

Article

Not peer-reviewed version

The Baku Paradox An Analysis of Selected Sustainable Development Goals

[Lars Carlsen](#) *

Posted Date: 24 January 2025

doi: 10.20944/preprints202501.1768.v1

Keywords: COP 29; Climate change; Sustainable Development Goals; Global Goals; Partial ordering



Preprints.org is a free multidisciplinary platform providing preprint service that is dedicated to making early versions of research outputs permanently available and citable. Preprints posted at Preprints.org appear in Web of Science, Crossref, Google Scholar, Scilit, Europe PMC.

Copyright: This open access article is published under a Creative Commons CC BY 4.0 license, which permit the free download, distribution, and reuse, provided that the author and preprint are cited in any reuse.

Article

The Baku Paradox: An Analysis of Selected Sustainable Development Goals

Lars Carlsen

Awareness Center, Linkøpingvej 35, Trekroner, DK-4000 Roskilde, Denmark; lc@awarenesscenter.dk

Abstract: The 29th Conference of the Parties (COP 29) occurred in Baku, Azerbaijan, in November 2024. A central topic, but not the only one, was linked to Sustainable Development Goal 13 (Climate Action). It has been said that COP 29 developed into a 'climate finance COP' to have wealthier countries finance actions in the poorer countries to remedy damages from the effect of the increasing emissions of greenhouse gases. The final agreement was far from as ambitious as hoped for. In this study, the discrepancies between the fourteen regions of the countries of the world have been analyzed with a focus on Sustainable Development Goals 9 (Industry, Innovation, and Infrastructure), 12 (Responsible Consumption and Production), and 13 (Climate Action). The discrepancies between high-income countries (HIC) and OECD countries, on the one hand, and low-income countries (LIC) and Africa are presented. Where LIC and Africa, over the last 24-year period, virtually complied with the climate action goals (SDG 13), the HIC and OECD countries were far behind. A similar discrepancy is noted in sustainable production and consumption (SDG 12). The data shows no indication that the increasing innovation in the HIC and OECD countries is reflected in an increase in sustainable production and consumption or increased compliance with the climate action goals. One of the outcomes of the Baku COP 29 meeting was that wealthier countries should finance the remediation of the increasing effects of global temperature increase on the poorer countries and thus be able to continue without changing their habits.

Keywords: COP 29; climate change; sustainable development goals; global goals; partial ordering

Introduction

The 29th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP 29) occurred from November 11 to 22 in Baku, Azerbaijan [1]. As the name indicates, this meeting was the latest in a long series of COPs [2], a central topic but not the only one that has been linked to Sustainable Development Goal 13 (Climate Action) [2]. In this respect, probably, the Paris Climate Change Conference - November 2015 (COP21) [3] is one of the most famous due to the decision to keep the global temperature increase of 1.5 degrees, which apparently, up to now, has been a limited success. Thus, "according to WMO's State of the Climate Update, 2024 is on track to be the hottest on record and temporarily hit 1.5°C. Greenhouse gas levels are at record observed levels. Sea level rise is accelerating, glacier retreat is unprecedented, and extreme weather events have caused major loss of life and livelihoods around the world." [4].

The sustainability policy for Azerbaijan, as stated as an entry to COP 29, was a "dedication to creating a climate-neutral event that adheres to the highest standards of environmental responsibility by minimizing carbon emissions, maximizing resource efficiency, promoting renewable energy, and fostering sustainable practices across all operations" and to "achieve carbon neutrality by reducing greenhouse gas (GHG) emissions through renewable energy use, energy efficiency, and offsetting unavoidable emissions" [5]. Thus, the choice of Baku in Azerbaijan (Eastern Europe and Central Asia) indicates a paradox. Azerbaijan is a country whose survival virtually depends on oil and natural gas extraction and has no wish to fight for a fossil-free future. Hence, by the end of the day, the Azerbaijan presidency declined to include the reduction of fossil fuels to reduce CO₂ emissions, which should probably be seen in the light that the country produces roughly 850,000 barrels of oil per year, of which approximately 80% are exported, which with the current production rate leave oil for the next 200 years [6]. In other words, Azerbaijan's dependency on oil is crucial as its economy is anchored in

oil and gas production, accounting for roughly 47.8 % of the country's GDP and over 92.5 % of export revenue in 2022 [7]. However, for the sake of completeness, it should be noted that over the last two decades, Azerbaijan's index of climate action (SDG 13) has constantly been around eighty [8,9].

As stated by the World Meteorological Organization (WMO), the "summit had been dubbed the 'climate finance COP,' and representatives from all countries were seeking to establish a new, higher climate finance goal" [10], which in practice sought for a solution with the wealthier countries should finance actions in the poorer nations to remedy or even prevent damages from the effect of the increasing emissions of greenhouse gasses and thus the temperature rise. Although fair, it does look like a treatment of symptoms instead of causes. Eventually, the final agreement from COP 29 was far from as ambitious as hoped and needed, as stated by the UN Secretary-General António Guterres: "I had hoped for a more ambitious outcome – on both finance and mitigation – to meet the great challenge we face." [10]. It is beyond the scope of the present study to discuss, e.g., the financial outcomes in detail.

In this study, partial order methodology has been applied to study and illustrate the discrepancies between the fourteen regions mentioned above based on the indexes for Sustainable Development Goals 11 (Industry, Innovation, and Infrastructure), 12 (Responsible Consumption and Production), and 13 (Climate Action), respectively [8,9] applying the data available, i.e., SDG indexes, for the fourteen different regions covering 193 countries as given in the most recent Sustainable Development report [8,9], i.e., HIC (High-Income Countries), LAC (Latin America and the Caribbean), LIC (Low-income Countries), LMIC (Lower-middle-income Countries), MENA (Middle East and North Africa), OECD (OECD members), Oceania (Oceania), SIDS (Small Island Developing States), UMIC (Upper-middle-income Countries) Africa (Sub-Saharan Africa), BRICS (BRICS members), BRICSplus (BRICS members), and E-Euro_Asia (Eastern Europe and Central Asia), and E_S_Asia (East and South Asia).

