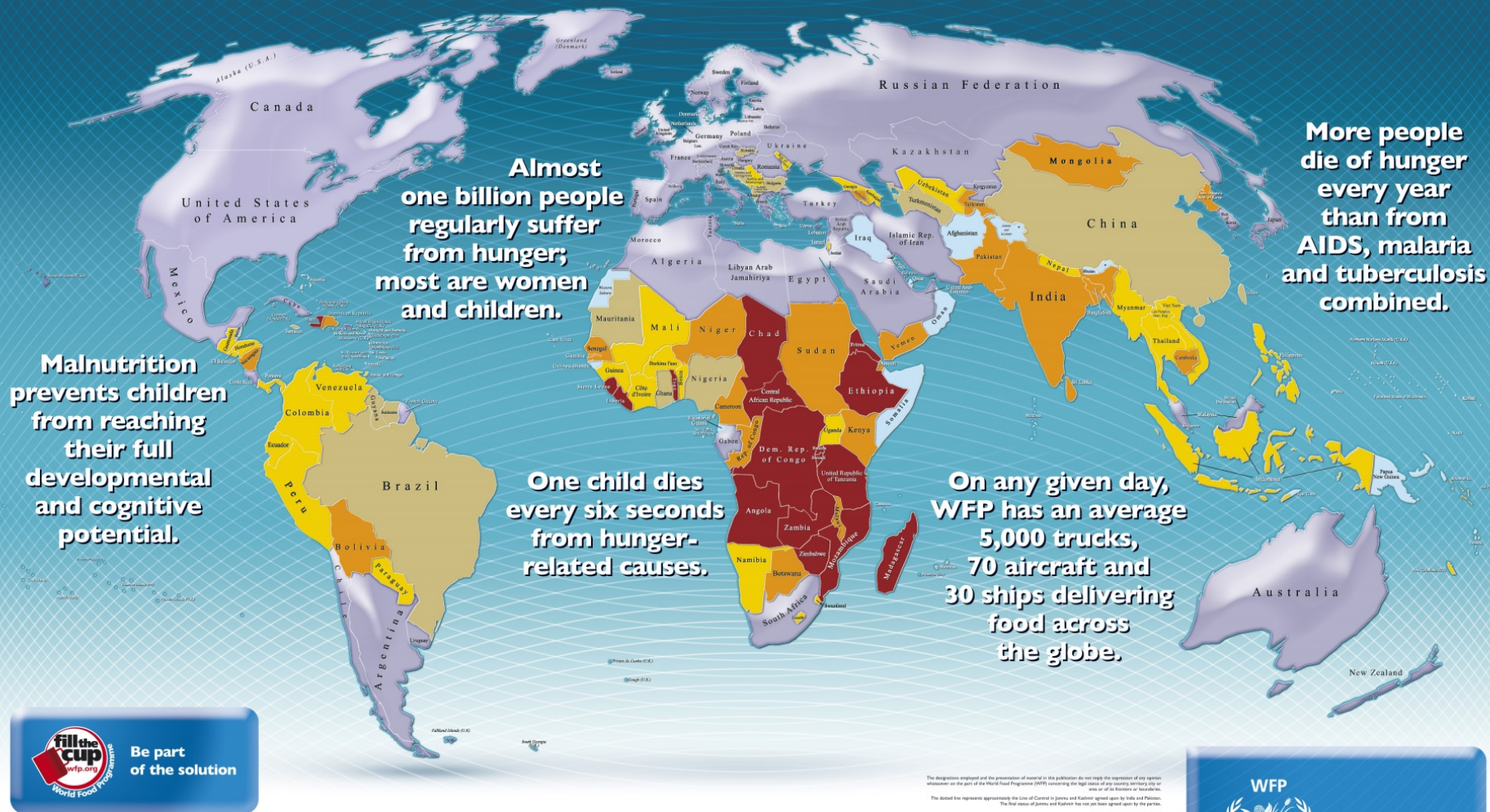


Jak se k této situaci postavit?



