in Europe. France has a very low-carbon electricity mix owing to its large nuclear power production fleet, second-largest in the world after the United States. An early leader in the energy transition, setting out ambitious goals, France legislated a net zero emissions target for 2050 in its 2019 Energy and Climate Act. A national low-carbon strategy with a 5-year carbon budget and a multiannual plan for energy investments complement this long-term target. In addition, per capita emissions in France fell by more than 30% between 1990 and 2021.

Iceland ranked 153rd among the 186 countries, scoring poorly in the dimensions of forest and CO_2. The total GHG emissions index in Iceland increased by 6.12% in 2021 over the previous year. Notably, hydropower is the main source of electricity generation in Iceland, and 100% of electricity generated is from renewables.

Though it scored higher than Iceland in the aspects of forest and CO_2, Malta's electricity mix dragged down the country's performance overall. Oil and petroleum products make up 86% of its electricity generation, so it should concentrate on the reduction of its overall reliance on fossil fuels in the future.

North America North America has consistently performed the best in the climate rankings. The ranking of the United States lags only China, and Canada ranks seventh worldwide. Both of these two countries perform excellently in electricity generation, lower scores were observed for CO_2 emissions. In 2021, the GHG emissions in the United States totaled 6340 million metric tons of CO_2 equivalents, ranking second worldwide, driven largely by increased CO_2 emissions from fossil fuel combustion. Canada's total GHG emissions in 2021 saw a 1.8% increase relative to 2020. Canada ranked sixth in the forest dimension, with 39.5% territory covering with forests and planted forest. It is worth noting that Canada's forested area increased by almost four million hectares from 14.4 million hectares in 2011 to 18.6 million in 2021.

Canada is a resource-abundant country, enjoying a unique mix of energy sources, generated from hydroelectricity, coal, nuclear power, and renewable resource installations to capture wind, solar, and geothermal energy. Hydro power is the largest source of electricity generation in Canada, providing more than 60% of its total electricity, making Canada the second-largest generator of hydroelectricity in the world, following China. Renewable energy has also notably increased as a share of US electricity generation in recent years.

Latin America Latin America ranked third among all continents. The top three countries here were Guyana, Brazil, and Suriname, while the bottom countries were Haiti, Nicaragua and Trinidad and Tobago.

Guyana, one of the poorest countries in South America, has a high score for this issue. Its 93.5% rate of afforested land makes the largest contribution to its good performance, ranking second in this dimension among all countries. Through the practice of sustainable management, Guyana has had relatively low historical rates of deforestation.

Although it is the seventh-largest energy consumer in the world and the largest in South America, Brazil has the cleanest energy mix in Latin America. Hydro power is by far the main source for electricity generation in Brazil, accounting for around 63% of the country's output. Unfortunately, deforestation in Brazil increased in 2021, largely due to illegal mining and cattle ranching. Without changes to current policies and law enforcement, emissions are expected to continue to increase, leaving Brazil far from able to achieve its climate targets.

Suriname might be the smallest country in South America, both geographically and by population, but it is also among the greenest and most forested, and it is a global leader in biodiversity conservation, with 93% of its land surface covered by native forests. Suriname's electricity generation for the year 2021 represents a balanced mix between low-carbon and fossil energy, accounting for 54% and nearly 40% of the total, respectively. Hydro power forms a significant contribution to the low-carbon energy group, making up 53% of overall electricity generation.

The largest electricity-generating technology in Haiti in 2021 was oil and diesel, generating 78.77% of total electricity. A predominant reliance on fossil fuels was also seen in Nicaragua, where the share of oil and biofuels in electricity production reached 52.1%. Trinidad and Tobago emitted almost 29 megatons of CO_2, making it the 111th country for CO_2 emissions of 184 countries ranked worldwide, where the ranking was from least to most polluting. Trinidad and Tobago emitted among the most CO_2 per capita, and it is one of the least efficient countries in environmental terms, measured in terms of most CO_2 into the atmosphere per unit GDP.

Africa As a whole, Africa ranked poorly on climate change in 2021, just above Asia. In this year, Gabon, Equatorial Guinea, and Liberia had the highest rankings on this continent. Gabon is one of the most forested countries in the world, with over 88% of its total surface area covered by rainforests, praised as the world's second-largest set of lungs, after the Amazon. Cognizant of the critical role that forests play in addressing climate change and achieving sustainable development, Gabon's government has actively participated in proposing measures to reduce CO_2 emissions. Similarly, Equatorial Guinea is one of the few countries worldwide that nearly completely covered by forest, enhancing the country's overall performance (ranked fifteenth worldwide). However, it is the 135th-largest emitter of CO_2, with 0.014% of global CO_2 emissions, presenting a heavy reliance on carbon-intensive economic activities. To pave a way toward a cleaner and lower-carbon future, Equatorial Guinea needs to increase its share of low-carbon sources of energy, such as nuclear, wind, and solar power, in its electricity generation. Liberia ranked 16th due to its praiseworthy forestation (78.8% of land coverage) and green energy approach. The largest share of electricity generation in Liberia in 2021 was hydro, producing 63.29% of electricity.

South Africa, Côte d'Ivoire, and Libya were the lowest ranking African countries. The main disadvantages of all three were poor forestation, heavy dependency on fossil fuels, and significant carbon footprint for each individual.

Oceania Oceania had the second-highest ranking among all regions in the 2021 climate index, just after North America. The best-performing country in Oceania was the Solomon Islands, a growing small island developing state, featuring particular needs and priorities for sustainable development. In spite of its status as a low-emitting

least-developed country, Solomon Islands has increased its emission ambitions by targeting net zero emissions by 2050 in its Nationally Determined Contribution, embarking on a number of actions that resulted in increased use of renewable energy technologies, improved energy security, and reductions in CO_2 emissions. The vast coastal and tropical characteristics of the Solomon Islands can be potentially harnessed for wind and solar energy. In addition, the forested area as a share of land area for Solomon Islands was 90.1%, ranking seventh among 186 countries.

The poorest-performing Oceanian countries were Australia, Kiribati, and Naoru. Their scores in the dimensions of CO_2 emissions and electricity generation ranked at the bottom of the list, due to the domination of fossil fuels for use in electricity generation, contributing to both air pollution and climate change. Then, the forested area rates of Kiribati and Naoru were 1.5% and 0%, respectively, in 2021. It can be observed that the better-performing countries had at least one strength across all dimensions, while the countries with lower rankings scored lower in all dimensions.

1.1.5 Conclusion

This report offers a critical review of the driving factors in the climate domain, finding that the urgency with which a country tackles global warming does not depend on its wealth. The increasing economic development in most low-income countries and middle-income countries may lead to higher energy consumption, which may increase the level of carbon emissions. Furthermore, no common pattern was observed in geographically proximate areas. The overall results indicate a nexus among climate change policies, the use of renewable energy in electricity generation, and the contribution to mitigating climate change.

The key finding of this report is not only to be found in the driving factors for countries' performance in the climate issue but also its advocacy of plausible ways to decarbonize the energy mix and tread a sustainable path. Our regional analysis paints a picture of how the predominant reliance on fossil energy and carbon-intensive economic activities limit access to the green energy mix. Incorporating such sources as nuclear, wind, and solar and so on. Afforestation, however, plays a vital role in the improvement of environmental quality, as forest conservation is a major contributor to reducing net carbon emissions. To envisage in the goals of carbon neutrality, reinforcing the share of low-carbon electricity generation, improving the efficiency of the existing facilities, and increasing the planted forest area will be imperative and practical economic approaches to a greener future.

Addressing climate change, as a global task, brings together a coherent effort from all countries. Investing in clean and sustainable energy sources should remain a top priority, as it will not only mitigate environmental degradation but also pave the way for economic development to enhance quality of life.

1.2 Issue 2: Peacekeeping

1.2.1 Introduction

In 2021, the United Nations sustained its commitment to performing peacekeeping missions, playing a pivotal role in stabilizing regions, safeguarding civilians, and fostering enduring peace. The success of these missions hinges on the vital contributions of funding and personnel provided by participating nations. The combined economic and personnel contribution of a nation serves as a crucial indicator in assessing its contribution to global peace, regional development, and the well-being of citizens affected by regional unrest.

The landscape of United Nations peacekeeping operations in 2021 was mainly influenced by two dynamics. First, the global pandemic led to the unanimous adoption of Resolution 2518 (2020) proposed by the Security Council on March 30, 2020. This resolution introduced two pivotal changes: an emphasis on ensuring the safety of peacekeeping personnel, enabling the United Nations to sustain its peacekeeping activities amid the risks posed by the pandemic, and these measures to safeguard peacekeeping personnel were extended to contribute to supporting local community efforts in epidemic prevention. Second, operational adjustments were observed, most notably the closure of the African Union Hybrid Operation in Darfur (UNAMID) on December 31, 2020, which reduced the number of ongoing missions from 12 to 11.

In the following sections, we explore the ranking of nations based on their contributions to UN peacekeeping operations in 2021. In addition, we compare these rankings with those from the previous year and highlight changes between them.

1.2.2 Dimensions and Indicators

We formulated a comprehensive contribution index for 193 nations participating in peacekeeping missions in 2021 by amalgamating two crucial indicators: personnel contributions and financial contributions. The methodology employed for index generation remained consistent with the approach utilized for 2020.

For the extraction of raw data pertaining to financial contribution, we referred to the document A/73/350/ADD.1, released by the United Nations General Assembly on December 24, 2018. This document delineates the effective rates of assessment for peacekeeping operations in 2021. In terms of personnel contribution, data were meticulously gleaned from the monthly reports available on the official website of United Nations peacekeeping; specific access links are provided in Table 3.

Two notable additions to the clarification pertain to the measurement of personnel contributions. First, nations contribute human resources across four distinct categories: police, UN Military Experts on Mission, troops, and staff officers. The term "troops and police" used in our previous reports was biased, as it actually refers to all four categories of personnel rather than just two. Second, recognizing the fact of fluctuations in the total number of persons deployed on a monthly basis, we aggregated the number of individuals sent by each nation each month, considering this sum to indicate the personnel contribution. While this approach deviates from the

Table 3 Data on peacekeeping

Category	Dimension	Indicator	Data source	Coverage
Contribution	Personnel Contribution	Total number of police, UN military experts on missions, staff officers and troops	United Nations Peacekeeping https://peacekeeping.un.org/en/troop-and-police-contributors	193 countries
	Financial Contribution	Effective rates of assessment for peacekeeping operations in 2021	United Nations Peacekeeping https://peacekeeping.un.org/en/how-we-are-funded	

actual count of deployed individuals, it effectively encapsulates the workload that a nation shoulders in its peacekeeping operations. This detail was not disclosed in our previous reports and is explicitly clarified here. Importantly, the measurement continues to align with the practices of previous years, enabling a feasible comparison across different periods.

1.2.3 Results

First, we provide an overview of the global dynamics in the personnel and financial contributions of 193 countries to UN peacekeeping missions in 2021.

Our analysis found a 6% decline in the aggregate deployment of individuals by the 193 countries over the course of 2021. This downturn represents a continuation of the reduction that was begun at the beginning of 2020 due to the onset of the COVID-19 pandemic. Nonetheless, the figure for 2021 marginally exceeds that observed for 2018. Relative to the 2020 rankings in 2020, 15% of countries retained their positions, 56% decreased their rankings (indicating reduced contributions), and 29% increased their rankings (indicating augmented contributions).

It is evident that a great number of nations retrenched their commitment to United Nations peacekeeping operations. This contraction is closely linked to the profound disruptions caused by the COVID-19 pandemic to personal daily life, national production, and international or interregional connections. Countries channeled their resources toward managing domestic pandemic-related risks. The unavoidable risks associated with the international movement of peacekeeping personnel, such as infection and transmission, underscored the necessity for judicious planning. In addition, the reduction in contributions is further influenced by the closure of the mission of the African Union Hybrid Operation in Darfur (UNAMID).

1.2.4 Regional Analysis

In this section, we delineate the outcomes categorized by continent. Our dataset encompasses 193 countries across six continents, namely North America, Latin America, Asia, Africa, Europe, and Oceania. Figure 2 below intuitively illustrates the variations across countries and continents, with lighter shades of red indicating lower rankings in peacekeeping contribution.

North America North America, made up solely of two developed countries, the United States and Canada, exhibited the highest mean contribution index among the six continents. The US secured a noteworthy second position, while the latter had a commendable thirty-ninth ranking. The cumulative number of individuals deployed by these two nations accounted for less than 0.1% of the total. Their elevated rankings are predominantly a result of their substantial financial contributions, with the United States contributing 27.9% and Canada contributing 2.7% to the effective rates of assessment for peacekeeping operations. This observation sheds light on the distinctive approach taken by developed nations in contributing to the UN peacekeeping missions—prioritizing financial commitments over personnel deployment. This strategic emphasis serves to mitigate imperialistic implications when intervening in regional affairs and conflicts.

Asia We have 47 Asian countries in our sample, and the mean contribution index ranks second-highest among the six continents, albeit considerably lower only than that of North America. China holds the top position in Asia and ranks first among the 193 countries, consistent with the 2020 ranking. Diverging from the contribution strategy employed by developed countries as exemplified by the US and Canada, China has adopted a unique approach, emphasizing a balance between personnel and financial contributions. China contributes a noteworthy 15.2% to the effective rate of the assessment for peacekeeping operations, while also deploying 3% of individuals for these missions.

The nations within the Indian subcontinent deserve our attention. Bangladesh secures the second position in Asia, followed by India at third, Nepal at fourth, and Pakistan at fifth. On a global scale, they maintain noteworthy standings of third, fourth, fifth, and eighth, respectively. Despite their commendable rankings, the proportion of peacekeeping funding allocated by these nations is relatively low. India, for instance, registers a ratio around 0.17%, with the remaining three nations falling considerably below 0.1%. Their elevated standings are underpinned instead by their substantive contribution of manpower. India exhibited a commendable increase in personnel contribution, showing a counterintuitive increase of 1.5% amid an overall 6% decrease since 2010. Consequently, India ascended three positions in the global rankings, signifying a substantial advancement. Diverging from the aforementioned dual contribution strategies, countries in the Indian subcontinent predominantly adhered to a personnel-centric approach. The peacekeeping personnel that were contributed by these nations have primarily been assigned to five ongoing peacekeeping missions in Africa and two missions in West Asia.

The Indian subcontinent was not only a crucial contributor but also as a substantial beneficiary of UN peacekeeping personnel. One ongoing UN peacekeeping mission that exemplified this dynamic is the Indo-Pak Military Observer Group (UNMOGIP), which has operated along the India-Pakistan border since 1949. Adhering to the principle of interest neutrality, this mission involves contributors who are primarily from Croatia, the Republic of Korea, and the Philippines. It can be noted here that India contends that UNMOGIP has outlived its purpose and is no longer necessary, while Pakistan advocates for its continuation. This divergence highlights the inherent challenges faced by UN peacekeeping missions, including the difficulty in obtaining agreement from stakeholders on mission entry, ensuring operational neutrality, fostering fairness in mediation, and preventing the introduction of external forces into regional affairs. It is imperative to resolve these complex issues to ensure the progress of peacekeeping initiatives.

Another noteworthy recipient region of peacekeeping personnel in Asia is West Asia. The ongoing UN peacekeeping missions in this region are the United Nations Truce Supervision Organization, since 1948; the United Nations Disengagement Observer Force (UNDOF), since 1974; and the United Nations Interim Force in Lebanon, since 1978. These missions operate in of Israel, Syria, and Lebanon. The current rankings for these three countries are 76, 148, and 138, respectively, only showing marginal changes compared to 2020. Due to regional tensions, these nations seldom deploy personnel to UN peacekeeping missions but do contribute economically, offering another distinct form of participation.
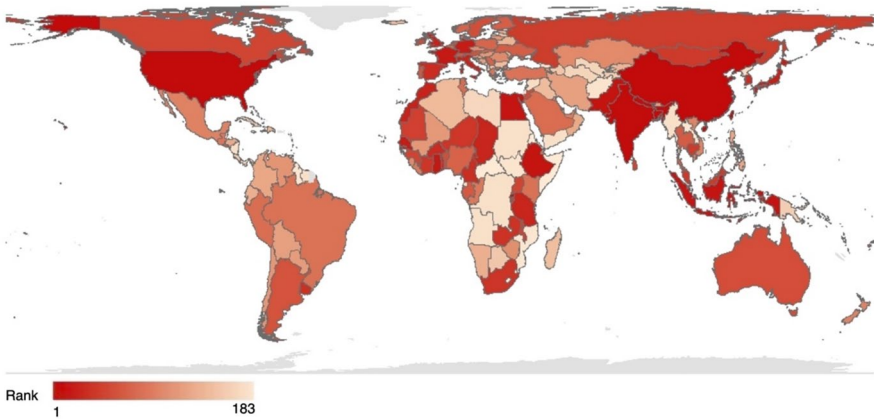
Fig. 2 2021 index ranking for peacekeeping on a world map

Africa In our sample, 54 African countries exhibited an average contribution index slightly below that of Asia, securing the third position among the six continents. Among the 54 nations, the top three contributors were Rwanda, Ethiopia, and Egypt, with global rankings of sixth, seventh, and ninth, respectively. Ethiopia's ranking decreased by three from 2020, potentially influenced by the pandemic and domestic turmoil. As with countries in the Indian subcontinent, the contribution approach of these African nations involves the deployment of a substantial number of troops and police while contributing less in terms of finance, due to their underdeveloped economic situations. A notable aspect of the personnel contributions by African countries was their predominant inclination to participate in operations within their own continent, such as the United Nations Mission for the Referendum in Western Sahara, the United Nations Mission in South Sudan, and the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic, while rarely joining missions operating in other continents.

Europe The average contribution index in Europe was lower than that of Africa, which is primarily attributable to the comparatively scanter contributions from southeastern European countries. Another significant determinant is the prevalence of small nations in Europe, which lack adequate human and financial resources. Specifically, the three countries at the bottom of the European rankings—Liechtenstein, Andorra, and San Marino—are characterized by their extremely small size. The foremost contributors to peacekeeping endeavors were France, Germany, and the United Kingdom, securing the first, second, and third positions in Europe, and twelfth, thirteenth, and sixteenth globally. Their rankings exhibited only marginal changes relative to 2020, with the exception of the United Kingdom, which advanced by three positions, from nineteenth to sixteenth. These countries adopted a balanced approach, contributing a moderate amount of funds and providing a substantial level of human resources. This equilibrium, which is reminiscent of China's strategy, underscores their commitment to peacekeeping efforts. Nevertheless, it is noteworthy that both the funds and manpower that they contributed fell short of those provided by China. France, Germany, and the

United Kingdom actively engaged in peacekeeping operations in Europe, exemplified by their involvement in the United Nations Peacekeeping Force in Cyprus and the United Nations Interim Administration Mission in Kosovo. They also played pivotal roles in peacekeeping missions in Africa, which demonstrates their dedication to global peacekeeping endeavors.

Oceania and Latin America Oceania and Latin America had the lowest rankings among the six continents in peacekeeping contributions, with their average contribution indices displaying minimal disparity. Australia was the top contributor in Oceania, while Uruguay held the leading position in Latin America. Internationally, these nations were ranked forty-fourth and twenty-sixth, respectively, a trend in alignment with the circumstances observed in 2020. Diverging in their contribution approaches, Australia primarily emphasized economic support, whereas Uruguay placed a greater emphasis on manpower contribution. Notably, Uruguay actively engages in peacekeeping operations in Central Africa (United Nations Organization Stabilization Mission in the Democratic Republic of the Congo, MONUSCO) and West Asia (United Nations Disengagement Observer Force, UNDOF) (see Table 4).

1.2.5 Conclusion

In summary, a discernible decrease in the overall contributions of nations to UN peacekeeping operations in 2021, by contrast to the preceding year, 2020. This decline predominantly stems from a reduction in personnel commitments, influenced by the ramifications of the pandemic and the closure of the UNAMID mission, rather than by any notable changes in financial commitments. As the effective rate of assessment for each country remained consistent between 2020 and 2021. The implementation of Resolution 2518 (2020) and nations' unwavering commitment to preserving global peace helped alleviate the impact, resulting in a relatively moderate reduction. A comparative analysis of rankings between the two years indicates that the major contributors have remained consistent, suggesting minimal shifts in the global geopolitical landscape in this category.

In addition to this conclusion, it is crucial to highlight the presence of several distinct pathways of contribution, as noted in Sect. 2.2.4. These pathways may result in similar or identical contribution indices, implying an equal measure of contribution. The diverse ways in which nations contribute offer intriguing insights into their unique approaches to supporting global justice. This observation may prompt the reader to explore the nature of national contributions beyond mere numerical indices and encourages a deeper understanding of the varied strategies and methods that are employed by nations in their commitment to peacekeeping initiatives. Paying attention to this aspect, readers can consider the nuanced and individualized nature of different nations' contributions to global justice.

Table 4 Country rankings in the peacekeeping aspect for promoting global justice in 2021

Country	Ranking	Country	Ranking
China	1	Bhutan	98
United States of America	2	Bolivia (Plurinational State of)	99
Bangladesh	3	Slovenia	100
India	4	Bosnia and Herzegovina	101
Nepal	5	Iran (Islamic Republic of)	102
Rwanda	6	Croatia	103
Ethiopia	7	Philippines	104
Pakistan	8	Colombia	105
Egypt	9	Luxembourg	106
Indonesia	10	Honduras	107
Ghana	11	Oman	108
France	12	Malta	109
Germany	13	Estonia	110
Senegal	14	Namibia	111
Japan	15	Ecuador	112
United Kingdom of Great Britain and Northern Ireland	16	Bahrain	113
Italy	17	Cyprus	114
Morocco	18	Belarus	115
United Republic of Tanzania	19	Republic of Moldova	116
Chad	20	Kyrgyzstan	117
Togo	21	Dominican Republic	118
Burkina Faso	22	Algeria	119
Spain	23	Iceland	120
Republic of Korea	24	Iraq	121
Cameroon	25	Bulgaria	122
Uruguay	26	Trinidad and Tobago	123
South Africa	27	Madagascar	124
Zambia	28	Latvia	125
Niger	29	Samoa	126
Côte d'Ivoire	30	Bahamas	127
Mongolia	31	The Former Yugoslav Republic of Macedonia	128
Malaysia	32	Cuba	129
Cambodia	33	Azerbaijan	130
Russian Federation	34	Botswana	131
Mauritania	35	Costa Rica	132
Burundi	36	Tajikistan	133
Malawi	37	Monaco	134
Guinea	38	Papua New Guinea	135
Canada	39	Albania	136
Uganda	40	Montenegro	137
Sri Lanka	41	Lebanon	138
Ireland	42	Liechtenstein	139

Table 4 (continued)

Country	Ranking	Country	Ranking
Jordan	43	Panama	139
Australia	44	Timor-Leste	141
Benin	45	Turkmenistan	142
Sweden	46	Uzbekistan	143
Austria	47	Libya	144
Argentina	48	Andorra	145
Netherlands	49	Equatorial Guinea	146
Fiji	50	Barbados	147
Portugal	51	Mauritius	148
Gabon	52	Syrian Arab Republic	148
Thailand	53	San Marino	150
Switzerland	54	Georgia	151
Ukraine	55	Jamaica	151
Finland	56	Democratic People's Republic of Korea	153
Nigeria	57	Democratic Republic of the Congo	154
Serbia	58	Angola	154
Slovakia	59	Myanmar	154
Norway	60	Nicaragua	154
Poland	61	Sudan	154
El Salvador	62	Suriname	154
Saudi Arabia	63	Yemen	154
Belgium	64	Maldives	161
Peru	65	Afghanistan	162
Tunisia	66	Seychelles	163
Kenya	67	South Sudan	163
Brazil	68	Lao People's Democratic Republic	165
Turkey	69	Antigua and Barbuda	166
Greece	70	Eswatini	166
Guatemala	71	Guyana	166
Congo	72	Mozambique	166
Liberia	73	Saint Kitts and Nevis	166
Denmark	74	Haiti	171
United Arab Emirates	75	Belize	172
Israel	76	Cabo Verde	172
Singapore	77	Dominica	172
Gambia	78	Grenada	172
New Zealand	79	Marshall Islands	172
Mexico	80	Micronesia (Federated States of)	172
Viet Nam	81	Nauru	172
Djibouti	82	Palau	172
Kazakhstan	83	Saint Lucia	172
Sierra Leone	84	Saint Vincent and the Grenadines	172

Table 4 (continued)

Country	Ranking	Country	Ranking
Qatar	85	Tonga	172
Romania	86	Guinea-Bissau	183
Czechia	87	Central African Republic	183
Zimbabwe	88	Comoros	183
Kuwait	89	Eritrea	183
Armenia	90	Kiribati	183
Venezuela (Bolivarian Republic of)	91	Lesotho	183
Lithuania	92	Sao Tome and Principe	183
Hungary	93	Solomon Islands	183
Chile	94	Somalia	183
Brunei Darussalam	95	Tuvalu	183
Mali	96	Vanuatu	183
Paraguay	97		

1.3 Issue 3: Humanitarian Aid

1.3.1 Introduction

Humanitarian aid refers to the material and logistical assistance that is provided to people in need, such as food, water, shelter, and medical care to those affected by disasters or other extreme circumstances. Humanitarian aid is provided to save lives, reduce suffering and improve conditions for those in crisis situations. It typically takes the form of short term support provided by nongovernmental organizations, governments, humanitarian organizations, and other specialized disaster relief entities, which bridging the gap until long-term assistance takes over. In this sense, humanitarian aid is crucial during emergencies, and global cooperation is needed.