Methodology

Data

The analysis data were retrieved from the Sustainable Development Report 2024 Dashboard [9]. The data retrieved for the different studied SDGs are given in Appendix A (Global index), B (SDG 13 index), C (SDG 9 index), and D (SDG 12 index), respectively. The data were used to graphically represent the development throughout the 2000-2023 period, whereas the partially ordered rankings were obtained using the transformed data matrices, i.e., the years were the indicators. It should be noted that the values in the four appendices are all given with two decimals only.

Partial Order Methodology

Partial-order methodology is a technique for analyzing relations, e.g., ranking between a group of elements. Here, regions are characterized by a series of indicators, SDG indexes for 2000 to 2023, without data pretreatment, like aggregating the indicators into one single indicator. This allows for disclosing the specific roles of the single indicators and avoiding compensation effects [11].

The basics of partial order methodology have been described in several papers [see, e.g., 12,13] and are, from a mathematical point of view, only related to the \geq function. Thus, if one element x is higher for at least one indicator and higher or equal for all other indicators, $x > y$ [12,13]. The graphical illustration is given by the so-called Hasse diagrams [12,13]. A specialized application of partial order methodology, average ranking [14,15], has been applied. Average ranking leads to a weak order, i.e., an order in which several elements may have identical orders.

Results and Discussion

Global goal 13, Climate action, has, over the years, been the main topic of the COPs. The focus has primarily been to set limits for the emissions of greenhouse gases to reduce and eventually stop

the global increase in temperature. As mentioned in the introduction, the most famous was COP 21 in Paris, where the Paris Agreement, which “is a legally binding international treaty on climate change,” was adopted by 196 Parties on 12 December 2015 [3]. Unfortunately, the agreement entered into force in November 2016, retrospectively seen with limited success, potentially devastating some countries. Thus, for COP 29, the possible financial support to remedy the effect of the lack of climate action for these countries came into focus.

The analyses in the present study are based on the data for seventeen SDGs from 2000 to 2023, as given by Sachs et al. [9]. It should be noted that the data cover the period 15 years before the adoption of the SDGs in 2015, thus covering 24 years in total. In Figure 1, the Hasse diagram, as well as the derived average ranking based on the combined, i.e., global SDG index of the fourteen regions plus the world, including all seventeen SDGs (ref), is displayed.

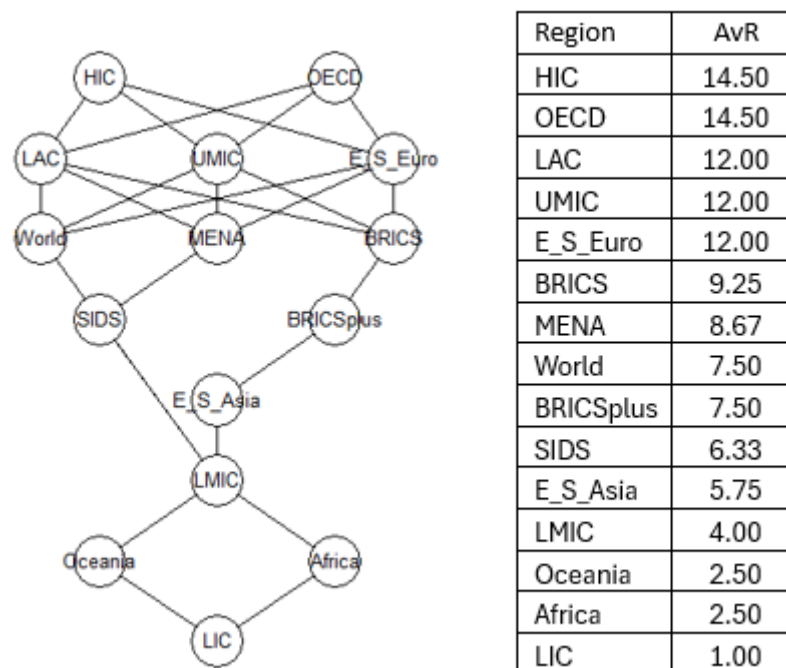


Figure 1. Mutual ranking of the fourteen regions and the world based on the total SDG indexes.

Not surprisingly, the world index has an average rank virtually in the middle (Figure 1). The top regions are the high-income countries (HIC) and OECD. In contrast, the lowest-ranked region is the Low-income countries (LIC).

Turning attention to climate action, i.e., SDG 13, a virtual reversed picture develops. Figure 2 displays the mutual ranking of the fourteen regions plus the world based on the SDG 13 indexes given for the 2000 to 2023 period, together with the derived average ranks.

The above rankings are based on data originating from 24 years. Thus, it is interesting to visualize the actual development over the years for the regions. In Figure 3, the development of the SDG 13 indexes for the regions and the world is depicted. In this connection, it should be stressed that significant variations may prevail with the single regions. This applies to all analyses presented in the present study. However, for SDG 13, only limited variations are noted for the 2000 to 2023 period.

