Measuring Ecological Risks for Peace

Positive Peace and The Ecological Threat Register.

NPF – African Regional Dialogue

Trust Mamombe,
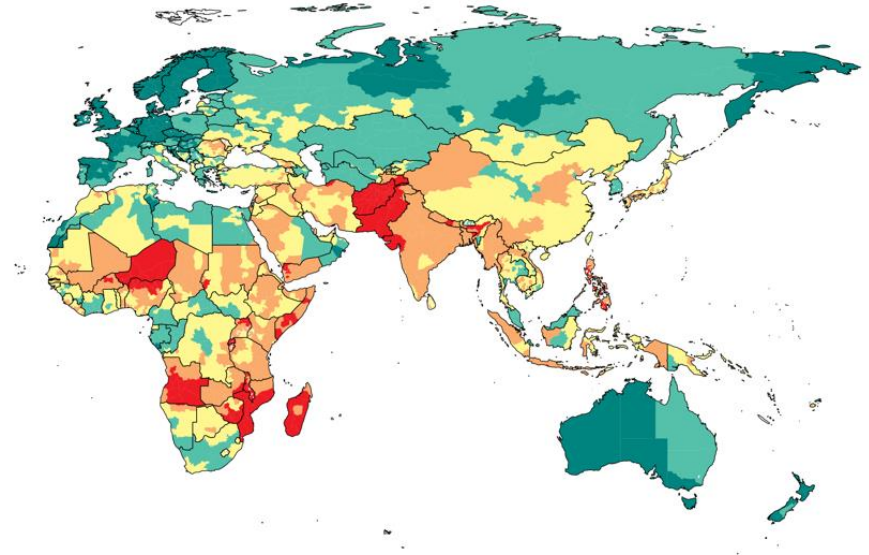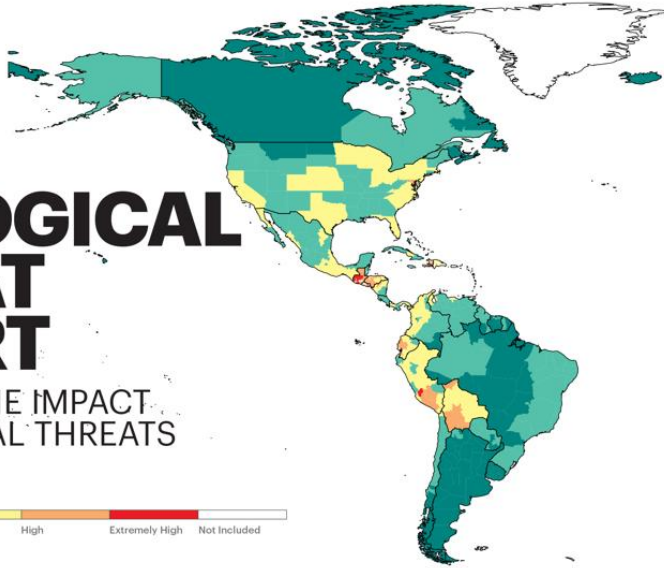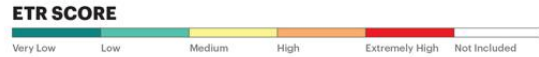Director,
IEP Africa Regional Office,

IEP

IEP

The Institute for Economics and Peace is an independent, not-for-profit think tank dedicated to building a **greater understanding** of the **key drivers** of peace, as well as identifying the **economic benefits** that increased peacefulness can deliver.

2021 ECOLOGICAL THREAT REPORT

MEASURING THE IMPACT OF ECOLOGICAL THREATS

ETR SCORE

| Very Low | Low | Medium | High | Extremely High | Not Included |

IEP

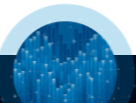# The Ecological Threat Report

Now in its
2nd
year

Ranks
178
Countries and Independent States

99.9%
of world's population covered

Using
7
Indicators on a 1-5 scale

Developed by the Institute for Economics and Peace

Combines ecological threats and societal resilience to forecast major falls in peace

ECOLOGICAL THREAT REPORT 2021
UNDERSTANDING ECOLOGICAL THREATS, RESILIENCE AND PEACE

IEP

The Ecological Threat Report Indicators

IEP

3 measures of resource scarcity

Including: rapid population growth, water risk, food risk

2 measures of natural disasters and temperature rise

Including: weighted frequency natural disasters and temperature anomalies,

2 measures of ecological threat

The ETR score The Catastrophic Score

Major Findings

> **Ecological damage and conflict work as a vicious cycle**

- ➤ Ecological damage is a major driver of conflict and its getting worse.

