Theories and Practices of Sustainable Development (TPSD)

2025/26

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Theories and practices of Sustainable Development - Course calendar (2025/2026)

	Date	Time	Theme (s)	Lecturer
1	21/fev	11-13 h	Introduction to the course. What is development?	JLS
2	28/fev	9-11 h	What is sustainability? What is sustainable development?	JLS
3	6/mar	18-20 h	Three pillars of sustainable development? Gro Harlem Brundtland versus Herman Daly.	JLS
4	13/mar	16-18 h	Introduction to the Group Work	JLS + PFR
5	20/mar	14-16 h	Weak versus strong sustainability. The indicators of Sustainable Development.	JLS
6	28/mar	11-13 h	The ecology of unsustainability: what are the (planetary and local) boundaries?	MC
7	11/abr	9-11 h	Ecological indicators of unsustainability: where exactly is the boundary? Are we overshooting it? (globally and locally)	MC
8	17/abr	18-20 h	First presentation of the group work	all
9	8/mai	16-18 h	The governance of natural resource use	MJC
10	15/mai	14-16 h	Benefits and costs of conservation for local people in protected areas of developing countries	MJC
11	23/mai	11-13 h	The economics of unsustainability. Market failure and public policy. Global public goods and global market failure. Regulation versus economic incentives.	JLS
12	30/mai	9-11 h	Voluntary carbon markets: potential and limitations.	RT
13	5/jun	18-20 h	Second presentation of the group work	all
14	26/jun	14-16 h	The successors of sustainable development: green growth, or (forced or planned) degrowth?	JLS

JLS - José Lima Santos; MJC - Maria João Canadas; MC - Maria Caldeira; PFR - Paulo Flores Ribeiro; RT - Ricardo Teixeira

Group work and evaluation

Groups of four students will carry out their analyses in three steps.

STEP 1:

- Deadline for group formation: 13th March
- Groups define their hypotheses, carry out a first round of analyses and present their results on the 17th April.
- Professors provide feedback and recommend improvements.
- Presentations are evaluated (group mark: 25% of the overall mark).

STEP 2:

- Groups improve the analyses following the recommendations, complete the analysis and present the corresponding results on the 5th June.
- Professors provide feedback and recommend improvements.
- Presentations are evaluated (group mark: 25% of the overall mark).

Group work and evaluation

STEP 3:

- Groups improve the analyses following the recommendations.
- Each student writes an individual report, discussing the results, based on the hypotheses initially selected by the group.
- This report is submitted by the 14th June and evaluated (individual mark: 50% of the overall mark).

IMPORTANT : Along the process, professors are available for online support sessions to groups as requested by the students.

Theories and Practices of Sustainable Development (TPSD)

1st lecture

21-February-2026

Summary:

What is sustainable development?

- first, what is development?

1. Growth and development

2. Development metrics: opulence, standard of living and subjective wellbeing/utility/happiness

3. Capabilities, functionings and freedoms; development as freedom (Amartya Sen).

4. Redefining prosperity, the growth dilemma and the decoupling myth (Tim Jackson). GDP, wellbeing and sustainability.

What is development?

Development metrics

- GDP (opulence),
- subjective wellbeing/utility and happiness
- standard of living (A. Sen); the capacity to lead a life that most would aspire to.

- relationships between these metrics
- limits of GDP as an indicator of wellbeing or standard of life

Development as freedom (Sen)

Development as an integrated process of expansion of substantive freedoms that connect with one another (p. 8).

Freedoms of different kinds can strengthen one another. (...)

this freedom-centered understanding of economics and of the process of development is very much an agent-oriented view.

With adequate social opportunities, individuals can effectively shape their own destiny and help one another.

They need not be seen primarily as passive recipients of the benefits of cunning development programmes. There is indeed a strong rationale for recognizing the positive role of free and sustainable agency – and even of constructive impatience (p.11) That is: individuals as development agents.

Table C-9. Dimensions of the multidimensional poverty index and corresponding indicators

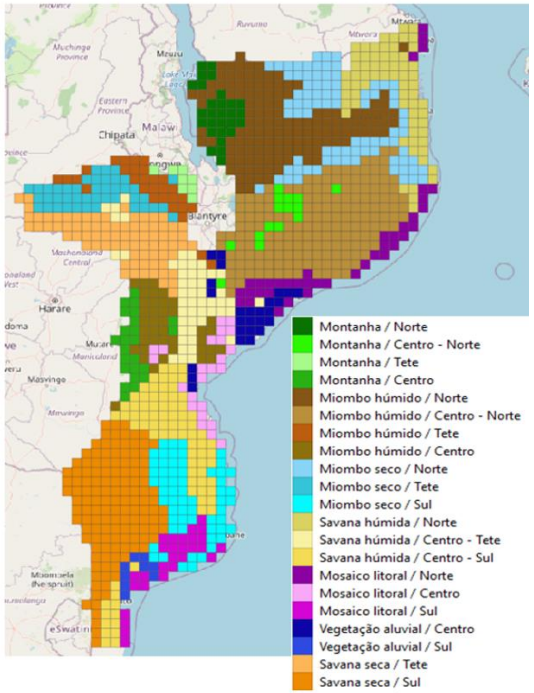
Dimensão (peso)	Indicador	LABEL	Condição de privação do agregado familiar (AF)
Educação – EDU (1/3)	Acesso à escola primária (1/9)	SCHOOL	A escola primária mais próxima está a mais de 30 minutos a pé
	Alguém no agregado familiar concluiu o EP1 (1/9)	PRIMARY	Ninguém concluiu o Ensino Primário de 1º Grau
	Grau Escolarização das crianças (1/9)	CHIEDUC	Pelo menos uma criança em idade escolar não frequenta a escola
Saúde/ Determinantes de saúde – HEALTH (1/3)	Fonte de água segura (1/15)	SAFEWAT	O AF não usa água canalizada (dentro de casa, fora da casa/quintal), ou água do fontenário, ou água de furo ou poço com bomba mecânica ou manual, ou água mineral, ou água engarrafada
	Saneamento seguro (1/15)	SAFESANIT	O AF usa latrina não melhorada, ou não tem nenhum tipo de retrete ou latrina
	Acesso à saúde (1/15)	HEALTHCARE	A unidade sanitária mais próxima está a mais de 30 minutos a pé
	Acesso a fonte de água (1/15)	WATER	A fonte de água mais próxima está a mais de 30 minutos a pé
	Desnutrição crónica (1/15)	MALNUTRI	Pelo menos uma criança entre 0 e 59 meses sofre de desnutrição crónica

