

Background

 UVI project in response to Foreign Ministers 2018 mandate to achieve universal agreement on vulnerability

Why UVI?

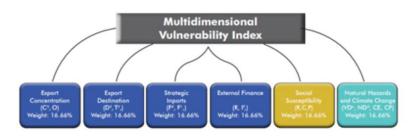
- Another small states index will not achieve mandate (Comsec, CDB, UN)
- Global consensus requires inclusion
- Relativity needed for proof of focus on small states
- · Secretariat sought to achieve:
 - An inclusive index
 - Move from a static to dynamic approach (time series)
 - Factor multiple dimensions
 - Account for resilience
 - Foster consensus seeking to achieve a marrying of technical and political views



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Other Indices

Caribbean Development Bank (2019)



The proxy indicators in the Vulnerability Index are as follows:

Vulnerability = average (E³, O); (D³, T³); (F^d, F^l); (R, I^l); (C, U, P); (ND^o, ND^d; CE, CP)

C³ = the proportion of total exports of goods and services represented by the top three export categories.

O = total exports of goods and services¹⁰ as a percentage of GDP.

D³ = the proportion of total exports of goods converging on the top three export destinations.

T³ = the proportion of total tourists from the top three source countries.

F^d = Food imports as a percentage of total imports.

F¹ = Fuel imports as a percentage of total imports.

R = the ratio of annual remittances to GDP.

= the ratio of the annual flow of FDI to GDP

= the number of intentional homicides per 100,000 population.

U = the rate of unemployed persons in the labour force.

P = the rate of persons living in poverty.

NDa = the number of persons affected by natural disasters, as a proportion of total population.

ND^d = the number of deaths resulting from natural disasters, as a proportion of total population.

CE = the economic losses or gains of climate change (Dara Climate Index).

CP = the economic losses or gains of carbon (Dara Climate Index).

The key publications which exemplify the Commonwealth Secretariat's contributions to the vulnerability dialogue are:

1985: Vulnerability: Small States in the Global Society. Commonwealth Consultative Group Report

1996: Measurement of the Vulnerability of Small States. Chander, R.

1997: Composite Vulnerability Index: A Revised Report. Wells, J.

1997: A Future for Small States: Overcoming Vulnerability. Commonwealth Advisory Group Report

1998: A Study on the Vulnerability of Developing and Island States: A Composite Index. Atkins et al.

2000: Commonwealth Vulnerability Index for Developing Countries: The Position of Small States. Atkins et al

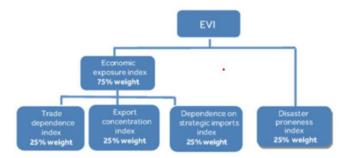
2004: Vulnerability and Resilience of Small States. Eds. Briguglio, L. and El Kisanga

2006: Building the Economic Resilience of Small States. Eds. Briguglio, L. G Cordina, and E Kisanga

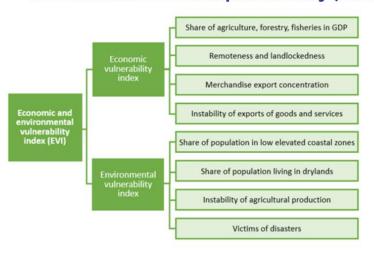
2010: Profiling Vulnerability and Resilience: A Manual for Small States. Briguglio et al

2014: Building the Resilience of Small States: A Revised Framework. Ed. Lewis-Bynoe, D

Commonwealth Secretariat (2014)



UN Committee for Development Policy (2020)

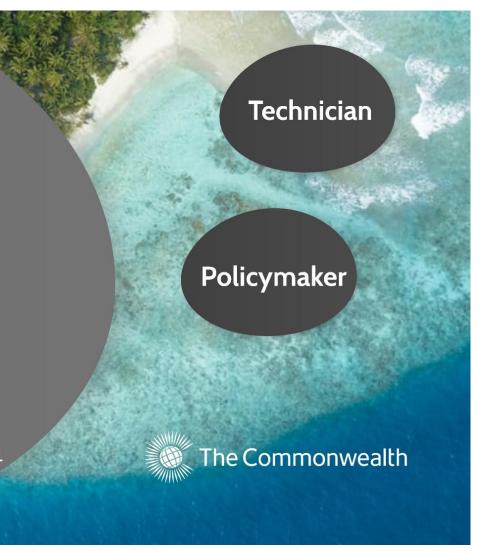


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Key Points

- Vulnerability more precisely defined: exposure, shocks and resilience
- UVI is all ecompassing and is best opportunity to centralise definition and measurement of vulnerability
- Index can be adapted to needs of all groups: small states; LDCs, regions (replacing other indices in time)
- Can track changes in vulnerability across time
- Asseses both structural and non-structural factors



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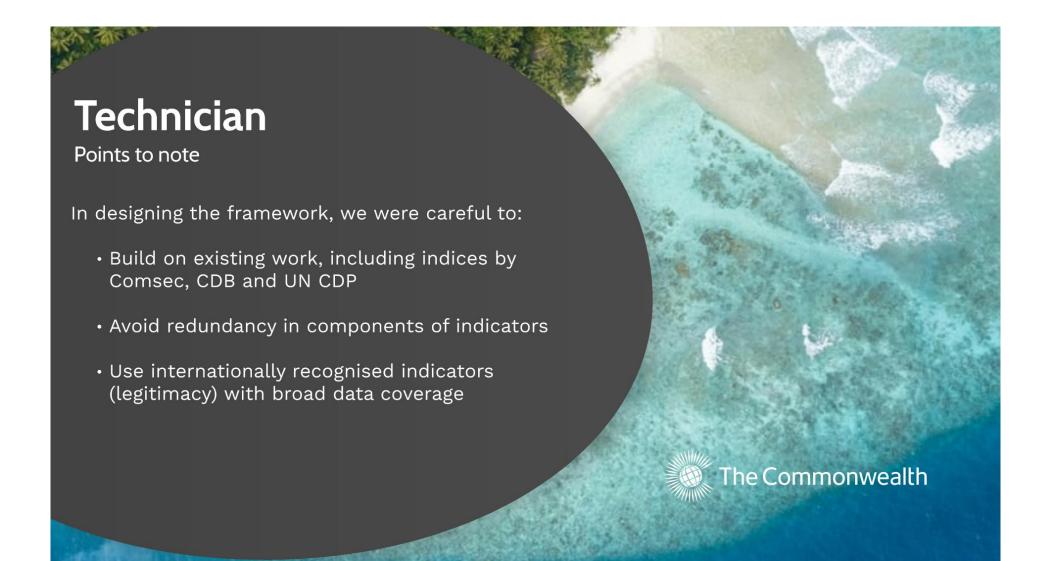