- ➤ Conflict and resource degradation and strongly connected – 11 of the 15 countries with the worst ETI scores are in conflict.

- ➤ Key drivers of future conflict are deteriorating – malnutrition, food insecurity and population growth in the most stressed counties are all rising.

- ➤ 28 of 30 countries with worst ETR scores are in the bottom half of the GPI.

- ➤ Sub-Saharan Africa has the most countries at risk.

- ➤ 30 countries with lowest resilience and worst ETR scores are home to 1.26 Billion people – hotspot countries.

ECOLOGICAL THREAT REPORT 2021
UNDERSTANDING ECOLOGICAL THREATS, RESILIENCE AND PEACE

IEP

Major Findings

> **Reversing the systemic cycles requires new thinking**

 - The problems are systemic – Therefore the solutions need to be implemented systemically.

 - Multi-lateral organisations are currently in siloes – better if they were integrated around areas of interest.

 - Currently refugees, food, security, family planning, business development, health are separated – recommend integration around an areas of interest.

 - Projects implemented at the community level, provide better buy-in, more efficient and more targeted - scaling up.

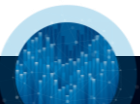 - Business development at the meso level is missing - $5,000 - $50,000 investments.

> **Most surprising result**

 - Males 5-19 have three times malnutrition rates in Africa compared to females.

The ETR and societal resilience

> **The 30 countries with the lowest resilience and highest ETR score are home to 1.26 billion people**

  ➢ 18 of the 20 countries with the highest ETR score are among the world's least peaceful countries.

  ➢ Positive Peace is used to measure resilience.

  ➢ Statistically associated with better food security, water security, population growth and the ability to manage natural disasters.

  ➢ No country with high Positive Peace has very poor ETR scores.

  ➢ As Positive Peace improves the management of water, food and population improve creating resilience.

ECOLOGICAL THREAT REPORT 2021

UNDERSTANDING ECOLOGICAL THREATS, RESILIENCE AND PEACE

IEP

Food Security – Key Findings

IEP

> **The number and percentage of food-insecure people globally has risen every year since 2014.**

- By 2050, the number of food insecure is expected to increase by 43 per cent to 3.4 billion people, up from 2.4 billion.

- By 2050, the global demand for food will increase by 50 per cent from current levels.

- Two-thirds of people in sub-Saharan Africa currently face food insecurity.

- By 2050, 4.8 billion people will reside in the 40 least peaceful countries, a increase of 1.3 billion or 27%.

- The ten countries with the highest Resource Scarcity score are all projected to increase their population by over 55 per cent.

Hotspot countries, 2021

18 of the 30 hotspot countries are in sub-Saharan Africa

IEP

Country	Catastrophic score	Greatest Threat	PPI Rank	GPI Rank
Afghanistan	5	Food Risk	151	163
Angola	5	Food Risk	145	80
Bangladesh	5	Natural Disaster risk	139	91
Burundi	5	Food Risk	147	129
Cameroon	5	Food Risk	142	145
Central African Republic	5	Food Risk	159	155
Chad	5	Food Risk	158	132
Democratic Republic of the Congo	5	Food Risk	156	157
Equatorial Guinea	5	Water Risk	155	62
Eritrea	5	Food Risk	160	136
Ethiopia	5	Food Risk	134	139
Guinea	5	Food Risk	143	92
Guinea-Bissau	5	Water Risk	152	99
Haiti	5	Natural Disaster risk	149	108
Iraq	5	Temperature Rise Risk	144	159