Padrão de vida - LIFE STANDARD (LS) (1/3)	Pessoas por quarto (1/27)	ROOM	Tem 4 pessoas ou mais por cada quarto para dormir
	Chão (1/27)	FLOOR	O chão da casa de habitação não é feito de parquet, madeira serrada, ladrilho/mármore/tijoleira ou cimento
	Paredes (1/27)	WALLS	As paredes da casa de habitação não são feitas de blocos de cimento ou blocos de tijolo
	Cobertura de material convencional (1/27)	ROOF	A casa de habitação não está coberta por laje de betão, ou telha, ou chapas (de lusalite ou zinco)
	Acesso à electricidade (1/27)	ELECTRICITY	O AF não tem acesso à electricidade
	Acesso ao mercado (1/27)	MARKET	O mercado mais próximo está a mais de 30 minutos a pé
	Acesso ao transporte (1/27)	TRANSPORT	A paragem de transporte mais próxima está a mais de 30 minutos a pé
	Acesso à segurança (1/27)	SECURITY	O posto policial mais próximo está a mais de 30 minutos a pé
	Posse de bens duráveis, activos rurais e gado (1/27)	ASSETS	Se o AF não tem pelo menos 3 bens duráveis de uma lista de bens duráveis mais comuns (bicicleta, carro, moto, televisor, rádio, telefone, computador, impressora, cama, geleira, congelador, aparelhagem), ou não tem pelo menos 2 activos rurais (charrua, motosserra, tractor, carrinho, debulhadora, electrobomba, barco de pesca, tanque para piscicultura, maquina de costura), ou não tem pelo menos 2 cabeças de gado bovino, 2 burros, 12 cabritos, ou 24 galinhas ou patos