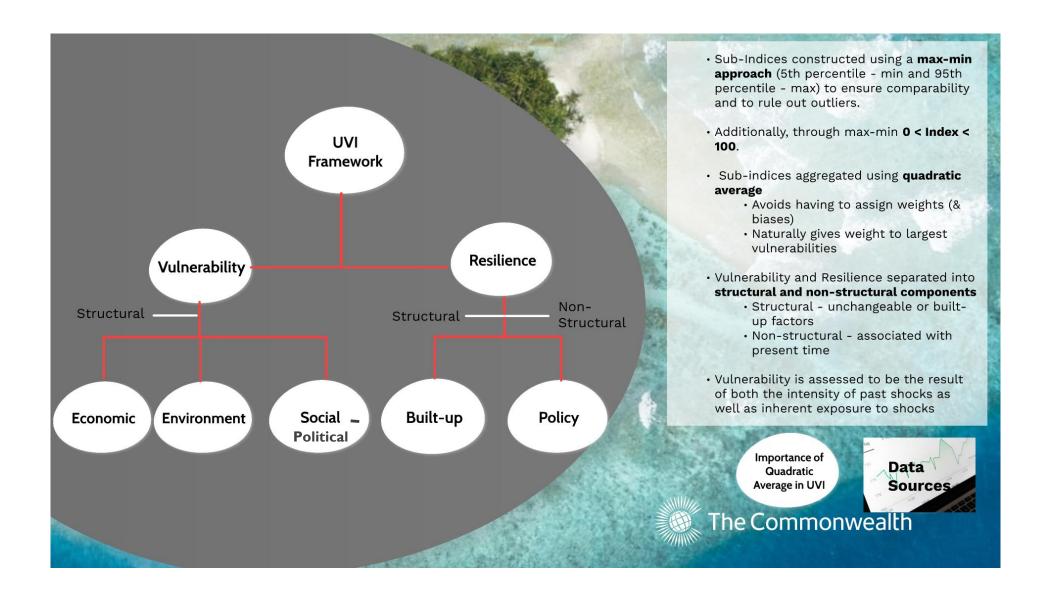
The model/index seeks to explain vulnerability using (constrained by) best available data

The objective is to build an index which, given constraints, best estimates countries' **real** (factoring resilience) exposure to shocks



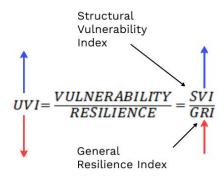
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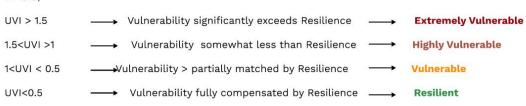


Universal Vulnerability Index

Multiplicative Approach



Where.



Definition

A country's net/real exposure to harm factoring their vulnerability and level of resilience (response) to shocks.

- Such that an increase in resilience (GRI) reduces UVI
- In contrast, an increase in vulnerability (SVI) increases UVI
- The multiplicative approach is intuitive and good for interpretation of vulnerability
- Scores lower than one are not be taken literally to mean resilience, as it only implies that the country has some ability to respond to shocks, not that they are totally resilient
- UVI scores closer to zero are more in line with the concept of full resilience and where countries should aspire to be



UVI Index

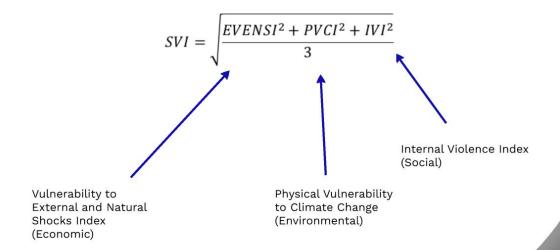


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Universal Vulnerability Index Universal Vulnerability Index Structural Resilience Vulnerability Index Index Economic Physical Internal Violence Structural Resilience Non-Structural Vulnerability to Vulnerability to Index Resilience Index Index **External and Natural** Climate Change Shocks Index Index The Commonwealth

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Structural Vulnerability Index



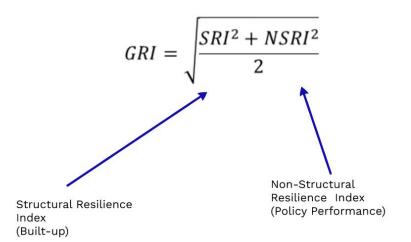
Definition:

Structural vulnerability is natural/inherent exposure to shocks and probability of being harmed due to the frequency and intensity of past exogenous shocks



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General Resilience Index



Definition

Resilience is the ability of a country to respond to shocks .

Structural resilience does not affect the size or intensity of the shock but rather the impact on sustainable development.

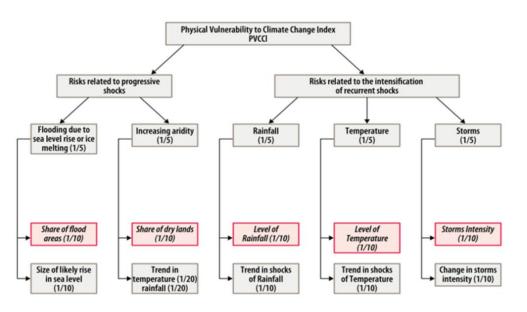
Non-structural resilience is reflected in current policy and can also determine the impact of socks on sustainable development.

- Note that non-structural resilience (NSRI) by definition is the inverse equivalent of non-structural vulnerability (NSVI)
- For this reason and in line with the need to eliminate redundancy, a NSRI is not included directly since it is already captured. Hence why the index is not symmetrical along the structural and nonstructural axes



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Physical Vulnerability to Climate Change Index (PVCI)



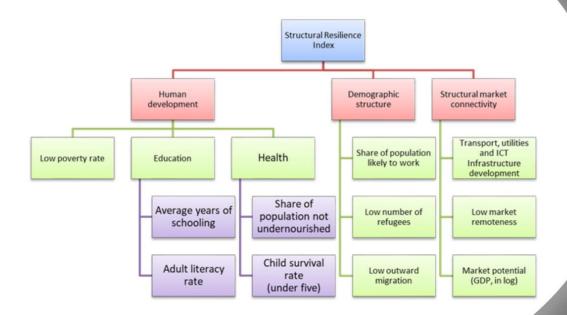
Notes: The boxes corresponding to last rows of the graph respectively refer to exposure components (red boxes, in italics) and to size of the shocks components.

