WEF NEXUS Index

A tool to explore nexus interactions

European Commission

COIN

Competence Centre on Composite Indicators and Scoreboards

https://wef-tools.un-ihe.org/home

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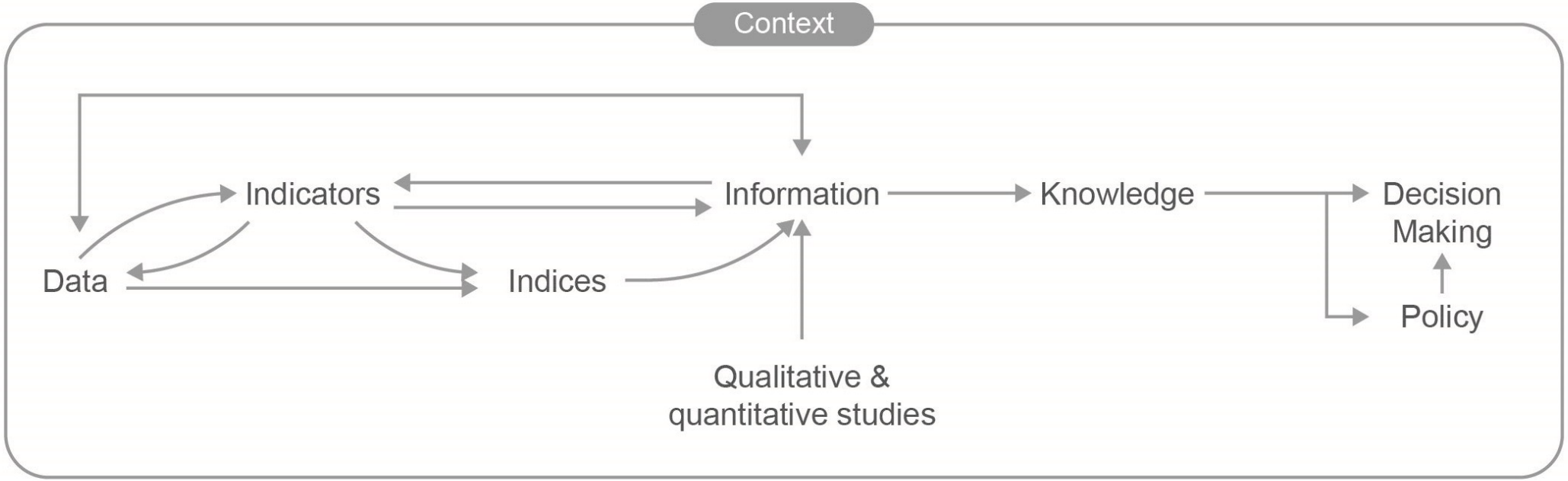
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Simpson, Jewitt, Becker, Badenhorst and Neves (2020).
https://doi.org/10.31219/osf.io/tdhw5

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What is an indicator?

"… an indicator is a **quantitative or a qualitative measure derived from a series of observed facts that can reveal relative positions** (e.g. of a country) in a given area.

When evaluated at regular intervals, an indicator can point out the direction of change across different units and through time."

(OECD/JRC (2008). *Handbook on Constructing Composite Indicators*)

