

E0320, CORE003

Udržitelný rozvoj – největší výzva současnosti?



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Jak se ted' cítíte?





1972

Rozvoj společnosti – co je to?

V Česku se žije líp než v USA, v kvalitě života jsme 24. ze 149 zemí

18. září 2019 7:17, aktualizováno 8:42



Česko je v kvalitě života podle nového indexu společnosti Deloitte na 24. místě. Společnost sestavuje žebříček ze 149 hodnocených zemí. Oproti loňsku si Česká republika polepšila o dvě příčky, je i před USA. Prvenství udrželo Norsko, na druhé místo poskočilo Dánsko, bronz obhájilo Švýcarsko. Nejhůř se žije lidem v Africe.



ilustrační snímek | foto: Jan Pešek, MF DNES

Na konci hodnocení se umístily africké státy Čad či Středoafrická republika a poslední je Jižní Súdán. Žebříček sestavuje společnost [Deloitte](#) každoročně s

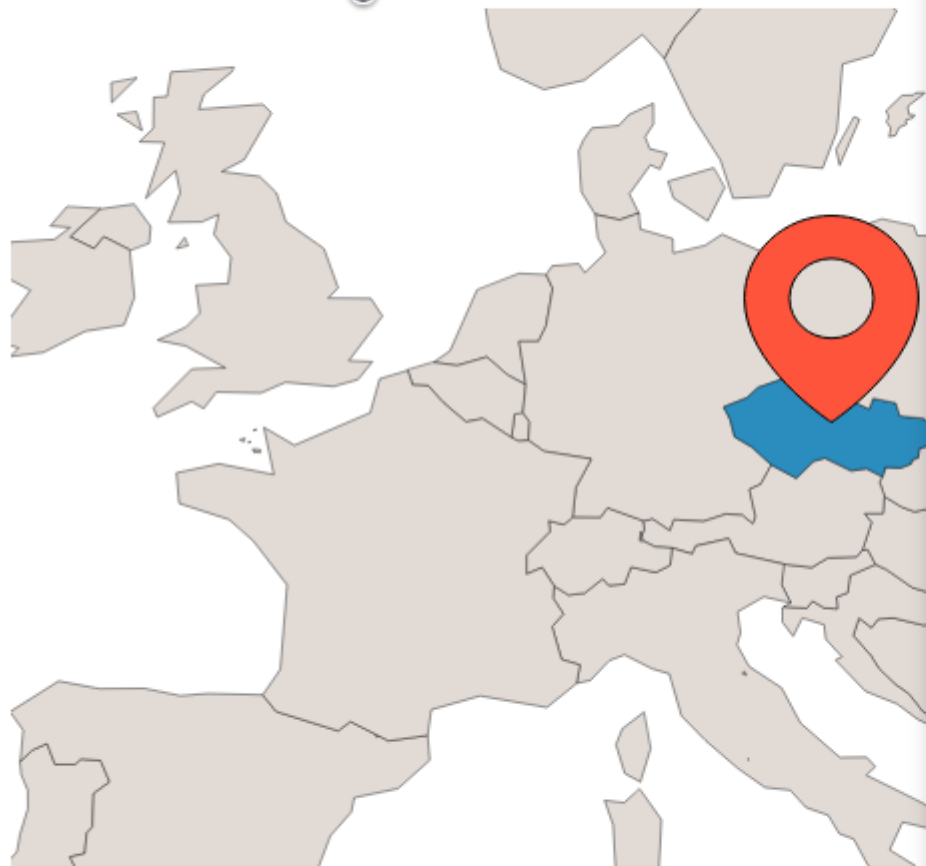
Reklama

19/10/2019 O₂ arena

ČESKÝ
MEZIDAN
S IMPULSEM

[Explore Map](#)[See Scorecard](#)[Compare Countries](#)[Download Data](#)

Zoom

[<> Embed](#)[Download map](#)Social Progress Tier ■ 1

SOCIAL PROGRESS SUMMARY



Czechia

Score

86.60

Rank

22

[See scorecard](#)

Dimensions

BASIC HUMAN NEEDS

94.44

FOUNDATIONS OF WELLBEING

86.07

OPPORTUNITY

79.27

Highest component scores

Nutrition and Basic Medical Care	98.42
Access to Basic Knowledge	98.40
Water and Sanitation	98.10
Personal Rights	93.61
Shelter	92.94

Lowest component scores

Inclusiveness	63.64
Access to Advanced Education	78.17
Health and Wellness	80.70
Personal Freedom and Choice	81.67
Environmental Quality	81.89

[See scorecard](#)

Czechia ▼

Social Progress Index
GDP PPP per capita

score/value
86.60/100
\$38,319

rank
22/168
30/163



The scorecard highlights a country's relative strengths and relative weaknesses compared to 15 peer countries with a similar GDP per capita. Elements of the Social Progress Index are marked with a blue dot where the country performs comparatively well, a red dot where it performs relatively poorly, a yellow dot where its performance is average for its peer group, and a gray dot when there isn't sufficient data to make a judgment. Elements marked with a blue ring are areas where the country slightly over-performs while areas where the country slightly under-performs are marked with a red ring.

For information on how scorecards are calculated, please consult the [methodology report](#).

	score/ value	rank	strength/ weakness		score/ value	rank	strength/ weakness		score/ value	rank	strength/ weakness
Basic Human Needs	94.44	13		Foundations of Wellbeing	86.07	28		Opportunity	79.27	25	
Nutrition and Basic Medical Care	98.42	18		Access to Basic Knowledge	98.40	8		Personal Rights	93.61	26	
Deaths from infectious diseases	18.57	27		Women with no schooling	0.00	2		Access to justice	0.99	5	
Child mortality rate	3.18	14		Equal access to quality education	3.64	17		Freedom of expression	0.93	29	
Child stunting	2.09	24		Primary school enrollment	99.59	24		Freedom of religion	3.63	63	
Maternal mortality rate	5.74	15		Secondary school attainment	100.00	1		Political rights	36.00	34	
Undernourishment	2.50	1		Gender parity in secondary attainment	0.00	1		Property rights for women	4.73	41	
Water and Sanitation	98.10	30		Access to Information and Communications	83.29	41		Personal Freedom and Choice	81.67	22	
Access to improved sanitation	1.00	32		Access to online governance	0.73	65		Satisfied demand for contraception	84.30	25	
Access to improved water source	1.00	39		Internet users	80.87	45		Perception of corruption	54.00	41	
Unsafe water, sanitation and hygiene attributable deaths	0.43	39		Media censorship	2.92	54		Early marriage	0.76	8	
Shelter	92.94	18		Mobile telephone subscriptions	122.57	1		Young people not in education, employment or training	5.66	9	
Household air pollution attributable deaths	0.37	47		Health and Wellness	80.70	31		Vulnerable employment	13.77	46	
Dissatisfaction with housing affordability	0.36	43		Life expectancy at 60	22.38	41		Inclusiveness	63.64	30	
Access to electricity	100.00	1		Premature deaths from non-communicable diseases	279.09	52		Equality of political power by gender	2.22	56	
Usage of clean fuels and technology for cooking	100.00	1		Equal access to quality healthcare	3.87	3		Equality of political power by social group	2.92	29	
Personal Safety	88.32	16		Access to essential health services	88.89	30		Equality of political power by socioeconomic position	2.53	45	
Deaths from interpersonal violence	0.86	23		Environmental Quality	81.89	29		Discrimination and violence against minorities	4.60	56	
Transportation related fatalities	7.14	30		Outdoor air pollution attributable deaths	28.81	62		Acceptance of gays and lesbians	0.70	26	
Perceived criminality	2.00	8		Deaths from lead exposure	3.53	35		Access to Advanced Education	78.17	27	
Political killings and torture	0.99	3		Particulate matter pollution	15.67	46		Citable documents	2.32	22	
				Species protection	100.00	10		Academic freedom	0.94	18	
								Women with advanced education	0.75	20	
								Expected years of tertiary schooling	2.81	52	
								Quality weighted universities	49.80	28	

Jaké GLOBÁLNÍ výzvy považujete za nejnaléhavější?

Výživa a základní zdravotní péče

Svoboda a možnost volby

Dostupné bydlení

Osobní bezpečnost

Garance lidských práv

Dostupnost základního vzdělání

Přístup k informacím

Dostupné a kvalitní zdravotnictví

Rovnost mezi ženami a muži a inkluzivnost

Kvalita životního prostředí

Dostupnost vyššího vzdělání

Dostupnost pitné vody a kvalitních záchodů

[Home](#) >

The Millennium Development Goals

Eight Goals for 2015



1 Eradicate extreme poverty and hunger



2 Achieve universal primary education



3 Promote gender equality and empower women



4 Reduce child mortality



5 Improve maternal health



6 Combat HIV/AIDS, malaria and other diseases



7 Ensure environmental sustainability



8 Develop a global partnership for development



Final assessment of progress toward achieving the MDGs

The most successful anti-poverty movement in history

An inspiring framework that has led to many successes in numerous development areas since 2000

The successes of the MDG agenda prove that global action works. It is the only path to ensure that the new development agenda leaves no one behind

The Millennium Development Goals Report
2015



Photo: © UNICEF/Syed Altaf Ahmad



THE MILLENNIUM DEVELOPMENT GOALS (MDGs) ARE THE MOST SUCCESSFUL GLOBAL ANTI-POVERTY PUSH IN HISTORY.

AS WE APPROACH THE 2015 TARGET DATE OF THE MDGs, LET'S RALLY OUR WORLD TO STEP UP **#MDGMOMENTUM**

MDG1



ERADICATE
EXTREME POVERTY
AND HUNGER



**EXTREME
POVERTY**

RATES HAVE BEEN

CUT IN

HALF

SINCE 1990

**LET'S
STEP
UP**

**WORLD
WIDE**

**1 IN 8 REMAIN
PEOPLE HUNGRY**

SHARE

#MDGMOMENTUM

WITH YOUR COMMUNITY!



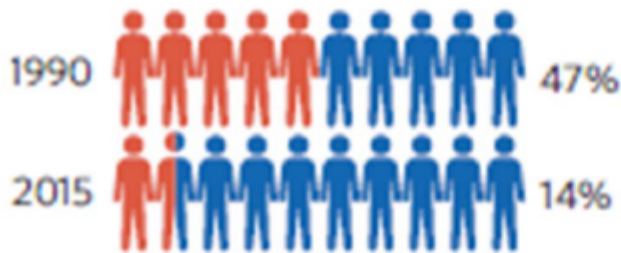
1

ERADICATE EXTREME
POVERTY AND HUNGER

Poverty rates have been more than halved

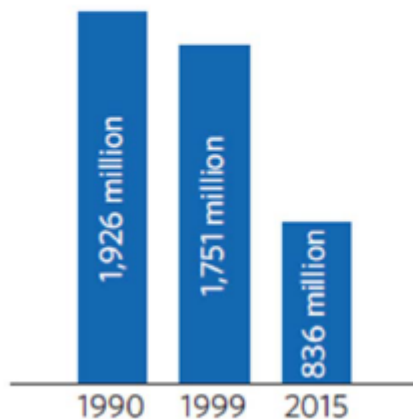
Goal: Eradicate extreme poverty and hunger

Extreme poverty rate in developing countries



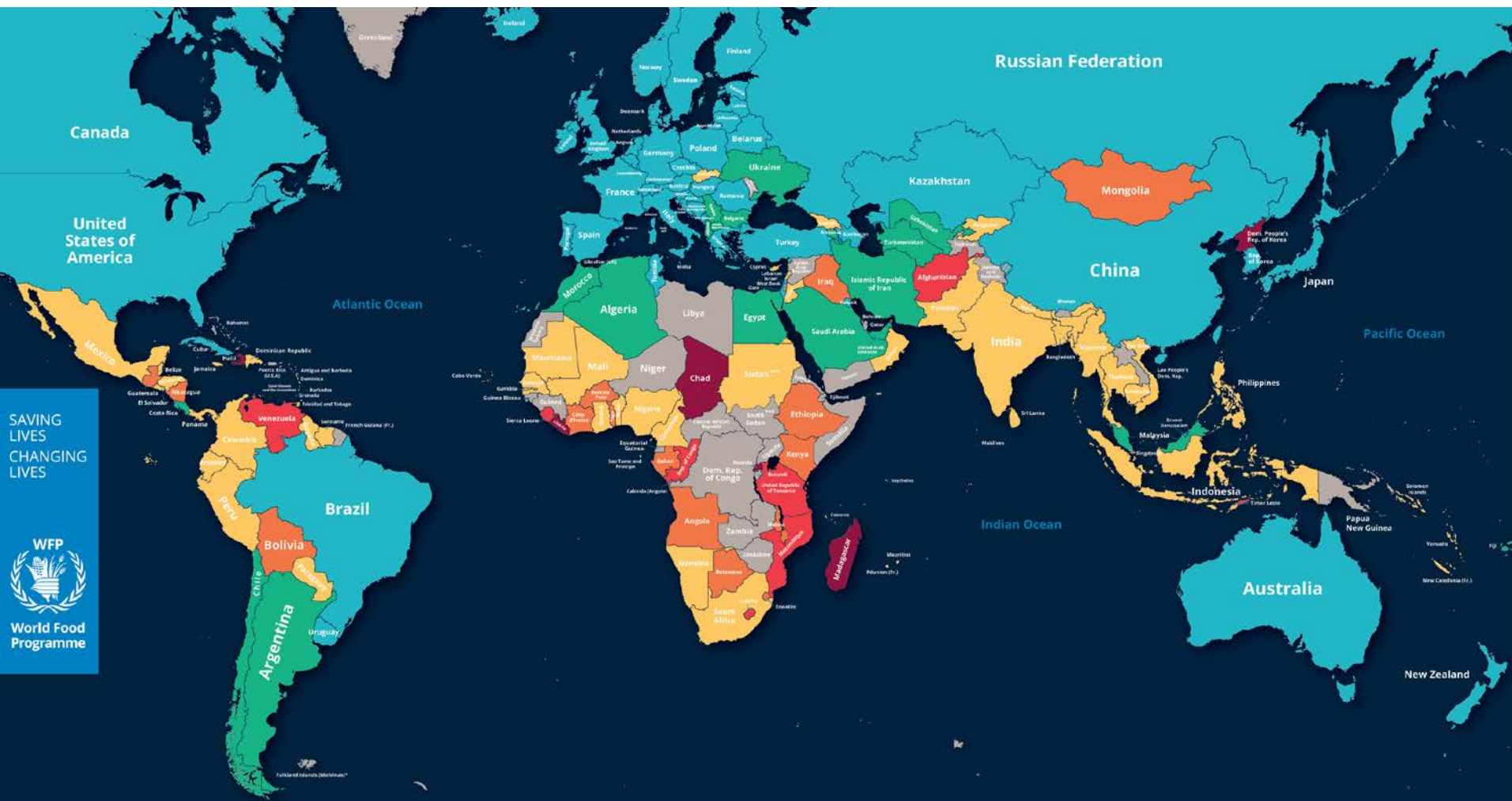
In 1990, **nearly half** of the population in the developing world lived on less than \$1.25 a day; that proportion dropped to **14 per cent** in 2015.

Global number of extreme poor



This translates to over **1 billion people** lifted out of extreme poverty.

The proportion of undernourished people in the developing regions has **fallen by almost half** since 1990.



SAVING LIVES
CHANGING LIVES



World Food Programme

Hunger Map 2020

CHRONIC HUNGER

If current trends continue, the number of hungry people will reach 840 million by 2030

<2,5% <5% 5-14,9% 15-24,9% 25-34,9% >35% DATA NOT AVAILABLE



Prevalence of undernourishment in the total population (percent) in 2017-19

Undernourishment is defined as the condition in which an individual's habitual food consumption is insufficient to provide the amount of energy required to maintain a normal active healthy life. The indicator is reported as the prevalence of undernourishment (PUN), which is an average of the prevalence of undernourishment in the total population that are in a condition of undernourishment. To reduce the influence of possible under-reporting errors in some of the underlying government's national estimates are reported as a three-year moving average. Source: FAO, UNICEF, WFP and WHO, 2020. The State of Food Security and Nutrition in the World 2020. Transforming Food Systems for Affordable Healthy Diets. Rome 2020. Further information is available at <https://www.fao.org/publications/sofi/2020/en>

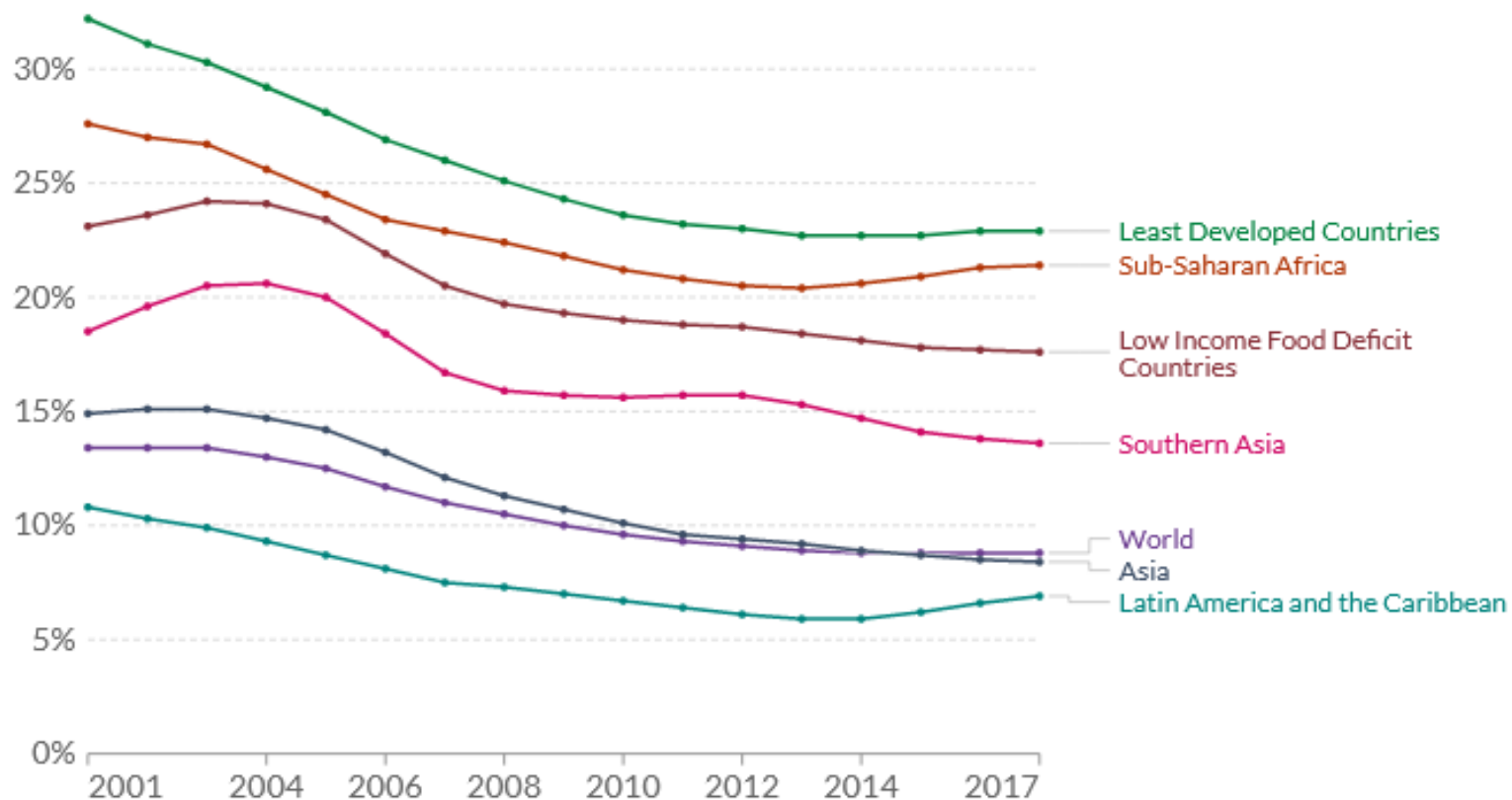
© World Food Programme 2020
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** Global food requirements approximately 100 million tonnes of grains and pulses per year by 2050. The total amount of grain and pulses produced in the world is expected to be around 100 million tonnes per year by 2050.
*** The number of hungry people is expected to reach 840 million by 2030 if current trends continue.

