

“One Earth For All”

A Plea for Sustainability



the national
SUSTAINABILITY
SUMMIT

2023 National Sustainability Summit

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One Earth For All – A Plea For Sustainability

What is Sustainability?


*Sustainability involves raising our quality of life and improving our well-being by establishing **sybiotic and harmonious relations** within and between the **diversity of our human cultures and between those cultures and the biosphere**, while not breaching “**planetary boundaries**”*

Let's Explore These Concepts

✓ **Quality of life** is defined by the World Health Organisation as "individuals' perceptions of their position in life in the context of the **culture** and **value systems** in which they live and in relation to their **goals, expectations, standards** and **concerns**".

✓ There is no agreed definition of **well-being**, but at minimum, it should include the presence of positive emotions (e.g., contentment, happiness), the absence of negative emotions (e.g., depression, anxiety), satisfaction with life, fulfilment and positive functioning; and now we know that living in an unspoiled **environment**, and **access to nature** are important contributors to well-being.

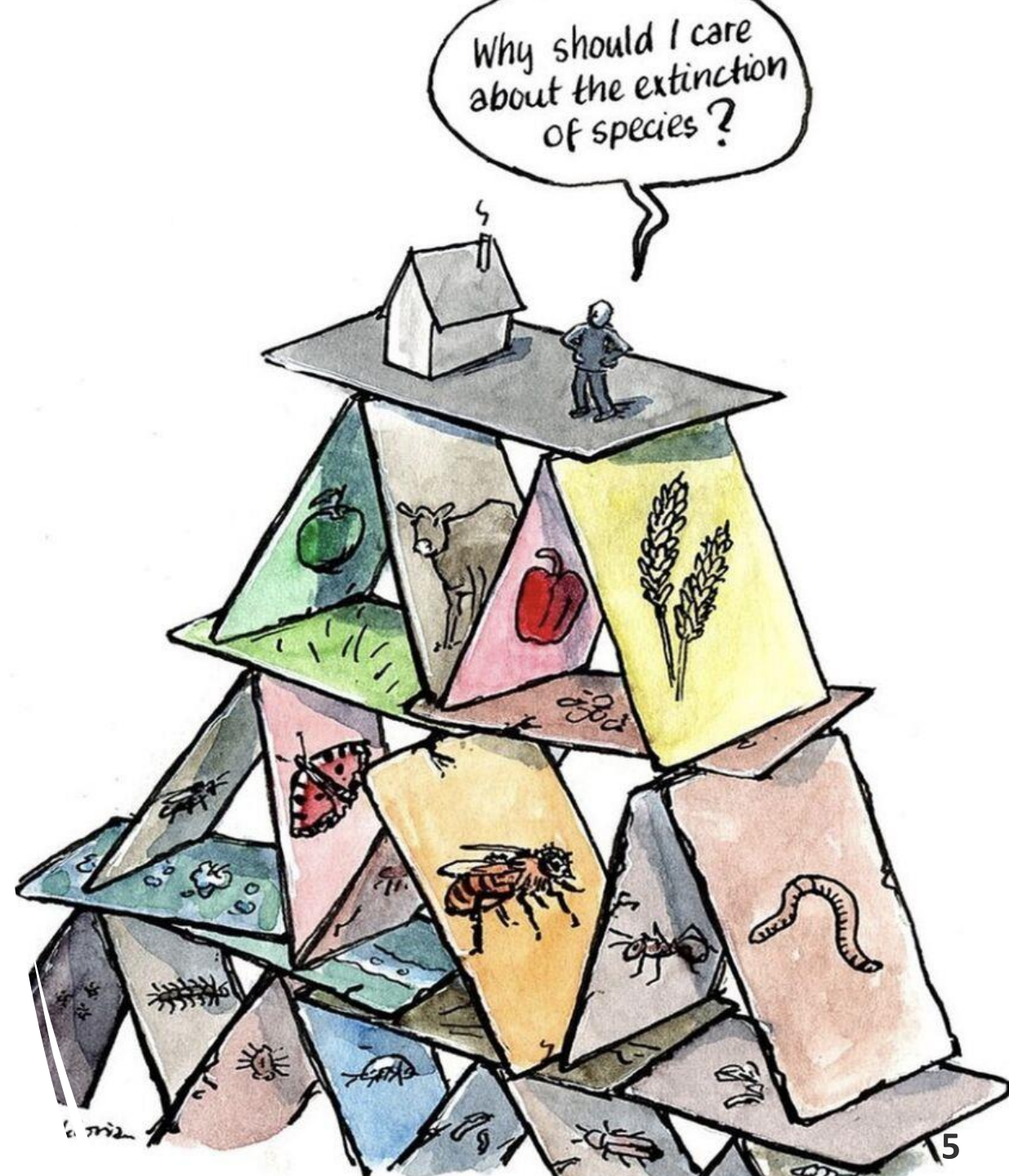


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- **Good relations** within and between the diversity of our human cultures; and **celebrating** each others' cultures, is also important.
 - **Fear** of other cultures, denigrating them as of lesser value, and promoting an **ideology of “the other”**, are damaging to social sustainability, leading to a rise in **social tension**.