Indicator databases







THE WORLD BANK
IBRD • IDA | WORLD BANK GROUP

















UN Environment-DHI Centre
on Water and Environment









World Health
Organization





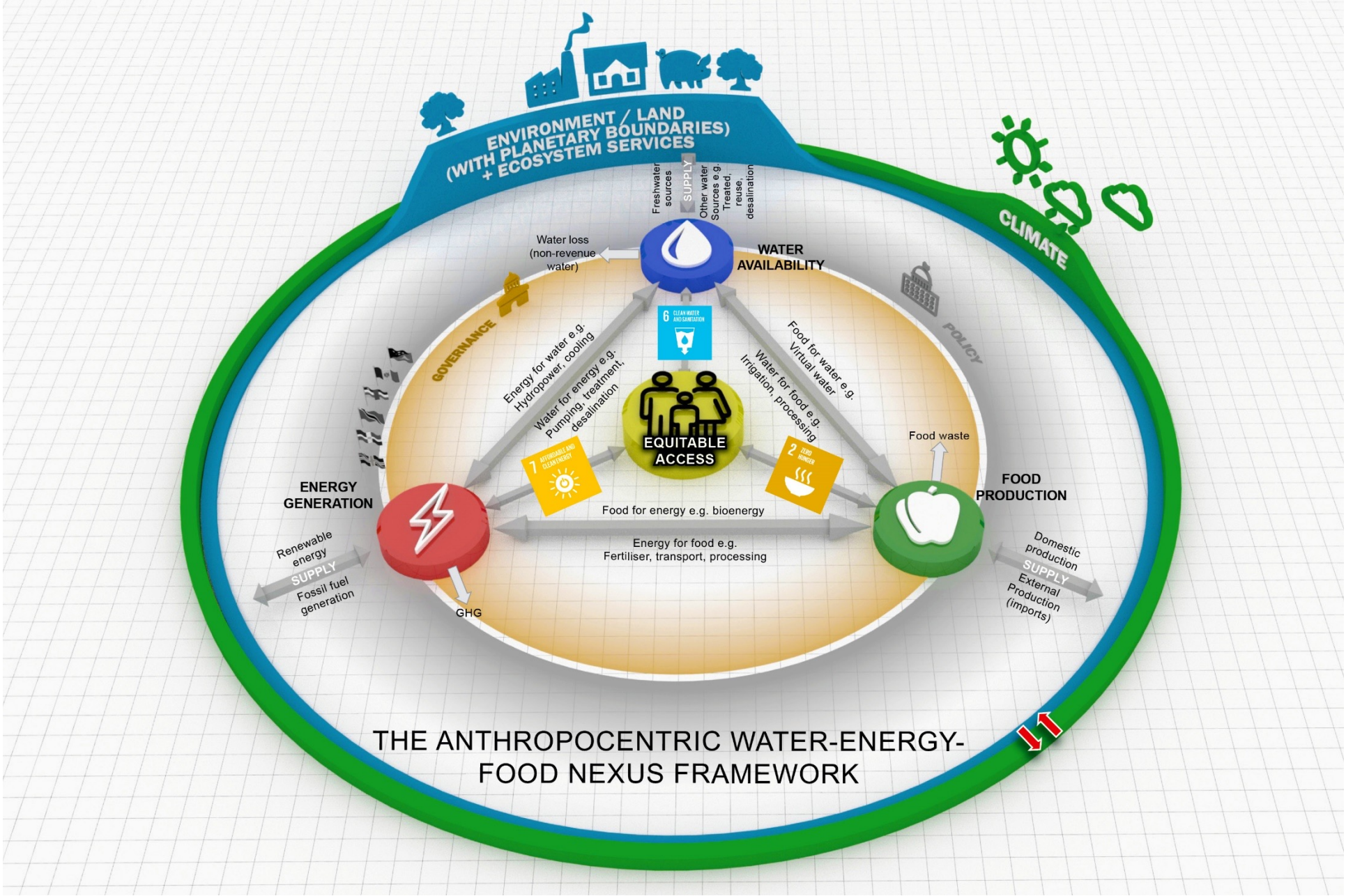