It is vital to have humanitarian aid provided in need for the promotion of global justice. By assisting those who are affected by natural disasters and emergencies, regardless of race, nationality or religion, it helps ensure that their rights and dignity are not harmed. Furthermore, the provision of humanitarian assistance has an important role to play in the fostering of connections among communities and groups. This, in turn, promotes a deeper understanding between them across groupings and enhances international relationships in terms of well-informed perspectives. Thus, we have incorporated this aspect into our Global Justice Index, where each nation's financial commitment to global humanitarian affairs is assessed as a means of gauging their efforts in this realm.

1.3.2 Dimensions and Indicators

To ensure our method's comparability and the robustness, we use the same 12 indicators this year to measure the humanitarian provided by each country: food,

health, housing, water, emergency response, early recovery, coordination, education, protection, agriculture, COVID-19 assistance, and others (portion given without an assigned uses). Our data for this analysis were sourced from the UN's Financial Tracking Service database which records donations made by countries to other nations, as well as to organizations such as UN departments and NGOs, such as the World Food Program and WHO. We ensured that all types of donations were accounted for, including those that were specifically designated for particular use cases and the more general other contributions that did not have a prespecified aim.

Thus, we measured each country's humanitarian aid efforts in 2021, based on 12 indicators. Below are presented detailed information on all of the metrics used to measure humanitarian aid (see Table 5).

We aggregated data relevant to all 12 indicators and factored in each country's GDP per capita to precisely measure the extent of humanitarian contributions, normalized by country. This method was adopted to prevent favoring wealthier nations in our analysis, maintaining impartiality in our evaluation. Here, we intended to reflect the fact that wealthier countries would be better able to afford humanitarian aid than those that had more limited resources; thus, it would be unfair to make a direct comparison between them.

1.3.3 Results

This section reports the ranking of countries' contributions to global justice from the perspective of humanitarian aid. Please see the detailed rankings in Table 6.

Here, United States retains its ranking as first on the issue of humanitarian aid. The top 10 countries on this issue, in order, are the United States, Pakistan, Germany, Saudi Arabia, Somalia, Burundi, the United Kingdom, Japan, Sweden, and Central African Republic.

1.3.4 Regional Analysis

This section reports the regional analysis of the ranking on humanitarian aid. Figure 3 shows the ranking on a world map.

Asia Pakistan performed well on this issue in 2021, ranking the first in Asia, in spite of its relatively poor GDP. Saudi Arabia, Japan, and United Arab Emirates remained high on the list, ranking the fourth, eighth, and sixteenth in the world. Pakistan donated more than $205 million in 2021, a large increase relative to its 2020 contribution (which was about $1 million). Most of the funding went to the UN World Food Program to provide food security, livelihood, and agricultural support to communities that were affected by multiple shocks and lifesaving nutrition services for moderately acute malnourished children aged 6–59 months and pregnant and lactating mothers in vulnerable populations. Taking into account the economic volume of Pakistan, this forms a large contribution. Saudi Arabia is often ranked first in Asian countries with reference to humanitarian aid. It contributed over $1.4 billion in 2021 for those affected by war, conflict, and disaster. Yemen is Saudi Arabia's largest aid recipient country, receiving more than 70% of its total aid money from Saudi Arabia through the Saudi Development and Reconstruction

Table 5 Data on humanitarian aid

Category	Dimension	Indicator	Source	Coverage
Contribution	Humanitarian Donation	Food	Financial Tracking Service	185 countries (2021)
		housing		
		Health		
		Water		
		Emergency Response		
		Early Recovery		
		Coordination		
		Education		
		Protection		
		Agriculture		
		COVID-19		
		Other		

Program for Yemen. This assistance was multifaceted and showed a commitment to aid on multiple levels, including the provision of materials such as goods, shelter, and medical care. It also provided educational services, training, and assistance to improve human rights conditions in Yemen. In particular, they initiated various projects to empower individuals, including those living in poverty, by giving them access to skills training and job opportunities. Japan was also among the top donors for humanitarian aid in 2021, contributing over $1 billion of humanitarian assistance. This assistance encompassed provisions for food, shelter, and medical care. Moreover, it allocated funds for initiatives aimed at safeguarding various communities and groups in need, such as refugees, victims of human trafficking, and children and the elderly. These efforts showed their dedication to the development of global justice, while simultaneously making a positive difference worldwide through their donations directed at aiding those in distress.

Europe In 2021, Europe kept up its good performance in humanitarian aid. Germany continued as the top European country on this issue in 2021, followed by the UK and Sweden. These three countries were also the top three European countries in the ranking of 2020. Germany contributed over $4 billion for humanitarian aid to those affected by wars and disasters. Of this, 33% went to the UN World Food Program, and about 10% went to the UN High Commissioner for Refugees. Afghanistan was the biggest recipient country, followed by Syrian Arab Republic. A large amount of funding was donated to Afghanistan through the Afghanistan Humanitarian Response Plan 2021, providing health services, food assistance, and protection, with a focus on children and pregnant and lactating women, enhancing social protection among internally displaced persons, returnees, and extremely vulnerable host community members, and so on. The United Kingdom contributed over $1 billion as humanitarian aid. Most of this funding was donated for food security through the UN World Food Program. Afghanistan and Yemen were the two largest recipient countries. Sweden also contributed over

**Table 6** Country ranking in humanitarian aid in 2021

Country	Ranking	Country	Ranking
United States of America	1	Bahrain	86
Pakistan	2	Barbados	86
Germany	3	Belize	86
Saudi Arabia	4	Benin	86
Somalia	5	Bolivia (Plurinational State of)	86
Burundi	6	Bosnia and Herzegovina	86
United Kingdom of Great Britain and Northern Ireland	7	Botswana	86
Japan	8	Cabo Verde	86
Sweden	9	Cambodia	86
Central African Republic	10	Chile	86
Canada	11	Comoros	86
Mozambique	12	Congo	86
Haiti	13	Côte d'Ivoire	86
Norway	14	Democratic Republic of the Congo	86
Italy	15	Djibouti	86
United Arab Emirates	16	Dominica	86
France	17	Dominican Republic	86
Colombia	18	Ecuador	86
Netherlands	19	Egypt	86
Denmark	20	Equatorial Guinea	86
Burkina Faso	21	Eswatini	86
Switzerland	22	Ethiopia	86
Bangladesh	23	Fiji	86
Australia	24	Gabon	86
Niger	25	Gambia	86
Belgium	26	Georgia	86
Spain	27	Ghana	86
Chad	28	Grenada	86
Republic of Korea	29	Guatemala	86
Finland	30	Guinea	86
Ireland	31	Guinea-Bissau	86
Nigeria	32	Guyana	86
Austria	33	Hungary	86
Russian Federation	34	India	86
Turkey	35	Indonesia	86
New Zealand	36	Iran (Islamic Republic of)	86
Sudan	37	Iraq	86
China	38	Jamaica	86
Qatar	39	Jordan	86
Yemen	40	Kenya	86
Lebanon	41	Kiribati	86
Cameroon	42	Kyrgyzstan	86

Table 6 (continued)

Country	Ranking	Country	Ranking
Luxembourg	43	Lesotho	86
Estonia	44	Liberia	86
El Salvador	45	Libya	86
Czechia	46	Madagascar	86
Poland	47	Malawi	86
Portugal	48	Mali	86
Malta	49	Marshall Islands	86
Iceland	50	Mauritania	86
Belarus	51	Mauritius	86
Kuwait	52	Micronesia (Federated States of)	86
Uzbekistan	53	Mongolia	86
Romania	54	Myanmar	86
Thailand	55	Namibia	86
South Africa	56	Nauru	86
Azerbaijan	57	Nepal	86
Greece	58	Nicaragua	86
Philippines	59	Oman	86
Croatia	60	Palau	86
Brazil	61	Panama	86
Bulgaria	62	Papua New Guinea	86
Malaysia	63	Paraguay	86
Montenegro	64	Republic of Moldova	86
Lithuania	65	Rwanda	86
Mexico	66	Saint Kitts and Nevis	86
Slovenia	67	Saint Lucia	86
Slovakia	68	Saint Vincent and the Grenadines	86
Algeria	69	Samoa	86
Monaco	70	San Marino	86
Morocco	70	Sao Tome and Principe	86
Kazakhstan	71	Senegal	86
Cyprus	72	Serbia	86
Brunei Darussalam	73	Seychelles	86
Viet Nam	74	Sierra Leone	86
Honduras	75	Solomon Islands	86
Costa Rica	76	Sri Lanka	86
Tunisia	77	Suriname	86
Lao People's Democratic Republic	78	Tajikistan	86
Singapore	79	Republic of North Macedonia	86
Andorra	80	Timor-Leste	86
Latvia	81	Togo	86
Maldives	82	Tonga	86
Bhutan	83	Trinidad and Tobago	86

Table 6 (continued)

Country	Ranking	Country	Ranking
Peru	84	Tuvalu	86
Israel	85	Uganda	86
Afghanistan	86	Ukraine	86
Albania	86	United Republic of Tanzania	86
Angola	86	Uruguay	86
Antigua and Barbuda	86	Vanuatu	86
Argentina	86	Zambia	86
Armenia	86	Zimbabwe	86
Bahamas	86		
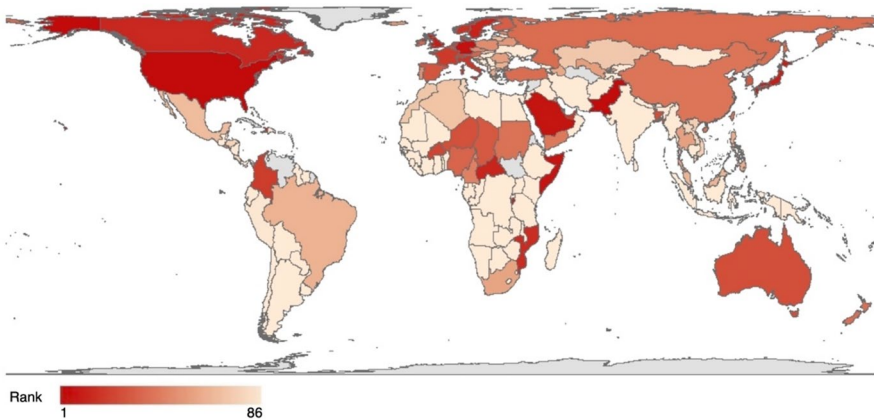
Fig. 3 2021 index ranking of humanitarian aid on a world map

$1 billion for humanitarian assistance. Unlike the Germany and the UK, most Sweden's funds were not allocated to a specific country or specific organizations but were earmarked for flexible usage.

European countries have worked together to promote humanitarian aid in 2021 through a range of projects and initiatives. Through its Global Humanitarian Overview 2021, the UN and its partner organizations have embarked on a mission of providing humanitarian assistance to a staggering 160 million people across 56 countries. This assistance included both financial and material support for those with the urgent need to address hunger, conflict, displacement, the impacts of climate change, and the ongoing COVID-19 pandemic. In addition, long-term projects and strategies to improve education and human rights were also put forward. UNICEF's collaborative action achieved considerable results in 2021: 41.7 million people gained access to safe water, 5 million children were treated for severe acute malnutrition, 12 million children and caregivers accessed mental health and psychosocial support, 32.6 million children accessed some form of education, and

13.9 million women, girls, and boys accessed gender-based violence risk mitigation, prevention, or response interventions.[8]

North America The United States and Canada both performed well on this issue in 2021. The United States contributed over $10 billion for humanitarian assistance, the most of any country. More than half of this funding was used to ensure food security through the UN World Food Program. The largest recipient country was South Sudan. Following its independence, South Sudan faced the highest level of goods insecurity and malnutrition in the world, and flooding, political instability, and COVID-19 continued this aggravated situation in 2021. The US participated in a series of projects to reduce morbidity and mortality in South Sudan, to ensure safe access to basic services, and to facilitate recovery and resilience to shocks and stresses. In particular, the US provided over $482 million in humanitarian aid to South Sudan, including the provision of emergency food and nutrition, essential healthcare, shelter and safe drinking water, procurement from local farmers, and support for the internally displaced and refugees. Canada provided over $900 million in humanitarian aid in 2021, including funding provided to the UN World Food Program, the International Committee of the Red Cross, the UN Children's Fund, the UN High Commissioner for Refugees, the Central Emergency Response Fund, and others. More than 34% of this funding was used to ensure food security, and the largest recipient country was Afghanistan. The collective efforts of North America also played a crucial role in providing humanitarian assistance to those in need. In February 2021, US President Joe Biden and Canadian Prime Minister Justin Trudeau established a blueprint for a renewed US–Canada partnership in joint efforts toward humanitarian assistance. The key areas of this project related to combating COVID-19, addressing climate challenges, and improving global health security.

Latin America Haiti was ranked the first in all the Latin American countries and thirteenth in the world on humanitarian assistance in 2021. It was also the top Latin American country on this issue in 2020. Haiti faces various challenges, including poverty, climate change, and natural disasters such as hurricanes and floods. In 2021, Haiti's GDP per capita stood at $1824. Although this marked a 42.13% increase from the previous year, it was still counted among the most vulnerable countries in the world. Nevertheless, Haiti contributed more than $23 million in humanitarian aid in 2021, most of which went to the UN World Food Program. As noted earlier, we factor in the economic volume of each country in measuring its contribution to global justice in humanitarian aids. Relative to the small size of its economy, its contribution makes it one of the top 10 countries in humanitarian assistance.

Latin America faced a multitude of challenges, including extreme violence, chronic food insecurity, and natural disasters, which caused countries in this area to be major recipients of global assistance. UNICEF estimated that over 57 million people, including 20.8 million children, are in need of humanitarian aid in Latin America. The world provided $35 billion to help 160 million of the most vulnerable people worldwide with lifesaving support. Latin America and the Caribbean received a significant share of this funding to address the urgent challenges arising from crises in the area.

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[8] https://www.unicef.org/reports/global-annual-results-2021-humanitarian-action.

Africa There were several African countries with small economic volume that performed very well in 2021, producing a high ranking high. Of the top 10 countries, 3, Somalia, Burundi, and Central African Republic, are in Africa. All are heavily dependent on agriculture, face resource challenges, and have limited industrialization. The GDP per capita values of Somalia, Burundi, and Central African Republic were $447, $221, and $461. Regardless of their poor economic situation, Somalia, Burundi, and Central African Republic contributed over $21 million, $5 million, and $8 million in 2021, respectively, granting them their high ranking.

As with Latin America, Africa suffers from political instability, conflict, natural disasters, malnutrition, and a lack of access to basic services, including healthcare and education. The United Nations reported that African countries were among the largest recipients of humanitarian aid in 2021. The Regional Humanitarian Fund for West and Central Africa (), as a funding mechanism, was launched in June 2021, with the first country envelope established in Niger (September 2021). The primary focus of the RHFWCA is to prioritize assistance for the most vulnerable, ensuring that aid is accessible to those in desperate need in remote and hard-to-reach regions.

Oceania In 2021, Australia ranked the twenty-fourth among all of the countries on this issue, and New Zealand ranked thirty-sixth. Australia provided over $301 million in 2021. More than 20% of the funding was used for food provision through the UN World Food Program. Other targets were the UN Children's Fund, International Committee of the Red Cross, the UN Population Fund, the UN High Commissioner for Refugees, and so on. Bangladesh was the largest recipient of Australian assistance in 2021, followed by Afghanistan, Myanmar, occupied Palestinian territory, Jordan, and Iraq. This support includes financial assistance, as well as other resources. For example, Australia committed $140 million to respond to the Afghanistan crisis from 2021 to 2024. It focused on support to vulnerable populations and women and girls in particular. New Zealand contributed over $57 million in 2021. About 20% of the funding was used to support food security through the UN World Food Program. Afghanistan was the largest recipient country in Oceania, followed by South Sudan, Papua New Guinea, Bangladesh, Fiji, and Yemen.

1.3.5 Conclusion

Humanitarian aid has always played a crucial role in the promotion of global justice through alleviating the suffering of vulnerable populations, addressing disparities and inequalities, and advocating for the human rights of individuals and communities. It is a lifeline during crises, preventing further erosion of human rights including access to healthcare, food, water, education, and a dignified standard of living. We measured the contributions of each country using 12 indicators: food, health, housing, water, emergency response, early recovery, coordination, education, COVID-19, protection, agriculture, and others. From this, we found that the United States maintained its position as the top-ranked country in terms of humanitarian aid. The top 10 countries in this regard were the United States, Pakistan, Germany, Saudi Arabia, Somalia, Burundi, the United Kingdom of Great Britain, Japan, Sweden, and the Central African Republic.

1.4 Issue 4: Antiterrorism and Conflict

1.4.1 Introduction

In 2021, the global security landscape faced significant challenges, as persistent terrorism and ongoing conflict undermined international stability and human safety. In spite of the progress seen in some regions, the year was characterized by a complex mix of geopolitical tension, violent extremism, and the lingering impact of the COVID-19 pandemic. These factors both aggravated existing conflict and facilitated the spread of terrorist activities, resulting in a 46% surge in organized violence—the highest value since 2015.[9] This year further highlighted the intricate links between health crises, economic instability, and security threats, demonstrating how vulnerabilities in one area could exacerbate challenges in another, thereby impeding progress toward lasting peace and security.

This study assessed and contrasted the contributions of various countries to antiterrorism and conflict resolution. Through detailed analysis of each country's data, we gained insights into the current global state of conflict and terrorism, as well as the collective efforts underway to address these issues. Ultimately, this study offers a useful perspective on global justice, informed by the efforts in anticonflict and antiterrorism.

1.4.2 Dimensions and Indicators

In 2021, the study encompassed 192 countries, consistent with the reports of previous years. It evaluated global justice through two dimensions of performance and one of contribution, each underpinned by two to three indicators, as shown in Table 7 which outlines the data framework and sources.

The performance dimensions assessed each country's conflict and terrorism situation in 2021, focusing on the incidence of conflict, war, terrorism, and related fatalities. Conflict data were sourced from the Uppsala Conflict Data Program (UCDP) Armed Conflict Dataset, while terrorism information was obtained from the Global Terrorism Dataset (GTD). Notably, for 2021 terrorism data, GTD was only updated through June 2021, limiting our analysis to 6 months of data for that dimension.

To produce a balanced evaluation, all indicators were weighted by population size, allowing for a proportional representation for each country. In calculating the final issue score, it is crucial to note that higher performance scores negatively impact overall scores, such that that increased incidents of conflict or terrorism detrimentally affect a country's standing in terms of addressing global justice issues. In 2021, an analysis of the collected data showed a distressing escalation in global violence, with conflicts leading to approximately 572,000[10] deaths. This figure was not only double that of 2020 but also represented the highest death toll since 2017. Additionally, the first 6 months of the same year witnessed nearly 11,500[11] deaths

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[9] Institute for Economics & Peace. (2022).

[10] Data Source: https://ucdp.uu.se.

[11] Data Source: https://www.start.umd.edu/gtd/.

Table 7 Data on antiterrorism and conflict

Category	Dimension	Indicator	Data source	Coverage
Performance	Conflict	Number of conflicts	UCDP Armed Conflict Dataset	192 countries
		Number of wars		
		Number of conflict deaths		
Contribution	Conflict agreements	Number of agreements		
		Achievements of agreements		
Performance	Terrorism	Number of terrorism attacks	Global Terrorism Dataset	
		Number of deaths from terrorism attacks		

Table 8 Country rankings in the antiterrorism and conflict aspects of promoting global justice in 2021

Country	Ranking	Country	Ranking
Tajikistan	1	Cameroon	97
Kyrgyzstan	2	Panama	98
Sudan	3	Kuwait	99
India	4	Guinea	100
China	5	Austria	101
Japan	6	Benin	102
Philippines	7	Switzerland	103
Brazil	8	Croatia	104
Viet Nam	9	Tunisia	105
Indonesia	10	Georgia	106
Germany	11	Jordan	107
Pakistan	12	Uruguay	108
Thailand	13	Mongolia	109
Mexico	14	Sweden	110
Myanmar	15	Portugal	111
Bangladesh	16	Niger	112
Republic of Korea	17	Congo	113
Colombia	18	El Salvador	114
Argentina	19	Jamaica	115
Russian Federation	20	Albania	116
Algeria	21	Zambia	117
Poland	22	Central African Republic	118
Uzbekistan	23	Qatar	119
Egypt	24	Denmark	120
Malaysia	25	Republic of Moldova	121
Democratic Republic of the Congo	26	Namibia	122
Venezuela (Bolivarian Republic of)	27	Finland	123
Turkey	28	Norway	124
Italy	29	Liberia	125
Democratic People's Republic of Korea	30	Chad	126
Nigeria	31	Ireland	127
Iraq	32	Slovenia	128
United Kingdom of Great Britain and Northern Ireland	33	Republic of North Macedonia	129
Iran (Islamic Republic of)	34	Guinea-Bissau	130
Chile	35	Burundi	131
Kazakhstan	36	Togo	132
South Africa	37	Sierra Leone	133
Morocco	38	Equatorial Guinea	134
Ukraine	39	Trinidad and Tobago	135
Ecuador	40	Bosnia and Herzegovina	136
Canada	41	Mauritania	137
Angola	42	Timor-Leste	138

Table 8 (continued)

Country	Ranking	Country	Ranking
Peru	43	Saudi Arabia	139
Mozambique	44	Botswana	140
Zimbabwe	45	Lithuania	141
United Republic of Tanzania	46	Mauritius	142
Spain	47	Cyprus	143
Madagascar	48	Yemen	144
Bolivia (Plurinational State of)	49	Eswatini	145
Australia	50	Gabon	146
Haiti	51	Lesotho	147
Cuba	52	Armenia	148
Dominican Republic	53	Afghanistan	149
South Sudan	54	Fiji	150
Honduras	55	Latvia	151
France	56	Comoros	152
Malawi	57	Gambia	153
Papua New Guinea	58	Guyana	154
Uganda	59	Solomon Islands	155
Hungary	60	Montenegro	156
Belarus	61	Suriname	157
Kenya	62	Estonia	158
Azerbaijan	63	Cabo Verde	159
Ethiopia	64	Maldives	160
Guatemala	65	Malta	161
Lao People's Democratic Republic	66	Brunei Darussalam	162
Syrian Arab Republic	67	Bahamas	163
United States of America	68	Belize	164
Nepal	69	Iceland	165
Bulgaria	70	Bhutan	166
Sri Lanka	71	United Arab Emirates	167
Nicaragua	72	Eritrea	168
Serbia	73	Vanuatu	169
Israel	74	Luxembourg	170
Libya	75	Barbados	171
Paraguay	76	Djibouti	172
Turkmenistan	77	Sao Tome and Principe	173
Côte d'Ivoire	78	Samoa	174
Mali	79	Saint Lucia	175
Romania	80	Kiribati	176
Greece	81	Grenada	177
Lebanon	82	Micronesia (Federated States of)	178
Netherlands	83	Tonga	179
Singapore	84	Saint Vincent and the Grenadines	180

Table 8 (continued)

Country	Ranking	Country	Ranking
Slovakia	85	Seychelles	181
Belgium	86	Antigua and Barbuda	182
Senegal	87	Andorra	183
Costa Rica	88	Dominica	184
Cambodia	89	Bahrain	185
New Zealand	90	Saint Kitts and Nevis	186
Czechia	91	Marshall Islands	187
Ghana	92	Monaco	188
Somalia	93	San Marino	189
Oman	94	Palau	190
Rwanda	95	Nauru	191
Burkina Faso	96	Tuvalu	192

due to terrorism, amounting to almost half of the annual totals recorded in each of the preceding 3 years.

The contribution dimension assesses countries' efforts toward peace agreements, evaluating both the number of agreements and the extent of their achievement. Achievement is quantified using a model incorporating eight related indicators, acknowledging that peace agreements are the result of years of negotiations, often involving multiple parties. Our data model captures this complexity by calculating an achievement score for each agreement. A unique integral retrospective method is then applied to distribute this score over the preceding 4 years, reflecting the duration of efforts leading to each agreement.[12] In 2021, two significant peace agreements were signed.

1.4.3 Results

This section presents this study's comprehensive ranking of 192 countries regarding their efforts in antiterrorism and conflict resolution. It integrates two performance dimensions: effectiveness in combating terrorism and conflict and the contribution toward peace agreements. The results reflect each country's efforts to counter these challenges and their commitment to fostering peace through agreement negotiations. Table 8 summarizes the result.