 - Tension is the feeling produced in a situation when people are anxious, do not trust each other, increasing the risk of **violence** or **conflict**.

Under such conditions, addressing global crises becomes increasingly difficult ...

Relations between human cultures and the biosphere – how we interact with the Earth’s myriad of living organisms, on which we are completely dependant – is a key determinant of our sustainability.

Harmonious symbiotic relationship or mass extinction of other species?





And what about the Earth's non-living resources?

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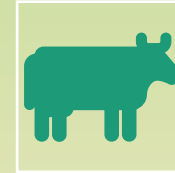
Since 1970, natural resource extraction has **tripled**;



In 2020, the weight of concrete, steel, plastic and other materials produced by humans surpassed the weight of all living biomass on the planet; we produce **530 kg of cement** and **240 kg of steel per person per year**.



Half of the world's habitable land is used for **agriculture**.



More than **three-quarters of this is used for livestock production** (meat & dairy).



Of the **28,000 species threatened with extinction** ([IUCN Red List](#)), agriculture is listed as a threat for **24,000**.

And what about
water, are we using
it sustainably?



 Salt Water **96.5%**
 Fresh Water **3.5%**

Breakdown of Earth's Water (%)

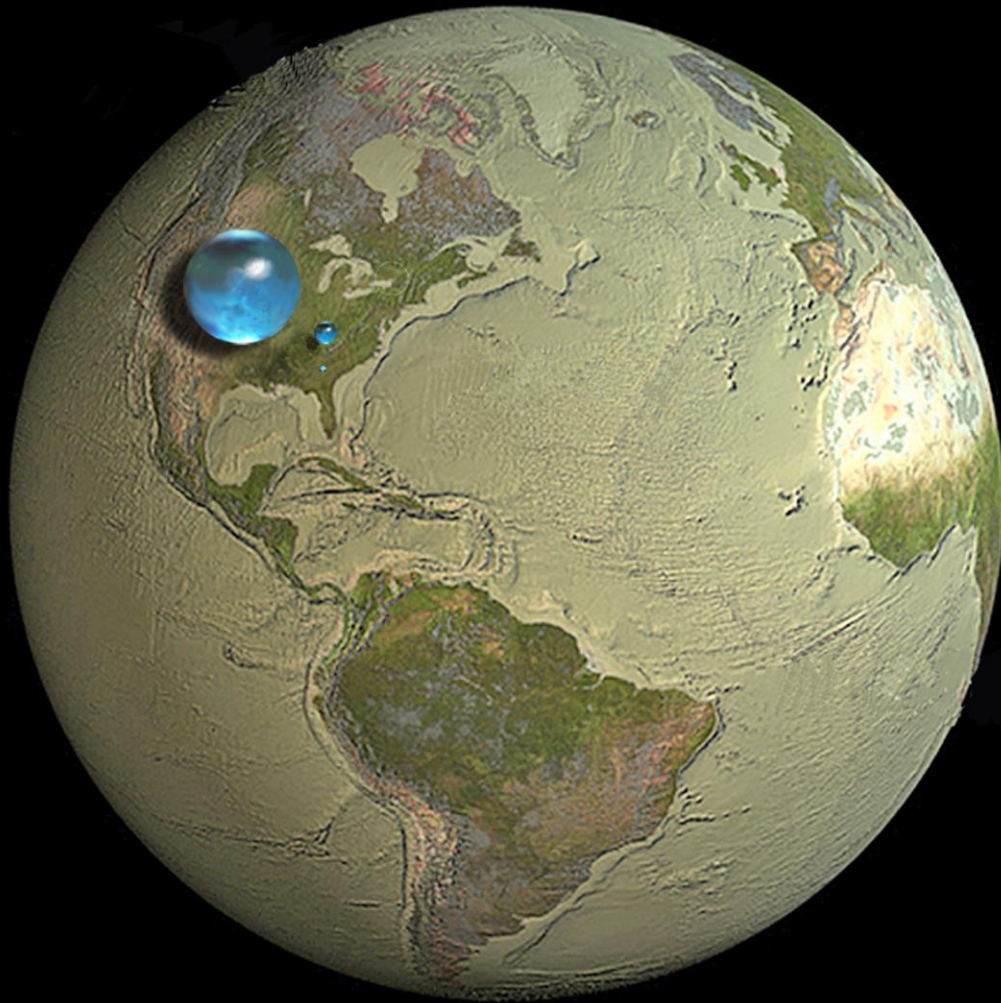
| | |
|----------------------|---------------|
| Oceans | 96.5 |
| Permanent Ice & Snow | 1.7 |
| Groundwater | 1.7 |
| Lakes & Rivers | 0.014 |
| Atmosphere | 0.0001 |