- PVCI aggregated using quadratic average of risks related to progressive shocks (Exposure) and Risks related to intensification of recurrent shocks (Intensity).
 Exposure factors and intensity calculated using 10-year average.
- Similarly risks related to progressive shocks and risks related to intensification of recurrent shocks aggregated using QA



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Structural Resilience Index (SRI)

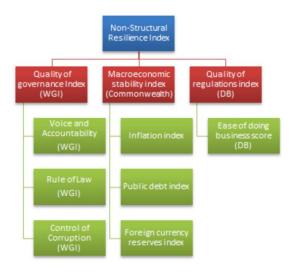


- SRI aggregated using quadratic average of HDI, DS and SMC.
- Structural resilience is defined in the UVI framework as elements built-up over time that help to mitigate the impact of shocks
- As is reflected in the index these elements include structural connectivity and infrastructure; human development and its state of maturity; demography.



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Non-Structural Resilience Index (NSRI)

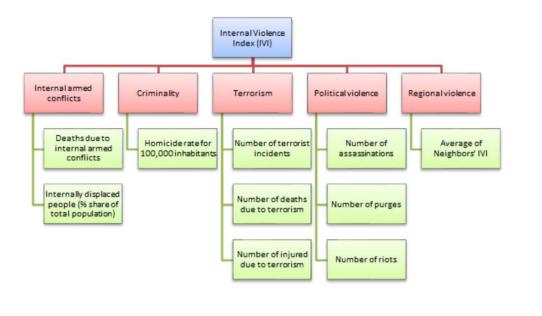


- NSRI aggregated using quadratic average of QGI, MSI and QRI.
- Non-Structural Resilience is defined in the UVI framework as policy performance factors and is a near term rather than long term indicator



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Internal Violence Index (IVI)

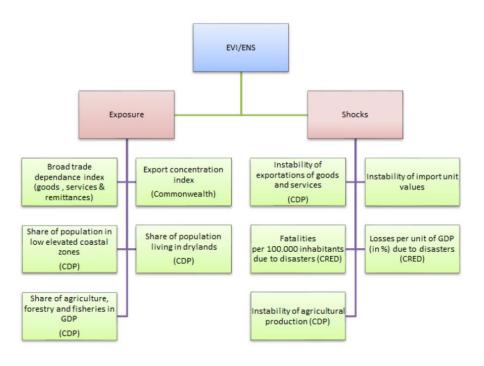


- The approach taken here is based on the core idea that vulnerability has to be as structural/exogenous as possible and that there must be as little overlap between indices as possible
- The main manifestation of social/ political vulnerability is the recurring existence of conflicts and violent events that the organisation of society is unable to ward off. What is then missing from the current framework is a measure of the intensity of past violent events
- Aggregation of IVI consistent with that of EVENSI and PVCI



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Economic Vulnerability to Economic and Natural Shock Index (EVENSI)



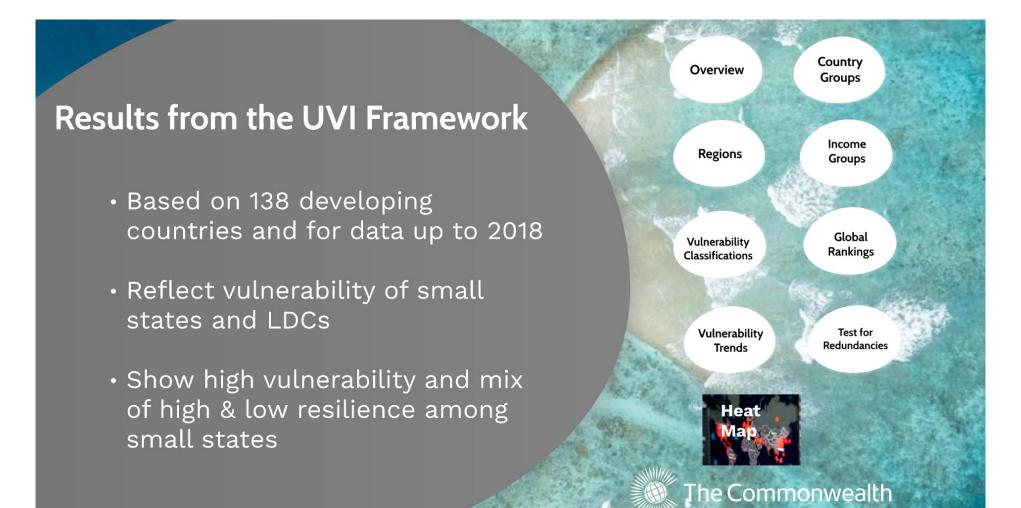
- EVENSI aggregated using quadratic average of Exposure and Shock Indices. Computed using 10-year average.
- Exposure index captures traditional factors reflecting a country's inherent exposure to economic shocks
- Shocks index accounts for the fact that past shocks reflects an increased probability of future shocks. This index includes shocks related to the economy and natural disasters. Computed using 10-year average.