The 2021 rankings expose significant shifts, with the changes primarily attributed to countries' performance in terms of conflict and terrorism, by contrast with the previous year's report, in which peace agreements significantly influenced rankings. Notably, Azerbaijan made a remarkable ascent from the 164th rank in 2020 to the 43rd in 2021. This improvement was largely due to its 2020 engagement in the Second Nagorno-Karabakh War,[13] which resulted in over 7000 deaths. By 2021, the

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[12] Gu et al. (2021).

[13] See https://www.cfr.org/global-conflict-tracker/conflict/nagorno-karabakh-conflict.

death toll from the conflict decreased dramatically, to 40,[14] propelling Azerbaijan up 121 places in the rankings. Conversely, Myanmar showed a significant drop, moving from 3rd in 2020 to 150th in 2021. Two main factors led to this decline. First, an increase in terrorism was seen, with 216 incidents leading to 236 deaths during the first half of 2021.[15] This exceeded the totals of the previous 3 years. Second, the absence of new peace agreements negatively affected Myanmar's score. The signing of the Union Accord Part III[16] in 2020 enhanced Myanmar's contribution dimension.

Tajikistan achieved the top ranking of 2021 through resolving conflicts and reducing terrorism. It was positioned sixty-fourth for anticonflict performance and forty-eighth for antiterrorism efforts. Its premier position is largely attributable to its contributions to peace, where it ranked first. A significant factor in this achievement was the partial peace agreement that was signed on May 2, 2021, between the governments of Tajikistan and Kyrgyzstan.[17] This agreement, which focused on the delimitation and demarcation of the border of the two countries, was remarkable for its rapid conclusion following the initial hostilities, which had begun along the Kyrgyzstan–Tajikistan border on April 28.[18] This conflict lasted three days, producing the signing of the peace agreement, a process that was notably quicker than the extended negotiations that are typical of many peace agreements.

Kyrgyzstan reached the second rank, primarily due to its involvement in the peace agreement with Tajikistan. As with Tajikistan, Kyrgyzstan reported no terrorism. The only conflict noted was with Tajikistan, and both nations reported the same number of conflict-related deaths. The difference in rankings between the two countries was a result of the population-weighted model used in our analysis. As noted in the previous section, the evaluation of the two performance dimensions is adjusted according to size of the population. Tajikistan's larger population explained the discrepancy in rankings.

Sudan was ranked third in 2021, a fall of two positions from 2020. As with the previous year, Sudan continued to face widespread conflict, as evidenced by its rankings of 147th and 126th in the performance dimensions. However, its significant contribution, marked by the signing of a peace agreement, propelled it into a top position. On March 28, 2021, the Transitional Government of Sudan and the Sudan People's Liberation Movement-North (SPLM-N) signed a Declaration of Principles. This agreement, while it is not final, represents a crucial step in the peace process and may contribute to a comprehensive resolution.

The Russian Federation showed a remarkable improvement in the 2021 rankings, ascending 50 places from its position in 2020 to ninth. This significant rise can be attributed to enhanced performance in antiterrorism and conflict management. In

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[14] Data Source: https://ucdp.uu.se.

[15] Data Source: https://www.start.umd.edu/gtd/.

[16] See https://www.mdn.gov.mm/en/myanmar-signs-union-accord-part-iii-establishing-democratic-federal-union.

[17] http://ucdpged.uu.se/peaceagreements/fulltext/Kyr-Taj%202021-05-02_Ru.pdf.

[18] See https://www.theguardian.com/world/2021/apr/29/tajikistan-and-kyrgyzstan-armies-clash-on-disputed-border.

particular, it reported no terrorism-related fatalities during the first half of the year and no war-related deaths over the entire year. Its conflict fatalities showed a substantial reduction of 70% from 2020, with a fall to approximately 1,400.[19] These improvements positioned the Russian Federation as second in the antiterrorism performance dimension and twenty-third in the anticonflict dimension, the latter influenced by its relatively large population.

The top-10 rankings for 2021 also featured China (fourth), Japan (fifth), Vietnam (sixth), Brazil (eighth), the Republic of Korea (ninth), and Poland (tenth), all of which consistently made significant contributions to combating terrorism and reducing conflict. At the other end of the spectrum, the countries at the bottom of the rankings included Tuvalu, Nauru, Palau, Afghanistan, and San Marino, which all had minimal change over an extended period. The lower rankings of these countries are not necessarily indicative of poor performance in with respect to antiterrorism and anticonflict efforts; rather, they are often a consequence of their small populations. Afghanistan, however, is an exception to this pattern, recording the highest number of fatalities due to terrorism in the world—accounting for more than one-third of global victims.[20] In addition, it experienced a number of deaths from war and conflict that was only surpassed by the United States.[21]

1.4.4 Regional Analysis

We here offer a regional overview of the distinct attributes of regions or subregions for addressing conflict and terrorism, as these challenges feature unique geographical characteristics. Figure 4 presents the global rankings related to efforts in anticonflict and terrorism. Taking a continental lens to analyze this, we observe varying efficacy in these endeavors. The sequence of regions, ordered from the most to the least effective in combating terrorism and resolving conflicts were Asia, North America, Africa, Europe, Latin America, and Oceania.

Asia In 2021, Asia reached the top position in this category, climbing four places up from 2020, and dominating the top-10 list, with 6 Asian countries. Sudan was an exception from Africa, with a rank in the top five. This year's rankings showed that most Asian subregions were placed in the upper half, continuing the established trend, whereby the majority of conflicts and terrorist activities were concentrated in West Asia (including Iraq, Yemen, Israel, the Syrian Arab Republic, etc.) and South-Central Asia (including Afghanistan).

At the country level, Azerbaijan, Turkey, Iran, and Armenia significantly improved their rankings, each by more than 50 places, attributable to a reduction in conflict and/or terrorism activity in 2021. The number of wars in the region decreased to 5 from 12 in the previous report. However, the average fatalities per war escalated dramatically from 6700 to 33,000, indicating more intense war or conflict. Half of all Asian countries experienced at least one conflict in 2021, while

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[19] Data Source: https://ucdp.uu.se.

[20] Data Source: https://www.start.umd.edu/gtd/.

[21] Data Source: https://ucdp.uu.se.
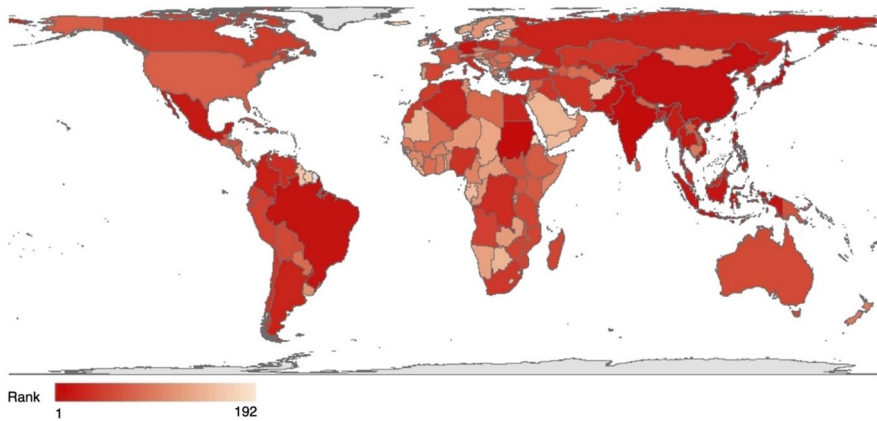
Fig. 4 2021 index ranking for antiterrorism and conflict on a world map

India, for the first time in 5 years, reported no conflicts, marking a notable deviation from its recent historical pattern.

North America Maintaining its position from the previous year, North America ranked second overall, leading in both the anticonflict and antiterrorism dimensions. Within this region, Canada retained its fifty-eighth position, and the United States rose from ninety-seventh to sixty-second. Despite this improvement, the underlying data for both conflict and terrorism in the US deteriorated relative to the previous year. In the first half of the year alone, it recorded 26 terrorism-related fatalities,[22] more than double the figure from the previous year, and reported the highest number of conflict/war fatalities globally.

Africa Africa fell from its top position in 2020 to third place in 2021. It ranked second across three dimensions among all continents, with all 54 of its countries included in this year's ranking. African countries were evenly split, with half ranking in the top half globally and the other half in the bottom half. Notably, Northern African countries, such as Sudan, Morocco, and Algeria, were featured within the top 20 of the global ranking. Conversely, Sub-Saharan Africa experienced the most severe conflict and terrorism, accounting for 48% of global terrorism fatalities. In 2021, the Islamic State surpassed the Taliban as the deadliest terrorist group globally. Moreover, the Sahel region became recognized as hosting the world's fastest-growing and deadliest terrorist groups.[23] The nexus between terrorism and conflict distinctly pronounced, both temporally and geographically. Furthermore, of the 24 wars recorded globally in 2021, 17 occurred in Africa, highlighting the continent's critical role in the landscape of global conflict and terrorism.

Europe In 2021, Europe maintained a mid-tier ranking among continents in terms of anticonflict and antiterrorism efforts, with Eastern and Northern Europe outperforming their Southern and Western counterparts. Of the 42 European countries,

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[22] Data Source: https://www.start.umd.edu/gtd/.

[23] Institute for Economics & Peace (2022).

63% saw an improvement in their issue rankings. Luxembourg experienced the most significant fall, falling 35 places from 126th in 2020 to 161st in 2021, marking its first nonzero record in both conflict and terrorism fatalities since 2015, with two conflicts and 726 deaths reported.[24]

No wars were reported in Europe in 2021. Additionally, most European countries did not witness any terrorist attacks. However, during the first half of the year, the United Kingdom, France, Germany, Greece, and Ukraine each experienced 10 or more terrorism incidents. Conversely, Europe saw an increase in the number and severity of conflict relative to 2020, with France recording the highest number of conflicts (eight) and over 3600 deaths.[25]

Latin America In 2021, Latin America experienced a slight decline in its overall ranking. Within the region, Brazil (seventh), Argentina (thirteenth), and Ecuador (nineteenth) emerged as top performers. The lower-ranked countries, primarily from the Caribbean, were affected largely by their small population sizes.

Peru witnessed the most significant drop, falling from seventeenth in 2020 to seventy-seventh in 2021. It faced five terrorist attacks in the first half of 2021 alone, resulting in 20 deaths, and over 700 fatalities attributed to conflict throughout the year. Colombia encountered the most severe terrorism in Latin America, with 76 attacks leading to 71 fatalities, highlighting the region's ongoing struggles with violence and terrorism.[26] Colombia demonstrated continuing progress toward achieving lasting peace. In 2021, the country enhanced its reintegration initiatives, which benefited approximately 13,000 former FARC combatants. It also adopted a comprehensive multi-agency strategy to counteract violent extremism, demobilizing 278 members of armed groups, including 160 minors.[27] This effort underscores Colombia's commitment to peace and the effective reintegration of ex-combatants into society.

Oceania In this year's assessment, the leading countries within Oceania in terms of performance were Papua New Guinea (thirty-seventh), Australia (thirty-eighth), and New Zealand (sixty-third). Both Australia and New Zealand improved significantly from their positions in the previous year's rankings. Notably, New Zealand climbed 48 places, which can be attributed to reporting no incidents of conflict or terrorism, an improvement over the prior year, which recorded 12 terrorism events (albeit without fatalities). The remaining countries in Oceania all ranked below 130th, a positioning largely attributed to their small population sizes. Because populations of all other 11 countries was less than 1 million all together, a noticeable negative correlation was seen between a country's population size and its ranking.

1.4.5 Conclusion

The global landscape continues to be fraught with safety concerns. In this year's report, we analyzed the performance and contributions of 192 countries in combating conflict and terrorism. Utilizing population-weighted models across three

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[24] Data Source: https://ucdp.uu.se.

[25] Data Source: https://ucdp.uu.se.

[26] Data Source: https://ucdp.uu.se.

[27] See https://crsreports.congress.gov/product/pdf/R/R43813.

dimensions, we determined a global ranking, identifying Asia and North America as leading in antiterrorism and conflict resolution.

The nature of conflict has evolved, being characterized by fewer incidents but greater fatalities. In 2021, the number of wars declined to 24, the lowest number since 2015, although these conflicts produced over 2 million fatalities, the highest count in the previous 5 years. Conflict-related deaths increased to 1.7 times those seen in 2020, reversing the previous downward trend in fatalities from organized violence that had been seen for the previous 5 years.[28] This surge in fatalities was mainly due to the escalation of conflicts in Afghanistan, Ethiopia, and Yemen. Although a decrease was seen in the number of active state-based conflicts and entities that committed unilateral violence against civilians, the conflicts that did occur were deadlier.[29] Africa continued to host the most state-based conflicts, with areas of high conflict experiencing severe terrorism activities. The Sahel region continued to be a particularly severe hotspot for terrorism.

As the world continues to grapple with COVID-19, its impact on global dynamics and on conflict and terrorism, remains uncertain and requires further observation.

1.5 Issue 2.5: Cross-national Criminal Police Cooperation

1.5.1 Introduction

Transnational crime is here defined as any crime that occurs across more than one country in its planning, execution, or impact. There are three main categories of transnational crime: provision of illicit goods (drug trafficking, trafficking in stolen property, weapons trafficking, and counterfeiting), illicit services (commercial sex and human trafficking), and infiltration of business and government (fraud, racketeering, money laundering, and corruption). Such crime generally entails intricate networks of individuals and organizations who must cooperate globally to facilitate the illegal activities. Due to the international scope, complexity, profitability, scalability, and anonymity of these crimes, unique problems associated with transnational crime require international collaboration to understand the causes, develop prevention strategies, and implement effective adjudication procedures.

International criminal police cooperation has long been an important part of global justice. Participation in international police cooperation makes it possible for law enforcement of different countries to work together to identify, prevent, and respond to transnational crime more effectively. With cross-national criminal police cooperation, law enforcement agencies can enhance their ability to identify and apprehend suspects, mitigating the risk of international crime, and ultimately safeguarding citizens. Online platforms for data collection and sharing have been established to effectively tackle transnational crime. We incorporated this issue into our Global Justice Index and evaluated each country's contributions to combating transnational crime.

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[28] Data Source: https://ucdp.uu.se.

[29] Davies et al. (2022).

Table 9 Data on cross-national criminal police cooperation

Category	Dimension	Indicator	Data Source	Coverage
Performance	General	United Nations Convention against Transnational Organized Crime	UN treaties	182 countries (2021)
		Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime		
		Protocol against the Smuggling of Migrants by Land, Sea and Air, supplementing the United Nations Convention against Transnational Organized Crime		
		Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the United Nations Convention against Transnational Organized Crime		
	Drugs and Psycho-tropic Substances	Single Convention on Narcotic Drugs of 1961 as amended by the 1972 Protocol	UN treaties	182 countries (2021)
		Convention on Psychotropic Substances of 1971		
		United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988		
	Corruption	United Nations Convention against Corruption		
	Taking of Hostages	International Convention Against the Taking of Hostages 1979.12.17		
Contribution	Donation to Interpol	Donation to Interpol/GDP per capita	Interpol	182 countries (2021)
	Donation to UNODC	General purpose fund/GDP per capita	UNODC	
		Special purpose fund/GDP per capita		
		Pledges/GDP per capita		
	FATF membership	The Financial Action Task Force Membership	FATF	

1.5.2 Dimensions and Indicators

To ensure the comparability and the robustness of our method, we used the same 14 indicators as in previous years to measure each country's contribution to global justice on this issue. First, we measured the ratification status for each country and its performance with respect to transnational crime in accordance with a set of UN treaties seeking to reduce and combat Transnational Organized Crime. These treaties included general treaties against Transnational Organized Crime (United Nations Convention against Transnational Organized Crime, Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime, Protocol against the Smuggling of Migrants by Land, Sea and Air, supplementing the United Nations Convention against Transnational Organized Crime, Protocol against the Illicit Manufacturing of and Trafficking in Firearms, Their Parts and Components and Ammunition, supplementing the United Nations Convention against Transnational Organized Crime), treaties against drugs and psychotropic substances (Single Convention on Narcotic Drugs of 1961 as amended by the 1972 Protocol, Convention on Psychotropic Substances of 1971, United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances of 1988), a treaty against corruption (United Nations Convention against Corruption), and a treaty against taking of hostages (International Convention Against the Taking of Hostages). Additionally, we measure countries' donation to Interpol, their donation to UNODC and their FATF membership for assessing their contribution on this issue.

Please see the details of all the indicators in the measurement of global cooperation against transnational crime below (see Table 9).

As the data for donation to UNODC and FATF membership are only accessible from 2018, while other indicators' data are available since 2010, there is an inconsistency between the ranking results before and after 2018. When we generated time series rankings from 2018 to 2020 in our previous reports, we provided two versions: one with all 14 indicators which provided an exact analysis of each country's performance over that period but had a gap before and after 2018 and another version excluding the donation to UNODC and FATF membership to show a consistent tendency of countries' ranking across this time period. Since we have already provided two versions of the ranking for several years, the first version with full indicators can now exhibit this tendency as well. Beginning with 2021, we no longer provide a second version, and we focus on the first version, with 14 indicators, to exhibit a more comprehensive calculation for each country's contribution on this issue.

1.5.3 Results

This section reports the ranking results of the countries' contribution to global justice in terms of cross-national police cooperation. Please see the table below for detailed rankings (see Table 10).

The top-10 countries in 2021 were Brazil, the United States, India, Japan, China, Mexico, Russian Federation, France, Italy, and Spain. Showing a strong contrast

with the results for the last several years, Brazil replaced the US as top country in 2021. Asian countries, including India, Japan, and China performed very well. Latin American countries, such as Mexico, maintained exceptional performance. Traditional European countries contributed greatly on this issue as well.

1.5.4 Regional Analysis

This section provides a regional analysis of the ranking of cross-national criminal police cooperation (see Fig. 5).

Asia In general, Asian countries performed well on this issue in 2021: India, Japan, and China ranked third, fourth, and fifth, respectively, of the countries. All three are signatories to international conventions and treaties to address transnational crime. In addition, India is an active member in the South Asian Association for Regional Cooperation (SAARC), a body that aims to enhance the welfare and quality of life of the people of South Asia. SAARC features institutions and bodies created to facilitate cooperation among its member countries, providing a platform for intelligence sharing, information exchange, and coordinated action. While this group focuses more on economic development and social progress, it also facilitates regional efforts to combat transnational crime. Japan has been actively engaged in cross-national police cooperation to combat transnational crime, ranking first among all Asian countries in 2021 on this topic. In 2021, Japan implemented various projects and countermeasures to combat drug trafficking, trafficking in persons, and money laundering. For example, in 2021, Japan provided support to victims of trafficking in persons identified in Japan through contributions to International Organization for Migration (IOM). To ensure the safe return of trafficked persons to their home countries, efforts have been made to offer education and vocational training, fostering their independence and facilitating social reintegration.[30] Asia has cooperated in combating transnational crime though various projects, initiatives, and partnerships. For example, the Association of Southeast Asian Nations (ASEAN) promotes collaborations among its member states to address issues such as drug trafficking, human trafficking, terrorism, and cybercrime through initiatives like the ASEAN Ministerial Meeting on Transnational Crime and the ASEAN Senior Officials Meeting on Transnational Crime. Southeast Asia Regional Centre for Counter-Terrorism, and the South Asian Regional Intelligence and Coordination Centre for Combating Transnational Crime make a considerable contribution to data sharing and joint operations among law enforcement agencies.

Europe Russian Federation, France, Italy, and Spain ranked seventh, eighth, ninth, and tenth worldwide on this issue in 2021. In 2021, European countries continued to collaborate on combating transnational crime through cooperative projects and mechanisms. Europol, the European Union Agency for Law Enforcement Cooperation, played a crucial role in facilitating cooperation among European countries to combat transnational crime. It organized and initiated a large number of operational projects that targeted different forms of transnational

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[30] https://www.mofa.go.jp/policy/oda/white/2021/html/honbun/b2/s2_2_3.html.

**Table 10** Country ranking in cross-national criminal police cooperation in 2021

Country	Ranking	Country	Ranking
Brazil	1	Republic of Moldova	92
United States of America	2	Oman	93
India	3	Albania	94
Japan	4	Bulgaria	95
China	5	Costa Rica	96
Mexico	6	Gabon	97
Russian Federation	7	Uruguay	98
France	8	Mauritius	99
Italy	9	Dominica	100
Spain	10	Grenada	101
Germany	11	Lithuania	102
Argentina	12	Trinidad and Tobago	103
Republic of Korea	13	Guyana	104
South Africa	14	Niger	105
Saudi Arabia	15	Latvia	106
Sweden	16	Estonia	107
Greece	17	Cyprus	108
Turkey	18	Antigua and Barbuda	109
Norway	19	Bahamas	110
Belgium	20	Philippines	111
Canada	21	Guinea-Bissau	112
Austria	22	Egypt	113
Denmark	23	Israel	114
Switzerland	24	Tajikistan	115
Finland	25	Myanmar	116
United Kingdom of Great Britain and Northern Ireland	26	Liberia	117
Australia	27	Guinea	118
Netherlands	28	Kyrgyzstan	119
Luxembourg	29	Cameroon	120
Portugal	30	Morocco	121
Colombia	31	Djibouti	122
Malaysia	32	Namibia	123
Singapore	33	Georgia	124
Ireland	34	Suriname	125
Iceland	35	Botswana	126
New Zealand	36	Belize	127
Afghanistan	37	Haiti	128
Indonesia	38	Seychelles	129
Nigeria	39	Bahrain	130
Central African Republic	40	Malta	131
Mozambique	41	Côte d'Ivoire	132
Madagascar	42	Slovakia	133

Table 10 (continued)

Country	Ranking	Country	Ranking
Sierra Leone	43	Croatia	134
Malawi	44	Serbia	135
Panama	45	Bosnia and Herzegovina	136
Sudan	46	Republic of North Macedonia	137
Poland	47	Montenegro	138
Algeria	48	Slovenia	139
Rwanda	49	Uganda	140
Ethiopia	50	Thailand	141
Burkina Faso	51	Nepal	142
Mali	52	Uzbekistan	143
Togo	53	Viet Nam	144
United Republic of Tanzania	54	Bangladesh	145
Zambia	55	United Arab Emirates	146
Lesotho	56	Sri Lanka	147
Peru	57	Jordan	148
Iraq	58	Qatar	149
Benin	59	Bolivia (Plurinational State of)	150
Libya	60	Brunei Darussalam	151
Ukraine	61	Pakistan	152
Chile	62	Yemen	153
Senegal	63	Chad	154
Cambodia	64	Burundi	155
Kenya	65	Czechia	156
Comoros	66	Nauru	157
Ghana	67	Iran (Islamic Republic of)	158
Nicaragua	68	Tonga	159
Kazakhstan	69	Marshall Islands	160
Mauritania	70	Saint Lucia	161
Lebanon	71	Democratic Republic of the Congo	162
Ecuador	72	Angola	163
Sao Tome and Principe	73	Equatorial Guinea	164
Honduras	74	Barbados	165
Tunisia	75	Gambia	166
Azerbaijan	76	Kiribati	167
Lao People's Democratic Republic	77	San Marino	168
Romania	78	Monaco	169
Hungary	79	Papua New Guinea	170
Guatemala	80	Saint Kitts and Nevis	171
Belarus	81	Zimbabwe	172
Cabo Verde	82	Somalia	173
El Salvador	83	Maldives	174
Kuwait	84	Saint Vincent and the Grenadines	175

Table 10 (continued)

Country	Ranking	Country	Ranking
Eswatini	85	Andorra	176
Mongolia	86	Timor-Leste	177
Dominican Republic	87	Congo	178
Jamaica	88	Bhutan	179
Fiji	89	Vanuatu	180
Armenia	90	Samoa	181
Paraguay	91	Solomon Islands	182
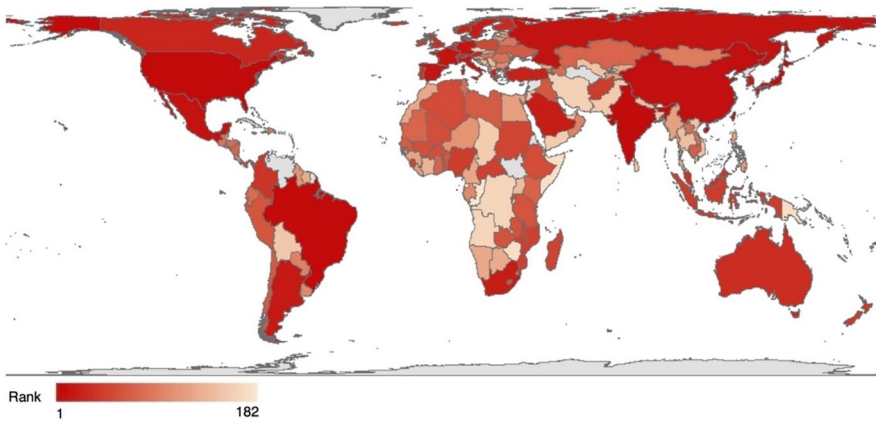
Fig. 5 2021 index ranking of cross-national criminal police cooperation on a world map

crime. For example, Operation Archimedes focused on combating human trafficking and migrant smuggling, while Operation HYGIEA targeted pharmaceutical crime and counterfeit medicines. In addition, each member country has a Europol National Unit (ENU) responsible for improving the cooperation between national law enforcement agencies and Europol. The ENU facilitates the liaison with Europol and enhance cooperation at the national level. Through the provision of operational supports, platform for information sharing, and coordination of joint operations targeting transnational crimes, human trafficking networks, drug trafficking, cybercrime, and terrorism, Europol encourages member states to combat cross-national crime together.

