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Human wellbeing and ecological carrying capacity

Minna Halme

Jan 10, 2019

Agenda

- Ecological carrying capacity
- Human wellbeing & happiness
- How to combine them?

Problems are useful

- **“Don’t Bring Me Problems, Bring Me Solutions”**
- Downside: solution-only thinking creates “a culture of advocacy instead of one of inquiry,” where each person comes into the situation locked into their way of solving the problem and lobbies hard for that particular solution rather than considering multiple perspectives. (Adam Grant)
- **'If you are not part of the solution, you must be part of the problem‘** **(**Eldridge Cleaver, altered)
- Downside: Not accepting to speak about the problem leads to poor analysis of the problem and therefore inferior or outright bad solution
- **To come up with a good solution, you must know the problem**

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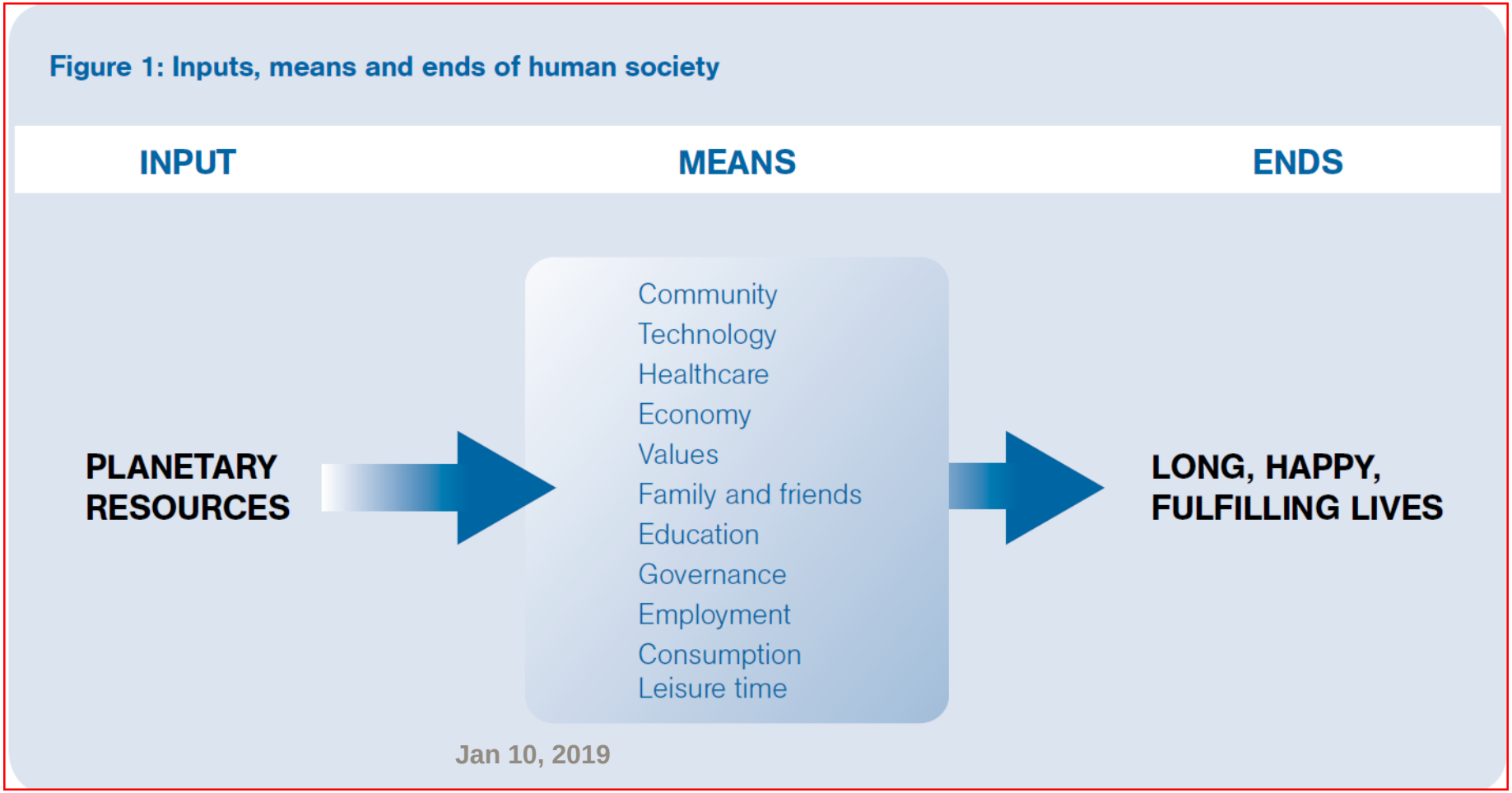
A simple illustration of the big picture



Source: New Economics Foundation

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Assessing ecological limits

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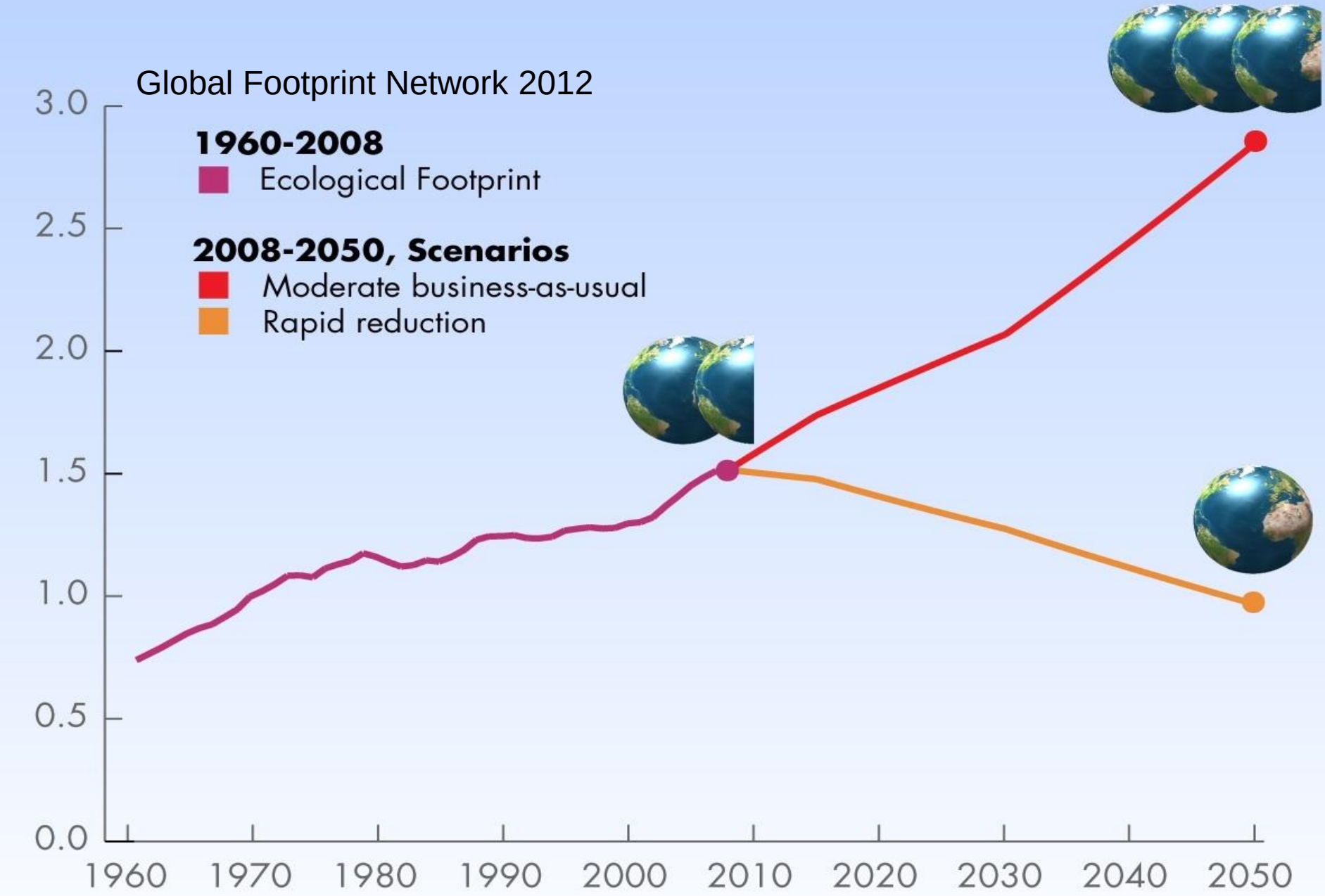
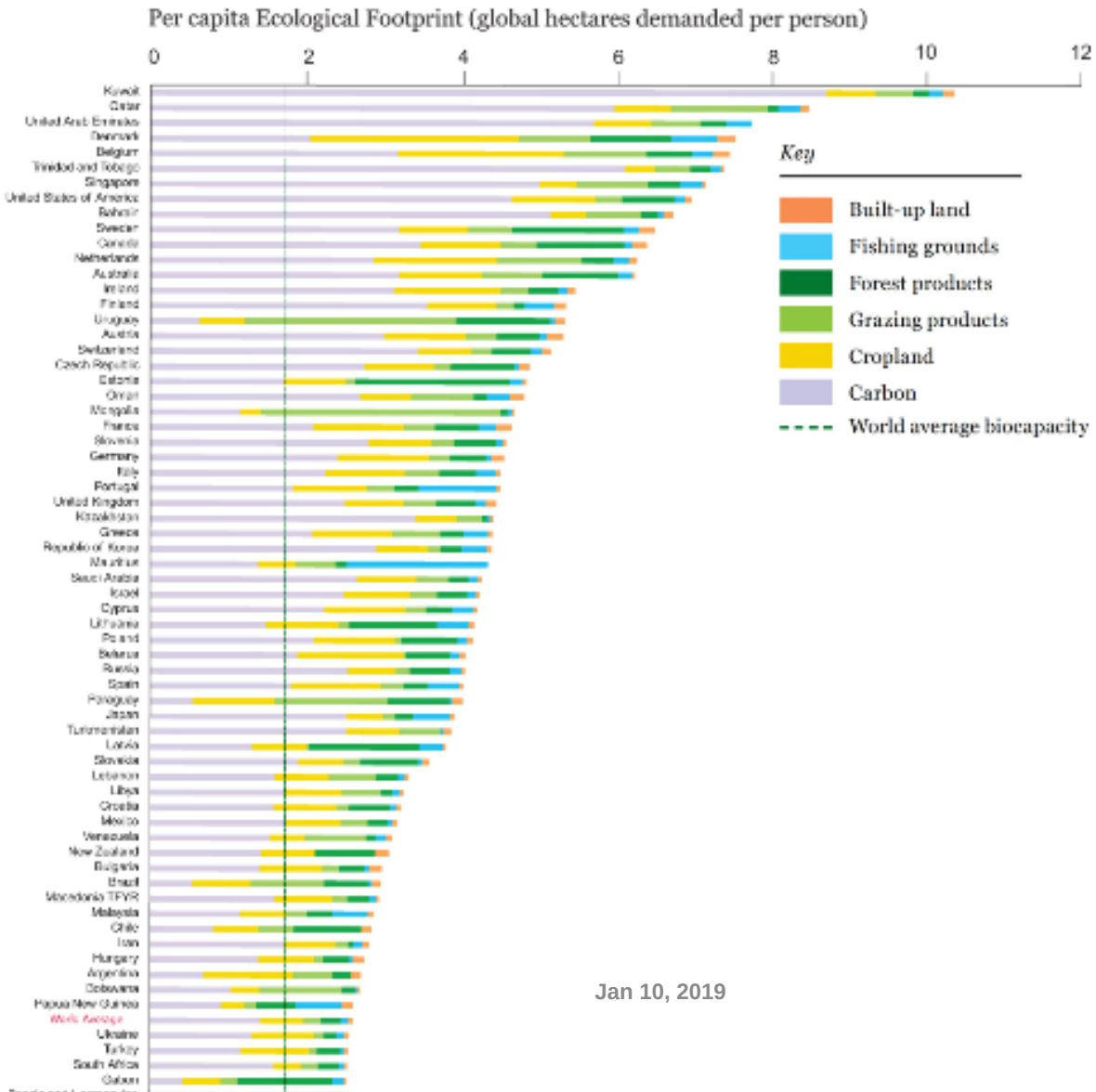
Global Footprint Network 2012