Multidimensional poverty index

… in several regions in Moçambique

Source: FARSYMABI project



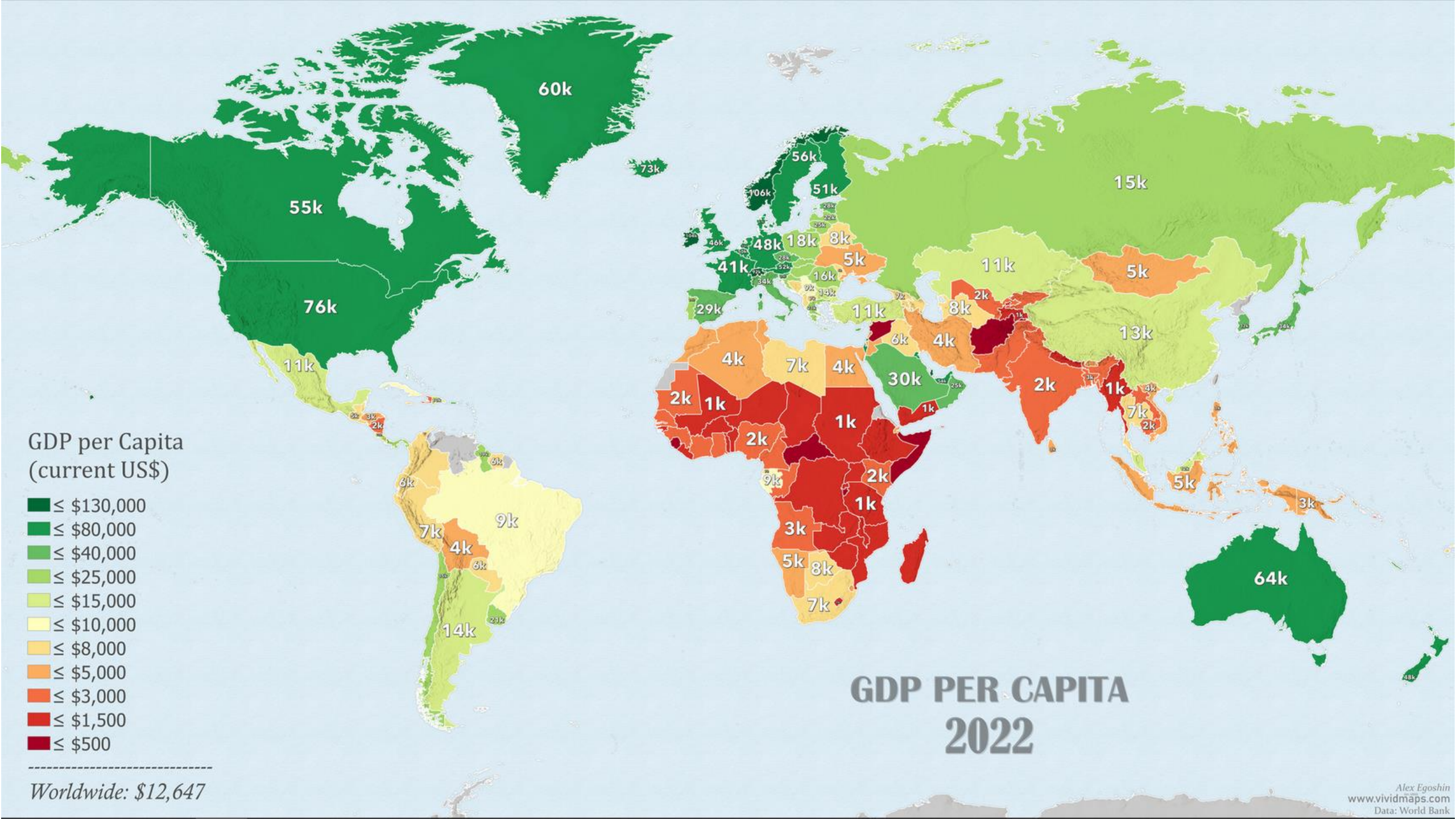
Região socioecologicamente homogénea	N	% dos agregados que sofreram um período de insegurança alimentar durante o ano	duração média do período de insegurança alimentar (em meses)	Educação	Saúde	(Desnutrição crónica)	Padrão de vida	Índice de pobreza multidimensional
01. Mosaico de montanha do Norte	28	12,0%	0,3	9,8%	15,0%	45,3%	20,6%	15,1%
02. Mosaico de montanha do Centro-Norte	15	36,3%	1,1	12,8%	17,5%	49,1%	21,4%	17,2%
03. Mosaico de montanha de Tete	8	19,4%	0,6	12,3%	14,3%	36,1%	22,5%	16,4%
04. Mosaico de montanha do Centro	24	18,6%	0,7	14,2%	14,6%	39,5%	17,9%	15,6%
05. Miombo húmido do Norte	133	19,7%	0,7	9,4%	15,4%	45,7%	18,1%	14,3%
06. Miombo húmido do Centro-Norte	171	39,9%	1,1	11,8%	17,6%	48,1%	21,8%	17,1%
07. Miombo húmido de Tete	30	21,9%	0,6	11,4%	14,7%	39,7%	22,8%	16,3%
08. Miombo húmido do Centro	40	24,5%	0,9	12,0%	13,1%	41,0%	16,3%	13,8%
09. Miombo seco do Norte	82	40,4%	1,2	7,2%	13,1%	38,9%	14,5%	11,6%
10. Miombo seco de Tete	43	22,1%	0,7	11,8%	16,2%	40,9%	26,1%	18,0%
11. Miombo seco do Sul	60	57,5%	2,6	14,1%	12,9%	22,5%	19,3%	15,4%
12. Savana trófica húmida do Norte	66	52,8%	1,5	9,5%	17,9%	46,6%	18,0%	15,2%
13. Savana trófica húmida do Centro	51	52,8%	1,9	13,4%	14,4%	43,0%	20,0%	15,9%
14. Savana trófica húmida do Sul	80	47,8%	2,2	14,5%	14,2%	31,1%	18,3%	15,7%
15. Mosaico litoral do Norte	39	52,6%	1,6	10,5%	16,0%	43,1%	19,2%	15,2%
16. Mosaico litoral do Centro	24	47,5%	1,8	12,9%	12,3%	31,0%	15,2%	13,5%
17. Mosaico litoral do Sul	28	56,8%	3,0	15,0%	13,0%	25,3%	15,6%	14,5%
18. Vegetação aluvial do Centro	26	48,1%	1,8	13,2%	15,5%	44,3%	19,9%	16,2%
19. Vegetação aluvial do Sul	9	65,6%	4,0	14,0%	8,5%	27,6%	11,1%	11,2%
20. Savana seca de Tete	78	46,4%	1,6	13,9%	14,4%	41,2%	20,4%	16,2%
21. Savana seca do Sul	130	69,0%	4,4	12,7%	8,6%	22,0%	13,1%	11,5%

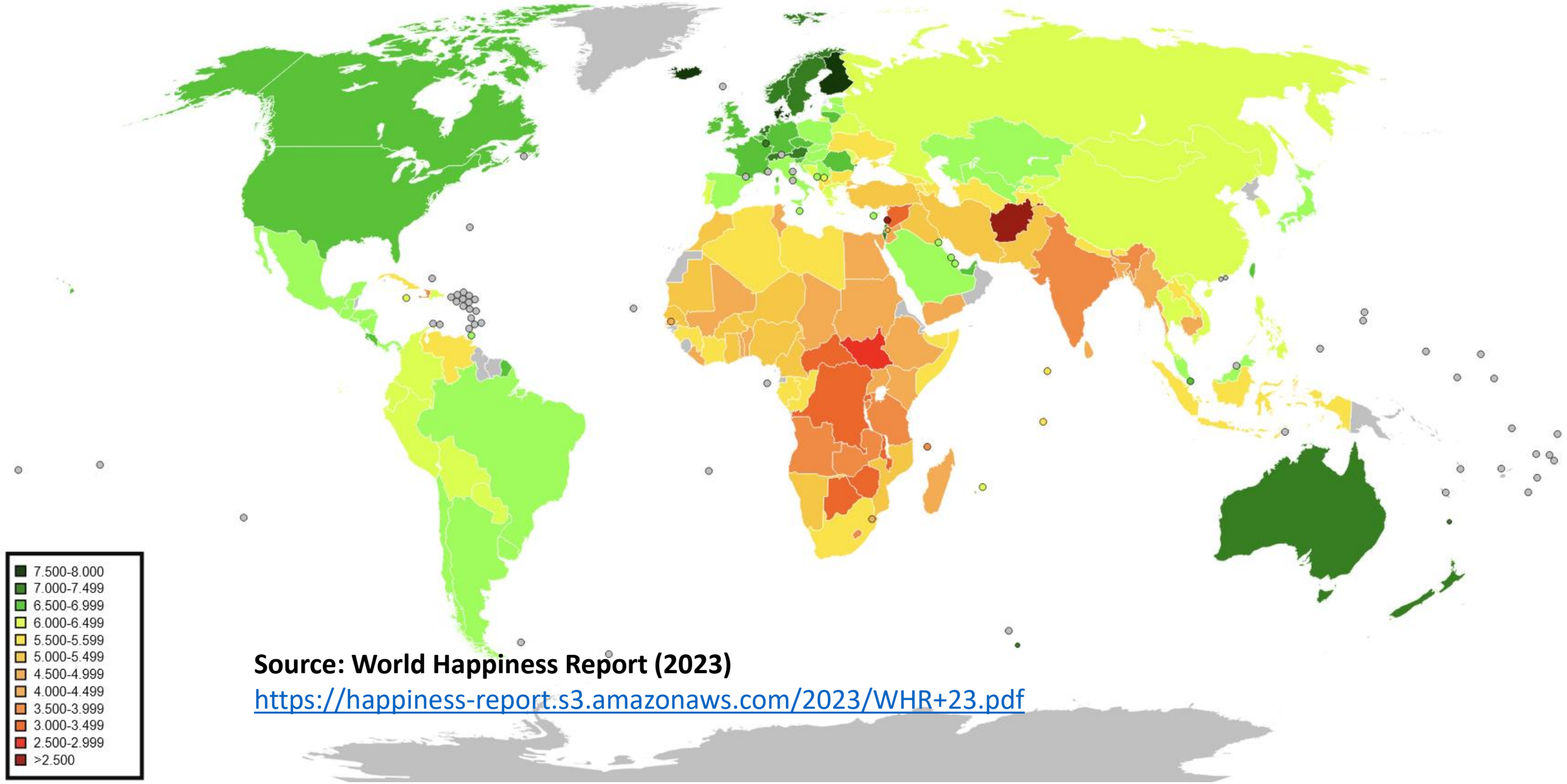
Education and health care is ***not*** a luxury that only richer countries can afford