Video



Simpson, Jewitt, Becker, Badenhorst and Neves (2020).
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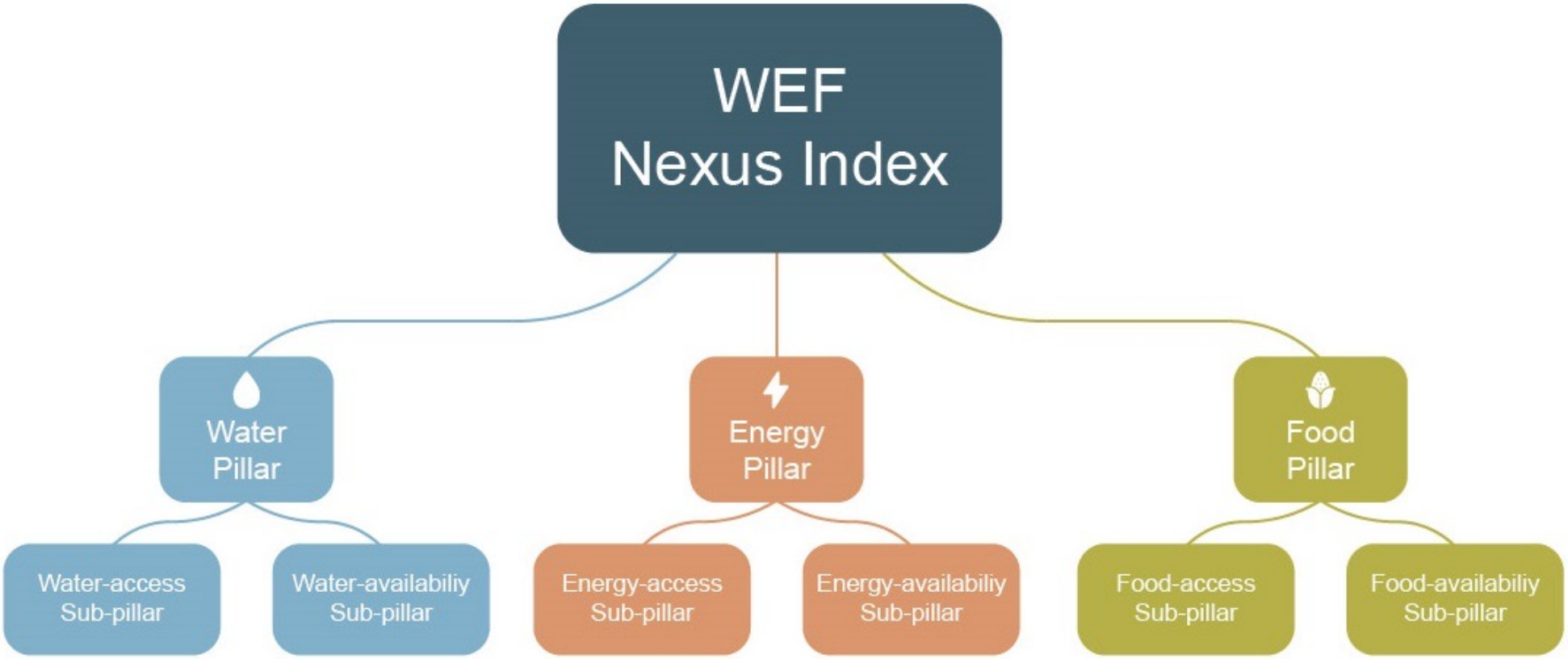
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