Country	Catastrophic score	Greatest Threat	PPI Rank	GPI Rank
Mauritania	5	Water Risk	141	118
Niger	5	Population Risk	137	137
Nigeria	5	Water Risk	146	146
North Korea	5	Natural Disaster risk	138	151
Pakistan	5	Natural Disaster risk	148	150
Republic of Congo	3	Water Risk	150	119
Somalia	5	Natural Disaster risk	163	158
South Sudan	5	Food Risk	161	160
Sudan	5	Food Risk	154	153
Syria	5	Water Risk	157	161
Tajikistan	5	Water Risk	140	97
Turkmenistan	5	Temperature Rise Risk	135	109
Venezuela	3	Water Risk	136	152
Yemen	5	Food Risk	162	162
Zimbabwe	5	Natural Disaster risk	153	133

The eleven countries predicted to double their population by 2050

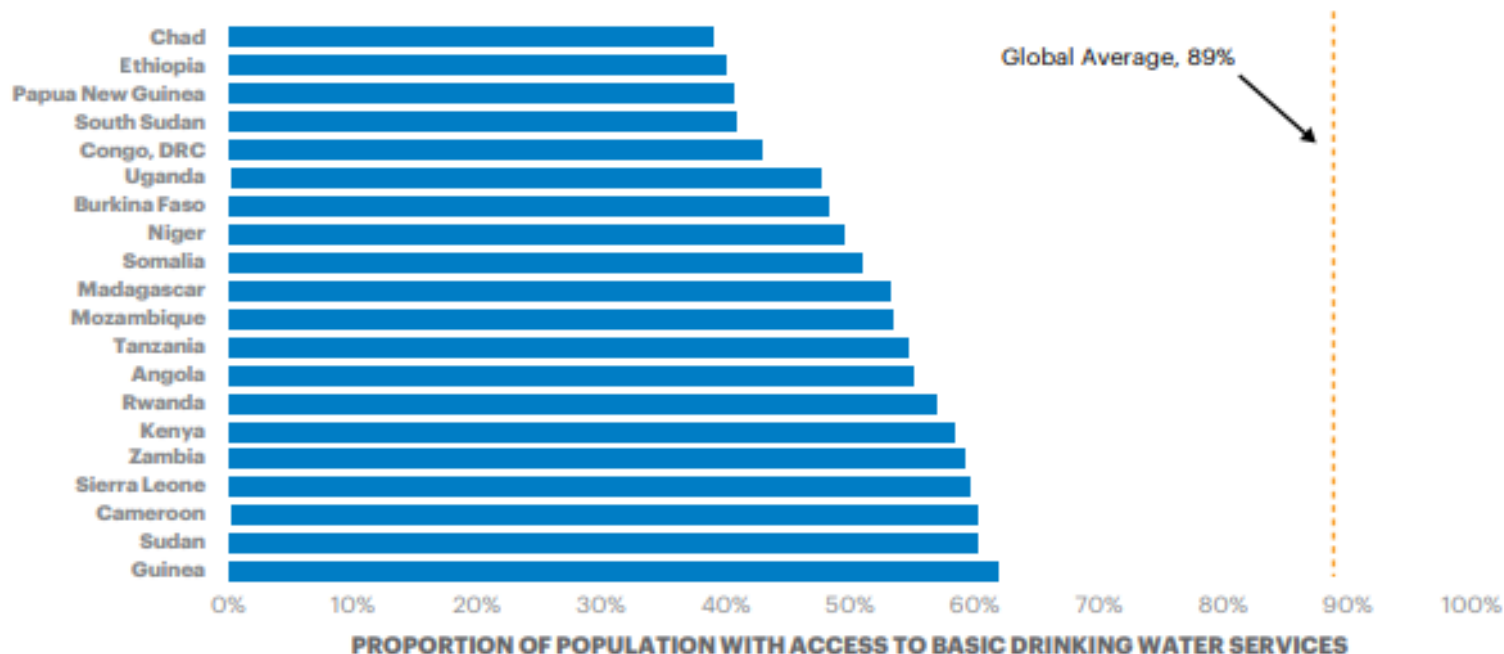All eleven countries predicted to double their population by 2050 are located in sub-Saharan Africa.