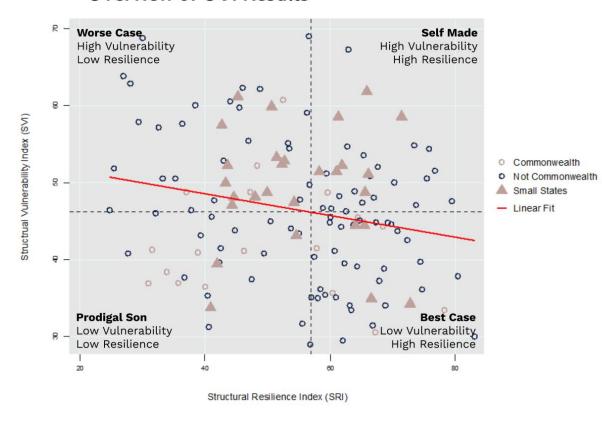
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Data Sources Broad trade dependence index defined as (X + M + Remit)/(GDP + M) WB WDI and UNCTAD Export concentration index (Commonwealth method) UNCTAD Share of population in LECZ UN CDP Share of population in linving in drylands UN CDP Share of agriculture, forestry and fisheries in GDP UN CDP Shocks Instability of exportations UN CDP Instability of import unit values WB WDI Fatalities per 100.000 inhabitants due to disasters (Log) EM-DAT, CRED Losses per unit of GDP (in %) due to disasters (Log) EM-DAT, CRED Instability of agricultural production Deaths due to internal armed conflicts per 100.000 inhabitants (Log) Prio, UCDP Battle-related Deaths Dataset Internally displaced people per 100.000 inhabitants Internal Displacement Monitoring Centre (IDMC) Criminality United Nations office on Drugs and Crimes (UNODC) Homicide rate for 100,000 inhabitants Number of terrorist incidents per 100.000 inhabitants Global Terrorism Database (GTD) Number of deaths due to terrorism per 100.000 inhabitants (Log) Global Terrorism Database (GTD) Number of injured due to terrorism per 100.000 inhabitants (Log) Global Terrorism Database (GTD) Political violence Regime transition Scaled violence Genocide/Politicide Scaled annual number of deaths CSP PITF Regional violence Average of neighbor's IVI Quality of governance index WB WGI WB WGI Control of corruption WB WGI Inflation index growth rate $(Log(SqRoot(1 + i^2 + 1)))$ Macroeconomic stability index IMF WEO General government gross debt as % of GDP IMF WEO Current Account Bal. As % of GDP IMF WEO Quality of regulations index Ease of doing business WB DoingBusiness WB PovcalNE Human development Low poverty rate Average years of schooling UNDP UN CDP Adult literacy rate Share of pop. not undernourished (stunting) UN CDP Child surival rate (under five) UN CDP Transport, utilities and ICT Infrastructure development Structural market connectivity (Road density, Access elec, Access water, Access WB WDI and WRS 2015 Internet) Low market remoteness UN CDP (V1.3 & V1.4) Market potential (GDP in Log) WB WDI, Unstats, IMF Demographic structure Share of pop. Likely to work (15-64) WB WDI Low number of refugees per 100.000 inhabitants (Log) UNHCR (V1.4) Structural outward migration (median net migration rate over 1970-2020, positive rates set to

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Overview of UVI Results

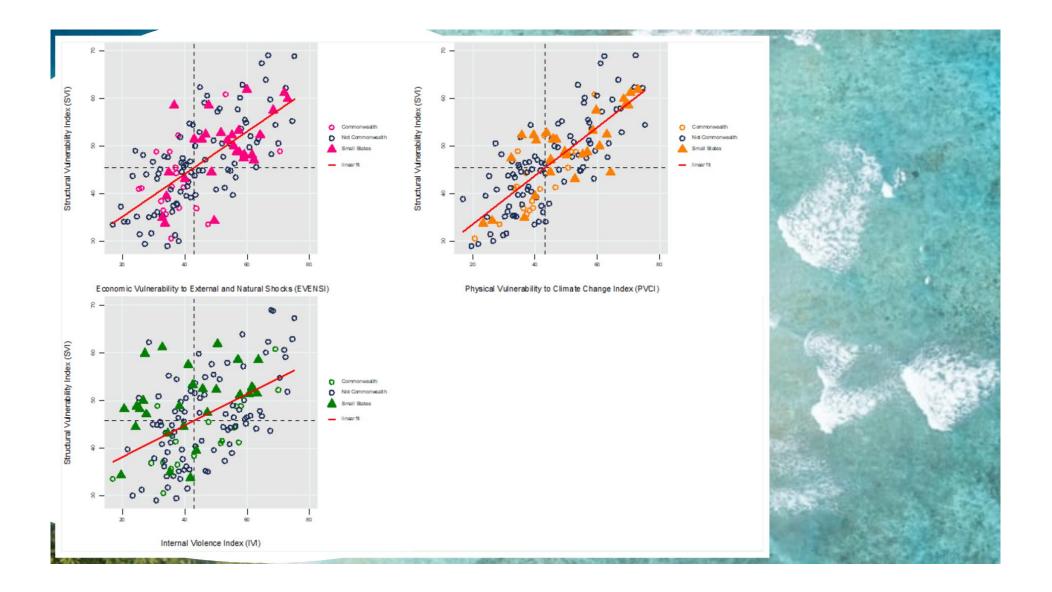


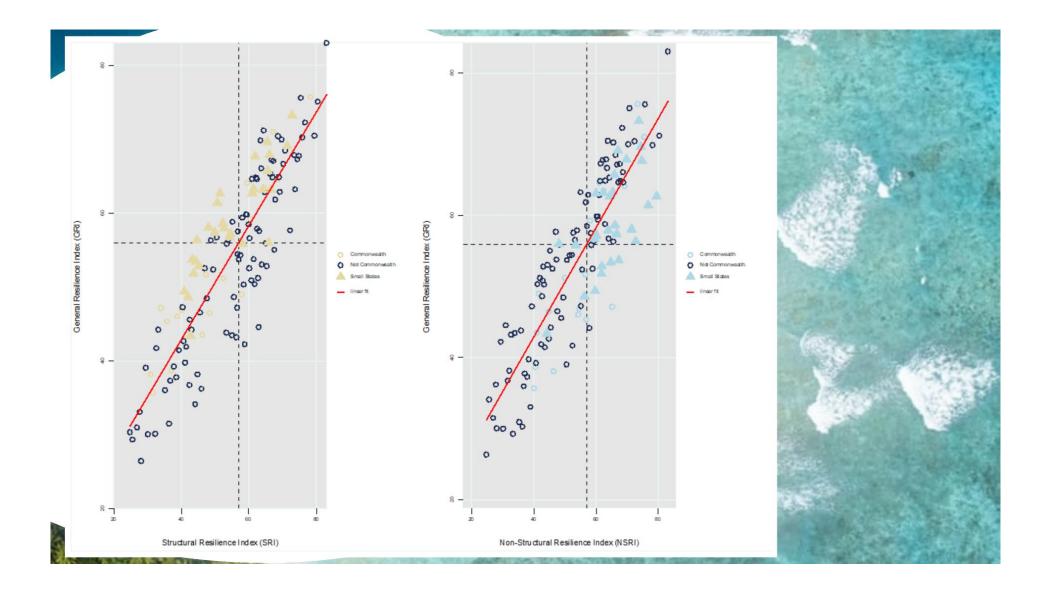
- Using analogy by Briguglio (2014) to categorise the interaction between vulnerability and resilience -Prodigal son; Worse case; Best case; and Self-made
- A significant proportion of Commonwealth small states in the worst case
- Quite a few small states are also in the self-made category
- Other SIDS results display similar dispersion
- A majority of Commonwealth countries (particularly LDCs) lie above the median (red line) and fall into either prodigal son or worse case categories