— National Boundary — Amplitude or International Administrative Line — Other Line of Separation — Special boundary line

Share of people who are undernourished

Undernourishment measures the share of the population that has a caloric intake which is insufficient to meet the minimum energy requirements necessary for a given individual.

+ Add region



Source: UN Food and Agriculture Organization (FAO)

OurWorldInData.org/hunger-and-undernourishment • CC BY



CHART

TABLE

SOURCES

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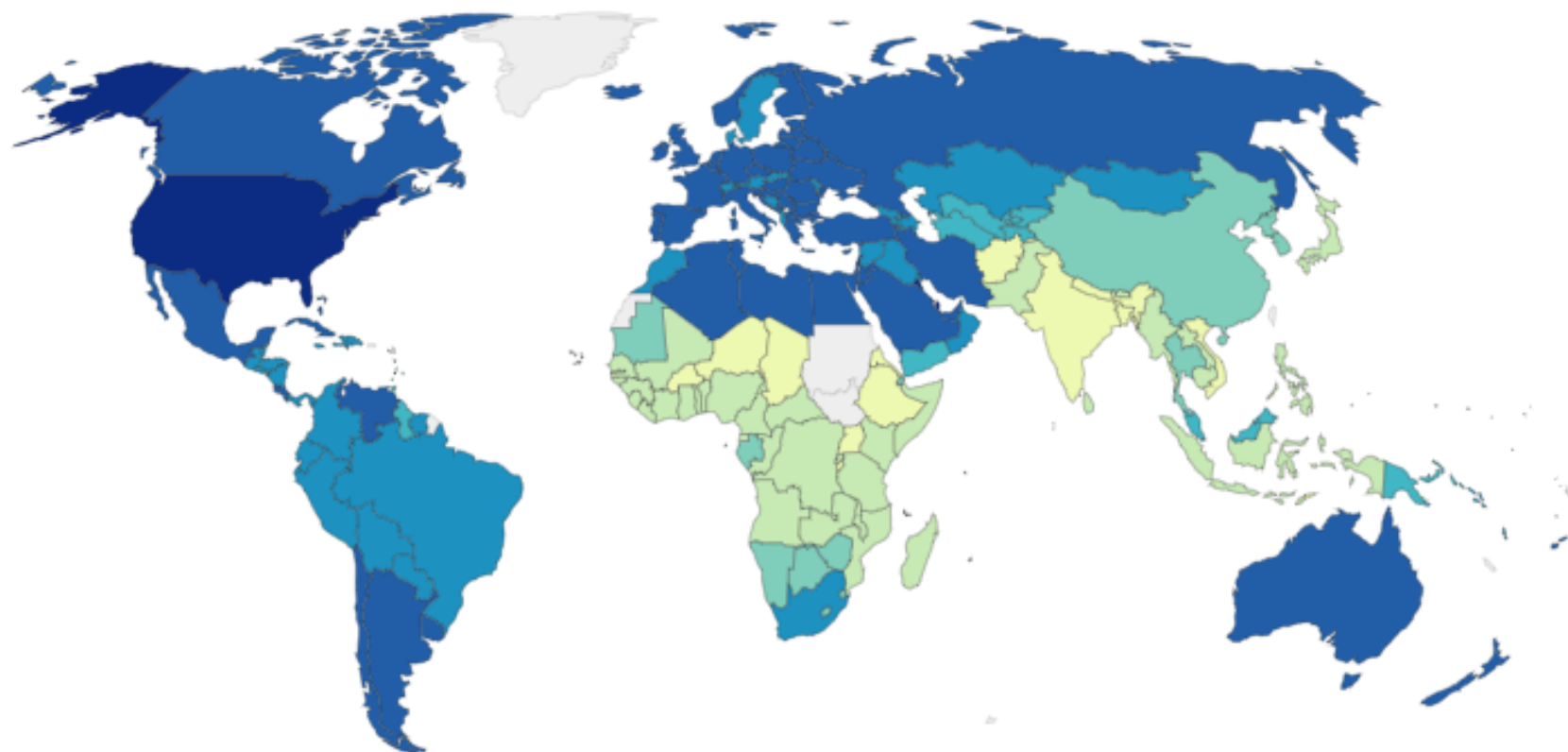
Je celosvětová produkce potravin nedostatečná?

Ano, musí
se zvýšit

Ne, je
dostačující

Share of adults that are overweight or obese, 2016

Being overweight is defined as having a body-mass index (BMI) greater than or equal to 25. Obesity is defined by a BMI greater than or equal to 30. BMI is a person's weight in kilograms divided by his or her height in metres squared.



Source: WHO, Global Health Observatory

CC BY

▶ 1975 2016

CHART

MAP

DATA

SOURCES



OBESITY WORLDWIDE

2010

1.5 BILLION
ADULTS ARE OVERWEIGHT

25%

HIGHER HEALTH CARE COSTS COMPARED TO A PERSON OF AVERAGE WEIGHT

43 MILLION CHILDREN UNDER 5 ARE OVERWEIGHT That's almost 7%!

WORLD'S FATTEST COUNTRIES

- NAURU** 94.5% overweight
- FSM** Federated States of Micronesia 91.1% overweight
- COOK ISLANDS** 90.9% overweight
- TONGA** 90.5% overweight
- NIUE** 81.7% overweight
- SAMOA** 80.4% overweight
- PALAU** 78.4% overweight
- KUWAIT** 74.2% overweight
- USA** 74.1% overweight
- KIRIBATI** 73.6% overweight

In Japan, about **one-in-every-20** adult women is obese, compared to **one-in-10** in the Netherlands, **one-in-four** in Jordan, **one-in-three** in the United States and Mexico, and **up to seven-in-10** in Tonga.



65%

OF THE WORLD'S POPULATION LIVE IN COUNTRIES WHERE THEY ARE MORE LIKELY TO DIE FROM OBESITY THAN MALNUTRITION

BY THE NUMBERS: **200 & 300 MILLION MEN & WOMEN ARE OBESE.**

THAT'S MORE THAN **10%** OF THE ADULT POPULATION

YOU NEED TO BURN **3500 CALORIES** TO DROP A SINGLE POUND OF BODY FAT

That's about 9 hours on the elliptical

AND THE PROBLEM IS GROWING

OBESITY IN 1980 7.9% OF WOMEN 4.8% OF MEN

OBESITY IN 2008 13.8% OF WOMEN 9.8% OF MEN

\$300 BILLION ANNUAL HEALTH CARE COSTS FOR OBESITY IN THE U.S. AND CANADA

SEVERELY OBESE PEOPLE DIE UP TO **10 YEARS SOONER** THAN THOSE OF NORMAL WEIGHT

Overweight and obese are defined as abnormal or excessive fat accumulation that may impair health.

INCLUDES WEIGHT TO LOSS BY ACTOSIN/INJURYLAWYERS.COM CREATED BY OBESIDEX.COM

BMI=KG/M²

Body mass index (BMI) is a simple index of weight-for-height that is commonly used to classify overweight and obesity in adults. To determine your BMI, divide your weight in kilograms by the square of your height in meters.

(For those that don't do metric, that's your weight in pounds x 703, divided by your height in inches squared, or 703Lb/F²)

WHAT'S YOUR BMI? **>25** Overweight **>30** Class I Obese* **>35** Class II Obese **>40** Class III Obese

*As Asian populations develop negative health consequences at a lower BMI than Caucasians, some nations have adopted obesity for the Japanese, obesity is any BMI greater than 25; China uses a BMI of greater than 28.

SOURCES: www.britainonline.com/world-obesity-2010/; www.the.co.uk/health-4232293; www.infoplease.com/world/statistics/obesity.html; www.who.int/mediacentre/factsheets/fs314/en/index.html; www.pbs.org/news/obesity/2011/08/obesity-rates-rising-worldwide-us-could-hit-50-by-2030.html; www.scienceDaily.com/releases/2011/02/1202320032.html; www.scrippsreport.com/tutorials_pound.php; http://thechart.bkg.com.com/2011/08/25/obesity-world-is-getting-fatter-its-likely-to-keep-going; www.dailyreport.com/blog/2011/08/25/obesity-world-is-getting-fatter-its-likely-to-keep-going; www.dailyreport.com/blog/2011/08/25/obesity-world-is-getting-fatter-its-likely-to-keep-going; www.dailyreport.com/blog/2011/08/25/obesity-world-is-getting-fatter-its-likely-to-keep-going



AdChoices ▶ Food Facts ▶ Hunger ▶ Donate Food ▶ And Food

World Hunger	
7,176,725,041	current total world population
898,139,570	undernourished people in the world right now
1,579,478,802	overweight people in the world right now
526,492,934	obese people in the world right now
16,283	people who died of hunger today
7,551,816	people who died of hunger this year
Economics	
\$ 253,378,128	money spent due to obesity related diseases in the USA today
\$ 62,609,837	spending on food purchased and then tossed by US households today
\$ 2,911,231	spending on global food aid today
\$ 18,927,594	amount that would allow to feed the hungry today
\$ 100,653,291	spending on weight-loss programs and products in the USA today
\$ 872,451	food aid budget spent on domestic processing and shipping today
\$ 509,695	revenue for four large US agribusiness corporations derived from food aid programs today
\$ 24,754,648	spending on pet food in Europe and USA today

Global report: Obesity bigger health crisis than hunger

By Danielle Dellorto, CNN

December 14, 2012 -- Updated 1041 GMT (1841 HKT)



Nearly 500 researchers from 50 countries looked at 20 years of health data for the Global Burden of Disease

STORY HIGHLIGHTS

- The Global Burden of Disease Report reveals a massive shift in health trends
- Worldwide, obesity has increased 82% in the last two decades
- Diseases like stroke and heart

(CNN) -- Obesity is a bigger health crisis globally than the leading cause of disabilities around the world, according to a new report published Thursday in the British medical journal *Lancet*.

Nearly 500 researchers from 50 countries compared data from 1990 through 2010 for the *Global Burden of Disease* report, which shows a massive shift in global health

The Telegraph

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Women Men Cars **Health** Property Gardening Food History Relationships Expat
Health News Health Advice Diet and Fitness Wellbeing Expat Health Pets Health Britain

HOME > HEALTH > HEALTH NEWS

Obesity killing three times as many as malnutrition

Obesity is now killing triple the number of people who die from malnutrition as it claims more than three million lives a year worldwide, according to a landmark study.



Increasing prosperity has led to expanding waistslines in countries from Colombia to Kazakhstan, as people eat more and get less everyday exercise Photo: PA

By Stephen Adams, Medical Correspondent

5:00PM GMT 13 Dec 2012

204 Comments

With the exception of sub-Saharan Africa, eating too much is now a more serious risk to the health of populations than eating poorly, found the *Global Burden of Disease* study, published in a special edition of *The Lancet*.

Print this article

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Email



THE MILLENNIUM DEVELOPMENT GOALS (MDGs) ARE THE MOST SUCCESSFUL GLOBAL ANTI-POVERTY PUSH IN HISTORY.

MDG2



ACHIEVE UNIVERSAL PRIMARY EDUCATION

PRIMARY SCHOOL ENROLMENT

IN DEVELOPING REGIONS HAS

REACHED **90%**



LET'S STEP UP

57 MILLION CHILDREN REMAIN OUT OF SCHOOL

SHARE

#MDGMOMENTUM WITH YOUR COMMUNITY!



2

ACHIEVE UNIVERSAL
PRIMARY EDUCATION

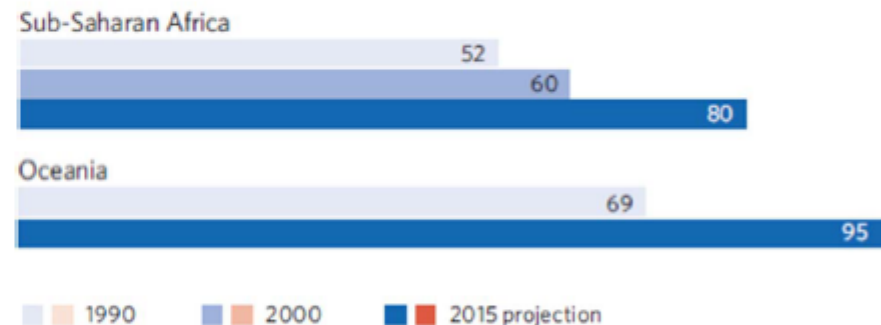
Tremendous progress has been made since 2000 in enrolling children in primary school

Goal: Achieve universal primary education

The developing regions' primary school net enrolment rate has reached **91 per cent** in 2015, up from 83 per cent in 2000.

The target is close to being reached in all regions except sub-Saharan Africa. **Greatest progress** in primary school enrolment among all developing regions **occurred in sub-Saharan Africa**.

Adjusted net enrolment rate* in primary education, sub-Saharan Africa and Oceania, 1990, 2000 and 2015 (percentage)



* Adjusted net enrolment rate is defined as the number of pupils of the official age for primary education enrolled either in primary or secondary school, expressed as a percentage of the total population in that age group.

Note: 2000 figure for Oceania is not available.

Chodíte rádi do školy?

No jasně, jsem
lačný/á po vědění.

Jak na který
předmět

Chodím, ale ne kvůli
přednáškám ;-)

Ne, škola je "nutné
zlo"

© Brigitte Lacombe



Malala

Girls should learn history. And make it.

COURAGE *is in you.*

PassItOn.com

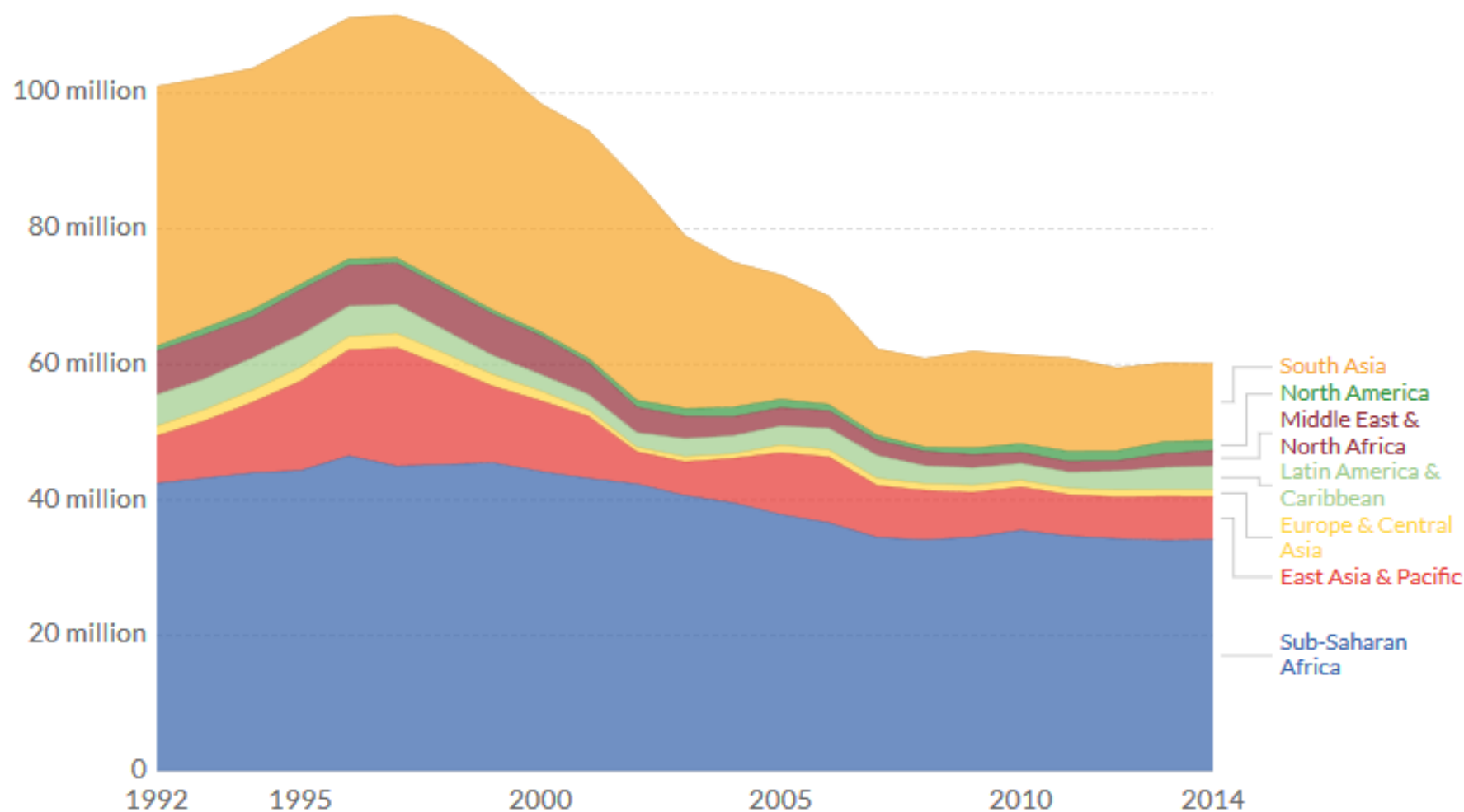
4337E

HE NAMED ME

MALALA

Out-of-school children of primary school age by world region

Children in the official primary school age range who are not enrolled in either primary or secondary schools.



Source: World Bank

CC BY

Relative

CHART

DATA

SOURCES





THE MILLENNIUM DEVELOPMENT GOALS (MDGs) ARE THE MOST SUCCESSFUL GLOBAL ANTI-POVERTY PUSH IN HISTORY. AS WE APPROACH THE 2015 TARGET DATE OF THE MDGs, LET'S RALLY OUR WORLD TO STEP UP **#MDGMOMENTUM**

MDG3



PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

...→ THE WORLD HAS

**ACHIEVED
EQUALITY**

IN **PRIMARY
EDUCATION**
BETWEEN GIRLS AND BOYS

IN MANY
COUNTRIES

**WOMEN STILL FACE
DISCRIMINATION**

IN ACCESS TO
EDUCATION, WORK
AND PARTICIPATION
IN DECISION-MAKING.

**LET'S
STEP
UP**

SHARE **#MDGMOMENTUM**
WITH YOUR COMMUNITY!