Breakdown of Fresh Water (%)

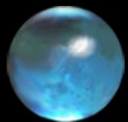
| | |
|----------------------|-------------|
| Permanent Ice & Snow | 68.7 |
| Groundwater | 30.1 |
| Lakes & Rivers | 0.3 |

Source: USGS

The World's Water



- The volume of the largest blue sphere, representing all water on, in, and above the Earth, is about 1,386,000,000 km³, and about 1,385km in diameter.
- The smaller sphere represents Earth's liquid fresh water in groundwater, wetlands, rivers, and lakes; volume of this sphere is about 10,633,450 km³ and about 272.8km in diameter. Fresh water in all lakes & rivers on the planet is only 93,113 km³ – **56.2 km diameter.**



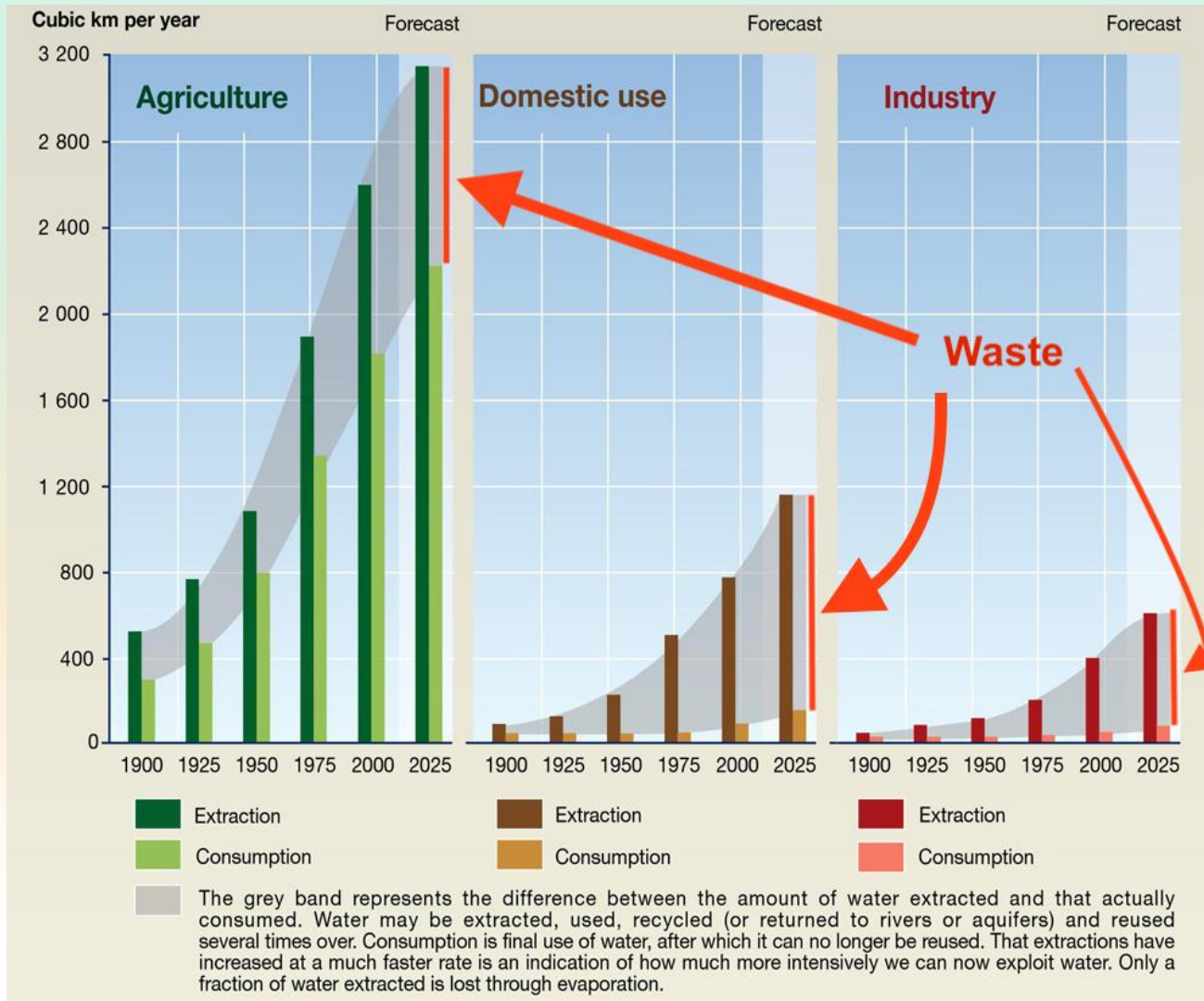
All water on, in, and above the Earth

• Liquid fresh water

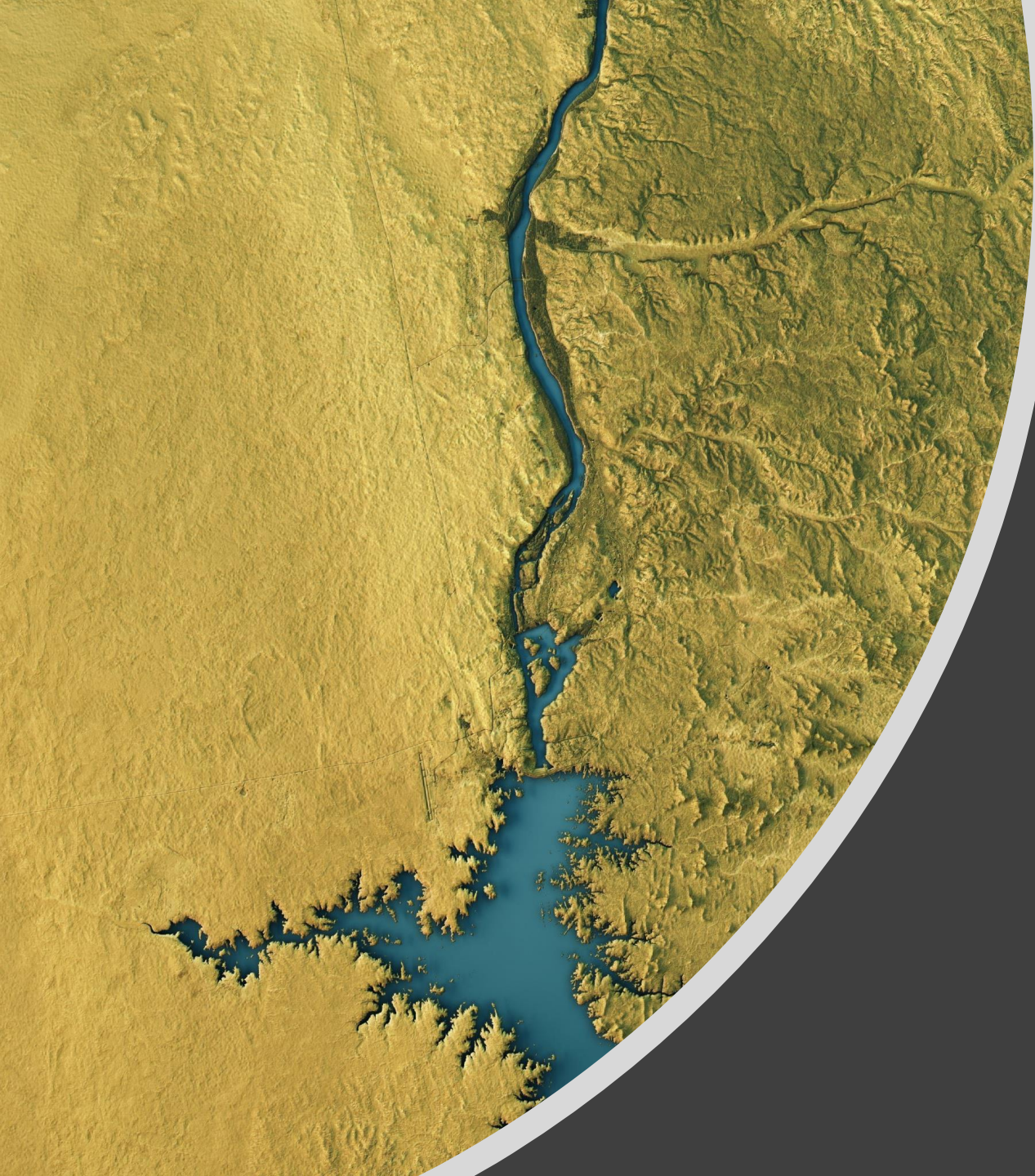
• Fresh-water lakes and rivers

Howard Periman, USGS,
Jack Cook, Woods Hole Oceanographic Institution,
Adam Nieman
Data source: Igor Shiklomanov