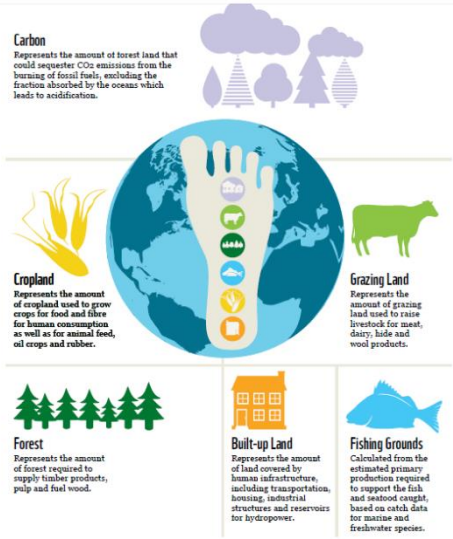


y-axis: number of planet earths, x-axis: years

FOOTPRINT BY COUNTRY

This comparison includes all countries with a populations greater than 1 million for which complete data is available (Global Footprint Network, 2014)





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http://wwf.panda.org/about_our_earth/all_publications/living_planet_report/living_planet_report_graphics/footprint_interactive/

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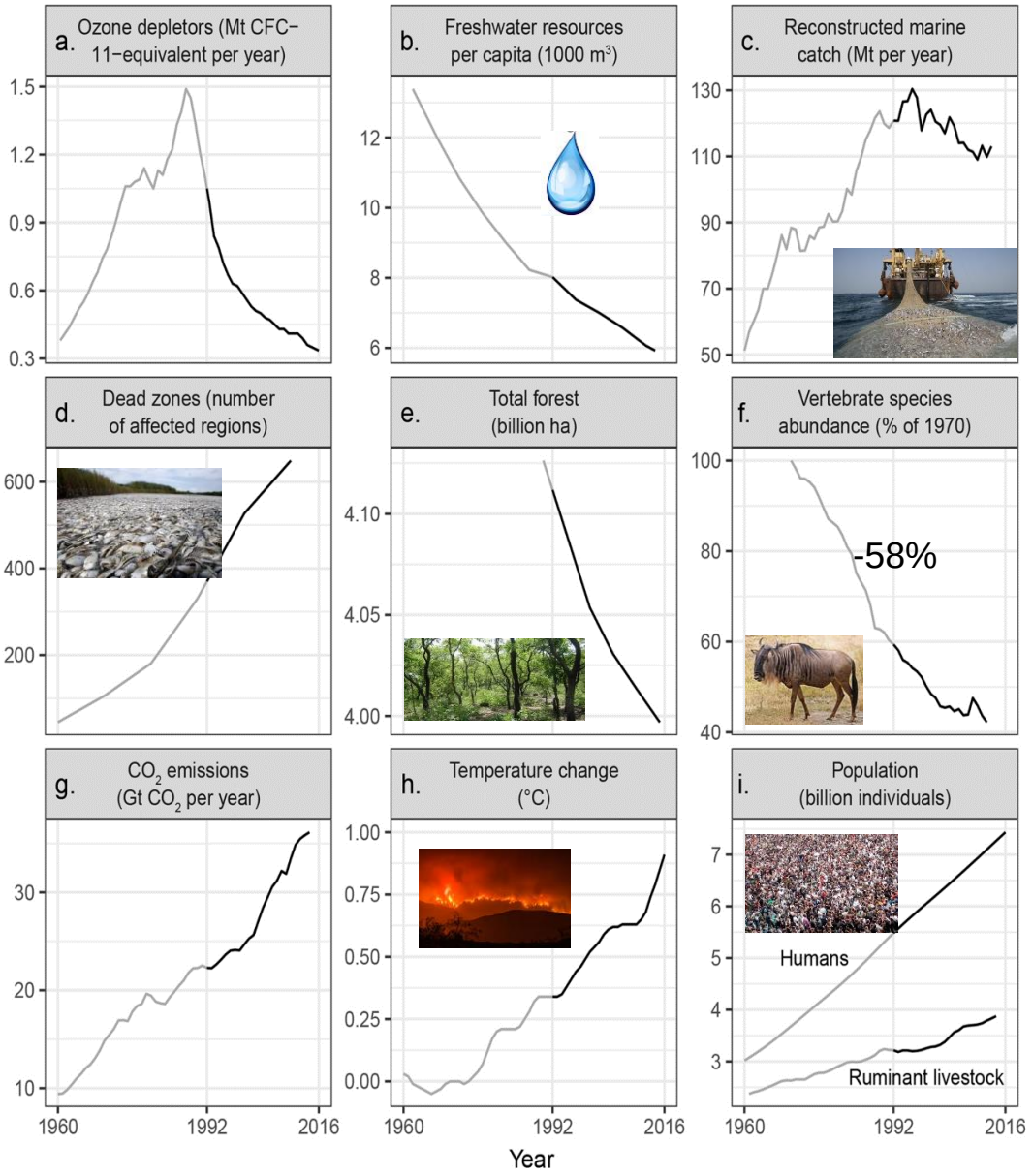
Challenge: Liveability of the earth

Loosing what we want to keep, by-producing what we don't want

Source: World Scientists' Warning to Humanity: A Second Notice
BioScience. 2017;67(12):1026-1028. doi:10.1093/biosci/bix125



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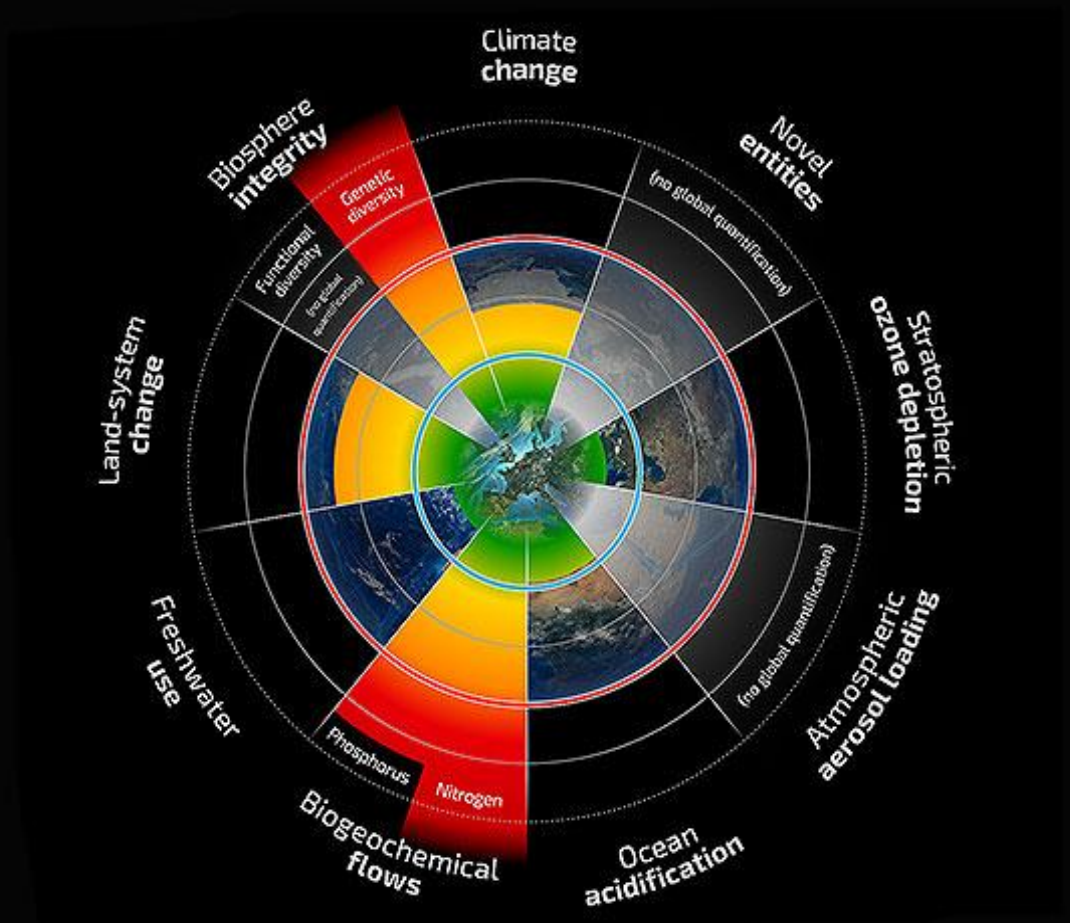
Planetary boundaries



Estimates of how the different control variables for nine planetary boundaries have changed from 1950 to present. The green shaded polygon represents the safe operating space.