PROMOTE GENDER
EQUALITY AND
EMPOWER WOMEN

The developing regions have reached gender parity in primary, secondary and tertiary education

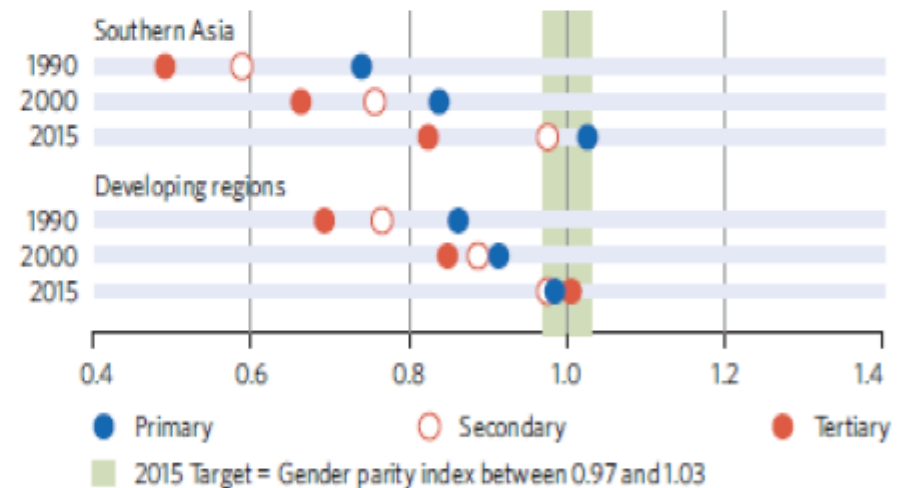
Goal: Promote gender equality and empower women

The developing regions as a whole have achieved the target to eliminate gender disparity in primary, secondary and tertiary education.

In Southern Asia, only 74 girls were enrolled in primary school for every 100 boys in 1990. Today, 103 girls are enrolled for every 100 boys.

Women have gained ground in parliamentary representation in nearly 90 per cent of the 174 countries with data over the past 20 years.

Gender parity index* for gross enrolment ratios in primary, secondary and tertiary education in Southern Asia and the developing regions, 1990, 2000 and 2015



* The gender parity index is defined as the ratio of the female gross enrolment ratio to the male gross enrolment ratio for each level of education.



THE MILLENNIUM DEVELOPMENT GOALS (MDGs) ARE THE MOST SUCCESSFUL GLOBAL ANTI-POVERTY PUSH IN HISTORY.

AS WE APPROACH THE 2015 TARGET DATE OF THE MDGs, LET'S RALLY OUR WORLD TO STEP UP **#MDGMOMENTUM**

MDG4



REDUCE CHILD MORTALITY

14,000 FEWER

CHILDREN DIE EACH DAY THAN IN 1990

LET'S STEP UP

6.9 MILLION CHILDREN STILL DIE

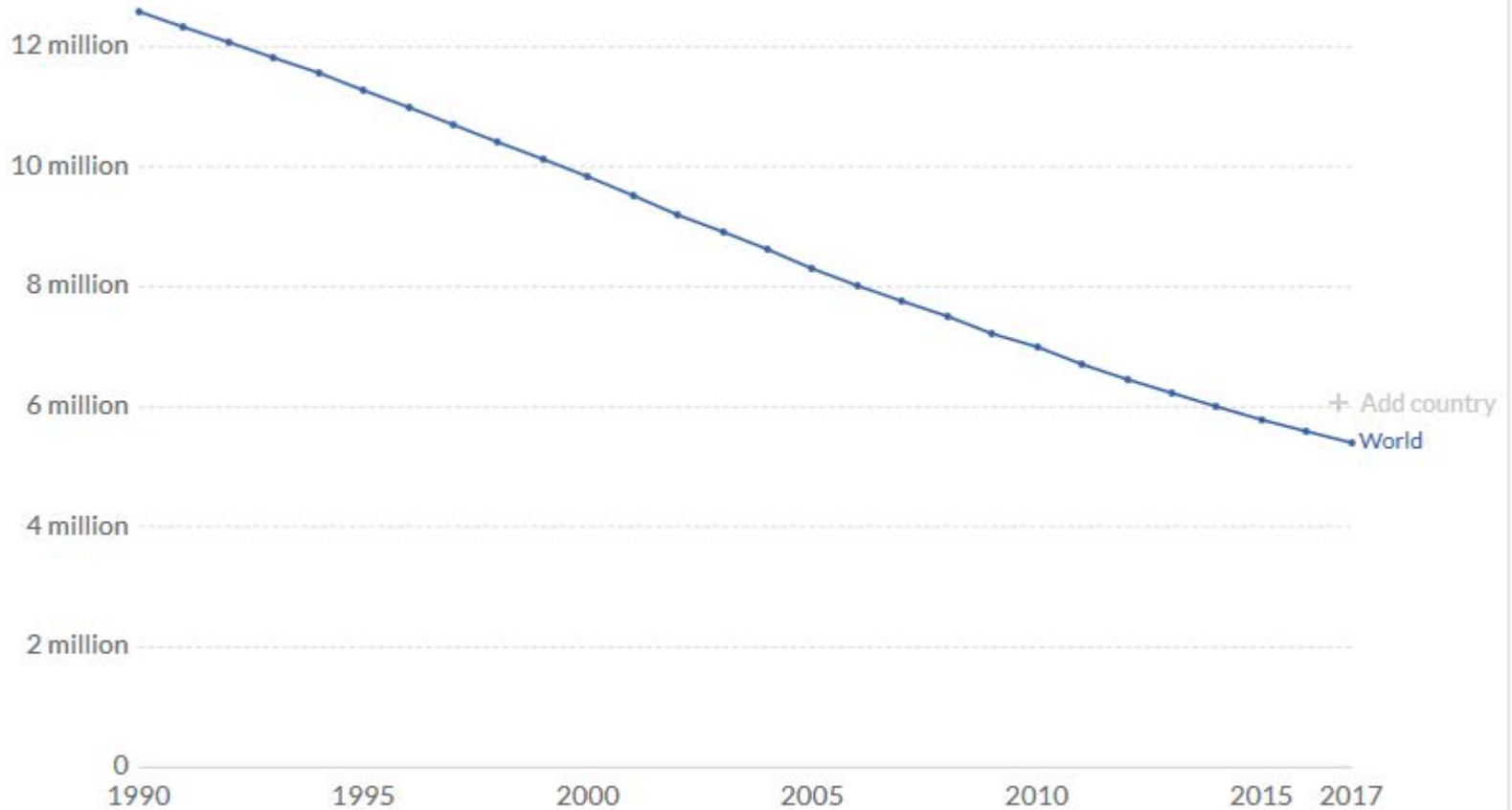
BEFORE THEIR FIFTH BIRTHDAY EACH YEAR

SHARE

#MDGMOMENTUM WITH YOUR COMMUNITY!

Number of child deaths

Number of deaths of children under five years old.



Source: UN Inter-agency Group for Child Mortality Estimation

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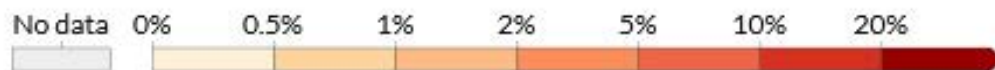
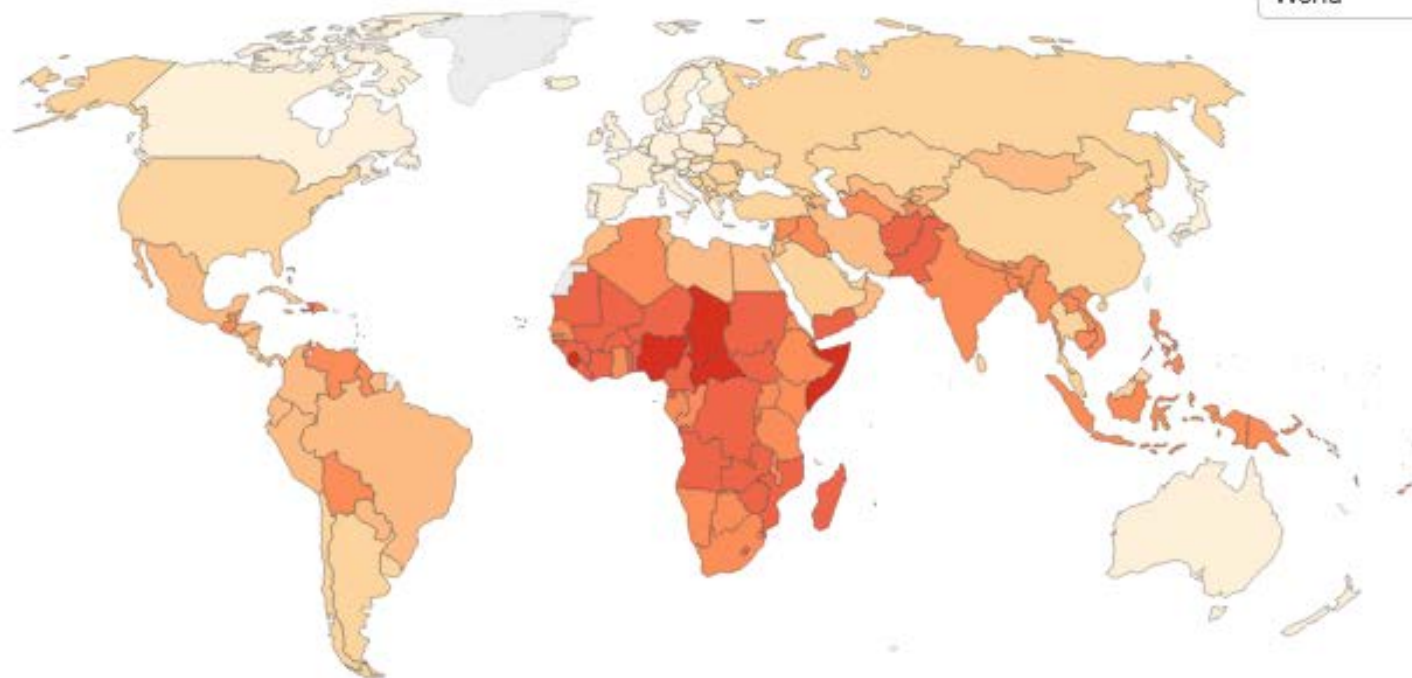
▶ 1990  2017

[CHART](#) [MAP](#) [DATA](#) [SOURCES](#)   

Child mortality rate, 2020

The share of newborns who die before reaching the age of five.

World



Source: UN Inter-agency Group for Child Mortality Estimation (via World Bank)

OurWorldInData.org/child-mortality • CC BY

Note: The child mortality rate expresses the probability of a child born in a specific year or period dying before reaching the age of 5 years, if subject to age-specific mortality rates of that period. This is given as the share of live births.



CHART

MAP

TABLE

SOURCES

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Jaká nemoc ročně zabije nejvíce dětí?

Malárie

Tuberkulóza

Průjem

AIDS

Zápal plic

Jaká nemoc ročně zabije nejvíce dětí?

Malárie	266 tisíc
Tuberkulóza	250 tisíc
Průjem	480 tisíc
AIDS	120 tisíc
Zápal plic	900 tisíc



4

REDUCE
CHILD MORTALITY

Dramatic decline in preventable child deaths is one of the most significant achievements in human history

Goal: Reduce child mortality



Photo: © UNICEF/Esiebo

Since the early 1990s, the rate of reduction of under-five mortality has more than tripled globally.

The global under-five mortality rate has declined by more than half, dropping from 90 to 43 deaths per 1,000 live births between 1990 and 2015.

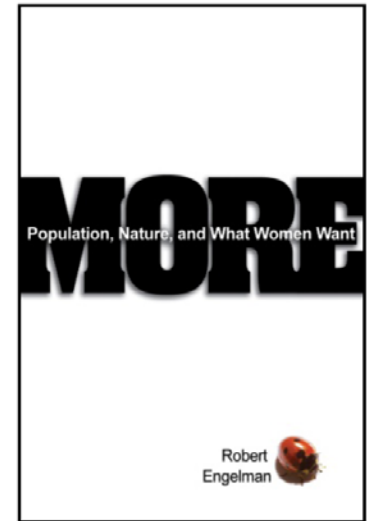
Measles vaccination helped prevent nearly 15.6 million deaths between 2000 and 2013.

Global number of deaths of children under five

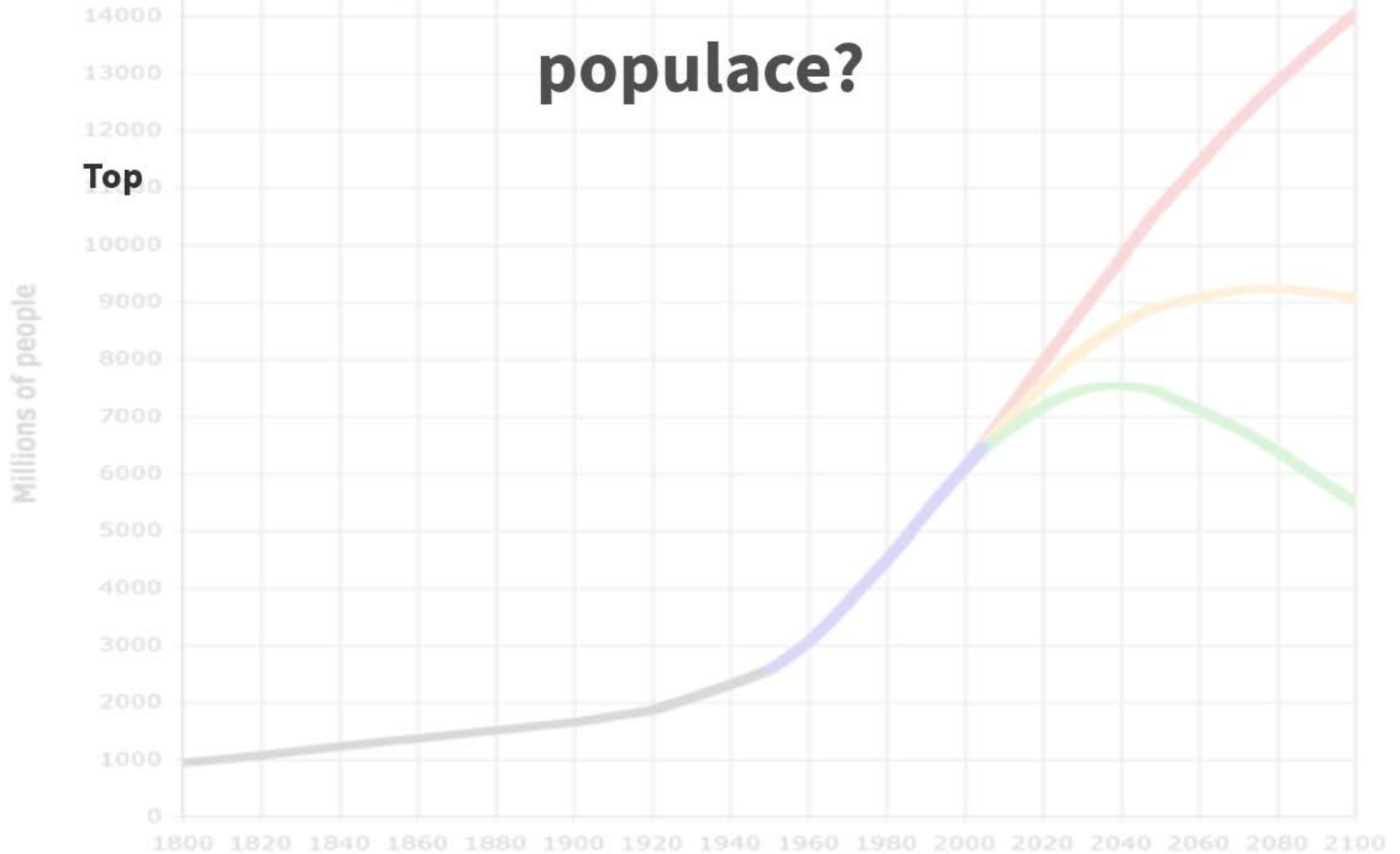


(Dětská) úmrtnost - řešení růstu populace?

- dříve vysoká novorozenecká úmrtnost, nemoci a války



Jaké navrhujete opatření na omezení růstu populace?

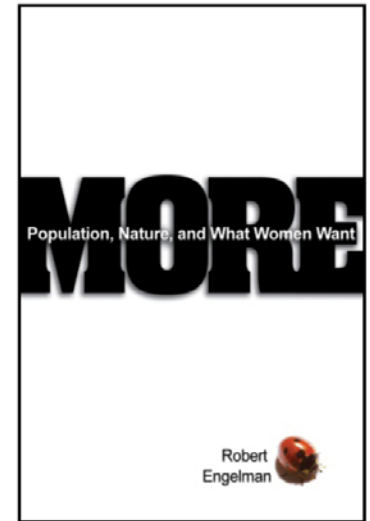


(Dětská) úmrtnost - řešení růstu populace?

- dříve vysoká novorozenecká úmrtnost, nemoci a války

Direktivní politika jednoho dítěte (Čína)

- od roku 1979 do 2015
- do roku 2015 nenarozeno přibližně 400 mil. dětí – příčiny?
- vážné etické a socioekonomické důsledky !
- nepřipravenost společnosti a venkovské ekonomiky
- *bylo to potřeba?*



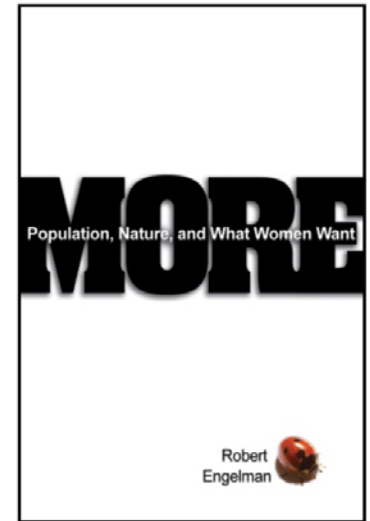
(Dětská) úmrtnost - řešení růstu populace?

- dříve vysoká novorozenecká úmrtnost, nemoci a války

*Women don't want **more** children,
but **more for** their children (R. Engelman)*

Direktivní politika jednoho dítěte (Čína)

- od roku 1979 do 2015
- do roku 2015 nenarozeno přibližně 400 mil. dětí – příčiny?
- vážné etické a socioekonomické důsledky !
- nepřipravenost společnosti a venkovské ekonomiky
- *bylo to potřeba?*



Zázrak? v Bangladéšii (i jinde)...

