Health and environment scorecard:
Summary score – methods and results

World Health Organization

Introduction

The Health and environment scorecards provide key data on eight environmental health topics, across exposure, health impacts and policies. The summary score combines the values of scorecard indicators with sufficient data availability into a single overall measure.

Methods

The development of the summary score largely follows the steps of the Organisation for Economic Co-operation and Development (OECD) for constructing composite indicators [1], although the summary score is not intended to serve as a full composite indicator:

- *The theoretical framework of the score* is based on a measurement concept for "environmental health", defined by three dimensions: (1) level of exposure, (2) burden of disease attributable to environmental risk factors, and (3) presence or population coverage of policies that promote environmental health (laws, strategies, conventions, etc.).
- *The choice of indicators for the scorecards and the summary score* is based on their significance and availability. The source of data includes mostly WHO or other UN datasets [2]. The summary score is calculated from all indicators for which at least 60% of WHO member states have available data (Fig1). Given the correlations between exposure, health impact, and policy indicators, separate scores for each dimension were calculated in addition to the overall summary score (Spreadsheet 1).
- *Missing data* - Only countries with less than five missing indicators were included. Sensitivity analyses were performed by (1) imputing the mean value by WHO region and income group for numerical exposure and health impact indicators, and assuming a "no" for missing categorical policy indicators; and (2) imputing the mean value by WHO region and income group for all missing indicators.
- *Indicator normalization and calculation of score* - Scorecard indicator values were converted using the min-max method [1] to obtain normalized indicator with values between 0 and 1. The summary scores were calculated by first averaging indicators for each exposure, health impact, and policy category by environmental health topic of the scorecard using equal weights, then averaging the obtained values within each environmental health topic, and finally averaging those values across environmental health topics. If an indicator has different sub-indicators, such as the climate change policy indicator "Commitment to COP26 Health Programme," the sub-indicators were equally weighted. When scorecard indicators were displayed in various forms (such as the first exposure indicator in air pollution), the source data were used (e.g., the amount of PM2.5 in µg/m³). For the forest area change indicator, the percentage of forest change was used rather than the total amount of forest change, as the latter is dependent on the size of the country. The resulting summary score was transformed so scores range between 0 and 100. A higher score indicates a more favourable result.