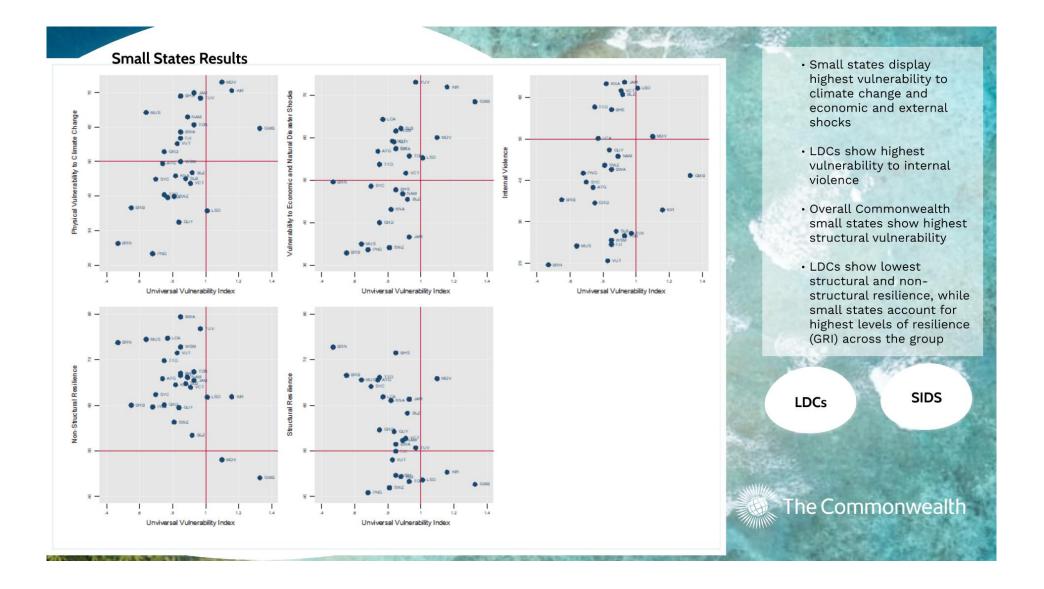
Contributions to SVI

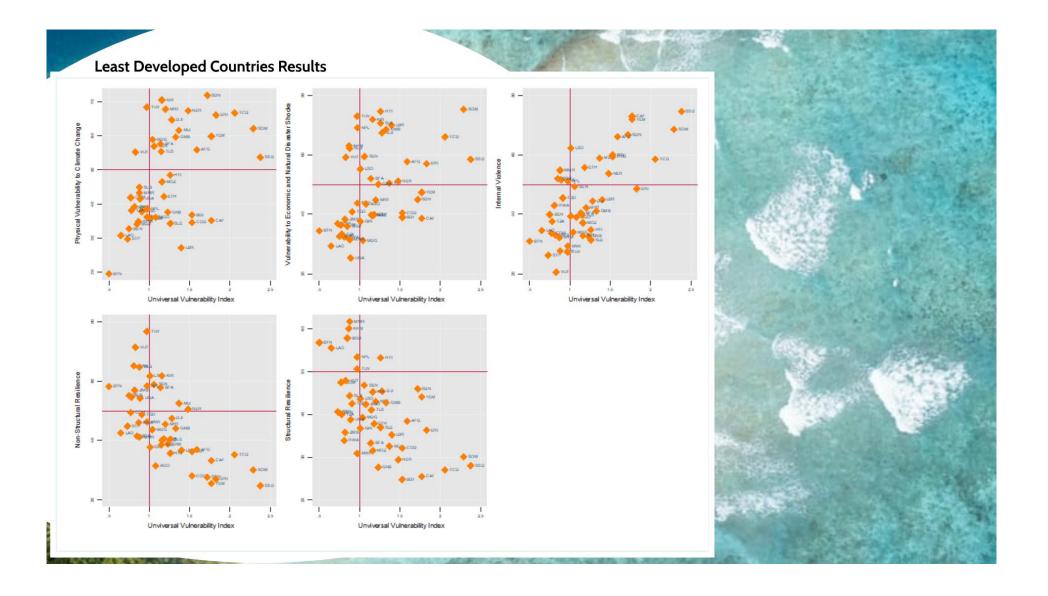
Contributions to GRI

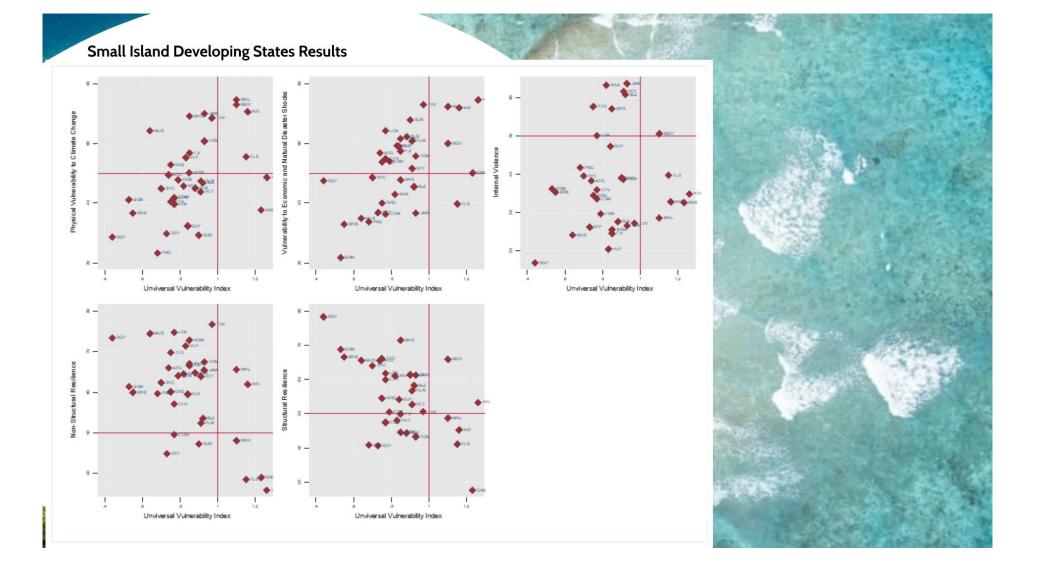
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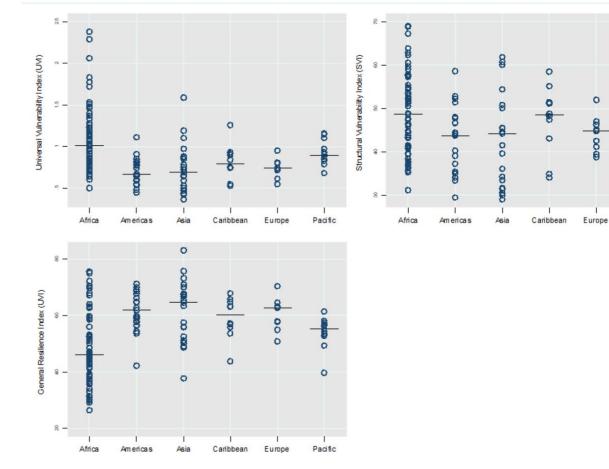