North America The US ranked second among all of the countries in 2021 on this issue, while Canada ranked twenty-first. The US has long had an important role in combating transnational crime and facilitating reginal cooperation. In 2021, its law enforcement agencies, including the Federal Bureau of Investigation, the Drug Enforcement Administration, the Immigration and Customs Enforcement (ICE), and the Department of Homeland Security, collaborated in numerous ways to target transnational criminal organizations. The US Treasury Department's Office of

Foreign Assets Control and other agencies performed financial investigations and imposed sanctions on individuals involved in transnational criminal activities. These actions were focused on disrupting the financial networks of criminal organizations, impeding their operations and preventing their access to illegal profits. Additionally, there have been various collaborative initiatives and projects between the US and Canada to combat transnational crime. For example, the Cross-Border Crime Forum, a collaborative platform that brings together law enforcement agencies, prosecutors, and other stakeholders from the United States and Canada, allows common challenges related to transnational crime to be addressed. In addition, joint task forces such as the Integrated Border Enforcement Teams join law enforcement agencies from both the United States and Canada to enhance border security and combat cross-border crime. These law enforcement agencies include the Royal Canadian Mounted Police, Canada Border Services Agency, US Customs and Border Protection, and US ICE.

Latin America Transnational crime is a significant challenge in Latin America, which can be attributed to the economic inequality, corruption, and weak rule of law present in many Latin American countries. Latin America's geographic location, situated between the major drug-producing regions of South America and the major consumer markets of the United States and Europe, makes it a strategic transit point for drug trafficking. The vast terrain of the continent and the difficulty of accessing remote areas also increase the difficulties in controlling illicit activities. Political instability and conflict exacerbate the situation. In this context, Brazil employed various strategies to combat transnational crime, maintain stability, and address illicit activities in the region. In 2021, the Brazilian Ministry of Justice and Public Security, in partnership with the UNODC, launched a pilot project to establish a Center of Excellence for Illicit Drug Supply Reduction. This center acts as a focal point for the facilitating of practices, promoting the exchange of knowledge, and offering technical assistance to member states as they work to combat the availability of illicit drugs.

Africa Due to the weak economic infrastructure and lack of rule of law in many African countries, transnational crime has also been a major problem for Africa. In 2021, African countries collaborated on several fronts to combat transnational crime. Numerous organizations and platforms within Africa enable cooperation and coordination among member states to combat cross-national crime, such as the African Union (AU), the Economic Community of West African States, and the Southern African Development Community. Following AU's launch of the Africa-Wide Antiterrorism Campaign in 2020, its impact continued in 2021 to retain the threat of terrorism and cross-national organized crime in the region.

Oceania In 2021, Australia ranked twenty-seventh among all countries on this issue and first among the countries in Oceania. About 70% of Australia's serious criminal threats have an international dimension. Australia has implemented various strategies and initiatives to combat transnational crime. Law enforcement agencies including the Australian Federal Police, the Australian Border Force, and the Australian Criminal Intelligence Commission have conducted collaborative efforts to prevent illicit activities and organized crime.

1.5.5 Conclusion

In this section, we have determined the performance and contribution of each country regarding transnational crime, using 14 indicators. These include the ratification of laws, donations to Interpol and UNODC, and FATF memberships. In our results, European and North American countries had the highest scores, followed by Asia, Latin America, Africa, and Oceania. Brazil replaced the United States as the top contributor for the metrics on this issue in 2021, followed by the United States of America, India, Japan, China, Mexico, Russian Federation, France, Italy and Spain. Overall, countries in Asia, Europe, and Latin America showed better performance, actively participating in global efforts to prevent organized crimes.

1.6 Issue 6: Refugees

1.6.1 Introduction

The global refugee crisis deepened as an unfortunate reality in 2021. In spite of a decline in overall global mobility due to stricter travel rules imposed during the pandemic, the number of refugees, as reported by the United Nations, rose from 20.7 million in 2020 to 21.3 million at the end of 2021, doubling the rate of a decade previously.[31] This striking disparity has been described as "a paradox not seen before in human history"[32] by the Director-General of the UN migration agency, António Vitorino. However, owing to the limitations of the data collection, this figure may even underestimate the actual number of refugees, who have been forcibly displaced from their homes due to a myriad of factors, including climate change, natural disasters, health crises, war, violence, persecution, and human rights violations, crossing borders in search of safety. Moreover, the continuing COVID-19 pandemic and the tightening of border control and asylum policies in various countries have exacerbated refugees' living conditions,[33] particularly for the most vulnerable, namely, women and children.

The persistent, deepening refugee crisis poses a significant challenge to global justice. In our theoretical framework, refugee governance, seen as a truly whole-of-international community affair, is guided by the principle of CBDR-RC.[34] When nation-states do not govern effectively, producing a large outflow of refugees, this inevitably undermines global justice. However, when nation-states responsibly accept and resettle displaced populations, they make active contributions to global justice. The COVID-19 pandemic and the economic and social consequences it induced have, on the one hand, accelerated the displacement of refugees and their movements across borders, prompting some to resort to desperate measures.[35] Many

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[31] Data source: https://www.unhcr.org/media/global-trends-report-2021 (Accessed February 18, 2024).

[32] See "Global displacement rising despite lockdowns that kept billions grounded", https://news.un.org/en/story/2021/12/1106902 (Accessed February 20, 2024).

[33] Mengesha et al. (2022).

[34] Guo et al. (2019).

[35] See https://www.amnestyusa.org/issues/refugee-migrant-rights/ (Accessed February 20, 2024).

countries found themselves overwhelmed during the pandemic, either forced to tighten their refugee admissions policies or seizing the opportunity to do so, excluding a large number of refugees. These circumstances have led to significant variation in the impact of different nation-states on global justice for the field of refugee governance.

As of the end of 2021, the five countries with the highest cumulative refugee outflows were Syria with 6.8 million, Venezuela with 4.6 million, Afghanistan with 2.7 million, South Sudan with 2.4 million, and Myanmar with 1.2 million. These five countries alone accounted for approximately two-thirds of the global refugee population, and the numbers of their refugees increased for each relative to the previous year. On the receiving end, as of 2021, Turkey is hosting the highest number of refugees, reaching 3.8 million (an increase of 100,000 from the previous year, or 15% of the global refugee population). In addition, Colombia hosts 1.8 million refugees (including many from neighboring Venezuela), while Uganda and Pakistan have each accommodated 1.5 million refugees. According to the statistics of the UN Refugee Agency, these middle- and low-income countries together host approximately 83% of the world's refugees; most of them are from neighboring countries. By contrast, most developed countries in Europe and North America have fallen short in their acceptance of refugees and provision of asylum (except for Germany, which has accepted 1.3 million refugees), despite the extreme rhetoric on the refugee crisis often heard from the politicians and citizens of these countries. Due to this inequality, international organizations such as the United Nations have conducted a series of assistance operations in Afghanistan, Colombia, the Democratic Republic of the Congo, Pakistan, Jordan, Lebanon, Turkey, and Iraq, providing refugees with basic necessities such as food, water, sanitation, and health care, as well as helping them rebuild their homes and promoting voluntary return to their home countries. However, a significant gap remains in these efforts.

In a world that has so many refugees, justice remains elusive. In this year's Global Justice Report, we continue to investigate this issue area, both to monitor the evolving landscape of this field during and after the pandemic and to unveil the varied performance of various regions and countries. We also encourage and urge nation-states to pay closer attention to this escalating global crisis, urging them to muster greater political will and allocate more resources to address the deteriorating situation, domestically, regionally, and globally.

1.6.2 Dimensions and Indicators

To assess the influence of nation-states' refugee governance on global justice is a challenging task, and our report provides an initial step in this direction. Adhering to the research framework of our project, we approach this issue area through two key categories of *contribution* and *performance*, seeking to deliver a comprehensive assessment. In particular, for contribution, we continue to use the indicator system and measurement methods that were adopted in previous years, synthesizing the efforts made to enhance refugee governance, along with nations' commitments to refugee acceptance and protection, across five subdimensions. They include: (1)

Table 11 Data on refugees

Category	Dimension	Indicator	Data source	Coverage
Contribution	Refugee population	Imported refugees to per log GDP	World Bank; UNHCR Statistical Yearbook	211 economics
	Refugee status determination	Number of decisions made Proportion of positive decisions	UNHCR Statistical Yearbook	169 countries
	Participation in international refugee governance	Member of UNHCR Signatory to international agreements	UNHCR-Annex of Global Appeal	192 countries
	The refugee governance system	System for receiving, processing and identifying refugees; Planning for displaced populations; Specific measures to provide assistance; Disaster risk reduction strategy; Grant permission for temporary stay or temporary protection	World Population Policies	92–102 countries
Performance	Standard of living	Type of refugee accommodation	UNHCR Statistical Yearbook	122 countries
	Refugee population	Exported refugee population per 1000 inhabitants	World Bank; UNHCR Statistical Yearbook	192 countries

Table 12 Country ranking for refugee aspect of promoting global justice in 2021

Country	Ranking	Country	Ranking
Germany	1	Burkina Faso	97
Sweden	2	Chad	98
Switzerland	3	Eswatini	99
Finland	4	Zimbabwe	100
Austria	5	Ukraine	101
Spain	6	Papua New Guinea	102
Belgium	7	Bangladesh	103
Canada	8	Sierra Leone	104
Italy	9	Fiji	105
Norway	10	Republic of North Macedonia	106
France	11	Bahrain	107
Australia	12	Nepal	108
Argentina	13	Nigeria	109
Zambia	14	Uzbekistan	110
Portugal	15	Republic of Moldova	111
Japan	16	Solomon Islands	112
Greece	17	Micronesia (Federated States of)	113
Denmark	18	Andorra	114
Paraguay	19	Kiribati	115
United Kingdom of Great Britain and Northern Ireland	20	San Marino	116
Uruguay	21	Lebanon	117
Iceland	22	Ghana	118
Ireland	23	Togo	119
Mexico	24	Colombia	120
Poland	25	Azerbaijan	121
United States of America	26	Rwanda	122
Lesotho	27	Pakistan	123
Peru	28	Georgia	124
Lithuania	29	Sao Tome and Principe	125
Brazil	30	Cabo Verde	126
Netherlands	31	Guinea	127
Republic of Korea	32	Gabon	128
Panama	33	Dominican Republic	129
Luxembourg	34	Guyana	130
Czechia	35	Yemen	131
Romania	36	Kuwait	132
Slovenia	37	Mauritius	133
Monaco	38	Guinea-Bissau	134
New Zealand	39	Kyrgyzstan	135
Philippines	40	Albania	136
Latvia	41	Niger	137
Mozambique	42	Iran (Islamic Republic of)	138

Table 12 (continued)

Country	Ranking	Country	Ranking
South Africa	43	Serbia	139
China	44	Grenada	140
Samoa	45	Croatia	141
Thailand	46	Nauru	142
Madagascar	47	Montenegro	143
Botswana	48	Equatorial Guinea	144
Benin	49	Tonga	145
Egypt	50	Honduras	146
Palau	51	Mauritania	147
Turkmenistan	52	Antigua and Barbuda	148
Ecuador	53	Democratic People's Republic of Korea	149
India	54	Dominica	150
Qatar	55	Congo	151
Malawi	56	Armenia	152
Oman	57	Seychelles	153
Costa Rica	58	Saint Kitts and Nevis	154
Indonesia	59	Liberia	155
Jordan	60	Cambodia	156
Saudi Arabia	61	Afghanistan	157
Israel	62	Nicaragua	158
United Republic of Tanzania	63	Djibouti	159
Malaysia	64	Mongolia	160
Estonia	65	El Salvador	161
Chile	66	Jamaica	162
Malta	67	Guatemala	163
Namibia	68	Democratic Republic of the Congo	164
Russian Federation	69	Cameroon	165
Slovakia	70	Mali	166
Cyprus	71	Bahamas	167
Vanuatu	72	Bosnia and Herzegovina	168
Singapore	73	Venezuela (Bolivarian Republic of)	169
Senegal	74	Gambia	170
Bolivia (Plurinational State of)	75	Somalia	171
United Arab Emirates	76	Maldives	172
Belize	77	Sudan	173
Turkey	78	Marshall Islands	174
Hungary	79	Cuba	175
Belarus	80	Iraq	176
Algeria	81	Barbados	177
Bulgaria	82	Haiti	178
Trinidad and Tobago	83	Saint Lucia	179
Angola	84	Libya	180

Table 12 (continued)

Country	Ranking	Country	Ranking
Timor-Leste	85	Lao People's Democratic Republic	181
Tuvalu	86	Central African Republic	182
Tunisia	87	Burundi	183
Kenya	88	Syrian Arab Republic	184
Kazakhstan	89	South Sudan	185
Uganda	90	Sri Lanka	186
Morocco	91	Comoros	187
Côte d'Ivoire	92	Saint Vincent and the Grenadines	188
Tajikistan	93	Viet Nam	189
Brunei Darussalam	94	Eritrea	190
Suriname	95	Bhutan	191
Ethiopia	96	Myanmar	192

the number of refugees a country is hosting and has resettled, weighted by per log GDP (assuming that a country's capacity to accept refugees is largely determined by its economic strength); (2) the implementation of refugee status determination (RSD), measured by the number of decisions that were made and the proportion of positive decisions regarding refugee status; (3) involvement in global refugee governance regime, assessed by membership in UNHCR and adherence to international agreements, such as the 1951 Convention relating to the Status of Refugees and its 1967 Protocol; (4) the refugee governance system present, evaluated by indictors such as institutions for receiving, processing, and identifying refugees, planning for displaced populations, assistance measures, risk reduction strategies, and permission for temporary stay or temporary protection (for countries where no data are available for these indicators, we code them as zero); (5) refugees' living conditions of refugees, measured by the quality of accommodation provided to refugees by the country. In the performance category, we consider that a country's performance in refugee governance is directly evident in its generation of cross-border displaced persons, quantified by the number of refugees per 1000 nationals.

The methodology and procedures used to construct the subindex of refugee governance are consistent with those of previous years. The data utilized for the computation of the index are sourced from reputable international organizations and their publications, primarily, World Bank, UNHCR Statistical Yearbook, UNHCR-Annex of Global Appeal, and UN Report of World Population Policies (see Table 11). One significant challenge we encountered this year was missing and delayed data. In this regard, we have refined our data imputation methods (please refer to the introduction section for details on the relevant methods).

1.6.3 Results

Drawing on accessible data and data imputation and following the standardized index construction methods and procedures of this project, our report presents the

following ranking results of 192 countries in 2021 in terms of their influence on global justice in the issue area of refugee governance (see Table 12).

The overall ranking of nation-states in promoting global justice in refugee governance has remained relatively stable compared to that of the previous year (Table 12). While certain countries maintained or improved their performance, others have received fewer points than last year due to tightening RSDs and associated resettlement policies during the pandemic. The top 10 countries in the global rankings were, in order, Germany, Sweden, Switzerland, Finland, Austria, Spain, Belgium, Canada, Italy, and Norway—9 European countries (including four Nordic countries) and 1 North American country. Some changes have been seen in this list relative to the 2020 outcomes.

In spite of its outstanding performance across various dimensions of refugee policy and action, Germany has the top ranking globally. Additionally, Switzerland, Austria, Belgium, and Italy all showed modest improvements to their rankings, although the previously high ranking countries of France, Spain, the United Kingdom, and Brazil performed less well compared to the previous year, with some even dropping out of the top 10. In 2021, the bottom 10 countries in the rankings were Burundi, Syria, South Sudan, Sri Lanka, Comoros, St. Vincent and the Grenadines, Vietnam, Eritrea, Bhutan, and Myanmar. By region, these account for one country in Latin America and the Caribbean, four in Africa, and five in Asia. While there have been minor changes in rankings for these countries compared to 2020, most continue to grapple with refugee governance challenges. These low-ranking countries are either caught in prolonged wars or violent conflicts, experiencing severe human rights violations (such as Myanmar), or hindered by limited state capacity to contribute meaningfully in this field. Other poorly performing countries included Venezuela, Somalia, Sudan, Iraq, Haiti, Libya, the Central African Republic, among others.

In 2021, the global refugee crisis continued to persist, maintaining its decade-long upward trajectory. Ongoing armed conflicts (such as those in Central Africa) and new political crises (such as that in Afghanistan), compounded by the survival crises brought about by the pandemic (such as food insecurity), have rendered many refugees unable to obtain legitimate asylum abroad or return to their homelands. Simultaneously, large numbers of new refugees continue to arrive, exacerbating the precarious living and housing conditions for the already present refugees, subjecting them to even greater pressures. By the end of 2021, while some countries had relaxed certain border control policies in response to the improvements to the pandemic situation, the living conditions of refugees continued to deteriorate across most regions. According to United Nations estimates, as of 2021, approximately 15.9 million refugees had been living in a state of displacement for at least five years, and it seemed that these individuals would remain in protracted refugee situations with probabilities ranging from 63 to 99%.[36] This underscores the challenge of achieving substantial improvement in global justice in the sphere of refugee governance in the near term (see Fig. 6).

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[36] The UN Refugee Agency, 2021. Global Trends Report 2021, available at https://www.unhcr.org/media/global-trends-report-2021 (Accessed February 15, 2024).

1.6.4 Regional Analysis

The refugee crisis and its governance are significantly influenced by a range of regional factors, including natural disasters, fragile ecosystems, regional conflicts, and poverty. Moreover, refugees often flow within certain regions or between neighboring areas. Hence, beyond the question of the global surveillance of refugee governance, it is increasingly pertinent to scrutinize divergent performances across regions and among countries within the same geographical area. On one hand, this allows for deeper examination of regional nuances that contribute to the refugee crisis, urging more cooperation among countries and within the regions, while it also enables a comparison of performance across neighboring countries and an accounting for regional factors, thereby encouraging nation-states to take more substantive actions. This section, thus, will delve into a regional analysis of the relevant findings of the index.

Asia as a vast region and ranks low in its contribution to global justice with respect to refugee governance. Within Asia, particularly in West Asia, Southeast Asia, and South Asia, refugee issues are prominent, with countries like Syria and Myanmar being major origins for global refugees. In August 2021, political unrest in Afghanistan forced many to flee, although a significant number returned later that year. Asia also hosts the largest number of refugees, with most seeking shelter in neighboring countries. However, these hosting countries are typically developing nations and often struggle to provide adequate protection and care for the refugees that they host.

In 2021, among the top 50 countries globally for refugee score, only five were from Asia. These countries were Japan (ranked sixteenth), South Korea (ranked thirty-second), the Philippines (ranked fortieth), China (ranked forty-fourth), and Thailand (ranked forty-sixth). Japan, South Korea, and China saw slight improvements to their rankings. Unlike the case of other continents, many Asian countries have not joined the global refugee governance regime (by not being signatories to the 1951 Convention Relating to the Status of Refugees and its 1967 Protocol). In addition, Asian countries scored lower in terms of refugee governance policies, quantity of refugee status decisions, and proportion of positive decisions. Enthusiasm and capacity for providing protection and support to refugees were also lacking.

Europe ranks highest in terms of refugee governance. This can be attributed to its effective management of outgoing refugee flows. Second, European countries actively engage in the international refugee governance regime, with most being signatories to the 1951 Convention Relating to the Status of Refugees and its 1967 Protocol. Third, Europe, as one of the foremost regions affected by refugee crises from West Asia and Africa, has admitted many refugees from these regions, either proactively or reactively. In refugee status determination (RSD) decisions, Europe significantly outperforms that of other regions.

Within Europe, Germany, Sweden, Switzerland, Finland, and Belgium are particularly noteworthy. Among them, Germany's support for refugees has notably expanded, making it currently the fifth-largest host country for refugees worldwide. In 2021, approximately 190,816 individuals filed asylum claims in Germany, an increase of nearly 70,000 relative to 2020. The overall protection rate (refugee status
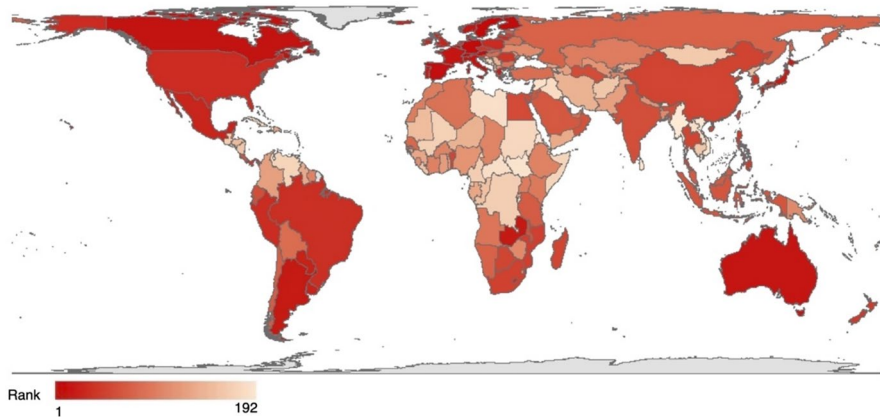
Fig. 6 2021 index ranking of refugee governance on a world map

and subsidiary protection) stood at 63%. Germany's refugee support policy is multifaceted, and involves incorporating asylum seekers and refugees in its COVID-19 response. Austria, Hungary, Spain, and Italy, Central and Southern European countries, have also made significant progress in their rankings. Turkey remains the largest refugee-hosting country in the world, but the living conditions for refugees in the country are poor. The COVID-19 pandemic, steady inflation, reduced job opportunities, and tensions between refugees and local populations have further exacerbated refugees' vulnerability.

North America, here encompassing only the United States and Canada, continues to rank high in advancing global justice in the refugee domain. Specifically, Canada remains firmly within the global top 10, ranking eighth globally, while the United States holds the twenty-sixth position, showing no significant change relative to 2020, in spite of a change in administration. Canada's consistently higher ranking than the United States can be attributed to its active participation in the international refugee governance regime, being a signatory to the relevant refugee agreements (whereas the United States has not been as active in this regard). In addition, Canada's dedication to and investment in metrics such as refugee intake numbers, refugee status decisions, proportion of positive decisions, refugee policies, and refugees' living conditions surpass those of the United States. Recently, the advancing political polarization seen in the United States and increased antiimmigrant sentiment have further entrenched conservative policies in refugee-related domains, including imposing heightened border control measures along the southern border and increased deportations of undocumented immigrants.

Latin America, which in this report, includes South America, Central America, and the Caribbean, performed moderately well in refugee governance in 2021. While most countries in the region have actively participated in the international refugee governance regime, some are plagued by long-standing issues such as political and economic crises, deep poverty, organized crime, and natural disasters. The pandemic exacerbated the hardships faced by vulnerable populations, forcing many

to flee to neighboring countries and North America in search of protection. For instance, as pandemic restrictions eased, more than half a million Venezuelans fled abroad. In addition, the number of Nicaraguan refugees and asylum seekers heading to Costa Rica showed a significant surge in 2021. The pandemic also led to higher unemployment and increased fiscal pressures on public resources in many Latin American countries that are hosting refugees, reducing refugees' living conditions and producing declining in scores and rankings for some countries, such as Brazil.

Africa remained at the bottom of the 2021 rankings. Violence continued to escalate in countries such as the Central African Republic, Nigeria, and Somalia, resulting in significant cross-border flows of new forcibly displaced individuals. For instance, the general election of the Central African Republic at the end of 2020 triggered violence and insecurity, leading to the flight of many refugees to the Democratic Republic of the Congo. Africa also hosts a significant number of refugees, one-fifth of all refugees worldwide, primarily concentrated in a few countries like Uganda, Sudan, Ethiopia, and Chad.

African countries often score poorly on indicators such as refugee policy, living conditions for refugees, and quantity of refugee status decisions. This is largely because countries receiving refugees are mostly economically disadvantaged developing nations that have long been plagued by poverty and violence. Inflows of refugees have worsened the humanitarian crises in these countries. Given this, the international community and regional organizations should provide these countries with more substantive and timely assistance.

Oceania falls in the middle in global refugee governance, with an overall score for 2021 that is slightly higher than those for Latin America, Asia, and Africa, showing a modest improvement over 2020. This progress can largely be attributed to the enhanced global standing of Australia and New Zealand, which rising from forty-fourth to twelfth and from forty-ninth to thirty-ninth, respectively. These two nations have implemented enhanced refugee policies and support systems. Remarkably, in 2021, Australia stood among a mere 23 countries worldwide that accepted refugees for resettlement through the UNHCR resettlement process. However, other Oceania countries, mainly due to their remoteness and small size, scored poorly in indicators such as refugee intake numbers, refugee policies, volume of refugee status decisions, and proportion of positive decisions. Moreover, most island countries refrained from joining international refugee agreements, leading to an overall lower ranking in this domain for the region.