Results

The summary score was calculated for 183 WHO Member States from 25 indicators (Fig.1). The mean summary score was 51 and values ranged between 25 and 81. Results are shown in Fig. 2 by WHO Region and listed in Spreadsheet 1.
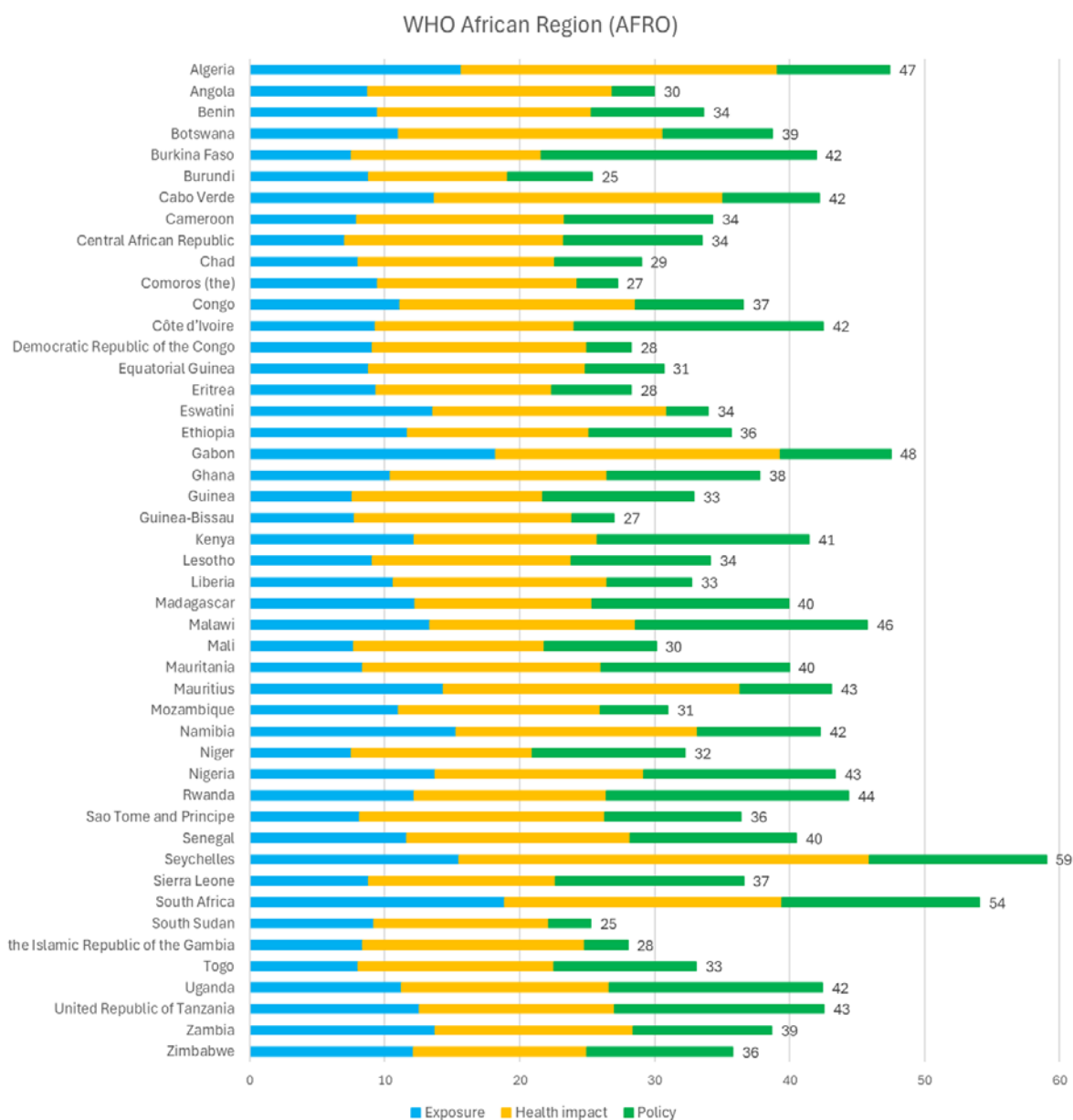
Conclusions

- The primary goal of the summary score as part of the Health and environment scorecard is to condense various environmental health indicators into a single measure.
- The scores can be used to track changes in exposures, health impacts and policy implementation and to highlight information gaps.
- The Health and environment scorecards assist countries in situation assessment and priority setting.
- Every country can step up its efforts to reduce environmental determinants of health and to tackle the environmental planetary crisis.
- Large differences in environmental exposures, resulting health impacts and implemented policies exist between countries, also influenced by economic resources.

References

1. Handbook on Constructing Composite Indicators: Methodology and User Guide. Paris: The Organization for Economic Cooperation and Development (OECD); 2008. Available: https://www.oecd.org/en/publications/handbook-on-constructing-composite-indicators-methodology-and-user-guide_9789264043466-en.html
2. WHO. Health and Environment Country Scorecards: Reading guide. 2025 [cited 15 Apr 2025]. Available: https://www.who.int/publications/m/item/health-and-environment-scorecards-reading-guide

The scorecards are based on already published data (see scorecard reference section). They are a tool to measure and track the progress with respect to selected indicators. The summary scores should not be used to rank countries against one another, not only because of missing data for some countries, but more importantly due to the significant differences in national contexts—such as economic conditions or geographic characteristics—which likely have a substantial impact on the scores.