IEP

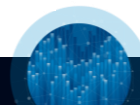| Country	2021 Population (millions)	2050 Population (millions)	Percentage Increase
Niger	25.1	65.6	161.0%
Angola	33.9	77.4	128.2%
Somalia	16.4	34.9	113.5%
Democratic Republic of the Congo	92.4	194.5	110.5%
Tanzania	61.5	129.4	110.4%
Mali	20.9	43.6	109.0%
Zambia	18.9	39.1	106.8%
Burundi	12.3	25.3	106.6%
Mozambique	32.2	65.3	103.1%
Burkina Faso	21.5	43.4	102.0%
Chad	16.9	34.0	101.2%

Source: UN, IEP

Countries with the least access to basic drinking water services, 2017

IEP

Nineteen of the 20 countries with the least access to basic drinking water are located in SSA.

Global Average, 89%

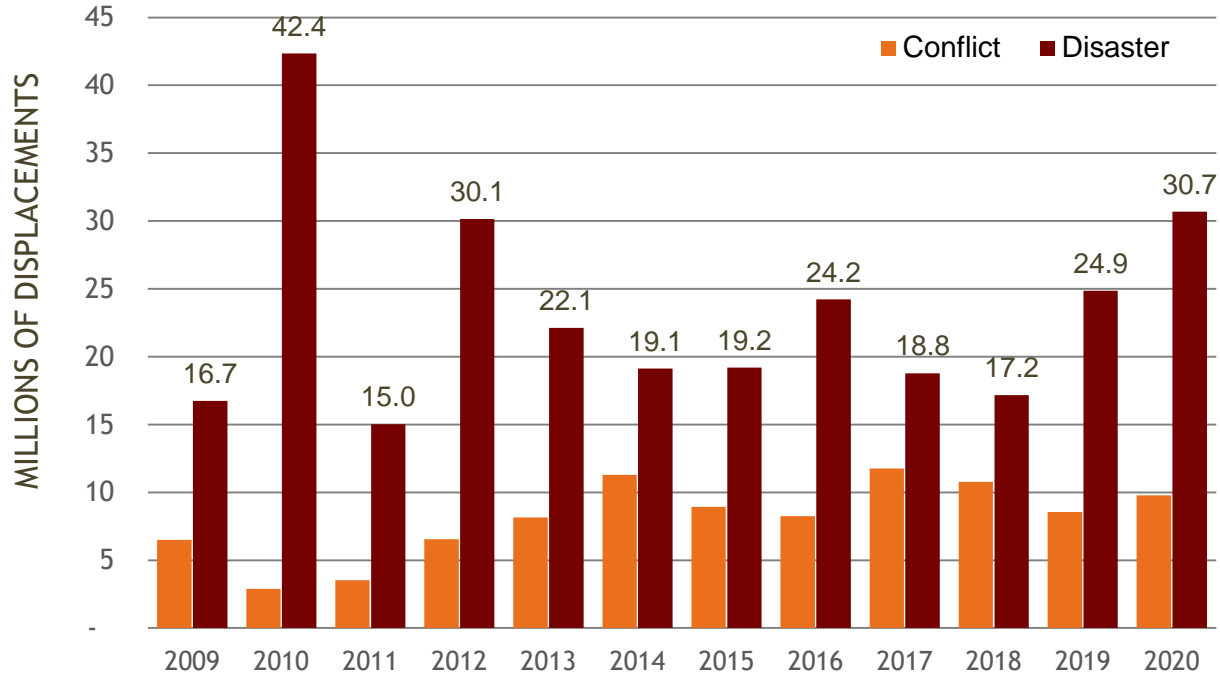PROPORTION OF POPULATION WITH ACCESS TO BASIC DRINKING WATER SERVICES

Source: WHO/UNICEF, IEP

New annual displacements due to conflict and natural disasters, 2008-2020