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The population paradox

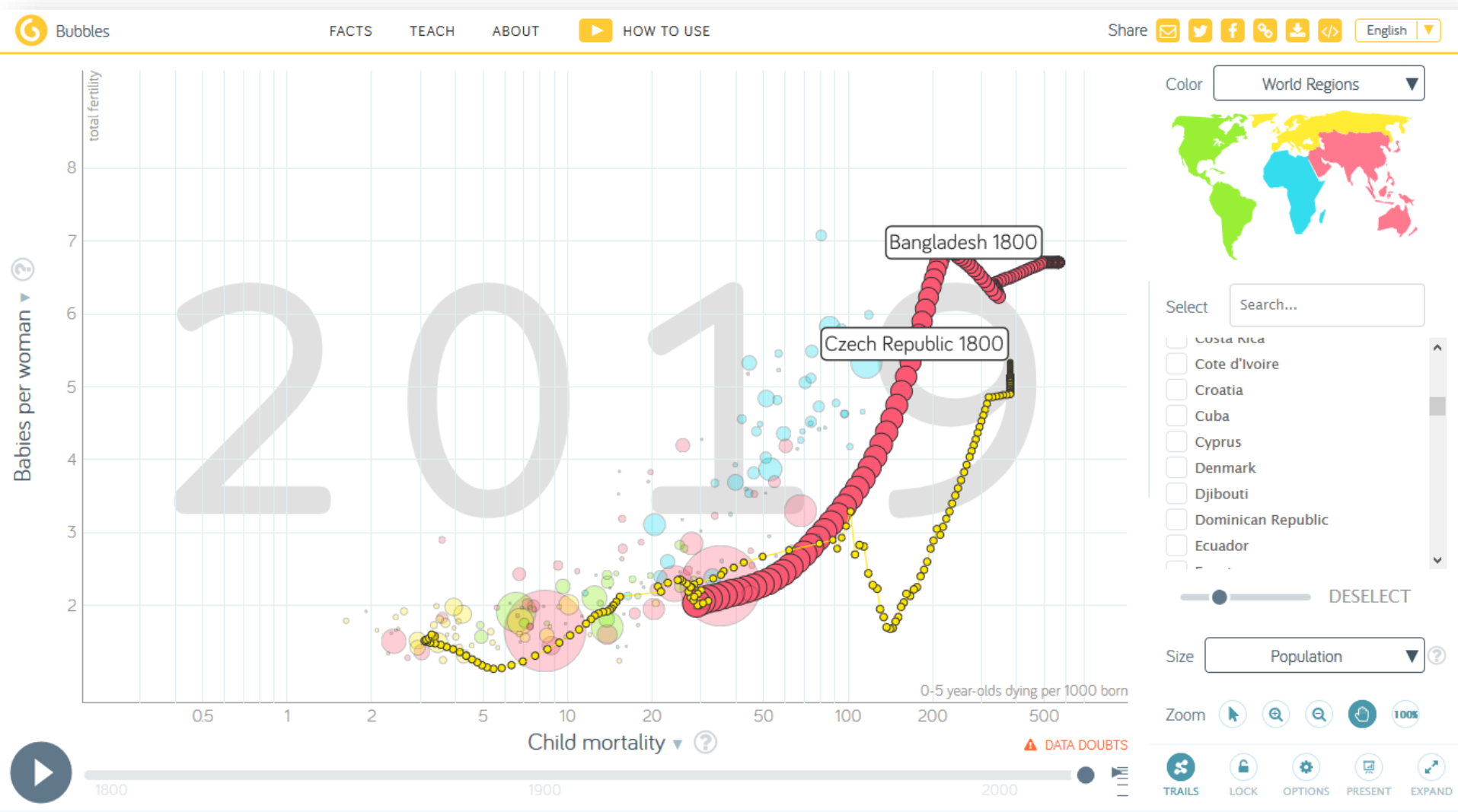


| COMMENT 19 November 2008

By [Debora Mackenzie](#)

happen in China). Nearly two-thirds of couples in poor countries now use birth control, and not because some patriarchal westerner told them to. In the 1970s, the government of Bangladesh offered people in the Matlab region low-cost contraceptive supplies and advice. Birth rates promptly fell well below neighbouring regions. So Bangladesh extended the service nationally and its birth rate plummeted from six children per woman to three. Given the choice, people want fewer children.

Zázrak? v Bangladéšii (i jinde)...



Dětská úmrtnost - řešení růstu populace?

- dříve vysoká novorozenecká úmrtnost, nemoci a války

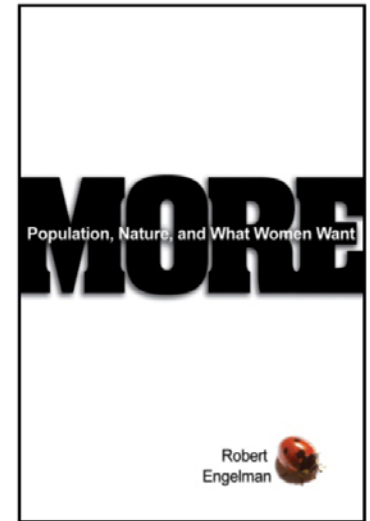
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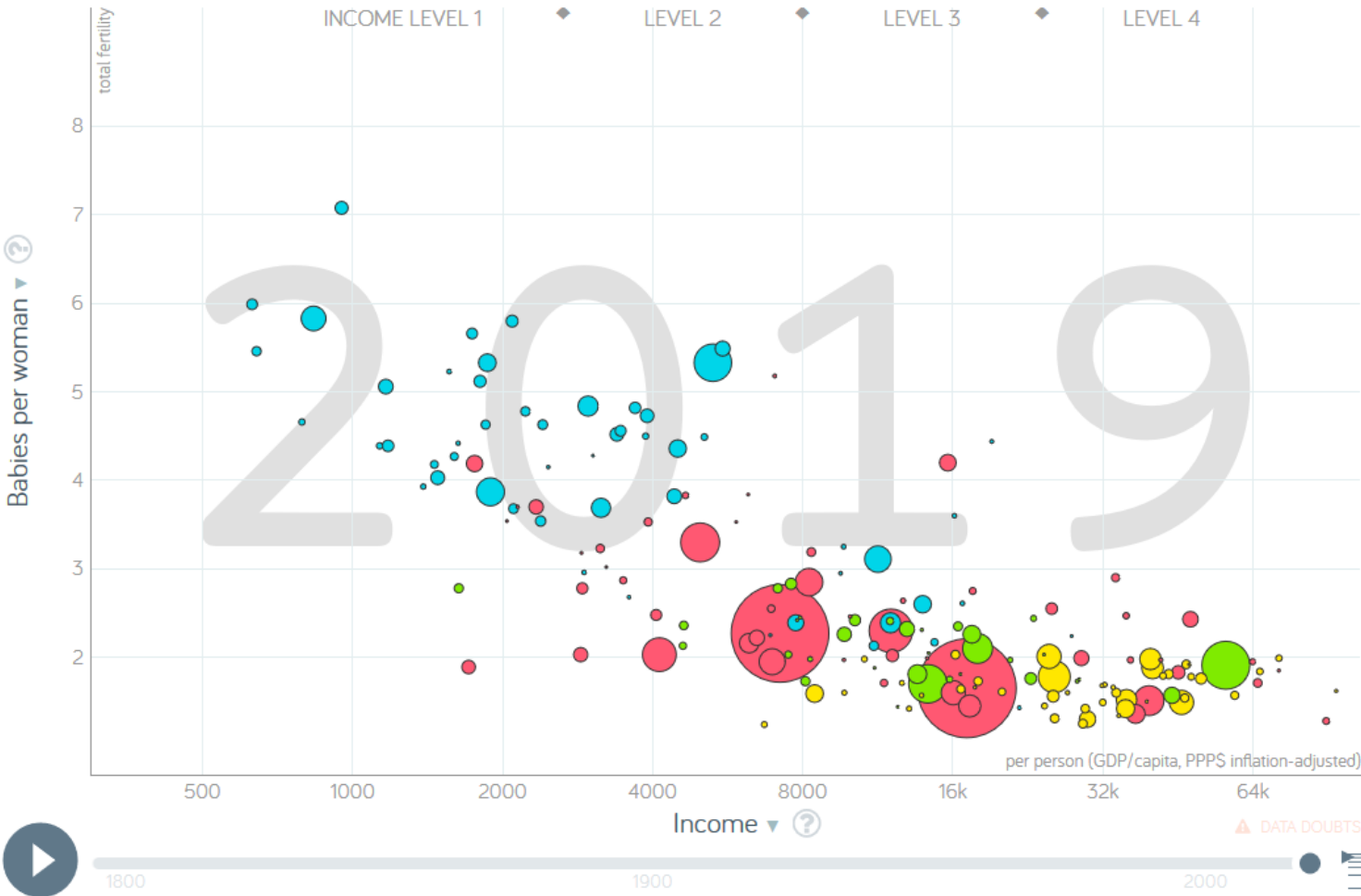
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- *bylo to potřeba?*

Dobrovolná politika jednoho dítěte?

- země bohatého severu



Příjem x porodnost



Color World Regions

Select Search...

- Afghanistan
- Albania
- Algeria
- Angola
- Antigua and Barbuda
- Argentina
- Armenia
- Australia
- Austria
- Azerbaijan
- ...

Size Population

Zoom [Home] [Previous] [Next] [Full Screen]

OPTIONS PRESENT EXPAND

Dětská úmrtnost - řešení růstu populace?

- dříve vysoká novorozenecká úmrtnost, nemoci a války

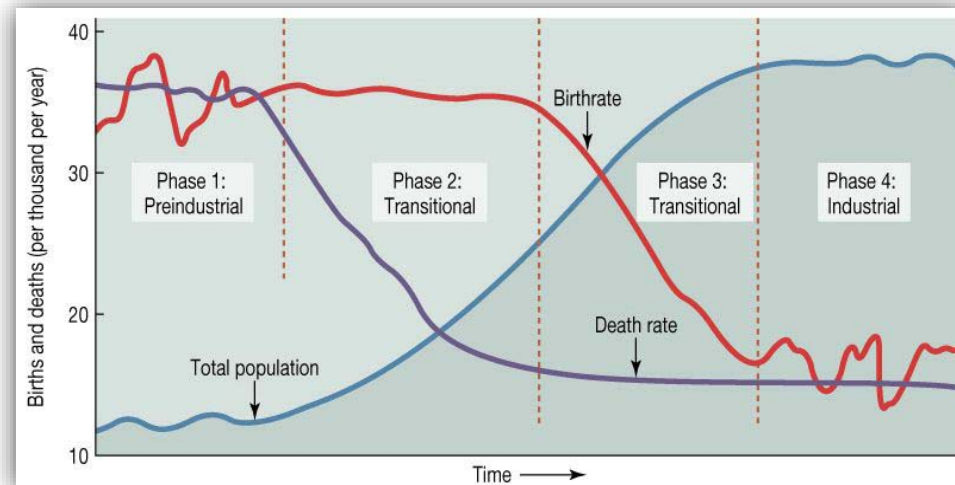
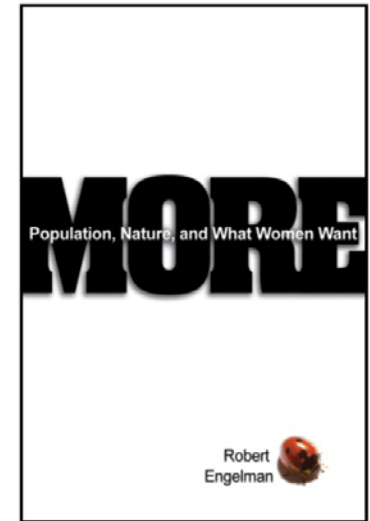
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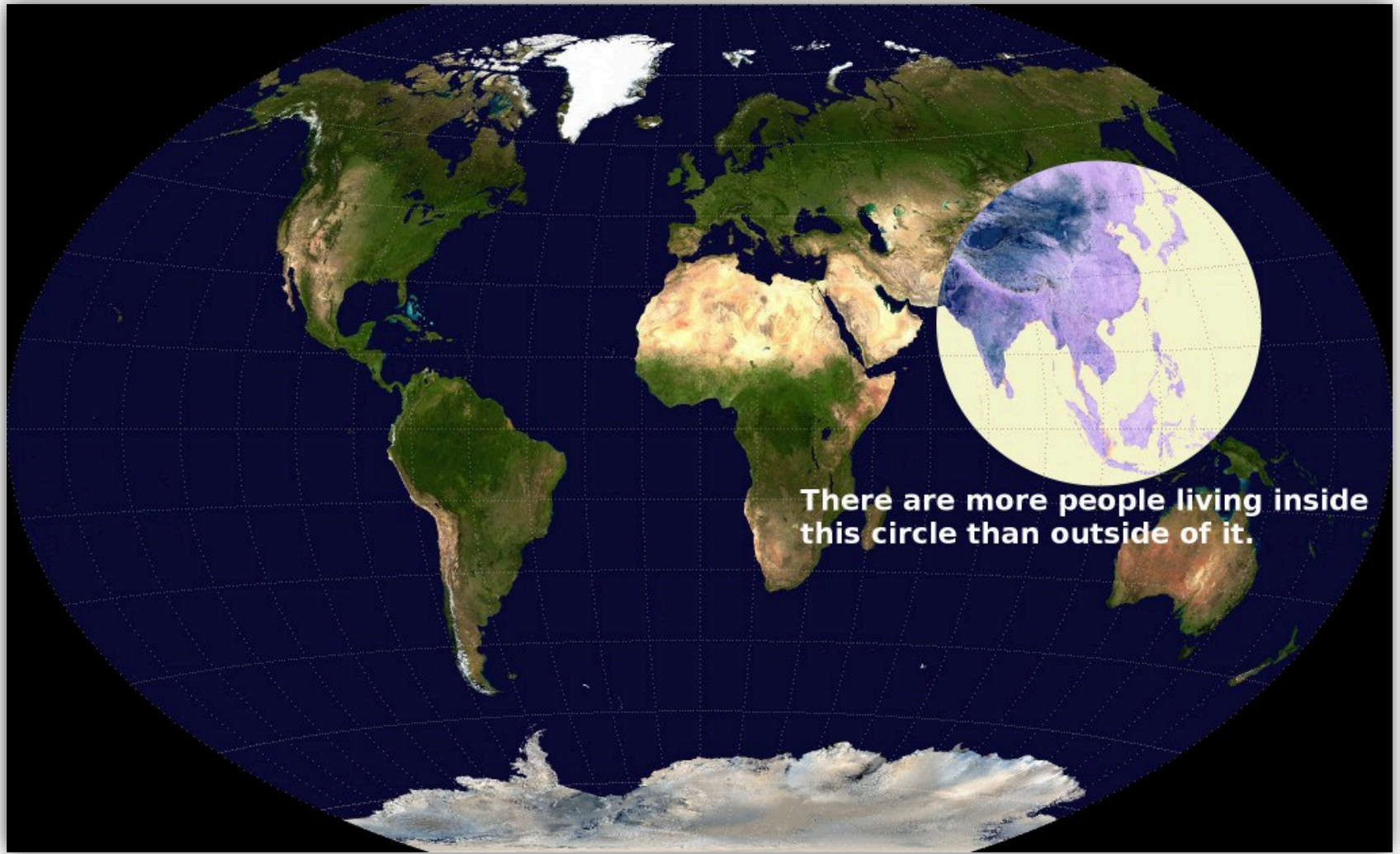
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Dobrovolná politika jednoho dítěte?

- země bohatého severu
- politika ekonomického růstu přístup **demografické tranzice** komplikuje





**There are more people living inside
this circle than outside of it.**



THE MILLENNIUM DEVELOPMENT GOALS (MDGs) ARE THE MOST SUCCESSFUL GLOBAL ANTI-POVERTY PUSH IN HISTORY.

AS WE APPROACH THE 2015 TARGET DATE OF THE MDGs, LET'S RALLY OUR WORLD TO STEP UP **#MDGMOMENTUM**

MDG5



IMPROVE MATERNAL HEALTH

MATERNAL MORTALITY

FELL BY **↓ 47%** SINCE 1990

LET'S STEP UP

ONLY HALF OF WOMEN

IN DEVELOPING REGIONS RECEIVE

RECOMMENDED **HEALTH CARE** DURING PREGNANCY.

SHARE

#MDGMOMENTUM WITH YOUR COMMUNITY!



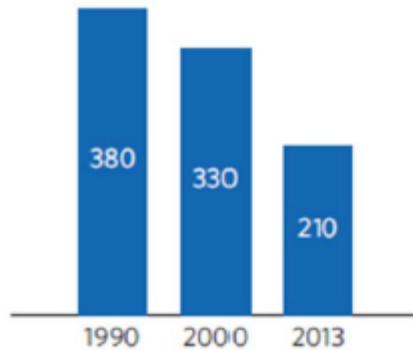
5

IMPROVE MATERNAL
HEALTH

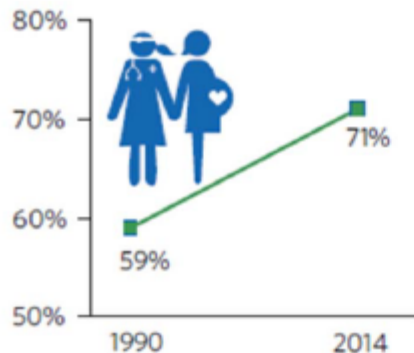
Steady progress was made to improve maternal health

Goal: Improve maternal health

Global maternal mortality ratio
(deaths per 100,000 live births)



Global births attended by skilled health personnel



Since 1990, the **maternal mortality ratio has declined by 45 per cent worldwide**, and most of the reduction has occurred since 2000.

More than **71 per cent** of births were assisted by skilled health personnel globally in 2014, an increase from 59 per cent in 1990.



BEZPEČNÝ POROD

Pomáhejte s Člověkem v tísni. Tento dárek má hodnotu zdravotnického materiálu, který umožní bezpečný porod pro jednu ženu v chudých oblastech Kambodže.

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THE MILLENNIUM DEVELOPMENT GOALS (MDGs) ARE THE MOST SUCCESSFUL GLOBAL ANTI-POVERTY PUSH IN HISTORY.

AS WE APPROACH THE 2015 TARGET DATE OF THE MDGs, LET'S RALLY OUR WORLD TO STEP UP **#MDGMOMENTUM**

MDG6



COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES



8 MILLION PEOPLE WERE RECEIVING LIFESAVING MEDICINES FOR HIV IN 2011



1.1 MILLION MALARIA DEATHS WERE PREVENTED IN THE SPAN OF 10 YEARS

LET'S STEP UP



7 MILLION PEOPLE STILL LACKED ACCESS TO ANTIRETROVIRAL THERAPY FOR HIV IN 2011



80% OF MALARIA DEATHS OCCUR IN JUST 14 COUNTRIES

SHARE

#MDGMOMENTUM WITH YOUR COMMUNITY!



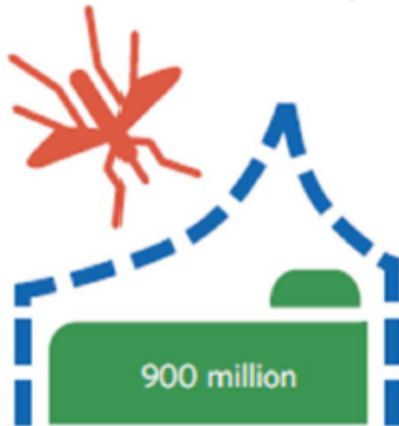
6

COMBAT HIV/AIDS,
MALARIA AND OTHER
DISEASES

Malaria and TB incidence have halted and reversed

Goal: Combat HIV/AIDS, malaria and other diseases

Number of insecticide treated mosquito nets delivered in sub-Saharan Africa, 2004–2014



Over 6.2 million malaria deaths have been averted between 2000 and 2015, primarily of children under five years of age in sub-Saharan Africa.