The pioneering example of enhancing economic growth through social opportunity, especially in basic education, is of course Japan. It is sometimes forgotten that Japan had a higher rate of literacy than Europe had even at the time of the Meiji restoration in the mid nineteenth century, when industrialization had not yet occurred there but had gone on for many decades in Europe. Japan's economic development was clearly much helped by the human resource development related to the social opportunities that were generated. The so-called East Asian miracle involving other countries in East Asia was, to a great extent, based on similar causal connections.

Education and health care is ***not*** a luxury that only richer countries can afford

This approach goes against - and to a great extent undermines the belief that has been so dominant in many policy circles that "human development" (as the process of expanding education, health care and other conditions of human life is often called) is really a kind of luxury that only richer countries can afford . Perhaps the most important impact of the type of success that the East Asian economies, beginning with Japan, have had is the total undermining of that implicit prejudice. These economies went comparatively early for massive expansion of education, and later also of health care, and this they did, in many cases, before they broke the restraints of general poverty. And they have reaped as they have sown. Indeed, as Hiromitsu Ishi has pointed out, the priority to human resource development applies particularly to the early history of Japanese economic development, beginning with the Meiji era (I868-I9II), and that focus has not intensified with economic affluence as Japan has grown richer and much more opulent. (p. 41).


GDP per Capita
(current US$)
≤ $130,000
≤ $80,000
≤ $40,000
≤ $25,000
≤ $15,000
≤ $10,000
≤ $8,000
≤ $5,000
≤ $3,000
≤ $1,500
≤ $500
Worldwide: $12,647
GDP PER CAPITA
2022
Alex Egoshin
www.vividmaps.com
Data: World Bank



Source: World Happiness Report (2023)