Ve světě, kde lidé trpí hladem, žízní, chudobou... (?)

2009 Hunger Map



Be part of the solution

The designers engaged and the preservation of material in this publication do not imply the expression of any opinion whatsoever on the part of the World Food Programme (WFP) concerning the legal status of any country, territory, city or area or of its boundaries or frontiers. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. © Design: Bertone/Ende/CRU

Category	1	2	3	4	5	
Undernourished	<5%	5-9%	10-19%	20-34%	≥35%	Insufficient data
Description	Extremely low	Very low	Moderately low	Moderately high	Very high	



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.

MDG1



ERADICATE
EXTREME POVERTY
AND HUNGER



EXTREME POVERTY

RATES HAVE BEEN

CUT IN HALF

SINCE 1990

LET'S STEP UP

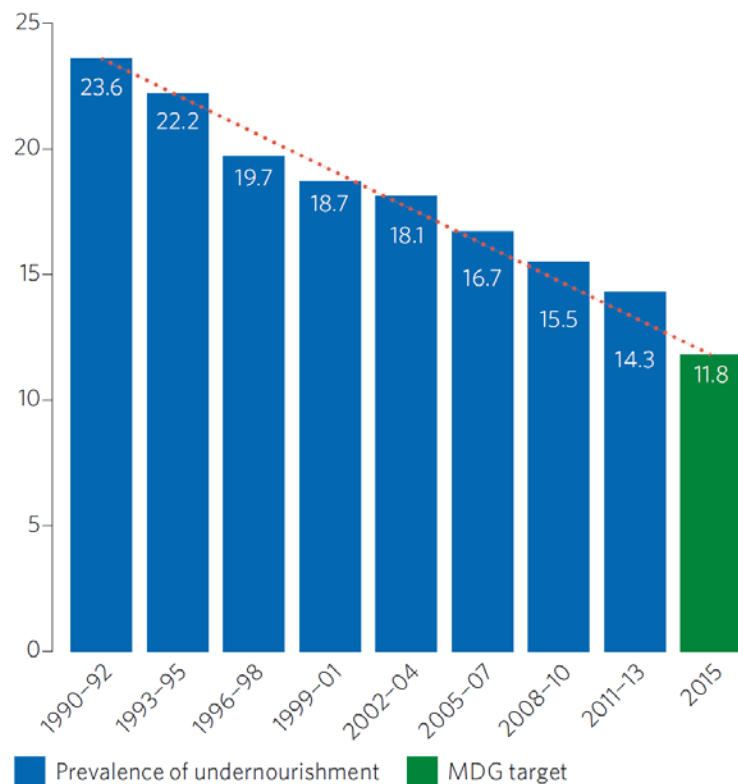
WORLD
WIDE

1 IN 9 REMAIN PEOPLE HUNGRY

Nedostatek potravy – současný stav