More than 900 million insecticide-treated mosquito nets were delivered to malaria-endemic countries in sub-Saharan Africa between 2004 and 2014.

Between 2000 and 2013, tuberculosis prevention, diagnosis and treatment interventions saved an estimated 37 million lives.



6

COMBAT HIV/AIDS,
MALARIA AND OTHER
DISEASES

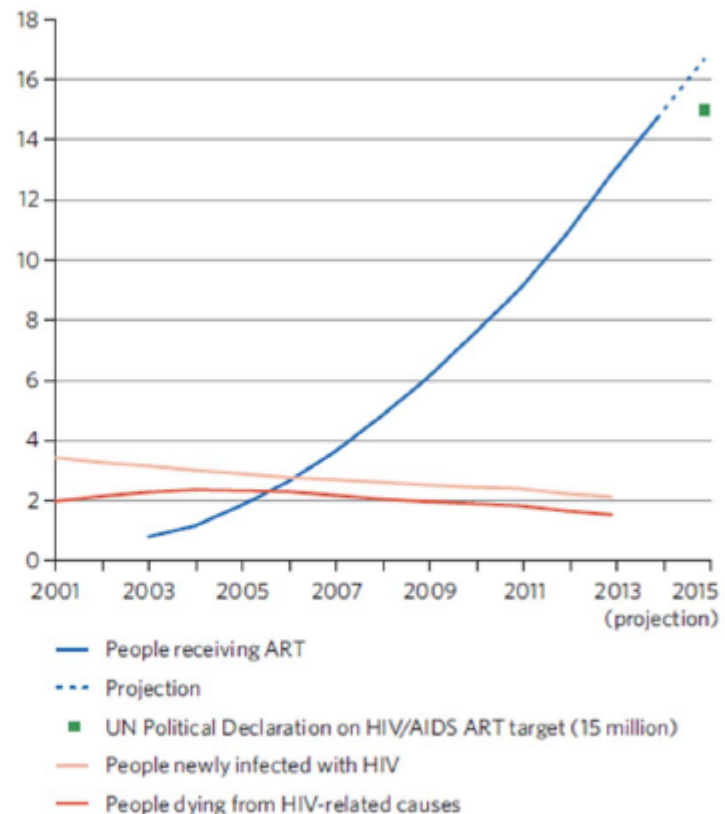
HIV infections fell in many regions of the world

Goal: Combat HIV/AIDS, malaria and other diseases

New HIV infections fell by approximately 40 per cent between 2000 and 2013, from an estimated 3.5 million cases to 2.1 million.

By June 2014, 13.6 million people living with HIV were receiving antiretroviral therapy (ART) globally, an immense increase from just 800,000 in 2003. ART averted 7.6 million deaths from AIDS between 1995 and 2013.

Number of people receiving antiretroviral therapy, 2003-2015, number of deaths from AIDS-related causes and number of people newly infected with HIV, 2001-2013 (millions)





THE MILLENNIUM DEVELOPMENT GOALS (MDGs) ARE THE MOST SUCCESSFUL GLOBAL ANTI-POVERTY PUSH IN HISTORY. AS WE APPROACH THE 2015 TARGET DATE OF THE MDGs, LET'S RALLY OUR WORLD TO STEP UP **#MDGMOMENTUM**

MDG7



ENSURE ENVIRONMENTAL SUSTAINABILITY

2.1 BILLION PEOPLE

GAINED ACCESS TO **CLEAN DRINKING WATER**

SINCE 1990

LET'S STEP UP

2.5 BILLION DO NOT HAVE BASIC **SANITATION**

SUCH AS TOILETS OR LATRINES

SHARE

#MDGMOMENTUM WITH YOUR COMMUNITY!



ENSURE
ENVIRONMENTAL
SUSTAINABILITY

Safe drinking water and ozone protection targets met

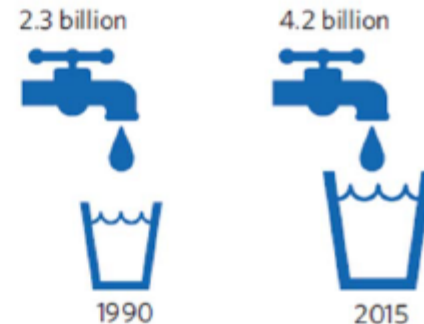
Goal: Ensure environmental sustainability

In 2015, 91% of the global population is using an improved drinking water source, up from 76% in 1990— the target was met **5 years ahead of the 2015 deadline**.

Of the **2.6 billion** people who have gained access to improved drinking water since 1990, **1.9 billion** gained access to piped drinking water on premises.

Ozone-depleting substances have been virtually eliminated since 1990, and the **ozone layer is expected to recover** by the middle of this century.

1.9 billion people have gained access to piped drinking water since 1990



98% of ozone-depleting substances eliminated since 1990





THE MILLENNIUM DEVELOPMENT GOALS (MDGs) ARE THE MOST SUCCESSFUL GLOBAL ANTI-POVERTY PUSH IN HISTORY. LET'S STEP UP ACTION TO THE 2015 MDG TARGET DATE AND BEYOND.

MDG 8



A GLOBAL PARTNERSHIP FOR DEVELOPMENT

DEBT SERVICE HAS **DECLINED** FOR DEVELOPING COUNTRIES

↑ TRADE CLIMATE CONTINUES TO **IMPROVE**

LET'S STEP UP

AID MONEY

HIT A RECORD HIGH \$134.8 BILLION IN 2013, BUT **SHIFTED AWAY FROM THE POOREST COUNTRIES**

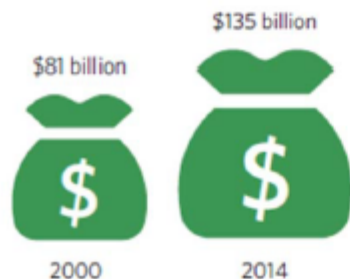


GLOBAL
PARTNERSHIP FOR
DEVELOPMENT

Global improvements in official development assistance, mobile-cellular subscriptions and internet penetration

Goal: Develop a global partnership for development

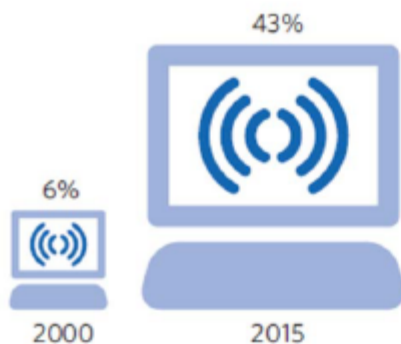
Official development assistance (ODA)



ODA increased by 66% in real terms between 2000 and 2014, reaching **\$135.2 billion**.

The number of **mobile-cellular subscriptions** has **grown almost tenfold** in the last 15 years: from 738 million to over **7 billion** (2000-2015).

Internet penetration



Internet penetration has grown from just over 6 per cent of the world's population in 2000 to 43 per cent in 2015-- translating to **3.2 billion people** linked to a global network.

Leaving no one behind

Bilance plnění Rozvojových cílů tisíciletí

Splněno

Počet lidí žijících s méně než 1,25 dolaru na den klesl z 1,9 miliardy v roce 1990 na 836 milionů. Těsně se nepodařilo snížit na polovinu i počet hladovějících.

Dvě třetiny rozvojových zemí dosáhly rovnosti mezi dívkami a chlapci v přístupu k základnímu vzdělání.

Zhruba 2,6 miliardy lidí získaly ve srovnání s rokem 1990 přístup k lepší pitné vodě; 663 milionů lidí však stále snadný přístup k pitné vodě nemá.

Splněno částečně

V letech 2000–2014 stoupl objem rozvojové pomoci o 66 procent. Cílem bylo vytvořit partnerství pro globální rozvoj.

Počet úmrtí na malárii díky přístupu k lékům, moskytiérám a časnějšímu testování při příznacích klesl ve srovnání s rokem 2000 o 60 procent. Epidemii se tedy podařilo zastavit a zvrátit. To se však nezdařilo s epidemií AIDS.

Nesplněno

Dětská úmrtnost v posledních 25 letech klesla o více než polovinu – z 90 na 43 úmrtí/tisíc porodů. Cíl spočíval ve snížení o dvě třetiny.

Počet dětí chodících do základních škol se zvýšil z 83 procent v roce 2000 na 91 procent. Cíl byl všechny děti světa v ZŠ.

Úmrtnost žen při porodech klesla o necelou polovinu, cílem bylo snížit ji o dvě třetiny.



Climate change and environmental degradation undermine progress achieved

Global emissions of carbon dioxide have increased by **over 50 per cent** since 1990.

Water scarcity affects 40 per cent of people in the world and is projected to increase.

Overexploitation of marine fish stocks led to **declines in the percentage of stocks within safe biological limits**, down from 90 per cent in 1974 to 71 per cent in 2011.



Photo: © UN Photo/Ky Chung

Climate change and environmental
degradation undermine progress achieved

Jak může zvyšující se degradace ŽP (např. CC) vést ke snížení lidského blahobytu?

Top

Climate change: The great civilisation destroyer?

War and unrest, and the collapse of many mighty empires, often followed changes in local climates. Is this more than a coincidence?



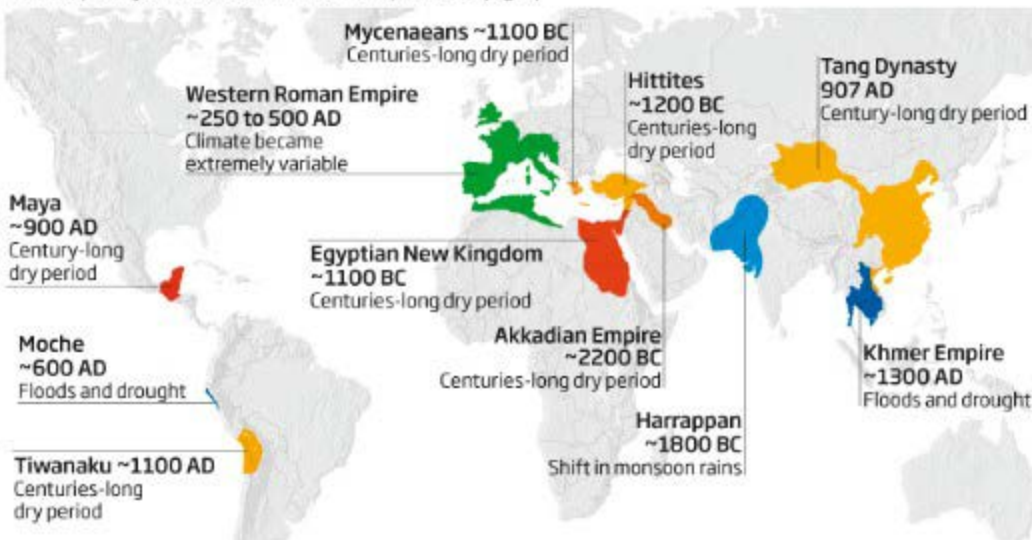
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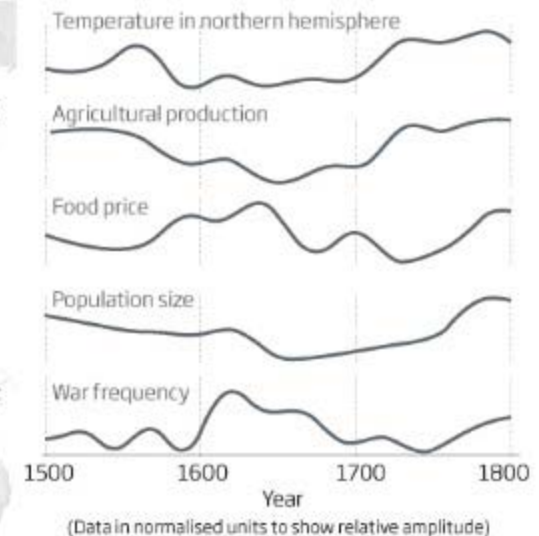


More than coincidence?

The decline and fall of many civilisations coincided with periods of climate change, and there are also correlations between climate change, population size and the frequency of wars, as data from Europe shows (right)



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ZPRÁVY

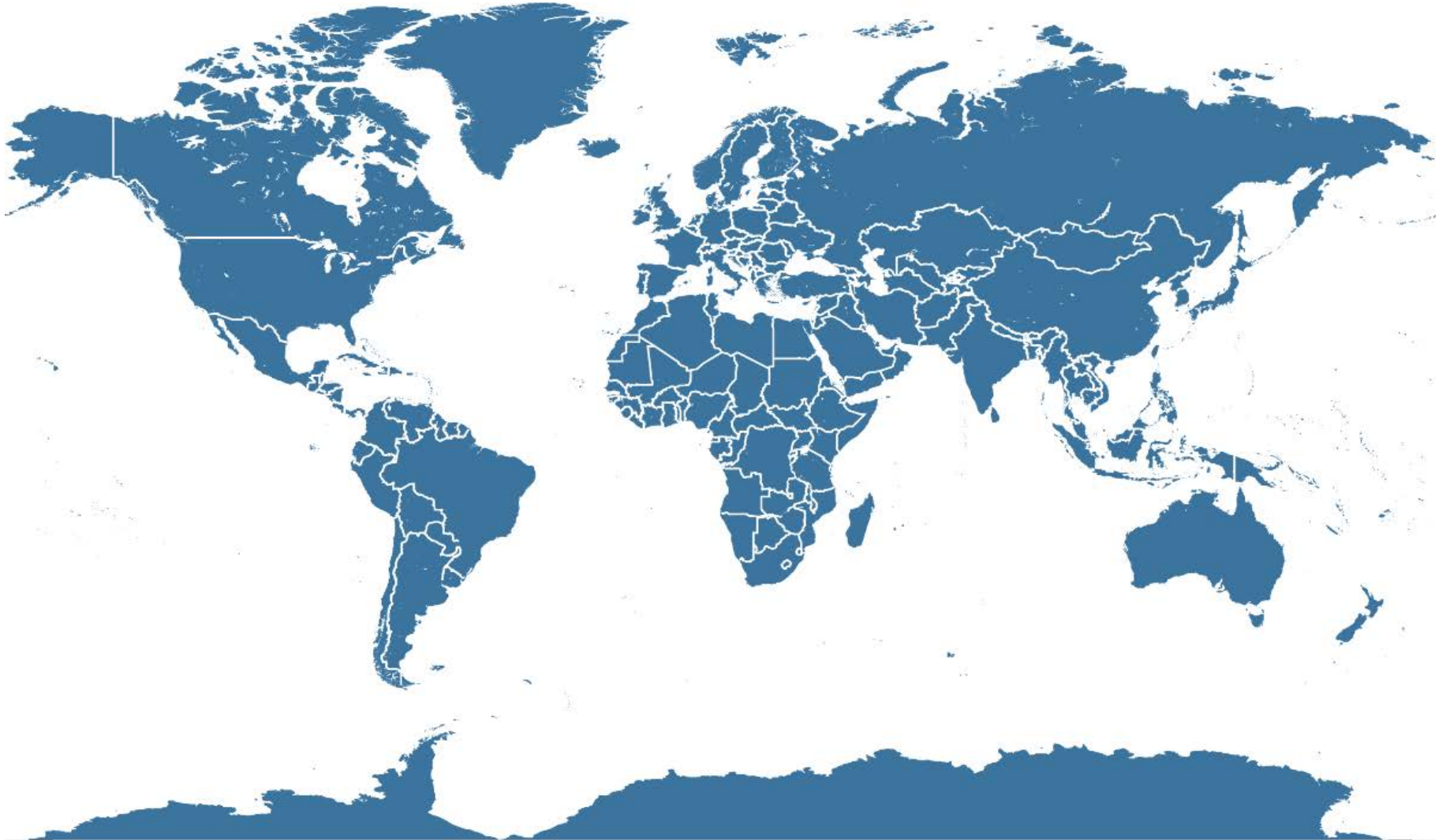
Na Blízkém východě trvá nejhorší sucho za 900 let. Vědci se bojí změn v celém Středomoří

bar 4. března 2016 • 13:50



foto: Pixabay

Kde je Blízký východ?



„Na začátku arabského jara v Egyptě lidé vyšli do ulic mimo jiné kvůli nedostatku chleba. Ten vznikl, když Číňané vykoupili všechnu pšenici. A Číňané vykoupili pšenici, neboť Čína za sebou měla neobvykle suché léto roku 2010. Stejně tak v Sýrii ve městech protestovali farmáři, kteří sem emigrovali ze severozápadu země. Emigrovali, protože je globální oteplování připravilo o obživu.“

The image shows a screenshot of a news article from the website E15.cz. The page header includes the logo 'E15.cz / Názory' and a search bar. Below the header is a navigation menu with categories like 'Zprávy', 'Praha', 'Názory', 'Finance', and 'Média'. The article title is 'Timothy Snyder: Muslimský svět je první obětí změn klimatu. Přijdou další „Sýrie“'. The text of the article discusses global warming and its impact on the Muslim world, mentioning the 2010 drought in China and the 2011 drought in Syria. A photo of Timothy Snyder is included, along with a date '12.10.2015 7:28' and social media sharing options. At the bottom, there is a short bio: 'Do Prahy jste přijel převzít cenu Nadace Dagmar a Václava Havlových Vize 97. Co pro Vás toto ocenění znamená? Je to pro mě obzvlášť velká pocta, protože tato cena vychází z tradice,'.

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HN: A v Turecku?

V Turecku nynější politická krize vznikla z toho, jak naložit s imigranty a jak se postavit ke kolapsu Sýrie. Obojí souvisí s proměnami životního prostředí.“

kurzy: 22.03

E15.cz / Názory

E15.cz Zprávy Praha **Názory** Finance Média

Názory | Rozhovory | Komentáře | Analýzy | Reportáže | Profily | Zahraniční tisk | Blogy

Timothy Snyder MUSLIMSKÝ SVĚT JE PRVNÍ...
Timothy Snyder: Muslimský svět je první obětí změn klimatu. Přijdou další „Sýrie“

Světové velmoci svými chybami přispívají k tomu, aby lidstvo zapomnělo lekce, které mu udělil holocaust. Klimatické změny nahrávají tomu, aby se politici opět chopili myšlenky, že my jsme více než oni, varuje americký historik Timothy Snyder. **Rozhovor**

12.10.2015 7:28 | [Text](#) [G+](#) [e](#)

Do Prahy jste přijel převzít cenu Nadace Dagmar a Václava Havlových Vize 97. Co pro Vás toto ocenění znamená?
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Rozhovor Colours of Ostrava Snyder Timothy [inšpirativní rozhovor](#) [Pevnost](#) [Ekonóm](#) [Turecko](#)

Pučisté v Turecku udělali chybu, že Erdoganovi nesebrali telefon, říká historik Snyder

Daniël Kováčik - vedoucí kulturní rubriky | 18. 7. 2016 00:00 (aktualizováno 02:14) | **Kultura** | 5

- Na ostravské diskusní fórum Meetingpot o víkendů přijel americký profesor historie na Yaleově univerzitě Timothy Snyder.
- V rozhovoru hovoří o tureckém pokusu o vojenský převrat a tvrdí, že události takzvaného arabského jara měly ekologické příčiny.
- "Podobné incidenty se budou opakovat, jestliže nezabráníme proměně Blízkého východu a severní Afriky v poušť," říká v rozhovoru.