https://happiness-report.s3.amazonaws.com/2023/WHR+23.pdf

C. Life Satisfaction (United States)

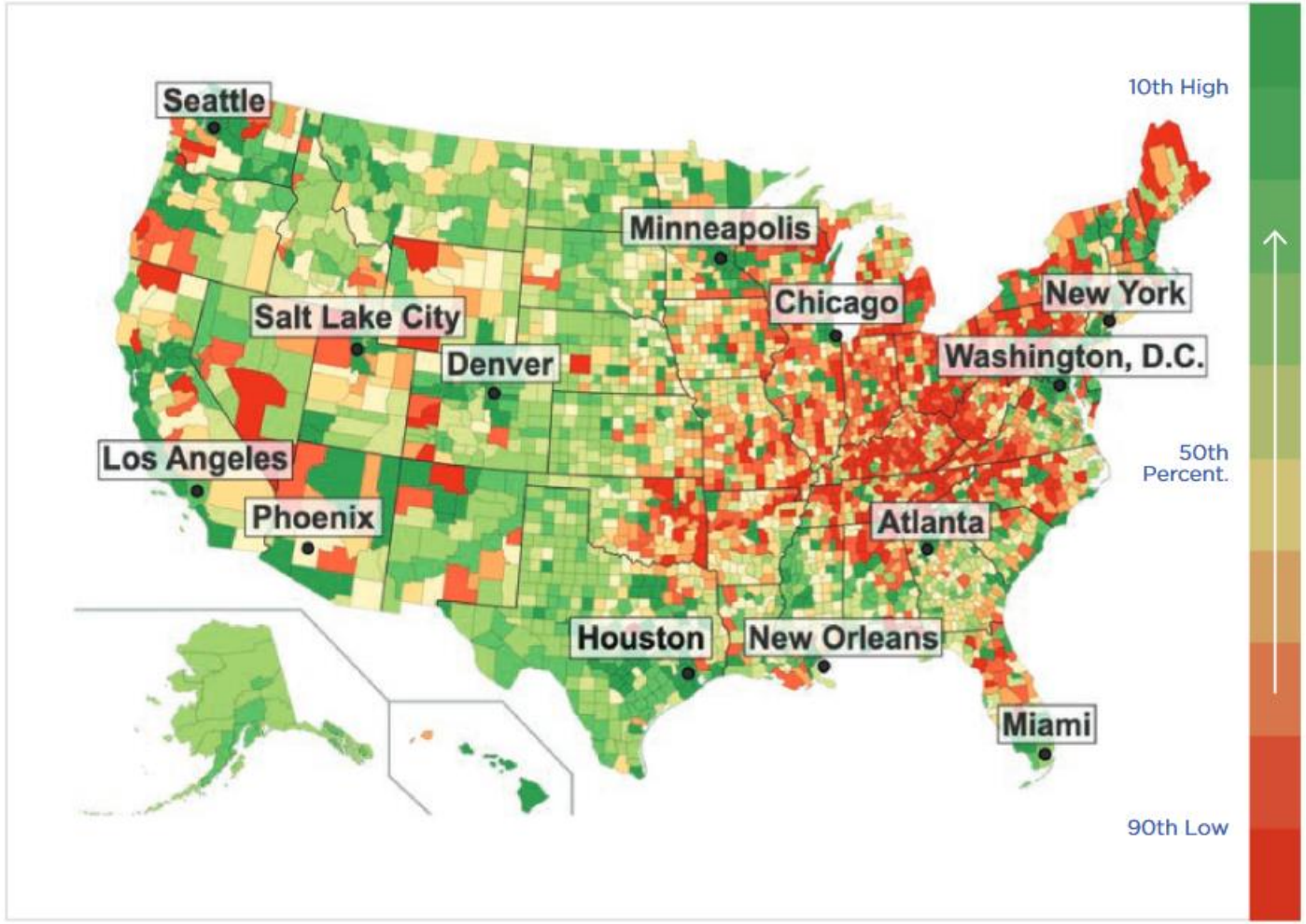


Figure 5.1: Scalable population measurement of well-being through Twitter. **A:** in Spain, based on 2015 Twitter data and Spanish well-being language models measuring PERMA: Positive Emotions, Engagement, Relationships, Meaning, and Accomplishment based on custom dictionaries,[28] **B:** in Mexico, built on Spanish sentiment models and provided by a web dashboard through Mexico's *Instituto Nacional de Estadística y Geografía*,[29] and **C:** for U.S. counties,[30] with interpolation of missing counties provided through a Gaussian process model using demographic and socioeconomic similarity between counties.[31]

A.