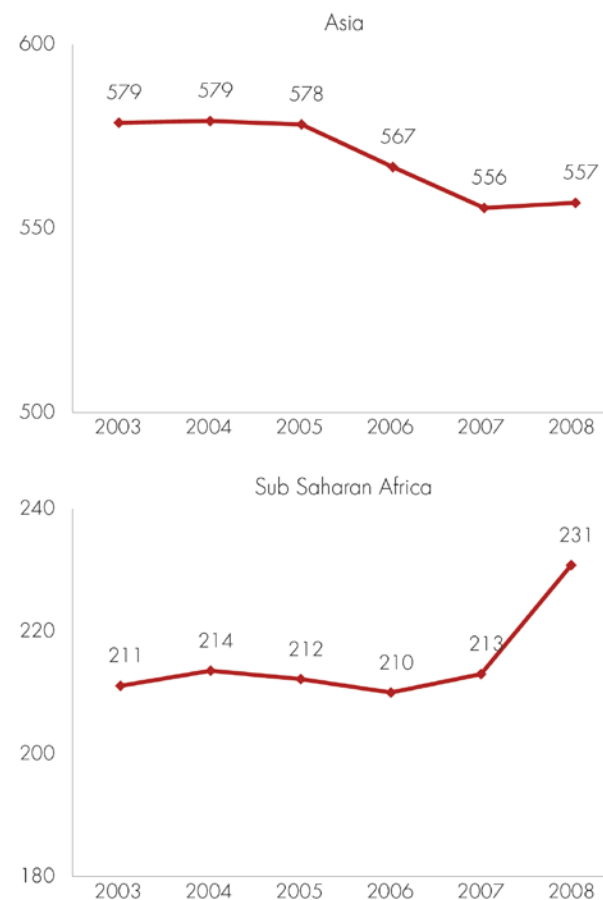
Hunger continues to decline, but major efforts are needed to achieve the hunger target globally by 2015

Proportion of undernourished people in developing regions, 1990–2013 (Percentage)



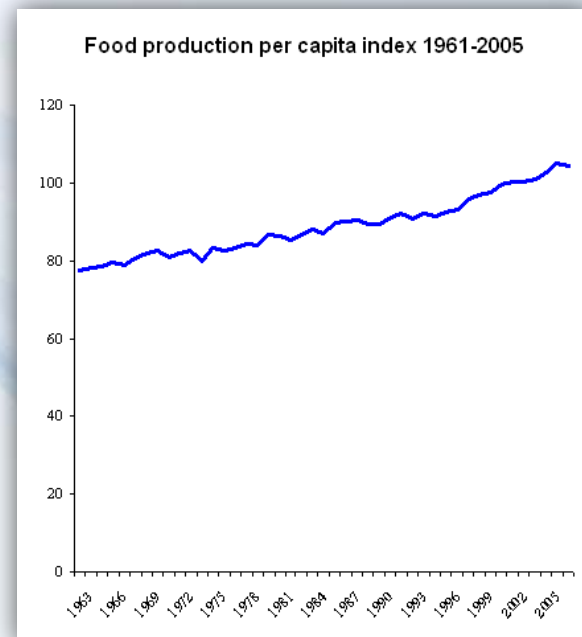
Countries in sub-Saharan Africa were the hardest hit by the food and financial crises

Number of undernourished people, 2003-2008 (Millions)



Nedostatek potravin ?

- množství vyprodukované **potravy na osobu** vzrůstá
- **Zelená revoluce** – rapidní vzrůst množství vyprodukované potravy, ale jedná se o trvale neudržitelný typ zemědělství
- vysoká spotřeba hnojiv, vody, pesticidů, E
- celosvětově počet podvyživených klesá, **s výjimkou Afriky**, kde je trend opačný
 - v Africe každý den zemře 16 000 dětí hlady



- v roce 2006 přesáhl počet lidí s nadváhou počet podvyživených lidí
 - dnes je poměr **1,4/0,8** (nadváha/podvyživení, miliony)