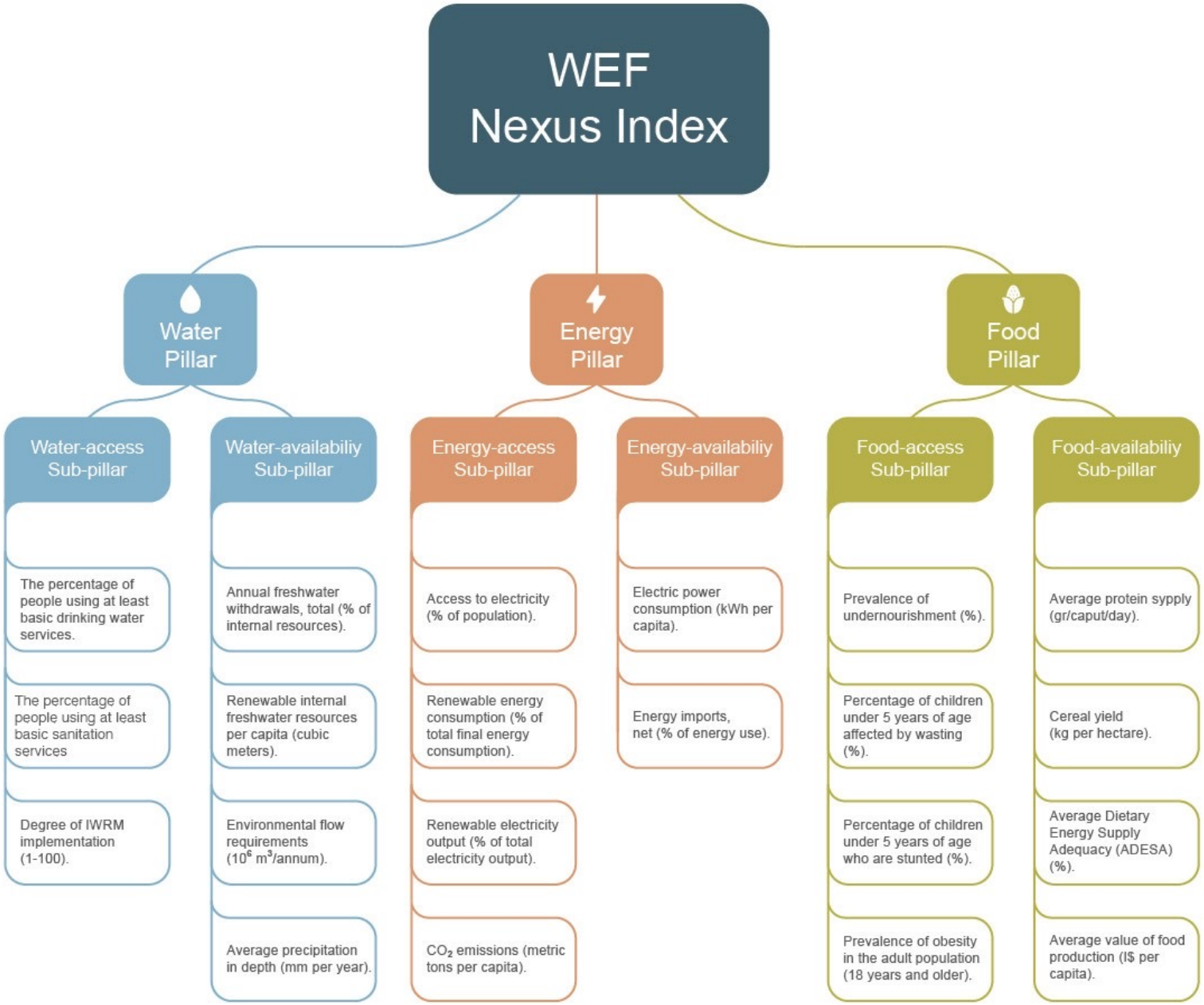
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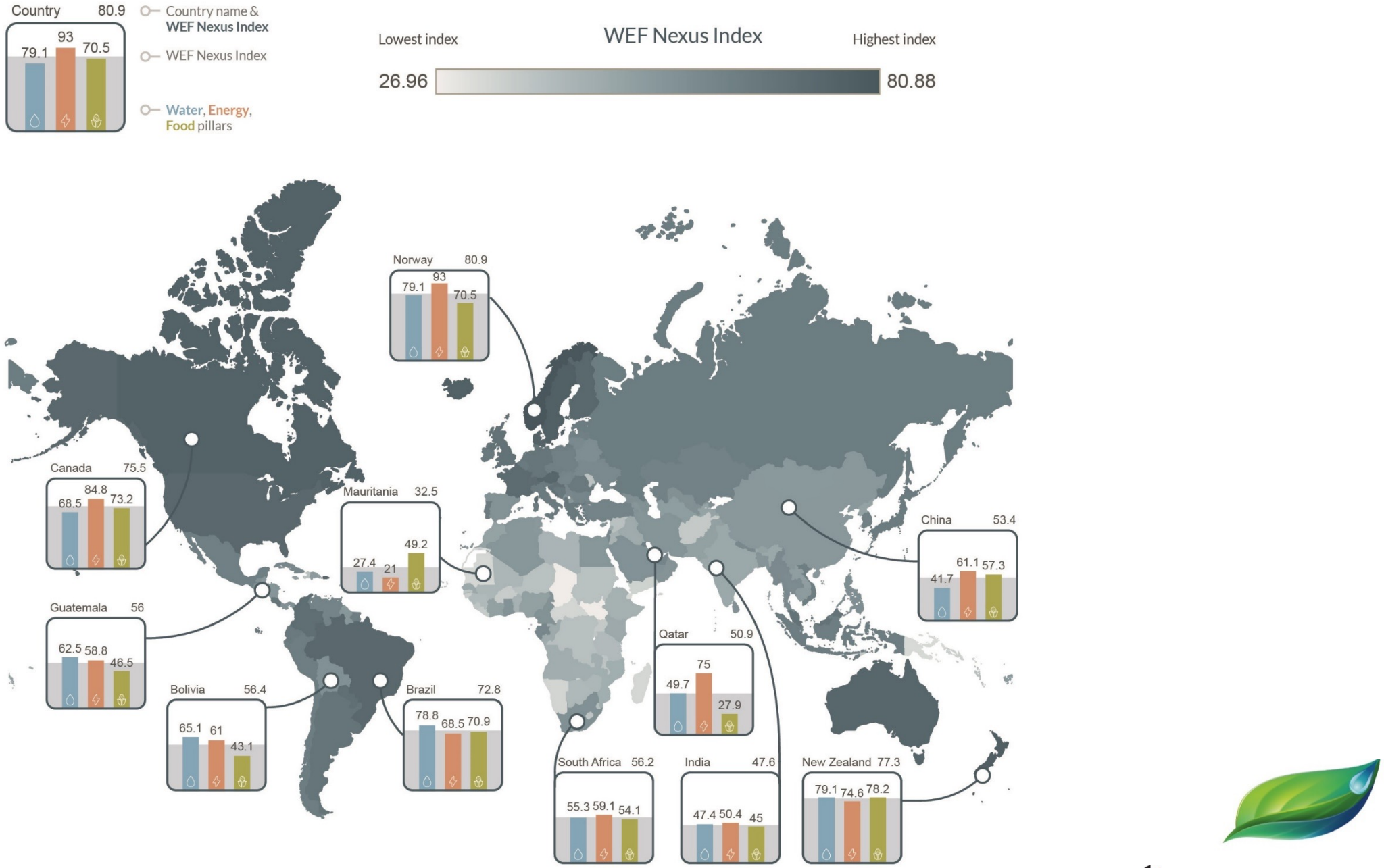
Simpson, Jewitt, Becker, Badenhorst and Neves (2020).