Results by Region



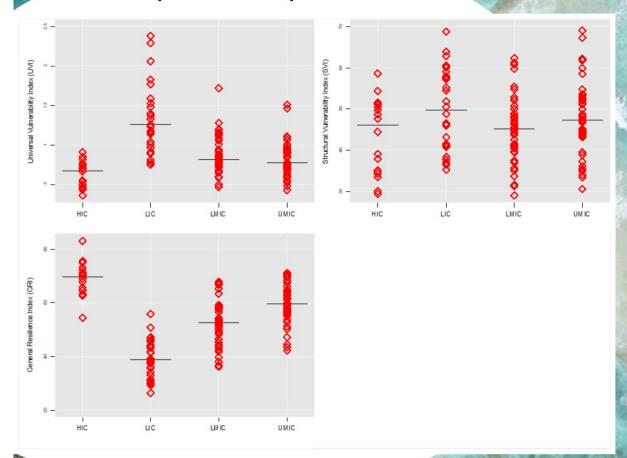
- Vulnerability to climate change and economic and external vulnerability driven by Pacific region
- Social/political vulnerabilities more pronounced in Asia region
- Lowest levels of resilience observed in Africa region (LDCs)



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Pacific

Results by Income Group



- Results reflect highest vulnerabilities across LIC group (LDCs) but also that UMIC more vulnerable than LMIC, affirming income not decisive predictor of vulnerability
- Resilience seems associated with levels of income

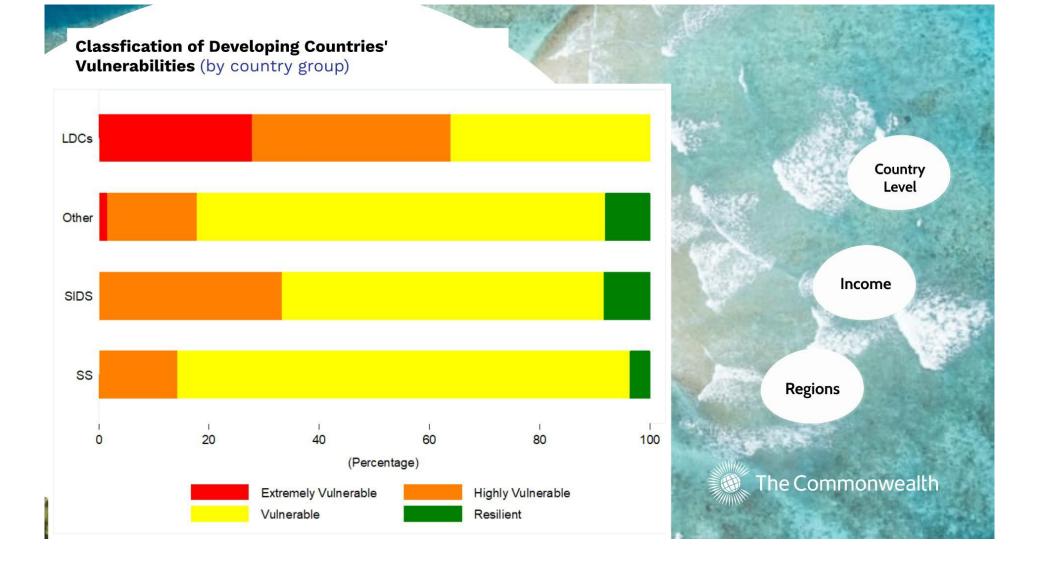
The Commonwealth

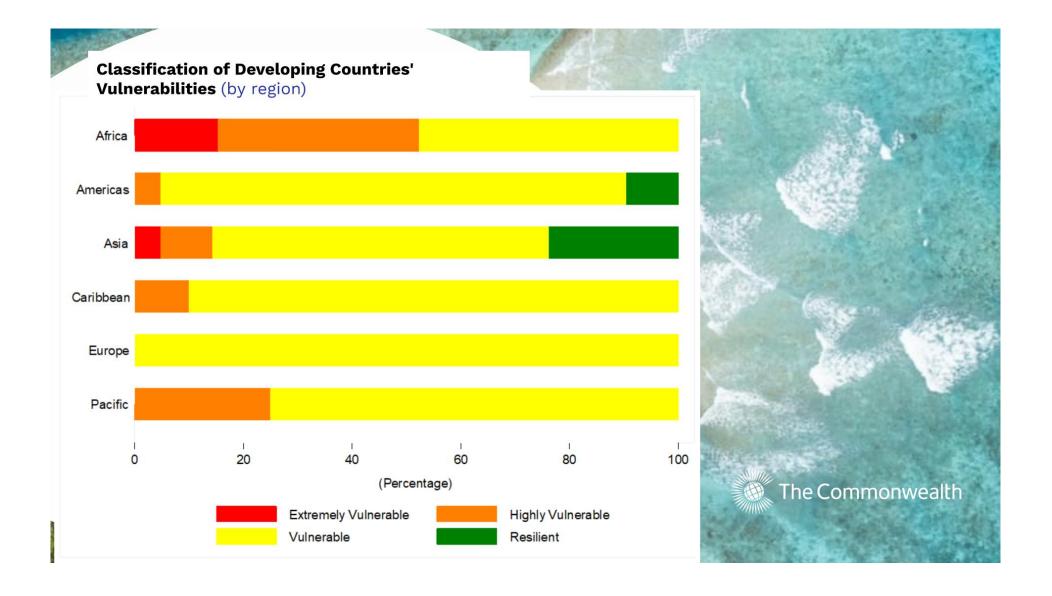
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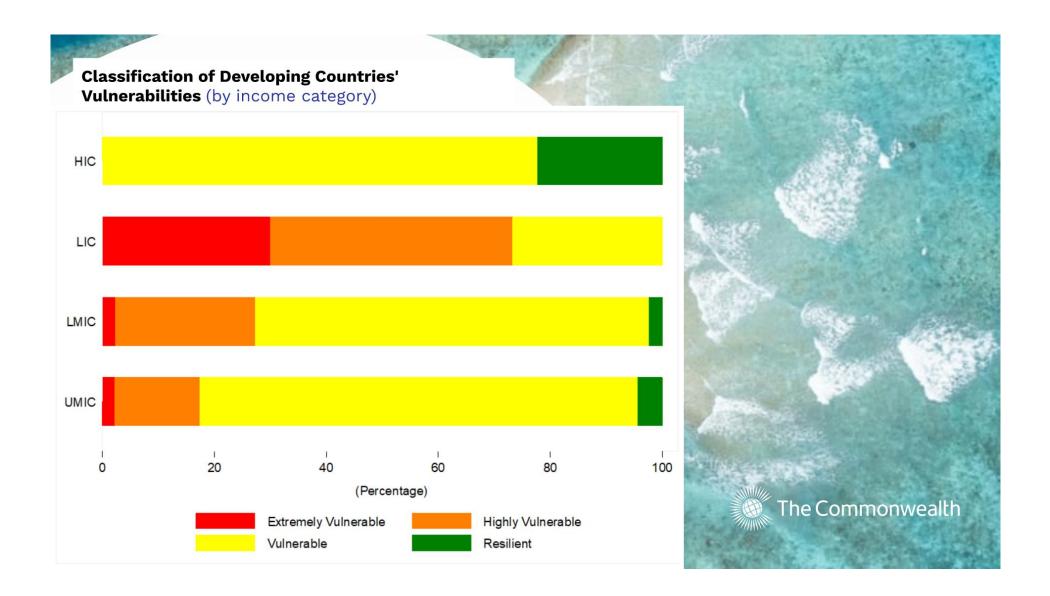
UVI Rankings