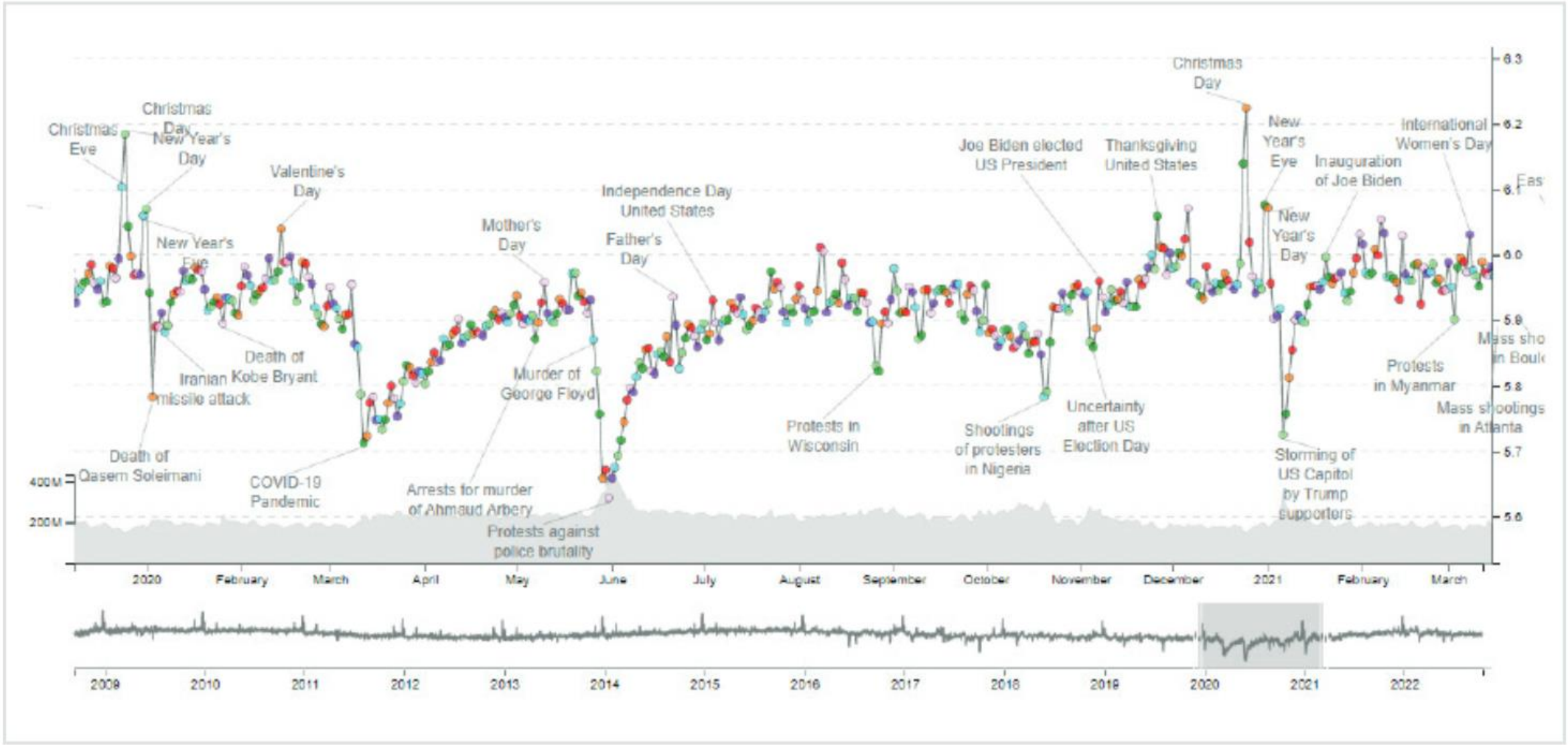
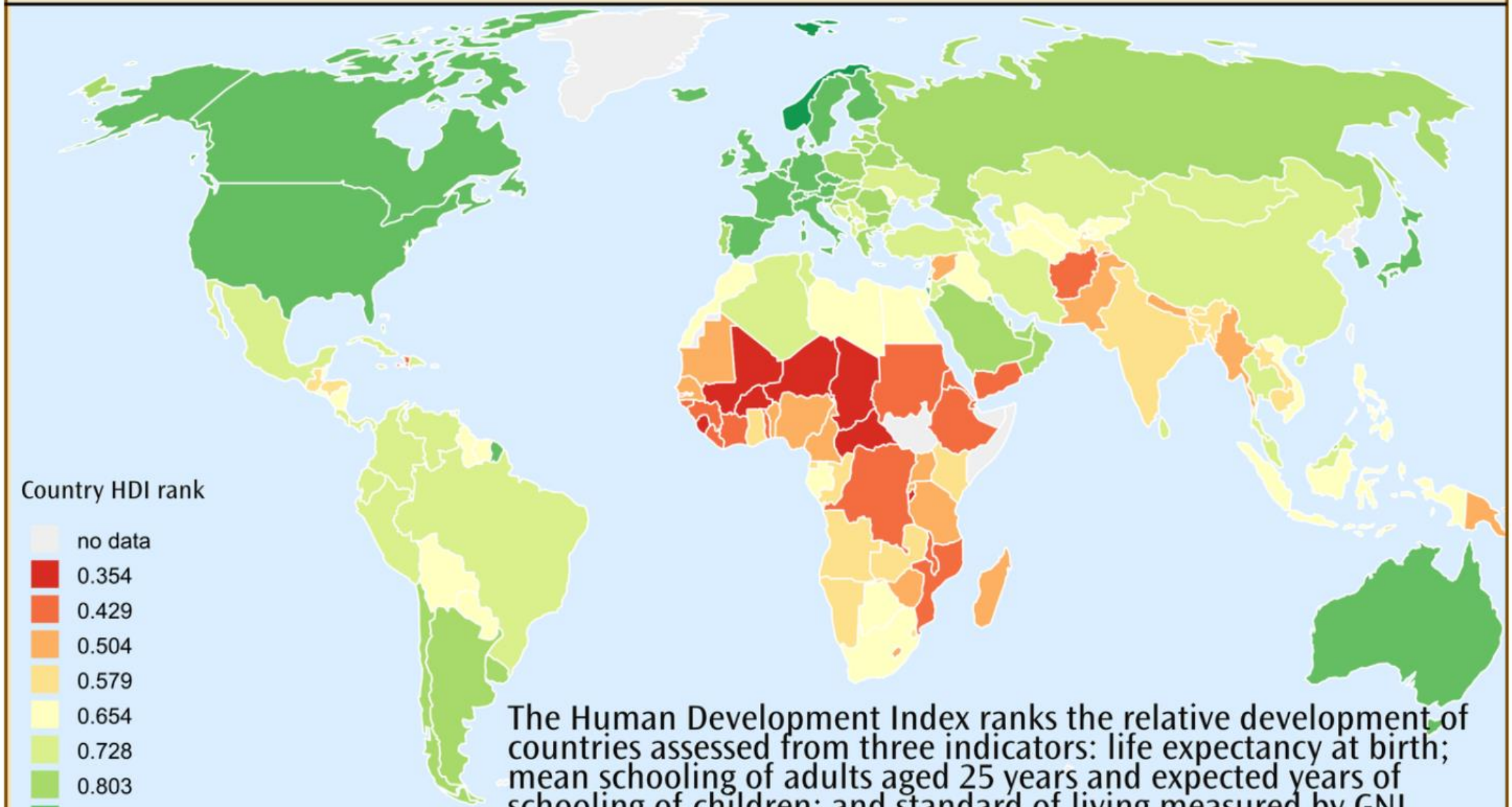


Figure 5.4. The Hedonometer measures happiness by analyzing keywords from random Twitter feeds – across **A)** time based on a 10% random Twitter feed,[77] **B)** U.S. States.[78] This method has also been applied to **C)** Census tracts.[79]

HUMAN DEVELOPMENT INDEX (HDI)

HDI RANKS, 2019: NORWAY—1; AUSTRALIA—3; CANADA—12; USA—13; JAPAN—19; CHILE—43; RUSSIA—48; CHINA—85; SIERRA LEONE—179; NIGER—184



The Human Development Index ranks the relative development of countries assessed from three indicators: life expectancy at birth; mean schooling of adults aged 25 years and expected years of schooling of children; and standard of living measured by GNI (gross national income) per capita.

United Nations Development Program (UNDP) Human Development Report; hdr.undp.org/en/content/human-development-index-hdi

Weaknesses of (average) per capita GDP as an indicator of wellbeing or standard of life

- **Relationship between satisfaction/ wellbeing and pc GDP is not linear -> replace pc GDP with a satisfaction indicator (subjective)**
- pc GDP does not take into account unequality -> replace GDP with income (GDP-amortization), use the percentile 20 of income;
- Household (non-market) and informal (non legal) work is not included in GDP -> estimate these produced G&S and included it in GDP;
- The ecosystem and environmetal services are not included in GDP calculation -> estimate the value of those services and include this value in Green GDP

Weaknesses of (average) per capita GDP as an indicator of wellbeing or standard of life

- Use the average between pc GDP and capacity or standard-of-living indicators – IDH / HDI

- GDP includes defensive expenditure, which are indicators of underdevelopment -> calculating def. expenditure and subtracting from GDP

Figure 6 **Happiness and average annual income**[15]