Simpson, Jewitt, Becker, Badenhorst and Neves (2020).

Indicator	Indicator weight in the index	Sub-pillar	Sub-pillar weight in the index	Pillar	Pillar wieght in the index
1	0.056	Water-access	$\frac{1}{6}$	Water	$\frac{1}{3}$
2	0.056				
3	0.056				
4	0.042	Water-availability	$\frac{1}{6}$		
5	0.042				
6	0.042				
7	0.042				
8	0.083	Energy-access	$\frac{1}{6}$	Energy	$\frac{1}{3}$
9	0.028				
10	0.028				
11	0.028				
12	0.083	Energy-availability	$\frac{1}{6}$		
13	0.083				
14	0.056	Food-access	$\frac{1}{6}$	Food	$\frac{1}{3}$
15	0.028				
16	0.028				
17	0.056				
18	0.042	Food-availability	$\frac{1}{6}$		
19	0.042				
20	0.042				
21	0.042				

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South Africa in 2023

The Water-Energy-Food (WEF) Nexus Index is a composite indicator that aggregates 21 globally available indicators. The WEF Nexus Index value for South Africa is **56.8**, placing the nation in the **89th** position for the countries assessed. South Africa has a value of **59.3** for the Water pillar, **58.1** for the Energy pillar and **52.9** for the Food pillar.