Hostem Colours of Ostrava byl americký historik Timothy Snyder. Debatoval zde mimo jiné s ministrem zahraničí Lubomírem Zouharlem. autor: HN - Štěpán Žeruš

Nemuset o víkendů absolvovat tři vystoupení na debatním fóru Meetingpot, které se konalo v rámci festivalu Colours of Ostrava, americký historik Timothy Snyder by zcela jistě sledoval, jak jdou dějiny. Jako by nestačil brexit a teroristický útok v Nice, teď do toho přijde ještě pokus o vojenský puč v Turecku," říká Snyder v sobotu odpoledne a hned si posteskne, že v Ostravě neměl dost času nejnovější dění nastudovat.

19
Založte si ING Kori
zvíhodněnou saz
Chci založit

COMMENT 2 December 2015

Climate as a cause of Syria's conflict? It's far from settled

World leaders and commentators including Prince Charles talk up climate change as a factor in Syria's war, but its role is debatable, finds Fred Pearce



IT HAS been repeatedly claimed that refugees fleeing Syria are victims of climate change as well as victims of a vicious civil, and now international, conflagration.

Scientific American declared that global warming "hastened" the war, and US president Barack Obama said "drought and crop failures and high food prices helped fuel the early unrest". The latest intervention comes from UK royal Prince Charles, who echoed those views in a TV interview broadcast last week.

Každý Colours of Ostrava Snyder Timothy teniči rozhovor Paeska Prostor Turecko

Pučisté v Turecku udělali chybu, že Erdoganovi nesebrali telefon, říká historik Snyder

Daniël Kvačák • vedoucí kulturní rubriky 18. 7. 2016 00:00 (aktualizováno 02:16) kultura 5

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19

Založte si ING Kora z výhodnější saz

Chci založit >

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Kurz: 27.03

E15.cz Zprávy Praha Názory Finance Média E-

Názory Rozhovory Komentáře Analýzy Reportáže Profily Zahraniční tok Blogy

E15 > NÁZORY > ROZHOVORY > TIMOTHY SNYDER: MUSLIMSKÝ SVĚT JE PRVNÍ

Timothy Snyder: Muslimský svět je první obětí změn klimatu. Přijdou další „Sýrie“

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Rozhovor



12.10.2015 7:28 | Tweet



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Je to pro mě obzvláště velká pocta, protože tato cena vychází z tradice,

Jaké další změny ŽP považujete za globální výzvy?

Top

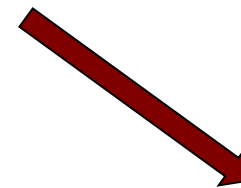


2015 – 2030

Cíle udržitelného rozvoje

Sustainable development goals (SDG)

- Pokračování úspěšného projektu 8MDG
- Stanoveno 17 cílů se 169 podcíli !!!





CÍLE UDRŽITELNÉHO ROZVOJE





SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

14 LIFE BELOW WATER

15 LIFE ON LAND

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

17 PARTNERSHIPS FOR THE GOALS


SUSTAINABLE DEVELOPMENT GOALS

2015 - 2030

Sustainable development goals (SDG)

- Pokračování úspěšného projektu 8MDG
- Stanoveno 17 cílů se 169 podcíli !!!

„mnoho priorit = žádná priorita“

Jak prioritizovat „nejlepší“ cíle?

A New Way to Set Goals for Fighting World Poverty

Experts have long argued over the best way to reduce poverty and disease around the globe. A group of leading economists has been gathering periodically over the past several years to assess the wisest ways to spend limited funds to promote global development. Their conclusions and ranking methods offer both a new perspective and a challenge to some current orthodoxies about foreign aid. In their most recent assessment, in June, the group—convened by the [Copenhagen Consensus Center](#)—offered a preliminary assessment of the targets proposed by the UN's Open Working Group on Sustained Development Goals.

The Copenhagen Consensus Center group compared the cost of each goal to its likely benefits on a scale from phenomenal to poor or uncertain. Their question: For every dollar spent, how much good is done for the world's poor? Here are some of their rankings. ([Related article: Five Ways to Outgrow World Poverty](#))

Ratings key:

PHENOMENAL – Robust evidence for benefits more than 15 times higher than costs

GOOD – Robust evidence of benefits between 5 to 15 times higher than costs

FAIR – Robust evidence of benefits between 1 to 5 times higher than costs

POOR – The benefits are smaller than costs or target poorly specified (e.g. internally inconsistent, incentivizes wrong activity)

UNCERTAIN – There is not enough knowledge of the policy options that could reach the target OR the costs and benefits of the actions to reach the target are not well known

Note: We excluded any goals that had ratings across several categories or any that the group didn't assess. See the [full report here](#).

<< first < prev 1 2 3 4 next > last >>

Target	Proposed Goal	Rating
By 2020, provide legal identity for all, including birth registrations	Achieve peaceful and inclusive societies, rule of law, effective and capable institutions	Good
Forge unity in diversity through democratic practices and mechanisms at the local, national and international levels	Achieve peaceful and inclusive societies, rule of law, effective and capable institutions	Poor
Promote freedom of media, association and speech	Achieve peaceful and inclusive societies, rule of law, effective and capable institutions	Poor
By 2030, reduce levels of violence and related death rate by x%	Achieve peaceful and inclusive societies, rule of law, effective and capable institutions	Uncertain
By 2030, end abuse, exploitation and violence against children	Achieve peaceful and inclusive societies, rule of law, effective and capable institutions	Uncertain
By 2030, increase inclusive, participatory and representative decision-making at all levels, taking into consideration the interests of present and future generations	Achieve peaceful and inclusive societies, rule of law, effective and capable institutions	Uncertain
By 2020, provide information and education on a culture of non-violence	Achieve peaceful and inclusive societies, rule of law, effective and capable institutions	Uncertain
By 2020, effectively regulate harvesting and end overfishing to restore by 2030 fish stocks to ecologically safe levels that can produce maximum sustainable yield	Attain conservation and sustainable use of marine resources, oceans and seas	Phenomenal
By 2020, eliminate subsidies which contribute to overcapacity and overfishing, and refrain from introducing new such subsidies, taking into account the need of developing countries, notably least developed countries and SIDS	Attain conservation and sustainable use of marine resources, oceans and seas	Phenomenal

Smarter Global Targets to 2030

PEOPLE

- LOWER CHRONIC CHILD MALNUTRITION BY 40%
- HALVE MALARIA INFECTION
- REDUCE TUBERCULOSIS DEATHS BY 90%
- AVOID 1.1M HIV INFECTIONS THROUGH CIRCUMCISION
- CUT EARLY DEATH FROM CHRONIC DISEASE BY 1/3
- REDUCE NEWBORN MORTALITY BY 70%
- INCREASE IMMUNIZATION TO REDUCE CHILD DEATHS BY 25%
- MAKE FAMILY PLANNING AVAILABLE TO EVERYONE
- ELIMINATE VIOLENCE AGAINST WOMEN AND GIRLS

PLANET

- PHASE OUT FOSSIL FUEL SUBSIDIES
- HALVE CORAL REEF LOSS
- TAX POLLUTION DAMAGE FROM ENERGY
- CUT INDOOR AIR POLLUTION BY 20%



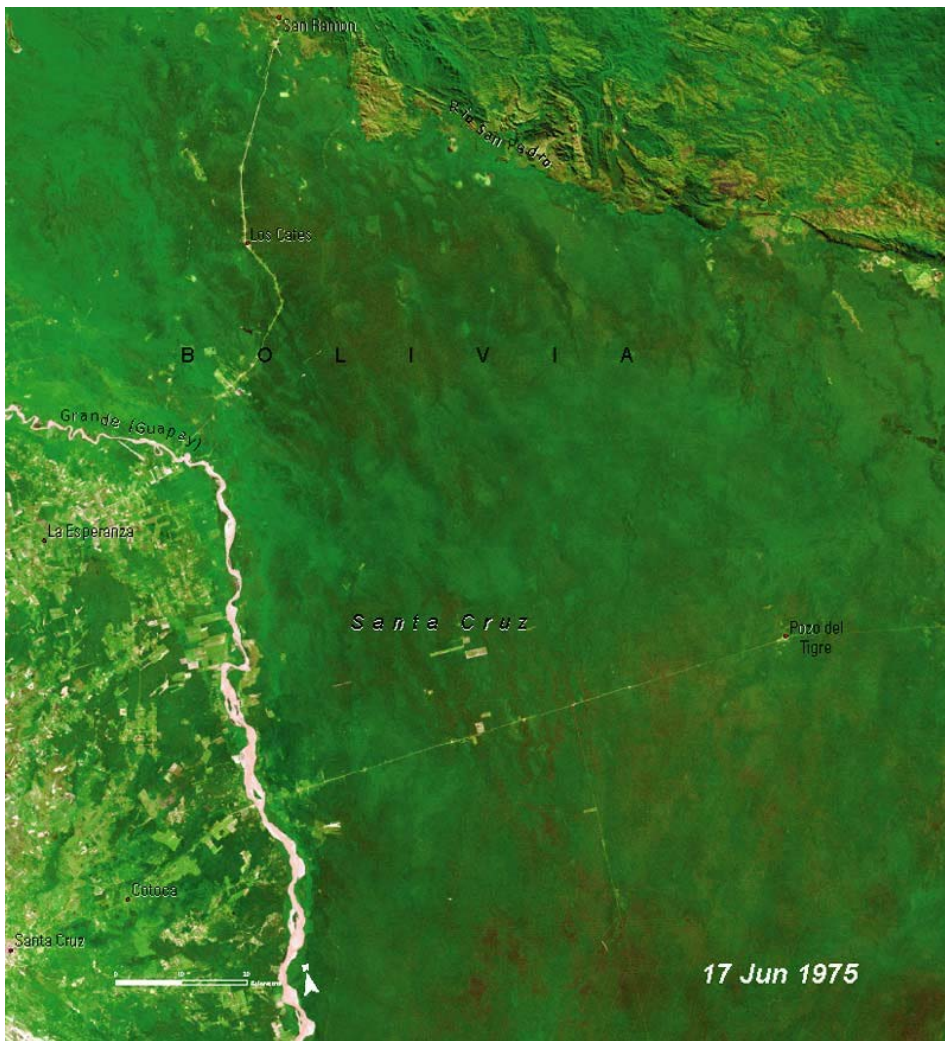
PROSPERITY

- REDUCE TRADE RESTRICTIONS (FULL DOHA)
- IMPROVE GENDER EQUALITY IN OWNERSHIP, BUSINESS AND POLITICS
- BOOST AGRICULTURAL YIELD GROWTH BY 40%
- INCREASE GIRLS' EDUCATION BY TWO YEARS
- ACHIEVE UNIVERSAL PRIMARY EDUCATION IN SUB-SAHARAN AFRICA
- TRIPLE PRESCHOOL IN SUB-SAHARAN AFRICA

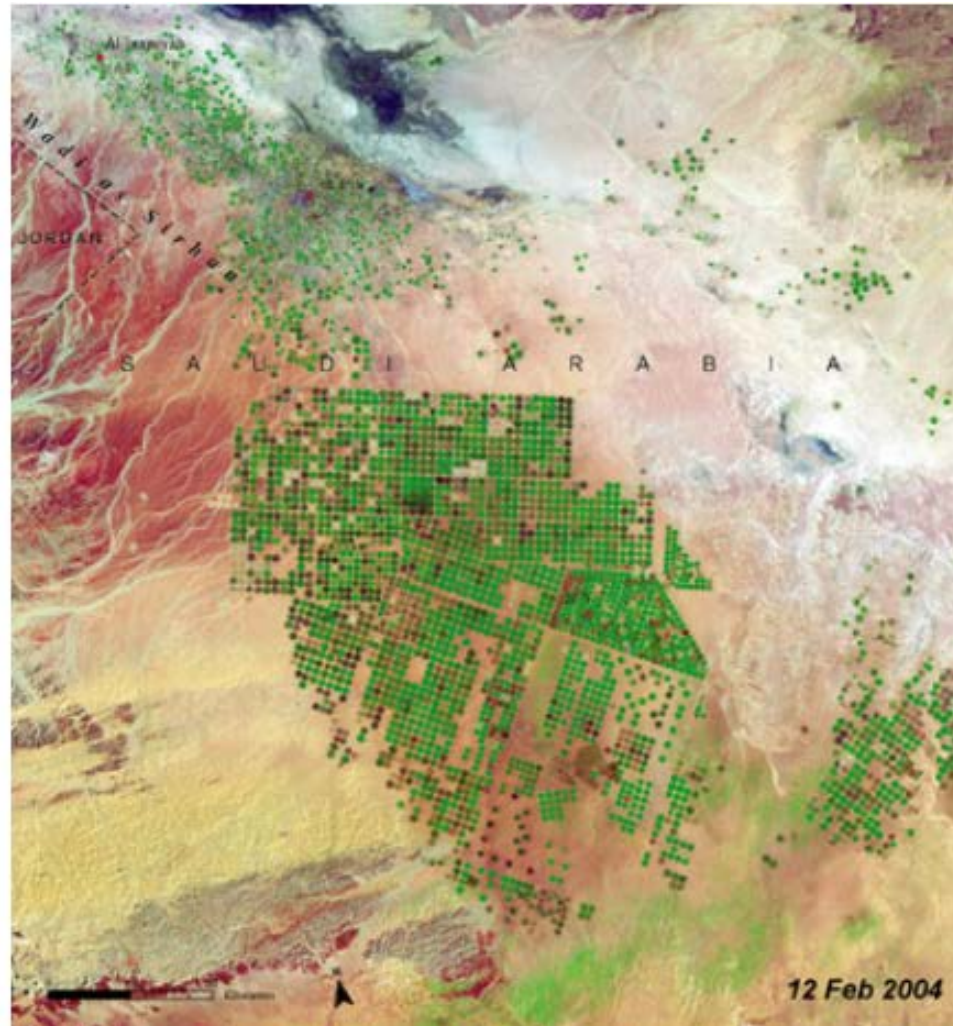
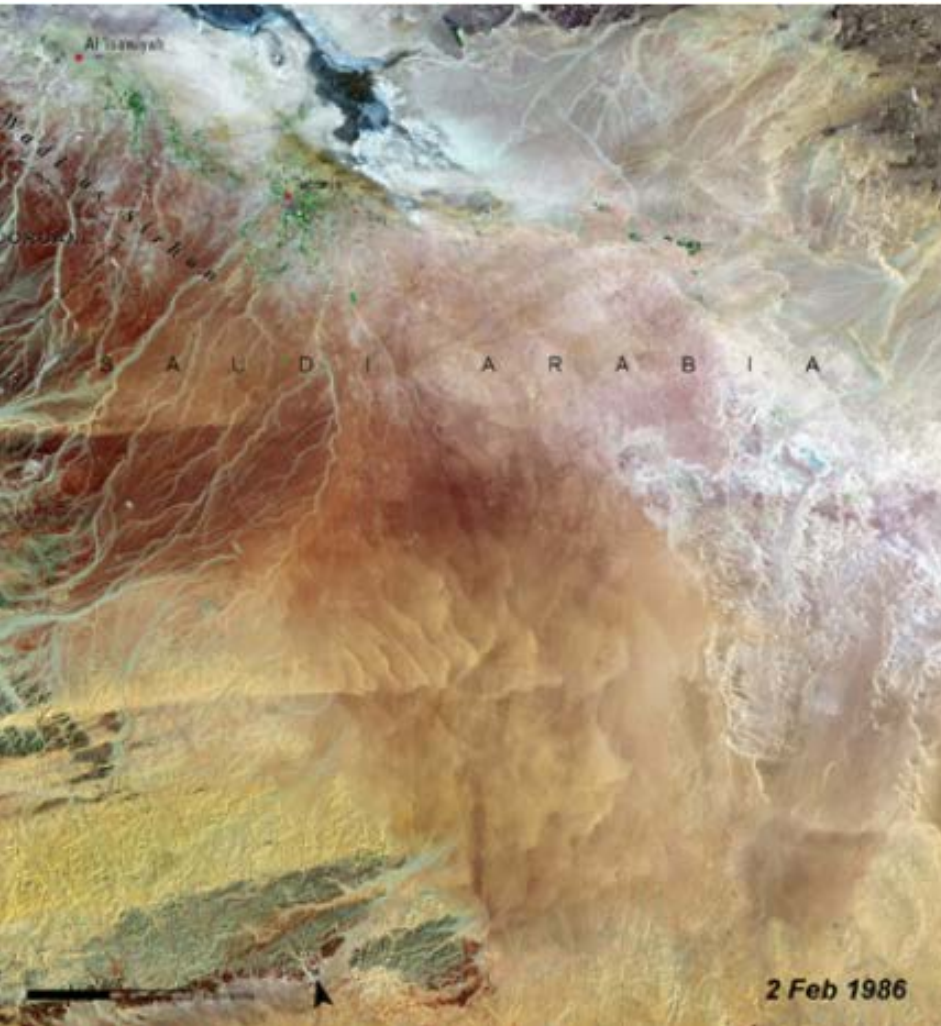
??? 1.7 m velký člověk vs. plocha $128 \cdot 10^{12} \text{ m}^2$???