Steffen et al., 2015, *Science*

Nitrogen and phosphorus cycles

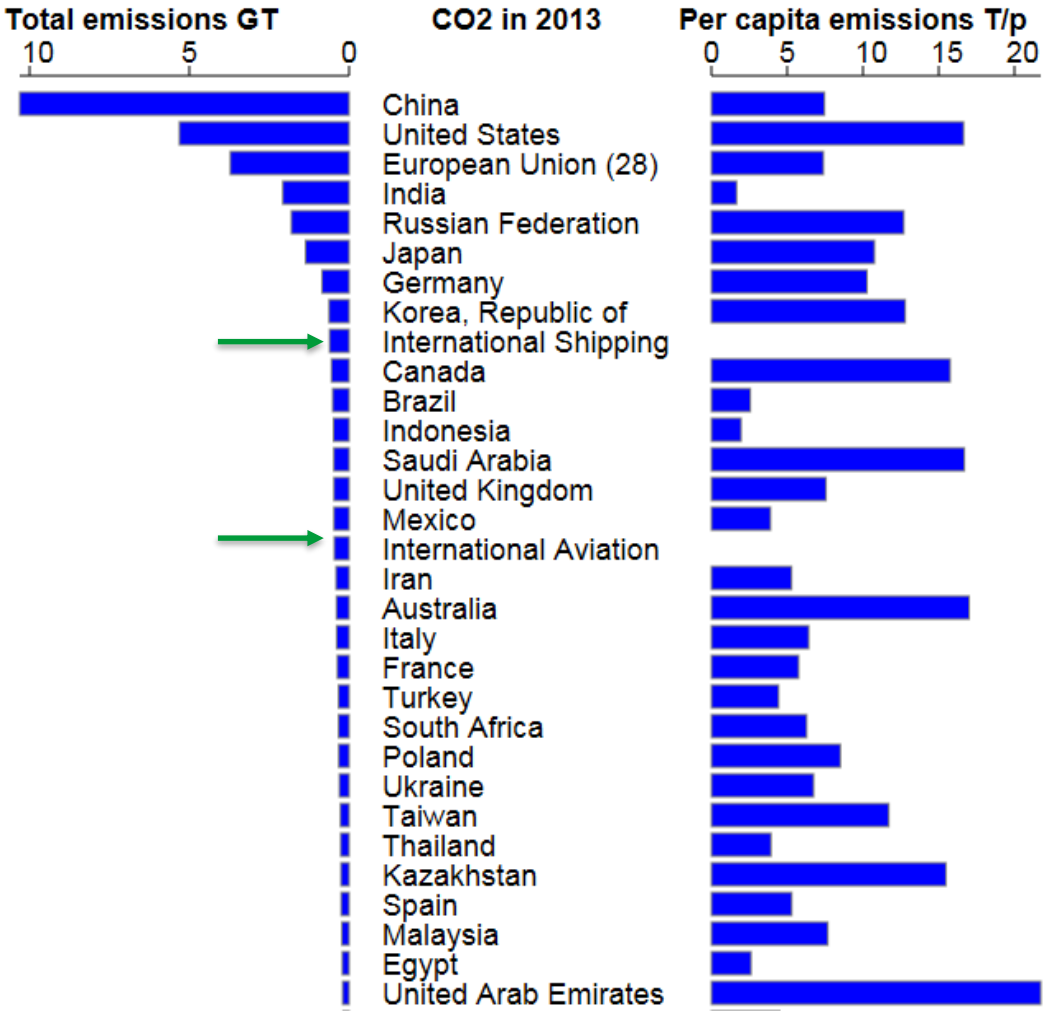
- The cycles of nitrogen and phosphorus have been radically changed by humans as a result of many industrial and agricultural processes.
- Fertilizers are the main concern.
- Nitrogen and phosphorus that make their way to the sea, and can push marine and aquatic systems across ecological thresholds of their own.

Climate change

- Concentrations of carbon dioxide in the atmosphere have risen from 280 parts per million (ppm) in pre-industrial times to 400 ppm in 2014—the widely recognized ceiling with regards to acceptable climate risk.
- The world has already started to feel the consequences: accelerated melting of the Greenland and West Antarctic ice sheets; sea level rise; floods and drought and an increase in mortality in coral reefs.

PIC: Larsen C ice sheet crack in Antarctica has been growing at an accelerating rate. When the chunk of ice size of Delaware state breaks away from Antarctica, the long term result, scientists project, could be to noticeably raise global sea levels by 10 centimeters.

Top CO_2-emitters



Data from [EU Edgar database]

Water footprints

Calculation includes growing, producing, packaging and shipping the beans.

All numbers are global averages

water footprint network

It takes...

10 liters of water to make one sheet of PAPER	40 liters of water to make one slice of BREAD
70 liters of water to make one APPLE	80 liters of water per dollar of INDUSTRIAL PRODUCT
91 liters of water to make one pound of PLASTIC	120 liters of water to make one glass of WINE
140 liters of water to make one cup of COFFEE	1,300 liters of water to make one kilogram of WHEAT
4,800 liters of water to make one kilogram of PORK	10,855 liters of water to make one pair of JEANS
15,500 liters of water to make one kilogram of BEEF	16,600 liters of water to make one kilogram of LEATHER

Source: Waterfootprint.org

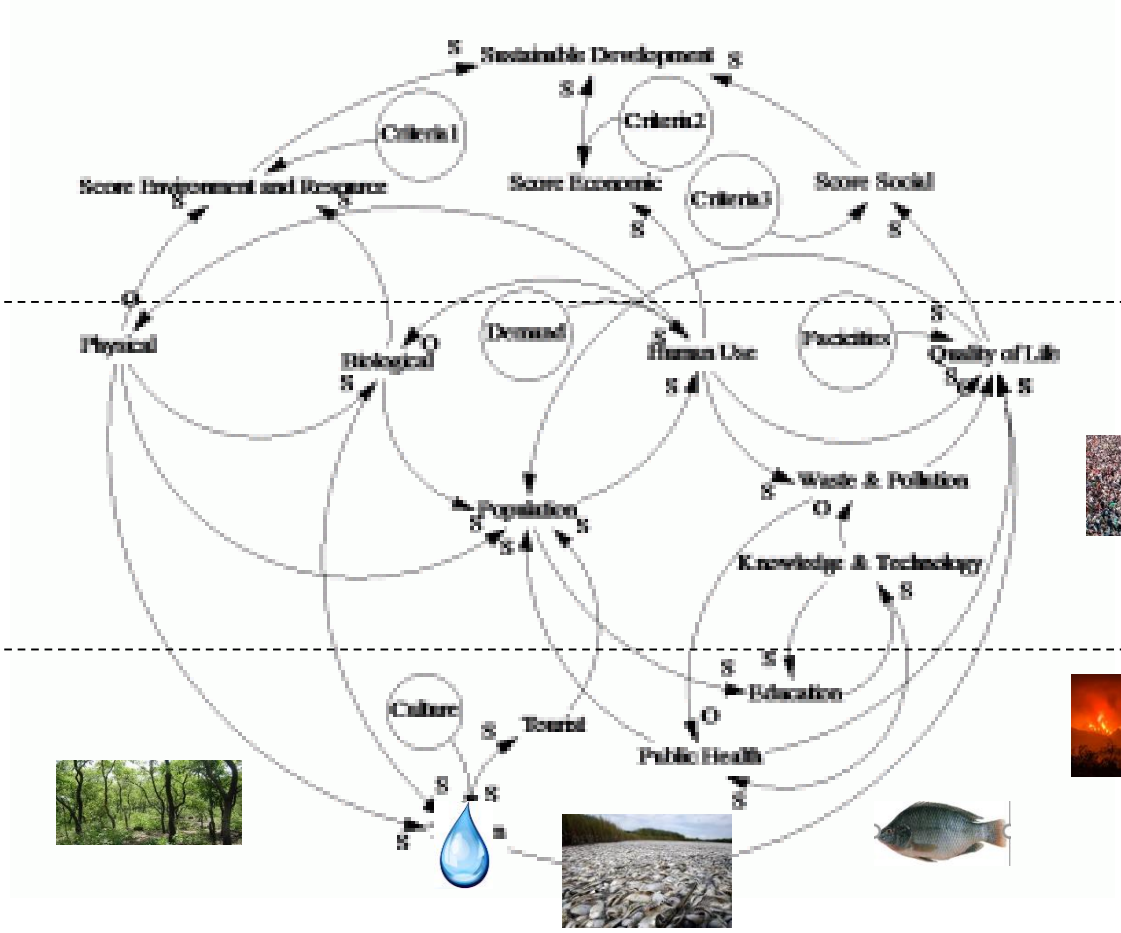
Members: Research institutions, businesses, NGOs

Sustainability challenges are systemic and interlinked

Macro-level

Meso-level

Micro-level



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Why do we consume so much earth?