Nadbytek potravy – současný stav



Centrum pro výzkum
toxických látek
v prostředí



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

OBESITY WORLDWIDE

1.5 BILLION
ADULTS ARE OVERWEIGHT

25%

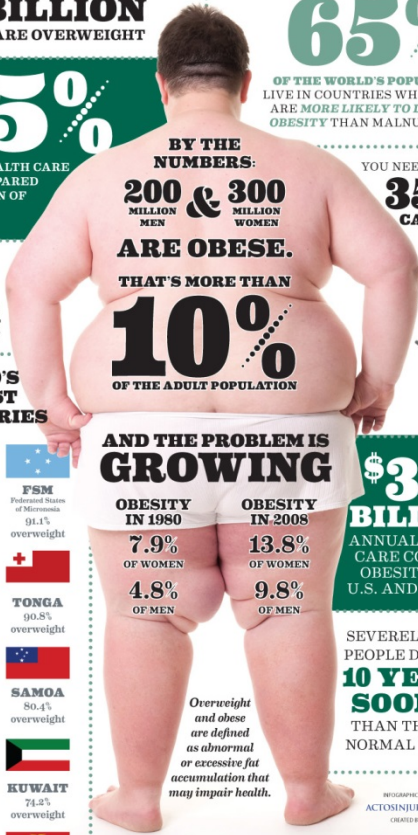
HIGHER HEALTH CARE COSTS COMPARED TO A PERSON OF AVERAGE WEIGHT

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** 90.8% 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.



BY THE NUMBERS:
200 & 300 MILLION MEN & WOMEN **ARE OBESE.**
THAT'S MORE THAN **10%** OF THE ADULT POPULATION

65% OF THE WORLD'S POPULATION LIVE IN COUNTRIES WHERE THEY ARE MORE LIKELY TO DIE FROM OBESITY THAN MALNUTRITION

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 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 at any BMI greater than 25. China uses a BMI of greater than 28.

SOURCES: www.britainainitalia.com/world-obesity-2011/; www.bbc.co.uk/1/health/2011/04/110423obesity_worldwide.shtml; www.infoplease.com/world/statistics/obesity.html; www.chicout.mediacentre/factbook/3214/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/2011/02/120212021012.htm; www.siberianpost.com/tuorial_pound.php; http://thechart.lkg.com.com/2011/08/22/obesity-world-to-getting-fatter-faster-needs-to-stop/; www.dailyjunk.com/blog.asp?post-the_10_worst_foods_of_2010; http://www.pbs.org/Archieve/2011/08/ingpopulationdecks.aspx

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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

The Telegraph

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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*.

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Centrum pro výzkum
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v prostředí

Lehká nadváha však neškodí, ba naopak...

My New Scientist

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Health myths: Being a bit overweight shortens life

- › 26 August 2013 by [Caroline Williams](#)
- › Magazine issue 2931. [Subscribe and save](#)
- › For similar stories, visit the [Food and Drink](#) Topic Guide

Read more: ["Don't swallow it: Six health myths you should ignore"](#)

Let's be clear – being seriously obese is bad for your health. A body mass index of over 40 increases the risk of type 2 diabetes, heart disease and certain cancers and increases the risk of dying from any cause by up to 29 per cent. This is not a health myth.

But carrying just a few extra pounds, far from being a one-way ticket to an early grave, seems to deter the grim reaper, according to a recent review of nearly a hundred studies involving nearly 3 million people. The review, led by Katherine Flegal of the US Centers for Disease Control in Hyattsville, Maryland, reported earlier this year that being "overweight" – defined as having a body mass index (BMI) of 25 to 29 – seems to have a protective effect, with a 6 per cent reduction in death risk compared with people with a BMI of between 18.5 and 25. Those with BMIs over 35, however, have a higher risk (*JAMA*, vol 309, p 71).

It isn't clear why being overweight might protect against an early death. Perhaps carrying a few extra pounds in reserve helps the body fight off illness or infection. Perhaps overweight people are more likely to receive medical attention. Or perhaps some of those counted as "normal" had lost weight due to serious illnesses.

Whatever the reason, Flegal says her finding is not a green light to eat all the pies. Overweight people might be more likely to develop diseases that affect the quality of life, for instance. Even so, it seems that a little bit of flab may not be the crime against health it has always been made out to be.

This article appeared in print under the headline "5 Being a bit overweight means you will die sooner"

Caroline Williams is a freelancer based in Surrey, UK

To se mi líbí 23 eet 9 +1 13
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When should you start worrying? (Image: Bryan Mullennix/Getty)

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Nedostatek potravy

souvislosti s **růstem lidské populace** = větší tlak na zdroje (vždy?)