1.6.5 Conclusion

The deteriorating global refugee crisis is casting a shadow over the achievement of global justice, burdening not only neighboring developing countries and the regions to which refugees flee but also fueling the ascendancy of extreme antiimmigrant and xenophobic tendencies in many developed countries. In 2021, economic crises, armed conflict, and climate disasters escalated in certain regions, leading to a continuous increase in the number of cross-border refugees. Moreover, successive

waves of the COVID-19 pandemic, as an "amplifier of existing inequalities,"[37] further shook the political willingness and financial capacity of many countries to accept, resettle, and provide welfare support for refugees. Therefore, according to various indictors and our index results, the state of global justice in refugee governance in 2021 is deeply concerning, and it remains uncertain whether this trend can be reversed in the post pandemic era.

Ultimately, while this report assigns the primary responsibility to nation-states, a multifaceted approach involving collaboration between governments, international organizations, civil society, and local communities is required to address the global refugee crisis.[38] It is only through collective action and a shared commitment to upholding the rights and dignity of all human beings that we can hope to address this pressing humanitarian challenge. Furthermore, this report also shows that the refugee crisis is not an isolated issue but is closely linked to global issues, such as poverty, crime, conflict, and climate change. The refugee crisis, therefore, highlights the need for coordination among nations to address the root causes of forced displacement. In addition, given the scarcity of resources and attention, we should prioritize recognizing and addressing the unique vulnerabilities of refugee women and children, who are in urgent need of special protection.

1.7 Issue 7: Anti-poverty

1.7.1 Introduction

Global poverty, as a leading challenge worldwide, poses a significant barrier to achieving global justice, and this is particularly exacerbated by the successive waves of the COVID-19 pandemic that swept through various countries throughout 2021.[39] Following the turning-point year of 2020,[40] global poverty and inequality further deepened. The adverse ramifications of the pandemic have affected nearly every country, leading to increased unemployment, rising prices, reduced working hours, and deteriorating public health, plunging millions of vulnerable individuals in developed nations into poverty. In developing countries, the situation is even more dire, as the pandemic and the accompanying economic and health shocks, coupled with declining welfare provisions and prolonged instability, disproportionately impact the poorest, exacerbating their already severe poverty. Moreover, the pandemic further deepened disparities along the lines of ethnicity, gender, and class across multidimensionally poor people globally,[41] rendering the achievement of the poverty reduction targets set forth in the United Nations' 2030 Sustainable Development Goals (SDGs) increasingly elusive.

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[37] Crawley (2021).

[38] Schomaker and Bauer (2020).

[39] Mohamed et al. (2020), Gnangnon (2024).

[40] In 2020, global poor surged for the first time in decades, with the most economically disadvantaged individuals disproportionally bearing the brunt of the pandemic's impact. See https://www.worldbank.org/en/topic/poverty/overview (accessed February 6, 2024).

[41] Alkire et al. (2021).

Nation-states have a primary obligation to perform due-diligence in poverty alleviation. To assess their contributions to global justice, it is necessary to scrutinize how each nation engages in poverty governance within its own sovereign jurisdiction. Varying strategies, policies, and investments in poverty governance and pandemic response among nation-states produce distinct living conditions and development opportunities for their populations, which in turn produces significant disparities in antipoverty effectiveness among countries and thereby different influences on global justice. The COVID-19 pandemic disrupted the path of global poverty reduction efforts, forcing nation-states to exert greater and more proactive efforts, as well as allocating greater resources to supporting the poor. Against this backdrop, our annual report on global justice continues to monitor and evaluate the achievements and contributions of countries worldwide for addressing poverty in 2021. Doing this may not only to track the latest global developments in poverty governance but may also urge nation-states to actively respond to the current global crisis in poverty.

1.7.2 Dimensions and Indicators

Poverty is a complex and multidimensional concept, which has been the subject of considerable debate, both in academic circles and in terms of practical policy, with respect to how it should be understood, measured, and assessed.[42] Building upon the literature, we contend that a singular monetary metric may fail to adequately grasp and evaluate poverty, and an overly complex set of overlapping measurement indicators (taking into account that this report already covers many other measurement dimensions) should not be used to understand and measure poverty either. Instead, a middle-ground approach should be taken between a thin and thick perspective on poverty concepts,[43] to reflect the overall situation while also facilitating the interpretation of results and the adoption of appropriate governance measures by different countries. Therefore, in line with the conceptual definition and theoretical framework of poverty set out in our previous work, this year's report assesses and compares the poverty status of different nation-states in relation to the core categories of *contribution* and *performance*. This approach sheds light on each country's contributions to global justice in the field of poverty governance.

We have largely maintained the index construction methods from previous years, but we have optimized our data imputation techniques. In particular, the measurement methods for these two key categories are given as follows: (1) Contribution, measured by the rate of reduction in the poverty headcount ratio. This category evaluates countries' poverty reduction efforts in a specific year compared to the previous year,[44] with the benchmark being the average level across all countries worldwide for that year. This signifies the extent to which a country's reduction in

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[42] Martin (2020).

[43] Ferreira and Lugo (2013).

[44] What needs to be clarified is that due to the lagged effect of poverty alleviation and the discontinuity in data statistics, the data values of some countries fluctuate greatly over years. To overcome these issues, we have used the three-year average to measure the efforts.

poverty headcount ratio exceeds the global average reduction, with the excess representing the country's contribution to global justice. The difference between the two, weighted by population, is calculated to measure the excess.[45] (2) Performance, which continues to utilize poverty gap data to measure a country's performance in controlling the depth of poverty in a specific year.

Four points in particular must be emphasized. First, in September 2022, the World Bank revised global poverty data using new 2017 purchasing power parity figures. The new global poverty lines were adjusted to $2.15 (for low-income countries), $3.65 (for lower-middle-income countries), and $6.85 (for upper-middle-income countries) per day, up from $1.90, $3.20, and $5.50, respectively.[46] We have also updated relevant raw data this year, and in calculating the index, we simultaneously consider data based on these three poverty lines to enhance comparability among different countries at varying levels of development.

Second, our data sources, index construction procedures, and ranking rules remain consistent with those of previous years (for specific information, see Table 13). However, in terms of data imputation methods, we have ultimately adopted a novel random forest imputation approach to enhance the integrity and reliability of the data after testing different techniques and comparing them. For detailed methodological explanations, please refer to the introduction of this report.

Third, this year's antipoverty index continues to focus on absolute poverty. While the issues of relative poverty and vulnerability are equally crucial, especially in the face of the COVID-19 pandemic, they differ significantly in terms of concepts, operationalization, measurement methods, and their solutions.[47] According to the concept of global justice proposed in the project's theoretical report and the principle of CDDR, we continue our past practices this year by concentrating on the minimum cost of consuming goods and services necessary to maintain basic survival and socially recognized standards. This will highlight the efforts and performance of nation-states in addressing absolute poverty within their jurisdictions and contributing to the achievement of global justice.

Fourth, with updated UN data, poverty-related data for countries like Argentina have become available. Thus, our report this year incorporates seven new countries, bringing the total number of ranked countries to 159. It is important to acknowledge that part of the changes in global rankings in 2021 is due to the increased number of countries included.

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[45] Like public health and some other issues, we presuppose that countries with larger populations usually need to exert more effort to achieve the same poverty reduction rate. Conversely, countries with larger populations also are at higher risk of falling far behind due to insufficient efforts. Therefore, we use total population as a reward or penalty criterion.

[46] However, this adjustment primarily reflects changes in statistical standards, as "the real value of the international poverty line remains virtually unchanged." See Jolliffe et al. (2022).

[47] Gallardo (2018), Liu (2022), Wang and Guo (2022), Li et al. (2022).

Table 13 Data on Anti-poverty

Category	Indicator	Data Source	Coverage
Contribution	Poverty rate reduction (population-weighted)	World Bank	159 countries
Performance	Poverty gap	World Bank	159 countries

1.7.3 Results

Drawing on accessible data and employing the standardized index construction method and procedures that are established by this research project, we have compiled global justice rankings in poverty governance for 159 countries in the year 2021 (see Table 14). This assessment provides insight into each nation's efforts and performance in addressing poverty within their jurisdictions, contributing to a deeper understanding of global justice dynamics in the context of poverty alleviation.

This table presents the rankings of countries in their influence on global justice in the field of poverty alleviation in 2021. While some countries exhibited some fluctuation in their rankings compared to 2020 (which is partly due to changes in the total number of countries included), the overall global pattern remained stable. Among the 159 countries with available data, the countries at the top of the index are in the following order: China, the United States, Indonesia, Russian Federation, Vietnam, Japan, Thailand, Germany, Italy, and Egypt. These countries have made substantial efforts to reduce the poverty rate and performed remarkably well in narrowing the poverty gap, contributing to global justice. Among them, developed countries such as the United States, Japan, Germany, and Italy showed greater resilience in combating the pandemic and contributing to economic recovery, producing an outstanding outcome for both poverty rate and degree of poverty.

China has maintained its top ranking by implementing a national campaign targeting poverty alleviation, dedicating substantial human, material, and financial resources to assisting impoverished populations. In spite of the impact of the COVID-19 pandemic, governments at all levels in China remain committed to completing their antipoverty task. On February 25, 2021, Chinese President Xi Jinping announced that "China has secured a victory in its battle against poverty. Under the current criteria, all 98.99 million rural impoverished population have been lifted out of poverty, 832 poverty-stricken counties have all been removed from the poverty list, 128,000 poverty-stricken villages have all been delisted, and regional poverty has been eradicated, fulfilling the daunting task of addressing absolute poverty."[48] After decades of unwavering effort, China achieved the United Nations 2030 Sustainable Development Agenda poverty reduction goals 10 years ahead of schedule. The Chinese government still recognizes that many impoverished individuals exhibit limited capability for self-development and may fall back into poverty due to disaster, illness, or market fluctuations. Therefore, the CCP Central Committee's

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[48] See: https://www.gov.cn/xinwen/2021-02/25/content_5588869.htm, accessed January 28, 2024.

Table 14 Country rankings in antipoverty aspect of promoting global justice in 2021

Country	Ranking	Country	Ranking
China	1	Gabon	81
United States of America	2	Samoa	82
Indonesia	3	Syrian Arab Republic	83
Russian Federation	4	Mexico	84
Viet Nam	5	Fiji	85
Japan	6	Tonga	86
Thailand	7	El Salvador	87
Germany	8	Ecuador	88
Italy	9	Nicaragua	89
Egypt	10	Brazil	90
France	11	Myanmar	91
Ukraine	12	Kiribati	92
Republic of Korea	13	Kyrgyzstan	93
Poland	14	Tuvalu	94
Slovakia	15	Nauru	95
Canada	16	Saint Lucia	96
Malaysia	17	Cabo Verde	97
Netherlands	18	Georgia	98
Czechia	19	Venezuela (Bolivarian Republic of)	99
Belarus	20	Tajikistan	100
Belgium	21	Mauritania	101
Switzerland	22	Guatemala	102
Kazakhstan	23	Lao People's Democratic Republic	103
Lebanon	24	Colombia	104
Finland	25	Honduras	105
Slovenia	26	Vanuatu	106
Jordan	27	Senegal	107
Luxembourg	28	Nepal	108
Cyprus	29	Pakistan	109
Iceland	30	Côte d'Ivoire	110
Maldives	31	Botswana	111
Australia	32	Namibia	112
Spain	33	Sao Tome and Principe	113
Denmark	34	Guinea	114
Ireland	35	Philippines	115
Norway	36	Mali	116
Sweden	37	Bangladesh	117
Iraq	38	Micronesia (Federated States of)	118
Bulgaria	39	Gambia	119
Lithuania	40	Comoros	120
Bosnia and Herzegovina	41	South Africa	121
Republic of Moldova	42	Djibouti	122

Table 14 (continued)

Country	Ranking	Country	Ranking
Israel	43	Sudan	123
Uruguay	44	Benin	124
Azerbaijan	45	Guinea-Bissau	125
Malta	46	Yemen	126
Portugal	47	Cameroon	127
Hungary	48	Timor-Leste	128
Croatia	49	Solomon Islands	129
Turkey	50	Sierra Leone	130
Estonia	51	Ghana	131
Argentina	52	Liberia	132
Albania	53	Togo	133
Latvia	54	Haiti	134
Tunisia	55	Lesotho	135
United Kingdom of Great Britain and Northern Ireland	56	Burkina Faso	136
Mauritius	57	Chad	137
Seychelles	58	India	138
Austria	59	Eswatini	139
Chile	60	Angola	140
Algeria	61	Congo	141
Greece	62	Ethiopia	142
Bolivia (Plurinational State of)	63	Zimbabwe	143
Paraguay	64	Papua New Guinea	144
Costa Rica	65	Uganda	145
Dominican Republic	66	Nigeria	146
Panama	67	United Republic of Tanzania	147
Iran (Islamic Republic of)	68	Kenya	148
Serbia	69	Rwanda	149
Marshall Islands	70	Niger	150
Mongolia	71	Burundi	151
Jamaica	72	Central African Republic	152
Romania	73	Zambia	153
Sri Lanka	74	South Sudan	154
Morocco	75	Malawi	155
Armenia	76	Uzbekistan	156
Peru	77	Democratic Republic of the Congo	157
Montenegro	78	Mozambique	158
Bhutan	79	Madagascar	159
Republic of North Macedonia	80		

No. 1 Document for 2021 prioritizes agricultural and rural development, advocating comprehensive rural revitalization and placing great emphasis on effectively
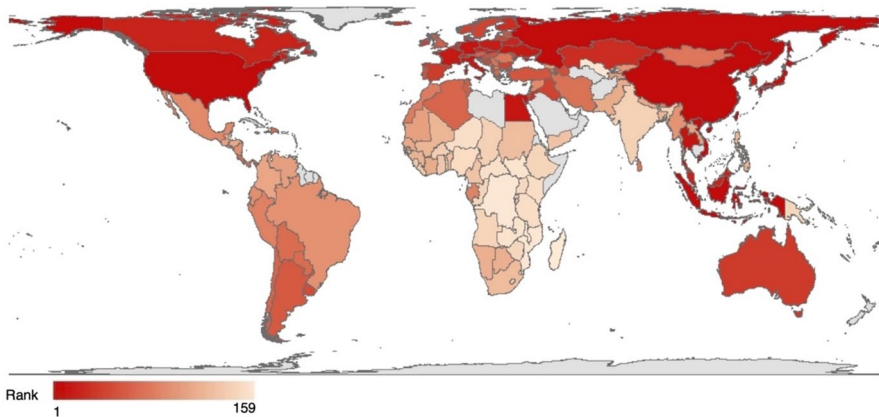
Fig. 7 2021 index ranking of poverty governance on a world map

connecting the consolidation of poverty alleviation achievements with rural revitalization. It stresses the importance of maintaining policies and assistance after poverty alleviation and in April 2021, the committee formulated the Law on Promoting Rural Revitalization to ensure sustainable development for rural development and poverty alleviation. In October 2021, UN Secretary-General António Guterres remarked that "China's achievements provide valuable lessons for poverty alleviation that are being shared with other countries through South–South Cooperation."[49]

In 2021, the bottom 10 countries were as follows: Niger, Burundi, Central African Republic, Zambia, South Sudan, Malawi, Uzbekistan, Democratic Republic of the Congo, Mozambique, and Madagascar. These nations featured significantly reduced achievement in reducing the poverty rate compared to the global average, and their performance in narrowing poverty in depth was notably poor. Consequently, across both contribution and performance metrics, these countries impeded the advancement of global justice for poverty alleviation. It is evident that the majority of these countries are in Africa, where prolonged military conflict, political instability, economic stagnation, and limited governmental capacity have hindered the prioritization of policies of poverty alleviation. During the COVID-19 pandemic in particular, the food crisis and rising prices exacerbated the poor living conditions of the impoverished populations (see Fig. 7).

1.7.4 Regional Analysis

Poverty often exhibits geographical clustering due to regional factors, such as the natural environment, geographic location, regional conflicts, and economic networks. Using regional analysis, we compare the contributions of different continents to global justice in terms of poverty reduction. Furthermore, we compare the efforts by nation-states in poverty alleviation within continents, after controlling for

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[49] See: https://press.un.org/en/2021/sgsm20988.doc.htm, accessed January 28, 2024.

regional factors. This approach enhances the comparability of rates between countries and facilitates mutual learning among neighboring countries for their poverty alleviation efforts.

Asia In 2021, some Asian countries, including China, Vietnam, Indonesia, and Thailand, actively engaged in poverty alleviation and produced improvements in both poverty rates and poverty gaps compared to 2020. However, the poverty challenge in Asia remains stark, with over 300 million Asian population continuing to live below the global extreme poverty line of less than $2.15 per day, according to World Bank statistics. As a result of the COVID-19 pandemic, many Asian countries faced economic downturns and critical increases in cost of living, preventing their poverty governance from getting back on track. In Asia, East Asian countries outperformed all other regions. The impoverished populations of South Asia, Southeast Asia, and Central Asia, particularly those living in rural areas (such as in Bangladesh, Myanmar, and the Philippines), face the long-standing challenges of natural disasters, diseases, and hunger. They also struggle with poor access to healthcare, sanitation, proper nutrition, and education, limiting their resilience to risks and ability to seek opportunities. For instance, India saw a notable decline in its ranking, as its poverty-stricken population has increased over the past three years. The proportion of those living below the poverty lines of $2.15, $3.60, and $6.85 a day remain alarmingly high at 12.98%, 45.47%, and 83.23% of the population, respectively. Our index indicates that India's efforts to reduce the poverty rate fall below the global average, and its poverty gap is also deepening. Due to its massive population, India's struggles with poverty reduction carry significant implications for advancing global justice in the fight against poverty.

Europe has earned widespread recognition for its achievements in combating poverty, maintaining consistently low poverty rates and appreciable poverty gaps. In spite of the pandemic and declining unemployment, the region's economic strength and robust welfare systems have shielded many from falling into poverty. Within Europe, Western European countries such as Germany, France, Italy, and the Netherlands have shown relatively strong performance in 2021, outperforming the world average and the continental average in controlling both poverty rates and poverty gaps. The devastating impacts of COVID-19, economic downturns, and rising inflation posed challenges to some Eastern European nations in sustaining and expanding support for enhancing social protection systems. This has produced less favorable outcomes than those of the previous year in Hungary, Croatia, Slovenia, and Serbia. It is worth noting that nearly one-quarter of children in Europe are at risk of poverty or social exclusion, particularly in Eastern European countries.[50] In 2021, the European Commission and UNICEF began to implement their the "Child Guarantee" pilot program in seven member states to address child poverty.

North America, made up of the United States and Canada, demonstrated significant progress in poverty reduction in 2021, primarily due to their economic recovery and the relatively robust social safety nets in both countries. In the United States, official antipoverty initiatives include social insurance programs such as Social

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[50] See https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20200305-1, accessed on February 23, 2024.

Security, Supplemental Security Income, housing subsidies, unemployment benefits, Supplemental Nutritional Assistance Program, and stimulus payments. In 2021, the United States poverty rates at the $2.15, $3.65, and $6.85 a day levels witnessed percentage-wise declines, reaching 0.25%, 0.5%, and 1%, respectively. Similarly, Canada implemented its Poverty Reduction Strategy to improve social and economic well-being of its poor population. By 2021, its poverty rates for $2.15, $3.65, and $6.85 a day stood at 0.25%, 0.5%, and 0.72%, respectively, although it trailed the United States in terms of achievements in poverty alleviation. Nevertheless, it is crucial to acknowledge that in both the United States and Canada, the distribution of poverty across ethnicities, genders, and urban versus rural remains markedly unequal.

Latin America The Latin America and the Caribbean region made significant strides in combating poverty in the past, the pandemic has exposed people's vulnerability and pushed millions below the poverty line, threatening the achievement of global justice in the region. The poverty rate in the region grew from 28.9% in 2020 to 30.3% in 2021, with the number of the poor growing by 14 million between 2019 and 2021. This indicates that the region is moving further away from the goal of ending extreme poverty by 2030. Countries like Peru, Colombia, and Brazil, which once were considered success stories, have recently experienced increases in both their poverty rates and in their poverty gaps. In spite of a degree of economic recovery in major economies, such as Mexico, the pandemic-induced increase in cost of living, unemployment, and inflation, coupled with the weakness of social protection systems, deficiencies in basic services such as health and education, and frequent natural disasters, have made it difficult for most of the region's poor population to see prospects of escaping poverty in the short term.

Africa appears stuck in a poverty trap, and its poverty rate and poverty gap remain unacceptably high. In 2021, 9 of the 10 countries ranking lowest in the antipoverty index were in Africa. More than half of the world's extremely poor reside on the continent, primarily in Central and West Africa, in countries such as the Democratic Republic of the Congo, Nigeria, Mozambique, and Central African Republic. Nations' fragility, escalating conflicts, and ongoing violence, which are key barriers to poverty reduction in Africa, have trapped many countries in a vicious cycle of poverty. Further, Africa's population continues to grow, and the economic impacts of COVID-19 have exacerbated the inability of the impoverished population to manage risk, further increasing their vulnerability and leading to the emergence of tens of millions of new poor.[51] This has reversed two decades of hard-earned progress in poverty reduction on the continent, signaling that Africa is now losing ground in the battle against extreme poverty, jeopardizing the United Nations SDG of ending extreme poverty by 2030.

Oceania Oceania's contribution to global justice in poverty governance surpasses that of Africa and Latin America but slightly lags that of Asia. This is primarily due to the relative underperformance of the South Pacific island countries in reducing poverty rates and narrowing poverty gaps, although Australia's improvements

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[51] UN Economic Commission for Africa, 2022, "Addressing poverty and vulnerability in Africa during the COVID-19 pandemic", available at https://www.uneca.org/era2021, accessed February 25, 2024.

have bolstered the region's overall performance. These island nations experience slow economic growth and are adversely affected by factors such as limited natural resources, geographical isolation, climate change, and natural disasters, making it hard for them to make strides in poverty alleviation. While the Australian government has made considerable investments in poverty alleviation, rising housing costs and food insecurity have plagued the impoverished population in the country in recent years, particularly affecting the elderly and children living in poverty.

1.7.5 Conclusion

While global poverty has exhibited a significant and encouraging reduction over the past few decades, we cannot take this for granted or maintain overall optimism, as this trend has seen a reversal since 2020 with the onset of the pandemic, in the form of a new poverty crisis that is already evident in the data for 2021. It is even more alarming that the pandemic and its severe socioeconomic and livelihood consequences disproportionately affect certain countries. Many regions and their populations, already impoverished or deeply entrenched in conflicts or wars, are facing an even graver poverty crisis. As a result, the contributions of these countries to global justice in the realm of poverty are significantly compromised. If certain nation-states continue to become increasingly dysfunctional in the face of a global health crisis, global antipoverty efforts will face sustained setbacks, making it challenging for them to recover to precrisis levels over the short term.

The 2021 index rankings on the promotion of global justice through poverty governance indicate that countries that have performed well in poverty alleviation typically demonstrate stronger resilience for addressing poverty, even in the face of pandemic shocks, a feature that is particularly evident in countries like China and most developed countries. However, countries that have historically struggled with poverty reduction, due to climate change, prolonged conflict, weak economies, and fragile state capacity, often continue to face challenges in making progress, as in many African nations. The pandemic has exacerbated these challenges, further hindering their recovery. Addressing this wide disparity requires both increased investment and capacity building by nation-states but also concerted global and regional efforts to tackle the present poverty crisis. This necessitates the creation of shared opportunities for recovery, survival, and prosperity on a global scale.

1.8 Issue 8: Education

1.8.1 Introduction

Education is recognized as both a fundamental right of human development and a key component of global justice. Education's intrinsic value of education, which nurtures critical thinking, enhances social mobility, and supports comprehensive human development, underscores this principle. Together with the goals of SDG

Table 15 Data on education

Category	Dimension	Indicator	Data Source	Coverage
Performance	Primary education	Primary completion rate, total (% of relevant age group)	World Bank; UNESCO; OCED	194 countries
		School enrollment, primary (% net)		
		Pupil–teacher ratio, primary		
		Children out of school (% of primary school age)		
	Secondary education	Lower-secondary completion rate, total (% of relevant age group)		
		School enrollment, secondary (% net)		
		Pupil–teacher ratio, secondary		
		Adolescents out of school (% of secondary school age)		
Contribution	Government expenditure on education	Government expenditure on education, total (% of GDP)		

4,[52] this concept emphasizes the need for inclusive and equitable quality education, together with lifelong learning opportunities for everyone. SDG 4's commits to eliminating educational disparities worldwide, reinforcing the importance of education for achieving global justice. This framework goes beyond advocating for the removal of educational barriers but also highlights education's role in fostering a just and equitable society.