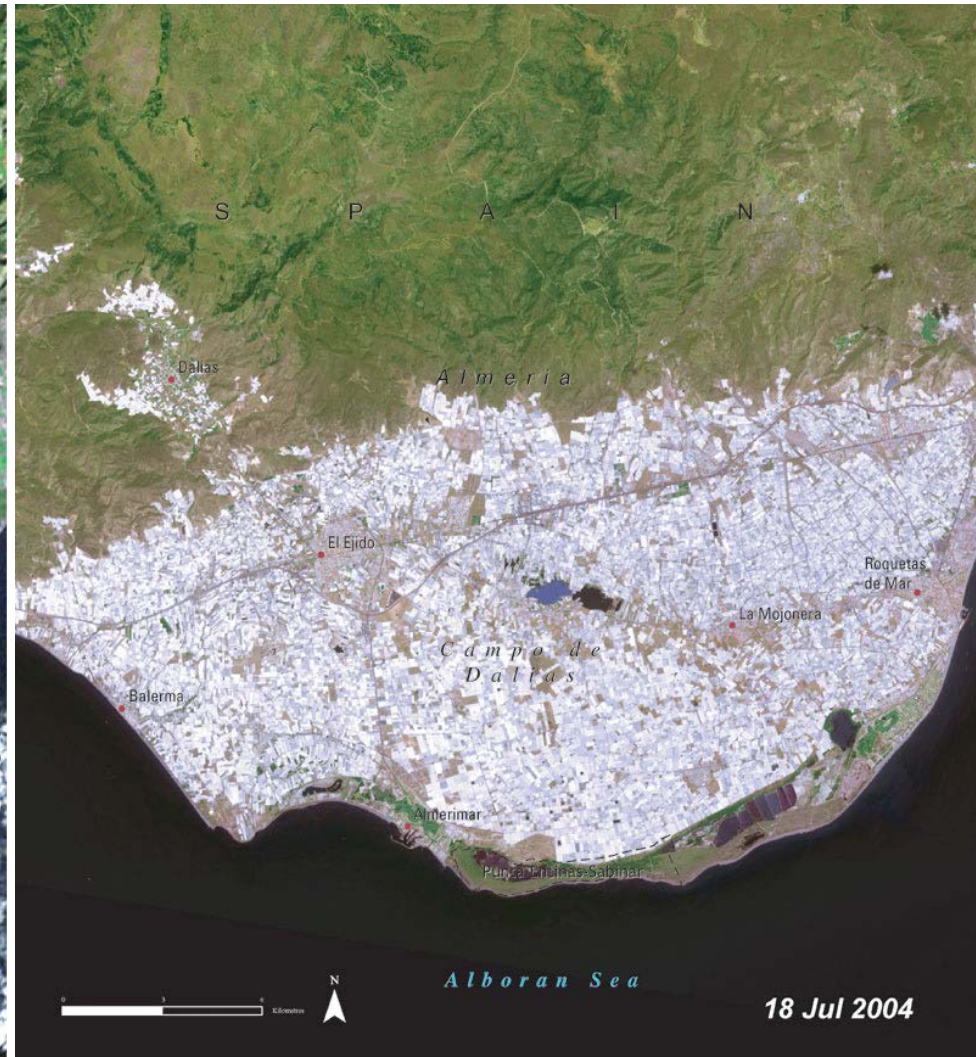
Santa Cruz, Bolívia



Al'Isawiyah, Saudi Arabia

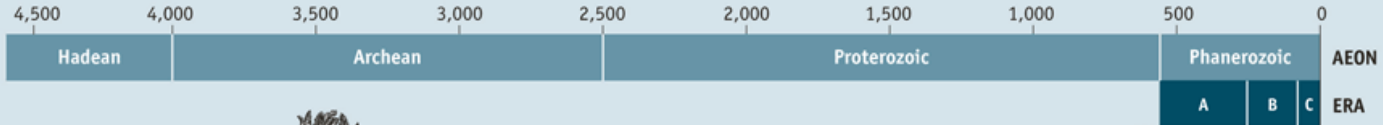


Almeria, Spain

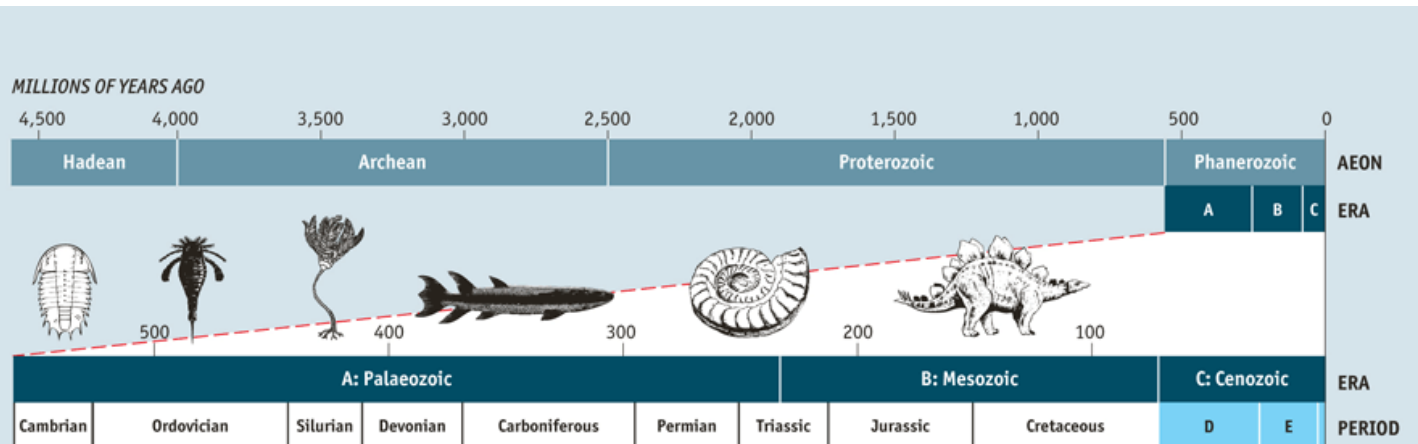


Prahory - čtvrtohory...

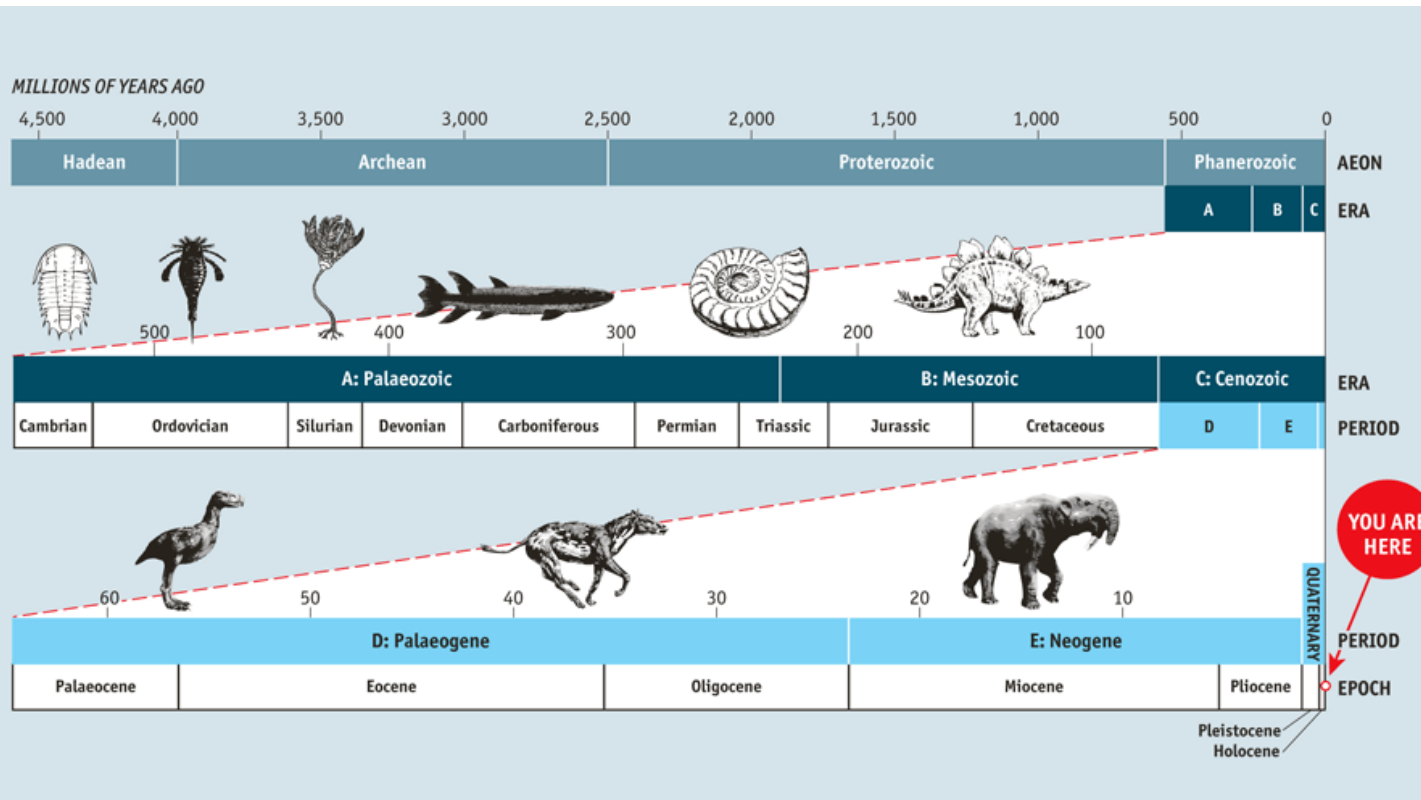
MILLIONS OF YEARS AGO



Prahory - čtvrtohory...



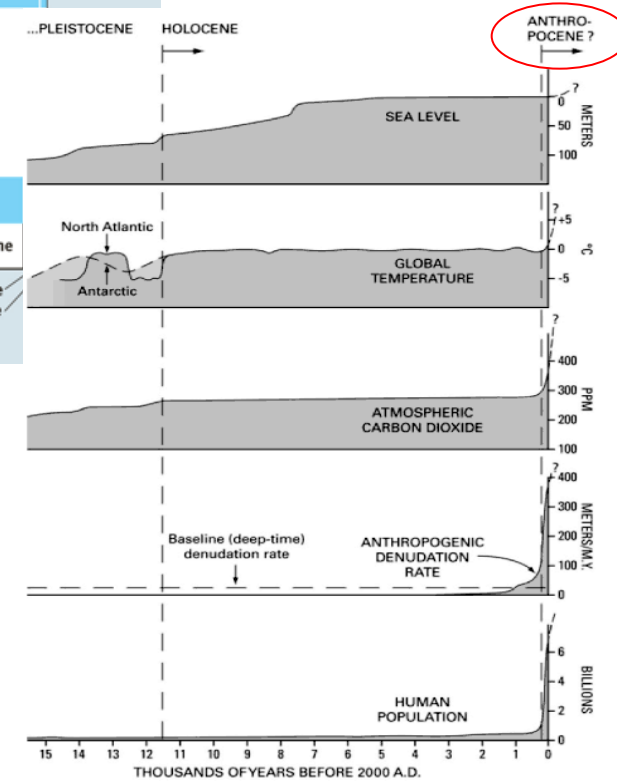
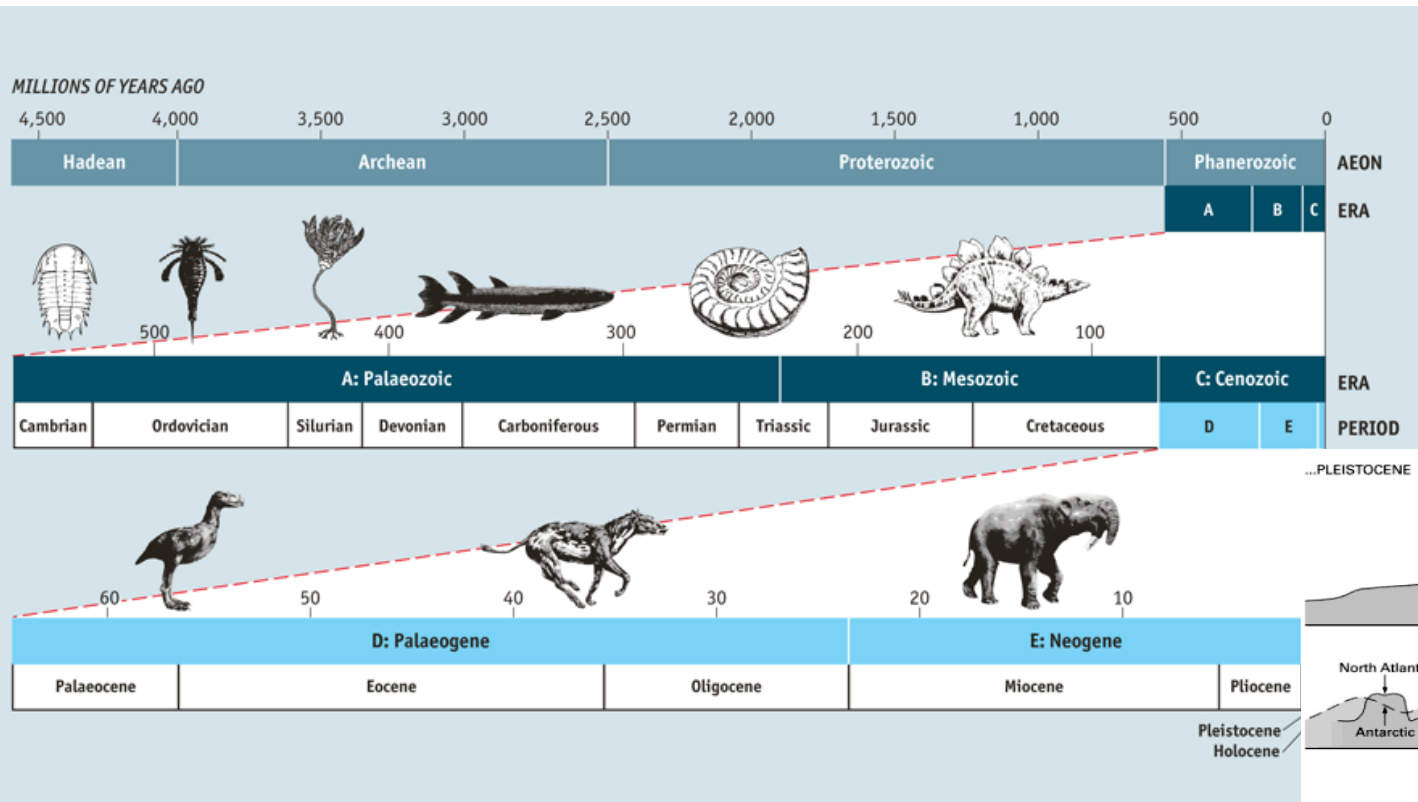
Prahory - čtvrtohory...





Jak se nazývá geologické období, ve kterém ted' žijeme?

Prahory - čtvrtohory...



Geology of mankind

Paul J. Crutzen

For the past three centuries, the effects of humans on the global environment have escalated. Because of these anthropogenic emissions of carbon dioxide, global climate may depart significantly from natural behavior, forcing a millennial-scale

referring to the "anthropozoic era". And in 1926, V. I. Vernadsky acknowledged the increasing impact of mankind: "The direction in which the processes of evolution must proceed, namely towards increasing consciousness and thought, and forms having greater and greater influence on their surroundings." Teilhard de Chardin and

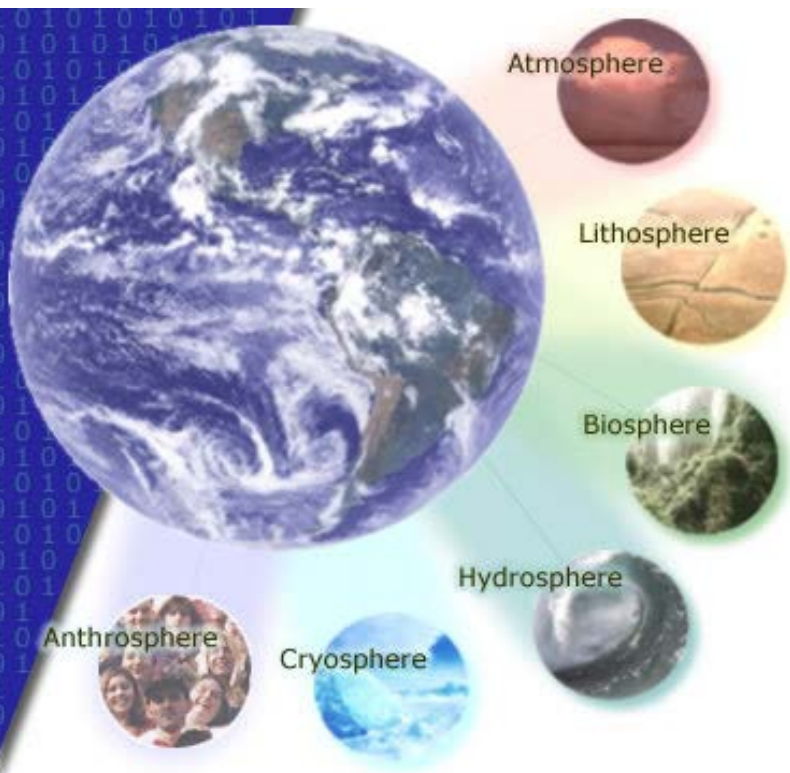
The Anthropocene

The Anthropocene could be said to have started in the late eighteenth century, when analyses of air trapped in polar ice showed the beginning of growing global concentrations of carbon dioxide and methane.

Antropocén



- geologický termín zpopularizovaný P. Crutzenem
- od průmyslové revoluce / WW2 (1/2 18. stol. či 1/2 20. st.?)
- období, kdy člověk začal představovat dominantní sílu měnící stav „Zemského systému“



Zemský systém – integrované biofyzikálně-socio-ekonomické procesy a interakce mezi hydro-, kryo-, bio-, geo- a antroposférou v prostorovém (od lokálních po globální) a časovém měřítku, jež určují environmentální stav planety v rámci její pozice ve vesmíru.

**Co může být považováno za "otisk"
aktuálně probíhajícího Antropocénu? Co
uvidí budoucí archeolog až za 1,000,000 let
bude dělat vykopávky dneška?**

Top

Is Earth in a new geological phase thanks to us?

- › 10 November 2014 by [Jan Zalasiewicz](#)
- › Magazine issue [2994](#). [Subscribe and save](#)
- › For similar stories, visit the [Comment and Analysis](#) Topic Guide

It may be time for science to recognise Earth's new era – one shaped by humans. So argues a geologist involved in defining new phases in geological time

WHAT is the legacy that short-lived humanity will leave to an almost eternal Earth? The casual observer might point to tourist sights such as the once mighty city of Angkor, now lying ruined amid the Cambodian jungle, or what survives of the great monuments of ancient Egypt.

They are wonderful, of course, but there is another way to address that question. A little-known working group, part of the International Commission on Stratigraphy, recently met to consider if the human imprint on Earth is now so great, and likely to be detectable for so long, that it deserves to be regarded as a geological epoch in its own right. That would be our real legacy.

Such discussion is not new. George Perkins Marsh, North America's first conservationist, wrote of humans changing the face of the Earth. In 1873 the Italian geologist Antonio Stoppani coined the term *Anthropozoic* – the era in which humans change the course of geological history. Most geologists declared the idea nonsense. The constructions of civilisation may look impressive, they said, but must surely be trivial when set against the collisions of continents and the growth and disappearance of the oceans. When humans disappear, the world will resume its course, and few of our monuments will be left.

But over the past few decades it has become clear that human activities can have geologically far-reaching effects. Science writer Andrew Revkin suggested we were living in what he called the *Anthrocene*; John Curnutt of the US Geological Survey, awed at the transplanting of species across the globe, proposed the *Homogenocene*; marine biologist Daniel Pauly saw the oceans' future as one of slime and jellyfish as a result of overfishing and pollution, and invented the *Myxocene*.

But it was one of the world's most respected scientists, the Nobel-prizewinning atmospheric chemist Paul Crutzen, who proved most influential. He argued that the Holocene, the geological epoch of post-glacial stability in which civilisation arose, had ended and been replaced by the *Anthropocene*, an epoch shaped by humans.

The idea took off. The term was used as if it were a formal epoch. It isn't – but

Marks of the Anthropocene: 7 signs we have made our own epoch



By [Sam Wong](#)

Even if [humanity is long gone](#) in tens of millions of years, there will still be a clear sign of us and the way we lived left preserved in our planet's geological record.