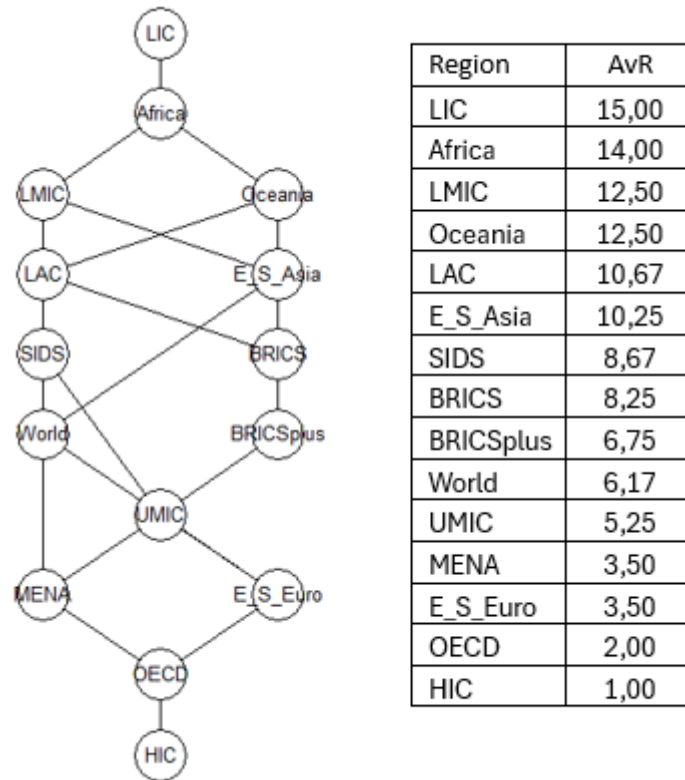


Figure 2. Mutual ranking of the fourteen regions and the world based on the SDG 13 indexes.

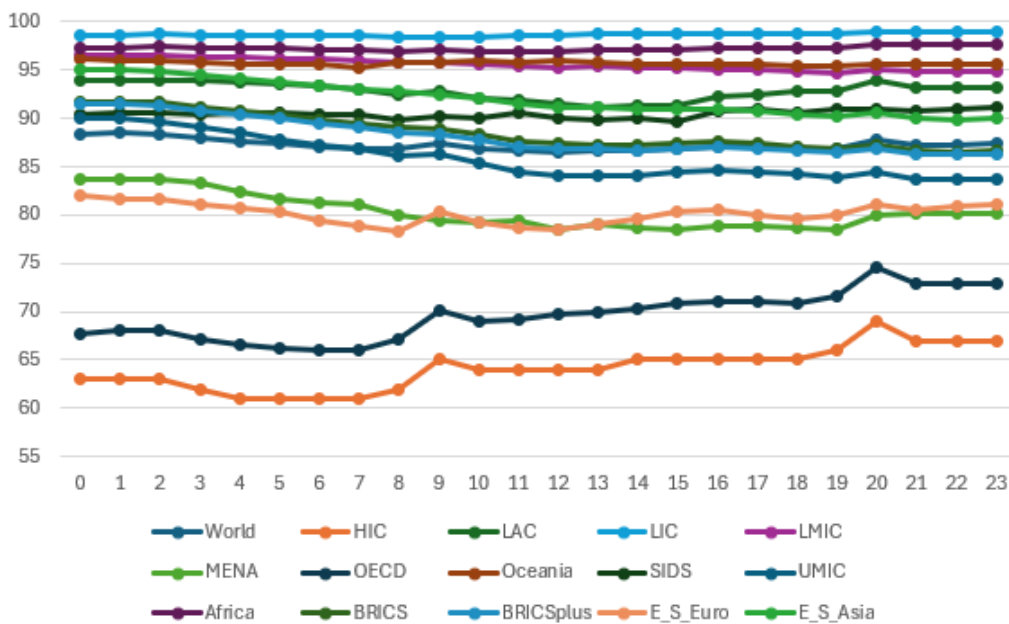


Figure 3. Development in the SDG 13 index for the fourteen regions and the world for the 2000 – 2023 years period.

The two above figures perfectly illustrate those countries, e.g., the HIC and OECD groups, which are both far away from complying with the SDG 13 goals, unambiguously are under a moral obligation to help remedy the effects of climate change, which for a significant part is imposed by them, for countries that by themselves comply well with the SDG 13 goals. The minor apparent increase in compliance for HIC and OECD in 2020 (Figure 3) can be associated with a reduced activity level during COVID-19.

The intercorrelation between the seventeen SDGs has been discussed previously [16]. However, in the present study, only the relation to Sustainable Development Goals 11 (Industry, Innovation, and Infrastructure) and 12 (Responsible Consumption and Production) will be discussed, both appearing as mandatory effectively to fight greenhouse gas emissions and thus climate change. Hence, where SDG 9 focuses on building “resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” [17], the goal of SDG 12 is to “ensure sustainable consumption and production patterns” [18].

Innovation is necessary to develop sustainable industries. This means focusing on sustainable production methods, which should be accompanied by a sustainable consumption pattern, e.g., reducing the consumption of red meat and other CO₂-heavy products. Thus, one kilogram of beef emits nearly 100 kg of CO₂ equivalents [19]. Looking at the data for these two SDGs [9] reveals a picture quite like the above-discussed analysis of SDG 13. In Figure 4, the mutual ranking of the regions and the world is depicted for the two SDGs based on the data from 2000 to 2023, and in Figure 4, the yearly development over the period is shown.