Print page

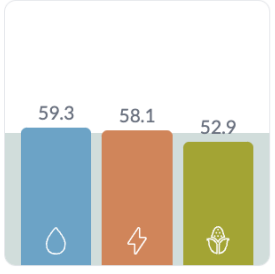
WEF Nexus Index

56.8

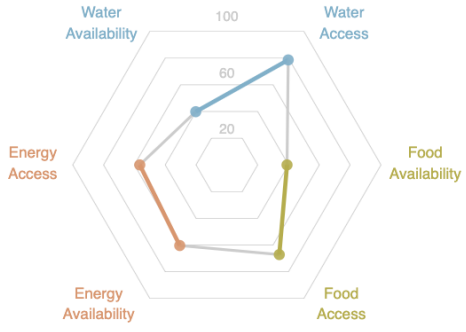
89th world rank in 2023

vs 81st in 2022

The Index includes three pillars



Each pillar includes two sub-pillars



Water pillar

59.3

76th world rank in 2023

vs 70th in 2022

Access & Availability

Energy pillar

58.1

57th world rank in 2023

vs 59th in 2022

Access & Availability

Food pillar

52.9

104th world rank in 2023

vs 106th in 2022

Access & Availability

Simpson, Jewitt, Becker, Badenhorst and Neves (2020).
https://doi.org/10.31219/osf.id/tdhw5

Centre for Water Resources Research

Indicator values

Each sub-pillar is composed of relevant indicators

Access

01	The percentage of people using at least basic drinking water services (%).	93.9
02	The percentage of people using at least basic sanitation services (%).	-
03	Degree of IWRM implementation (1-100).	71

Availability

04	Annual freshwater withdrawals, total (% of internal resources)	45.3
05	Renewable internal freshwater resources per capita (m^3).	761.9
06	Environmental flow requirements (10^6 m^3/annum).	20.1
07	Average precipitation in depth (mm/annum).	495

Indicator values

Each sub-pillar is composed of relevant indicators

Access

08	Access to electricity (% of population).	89.3
09	Renewable energy consumption (% of total final energy consumption).	9.8
10	Renewable electricity output (% of total electricity output).	2.3
11	CO_2 emissions (metric tons per capita).	6.7

Availability

12	Electric power consumption (kWh/capita).	4,183.8
13	Energy imports, net (% of energy use).	0

Indicator values

Each sub-pillar is composed of relevant indicators

Access

14	Prevalence of undernourishment (%).	6.9
15	Percentage of children under 5 years of age affected by wasting (%).	3.8
16	Percentage of children under 5 years of age who are stunted (%).	22.8
17	Prevalence of obesity in the adult population (18 years and older).	28.3

Availability

18	Average protein supply (grams/capita/day).	79.7
19	Cereal yield (kg/hectare).	5,124.7
20	Average Dietary Energy Supply Adequacy (ADESA) (%).	117
21	Average value of food production (I$/capita).	71