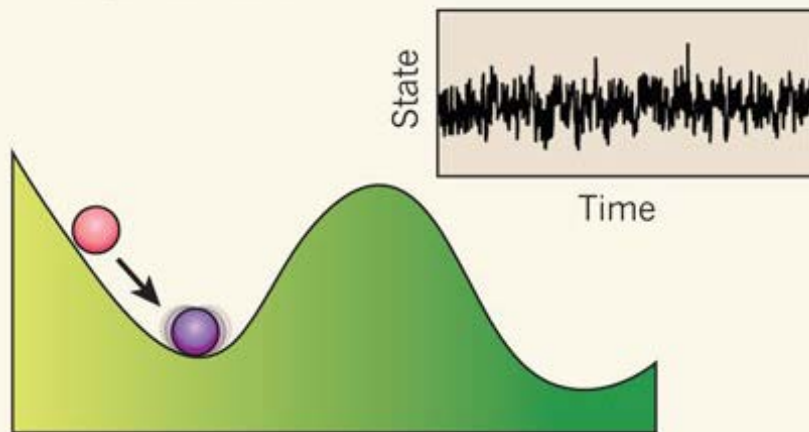
There is now overwhelming evidence that our impact on Earth constitutes its own distinct geological epoch, dating from the middle of the 20th century. Here are the seven signs that will clearly identify the *Anthropocene epoch* for future geologists.

1. Nuclear weapons

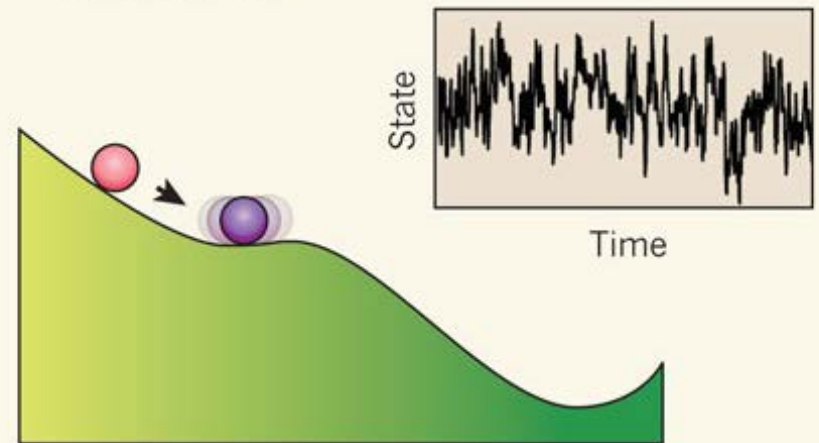
Our war efforts have left their mark on geology. When the first nuclear weapon was detonated on 16 July 1945 in New Mexico, it deposited radionuclides – atoms with excess nuclear energy – across a wide area. Since 1952, more explosive thermonuclear weapons have been tested, leaving a global signature of isotopes such as carbon-14 and plutonium-239.

Proč nás to má zajímat?

a Low risk of transition
High resilience



b High risk of transition
Low resilience



FEATURE

A safe operating space for humanity

Identifying and quantifying planetary boundaries that must not be transgressed could help prevent human activities from causing unacceptable environmental change, argue **Johan Rockström** and colleagues.

Although Earth has undergone many periods of significant environmental change, the planet's environment has been unusually stable for the past 10,000 years¹⁻³. This period of stability — known to geologists as the Holocene — has seen human civilizations arise, develop and thrive. Such stability may now be under threat. Since the Industrial Revolution, a new era has arisen, the Anthropocene⁴, in which human actions have become the main driver of global environmental change⁵. This could see human activities push the Earth system outside the stable environmental state of the Holocene, with consequences that are detrimental or even catastrophic for large parts of the world.

During the Holocene, environmental change occurred naturally and Earth's regulatory capacity maintained the conditions that enabled human development. Regular temperatures, freshwater availability and biogeochemical flows all stayed within a relatively narrow range. Now, largely because of a rapidly growing reliance on fossil fuels and



SUMMARY

- New approach proposed for defining preconditions for human development
- Crossing certain biophysical thresholds could have disastrous consequences for humanity
- Three of nine interlinked planetary boundaries have already been overstepped

industrialized forms of agriculture, human activities have reached a level that could damage the systems that keep Earth in the desirable Holocene state. The result could be irreversible and, in some cases, abrupt environmental change, leading to a state less conducive to human development⁶. Without pressure from humans, the Holocene is expected to continue for at least several thousands of years⁷.

Planetary boundaries

To meet the challenge of maintaining the Holocene state, we propose a framework based on 'planetary boundaries'. These

boundaries define the safe operating space for humanity with respect to the Earth system and are associated with the planet's biophysical subsystems or processes. Although Earth's complex systems sometimes respond smoothly to changing pressures, it seems that this will prove to be the exception rather than the rule. Many subsystems of Earth react in a nonlinear, often abrupt, way, and are particularly sensitive around threshold levels of certain key variables. If these thresholds are crossed, then important subsystems, such as a monsoon system, could shift into a new state, often with deleterious or potentially even disastrous consequences for humans^{8,9}.

Most of these thresholds can be defined by a critical value for one or more control variables, such as carbon dioxide concentration. Not all processes or subsystems on Earth have well-defined thresholds, although human actions that undermine the resilience of such processes or subsystems — for example, land and water degradation — can increase the risk that thresholds will also be crossed in other processes, such as the climate system.

We have tried to identify the Earth-system processes and associated thresholds which, if crossed, could generate unacceptable environmental change. We have found nine such processes for which we believe it is necessary to define planetary boundaries: climate change; rate of biodiversity loss (terrestrial and marine); interference with the nitrogen and phosphorus cycles; stratospheric ozone depletion; ocean acidification; global freshwater use; change in land use; chemical pollution; and atmospheric aerosol loading (see Fig. 1 and Table).

In general, planetary boundaries are values for control variables that are either at a 'safe' distance from thresholds — for processes with evidence of threshold behaviour — or at dangerous levels — for processes without

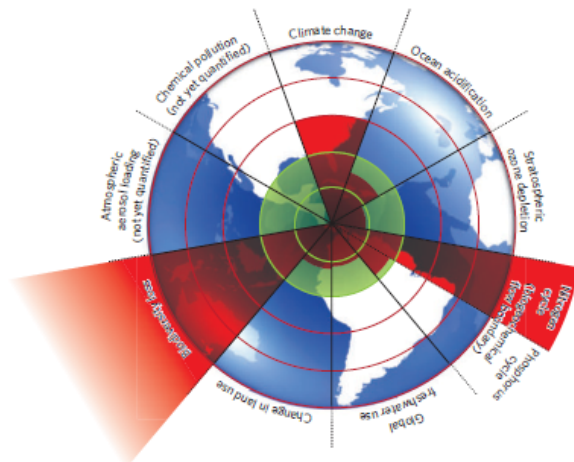


Figure 1 | Beyond the boundary. The inner green shading represents the proposed safe operating space for nine planetary systems. The red wedges represent an estimate of the current position for each variable. The boundaries in three systems (rate of biodiversity loss, climate change and human interference with the nitrogen cycle), have already been exceeded.

A safe operating space for humanity (Rockström et al., 2009)

1a) In which geological period, and when human civilization arise and thrive?

1b) Why the development of our civilization was possible in this period?

1c) What can jeopardize a continuity of our development in the future?

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A safe operating space for humanity (Rockström et al., 2009)

2a) What are the “Planetary boundaries” about?

2b) Which Earth-system processes were identified (9)?

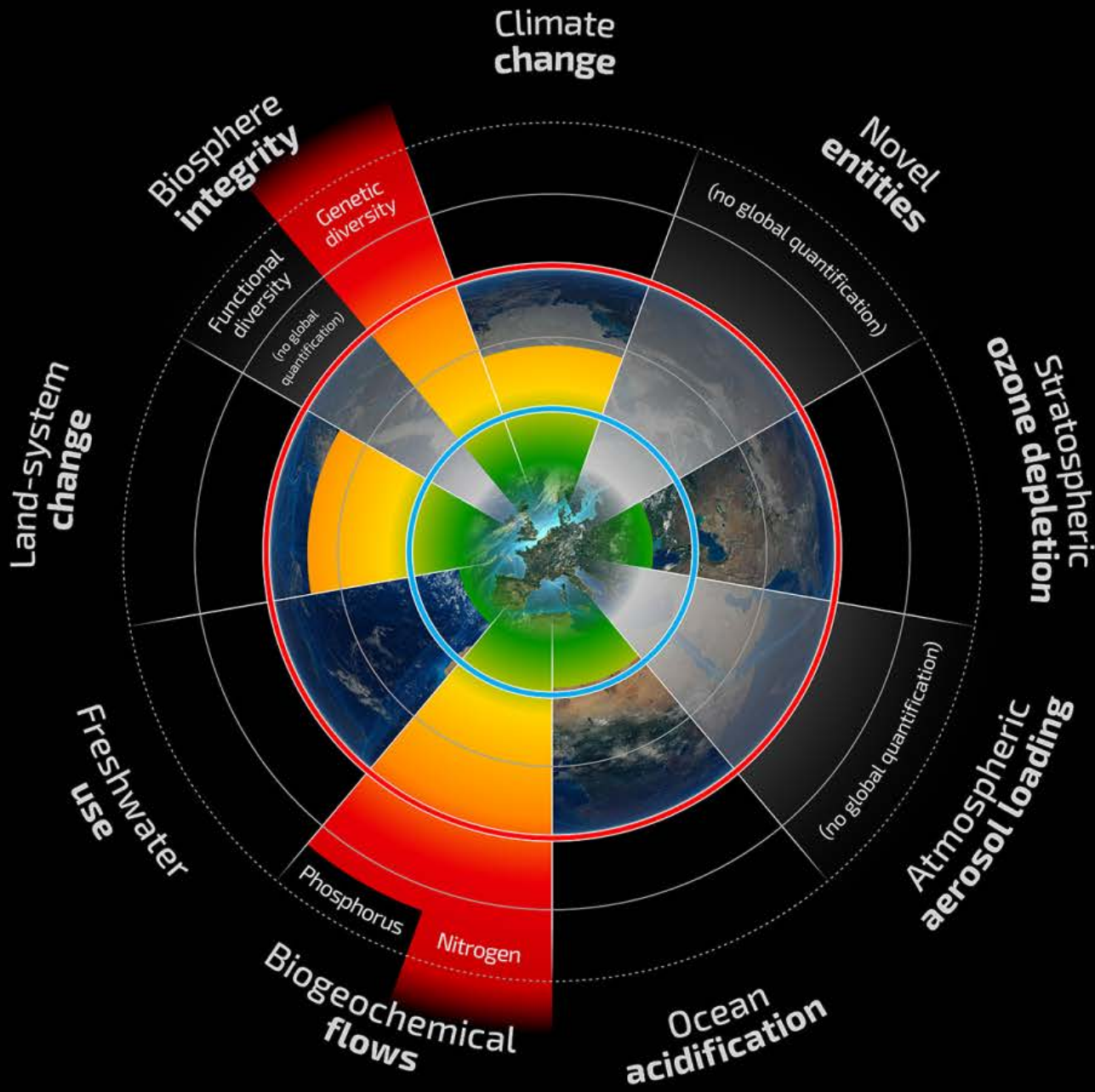
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Planetary Boundaries

A safe operating space for humanity



- Beyond zone of uncertainty (high risk)
- In zone of uncertainty (increasing risk)
- Below boundary (safe)
- Boundary not yet quantified

Parts of Amazon close to tipping point

› 13:52 05 March 2009 by [Catherine Brahic](#)

› For similar stories, visit the [Endangered Species](#) Topic Guide

The Mato Grosso, the most scarred region of the Amazon rainforest, is teetering on a deforestation "tipping point", and may soon be on a one-way route to becoming a dry and relatively barren savannah.

[Mônica Carneiro Alves Senna](#) and colleagues at the Federal University of Viçosa, Brazil, used computer models to simulate how the Amazon would recover from various amounts of deforestation. Their simulations ranged from a complete wipe-out of the entire forest to a situation where just one fifth of the forest would be removed.

Parts of Amazon close to tipping point

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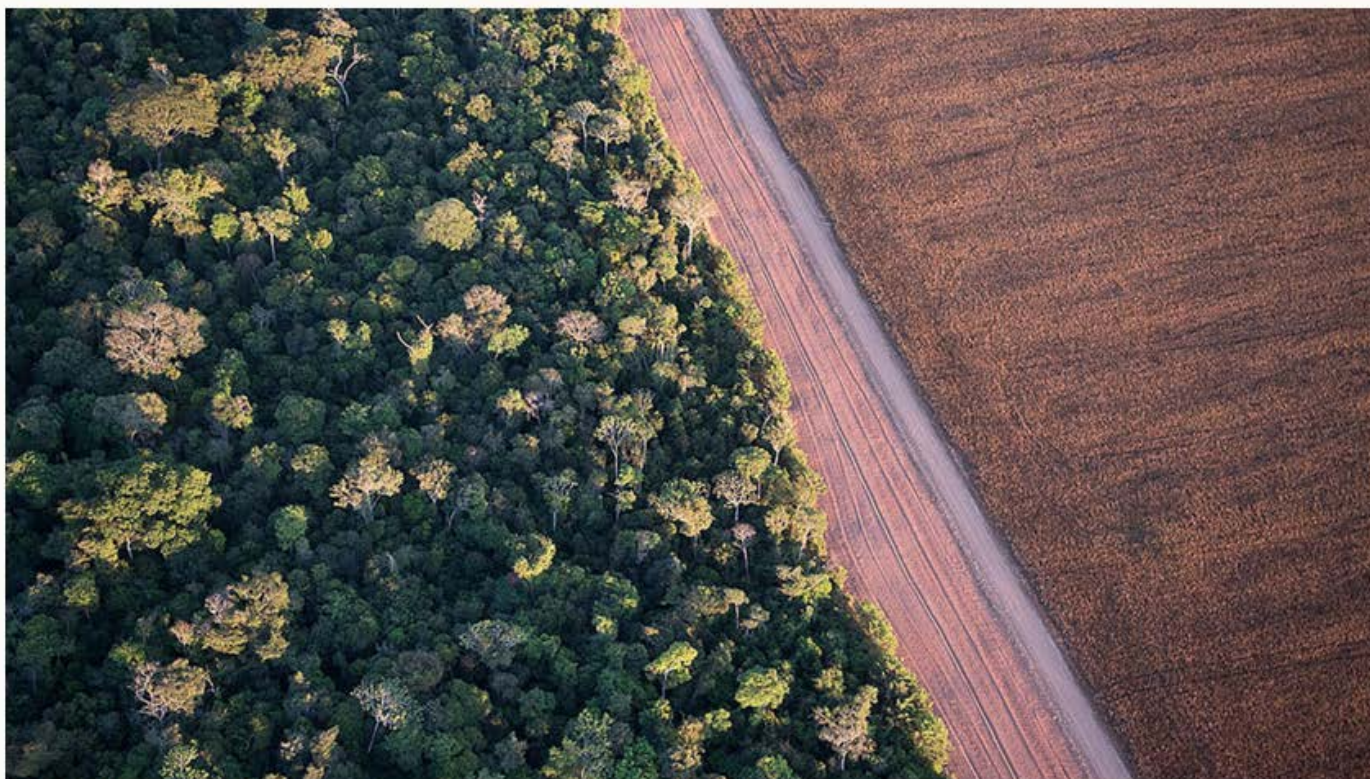
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The boundary between Tanguro Farm and the Amazon rainforest in Mato Grosso, Brazil. COURTESY OF CHRIS LINDER

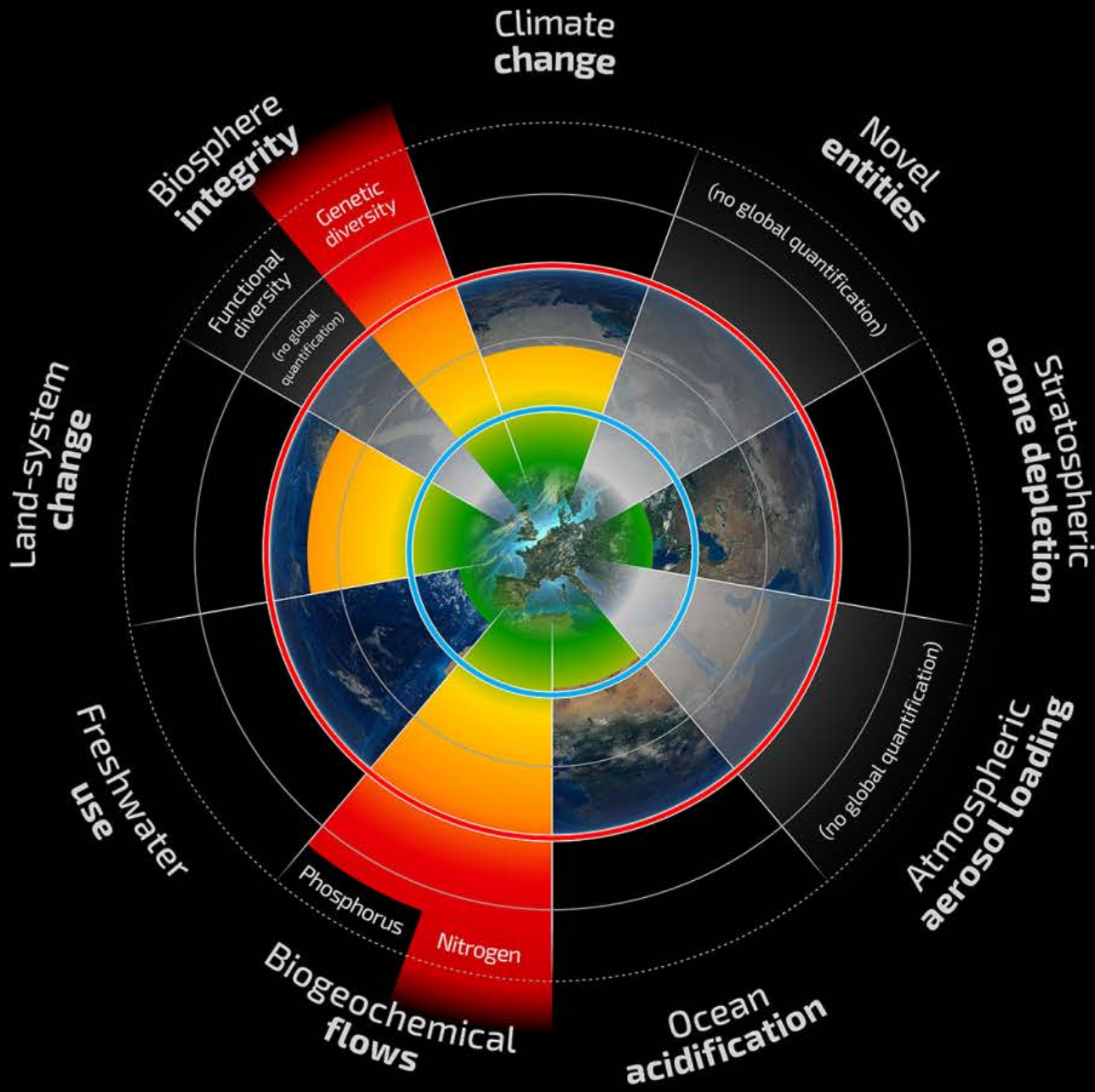
Amazon Watch: What Happens When the Forest Disappears?

At a remote site where the world's largest rainforest abuts land cleared for big agriculture, Brazilian and American scientists are keeping watch for a critical tipping point - the time when the Amazon ceases to be a carbon sink and turns into a source of carbon emissions.

BY FRED PEARCE · OCTOBER 17, 2019

Planetary Boundaries

A safe operating space for humanity



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