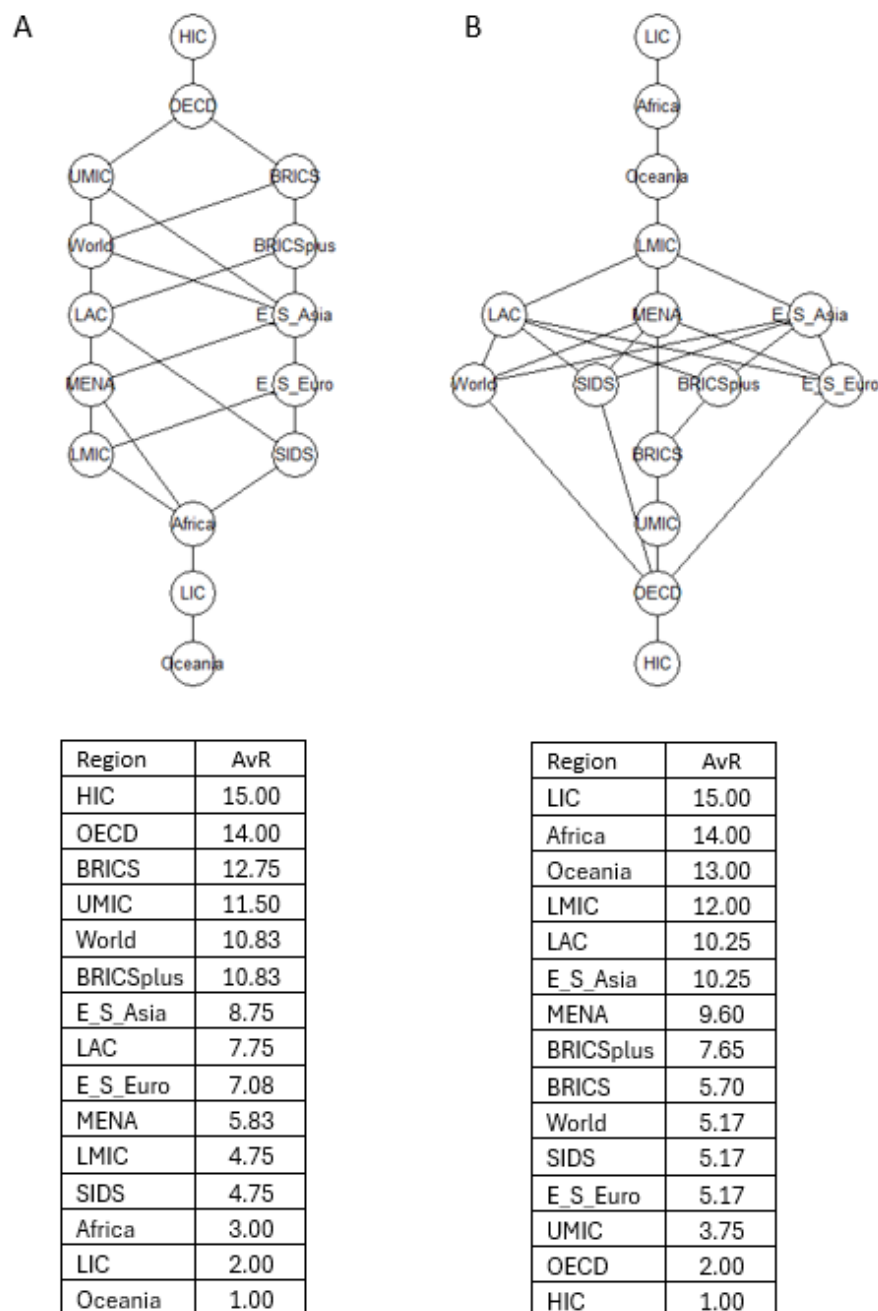


Figure 4. Mutual ranking of the fourteen regions and the world based on the SDG 9 and 12 indexes.

First, the graphs depicted in Figure 5A and 5B visualize a positive development in the SDG 9 goals for all regions. It is further pointed out that the countries in the HIC and PECD groups by 2020 are close to fully complying with the SDG 9 goals, whereas Africa, LIC, and Oceania apparently are far behind. Turning the focus towards SDG 12 (Figure 4B and 5B), it is clear that the degree of compliance with SDG 9 is not reflected in sustainable production and consumption, i.e., SDG 12. Thus, whereas LIC, Africa, and Oceania comply with SDG 12 goals on sustainable production and consumption close to 95 % degrees throughout the 24 years, HIC and OECD are below 60 %. However, some improvement can be noted in the later years of the period. This supports the conclusion that the innovations for HIC and OECD are not specifically, or at least not sufficiently, focused on developing sustainable industries, which is supported by the low ranking of these regions on sustainable production and consumption (SDG 12).