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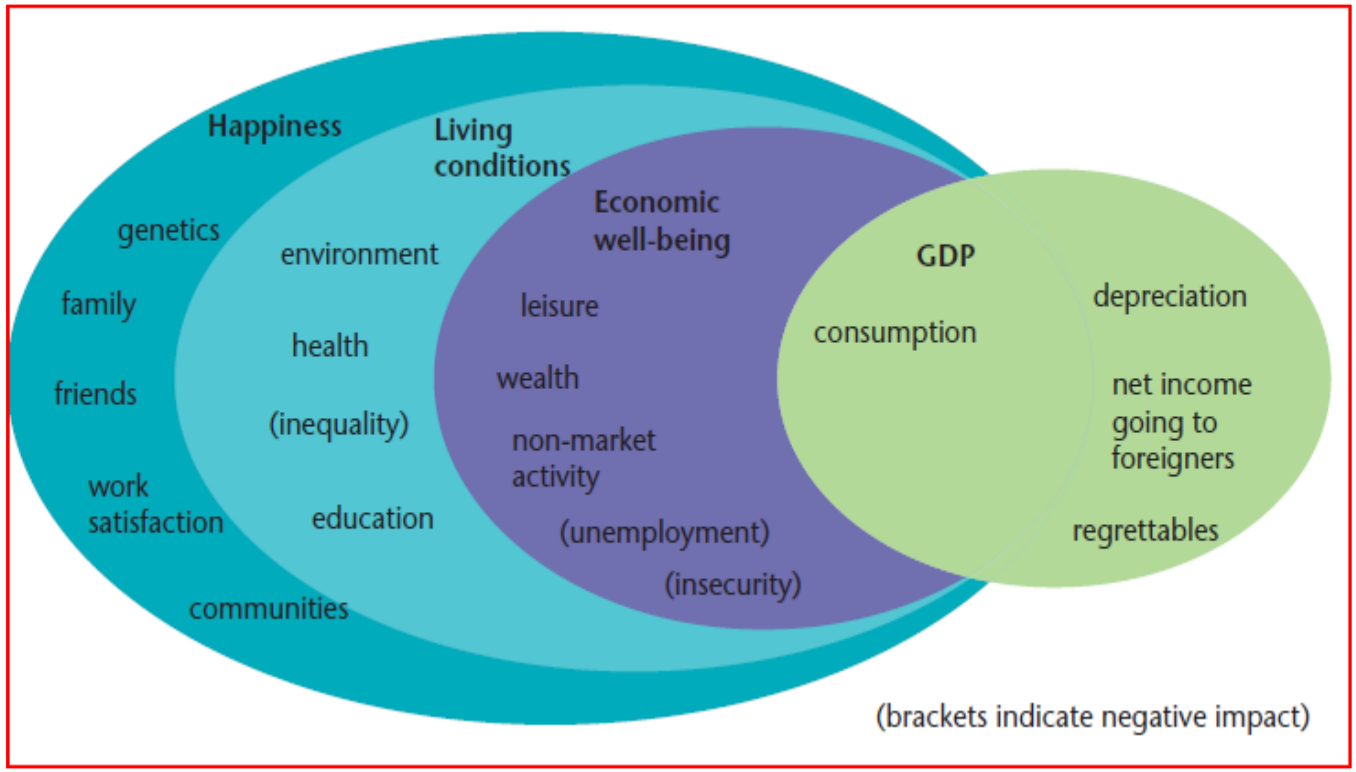
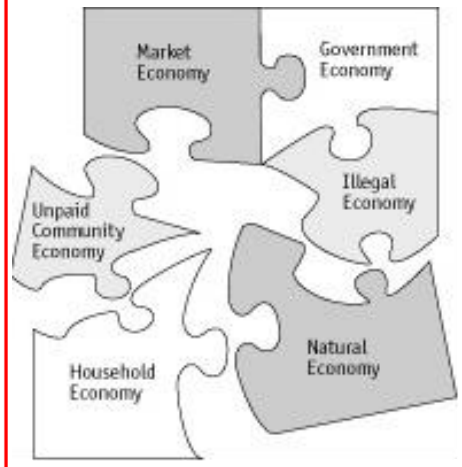
Assumptions behind the pursuit of economic growth

- Traditional neoclassicist perspective: more is better
- More range of choice through income increase
- People consume what is useful/valuable to them
- …and everyone pursues their own self-interest rationally with perfect information
- Rising GDP means that when a society is able to provide more choices, its citizens are better off
- **Does GDP rise mean we all have it better?**

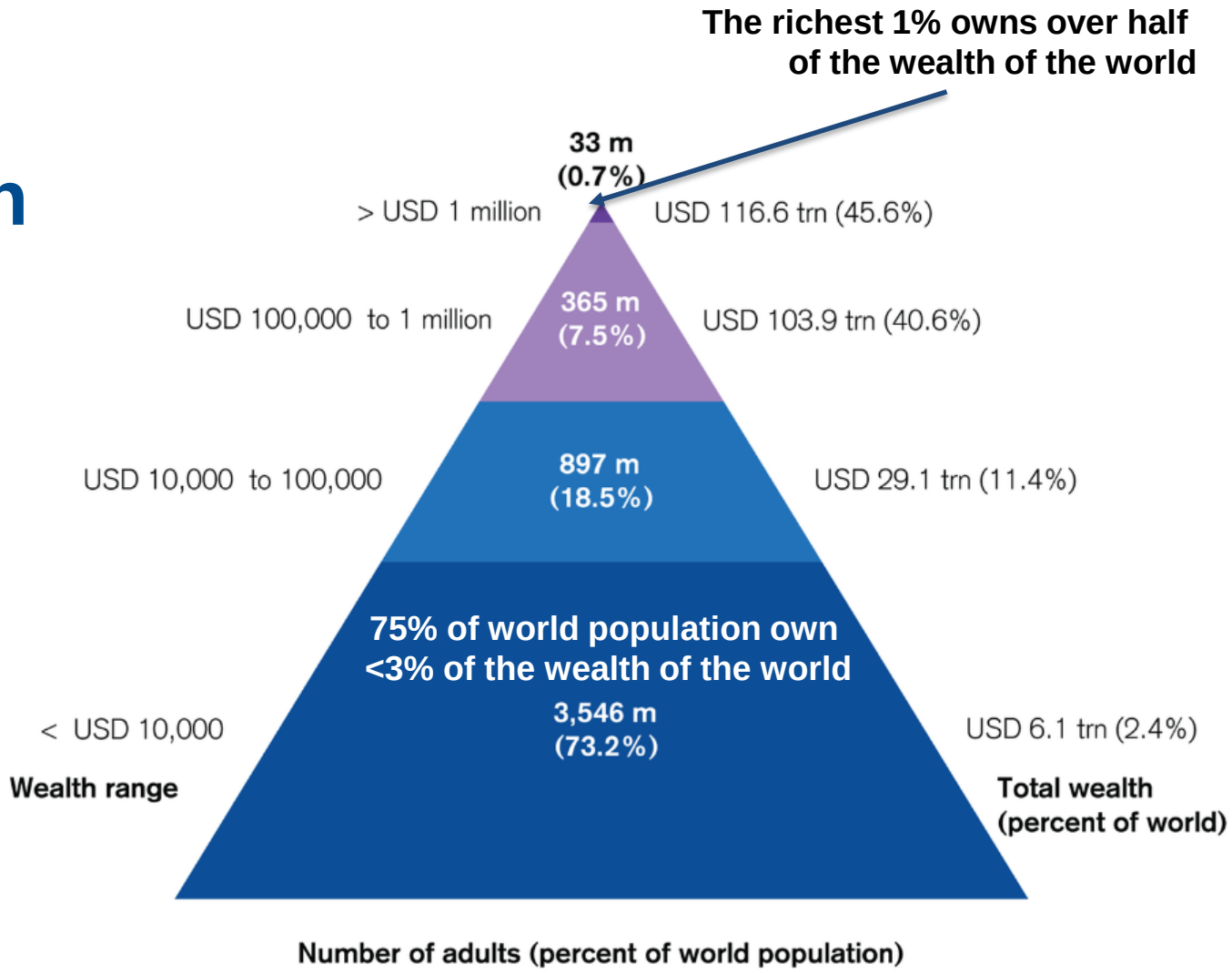
What does GDP measure and what not?





Note consumption includes also such as consumption of cigarettes, and accidents, ecological disasters that require major clean-up operations and warfare

Challenge: Wealth distribution and equality



Source:
Davies J, Lluberas R & Shorrocks A: Credit Suisse Global Wealth Databook 2016

Equality: What is it and how to measure it?

Human rights, human development approaches

- **Intrinsic value of equality**, **negative effects of inequality on growth**, democracy, social peace, political stability
- Causes: ‘structural’ or ‘root’ causes, embedded in institutions that reflect assymmetries of power (women’s agency, land, tax regime, trade rules....)
- Policy response: reforms in national and international institutions; social investment and economic empowerment; social protection; **redistribution**

Neoliberal approaches

- **Intrinsic value** of equality and negative effects of inequality **doubted**. **Inequality positive for economic growth**.
- Causes: individual behavior, corruption and institutions in countries....
- Policy response: **trickle down growth**, removing institutionalized discrimination, social investments, social protection.

How much economic growth is needed to eradicate poverty and when?

		Growth assumptions (% pa)		"poverty eradication"		
		poorest	GDP pc	year	GDP pc ($)	GDP (2010=1) No. of times higher
$1.25-a-day	Baseline	1.29	2.35	2115	112,800	14.9
	High-growth	2.20	4.00	2072	111,600	14.8
	Proportional	2.35	2.35	2068	37,800	5.0
	Pro-poor	4.20	2.35	2042	20,600	2.6
$5-a-day	Baseline	1.29	2.35	2222	1,358,000	173.3
	High-growth	2.20	4.00	2136	1,374,000	176.0
	Proportional	2.35	2.35	2128	152,580	19.8
	Pro-poor	4.20	2.35	2076	45,500	6.1

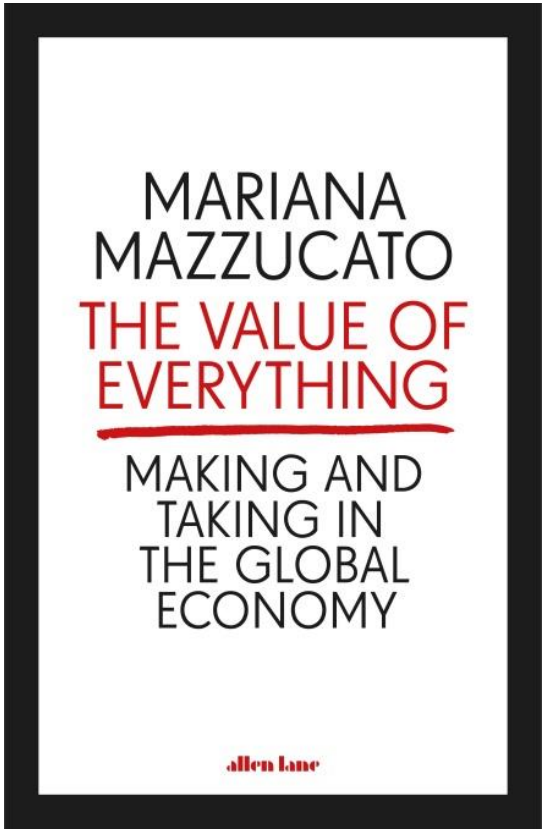
pc = per capita
pa = per annum

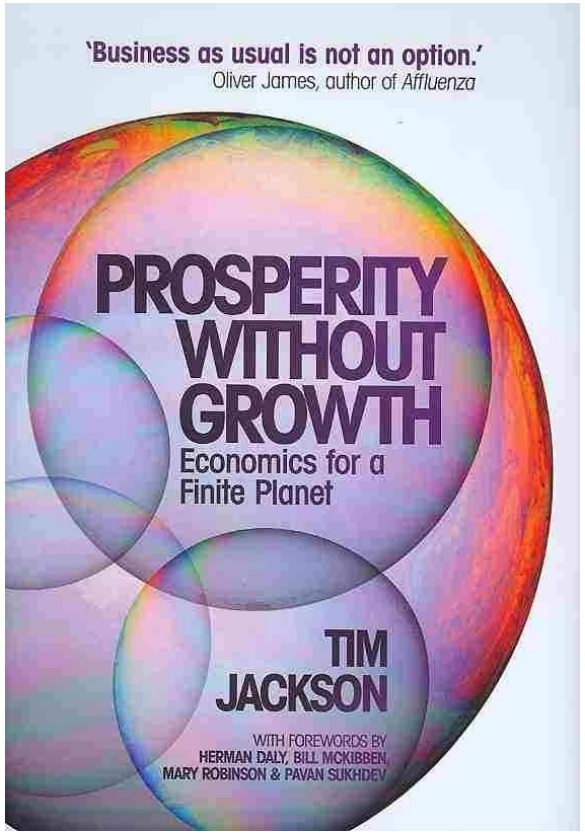
Woodward D. 2015 *Incrementum ad Absurdum:* Global Growth, Inequality and Poverty Eradication in a Carbon-Constrained World. World Economic Review 4: 43-62.