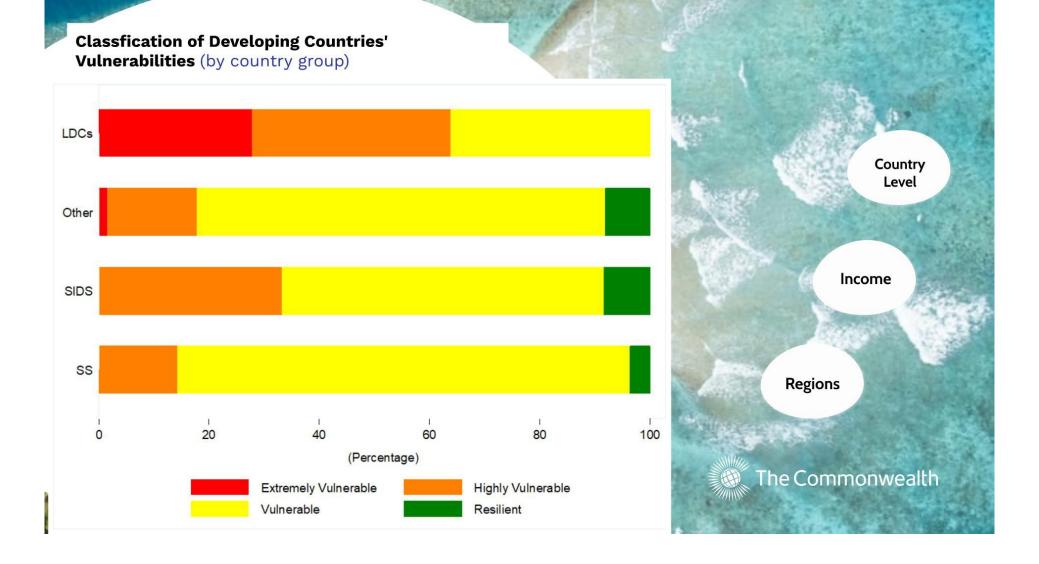


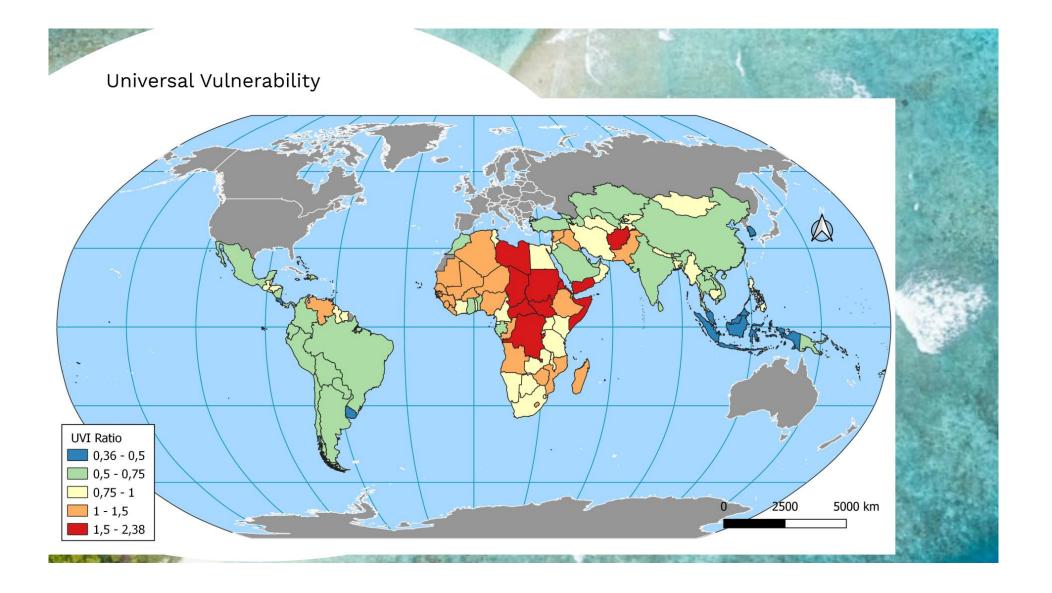
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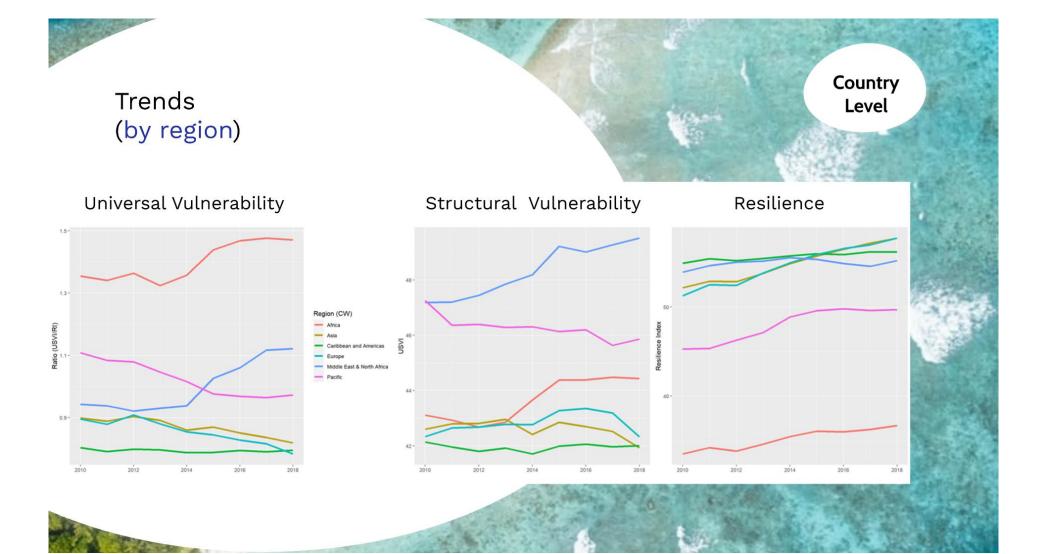