Fig. 1: Indicators for calculating the summary score –indicators with a yellow frame are used for calculating the summary score

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WHO African Region (AFRO)

Country	Score
Algeria	47
Angola	30
Benin	34
Botswana	39
Burkina Faso	42
Burundi	25
Cabo Verde	42
Cameroon	34
Central African Republic	34
Chad	29
Comoros (the)	27
Congo	37
Côte d'Ivoire	42
Democratic Republic of the Congo	28
Equatorial Guinea	31
Eritrea	28
Eswatini	34
Ethiopia	36
Gabon	48
Ghana	38
Guinea	33
Guinea-Bissau	27
Kenya	41
Lesotho	34
Liberia	33
Madagascar	40
Malawi	46
Mali	30
Mauritania	40
Mauritius	43
Mozambique	31
Namibia	42
Niger	32
Nigeria	43
Rwanda	44
Sao Tome and Principe	36
Senegal	40
Seychelles	59
Sierra Leone	37
South Africa	54
South Sudan	25
the Islamic Republic of the Gambia	28
Togo	33
Uganda	42
United Republic of Tanzania	43
Zambia	39
Zimbabwe	36

Legend: ■ Exposure ■ Health impact ■ Policy

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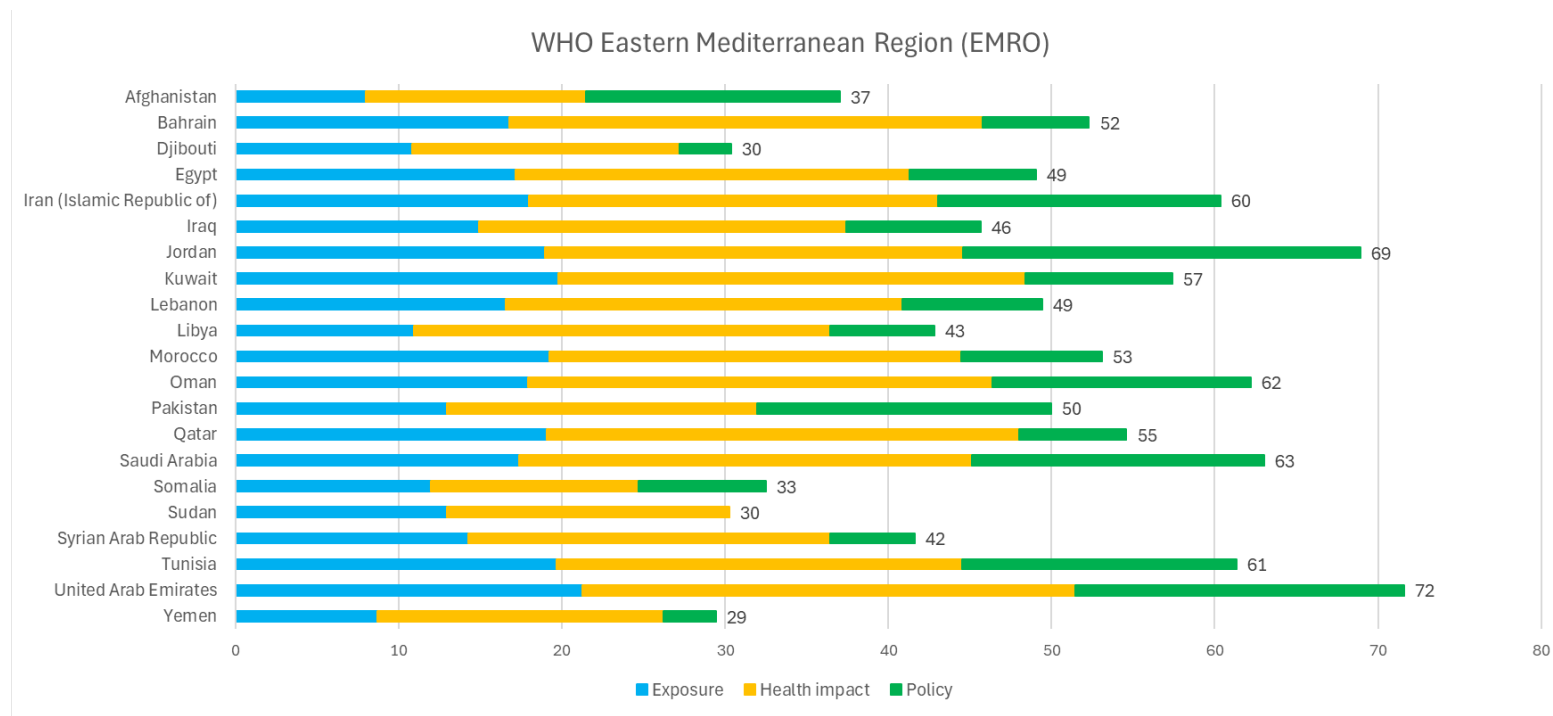
WHO Region of the Americas (PAHO)