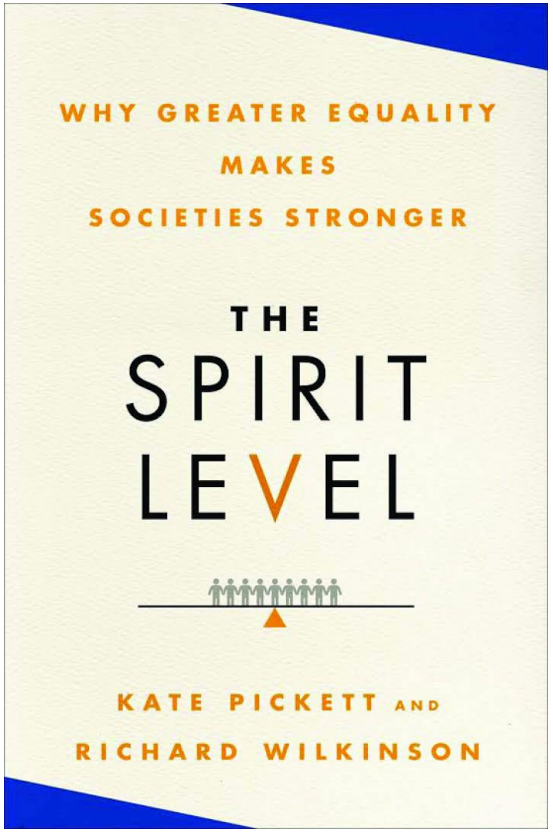
Economic growth and well-being

- ***Economic growth***
  - may contribute to wellbeing but is not the same
  - a measure of the value of output of goods and services within a time period
- It is increasingly recognised that it is important to go beyond monetary measures, such as GDP, in measuring the progress of societies
- Ultimately, it is well-being that is the focus of policy
- People's subjective perceptions, evaluations, and experiences are a crucial component of overall well-being

Source: OECD


MARIANA
MAZZUCATO
THE VALUE OF EVERYTHING
MAKING AND TAKING IN THE GLOBAL ECONOMY
allen lane


'Business as usual is not an option.'
Oliver James, author of Affluenza
PROSPERITY WITHOUT GROWTH
Economics for a Finite Planet
TIM JACKSON
WITH FOREWORDS BY
HERMAN DALY, BILL MCKIBBEN,
MARY ROBINSON & PAVAN SUKHDEV


WHY GREATER EQUALITY MAKES SOCIETIES STRONGER
THE SPIRIT LEVEL
KATE PICKETT AND
RICHARD WILKINSON

Aalto University
School of Economics

Human well-being

Theory and practice

- what do we know about “the good life”-

Jan 10, 2019

Theoretical perspectives

Well-being research (with links to economics) :

- Human Development Approach
- Quality of Life

Happiness research:

- psychology (positive psychology)
- sociology (empirical happiness research)
- economics (happiness economics)
- new field of happiness studies.

Amartya Sen: Equality of what?

Well-being as opulence

- An increase in the volume flow of commodities represents an increase in prosperity. The more we have the better off we are

Well-being as utility

- Rather than focusing on the sheer volume, this concept relates to the satisfaction which commodities provide

Well-being as capabilities for flourishing

- How well people are able to function in any given context?

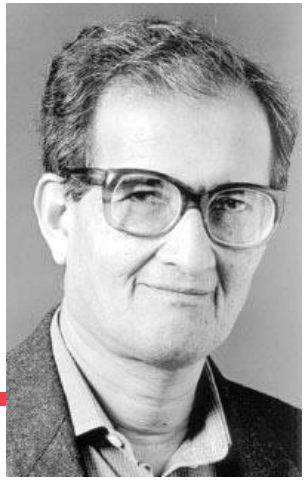
(Sen: The Living Standard, 1984)

Opulence = Vauraus, yltäkylläisyys

Opulence = Weatlh, affluence

Capability Approach

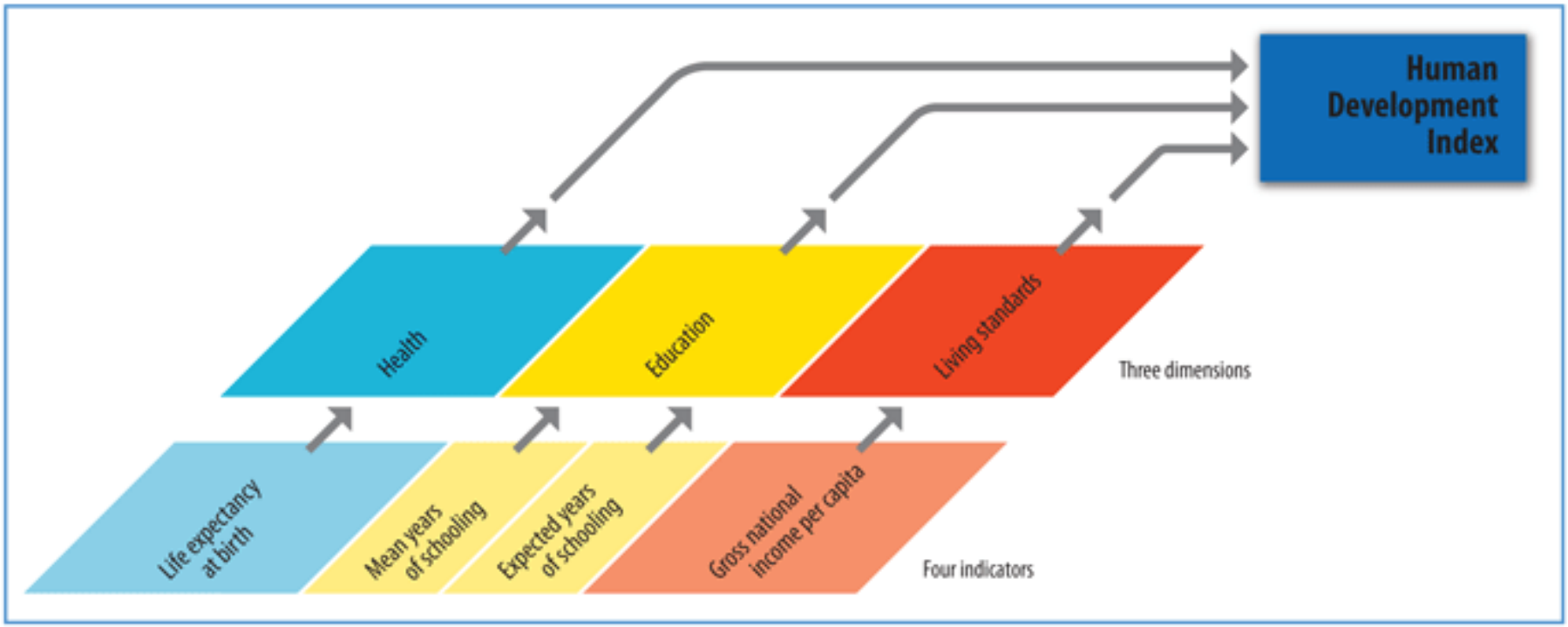
- Philosophy, development economics, welfare economics
- Concepts and normative frameworks to conceptualize, measure, and evaluate
  - **poverty, inequality, or well-being** as well as the **institutions and policies that affect them**
- Discussing well-fare state design
- Human Development Index, UNDP
- Amartya Sen
- Martha Nussbaum



Human Development Index

Components of the Human Development Index

The HDI—three dimensions and four indicators



Note: The indicators presented in this figure follow the new methodology, as defined in box 1.2.

Source: HDRO.