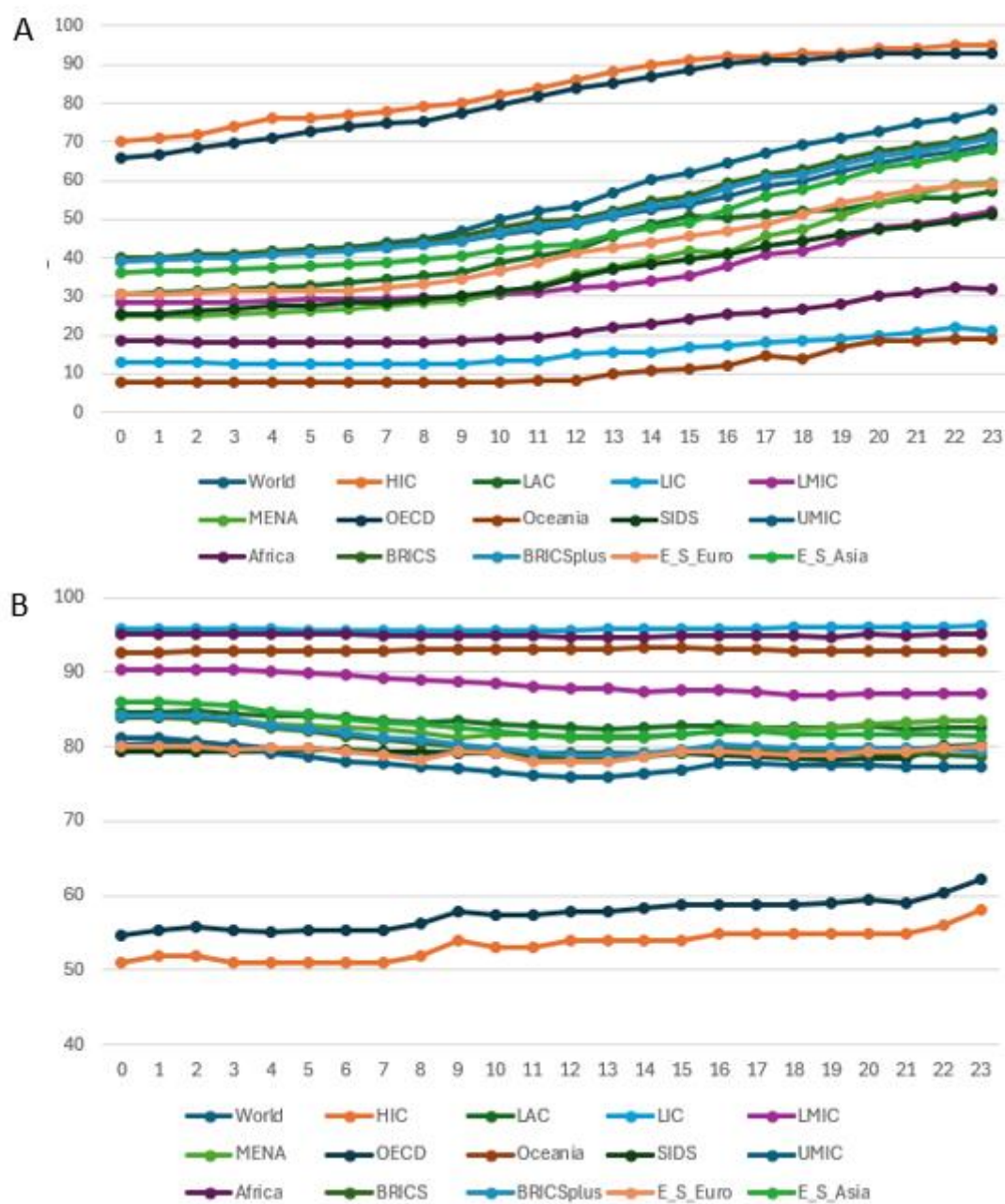


Figure 5. Development in the A: SDG 9 and B: SDG 12 indexes for the fourteen regions and the world for the 2000 – 2023 years period.

Conclusions and Outlook

Based on the figures for compliance with the Sustainable Development Goals as given in the Sustainable Development Report for 2024, the discrepancies between high-income countries (HIC) and OECD countries on the one hand and, e.g., low-income countries (LIC) Africa and the other are apparent. Thus, when LIC and Africa, over the last 24-year period, virtually complied with the climate action goals (SDG 13), the HIC and OECD countries were far behind. A similar discrepancy is noted in sustainable production and consumption (SDG 12). At the same time, there is no indication that the increasing innovation in the HIC and OECD countries is reflected in an increase in sustainable production and consumption or increased compliance with the climate action goals.

As a consequence of these discrepancies, one of the outcomes of the Baku COP 29 meeting was that the rich countries should finance the remediation of the increasing effects of global temperature increase on the poorer countries. In other words, the 'bad guys' should pay the 'good guys' to be able to continuously be the 'bad guys' by, to some extent, remedying the effects of their actions for the 'good guys' without changing their habits. However, the eventual compromise showed they were not ready to pay their debts by the end of the day. Just a paradox - does the old Roman-Catholic system of getting indulgence ring a bell?

There is no such thing as a free lunch.

Appendix A. Global SDG Index for 2000–2023 [9].

year	World	HIC	LAC	LIC	LMIC	MENA	OECD	Oce- ania	SIDS	UMIC	Africa	BRICS	BRICS plus	E_S_ Euro	E_S_ Asia
2000	57.77	72.80	63.52	43.84	53.19	59.44	71.75	51.36	58.87	60.88	45.10	56.58	56.06	64.67	55.50
2001	58.04	73.10	63.75	44.08	53.45	59.60	72.10	51.19	59.25	61.22	45.36	56.84	56.30	65.18	55.71
2002	58.25	73.20	63.79	44.36	53.61	59.75	72.38	51.20	59.32	61.60	45.75	56.86	56.34	65.78	55.77
2003	58.47	73.30	64.16	44.69	53.98	60.05	72.41	51.12	58.89	61.79	46.03	57.11	56.59	65.51	56.03
2004	58.75	73.60	64.68	44.92	54.15	60.33	72.73	50.90	59.31	62.27	46.33	57.41	56.88	65.66	56.25
2005	59.20	73.70	65.09	45.52	54.56	60.41	73.04	51.13	59.77	62.96	46.74	58.07	57.52	65.69	56.89
2006	59.49	73.70	65.56	46.08	54.85	60.58	73.19	51.26	59.63	63.39	47.25	58.42	57.86	65.78	57.25
2007	59.95	73.80	65.92	46.46	55.28	60.76	73.38	51.26	60.43	64.06	47.64	59.14	58.55	66.08	57.90
2008	60.20	74.00	66.49	46.92	55.56	60.77	73.65	51.26	60.62	64.41	48.21	59.36	58.75	66.54	58.10
2009	60.55	74.60	66.96	47.33	55.71	61.27	74.25	51.26	60.93	64.88	48.53	59.52	58.90	66.97	58.31
2010	61.12	74.70	67.27	47.60	56.55	61.77	74.52	50.95	61.04	65.40	49.10	60.29	59.64	67.13	59.11
2011	61.54	75.00	67.49	47.99	56.98	62.41	74.71	51.01	61.47	65.99	49.60	61.08	60.42	67.31	59.81
2012	61.96	75.30	67.84	48.58	57.49	62.84	75.07	51.26	61.86	66.45	49.94	61.57	60.88	67.54	60.35
2013	62.35	75.30	68.23	48.74	57.86	62.93	75.14	51.66	62.01	67.06	50.23	62.15	61.43	67.86	60.92
2014	63.14	75.80	68.81	49.15	58.91	63.23	75.61	51.70	62.63	67.86	50.94	63.32	62.58	68.44	61.97
2015	63.51	76.00	69.23	49.16	59.26	63.21	75.81	51.54	62.66	68.50	51.22	63.92	63.13	68.86	62.48
2016	63.82	76.20	69.09	49.64	59.64	63.31	76.09	51.48	62.73	68.88	51.62	64.30	63.52	69.59	62.91
2017	64.35	76.30	69.15	50.07	60.46	63.61	76.24	52.01	63.50	69.23	52.08	64.90	64.13	70.03	63.70
2018	64.77	76.30	69.29	50.42	61.09	63.96	76.34	52.03	63.83	69.61	52.43	65.45	64.64	70.26	64.34
2019	65.30	76.70	69.55	50.79	61.81	64.48	76.58	52.52	64.14	70.05	52.74	66.15	65.36	70.59	65.08
2020	65.69	77.30	69.84	50.88	62.25	65.01	77.08	52.38	64.19	70.40	53.07	66.68	65.88	71.04	65.54
2021	65.87	77.30	69.72	51.27	62.51	65.30	76.91	52.14	64.08	70.59	53.49	67.08	66.28	70.96	65.77
2022	66.15	77.40	69.95	51.38	62.98	65.52	77.13	52.28	64.54	70.84	53.68	67.62	66.76	70.82	66.29
2023	66.30	77.60	70.15	51.02	63.18	65.60	77.25	52.50	64.62	71.04	53.73	67.89	67.01	70.56	66.53