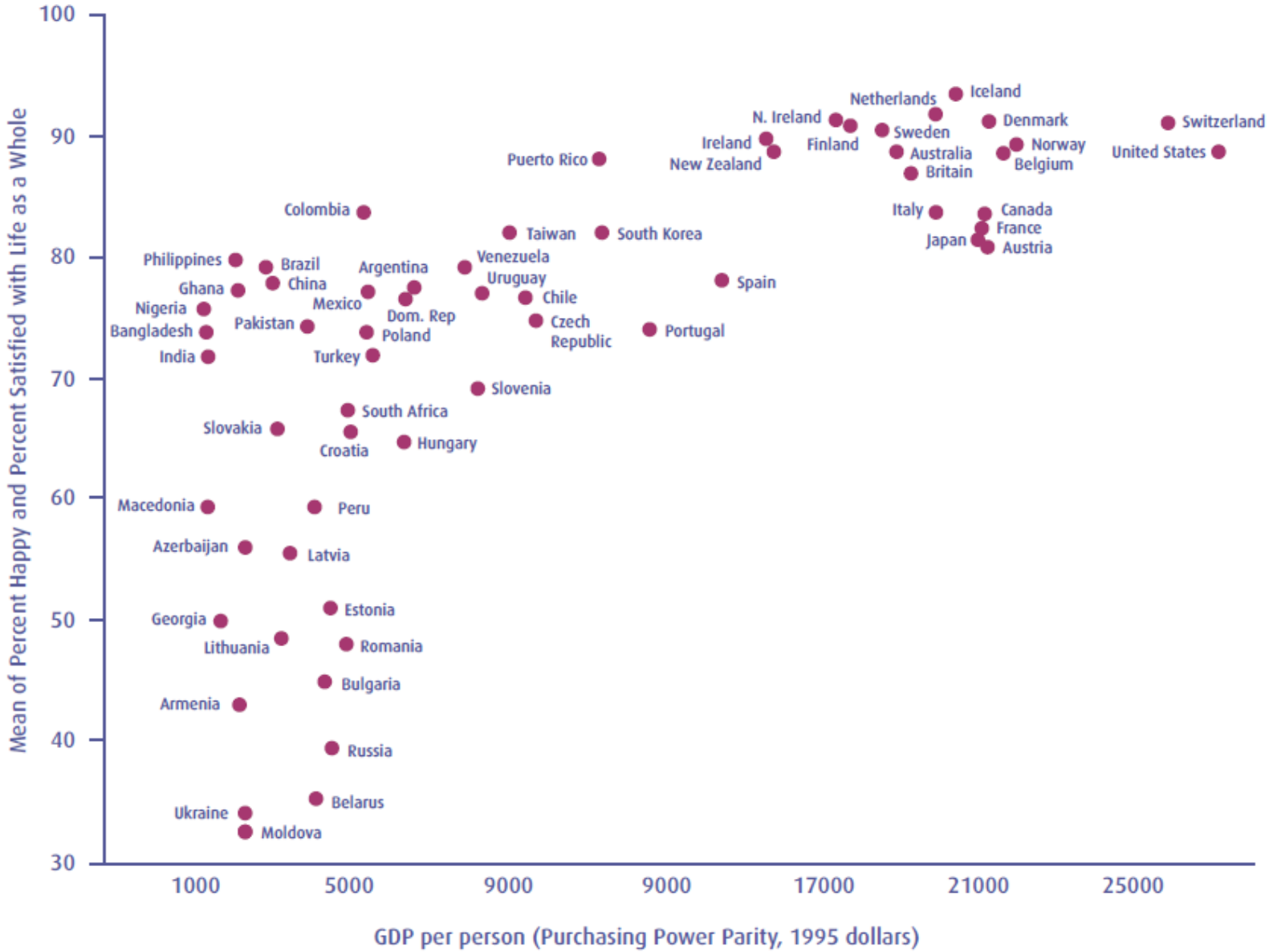


Figure 8 **Life expectancy at birth vs average annual income**[16]