<http://ga.water.usgs.gov/edu/earthhowmuch.html>

How are we using water?



River Tolka



- Humans now have a greater effect on shaping the surface of the Earth than natural processes do (316 billion metric tonnes annually). **Humans move about 24 times more material around the surface of the planet than rivers move sediment to the oceans.** This movement, and the resulting change to landscapes, has accelerated since the mid-20th Century. It is therefore a significant characteristic of the new epoch of geological time – the **Anthropocene**.
- The previous epoch, the **Holocene**, was very stable, allowed civilisations to develop; it lasted **10,000 years**, and was predicted to last a **further 50,000 years**.

How did we reach this state?

Characterised by:

- ❖ Global scale **greenhouse gas emissions**;
- ❖ **Accelerating global warming** of atmosphere and oceans;
- ❖ **Soil loss** and damage;
- ❖ Global scale **loss of forests and wetlands**;
- ❖ Accelerated rate of **extinction of many species** (mass extinction);
- ❖ Uncertainties in **food supply**; and,
- ❖ Increasing risk of **pandemics** such as Covid-19.

And best described as a **pathway to instability and unsustainability**.

The multiple crises are familiar, but is there a common cause or causes ?

Answering this question will require:

- Recognising that our simplistic understanding of the world in which we live is no longer fit for purpose;
- Addressing the **power dynamics** in the current world order;
- Asking questions about development and prosperity;
- Critically evaluating the **structure of economic models** in the globalised economy;
- Examining the nature and the roles of the **global institutions** that dominate and perpetuate the status quo; and,
- Examining the very nature of **political systems**.

A quick overview of some history will help us answer this question:

1922, Ireland's independence a year old; World population **1.96** billion

1942, the year I was born; World population **2.35** billion

1952, the year my wife was born; World population **2.5** billion

1972, "Limits to Growth" published; World population **3.84** billion

1992, "Beyond the Limits" published; World population **5.5** billion

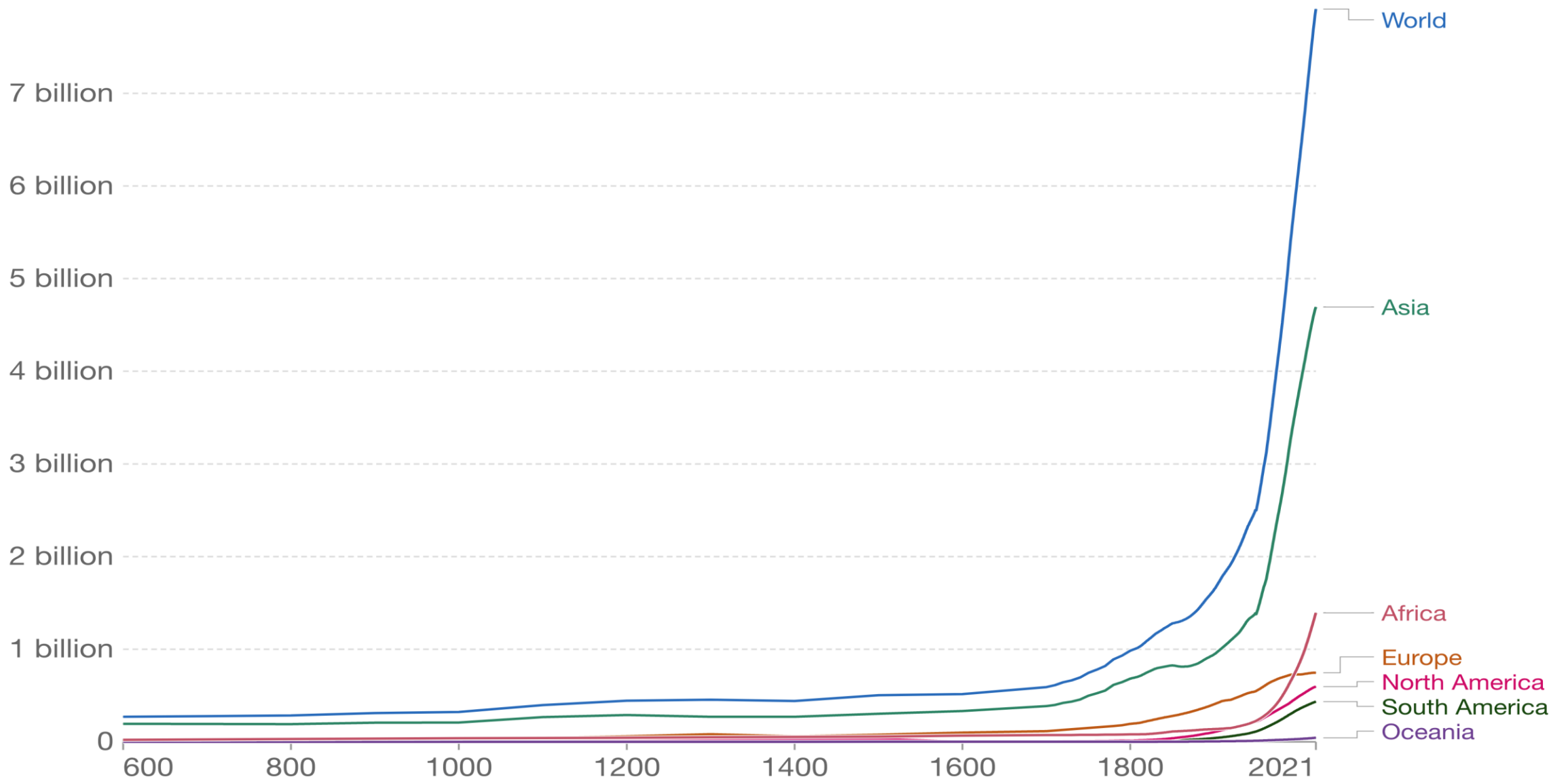
2002, World population **6.3** billion

2022, "Earth for All" published: World population **7.95 - 8.0**
billion.

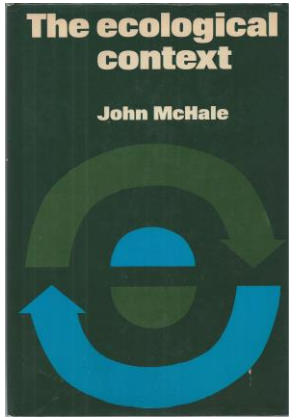
With population growth comes greater agricultural production, more manufacturing, more consumption, more resource shortages, more waste, etc.

Population, 600 to 2021

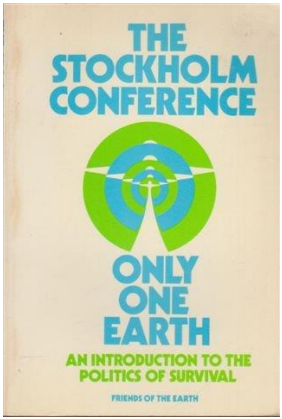
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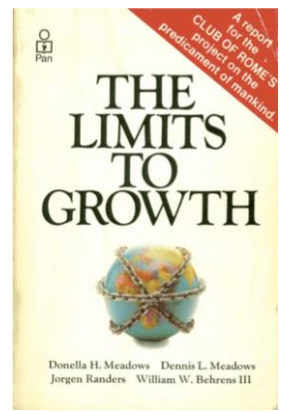
Emergence of Understanding:



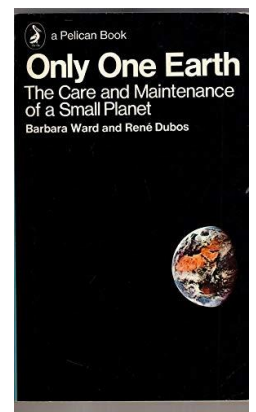
1971



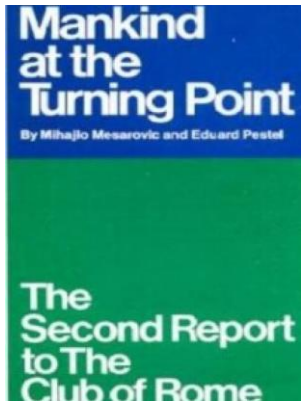
1972



1972



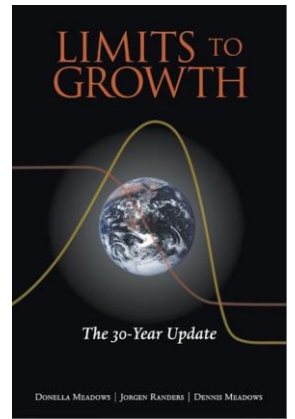
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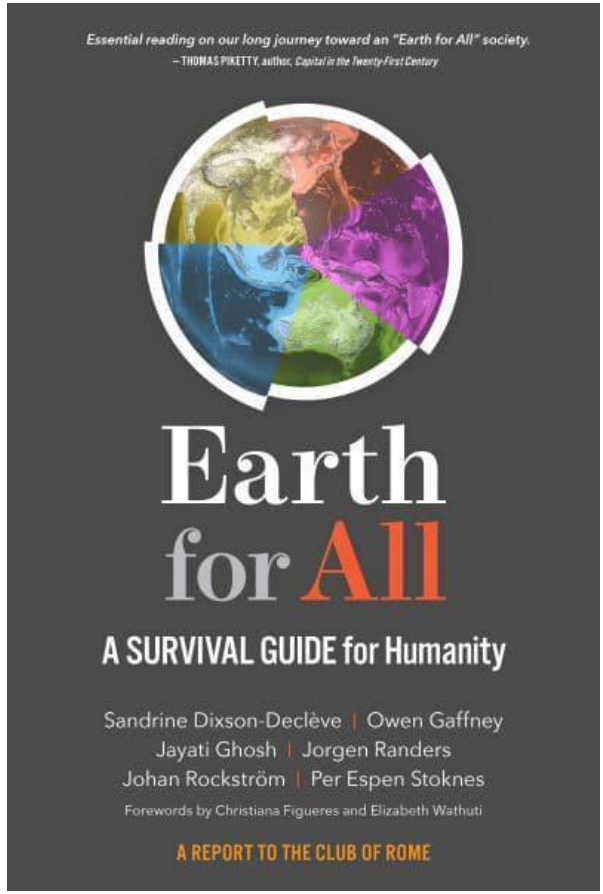
1975



1987



2004



2022

Warning signs:

“Organic life has been evolving on the planet for billions of years – the human species for about a tiny fragment of that time. It is only in the most recent and a brief period of his tenure that man has developed in sufficient numbers and acquired enough power to become one of the most potentially dangerous organisms that the planet has ever hosted”.

John McHale, “The Ecological Context” 1971

“The present decade has been marked by a retreat from social concerns. The environment does not exist as a sphere separate from human actions, ambitions, and needs and attempts to defend it in isolation from human concerns have given the very word ‘environment’ a connotation of naivete in political circles”.

“It is futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality”.

— Our Common Future. The World Commission on Environment and Development, 1987

Limits to Growth Model developed:

Following its establishment in 1968, the **Club of Rome** decided in 1970 to examine the complex problems faced by humanity. *“These included **poverty during plenty; degradation of the environment; loss of faith in institutions; uncontrolled urban development; insecurity of employment; alienation of the youth;** rejection of traditional values; and inflation and other monetary and **economic disruptions.**”*

*“If the present growth trends in population, industrialisation, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next one hundred years. **The most probable result will be a rather sudden and uncontrollable decline in both population and industrial capacity**”.*

*It is possible to alter these growth trends and to establish a condition of ecological and economic stability that is sustainable far into the future. **If the world’s people decide to strive for this second outcome rather than the first, the sooner they begin working to attain it, the greater will be their chances of success.***

— The Limits to Growth, 1972.