Country	Score
Antigua and Barbuda	60
Argentina	69
Bahamas (the)	56
Barbados	48
Belize	50
Bolivia (Plurinational State of)	39
Brazil	67
Canada	80
Chile	74
Colombia	68
Costa Rica	56
Cuba	62
Dominican Republic (the)	53
Ecuador	57
El Salvador	53
Grenada	42
Guatemala	39
Guyana	48
Haiti	25
Honduras	43
Jamaica	50
Mexico	67
Nicaragua	39
Panama	51
Paraguay	51
Peru	58
Saint Lucia	42
Saint Vincent and the Grenadines	43
Suriname	47
Trinidad and Tobago	59
United States of America	70
Uruguay	68
Venezuela (Bolivarian Republic of)	51

Legend: Exposure, Health impact, Policy

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WHO Eastern Mediterranean Region (EMRO)

Country	Score
Afghanistan	37
Bahrain	52
Djibouti	30
Egypt	49
Iran (Islamic Republic of)	60
Iraq	46
Jordan	69
Kuwait	57
Lebanon	49
Libya	43
Morocco	53
Oman	62
Pakistan	50
Qatar	55
Saudi Arabia	63
Somalia	33
Sudan	30
Syrian Arab Republic	42
Tunisia	61
United Arab Emirates	72
Yemen	29

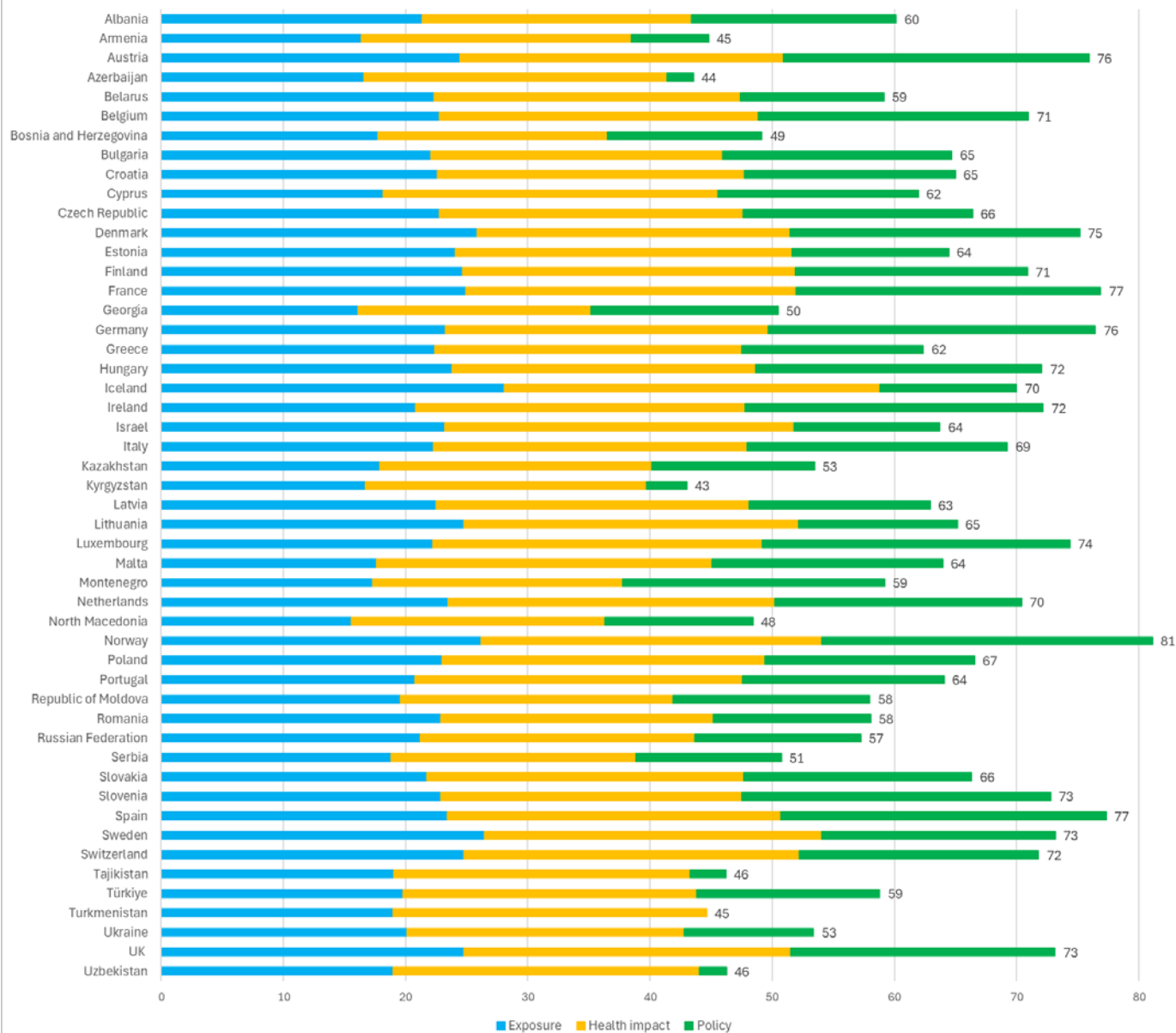Legend: ■ Exposure ■ Health impact ■ Policy