Appendix B. SDG 13 Index for 2000–2023 [9].

year	World	HIC	LAC	LIC	LMIC	MENA	OECD	Oce- ania	SIDS	UMIC	Africa	BRICS	BRICS plus	E_S_ Euro	E_S_ Asia
2000	88.41	63.00	93.86	98.62	96.50	83.74	67.77	96.21	90.49	90.02	97.33	91.78	91.45	81.94	95.06
2001	88.47	63.00	93.96	98.63	96.48	83.74	67.98	96.04	90.62	90.00	97.38	91.78	91.45	81.63	95.02
2002	88.43	63.00	93.87	98.70	96.49	83.74	68.00	96.02	90.63	89.74	97.48	91.62	91.29	81.59	94.84
2003	88.02	62.00	94.00	98.64	96.43	83.26	67.17	95.89	90.32	89.02	97.28	91.13	90.81	81.05	94.43
2004	87.70	61.00	93.82	98.63	96.33	82.36	66.57	95.65	90.65	88.50	97.21	90.80	90.44	80.66	94.14
2005	87.43	61.00	93.63	98.56	96.22	81.69	66.29	95.69	90.61	87.88	97.23	90.40	90.03	80.29	93.76
2006	87.14	61.00	93.31	98.55	96.10	81.35	66.08	95.68	90.35	87.25	97.17	89.91	89.49	79.34	93.40
2007	86.93	61.00	92.95	98.52	95.93	81.07	66.05	95.29	90.49	86.79	97.05	89.55	89.11	78.80	93.10
2008	86.86	62.00	92.46	98.44	95.82	79.93	67.16	95.73	89.80	86.18	96.98	89.09	88.58	78.21	92.75
2009	87.43	65.00	92.89	98.49	95.76	79.38	70.07	95.85	90.19	86.27	97.03	88.96	88.40	80.32	92.51

2010	86.90	64.00	92.12	98.38	95.62	79.24	69.04	95.94	89.98	85.38	97.00	88.34	87.79	79.15	92.02
2011	86.61	64.00	91.94	98.62	95.45	79.38	69.09	95.84	90.58	84.48	96.95	87.63	87.15	78.71	91.43
2012	86.55	64.00	91.54	98.64	95.31	78.41	69.65	95.95	90.12	84.16	97.01	87.40	86.85	78.55	91.21
2013	86.61	64.00	91.16	98.73	95.35	78.96	69.89	95.85	89.90	83.98	97.04	87.32	86.84	78.99	91.11
2014	86.69	65.00	91.29	98.70	95.29	78.59	70.30	95.56	90.05	84.03	97.05	87.28	86.76	79.61	91.02
2015	86.89	65.00	91.39	98.82	95.22	78.49	70.89	95.60	89.63	84.36	97.20	87.50	86.93	80.42	91.02
2016	87.04	65.00	92.31	98.83	95.13	78.95	71.02	95.56	90.77	84.68	97.27	87.60	87.08	80.45	91.03
2017	86.96	65.00	92.37	98.78	95.01	78.86	71.07	95.65	90.97	84.43	97.34	87.38	86.88	80.05	90.81
2018	86.78	65.00	92.81	98.80	94.79	78.62	70.84	95.47	90.63	84.17	97.36	87.08	86.59	79.70	90.47
2019	86.82	66.00	92.86	98.79	94.72	78.44	71.62	95.45	90.98	83.90	97.32	86.90	86.42	80.00	90.22
2020	87.79	69.00	93.90	98.97	95.10	80.05	74.53	95.58	90.88	84.47	97.62	87.27	86.85	81.17	90.55
2021	87.19	67.00	93.13	98.91	94.89	80.11	72.90	95.55	90.79	83.63	97.60	86.60	86.30	80.45	90.01
2022	87.24	67.00	93.16	98.92	94.84	80.09	72.97	95.62	91.02	83.62	97.66	86.58	86.28	80.98	89.92
2023	87.35	67.00	93.16	98.92	94.87	80.17	72.96	95.62	91.06	83.65	97.69	86.65	86.36	81.04	89.97