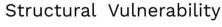




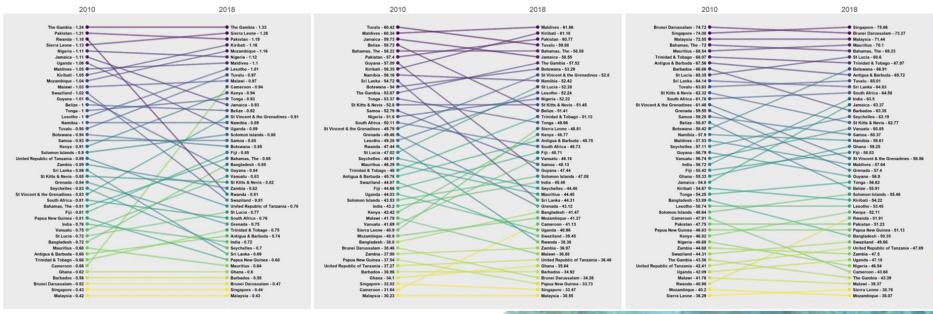


Trends (by country)

Universal Vulnerability



Resilience



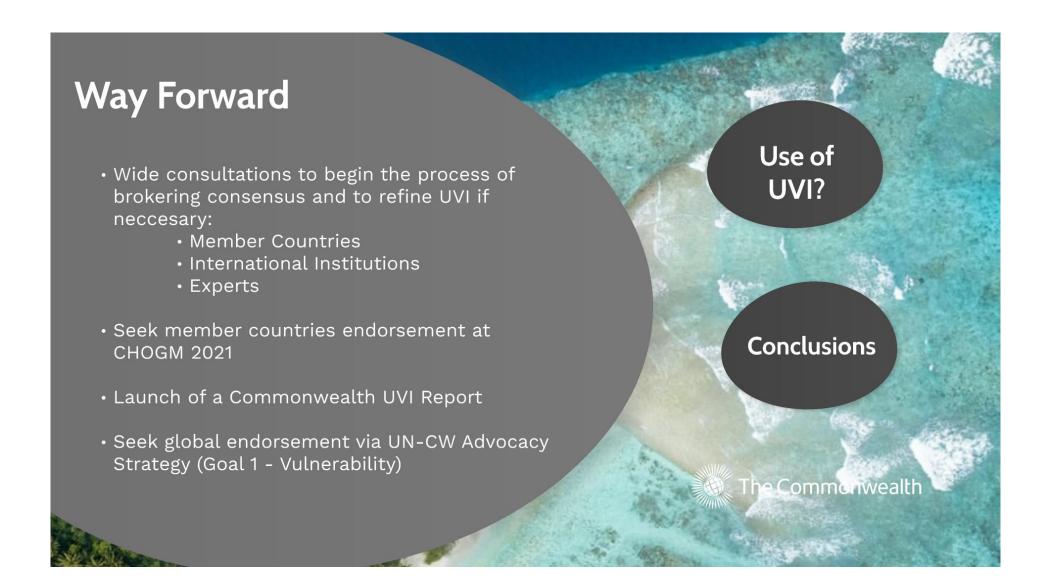
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Correlations of Variables and Indices

Vulnerability to Economic and Natural Disaster Shocks Physical 0.424 Vulnerability to 0.000 Climate Change -0.101Internal 0.111 0.238 Violence 0.196 -0.184-0.101 Structural -0.1650.031 0.238 0.053 Resilience -0.141-0.095-0.3980.540 Non-Structural 0.267 0.100 0.000 0.000 Resilience

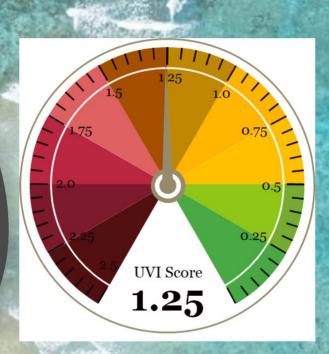
 Correlation matrix confirms absence of redundancies amongst indices and variables The Commonwealth

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Uses of the Universal Vulnerability Index

- Evidence base for small states and other vulnerable countries
- Vehicle for consensus amongst countries and multilateral institutions on the definition and measurement of vulnerability
- Additional instrument/criterion for the allocation of aid and concessional finance to developing countries
- Tool for addressing specific structural issues and for identifying appropriate assistance - for example, technical assistance, loan guarantees, policy advice
- Tool for countries self-assessment of vulnerability and resilience issues and policy measures needed to address these
- Vehicle for Commonwealth advocacy for e.g by way of the UN-CW Small States Advocacy Strategy
- Commonwealth tool for continuous monitoring and reporting on vulnerability
- Instrument to help guide Commonwealth/other multilateral programming
- Signalling device and motivator for countries and multilaterals helping to shift countries away from the vulnerability to resilience spectrum (or towards UVI scores of 0.5 or below.)



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