- 1798 **T. R. Malthus** - *An Essay on the Principle of Population*, varuje před nedostatkem potravy v budoucnosti „*lidská populace roste exponenciálně, produkce potravin pouze lineárně*“

- v historii **časté hladomory**, které omezovaly výraznější růst lidské pop.

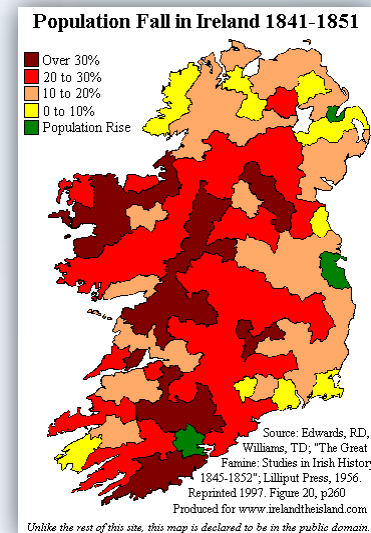
- 1845-1850 – **Irský hladomor**

- 1 000 000 obětí, mnoho dalších emigrovalo

- primární zdroj potravy chudých – brambory – plíseň likvidovala

- nedostatek potravy + ztráta pozemků (nezaplatili rentu)

- zkázu umocnilo rozšíření cholery a tyfu



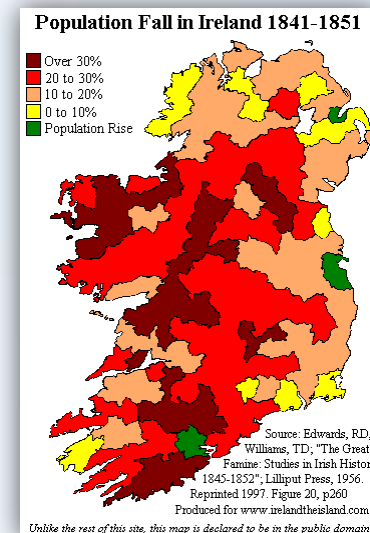
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ALE – v Irsku bylo dostatek potravy - kukuřice, pšenice a ovs!

- dle racionální kalkulace však byly prodány do UK za mnohem vyšší ceny, než si mohli dovolit chudí farmáři



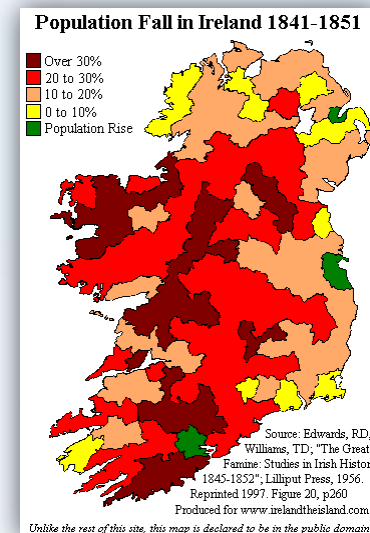
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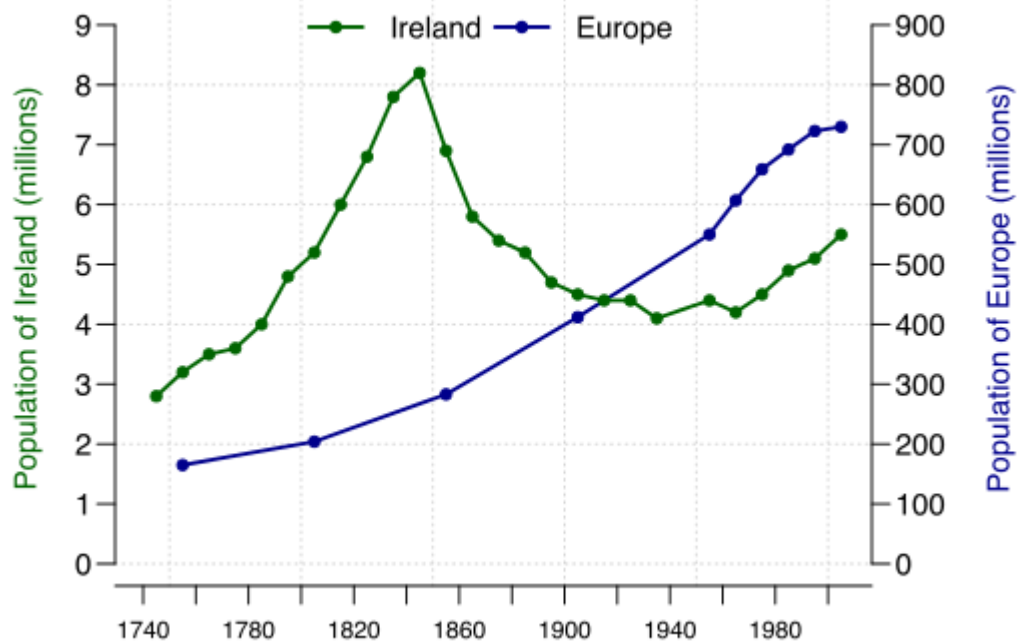
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The Almighty, indeed, sent the potato blight, but the English created the Famine. John Mitchel