During the second year of the COVID-19 pandemic, its global impact continued to persist, placing considerable pressure on educational systems worldwide. The pandemic resulted in a notable decrease in educational spending across low- and lower-middle-income countries, with a 4% reduction in the latter for 2020. This is a significant concern, as over 75% of the world's school age population resides in middle-income areas, underlining the profound effect of the pandemic on educational funding.[53] School closures extended from 2020 into the first quarter of 2021, although this began to improve in most countries by the second quarter.[54] However, higher educational institutions experienced longer closures, indicating a varied impact across educational levels.

The importance of literacy and numeracy was even more evident during the pandemic, as these were crucial tools for understanding health information and combating misinformation. The ability to read and perform basic math is essential for ensuring personnel safety and identifying false health information.[55] A study in India highlighted the significant role that education plays in enhancing awareness; women who had participated in literacy programs displayed a markedly better understanding of COVID-19 than their illiterate counterparts.[56] This underscores the critical importance of educational access and quality in addressing global health crises.

In this section, we assess and compare different countries' efforts in the education sector. This involves a thorough analysis of data from different countries to illustrate the current state of educational achievement and government investment in education. This section thus provides a unique perspective on defining and viewing global justice in education.

1.8.2 Dimensions and Indicators

As with previous reports, our analysis of education evaluates global justice through two dimensions: performance and contribution. In the performance dimension, we concentrate on basic education, encompassing both the primary and the secondary levels. This focus is essential, as it captures a foundational aspect of a country's educational system, reflecting its ability to provide universal access to education and to lay the groundwork for lifelong learning and development. To accurately gauge performance at this basic level, we selected four key indicators: enrollment rate, completion rate, dropout rate, and pupil–teacher ratio. These indicators collectively

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[52] See https://sdgs.un.org/goals/goal4.

[53] Tanaka et al. (2023).

[54] OECD. (2021). The state of global education: 18 months into the pandemic.

[55] Lopes and McKay (2020), Ancker (2020).

[56] Das et al. (2021).

offer a comprehensive view of the quality and accessibility of basic education in a country.

The contribution dimension; however, measures government expenditures on education, indicating the level of prioritization and support for education. This dimension reflects governments' commitment to invest in the educational future of their population, showing that adequate funding is crucial for the maintenance and enhancement of educational quality and equity. The methodology used to assess performance and contribution and the data sources used are detailed in Table 15. The dual-dimensional approach taken for global justice in education, allows for a more nuanced understanding of it, taking into account both the outcomes achieved and the resources allocated.

The education data for our analysis predominantly originated from reputable sources, such as the Word Bank,[57] UNESCO,[58] and OCED.[59] However, the raw data exhibit a notably high rate of missing data for certain indicators. To mitigate the impact of these missing data and expand the coverage of our rankings to include more countries, we leveraged relevant data. For instance, in calculating the pupil–teacher ratio, we utilized available data on pupil and teacher headcounts and other pertinent indicators not directly related to the issue but beneficial as supplementary information when primary data are absent. This year, we enhanced our imputation methodology by incorporating a data-specific and random forest-based approach, moving away from a previously utilized autoregression model. This updated method allows for the inclusion of a broader range of countries in the final rankings for education rankings.

Furthermore, by employing these imputed data, we could adjust for population influences using a population-weighted model for calculating the education sub-index scores and rankings, ensuring a more accurate reflection for each country's contribution and performance on an individual level in terms of global justice. This adjustment facilitates a more equitable comparison across countries, enhancing the validity of our educational rankings.

1.8.3 Results

This section presents the 2021 rankings for countries' contributions to global educational justice, as shown in Table 16. These rankings indicate a consistent year-over-year stability. Due to improvements made in our data imputation methodology, this year's report included 29 additional countries, producing slight shifts in the rankings relative to previous years. In spite of certain changes in the absolute rankings for several nations, the score disparities among the top countries remained marginal.

In the global educational justice rankings for 2021, the leading countries were Luxembourg, the United States, Iceland, Norway, Switzerland, Sweden, Denmark, Liechtenstein, Australia, and Israel. Notably, Liechtenstein entered the upper ranks this year, marking a significant shift among the elite countries. Renowned for its

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[57] See https://databank.worldbank.org/.

[58] See http://uis.unesco.org/.

[59] See https://www.oecd.org/.

Table 16 Country rankings in the education aspect of promoting global justice in 2020

Country	Ranking	Country	Ranking
Luxembourg	1	Saint Lucia	98
United States of America	2	Ukraine	99
Iceland	3	Colombia	100
Norway	4	Morocco	101
Switzerland	5	Grenada	102
Sweden	6	Iran (Islamic Republic of)	103
Denmark	7	Jamaica	104
Liechtenstein	8	Algeria	105
Australia	9	Tonga	106
Israel	10	Solomon Islands	107
Belgium	11	Egypt	108
China	12	Gabon	109
Ireland	13	Fiji	110
Finland	14	Azerbaijan	111
Netherlands	15	Ecuador	112
Canada	16	Cabo Verde	113
New Zealand	17	Suriname	114
United Kingdom of Great Britain and Northern Ireland	18	Bhutan	115
Austria	19	North Macedonia	116
Germany	20	Mongolia	117
France	21	Albania	118
Qatar	22	Turkmenistan	119
Bermuda	23	West Bank and Gaza	120
Singapore	24	Tunisia	121
Malta	25	Uzbekistan	122
Saudi Arabia	26	Eswatini	123
Cyprus	27	Georgia	124
Estonia	28	Paraguay	125
Monaco	29	Samoa	126
Republic of Korea	30	El Salvador	127
Cayman Islands	31	Nepal	128
United Arab Emirates	32	Armenia	129
Japan	33	Honduras	130
Italy	34	Iraq	131
Slovenia	35	Sri Lanka	132
Curacao	36	Sao Tome and Principe	133
Aruba	37	Bangladesh	134
Kuwait	38	Guatemala	135
San Marino	39	Timor-Leste	136
Spain	40	Djibouti	137
Czechia	41	India	138
Brunei Darussalam	42	Kyrgyzstan	139

Table 16 (continued)

Country	Ranking	Country	Ranking
Portugal	43	Jordan	140
Latvia	44	Lesotho	141
Puerto Rico	45	Nicaragua	142
Andorra	46	Kiribati	143
Barbados	47	Tajikistan	144
Oman	48	Congo	145
Poland	49	Philippines	146
Slovak Republic	50	Vanuatu	147
Croatia	51	Zimbabwe	148
Chile	52	Ghana	149
Lithuania	53	Sierra Leone	150
Turks and Caicos Islands	54	Lao People's Democratic Republic	151
Greece	55	Comoros	152
Russian Federation	56	Togo	153
Hungary	57	Kenya	154
Costa Rica	58	Cuba	155
Marshall Islands	59	Rwanda	156
Palau	60	Cambodia	157
Uruguay	61	Mauritania	158
Bahamas	62	Gambia	159
Seychelles	63	Guinea	160
Nauru	64	Haiti	161
Brazil	65	Benin	162
Trinidad and Tobago	66	Eritrea	163
Argentina	67	Papua New Guinea	164
Indonesia	68	Liberia	165
Antigua and Barbuda	69	Côte d'Ivoire	166
Maldives	70	Central African Republic	167
Botswana	71	Senegal	168
Turkey	72	Myanmar	169
Bahrain	73	Burundi	170
Panama	74	Madagascar	171
Romania	75	Guinea	172
Guyana	76	Yemen	173
Belize	77	Malawi	174
Vietnam	78	Cameroon	175
Kazakhstan	79	Burkina Faso	176
Mexico	80	Angola	177
Bulgaria	81	South Sudan	178
Saint Vincent and the Grenadines	82	Syrian Arab Republic	179
Malaysia	83	Zambia	180
Namibia	84	Mozambique	181

Table 16 (continued)

Country	Ranking	Country	Ranking
Thailand	85	Chad	182
Mauritius	86	Sudan	183
Saint Kitts and Nevis	87	Mali	184
South Africa	88	Somalia	185
Dominica	89	Niger	186
Venezuela, RB	90	Uganda	187
Dominican Republic	91	Afghanistan	188
Peru	92	Democratic Republic of the Congo	189
Belarus	93	Tanzania	190
Serbia	94	Lebanon	191
Micronesia (Federated States of)	95	Nigeria	192
Moldova	96	Ethiopia	193
Bolivia (Plurinational State of)	97	Pakistan	194
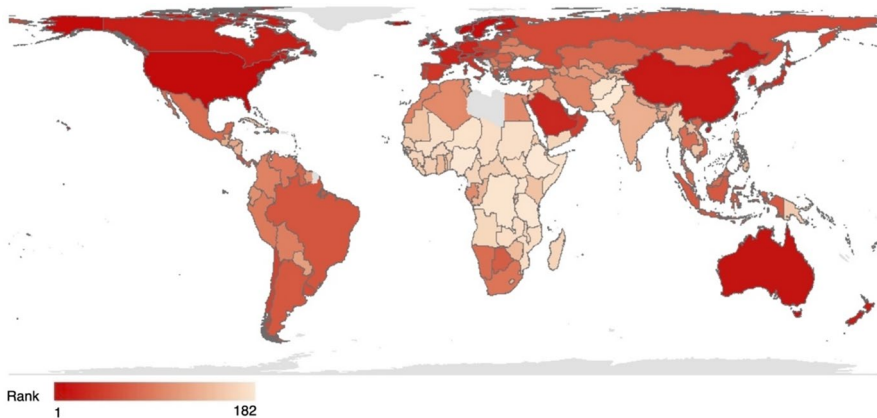
Fig. 8 2021 index ranking for education on a world map

exemplary education system and literacy rate of 100%,[60] Liechtenstein's absence from previous reports was due to insufficient data. This shift, alongside minor adjustments in rankings, underscored the country's sustained dedication to education and the changing landscape of global educational justice among these nations.

The analysis shows a consistent but dynamic trend in global investment and performance in education. It highlights a clear link between educational advancement, investment, and economic status, with educational rankings showing a strong correlation with economic prosperity. The dominance of developed nations at the top of the rankings was notable, with China and Saudi Arabia emerging as the exceptions

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[60] See https://www.cia.gov/the-world-factbook/countries/liechtenstein/.

among the predominantly developed countries within the top 30. This underscores the significance of economic conditions on educational standings. Conversely, the rankings' lower spectrum was predominantly occupied by low-income countries. In particular, among the bottom 10, 6 were classified as low-income, including Afghanistan, the Democratic Republic of the Congo, Ethiopia, Niger, and Somalia, while three were categorized as lower-middle-income countries: Nigeria, Tanzania, and Uganda. This distribution confirms the impact of economic status on educational achievement and opportunity.

Furthermore, the indicators consistently revealed superior performance by high-income countries across nearly all metrics, exemplified by the adolescent out of school rate. The average for this factor in high-income countries was 1.83%, in stark contrast to the 33.84% average observed in low-income countries. This disparity underlines the significant role that economic stratification plays in global educational outcomes.

Since 2000, global government expenditure on education as a percentage of total government expenditure has fluctuated between 13.5 and 14.6%. However, the COVID-19 pandemic prompted governments to reduce the amount of education expenditure to 12.8% in 2020 and then to 12.7% in 2021. Despite this reduction, the pandemic did not halt positive trends in the global completion rates for basic education. For instance, worldwide completion rates for both primary and lower-secondary education saw an increase since 2020. Notably, the primary education completion rate surpassed 90% for the first time, reaching 91% in 2021, while the completion rate for lower-secondary education rose to 76.8%.

1.8.4 Regional Analysis

Education reflects cultural differences, and countries that have cultural similarities and share geographical locations often have comparable educational perspectives. In addition, nations near to each other tend to have greater interstate mobility, which facilitates the exchange of educational resources and ideas. Therefore, it is crucial to conduct a regional analysis of educational outcomes to understand the broader perspective on educational justice across continents and subcontinents. The average continental rankings, from highest to lowest, were North America, Europe, Oceania, Latin America, Asia, and Africa. Notably, this year's report observed a switch between Latin America and Asia, albeit the difference in scores between the two regions was the smallest of any region. This shift underscores the importance of examining regional dynamics in education to capture a comprehensive view for global educational justice. Figure 8 visualized the regional results.

North America Home to only two countries, the United States and Canada, both of which are developed countries, North America maintained its leading position in educational justice in 2021. The United States had the second spot globally, while Canada was ranked sixteenth. The United States had second place in both primary and secondary education performance and seventh in government expenditures on education as a percentage of GDP. Conversely, Canada was ranked thirty-third in primary education and ninth in secondary education, culminating in a twelfth-place

ranking for overall performance. Additionally, Canada's governmental economy contribution to education was ranked eighteenth.

Even in high-performing countries, concerns persisted regarding completion rates and the rate of children out of school. For instance, in 2021, the percentage of children in the United States out of primary school climbed to 4.10%, double the rate of 2020 (2.04%) and almost five times that of 2019 (0.85%).[61] Likewise, when compared to the fall of 2019, before the onset of the COVID-19 pandemic, public school enrollment in 2021 for kindergarten to grade 8 dropped by 4%.[62] These figures indicate significant challenges in maintaining educational participation, even in countries that otherwise have strong educational systems.

Europe The 42 European countries tracked here are predominantly categorized as high-income. Its performance in educational justice surpasses that of other regions, with 7 European countries—Luxembourg, Iceland, Norway, Switzerland, Sweden, Denmark, and Liechtenstein—ranking in the top 10 globally.

From a subregional perspective, all 5 European subregions rank within the top 10 among 29 subregions globally,[63] with Western and Northern Europe leading and Southern and Eastern Europe at the lower end within the continent. Notably, 81% of European countries ranked above 60th globally. Republic of North Macedonia (116th) and Albania (118th), both in Southern Europe, were the lowest-ranked in terms of educational justice.

The rankings of European countries showed a strong positive correlation with the contribution dimension, indicating that government investment in education significantly influences higher rankings. The majority of European countries were high-income nations, and the continent overall saw an increase in government expenditures on education as a percentage of GDP during the pandemic, reaching 5% in 2021, relative to a global average of 4.2%. However, in the dimension of performance, the relatively small populations of these countries did not confer an advantage in terms of the population-weighted model. Russian Federation stood out, ranking fourth in the overall performance category. In spite of the generally low out of school rates for basic education in Europe—most countries reported less than 2% for both primary and lower-secondary school—Ukraine exhibited the highest rates, with 15.8% for primary and 11.34% for lower-secondary education.

Oceania Oceania includes numerous islands spread throughout the Pacific, including the continent of Australia and the island subregions of Melanesia, Micronesia, and Polynesia. Looking at subregions, Australia and New Zealand were among those at the forefront globally, with Micronesia, Polynesia, and Melanesia following them at a distance. The countries within these subregions exhibited similar rankings in both performance and contribution categories, reflecting shared cultural heritage, similar size, and geographic characteristics in common, which in turn influence educational justice.

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[61] See https://databank.worldbank.org/.

[62] See https://nces.ed.gov/programs/digest/d22/tables/dt22_203.10.asp.

[63] The 29 subregions include all the 194 countries of this issue and they are defined in Word Bank database.

Australia stood out in Oceania, leading both in overall ranking and in individual categories. New Zealand, was seventeenth globally. However, it showed a disparity with its educational performance, ranking at 142nd. Papua New Guinea ranked as the lowest in the continent, positioned at 164th globally.

The population-weighted model, which assigns more significance to population size, assumes that larger countries invest more in educational performance compared to countries with smaller populations. This assumption partly explains why Oceania's performance rankings fell below their corresponding overall rankings.

Latin America In 2021, Latin America improved its position by one rung relative to the 2020 report, with most of its countries situated in the middle of the global rankings.

In terms of performance, Latin America ranked fourth overall, and for the contribution category, it secured the third spot. The alignment of the contribution ranking with the overall ranking was more consistent, and the performance rankings exhibited fluctuations. The leading countries in terms of performance were Curacao, Brazil, Venezuela, Peru, Argentina, Mexico, and Chile, with most located in the South American subregion. Conversely, the countries with the poorest performance were mainly found in Central America and the Caribbean.

A different pattern emerged with respect to contributions, with the Caribbean showing a varied distribution. By contrast, South American and Central American countries were positioned in the middle to lower segments of the ranking.

Asia In the previous report, Asia was ranked fifth in overall educational justice. This ranking was influenced by a cultural emphasis on education in East Asia, which led the continent to a global leadership position among subregions. Conversely, South Central Asia found itself at the bottom of the rankings, underscoring the varied educational outcomes across the continent. The Middle East area exhibited the most diverse rankings, with some countries achieving very high positions and others ranking significantly lower, a reflection of the complexity of the region and the adverse impact of conflicts and wars on education.

At the country level, Israel (10th), China (12th), Qatar (22nd), Singapore (24th), Saudi Arabia (26th), and the Republic of Korea (30th) emerged as top performers. In stark contrast, Pakistan (194th), Lebanon (191st), and Afghanistan (188th) were the lowest-ranked countries in terms of educational issues, highlighting the challenges faced by certain nations within Asia.

Moreover, Asia's commendable third place ranking in the performance category and fifth in contribution underscore its achievements and the challenges it faces in education. In particular, the continent excelled in primary school performance, securing the second position. This success can partly be attributed to a population-weighted model, which benefits countries that have large populations that perform well. A prime example of this is China, which, despite having the world's largest population, leads in the performance category. This underscores China's substantial advancements in education and in basic education in particular, and illustrates the significant impact of population dynamics on educational rankings.

Africa In 2021, Africa had the lowest ranking in terms of overall educational justice, producing the poorest average rankings across both performance and contribution categories, as well as in all three dimensions analyzed. The report ranked 52

African countries, with Seychelles achieving the highest rank at sixty-third. Notably, only five African countries ranked in the upper half of the list. Within the continent, Southern Africa emerged as the top-performing subregion, while Western Africa found itself at the bottom.

In the performance category, Egypt (sixteenth), Morocco (thirty-fourth), and Algeria (forty-fifth) secured positions within the top 50, which can be attributed to either lower dropout rates or higher completion rates in basic education. For instance, Egypt's student out of primary school rate stood at 0.32%, significantly below both the African and global averages. This highlights the varying levels challenges facing the continent, underscoring the critical need for targeted intervention to improve educational outcomes across Africa.[64]

1.8.5 Conclusion

Education, a fundamental human right, plays a pivotal role in empowering individuals and enabling societal progress. It is essential for personal growth, economic development, and social equality. To address educational justice, it is imperative to guarantee equitable access and opportunities across all sectors of society to promote inclusivity and reduce disparities.

This study focuses on the role of education as a crucial element in global justice. We analyzed education with respect to two angles: performance, reflecting the impact of basic education, and contributions, indicating government investment in education. The raw data for 2021 were sourced from the World Bank, UNESCO, and OECD. In response to the significant rate of missing data for this year, we enhanced our imputation methods. After additional relevant indicators are integrated and related issues are addressed to enlarge the dataset, we applied various imputation algorithms. This methodological refinement enabled us to significantly increase the accuracy and effectiveness of our imputations, expanding our analysis to include 194 countries, up from 165 the previous year. This expansion enriches the Global jJstice iIdex by broadening the educational perspective to reach more countries.

The COVID-19 pandemic has significantly impacted educational systems worldwide, leading to decreased government expenditures on education since 2020. In spite of these financial constraints and performance challenges, the comparative rankings of countries, in terms of both educational performance and governmental contribution, remain relatively stable from the previous year. North America maintains its leadership in this area, whereas Africa, positioned at the lower end of the spectrum, continues to face challenges.

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[64] See https://databank.worldbank.org/.

1.9 Issue 9. Public health

1.9.1 Introduction

Public health is a crucial issue in the realm of global justice.[65] First, the public health issues involve the question of how to achieve the equitable realization of the right to health, which is recognized as a fundamental human right. This entails that every individual is entitled to equitable access to basic healthcare services, regardless of their race, gender, religion, nationality, or socioeconomic status. However, in reality, health inequalities do not exist only between states but also extensively within them.[66] Therefore, in relation to global justice, the discourse on public health must include the issue of global health inequalities, which pertains to the principles of equality and fairness.

Second, the achievement of equity in public health necessitates global collaboration. The COVID-19 pandemic demonstrated that public health issues are not confined to domestic concerns but present a shared challenge for all of humanity.[67] For global justice, addressing global pandemic outbreaks requires global cooperation. Isolationist approaches hinder global solidarity in matters of public health, human rights, and pandemic response.[68] Consequently, public health is a global issue. This study examines the performance of countries in public health issues in a global justice perspective, adopting the state as the unit of analysis.

While international organizations, nongovernmental organizations, and other entities are essential providers of public health goods, states (including least-developed countries) still have the responsibility and obligation to ensure that their citizens can access to necessary healthcare services.[69] In many studies, states continue to be regarded as the fundamental unit of analysis for public health.[70]

This report measures countries' performance in terms of public health across two dimensions: performance and contribution. The performance dimension measures a country's performance on public health issues in terms of an outcome-oriented perspective, while the contribution dimension assesses a country's efforts to provide basic public health goods to its population with respect to its financial expenditures in the field of public health. In terms of global justice, when countries have equivalent performance, the one that provides public services to a larger proportion of the global population is considered to make a greater overall contribution to global justice. Therefore, this report employs a population-weighted model for the performance dimension. It is worth noting that a population-weighted model inherently means that countries with large population sizes that deliver good public services with regard to health will receive rewards when their scores in this dimension are calculated. In fact, whether population size is a penalty or a reward in this

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[65] Guo et al. (2019), Josefsson and Wall (2020).

[66] JenRuger (2009), Beckfield et al. (2013), Barreto (2017).

[67] Pradhan et al. (2022).

[68] Meier et al. (2022).

[69] Ngosso (2023).

[70] Backman et al. (2008), You et al. (2024), Asogwa et al. (2023).

Table 17 Data on public health

Category	Dimension	Indicator	Data Source	Coverage
Performance	Life expectancy	Life expectancy at age 60 (years)	WHO	159 countries
		Life expectancy at birth (years)	WHO	
	Morality	Adult mortality rate (probability of dying between 15 and 60 years per 1000 population)	WHO	
		Infant mortality rate (probability of dying between birth and age 1 per 1000 live births)	WHO	
		Neonatal mortality rate (per 1000 live births)	WHO	
		Under-five mortality rates (probability of dying by age 5 per 1000 live births)	WHO	
	Public health infrastructure	Population using at least basic sanitation services (%)	WHO	
		Population using at least basic drinking-water services (%)	WHO	
	Key disease	Raised fasting blood glucose (≥7.0 mmol/L or on medication) (age-standardized estimate)	WHO	
		Treatment success rate: new tuberculosis cases	WHO	
		Tuberculosis effective treatment coverage (%)	WHO	
		Incidence of tuberculosis (per 100 000 population per year)	WHO	
		COVID-19 infection rate	JHU	
		COVID-19 death rate	JHU	
Contribution	Expenditure	Domestic general government health expenditure as a percentage of general government expenditure (%)	WHO	
		Domestic general government health expenditure per capita in US$	WHO	

Table 18 Country rankings in the public health aspect of promoting global justice in 2021

Country	Ranking	Country	Ranking
United States of America	1	Tunisia	81
Norway	2	Namibia	82
Germany	3	Trinidad and Tobago	83
Japan	4	Mauritius	84
Ireland	5	Lesotho	85
Sweden	6	Uzbekistan	86
United Kingdom of Great Britain and Northern Ireland	7	Kazakhstan	87
Denmark	8	Sao Tome and Principe	88
Canada	9	Bahrain	89
Australia	10	Bhutan	90
Iceland	11	Saint Vincent and the Grenadines	91
Netherlands	12	Burkina Faso	92
Austria	13	Solomon Islands	93
New Zealand	14	Gabon	94
France	15	Saint Lucia	95
China	16	Albania	96
Belgium	17	Malaysia	97
Costa Rica	18	Indonesia	98
Finland	19	Grenada	99
Switzerland	20	Niger	100
Uruguay	21	Sri Lanka	101
Spain	22	Mongolia	102
Panama	23	Kiribati	103
Italy	24	Ukraine	104
Malta	25	Rwanda	105
Israel	26	Sudan	106
Chile	27	Georgia	107
Colombia	28	Tonga	108
Maldives	29	Malawi	109
Cuba	30	Philippines	110
Cyprus	31	Fiji	111
Singapore	32	Armenia	112
Bahamas	33	Burundi	113
Slovenia	34	Madagascar	114
Portugal	35	Cambodia	115
Nicaragua	36	Tajikistan	116
El Salvador	37	Morocco	117
Argentina	38	Papua New Guinea	118
Estonia	39	Libya	119
Peru	40	Kyrgyzstan	120
Paraguay	41	Mauritania	121
Slovakia	42	Kenya	122

Table 18 (continued)

Country	Ranking	Country	Ranking
Bosnia and Herzegovina	43	Timor-Leste	123
Guatemala	44	Zambia	124
Russian Federation	45	Iraq	125
Lithuania	46	Senegal	126
Qatar	47	Ghana	127
Dominican Republic	48	Vanuatu	128
South Africa	49	Mozambique	129
Thailand	50	Guinea	130
United Arab Emirates	51	Nepal	131
Ecuador	52	Gambia	132
Montenegro	53	Equatorial Guinea	133
Croatia	54	Togo	134
Suriname	55	Mali	135
Jamaica	56	Sierra Leone	136
Lebanon	57	Egypt	137
Romania	58	Zimbabwe	138
Antigua and Barbuda	59	Central African Republic	139
Saudi Arabia	60	Liberia	140
Guyana	61	Djibouti	141
Bulgaria	62	Benin	142
Latvia	63	Angola	143
Brazil	64	Azerbaijan	144
Kuwait	65	Comoros	145
Mexico	66	Chad	146
Barbados	67	Haiti	147
Belize	68	Afghanistan	148
Belarus	69	Bangladesh	149
Hungary	70	Cameroon	150
Botswana	71	Guinea-Bissau	151
Oman	72	Ethiopia	152
Poland	73	Eritrea	153
Honduras	74	Uganda	154
Serbia	75	South Sudan	155
Turkey	76	Yemen	156
Jordan	77	Pakistan	157
Seychelles	78	Nigeria	158
Samoa	79	India	159
Algeria	80		

model depends on whether a country can provide public goods to its population above the global average in the performance dimension. Thus, population is a multiplier. Countries with large populations that provide public health goods to their

population that go above the global average offer them to a significant proportion of the global population, making the population factor a reward. However, if a country provides public health goods below the global average to a significant proportion of the global population, the population factor becomes a penalty. In the contribution dimension, we use the indicators "Domestic general government health expenditure as a percentage of general government expenditure" and "Domestic general government health expenditure per capita in US dollars" as substitutes for the population-weighted model. These indicators can measure a country's willingness and efforts in providing public health goods to its population.