Components of well-being

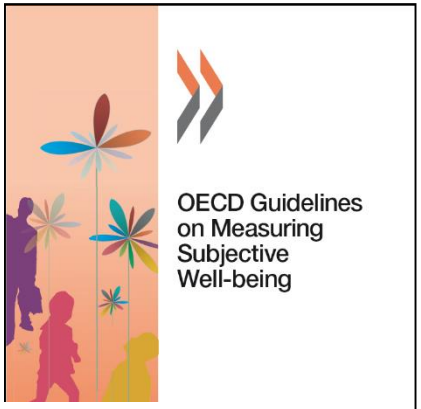
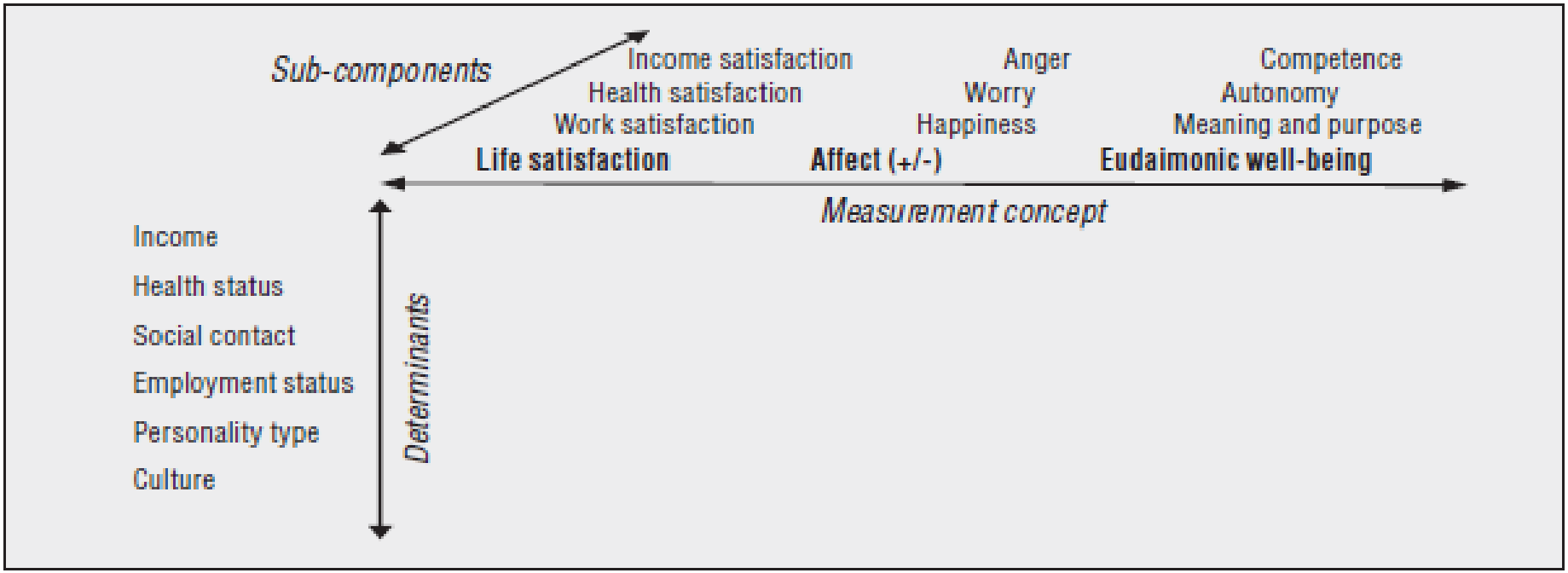
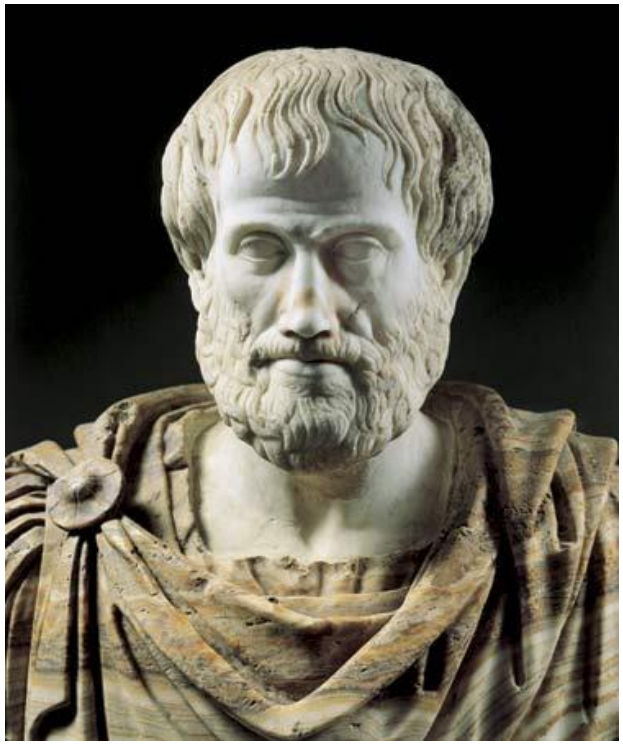


Figure 1.1. **A simple model of subjective well-being**



What makes a good life?



Today:
What does it mean?
What is possible for us to reach?

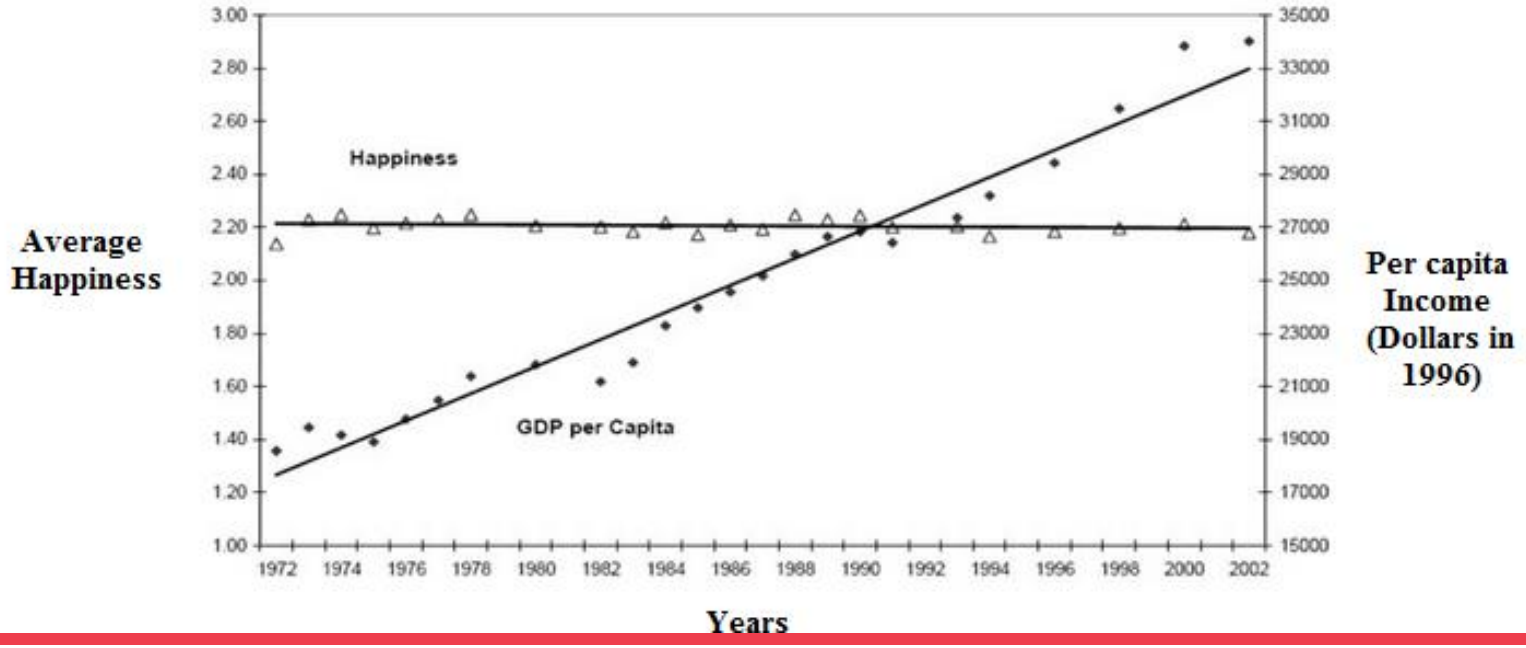
Aristotle:
Eudaimonia – happiness as human flourishing or prosperity
Virtue of character & happiness – but conceptions of what is Eudaimonia differ

“Happiness is when what you think, what you say, and what you do are in harmony.”

Mahatma Gandhi

The Easterlin's paradox, 70's

"at a point in time both among and within countries, happiness and income are positively correlated. But, over time, happiness does not increase when a country's income increases."

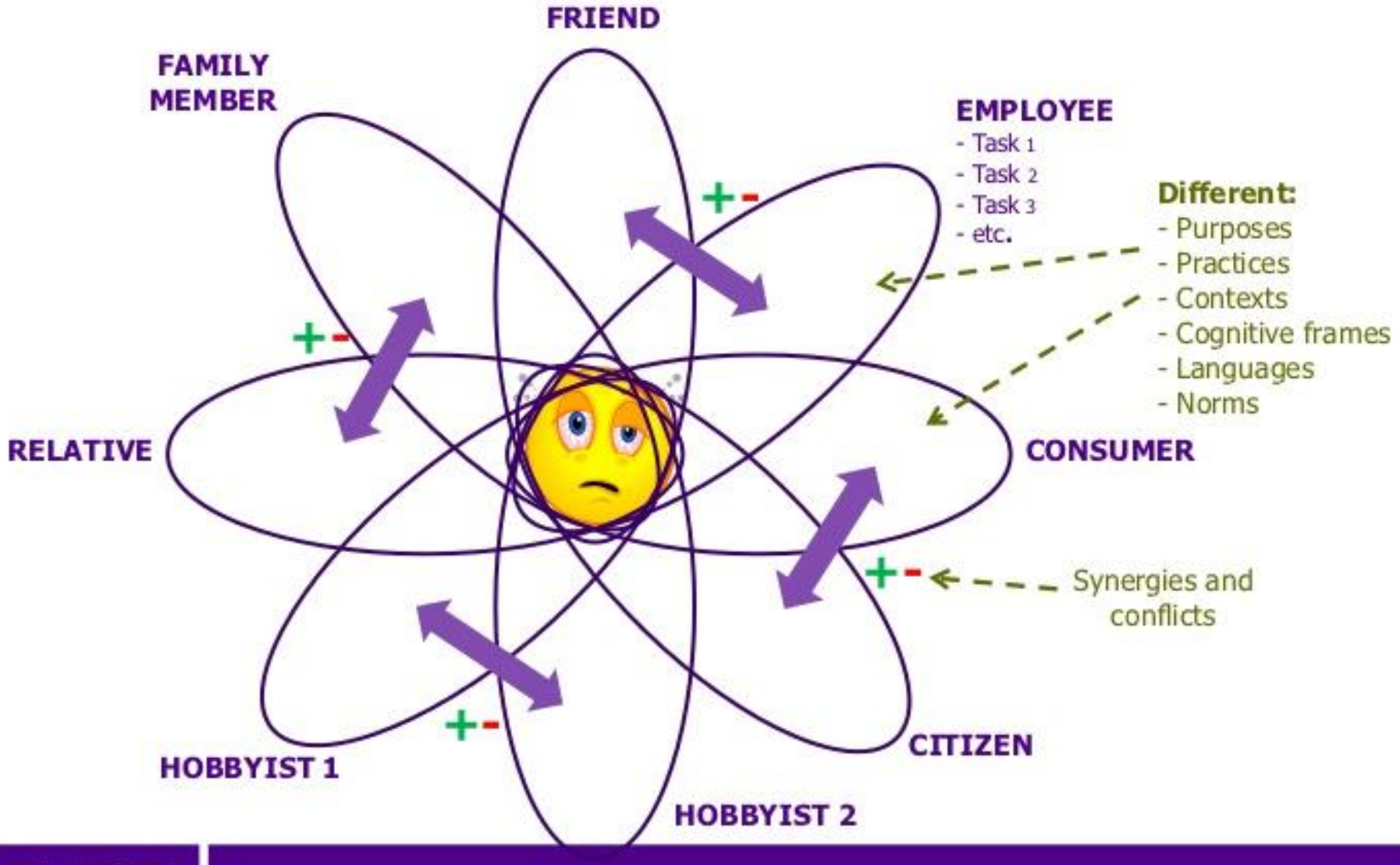


•*Easterlin, Richard (1995). "Will Raising the Incomes of All Increase the Happiness of All". Journal of Economic Behavior and Organization. **27** (1): 35-48. doi:10.1016/0167-2681(95)00003-B.*