Sprint

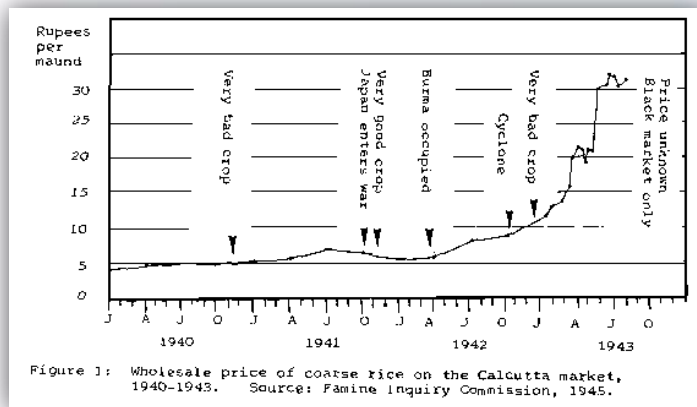
T-E-LEVEN

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Nedostatek potravy – příčiny

Bengálský hladomor 1943 – 1-4 000 000 obětí – Proč?



Nedostatek potravy – příčiny

Bengálský hladomor 1943 – 1-4 000 000 obětí – Proč?

- v Bengálsku byla neúroda, což je ale periodický jev
- zuřila však válka (GB x J) a bylo potřeba přednostně zásobovat města
- ceny obilí výrazně vzrostly – chudí lidé si ho nemohli dovolit