Appendix C. SDG 9 Index for 2000–2023 [9].

year	World	HIC	LAC	LIC	LMIC	MENA	OECD	Oce-ania	SIDS	UMIC	Africa	BRICS	BRICS plus	E_S_Euro	E_S_Asia
2000	39.51	70.00	30.59	12.80	28.58	24.87	65.83	7.92	25.33	39.05	18.39	40.10	39.30	30.38	36.36
2001	39.75	71.00	30.89	12.81	28.55	24.89	66.72	7.83	25.58	39.45	18.34	40.25	39.43	30.79	36.42
2002	40.24	72.00	31.28	12.81	28.56	25.14	68.35	7.68	26.08	40.12	18.31	40.70	39.85	31.03	36.75
2003	40.63	74.00	31.72	12.75	28.59	25.50	69.72	7.75	26.56	40.65	18.28	41.06	40.21	31.32	37.00
2004	41.13	76.00	32.30	12.70	28.79	26.06	71.15	7.74	27.36	41.32	18.25	41.61	40.74	31.41	37.42
2005	41.76	76.00	32.78	12.58	29.11	26.37	72.91	7.76	27.76	42.10	18.15	42.27	41.36	31.63	38.01
2006	42.15	77.00	33.72	12.59	29.22	26.80	73.84	7.86	28.24	42.80	18.21	42.73	41.80	31.65	38.35
2007	42.68	78.00	34.40	12.63	29.48	27.42	74.77	7.90	28.61	43.72	18.32	43.39	42.43	32.32	38.88
2008	43.32	79.00	35.16	12.64	29.78	28.30	75.46	7.69	29.28	44.92	18.33	44.33	43.34	33.07	39.62
2009	44.40	80.00	36.22	12.71	29.90	28.94	77.28	7.77	30.26	46.75	18.40	45.61	44.53	34.55	40.47
2010	46.24	82.00	38.71	13.36	30.60	31.09	79.76	7.77	31.32	49.91	19.07	47.79	46.63	36.75	42.14
2011	47.54	84.00	40.43	13.48	31.15	32.61	81.74	8.06	32.49	51.98	19.51	49.29	48.13	38.74	43.22
2012	48.65	86.00	42.36	14.93	32.15	35.73	83.82	8.37	34.67	53.54	20.86	50.01	48.87	41.21	43.55
2013	50.75	88.00	45.65	15.51	32.78	37.66	85.10	10.05	37.07	56.91	22.00	52.21	51.31	42.65	46.02
2014	52.41	90.00	48.52	15.74	34.22	39.68	87.00	10.67	38.14	60.27	22.83	54.57	53.57	44.10	47.90
2015	53.67	91.00	50.95	16.70	35.51	41.95	88.45	11.12	39.49	61.86	24.15	55.74	54.54	45.49	48.89
2016	55.94	92.00	50.30	17.42	37.93	41.40	90.27	12.26	41.07	64.69	25.44	59.58	57.89	47.03	52.46
2017	58.40	92.00	51.05	18.05	40.70	45.66	90.99	14.56	43.13	67.05	26.00	61.64	60.58	48.43	55.86
2018	59.88	93.00	51.96	18.38	41.60	47.42	91.29	13.89	44.41	69.08	26.81	62.72	61.61	51.32	57.60
2019	62.19	93.00	52.69	18.93	44.38	50.87	91.85	16.71	46.19	71.16	28.14	65.19	64.02	54.19	60.39
2020	64.62	94.00	54.02	19.74	47.61	54.15	92.76	18.62	47.43	72.80	30.19	67.35	66.18	55.92	63.12
2021	66.26	94.00	55.44	20.75	48.80	56.52	92.85	18.60	48.28	74.78	31.19	68.69	67.52	57.69	64.63
2022	67.68	95.00	55.38	21.79	50.52	58.76	93.00	19.05	49.58	76.30	32.37	70.22	69.06	58.31	66.22
2023	69.15	95.00	57.34	21.32	51.88	59.29	92.98	18.96	51.10	78.24	31.77	72.24	70.87	59.01	68.00

Appendix D. SDG 12 Index for 2000–2023 [9].

year	World	HIC	LAC	LIC	LMIC	MENA	OECD	Oce-ania	SIDS	UMIC	Africa	BRICS	BRICS plus	E_S_Euro	E_S_Asia
2000	80.27	51.00	84.60	95.83	90.25	84.10	54.58	92.67	79.31	81.07	95.15	84.00	84.20	80.09	85.90
2001	80.49	52.00	84.62	95.79	90.27	83.88	55.45	92.71	79.33	81.08	95.12	84.01	84.21	79.95	85.92
2002	80.55	52.00	84.73	95.78	90.36	83.67	55.75	92.75	79.37	80.81	95.16	83.87	84.08	79.94	85.83
2003	80.27	51.00	84.46	95.77	90.33	83.57	55.34	92.79	79.42	80.11	95.07	83.36	83.59	79.64	85.44
2004	79.85	51.00	84.16	95.75	90.08	83.05	55.19	92.83	79.46	79.15	95.06	82.50	82.77	79.72	84.68
2005	79.71	51.00	84.10	95.64	89.92	82.81	55.33	92.86	79.50	78.73	95.03	82.09	82.39	79.80	84.31
2006	79.42	51.00	83.84	95.67	89.71	82.56	55.27	92.90	79.47	78.03	95.02	81.45	81.76	79.35	83.78
2007	79.14	51.00	83.42	95.64	89.21	82.23	55.29	92.94	79.37	77.70	94.89	80.93	81.26	78.87	83.32
2008	79.12	52.00	83.13	95.58	88.97	81.86	56.16	92.97	79.28	77.39	94.84	80.52	80.86	78.15	83.02
2009	79.27	54.00	83.56	95.64	88.74	81.25	57.88	93.01	79.19	77.02	94.92	79.97	80.32	79.34	82.47
2010	79.03	53.00	83.07	95.66	88.50	81.74	57.47	93.05	79.11	76.62	94.83	79.47	79.90	79.17	82.11
2011	78.74	53.00	82.70	95.67	88.13	81.58	57.48	93.09	79.10	76.08	94.80	78.83	79.30	78.08	81.63
2012	78.68	54.00	82.52	95.66	87.82	81.07	57.81	93.12	79.12	75.92	94.78	78.51	78.98	77.87	81.39
2013	78.72	54.00	82.43	95.77	87.73	81.08	57.98	93.15	79.13	75.87	94.70	78.47	78.96	78.04	81.32
2014	78.86	54.00	82.44	95.75	87.40	81.19	58.29	93.18	79.14	76.42	94.65	78.57	79.07	78.71	81.32
2015	79.28	54.00	82.71	95.88	87.64	81.75	58.81	93.21	79.14	76.94	94.82	79.10	79.59	79.41	81.66
2016	79.61	55.00	82.84	95.86	87.64	82.13	58.86	93.10	78.94	77.66	94.81	79.73	80.21	79.29	82.12
2017	79.57	55.00	82.66	95.88	87.40	82.47	58.72	92.98	78.70	77.72	94.81	79.60	80.12	79.23	81.98
2018	79.40	55.00	82.61	95.93	86.99	82.44	58.69	92.87	78.50	77.58	94.79	79.26	79.83	78.99	81.60