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WHO European Region (EURO)

Country	Score
Albania	60
Armenia	45
Austria	76
Azerbaijan	44
Belarus	59
Belgium	71
Bosnia and Herzegovina	49
Bulgaria	65
Croatia	65
Cyprus	62
Czech Republic	66
Denmark	75
Estonia	64
Finland	71
France	77
Georgia	50
Germany	76
Greece	62
Hungary	72
Iceland	70
Ireland	72
Israel	64
Italy	69
Kazakhstan	53
Kyrgyzstan	43
Latvia	63
Lithuania	65
Luxembourg	74
Malta	64
Montenegro	59
Netherlands	70
North Macedonia	48
Norway	81
Poland	67
Portugal	64
Republic of Moldova	58
Romania	58
Russian Federation	57
Serbia	51
Slovakia	66
Slovenia	73
Spain	77
Sweden	73
Switzerland	72
Tajikistan	46
Türkiye	59
Turkmenistan	45
Ukraine	53
UK	73
Uzbekistan	46

■ Exposure ■ Health impact ■ Policy

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WHO South-East Asia Region (SEARO)

Country	Score
Bangladesh	42
Bhutan	47
DRC	31
India	57
Indonesia	59
Maldives	43
Myanmar	35
Nepal	39
Sri Lanka	55
Thailand	58
Timor-Leste	43

Legend: Exposure, Health impact, Policy

WHO Western Pacific Region (WPRO)

Country	Score
Australia	74
Brunei Darussalam	54
Cambodia	39
China	66
Fiji	49
Japan	73
Kiribati	36
Lao People's Democratic Republic	46
Malaysia	57
Micronesia (Federated States of)	34
Mongolia	44
New Zealand	60
Papua New Guinea	31
Philippines	50
Republic of Korea	72
Samoa	40
Singapore	58
Solomon Islands	30
Tonga	51
Vanuatu	33
Viet Nam	65