*Easterlin, Richard (2017). "Paradox Lost?". Review of Behavioral Economics. **4** (4): 311-339. doi:10.1561/105.00000068.*

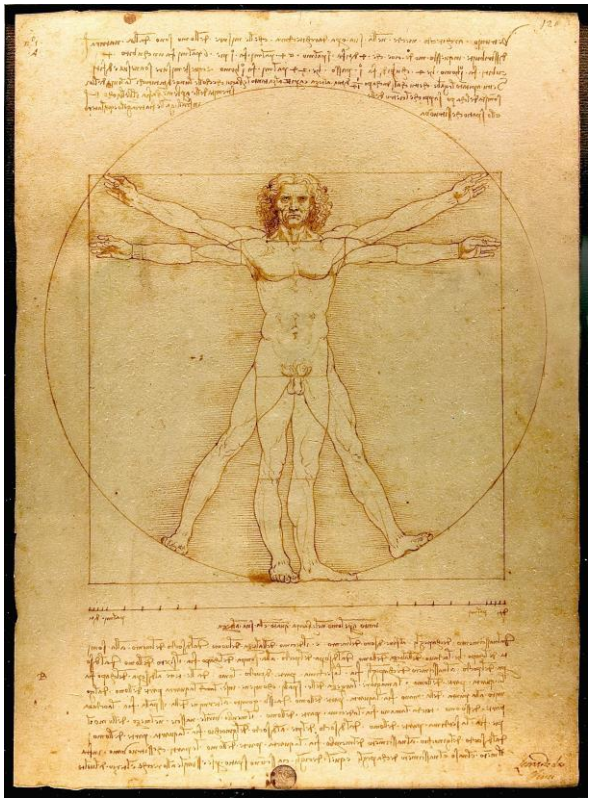
”I think the dosage needs adjusting. I’m not nearly as happy as the people in the ads.”

Hectic life in affluent society



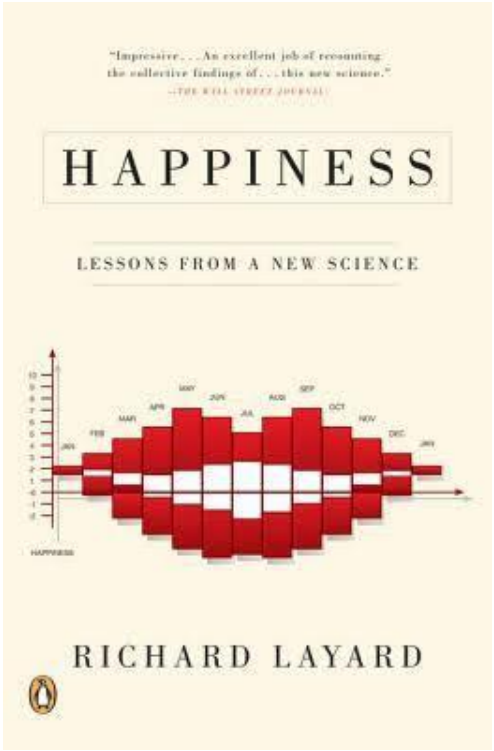
(Timo Hämäläinen: In search of coherence in: Well-being and beyond)

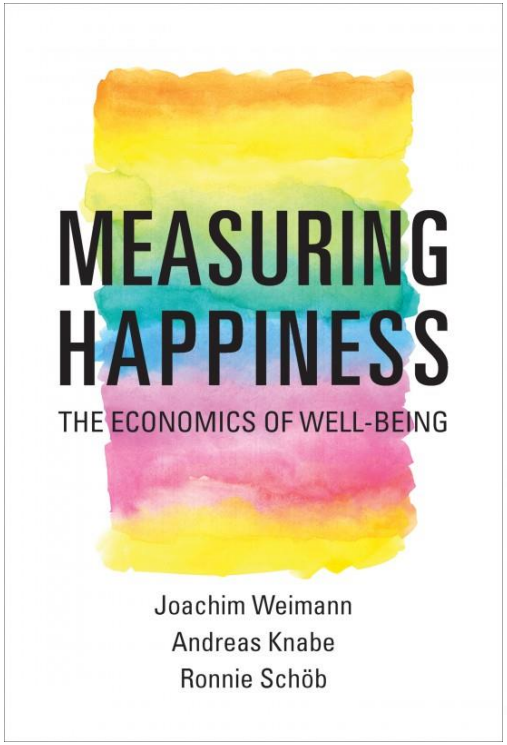
”I’ve got the bowl, the bone, the big yard. I know I should be happy.”



- **Individual freedom & rights**
- **Philosophy**
- **Psychology**
- **Economics**

- **Mindfulness**
- **Yoga**
- **Meditation**





”You want only happiness, Douglas. I want wealth, power, fame and happiness.”

Diary reflections

What makes you be alive?

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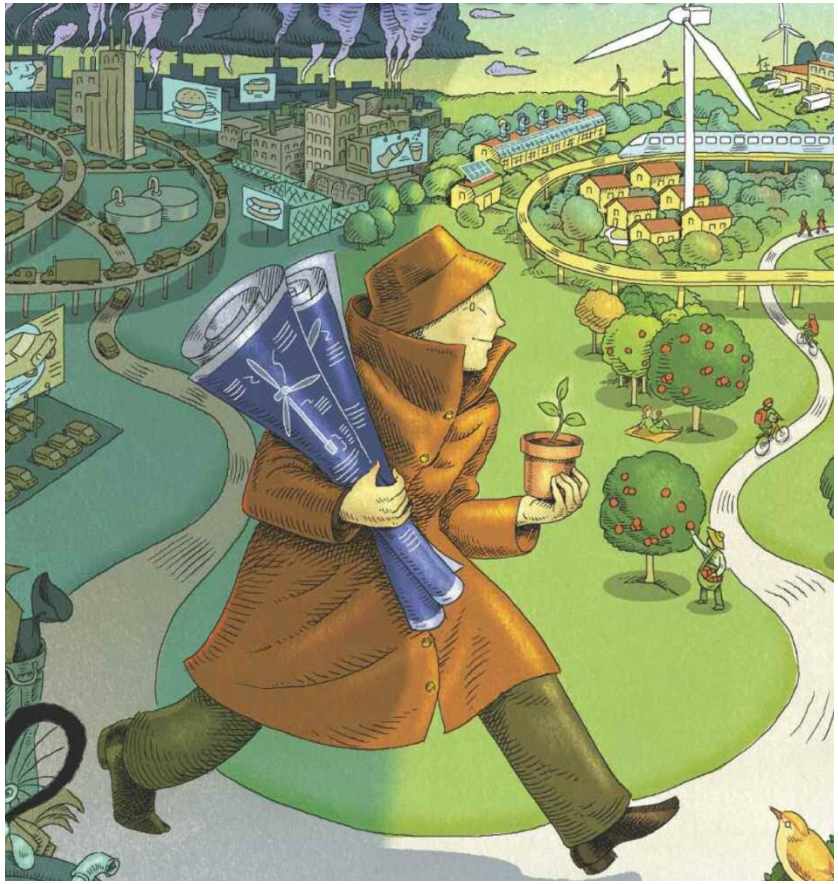
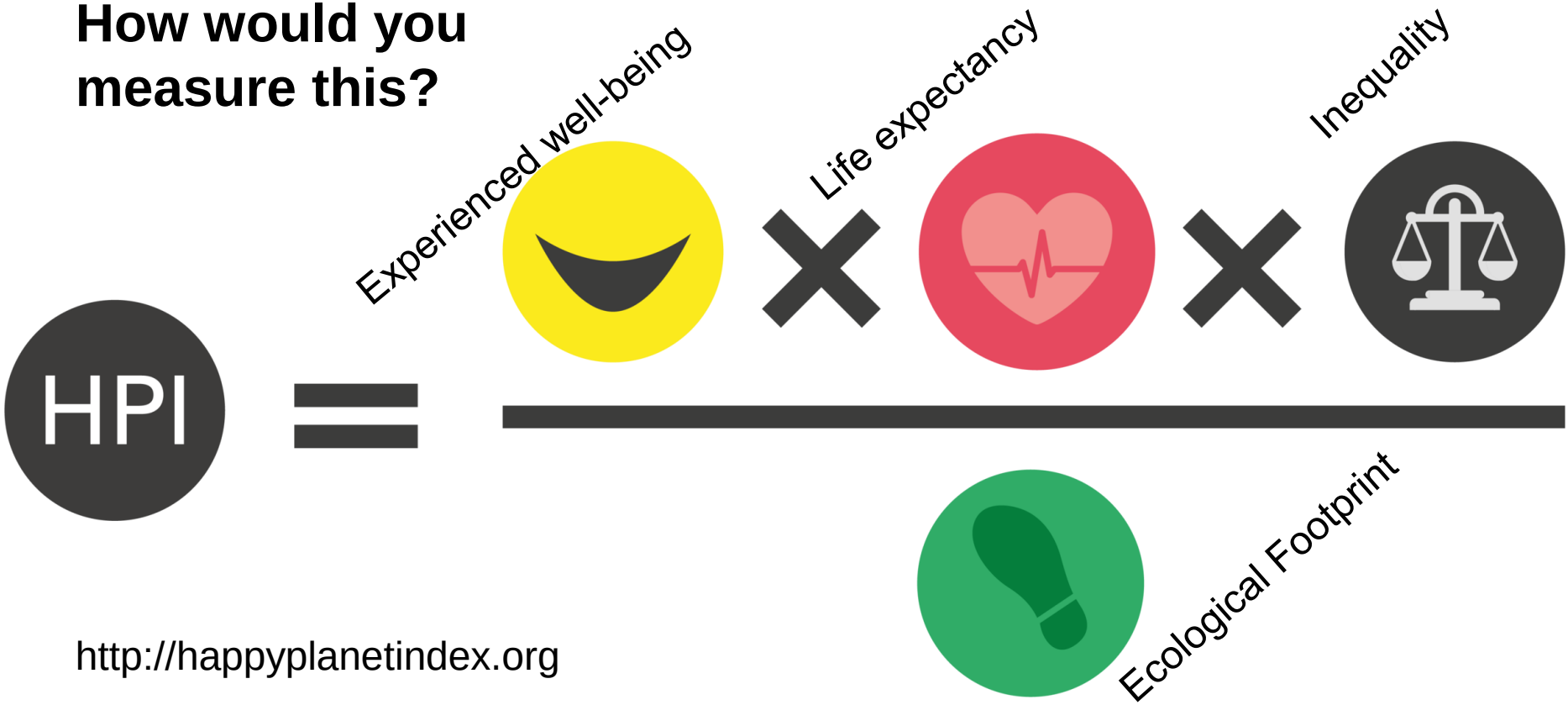
How to achieve well-being for society within the limits of the earth?