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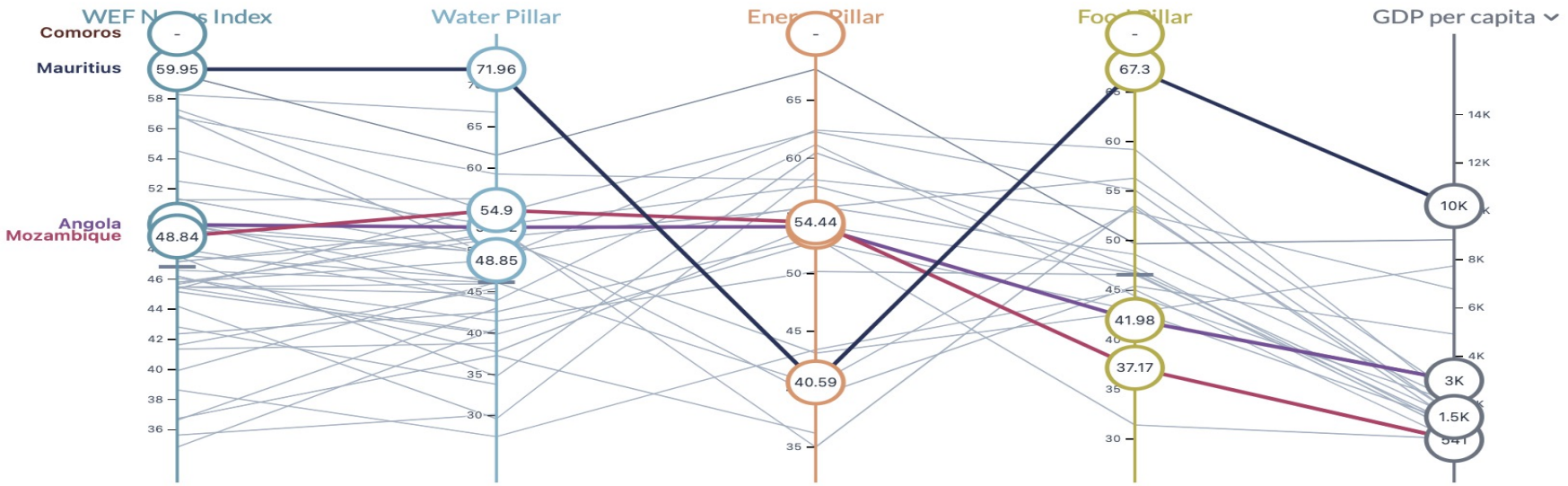
How do countries compare?

The WEF Nexus Index, pillars, Gross Domestic Product and Human Development Index are plotted per country relative to one another.

Filter countries for: Sub-Saharan Africa

Highlight the countries to compare: Angola × Mozambique × Mauritius × Comoros × Select up to 4 countries...

Year: 2023



	WEF Nexus Index ↓	Water Pillar	Energy Pillar	Food Pillar	GDP per capita
Mauritius	60.0	72.0	40.6	67.3	10K
Gabon	59.6	61.6	67.7	49.7	8.8K
São Tomé and P.	58.3	66.8	-	49.8	2.4K
Cameroon	57.3	54.4	62.3	55.1	1.6K
Ghana	56.9	49.1	62.4	59.2	2.2K
South Africa	56.8	59.3	58.1	52.9	6.8K
Côte d'Ivoire	54.5	51.6	55.7	56.3	2.5K

Mauritius in 2023

Print page

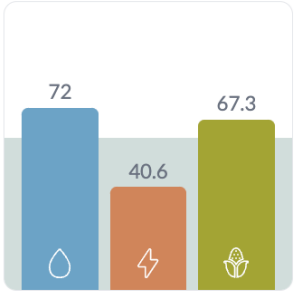
WEF Nexus Index

60

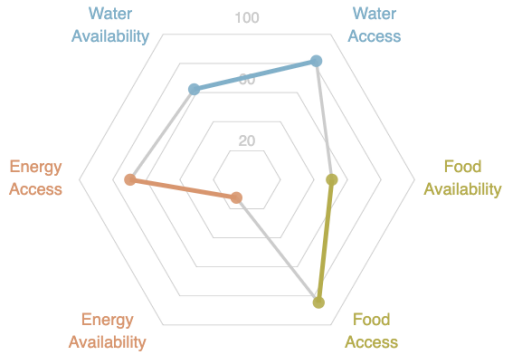
64th world rank in 2023

vs 69th in 2022

The Index includes three pillars



Each pillar includes two sub-pillars



Water pillar

72

22nd world rank in 2023

vs 18th in 2022

Access & Availability

Energy pillar

40.6

124th world rank in 2023

vs 122nd in 2022

Access & Availability

Food pillar

67.3

37th world rank in 2023

vs 49th in 2022

Access & Availability

How to use the index?

- Can the index be used to focus NAPs and NDCs?
- Can the index be used for long term monitoring of the effect the NAPs and NDCs?