1.9.2 Dimensions and Indicators

To comprehensively evaluate countries' performance in addressing public health issues, our assessment will encompass two primary categories: performance and contribution. The performance category encompasses four key dimensions through which a country's effectiveness will be measured: life expectancy, mortality rates, public health infrastructure, and the prevalence of key diseases. This approach is centered on assessing tangible outcomes that result from a country's endeavors in the field of public health.

To assess a country's performance across various dimensions of public health, we employ specific indicators. For life expectancy, we utilize the indicators "Life expectancy at age 60" and "Life expectancy at birth." To evaluate mortality, we will consider indicators such as "Adult mortality rate," "Infant mortality rate," "Neonatal mortality rate," and "Under-five mortality rate." In assessing public health infrastructure, indicators such as the proportion of the population utilizing at least basic sanitation services and having at least basic drinking water are examined. For the analysis of key diseases, indicators including "Raised fasting blood glucose," "Treatment success rate for new tuberculosis cases," "Effective tuberculosis treatment coverage," "Incidence of tuberculosis per 100,000 population per year," "COVID-19 infection rate," and "COVID-19 death rate" are utilized. These indicators can enable us to effectively measure and evaluate a country's performance across the respective dimensions.

Within the contribution category, we will evaluate a country's performance by focusing on expenditure. Expenditures indicate the degree of effort or willingness of a country to provide public health goods to its population. High scores in this dimension indicate that a country has allocated more resources or demonstrated stronger commitment to delivering public health goods. To measure this dimension, we utilize two indicators: "Domestic general government health expenditure as a percentage of general government expenditure" and "Domestic general government health expenditure per capita in US dollars." These indicators facilitate the evaluation of a country's financial investment in public health initiatives.

In addition to COVID-19-related indicators sourced from the Johns Hopkins University (JHU), the remaining data are obtained from the World Health Organization (WHO). The details can be found in Table 17.

1.9.3 Results

This section reports the rankings for public health from the perspective of global justice in 2021. Table 18 presents the 2021 rankings of 159 countries' performance on public health issues from the perspective of global justice. The top 10 countries in the 2021 rankings were, in order: the United States, Norway, Germany, Japan, Ireland, Sweden, the United Kingdom, Denmark, Canada, and Australia. Overall, the 2021 list is highly consistent with the 2020 list of public health rankings, with 9 of the top 10 countries remaining the same as last year. The one change in the top 10 rankings involved Iceland dropping down to eleventh from ninth place and Australia entering the list, moving up from eleventh to tenth. Europe continues to dominate the top 10, claiming 6 of the slots. The remaining spots were the two North American countries (Canada and the US) as well as one each for Asia (Japan) and Oceania (Australia). This regional consistency suggests Europe's and North America's traditional strength in public health and illuminates the room for improvement across other parts of the world.

The bottom 10 countries for the 2021 rankings from 159 to 150th were India, Nigeria, Pakistan, Yemen, South Sudan, Uganda, Eritrea, Ethiopia, Guinea-Bissau, and Cameroon. This sequence aligns closely with the rankings developed for 2020. Notably, a country that occupied one of the lowest positions in the 2020 list, the Democratic Republic of the Congo (eighth from last in 2020), was excluded from the 2021 rankings due to incomplete data. Taking its place in the bottom 10 is Cameroon, which held the thirteenth from last position in 2020 and is now ranked tenth from last in the 2021 rankings. Among the bottom 10 ranked countries, 7 are from Africa, while the remaining 3 are from South Asia. It is noteworthy that Pakistan, Nigeria, and India, all populous developing nations, appear in this portion of the list. Their presence in the bottom tier of rankings does not imply they have the worst performance. Rather, this positioning underscores the influence of their large populations in the computation of these rankings. This suggests that these countries have yet to achieve public health standards that surpass the global average for a significant portion of the world's population. However, it is crucial to avoid interpreting the lower rankings as indicative of having the worst performance globally. It should be noted that our ranking considers each country's contribution to global public health from the perspective of global justice. Therefore, when a country with a large population fails to provide public health to a standard for its citizens that is above the global average, the population factor acts as a penalty, lowering the country's ranking.

1.9.4 Regional Analysis

This section provides an overview of the performance of different continents regarding public health. Figure 9 gives the ranking of countries in public health. The figure clearly indicates that North America (made up of the developed countries of the United States and Canada) is the best-performing continent globally, followed by Europe, with Latin America and Oceania close behind, while Asia and Africa
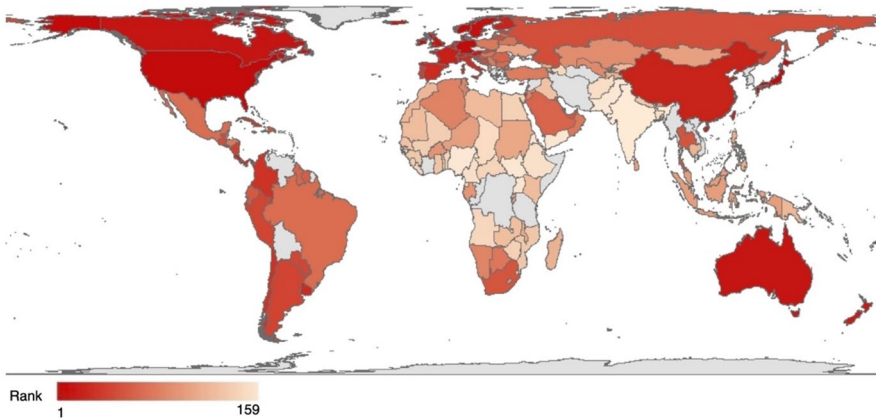
Fig. 9 2021 index ranking of public health issue on a world map

exhibited the poorest performance. Furthermore, within each continent, there were significant variations among countries in Oceania, Europe, and Asia, whereas countries in Africa and Latin America showed relatively minor differences in their rankings. Next, we describe the individual performance of each continent on public health issues.

Asia Among Asian regions, East Asia stood out as the most exemplary. Japan maintained its position from the previous year, ranking fourth globally, while China's ranking has improved from eighteenth to sixteenth place. West Asia, overall, trailed behind East Asia, but it exhibited significant variation in rankings among its countries. Israel, Cyprus, and Qatar ranked twenty-sixth, thirty-first, forty-seventh, respectively. Georgia, Armenia, Iraq, Azerbaijan, and Yemen ranked 107th, 112th, 125th, 114th, and 156th, respectively. Southeast Asia followed West Asia in performance, with Singapore, at thirty-second, and Thailand, at forty-seventh, leading the region. Cambodia (115th) and the Philippines (110th) had the poorest performance, positioning them lower in the global rankings. It is worth emphasizing once more that Singapore's ranking differs significantly from its absolute rating for performance in the field of public health, reflecting the constraints imposed by its small population with regard to its contribution to global justice. Central Asia's performance trails behind Southeast Asia, with Uzbekistan, Kazakhstan, Tajikistan, and Kyrgyzstan ranking 86th, 87th, 116th and 120th, respectively. South Asia had the lowest performance within Asia, with Nepal, Afghanistan, Bangladesh, Pakistan, and India ranking 131st, 148th, 149th, 157th, and 159th globally, respectively. This discrepancy was clearly linked to the lower economic development levels and substantial population sizes of these countries.

Europe In Europe, Western European countries exhibited the highest rankings. Among the countries listed in Table 18, all 6 of these nations are placed within the top 20 globally. This region emerged as one of the best-performing areas worldwide for addressing public health issues. Although it is not as prominent as Western Europe, Northern Europe's performance was noteworthy. Of the 10 Northern

European countries secure positions within the global top 10, including Norway, Ireland, Sweden, the United Kingdom, and Denmark. Moreover, both Iceland (eleventh) and Finland (nineteenth) also ranked within the top 20. In addition, Estonia, Lithuania, and Latvia had the thirty-ninth, forty-sixth, and sixty-third places, respectively. Although it did not reach the remarkable performance of Western or Northern Europe, Southern Europe still exhibits commendable global performance in the realm of public health. Except for Albania, which ranks ninety-sixth, all other countries in this region fell within the top 50% globally. Particularly noteworthy are Spain, Italy, and Malta, which ranked within the top 20% globally. For its part, Eastern Europe had the poorest performance in Europe. Seven out of the eight countries in this region were ranked within the top 50% globally, with Slovakia (42nd) achieving the highest position and Ukraine (104th) the lowest.

North America The two developed countries of North America, the United States and Canada, make it a region that stands out globally in public health matters. The United States ranked first globally, while Canada ranked ninth both overall and in terms of contribution in overall contribution, while in terms of performance, they ranked second and eleventh, respectively. This remarkable performance in terms of performance is attributed to substantial government spending in the public health sector.

However, as noted, the ranking in the performance dimension is highly correlated with population factors. Worldwide, China ranked highest in this dimension, immediately followed by the United States. This correlation was evidently linked to the large population bases of these two countries. A country's ranking in the performance dimension should not be interpreted to imply an absolute measure of its public health performance. Nevertheless, the scores of both countries in the performance dimension reflect their unique contributions to global public health.

Latin America Latin America includes three regions: the Caribbean, Central America, and South America. In this issue, Central and South America exhibited comparable performance, with the Caribbean lagging slightly behind. As seen in Table 18, all countries in Central and South America ranked among the top 50% globally. Specifically, Costa Rica (eighteenth) and Panama (twenty-third) in Central America, as well as Uruguay (twenty-first), Chile (twenty-seventh), and Colombia (twenty-eighth) in South America, all ranked within the top 20% globally. Among these, Costa Rica has the highest rank in Latin America. Cuba (thirtieth) is the sole Caribbean country to rank within the top 20% globally. However, it is important to note that among the 11 countries in this region, 5 rank among the bottom 50% globally. Notably, Haiti ranks 147th globally, making it among the lowest-ranked countries worldwide. This underscores the ongoing challenges that are faced by the Latin American region in the field of public health, necessitating increased attention and support.

Africa Africa had the poorest public health performance globally. Out of a total of 47 African nations, only two African countries, South Africa (forty-ninth) and Botswana (seventy-first), ranked within the top 50% globally. Conversely, nearly half, or 23, of the African countries ranked among the bottom 20% globally. Notably, 7 of the 10 lowest-ranked countries worldwide were African.

Africa features five subregions: Eastern Africa, Central Africa, Northern Africa, Southern Africa, and Western Africa. Southern Africa emerged as the best-performing African subregion. Both South Africa and Botswana, the top ranking African nations, are in Southern Africa. Additionally, Namibia and Lesotho, also Southern African countries, ranked eighty-second and eighty-fifth globally, respectively, which positioned them in the bottom 50% worldwide, although they still performed comparatively well regionally within Africa. Northern Africa closely follows Southern Africa's lead, with Algeria and Tunisia ranking eightieth and eighty-first, globally as the subregion's top performers. Variability was lower among Africa's remaining subregions. Specifically, of the 23 African countries ranking in the bottom 20% globally, 5 were from Central Africa (out of a total of 7), 8 were from East Africa (out of a total of 16), and 9 were from West Africa (out of a total of 14).

Oceania Public health rankings were given for 10 countries from Oceania in this report. Oceania displayed significant regional disparities in its rankings on public health issue. Notably, the Australia and New Zealand region not only secured the highest ranking in Oceania but also stood out as one of the best-performing regions globally. The two countries in this region, Australia and New Zealand, ranked tenth and fourteenth globally. Samoa, in Polynesia, ranked third in Oceania but only seventy-ninth globally. Similarly, Togo, also from Polynesia, held the lowest ranking in Oceania, placing 134th globally. Together with Vanuatu from Melanesia, they ranked within the bottom 20% globally.

In summary, while Australia and New Zealand led Oceania in public health systems and outcomes, performance lagged across other Pacific subregions. Intracontinental rankings exhibited notable polarization between the top- and bottom tier Oceanic countries in public health issue as seen with global justice.

1.9.5 Conclusion

We measured countries' performance on public health across two dimensions—performance and contribution—from the perspective of global justice. Composite rankings integrated both dimensions to assess overall public health. The results showed significant regional inequality, with more developed regions outperforming less developed ones. These rankings closely correlated with the economic development levels of many countries.

Further analysis of the scores on the performance and contribution dimensions in relation to the final score on this issue indicated a closer relationship between the score on the contribution dimension and the issue score. Two factors likely drove this relationship. (1) Extreme intercountry differences in public health expenditures by governments widen score variance on this dimension. We used the ratio of standard deviation to the mean to assess cross-national score variance on both dimensions. Higher ratios signaled greater between-country variance and vice versa. We found a steep 0.19 ratio for the contribution dimension, which far exceeded the 0.05 ratio for effectiveness outcomes. This denoted much wider differences in score between countries on the contributions dimension. (2) Our use of a population-weighted model for the effectiveness dimension emphasized population size in line

with global justice but unavoidably downplayed countries' absolute outcomes. However, due to close correlations between government health expenditures and specific public health indicators, effectiveness inherently reflected countries' absolute performance levels. Consequently, while indirectly incorporating population factors that were relevant to global justice, the final rankings primarily reflected countries' achievements in effective public health.

1.10 Issue 10: Protection of Women and Children

1.11 Introduction

Protecting women and children is 1 of the 10 most crucial issues of global justice.[71] Women and children are among the most vulnerable to exploitation, discrimination, and violence worldwide. They face gender inequality, domestic violence, malnutrition, sexual assault, human trafficking, child labor, and even recruitment as child soldiers.[72] In 2018, an estimated nearly 200 million children under the age of five suffered from stunting or wasting, and at least 340 million children under the age of five experienced hidden hunger.[73] If present trends continue, it by 2030, over 340 million women and girls will be living in extreme poverty worldwide.[74] Given this, the protection of women and children is an even more pressing issue, requiring the attention of all nations. It is a moral obligation for all countries, regardless of their domestic circumstances, to take action through legislation, policies, and effective enforcement to safeguard the rights of women and children and provide them with the support and resources that they need.

The protection of women and children is closely linked to the United SDGs. SDG 5 aims to achieve gender equality and empower all women and girls. However, as of 2023, only 15.4% of the supported indicators for this goal had shown significant progress. This indicates the urgent need for increased efforts and global cooperation to address the barriers that continue to hinder women's full economic participation, as 178 countries still have legal obstacles in this regard. It is crucial to recognize that nearly 2.4 billion women globally lack the economic rights accorded to men.[75]

Through prioritizing the protection of the rights of women and children, societies can work toward promoting equality and stability on a global scale. Actions that are

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[71] Guo et al. (2019). Josefsson and Wall (2020).

[72] Drerup and Schweiger (2019).

[73] Unicef. *The state of the world's children 2019*. https://www.unicef.org/reports/state-worlds-children-2021(2019).

[74] United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) Department of Economic and Social Affairs (DESA), 2023, *Progress on the Sustainable Development Goals: The gender snapshot 2023*, https://www.unwomen.org/en/digital-library/publications/2023/09/progress-on-the-sustainable-development-goals-the-gender-snapshot-2023.

[75] United Nations, Department of Economic and Social Affairs. *The Sustainable Development Goals: Report 2023*. UN. https://unstats.un.org/sdgs/.(2023).

Table 19 Data on protection of women and children

Category	Dimension	Indicator	Data Source	Coverage
Performance (women)	Health and demography	Life expectancy at birth, female-to-male ratio (years)	World Bank	154 countries
		Maternal mortality (modeled estimate, per 100,000 live births)		
		Mortality rate under 5 years old, female-to-male ratio		
		Sex ratio at birth (male-to-female births)		
	Economic status	Unemployment, female-to-male ratio	World Bank	
		Vulnerable employment, female-to-male ratio		
		Wage and salaried workers, female-to-male ratio		
	Political status	Proportion of seats held by women in national parliament (%)	World Bank	
Performance (children)	Children's health and demography	Number of deaths per 1000 (including 13 indicators) under 5 years old	WHO	
		Prevalence of thinness among children and adolescents, BMI < -2 standard deviations below the median (crude estimate) (%)	WHO	
	Children's education (educational difference between males and females)	Gender parity index for gross enrollment ratio in primary and secondary education	World Bank	

Table 20 Country rankings in protection of women and children in 2021

Country	Ranking	Country	Ranking
China	1	Iceland	78
United States	2	Suriname	79
Russian Federation	3	Barbados	80
Brazil	4	Guyana	81
Mexico	5	St. Lucia	82
Japan	6	St. Vincent and the Grenadines	83
Germany	7	Belize	84
France	8	Fiji	85
United Kingdom	9	Tonga	86
Italy	10	Samoa	87
Spain	11	Brunei Darussalam	88
Thailand	12	Vanuatu	89
Argentina	13	Morocco	90
Poland	14	Sao Tome and Principe	91
Ukraine	15	Maldives	92
Canada	16	Solomon Islands	93
Uzbekistan	17	Honduras	94
Colombia	18	Bhutan	95
Australia	19	Botswana	96
Türkiye	20	Namibia	97
Syrian Arab Republic	21	Qatar	98
Netherlands	22	Comoros	99
Romania	23	Bahrain	100
Kazakhstan	24	Turkmenistan	101
Belgium	25	Tajikistan	102
Chile	26	Djibouti	103
Malaysia	27	Azerbaijan	104
Belarus	28	Timor-Leste	105
Sweden	29	Gabon	106
Cuba	30	Gambia, The	107
Portugal	31	Equatorial Guinea	108
Tunisia	32	Lesotho	109
Israel	33	Cambodia	110
Austria	34	Iraq	111
Hungary	35	Oman	112
Sri Lanka	36	Guatemala	113
Jordan	37	Guinea-Bissau	114
Greece	38	Eritrea	115
Finland	39	Philippines	116
Peru	40	Senegal	117
Switzerland	41	Rwanda	118
Serbia	42	Mauritania	119

Table 20 (continued)

Country	Ranking	Country	Ranking
Bulgaria	43	Lao People's Democratic Republic	120
Denmark	44	Democratic Republic of the Congo	121
Slovak Republic	45	Papua New Guinea	122
Norway	46	Zimbabwe	123
Singapore	47	Burundi	124
New Zealand	48	Liberia	125
Ireland	49	Togo	126
Ecuador	50	Madagascar	127
Kyrgyz Republic	51	Malawi	128
Costa Rica	52	Nepal	129
Libya	53	Central African Republic	130
Dominican Republic	54	Egypt, Arab Rep	131
Croatia	55	Sierra Leone	132
Georgia	56	Myanmar	133
Nicaragua	57	Ghana	134
Lithuania	58	Benin	135
Uruguay	59	Guinea	136
Panama	60	Burkina Faso	137
Mongolia	61	Uganda	138
Albania	62	Yemen	139
Jamaica	63	Indonesia	140
Latvia	64	Mozambique	141
Slovenia	65	Chad	142
Armenia	66	Niger	143
Estonia	67	Mali	144
Mauritius	68	Cameroon	145
El Salvador	69	Kenya	146
Cyprus	70	Bangladesh	147
Trinidad and Tobago	71	Angola	148
Paraguay	72	Somalia	149
Montenegro	73	Afghanistan	150
Kuwait	74	Ethiopia	151
Luxembourg	75	Pakistan	152
Bahamas	76	India	153
Malta	77	Nigeria	154

taken today to address these issues will help build a more just and sustainable future for all.

Operationally, it is challenging to assess government financial expenditures on this issue. This report, therefore, adopts a target-oriented approach, directly measuring the implementation outcomes for each country in the protection of women and

children based on performance dimensions. As with public health, a population-weighted model is used to evaluate different countries' scores and rankings on this issue. The population-weighted model takes into account both a country's population and its performance in protecting women and children domestically. On this assumption, given equal performance, countries with larger populations make a greater contribution to improving the well-being of women and children globally. In practice, population can be either a rewarding factor or a punitive one. For instance, when a country with a large population has a lower-than-average score on the performance dimension for protecting women and children, this country, representing a significant proportion of the world's population, will have a significantly lower score and ranking on this issue.

1.11.1 Dimensions and Indicators

This report adopts a systematic approach to assess countries' efficacy in safeguarding the welfare of women and children through conducting a comprehensive analysis of two pivotal domains: women's protection and children's protection.

With respect to women's protection, the report examines three fundamental dimensions: health and demography, women's economic status, and women's political status. These dimensions shed light on distinct facets of women's well-being and rights. The dimension of health and demography encompasses three critical indicators: male-to-female ratio in average life expectancy, the male-to-female ratio in under-five mortality rate, and the maternal mortality rate. These indicators provide valuable insights for the overall health and welfare of women and children in a country, facilitating the development of a comprehensive understanding of their well-being.

The dimension of women's economic status encompasses indicators such as the female-to-male ratio in unemployment, the female-to-male ratio in vulnerable employment ratio, and the female-to-male ratio in wage and salaried workers. These indicators form measures of gender disparities in opportunities for employment and economic empowerment, enabling a more comprehensive assessment for women's economic standing.

Moreover, women's political status is evaluated through the proportion of seats held by women in the national parliament. This indicator reflects the representation and influence that women have in the political decision-making processes of a country and thereby the level of gender equality achieved in political leadership.

Scrutinizing these dimensions, this report provides a comprehensive evaluation of countries' endeavors in protecting women. This comprehensive approach facilitates a nuanced understanding of the diverse factors contributing to the overall well-being and rights of women across different countries, thus facilitating informed policy decisions and targeted interventions.

Through the assessment of the protection of children, this report gauges countries' performance through the dimensions' children's health and demography and educational disparities between males and females. In the former dimension, the report considers indicators such as the number of deaths per 1,000 under 5 years old (including 13 subindicators) and the prevalence of thinness among children and

adolescents. The latter dimension employs the gender parity index for gross enrollment in primary and secondary education as a proxy indicator for the measurement of educational inequality. It is worth noting that additional indicators are not included in this report due to the substantial overlap between indicators that measure child health and education with those that address public health and education as separate issues. Consequently, this report focuses on the assessment of gender disparities in terms of health and education for children.

By incorporating these measurements, our assessment provides a comprehensive understanding of countries' efforts to protect women and children. The examination of both produces a more holistic evaluation, taking into account the interconnectedness of health, demography, and education in relation to gender disparities. More details on the approach taken here can be found in Table 19.

1.11.2 Results

This section presents the rankings of countries in 2021 data with reference to the protection of women and children from the perspective of global justice. Table 20 presents the specific rankings of 154 countries; the top 10 countries globally in this issue were China, the United States, Russian Federation, Brazil, Mexico, Japan, Germany, France, the United Kingdom, and Italy. Four of these countries were from Europe, two from Asia, and three each from North America and Latin America. It is noteworthy that the top 10 list for this category was highly consistent with the rankings for 2020 rankings, with the only change being Japan's inclusion this year at the global sixth position, after having been excluded in 2020 due to missing data. Meanwhile, Spain shifted from the tenth position in 2020 to eleventh in 2021.

The countries ranking in the bottom 10 were Nigeria, India, Pakistan, Ethiopia, Afghanistan, Somalia, Angola, Bangladesh, Kenya, and Cameroon. Among these nations, six were from Africa and four from Asia. Notably, 5 of the 10 lowest-ranked countries were also among the bottom ten in the 2020 rankings. Additionally, Somalia was absent from the rankings in 2020 due to missing data but is placed sixth from the bottom in 2021. Cameroon, Kenya, Bangladesh, and Angola held the eleventh, twelfth, thirteenth, and eighteenth positions from the bottom, respectively, in the 2020 rankings. Overall, the country rankings on the protection of women and children in 2021 demonstrated a high level of consistency with those of 2020.