Updating the Limits to Growth Model

*In 1992, the authors of “The Limits to Growth” published a 20-year update to the original publication titled “Beyond the Limits”, in which they conclude that two decades of history mainly supported the conclusions advanced in the original publication – humanity is following the “**Business as Usual**” trajectory. Plus one major new finding: that humanity has **already overshoot the limits of the Earth’s support capacity**.*

— Beyond the Limits, 1992

*The 1992 Club of Rome study was ground-breaking in another direction – it prioritised sustainability, and advocated “**Visioning**”, “**Networking**” “**Truth-telling**”, “**Learning**” and “**Loving**” as guiding principles for action. The model established that lack of technology was not a barrier to sustainability.*

*The 30-year update, published in 2004, utilised terms such as “**ecological footprint**” and “**carrying capacity of the Earth**”, and emphasised that making the transition to sustainability would have to be the next great revolution.*

— Limits to Growth – The 30-year Update, 2004

From 1971 to 2022

“Earth for All – A Survival Guide for Humanity” (Club of Rome 2022)

What have we learned during the last 50 years ?

- *Our simplistic understanding of the world in which we live is no longer fit for purpose;*
- *We need to critically address and bring about major changes in the power dynamics which affect the current world order; especially the nature and roles of the global institutions that dominate and perpetuate the status quo;*
- *We need to critically evaluate the structure and damaging effects of the current economic models;*
- *We need to eliminate poverty and inequality; and,*
- *We need to examine the nature of our political systems.*

Some lessons from the current and previous world models, summarised in “Earth for All”:

*Climate chaos, environmental degradation and perverse inequality have been defined and described as **separate multiple crises**, often in competition with each other; but in fact they are different aspects of what we might understand as the **metacrisis**. These crises are interconnected not only in their social and economic realities, but more fundamentally in their source and they share the same deep root: **extractivism based on extrinsic principles** (externalities).*

*There are **deep-rooted structural inequities** in the way the global economy works and unravelling them will be met with resistance.*

It is impossible to reconcile free-market ideology with sustainability and resource management issues.

Letting common resources be exploited by an unregulated free market prevents these finite resources from contributing to long-term economic development and wellbeing for all.



- **Governments must actively help bring the majority of people at the bottom of the economic pyramid up to a basic standard of living, while also preventing resource overexploitation and overuse by those at the top. When a large segment of the population sits at the bottom of the income distribution, the country is more difficult to manage.**
- **The current economic model / ideology fundamentally underprices and undervalues environmental resources and human labour, and ignores negative impacts on nature and societies.**

Making the transition to sustainability will require a **new political philosophy** for human progress which will place **collective welfare over individual rights**, abandon **unimpeded consumption** and reinterpret the definition of **prosperity in an era of constraints**. Although the concept of sustainability needs to be applied differently in each continent and every country, there are three basic or foundational objectives to which it must adhere:

1. Protecting common and public goods;
2. Defining a path towards moderate prosperity; and,
3. Helping societies to prosper within challenging resource constraints.

These are elaborated in more detailed policy objectives ...

The principal lessons of the 2022 World Model and report are:

1. We have the technology; the solution is not the application of yet more new technology, even though we **must scale up very significantly the rollout of every form of renewable energy**;
2. Two new metrics are included in the world model: the **social tension index** and the **average well-being index**, as these allow us to estimate whether policy choices are likely to cause social tensions to rise or to fall in societies – if social tensions rise too far, societies may enter a vicious cycle where declining trust causes political destabilisation, economies then stagnate, well-being declines, and we enter the global ecological collapse depicted so well as one of the choices in the **1972 “Limits to Growth”** model;
3. The “Limits to Growth” model showed that the **"business as usual"** scenario led to global collapse;
4. The **2022 world model confronts us with a much simpler choice:**
Too little too late; or a giant leap forward in the transition to sustainability.
5. **Five major changes in policy direction and action** are now urgently needed for that transition:
6. (i) **Ending poverty**, (ii) **addressing gross inequality**, (iii) **empowering women**, (iv) **making the food system healthy for people, planet and ecosystems**; and (iv) **transitioning to clean energy**.

The choice is ours

Sustainability Summit, 23 February 2023 One Earth For All – A Plea For Sustainability

Thank you for listening; if you would like to discuss further, contact me at **jackosullivan2006@gmail.com** or **086 381 9811**.

Or become a member of **Zero Waste Alliance Ireland**

(<https://www.zwai.ie/get-involved>)

admin@zwai.ie

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