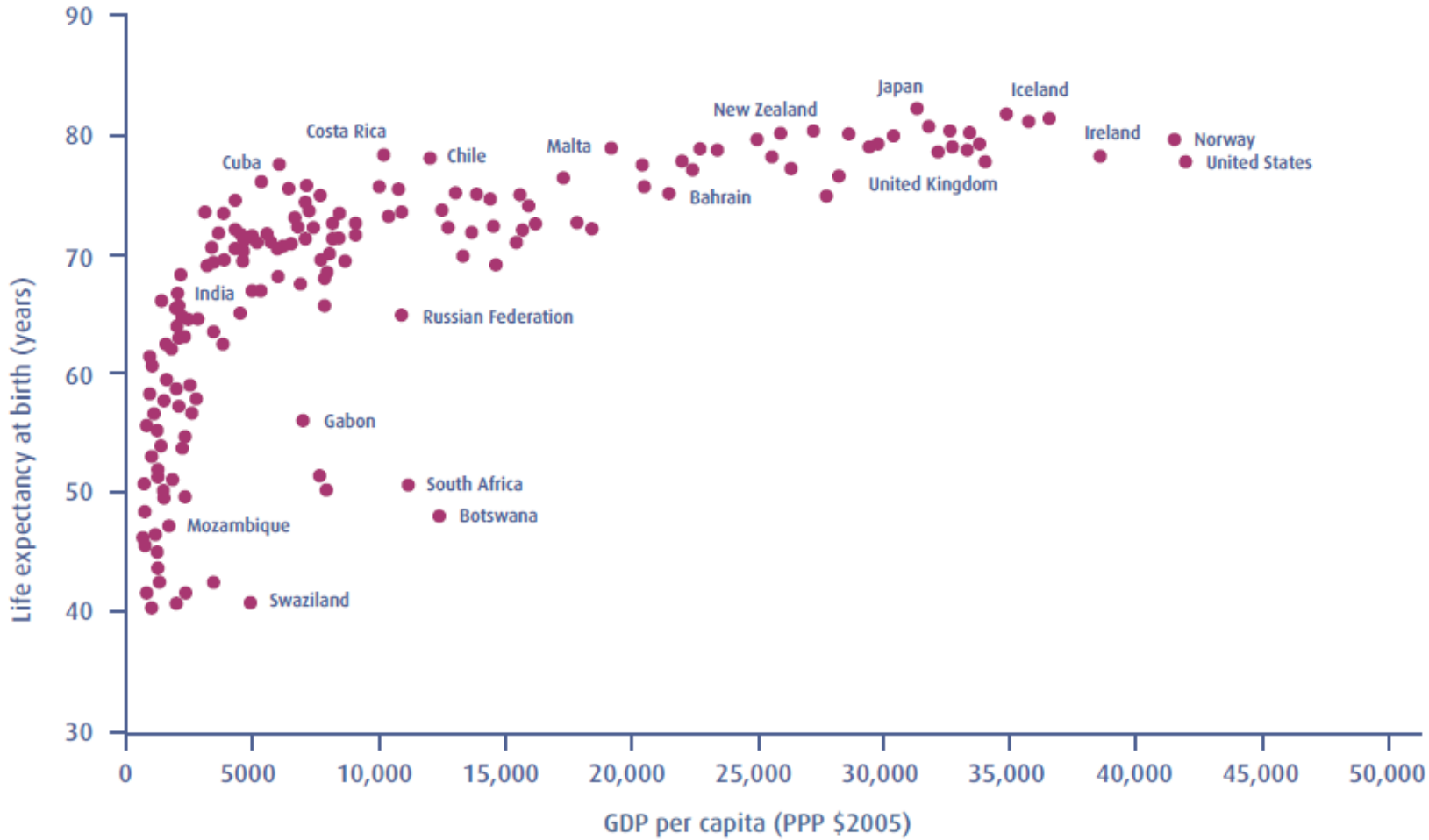


Figure 9 **Infant mortality vs per capita income**[17]

Figure 10 **Participation in education vs income per capita**[18]

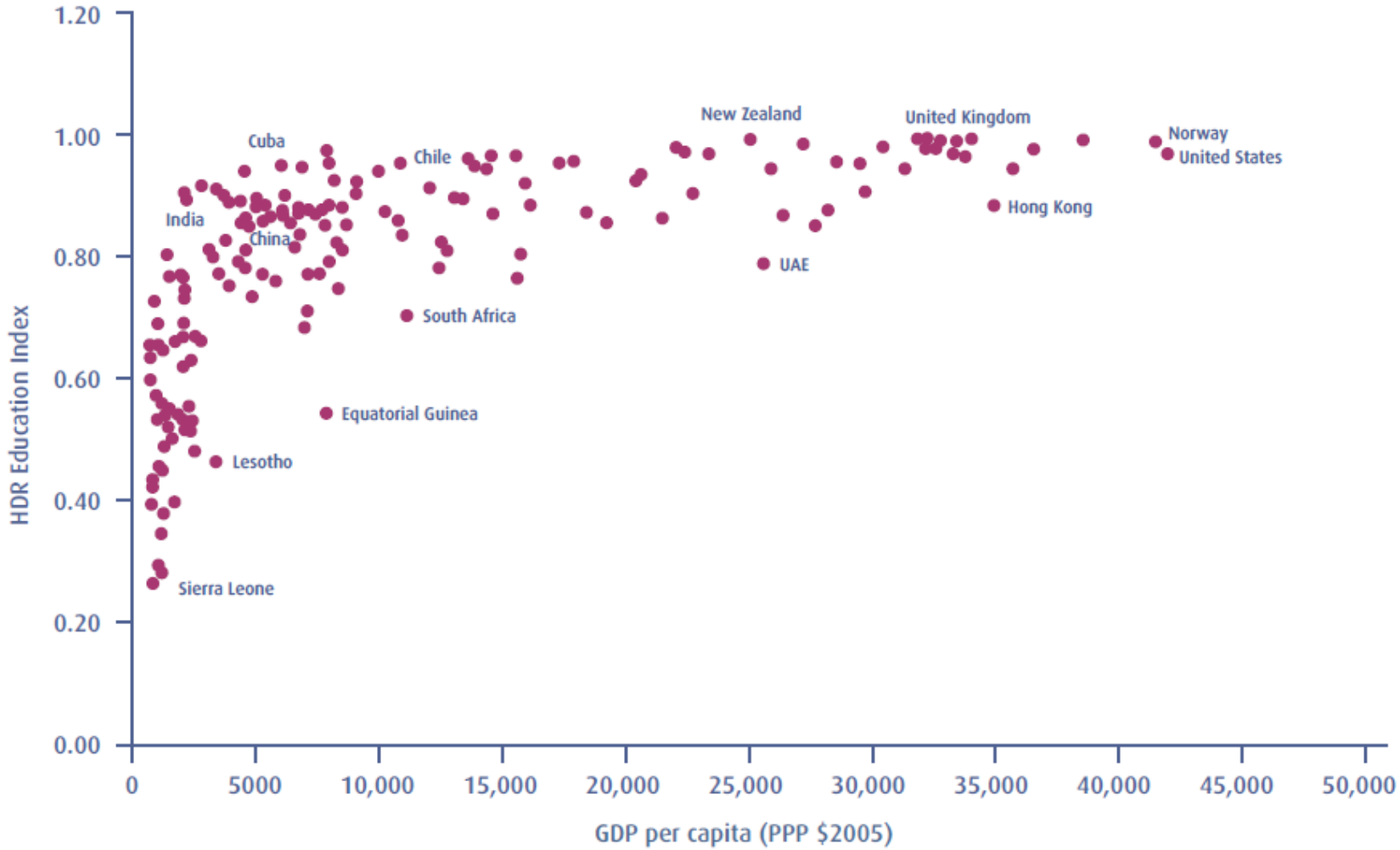


Figure 11 **Changes in average life-expectancy and income over time**[21]