2019	79.46	55.00	82.49	95.96	87.00	82.54	58.91	92.78	78.31	77.44	94.76	79.19	79.78	79.01	81.56
2020	79.74	55.00	82.70	96.07	87.22	83.04	59.38	92.80	78.37	77.53	95.03	79.23	79.86	79.30	81.66
2021	79.65	55.00	82.39	96.11	87.15	83.28	58.99	92.82	78.45	77.33	95.00	79.11	79.79	79.27	81.53
2022	80.01	56.00	82.61	96.14	87.23	83.51	60.34	92.83	79.96	77.40	95.03	79.00	79.72	79.74	81.57
2023	80.30	58.00	82.56	96.20	87.09	83.53	62.21	92.86	80.09	77.21	95.08	78.62	79.40	79.94	81.31

References

1. In Solidarity for a Green World, COP 29, Baku. <https://cop29.az/en/home> (accessed Jan. 2025)
2. Conference of the Parties (COP). <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop> (accessed Jan 2025).
3. The Paris Agreement. <https://unfccc.int/process-and-meetings/the-paris-agreement> (accessed 2025).
4. 2024 is on track to be the hottest year on record as warming temporarily hits 1.5°C on Nov. 11, 2024. <https://wmo.int/news/media-centre/2024-track-be-hottest-year-record-warming-temporarily-hits-15degc> (accessed Jan 2025).
5. Sustainability. <https://cop29.az/en/policies/sustainability-policy> (accessed Jan 2025).
6. Azerbaijan Oil. <https://www.worldometers.info/oil/azerbaijan-oil/#oil-production> (accessed Jan 2025).
7. Azerbaijan - Country Commercial Guide, 2023-11-21. <https://www.trade.gov/country-commercial-guides/azerbaijan-market-overview> (accessed Jan 2025).
8. Sachs, J.D., Lafortune, G., Fuller, G. (2024). The SDGs and the UN Summit of the Future. Sustainable Development Report 2024. Paris: SDSN, Dublin: Dublin University Press. doi:10.25546/108572.
9. Sustainable Development Report 2024, Dashboard, <https://dashboards.sdgindex.org/explorer> (accessed Jan 2025).
10. COP29 ends with a compromise on climate financing (Nov. 25, 2024). <https://wmo.int/media/news/cop29-ends-compromise-climate-financing> (accessed Jan 2025).
11. Munda, G. (2008). Social Multi-Criteria Evaluation for a Sustainable Economy. Springer-Verlag, Berlin. <https://www.springer.com/la/book/9783540737025>.
12. Bruggemann, R. and Patil, G.P. (2011). Ranking and Prioritization for Multi-indicator Systems - Introduction to Partial Order Applications. Springer, New York; <https://www.springer.com/gp/book/9781441984760>.
13. Bruggemann, R. and Carlsen, L. (2006). Introduction to partial order theory exemplified by evaluating sampling sites, In: R. Bruggemann and L. Carlsen (Eds.), *Partial Order in Environmental Sciences and Chemistry*, Springer, Berlin, 61–110. Available from: <https://www.springer.com/gp/book/9783540339687>.
14. Bruggemann, R.; Annoni, P. (2014). Average Heights in Partially Ordered Sets, *MATCH Commun. Math. Comput. Chem.* 71, 117–142. Available online: http://match.pmf.kg.ac.rs/electronic_versions/Match71/n1/match71n1_117-142.pdf.
15. De Loof, K., De Meyer, H. & De Baets, B. (2006). Exploiting the lattice of ideals representation of a poset . *Fundamenta Informaticae*, 71, 309–321; <https://dl.acm.org/doi/abs/10.5555/1227505.1227514>.
16. Carlsen, L. (2024) Sustainability: An ethical challenge: The overexploitation of the planet as an exemplary case. *Sustainability* 16, 3390; doi: 10.3390/su16083390.
17. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. <https://sdgs.un.org/goals/goal9> (accessed Jan 2025).
18. Ensure sustainable consumption and production patterns (accessed Jan 2025). <https://sdgs.un.org/goals/goal12>
19. Average greenhouse gas emissions per kilogram of major food products worldwide. <https://www.statista.com/statistics/1201677/greenhouse-gas-emissions-of-major-food-products/>

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.