New disaster displacements reached 30.7 million in 2020, while armed conflict accounted for 9.8 million displacements.
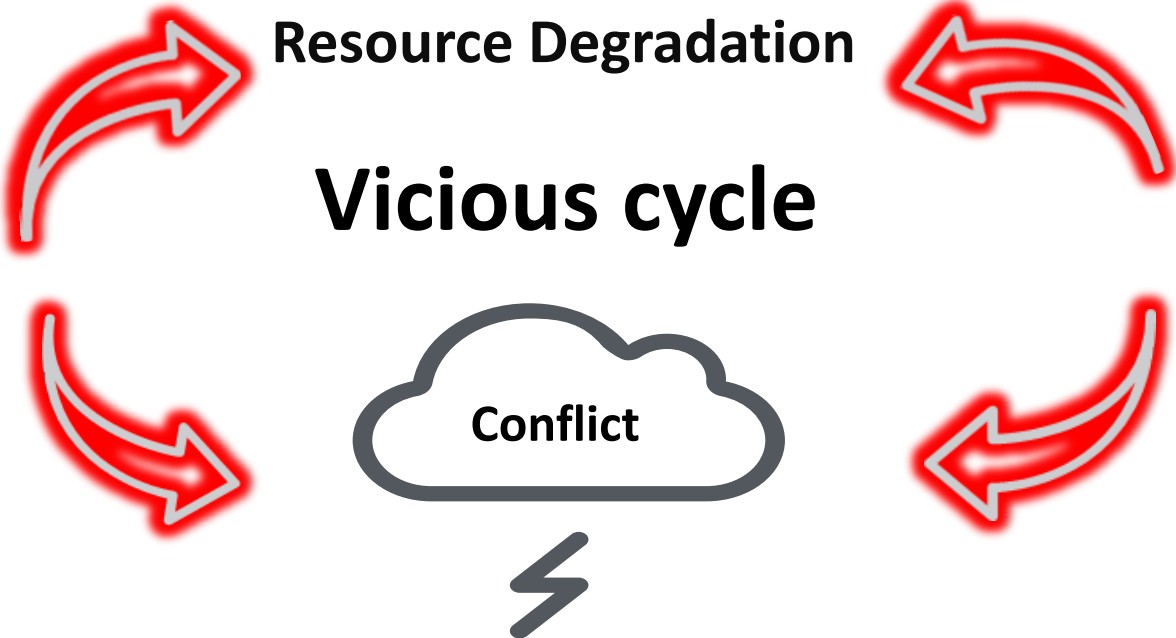

Source: IDMC

Resilience at Risk

Reoccurring, compounding, or high impact threats have the potential to disrupt or break down a country's level of resilience.

Ecological Threats

Ecological shock deterioates resilience

Lower resilience to adapt or prevent future threats

ECOLOGICAL THREAT REPORT 2021

UNDERSTANDING ECOLOGICAL THREATS, RESILIENCE AND PEACE

IEP

Resource Degradation

Vicious cycle

Conflict

POSITIVE PEACE 2020

Analysing the factors that sustain peace

What is Positive Peace?

Positive Peace

Positive Peace creates the optimum environment for human potential to flourish.

High levels of Positive Peace are associated with:

> Higher per capita income

> Resilience

> Better environmental outcomes

> Higher measure of wellbeing

> Better performance on SDGs

Regional Overview

Rank	Country	2019	2018	Change	Change (%)	Rank Change
1	Mauritius	2.16	2.17	-0.01	-0.60	↔
2	Botswana	2.55	2.58	-0.03	-1.16	↔
3	Namibia	2.85	2.84	0.01	0.46	↔
4	Ghana	3.02	3.03	-0.01	-0.43	↔
5	South Africa	3.06	3.05	0.01	0.29	↔
6	Senegal	3.09	3.12	-0.02	-0.80	↔
7	Lesotho	3.25	3.25	0.00	0.06	↔
8	Rwanda	3.27	3.26	0.00	0.09	↔
9	Benin	3.29	3.31	-0.02	-0.76	↑2
10	The Gambia	3.32	3.35	-0.04	-1.07	↑3
11	Swaziland	3.32	3.29	0.03	0.88	↓2
12	Tanzania	3.34	3.34	0.00	0.03	↔
13	Gabon	3.38	3.30	0.08	2.30	↓3
14	Kenya	3.46	3.51	-0.04	-1.28	↑2
15	Burkina Faso	3.48	3.47	0.01	0.23	↓1
16	Djibouti	3.48	3.50	-0.01	-0.34	↓1
17	Cote d'Ivoire	3.53	3.52	0.00	0.09	↔
18	Uganda	3.53	3.54	-0.01	-0.28	↑2
19	Malawi	3.53	3.53	0.00	0.11	↓1
20	Zambia	3.54	3.53	0.01	0.37	↓1
21	Togo	3.60	3.57	0.03	0.87	↔
22	Mozambique	3.60	3.57	0.03	0.81	↔
23	Mali	3.65	3.71	-0.06	-1.59	↑3
24	Sierra Leone	3.65	3.64	0.01	0.27	↓1
25	Madagascar	3.65	3.67	-0.02	-0.46	↓1
26	Liberia	3.67	3.69	-0.02	-0.52	↓1
27	Ethiopia	3.67	3.71	-0.04	-1.00	↔
28	Niger	3.77	3.78	-0.01	-0.37	↔
29	Mauritania	3.84	3.86	-0.02	-0.60	↑2
30	Cameroon	3.86	3.81	0.05	1.18	↓1
31	Guinea	3.86	3.86	0.01	0.16	↓1
32	Angola	3.88	3.90	-0.02	-0.51	↑2
33	Nigeria	3.88	3.87	0.02	0.41	↓1
34	Burundi	3.89	3.90	-0.01	-0.28	↓1
35	Republic of the Congo	3.93	3.91	0.02	0.38	↔
36	Guinea-Bissau	3.96	3.98	-0.02	-0.45	↔
37	Zimbabwe	3.98	3.98	0.00	-0.05	↔
38	Equatorial Guinea	4.05	4.07	-0.02	-0.54	↔
39	Democratic Republic of the	4.16	4.20	-0.04	-1.02	↔
40	Chad	4.25	4.23	0.02	0.52	↑1
41	Central African Republic	4.29	4.21	0.08	1.85	↓1
42	Eritrea	4.29	4.25	0.03	0.78	↔
43	South Sudan	4.47	4.48	-0.02	-0.38	↔
44	Somalia	4.64	4.67	-0.03	-0.62	↔

What is a system?
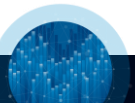
No generally agreed definition

An approach:
- Has more internal controls than external controls
- Can be defined by its boundaries
- Operates with a high degree of complexity