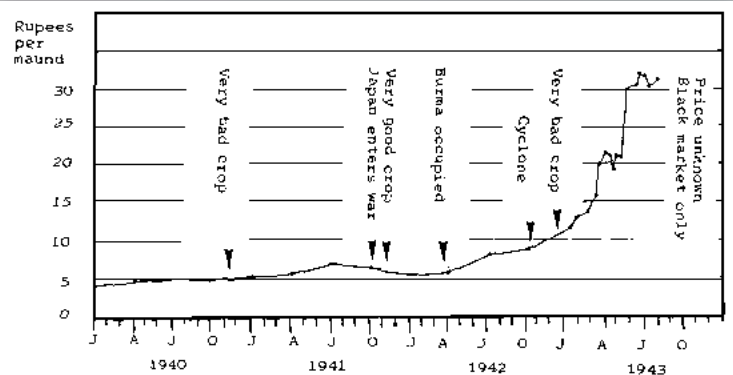
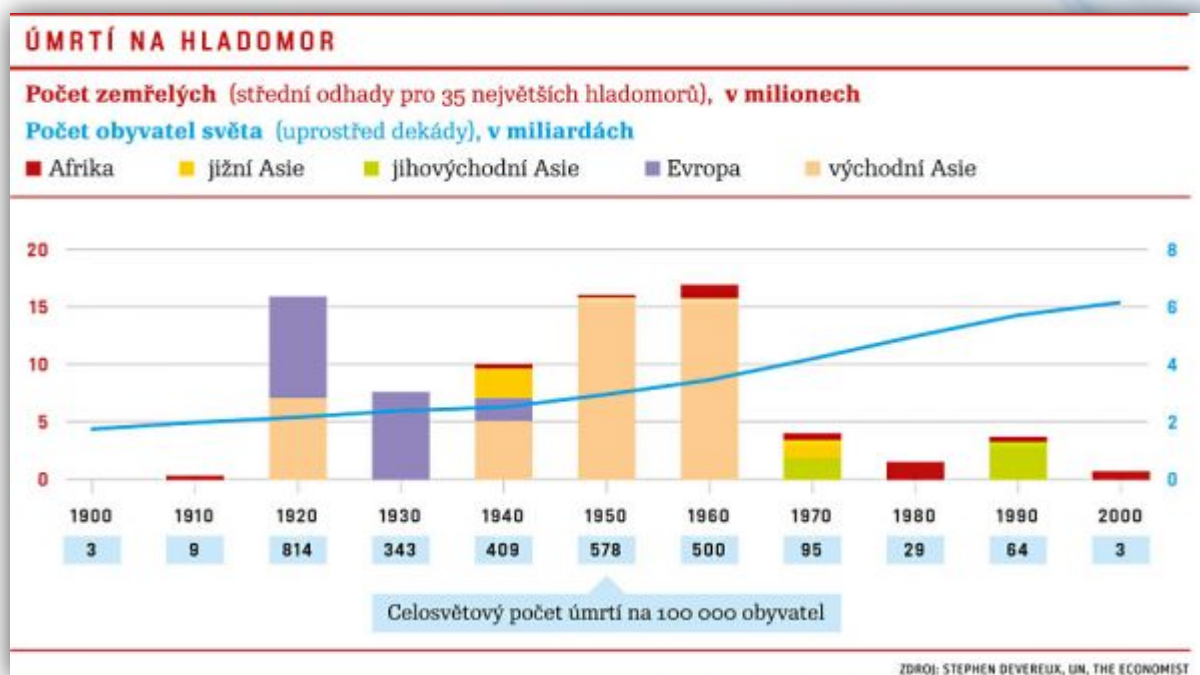


Figure 1: Wholesale price of coarse rice on the Calcutta market, 1940-1943. Source: Famine Inquiry Commission, 1945.