1.11.3 Regional Analysis

This section reports on the performance for each continent in terms of protecting women and children with respect to global justice. The geographical distribution of country rankings on this issue in 2021 can be clearly seen in Fig. 10. North America exhibited the best performance, followed by Europe, with Latin America, Oceania, and Asia following closely, while Africa showed the poorest performance. Regarding the distribution of country rankings within each continent, performance differences were the most significant among Asian countries, followed by Africa; Europe and Latin America showed relatively small differences in performance among their
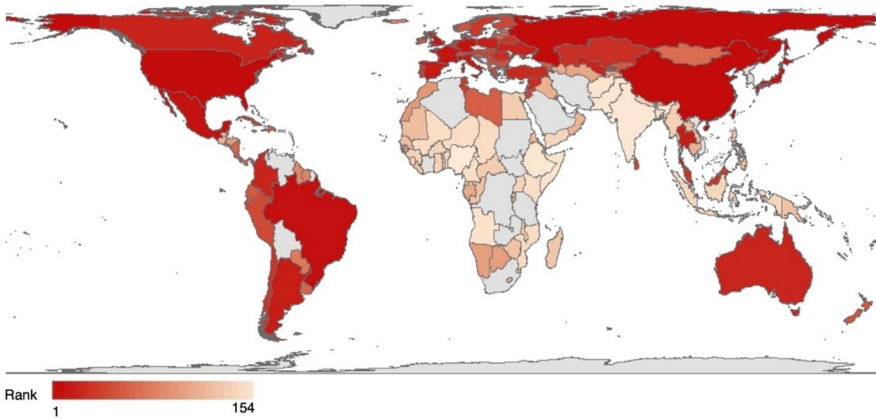
Fig. 10 2021 index ranking of protection of women and children on a world map

countries, while Oceania exhibited the smallest differences in performance among its countries.

Asia Overall, Asia had average performance in protecting women and children is average, but there were significant differences in performance among Asian countries. China and Japan ranked first and sixth globally, respectively, while Thailand, Uzbekistan, and Turkey also rank within the top 20 globally, at twelfth, seventeenth, and twentieth, respectively. Additionally, the rankings for Syrian Arab Republic (twenty-first), Kazakhstan (twenty-fourth), and Malaysia (twenty-seventh) were also within the top 20% globally. However, Asia had eight countries whose rankings are in the bottom 20% globally: Nepal (129th), Myanmar (133rd), Yemen (139th), Indonesia (140th), Bangladesh (147th), Afghanistan (150th), Pakistan (152nd), and India (153rd). Of these, India, Pakistan, Afghanistan, and Bangladesh were among the lowest 10 countries globally. East Asia was the best-performing region in Asia, with China and Japan ranking highest globally from this region. South Asia was the worst-performing region in Asia, with 4 countries ranking among the bottom 10 globally. In addition, 5 of the 8 countries in this region ranked within the bottom 20 globally. There were significant differences in rankings within the West Asia region, with Turkey ranking highest (20th) and Yemen ranking lowest (139th). Southeast Asia was similar to West Asia, with Thailand ranking highest (12th) and Indonesia ranking lowest (140th).

Europe As a whole, Europe demonstrated remarkable performance in protecting women and children. First, among the top 10 countries globally, 5 were from Europe: Russian Federation (second), Germany (seventh), France (eighth), United Kingdom (ninth), and Italy (tenth). Second, among the 35 European countries included in this ranking, 8 had spots in the top 20 worldwide. In addition to the aforementioned five countries, this list includes Spain (eleventh), Poland (fourteenth), and Ukraine (fifteenth), while the rankings of the remaining 34 countries all fall within the top 50% globally.

Europe stood out as having a relatively balanced performance on this issue. For instance, among the 8 European countries who ranking in the top 20 worldwide, 3 were from Eastern Europe, 2 from Western Europe, 2 from Southern Europe, and 1 from Northern Europe. Conversely, among countries with the lowest rankings in Europe, five were from Southern Europe, four from Northern Europe, and one from Western Europe. These countries generally had smaller populations. for evaluating each country's contribution to the protection of women and children from the perspective of global justice, we employed a population-weighted model. This approach acknowledges that, while these countries excelled in various indicators for protecting women and children, their contribution to global justice was limited by the size of their national populations, resulting in lower scores in this model.

North America North America undoubtedly demonstrated the best performance globally on this issue. The rankings of the two countries in this continent, the United States and Canada, remained consistent with those of 2020, ranking second and sixteenth globally, respectively. Given that these countries are among the most developed countries globally, their high performance on the issue of protecting women and children was not surprising. Among the continents, North America ranked highest globally in both dimensions. In particular, in terms of protecting women, the United States ranked first globally, while Canada ranked eighteenth; concerning child protection, the United States ranks second globally, while Canada ranked fourteenth.

Latin America Latin American countries performed well in protecting women and children. First, two of its countries ranked in the top 10 globally: Brazil (fourth) and Mexico (fifth). Additionally, Argentina (thirteenth) and Colombia (eighteenth) were among the top 20 globally. Furthermore, Chile (twenty-sixth) and Cuba (thirtieth) also ranked in the top 20%. Among the 26 Latin American countries, 18 (approximately 70% of the total) ranked in the top 50%. Guatemala ranked lowest in Latin America at 113th, but globally, this ranking is considered average.

South American countries show better performance than countries in other Latin American regions. Among the top 10 countries in Latin America, 6 were from South America, with the remaining four were from Central America and the Caribbean. By contrast, among the bottom 10 countries in Latin America, only 3 were from South America, while 3 were from Central America and four are from the Caribbean.

Africa Africa performed the worst on this issue. This year, 43 African countries participated in the rankings, but none of them made it into the top 20% globally. Only three countries ranked in the top 50% globally, namely, Tunisia (thirty-second), Libya (fifty-third), and Mauritius (sixty-eighth), The rankings of 21 countries were in the bottom 20% globally. Additionally, among the 10 countries with the lowest global rankings, 6 were from Africa, namely, Cameroon (145th), Kenya (146th), Angola (148th), Somalia (149th), Ethiopia (151st), and Nigeria (154th).

North Africa stands out as the best-performing region in Africa, although it is one of the worst-performing regions globally. The two highest ranking African countries, Tunisia and Libya, were both from this region. Countries in the Southern African region demonstrated relatively balanced performance, with the rankings of the three countries in this region ranging between 96 and 109th. However, the performance of East, Central, and West Africa is relatively poor. Among the 10

worst-performing countries in Africa, 4 were from East Africa, while Central and West Africa each contributed 3 countries.

Oceania Oceania's performance in protecting women and children falls behind those of Europe, North America, and Latin America, but it surpasses those of Africa and Asia. Oceania comprises three main parts: Australia and New Zealand, Melanesia, and Polynesia. Australia and New Zealand were the two most developed countries in Oceania and ranked nineteenth and forty-eighth, respectively. This makes the region one of the better-performing areas globally. Melanesia and Polynesia exhibited very similar performance on this issue, with countries from both regions ranking within the bottom 50% globally. For example, four countries in Melanesia— Fiji, Vanuatu, Solomon Islands, and Papua New Guinea—ranked 85th, 89th, 93rd, and 122nd, respectively, while the three countries in Polynesia—Tonga, Samoa, and Togo—ranked 86th, 87th, and 126th, respectively. Clearly, both regions performed at a middling level globally with respect to the protection of women and children.

1.11.4 Conclusion

In this study, we assessed the performance of countries in protecting women from two perspectives: health and demography and then economic and political status. Simultaneously, we evaluated their performance in protecting children, especially girls, from two angles: children's health and demography and the educational disparities between boys and girls. The results indicate that North America and Europe demonstrate the best performance globally and also exhibited the most balanced performance across regions. Following them were South America and Oceania, succeeded by Asia. However, within Asia, a significant disparity in performance existed. While countries like China and Japan in East Asia ranked at among the highest positions globally, those in South Asia, such as India, Pakistan, Afghanistan, and Bangladesh, performed the worst. Africa exhibited the poorest performance in this issue, with the majority of African countries ranking in the bottom 50% globally.

As reiterated in this report, we employed a population-weighted model for the evaluation of countries' performance in protecting women and children. This model considers the importance of population size for global justice. In particular, when a populous country provides public services to its citizens that exceed the global average, we consider its contribution to global justice to be greater. Conversely, when smaller countries provide services at the same level, their contribution is considered to be less. This ranking reflects not only countries' absolute performance in protecting women and children but also the influence of their population size on global justice. Hence, it is not uncommon to find developed countries like Iceland ranking relatively low on this issue. Understanding this point enhances comprehension of the meanings of this ranking.

Table 21 Global Justice Index in 2021 (excluding antipoverty)

Country	Ranking	Country	Ranking
United States of America	1	Malawi	69
Germany	2	Morocco	70
China	3	Bulgaria	71
Japan	4	Philippines	72
Sweden	5	Guyana	73
United Kingdom of Great Britain and Northern Ireland	6	Ghana	74
Norway	7	Belarus	75
Canada	8	Jordan	76
France	9	Madagascar	77
Switzerland	10	Namibia	78
Italy	11	Fiji	79
Denmark	12	Tunisia	80
Australia	13	Benin	81
Finland	14	Gabon	82
Belgium	15	Ukraine	83
Austria	16	Kazakhstan	84
Spain	17	Dominican Republic	85
Ireland	18	Bahamas	86
Iceland	19	Trinidad and Tobago	87
Netherlands	20	Togo	88
Brazil	21	Croatia	89
New Zealand	22	Kuwait	90
Russian Federation	23	Kenya	91
Portugal	24	El Salvador	92
Argentina	25	Sierra Leone	93
Pakistan	26	Jamaica	94
Mexico	27	Uzbekistan	95
Uruguay	28	Guatemala	96
Israel	29	Honduras	97
Indonesia	30	Serbia	98
Singapore	31	Mauritius	99
India	32	Samoa	100
Costa Rica	33	Chad	101
Panama	34	Nicaragua	102
Slovenia	35	Burundi	103
Peru	36	Georgia	104
Poland	37	Albania	105
Paraguay	38	Niger	106
Turkey	39	Azerbaijan	107
Rwanda	40	Cambodia	108
Lithuania	41	Papua New Guinea	109
Estonia	42	Mauritania	110

Table 21 (continued)

Country	Ranking	Country	Ranking
Colombia	43	Bahrain	111
Malaysia	44	Uganda	112
Bangladesh	45	Central African Republic	113
Malta	46	Angola	114
Latvia	47	Timor-Leste	115
Nepal	48	Liberia	116
Chile	49	Armenia	117
Cyprus	50	Mongolia	118
Romania	51	Guinea-Bissau	119
Egypt	52	Cameroon	120
Tajikistan	53	Zimbabwe	121
Thailand	54	Barbados	122
Slovakia	55	Maldives	123
Mozambique	56	Djibouti	124
Ecuador	57	Tonga	125
Qatar	58	Sri Lanka	126
Lesotho	59	Mali	127
Senegal	60	Saint Lucia	128
Botswana	61	Iraq	129
Suriname	62	Yemen	130
Ethiopia	63	Gambia	131
Hungary	64	Saint Vincent and the Grenadines	132
Oman	65	Afghanistan	133
Burkina Faso	66	Nigeria	134
Kyrgyzstan	67	Bhutan	135
Belize	68		
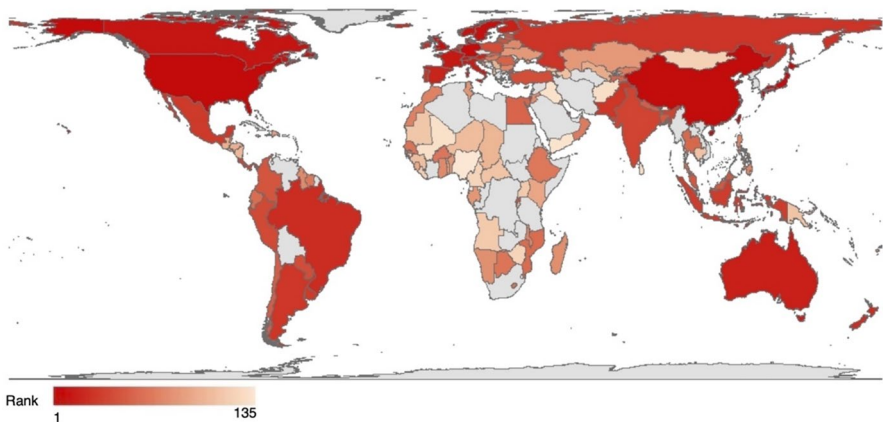
Fig. 11 2021 Index Ranking of global justice (excluding antipoverty)

Table 22 Global Justice Index in 2021 (including all 10 issues)

Country	Ranking	Country	Ranking
United States of America	1	Kyrgyzstan	61
China	2	Rwanda	62
Germany	3	Tunisia	63
Japan	4	Lesotho	64
Sweden	5	Fiji	65
United Kingdom of Great Britain and Northern Ireland	6	Philippines	66
Norway	7	Ukraine	67
Canada	8	Gabon	68
France	9	Kazakhstan	69
Switzerland	10	Dominican Republic	70
Italy	11	Namibia	71
Denmark	12	Burkina Faso	72
Australia	13	Croatia	73
Finland	14	Ghana	74
Belgium	15	Ethiopia	75
Spain	16	El Salvador	76
Austria	17	Benin	77
Ireland	18	Jamaica	78
Iceland	19	Mauritius	79
Netherlands	20	Serbia	80
Brazil	21	Samoa	81
Russian Federation	22	Nicaragua	82
Portugal	23	Albania	83
Argentina	24	Guatemala	84
Mexico	25	Azerbaijan	85
Uruguay	26	Georgia	86
Indonesia	27	Honduras	87
Pakistan	28	Togo	88
Israel	29	Sierra Leone	89
Costa Rica	30	Mongolia	90
Slovenia	31	Mauritania	91
Panama	32	Armenia	92
Peru	33	Chad	93
Poland	34	Malawi	94
Turkey	35	Maldives	95
Paraguay	36	Kenya	96
Lithuania	37	Mozambique	97
Malaysia	38	Sri Lanka	98
Estonia	39	Tonga	99
Malta	40	Guinea-Bissau	100
Latvia	41	Timor-Leste	101
Cyprus	42	Liberia	102

Table 22 (continued)

Country	Ranking	Country	Ranking
Chile	43	Cameroon	103
Colombia	44	Angola	104
Egypt	45	Iraq	105
India	46	Papua New Guinea	106
Romania	47	Saint Lucia	107
Thailand	48	Djibouti	108
Nepal	49	Niger	109
Bangladesh	50	Uganda	110
Slovakia	51	Mali	111
Tajikistan	52	Burundi	112
Ecuador	53	Madagascar	113
Hungary	54	Zimbabwe	114
Senegal	55	Yemen	115
Bulgaria	56	Central African Republic	116
Morocco	57	Gambia	117
Belarus	58	Uzbekistan	118
Botswana	59	Bhutan	119
Jordan	60	Nigeria	120
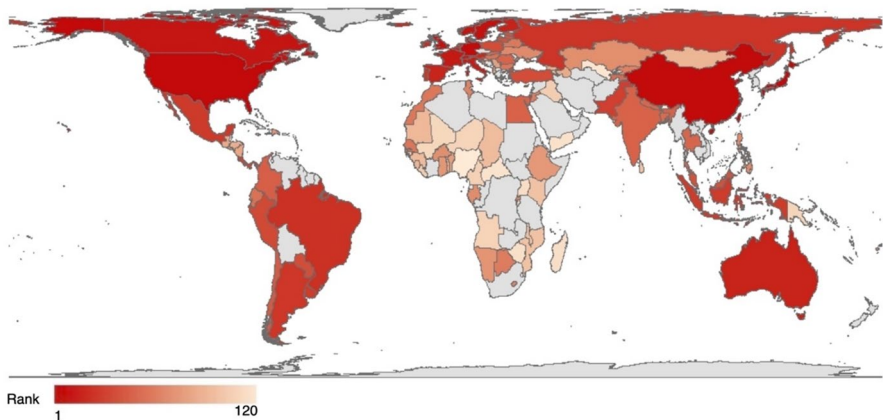
Fig. 12 2021 Index ranking of global justice (including all 10 issues)

2 Global Justice Indices: Main Results

This section reports the country rankings for the 2021 Global Justice Index. Due to improvements in measurement indicators for the issue of climate change issue, the problem of missing data for this issue has been greatly alleviated for this year. As is clear from the rankings for the climate change issue, the rankings following

the indicator improvements remain consistent and robust relative to those for last year's report. However, the case for the antipoverty issue is similar to last year, still plagued by missing values. In light of this, this section will adopt the following strategy for reporting 2021's index rankings: First, it reports a ranking that excludes the antipoverty issue and includes only the remaining nine issues, and then it reports a ranking that includes all 10 issues. As described below, the former covers 135 countries, while the latter covers only 120 countries.

Table 21 presents the country rankings for the Global Justice Index with the exclusion of the antipoverty issue. As shown in the table, the top 10 countries ranked were: the United States of America, Germany, China, Japan, Sweden, the United Kingdom, Norway, Canada, France, and Switzerland. While last year's report did not provide a separate ranking excluding the antipoverty issue due to data limitations for climate change, it did calculate a ranking that excluded both climate change and antipoverty. The top 10 countries in that ranking were highly consistent with 2021's ranking. The difference is that Japan was not included in last year's ranking due to missing values, but ranks fourth this year; additionally, Italy and Finland, which ranked ninth and tenth last year, respectively, are now eleventh and fourteenth, with Japan and Switzerland taking their places at fourth and tenth, respectively.

Table 21 also shows that the lowest 10 countries in this ranking were: Sri Lanka, Mali, Saint Lucia, Iraq, Yemen, Gambia, Saint Vincent and the Grenadines, Afghanistan, Nigeria, and Bhutan. These countries are from West Africa (four), the Caribbean region (two), South Asia (two), and West Asia (two). It is worth noting that, due to missing data, this ranking does not cover all countries in the world. Therefore, being ranked in the last 10 positions only refers to the list of countries covered by this ranking, these countries have the lowest rankings. Figure 11 shows the index rankings of global justice that excludes antipoverty in 2021.

The Global Justice Index rankings for this year on all 10 issues, as presented in Table 22, encompassed 120 countries. The top 10 countries were identical to those in Table 21, which excluded the antipoverty issue. The only difference here was that, due to China's outstanding performance on the antipoverty issue, its ranking rose from third to second, replacing Germany, after incorporating this issue into the index.

Although last year's index including all 10 issues covered only 62 countries, the missing countries were primarily those with lower rankings. Therefore, we could still compare the changes in rankings between the top-performing countries this year and last year. The top three countries ranked this year were the United States, China, and Japan, which is consistent with last year's rankings. Japan ranked fourth this year, replacing the United Kingdom's position from last year, while the United Kingdom dropped slightly to sixth. Sweden's ranking at fifth was unchanged from last year. France and Canada, which ranked sixth and seventh last year, respectively, have fallen to ninth and eighth this year, respectively. Norway and Switzerland, which ranked twelfth and thirteenth last year, respectively, have risen to seventh and tenth, entering the top 10. Italy; however, has dropped from eighth last year to eleventh this year, falling out of the top 10. Brazil and India, which ranked ninth and tenth last year, respectively, experienced significant declines, ranking twenty-first and forty-sixth this year. This is primarily due to the substantial drops in rankings

these two countries experienced on the antipoverty issue, as detailed in the results for that issue.

Table 22 showed that the last 10 countries ranked were Nigeria, Bhutan, Uzbekistan, Gambia, Central African Republic, Yemen, Zimbabwe, Madagascar, Burundi, and Mali. Out of these 10 countries, 7 were from Africa (4 from East Africa, 2 from West Africa, and 1 from Central Africa), and 3 were from Asia (1 each from South Asia, West Asia, and Central Asia). Because last year's index with all 10 issues covered only 62 countries, with the missing countries primarily being those ranked lower, comparing the bottom 10 rankings between this year and last year would not be particularly meaningful. Therefore, this report will not compare the rankings on this index between this year and last year. Figure 12 shows the index ranking of global justice that includes all 10 issues in 2021.

3 Conclusion

In 2021, the overall state of global justice had yet to fully recover to prepandemic levels, particularly in areas such as antipoverty, conflict resolution, refugee governance, and public health, which continued to raise serious concerns amid the ongoing impact of the COVID-19 pandemic. The concept of global justice is inherently complex and contested, which makes its empirical evaluation particularly challenging. Our research made some attempts in this regard, providing results for scholarly discussion, critique, and further improvement. Building on the theoretical framework, measurement methods, and index construction procedures of previous years, our 2021 report presents the development of global justice across 10 key issue areas and evaluates the performance of various nation-states in these domains. These 10 selected issue areas were: (1) climate change, (2) peacekeeping, (3) humanitarian aid, (4) terrorism and armed conflicts, (5) cross-national criminal police cooperation, (6) refugees, (7) antipoverty efforts, (8) education, (9) public health, and (10) the protection of women and children. The selection of these domains is informed by theoretical framing of global justice in the scholarship from rights-based, goods-based, and virtue-based approaches, as well as the practical significance of these areas and associated actions in global governance. Finally, we computed the overall scores of countries for shaping global justice in 2021 in relation to the established formula for the index, which integrated the subindex scores of these 10 areas and used more than 50 carefully selected measurement indicators from highly respected sources. We then attempted to rank them according to these data.

The indicator system, data sources, and assessment techniques for the 10 issue areas in 2021 were largely consistent with previous years. Nonetheless, enhancements were made in several respects. 1. We refined our data imputation methodology, introducing two key improvements. First, we allowed for a comprehensive approach, drawing on data for all different issues within each country to impute missing values, thereby bolstering the efficacy of the imputation process. Second,

we integrated a data-specific approach with a random forest-based method for imputation, catering to the unique structures of certain raw indicators that required specialized treatment; 2. We updated data for each indicator in response to any revisions or methodological changes made by international organizations such as the World Bank to historical data records (e.g., poverty issues). These updates expanded coverage to include more countries in some issue areas, thus significantly increasing the number of countries in the final rankings of global justice relative to previous years; 3. With respect to climate change, our analysis identified a strong correlation between CO_2 emissions and primary energy consumption data. Given this correlation, we excluded the dimension of energy consumption and its associated indicators while retaining the remaining 14 indicators for consistency. Consequently, this issue area was assessed for 186 countries. 4. In public health, we incorporated indicators related to the pandemic, as this has been one of the most significant global public health challenges in recent years.

We presented two versions of the 2021 Global Justice Index: one including all 10 issues mentioned above (covering 120 countries) and the other without the issue of antipoverty (covering 135 countries). Notably, the top 10 countries in the two index versions were quite similar and largely consistent with the previous year, with China surpassing Germany to rank second globally due to its outstanding performance in poverty alleviation. The leading performers, which included the United States, China, Germany, Japan, Sweden, the United Kingdom, Norway, Canada, France, and Switzerland, showed remarkable resilience throughout the pandemic, reflecting commendable performance across most dimensions and indicators in the 10 issue areas. Conversely, the bottom-ranked countries were predominantly developing countries grappling with economic hardships, political instability, or fragile state capacity. Simultaneously facing a multitude of governance challenges, these countries largely lost their ability to achieve immediate breakthroughs and thereby hindered their progress in global justice. This underscores a widening divergence among nations since the onset of the pandemic, as those that previously performed well and had high rankings have further solidified their positions, while those lagging behind in previous years fell even further behind across many fronts.

The empirical assessment of global justice is not only intended to monitor progress on this issue and its related fields but more importantly, to urge nation-states to diligently shoulder their responsibilities, making greater efforts and contributions both domestically and internationally or regionally. First, this report illustrates the interconnected nature of various aspects of global justice. It is unrealistic to expect a single country to achieve breakthrough improvements in a specific aspect if it is entangled in regional conflicts or facing complex political and economic crises. The advancement of global justice demands a comprehensive and systematic approach. While nation-states are making relevant efforts, many of them are also requiring support from international community and civil society. Second, this report also presents regional clustering effects in many areas of global justice, such as conflict,

poverty, refugees, and public health. This indicates the presence of strong positive or negative externalities in these issue areas. The status of one country in a particular field impacts its performance in other areas and also yields spillover effects on neighboring countries, underscoring the need for regional governance and multilateral cooperation.

Finally, it is essential to highlight several caveats for the interpretation, referencing, or utilization of the data on global justice: 1. Due to adjustments in imputation methods and variations in the number of countries covered, the index results were more reliable for comparing countries in the same year. Cross-year comparisons should be approached with caution. 2. In spite of ongoing enhancements to methods of data imputation, disparities between collected, imputed, and actual data persist. This is particularly notable in developing countries, where outcomes may not fully capture the true circumstances on the ground. 3. Our methods for measuring indicators and constructing indices were not without limitations. For example, assigning equal weight to the 10 subdomains may be a debatable choice, and some theoretically important indicator dimensions may have failed to be included due to challenges in data availability and quality. We welcome feedback and suggestions from fellow scholars on these matters.

Declarations

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