A nation is a system, so is a judicial system

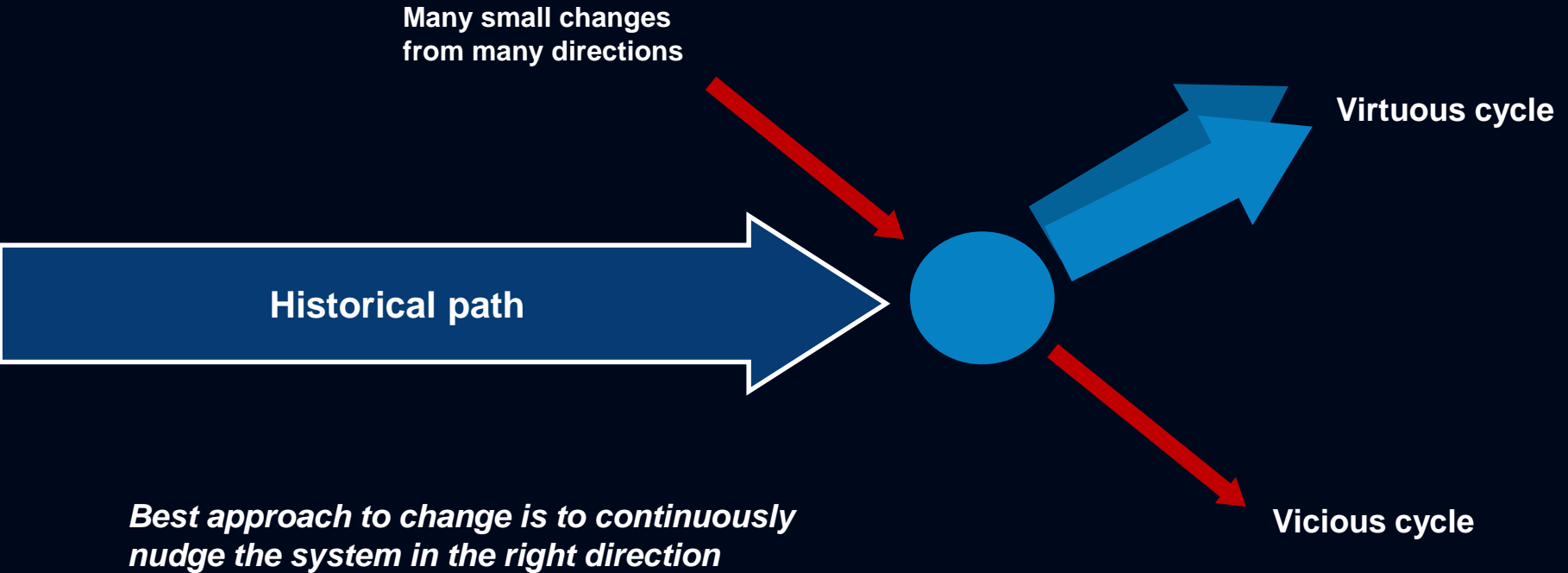Is a soccer team or loose social network a system?
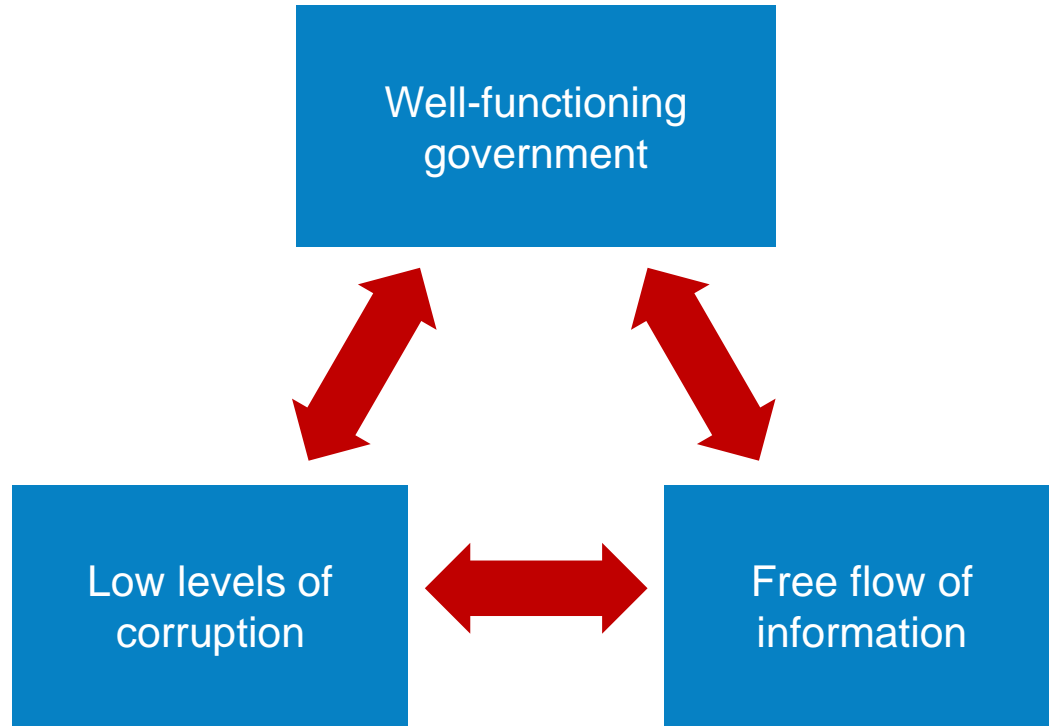
What is systems thinking?

- Government and most organisations think in cause and effect

- Modern science is based on cause and effect

- The sum of the parts is more than the whole – therefore cannot be broken down into its parts to fully understand

- Systems thinking is a radial transformation in understanding how societies operate

Systems are path dependent

IEP

Many small changes from many directions

Virtuous cycle

Historical path

Vicious cycle

Best approach to change is to continuously nudge the system in the right direction

Pillars are interlinked

Elements mutually interact making causality difficult to imply