”In nature growth is means to achieve the optimal size.”
- Leopold Kohr (Small is beautiful)



How much resources does country need to produce wellbeing for its citizens?

How would you measure this?

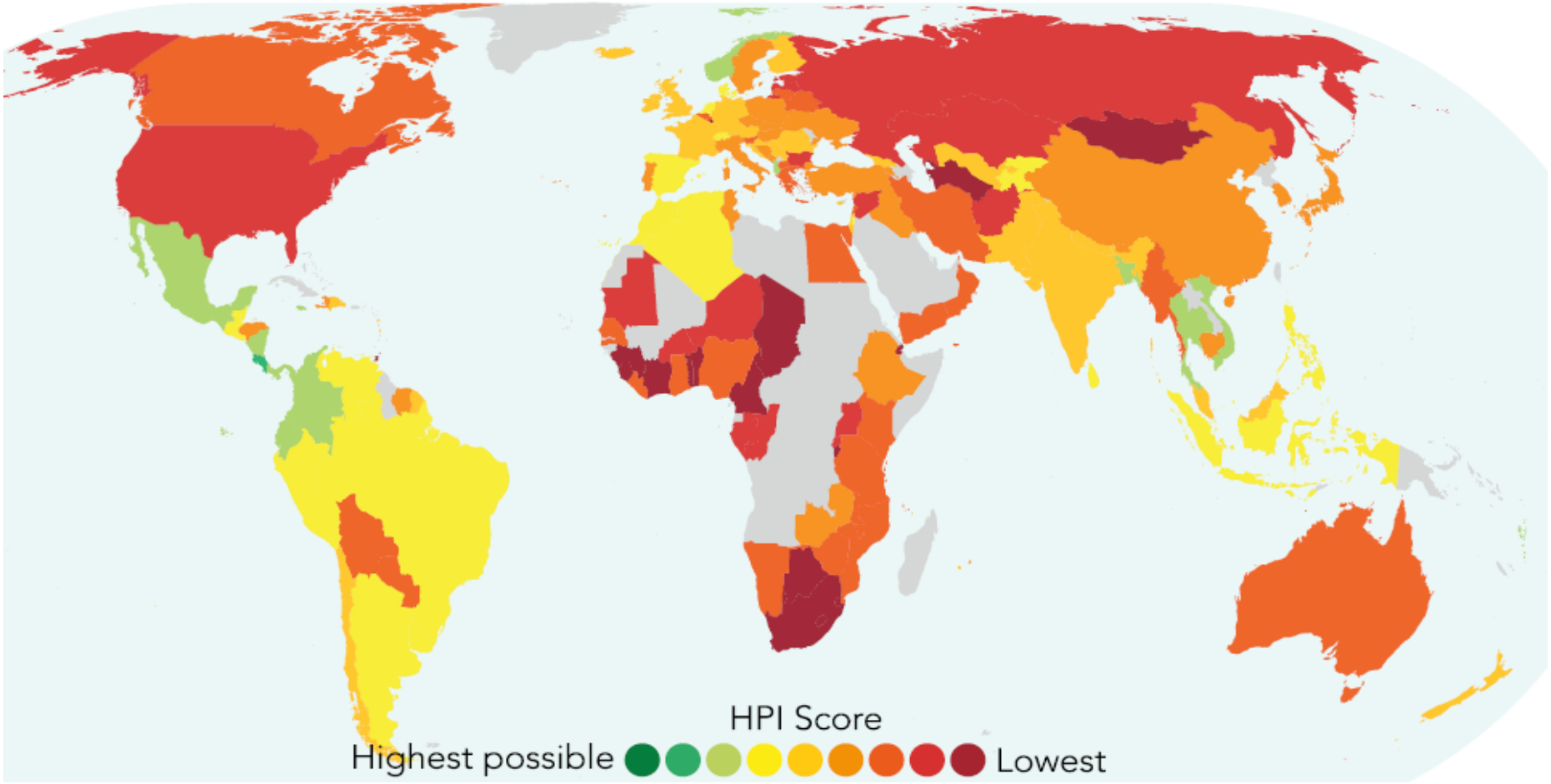


http://happyplanetindex.org

Countries in HPI

The Global HPI incorporates 4 indicators: **ecological footprint, life-satisfaction, inequality and life expectancy**.

http://happyplanetindex.org/



Source: Happy Planet Index Report by New Economics Foundation

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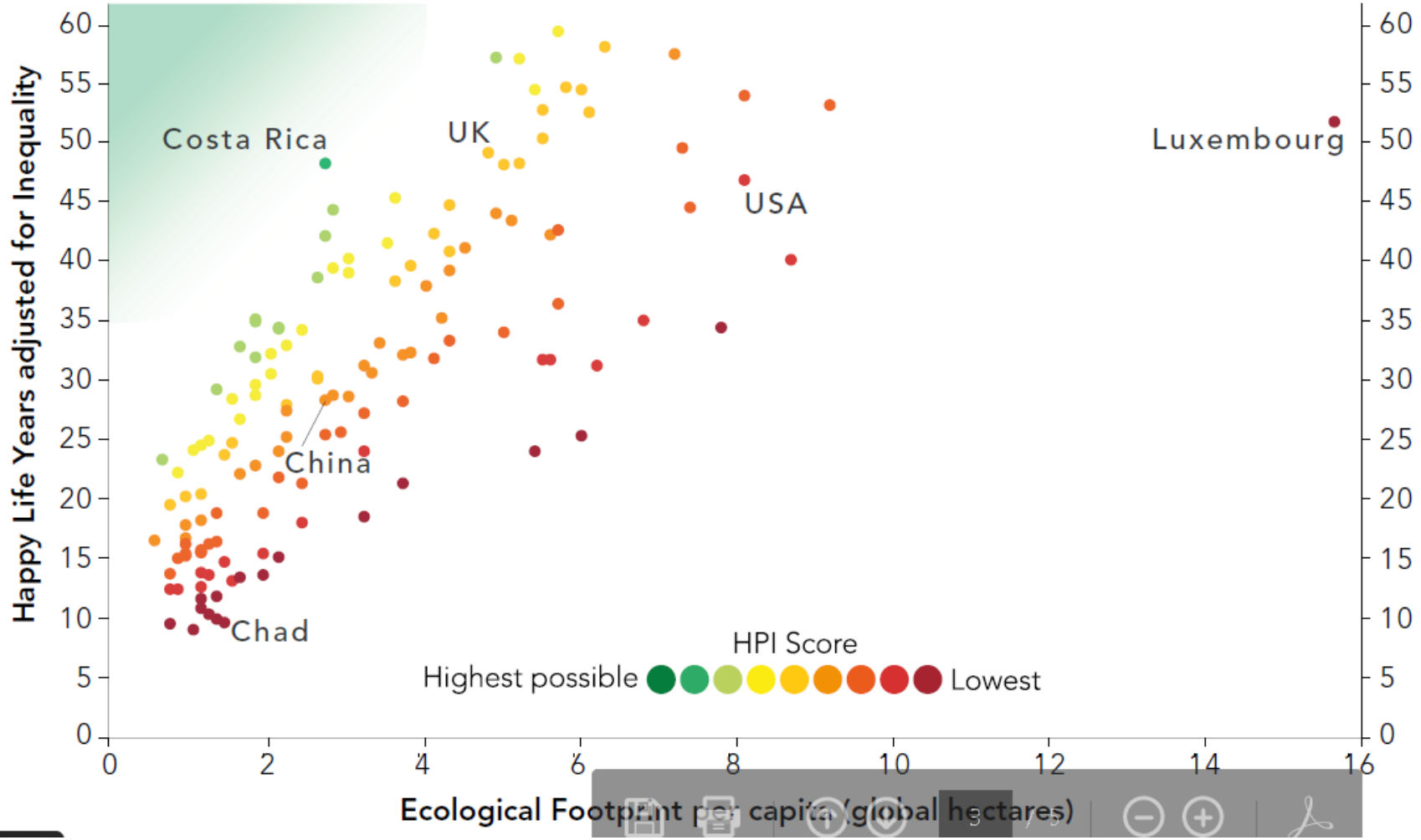
Does the ecological footprint need to grow in order for a country to increase its citizens' well-being?

Jan 10, 2019

Happy Life Years against Ecological Footprint



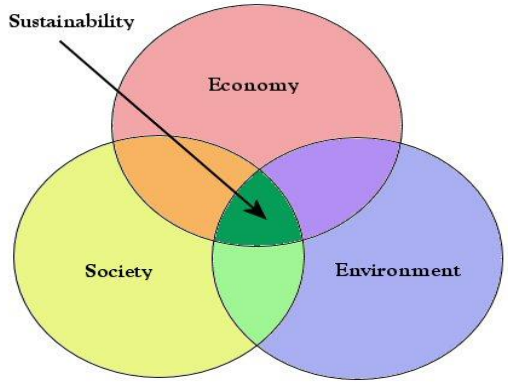
USA & the Netherlands

USA & Costa Rica

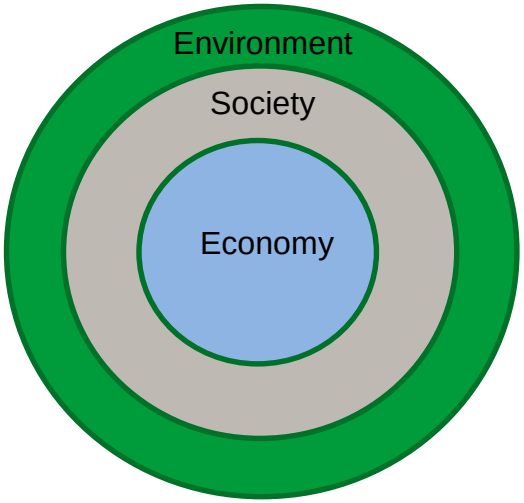
Vietnam and Cameroon

From challenges toward solutions

Sustainable development



The conventional economic view of the interaction between economy, society and environment



But: The economy operates within society and society is embedded within the natural world

Source: ”Green Economics”, Cato 2009

Summary

- Humanity overuses nature, risking the livability of the planet
- GDP, the predominant economic indicator measuring success of nations does not appropriately reflect well-being of citizens
- Wealth and well-being are inequally distributed
- It is possible to achieve high life satisfaction and long life expectancy without over-stretching the planet's resources, but it requires appropriate paradigms, policies, business, and consumption habits