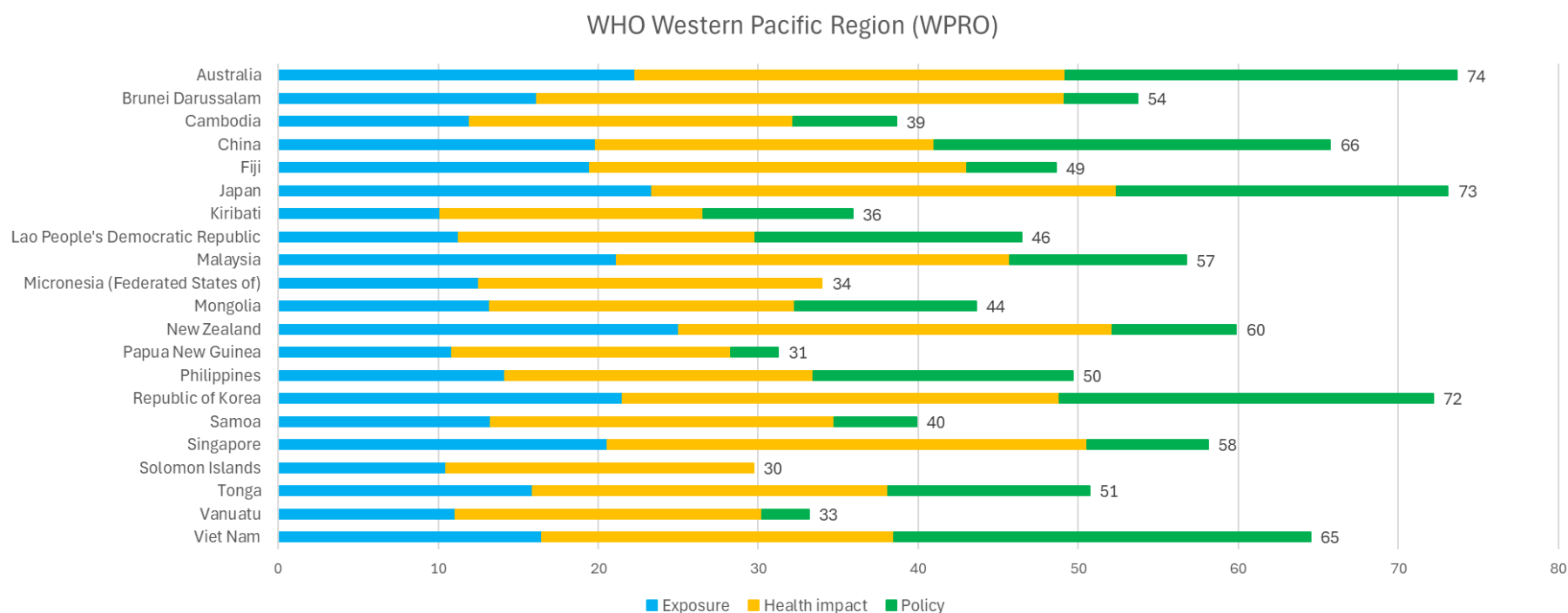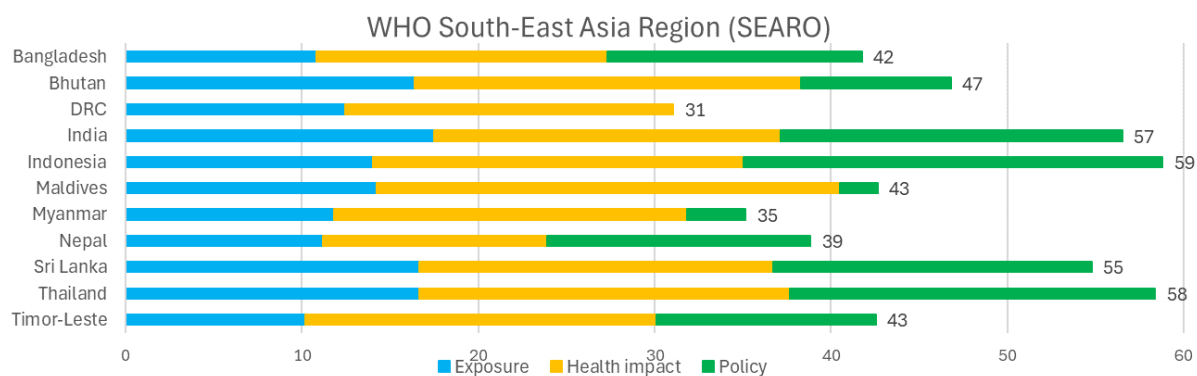Legend: Exposure, Health impact, Policy

Fig. 2: Summary score by country by WHO Region. The number to the right of the bars are the total value of the summary score. The different colours of the bars indicate the proportional contribution of the exposure, health impact and policy indicators. DRC: Democratic People's Republic of Korea, UK: United Kingdom of Great Britain and Northern Ireland (the).

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