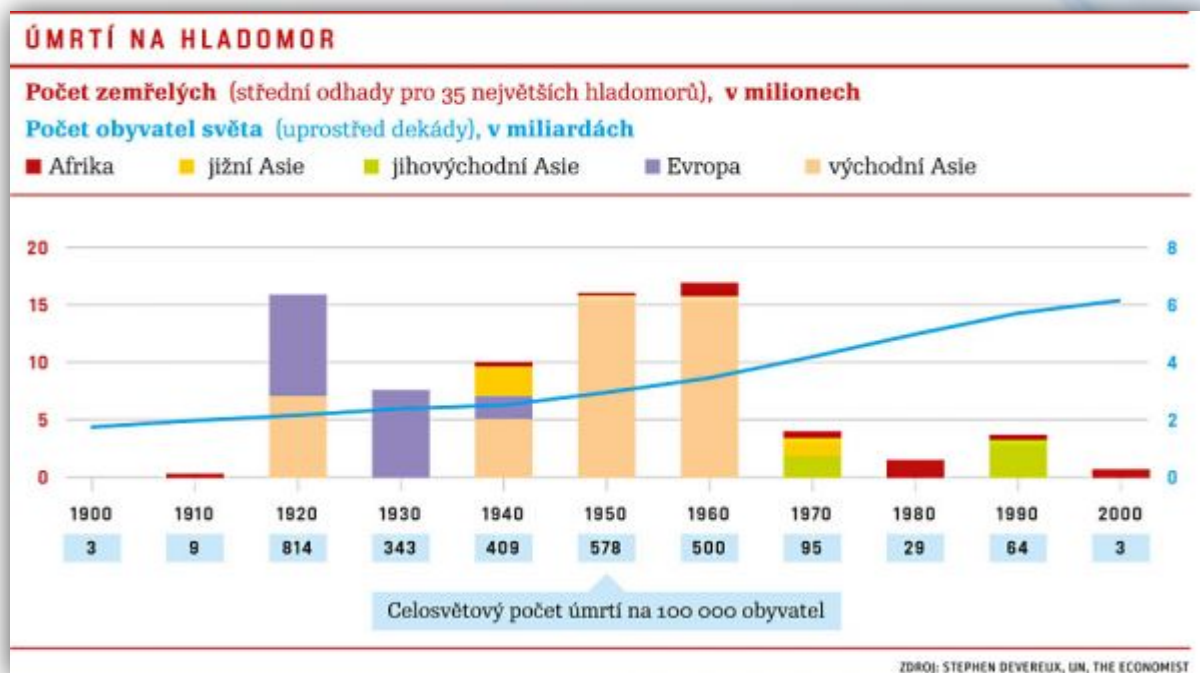
Nedostatek potravy – příčiny

- **Ukrajinský** hladomor (1932-1933) 2,7-7 000 000 obětí – Proč?
- **Čínský** hladomor (1959-1961) 20-40 000 000 obětí – Proč?
- **Etiopský** hladomor (1984) – 1 000 000 obětí – Proč?



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- **Čínský** hladomor (1959-1961) 20-40 000 000 obětí – Proč? (**Mao Ce Tung**)
- **Etiopský** hladomor (1984) – 1 000 000 obětí – Proč? (**Haile Mariam**)



Většina velkých hladomorů ve 20. století byla důsledek politických rozhodnutí v nedemokratických diktaturách.



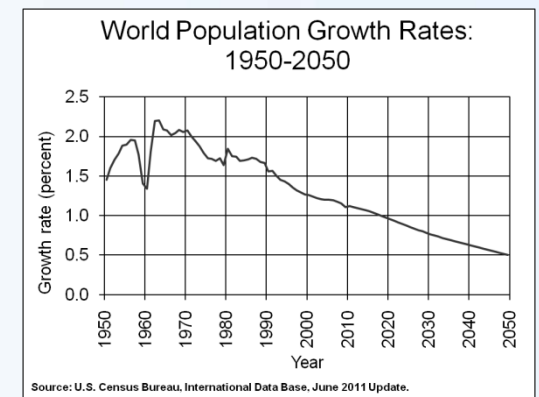
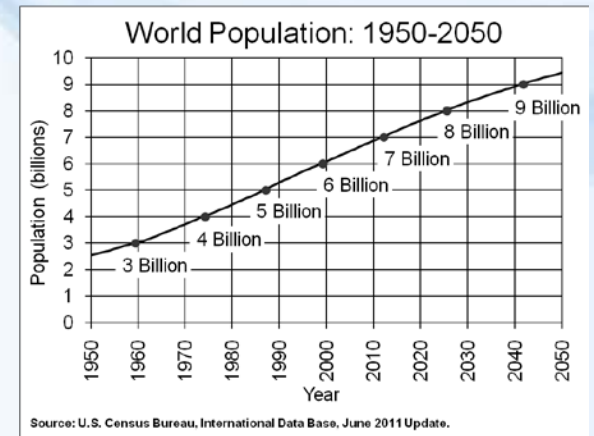
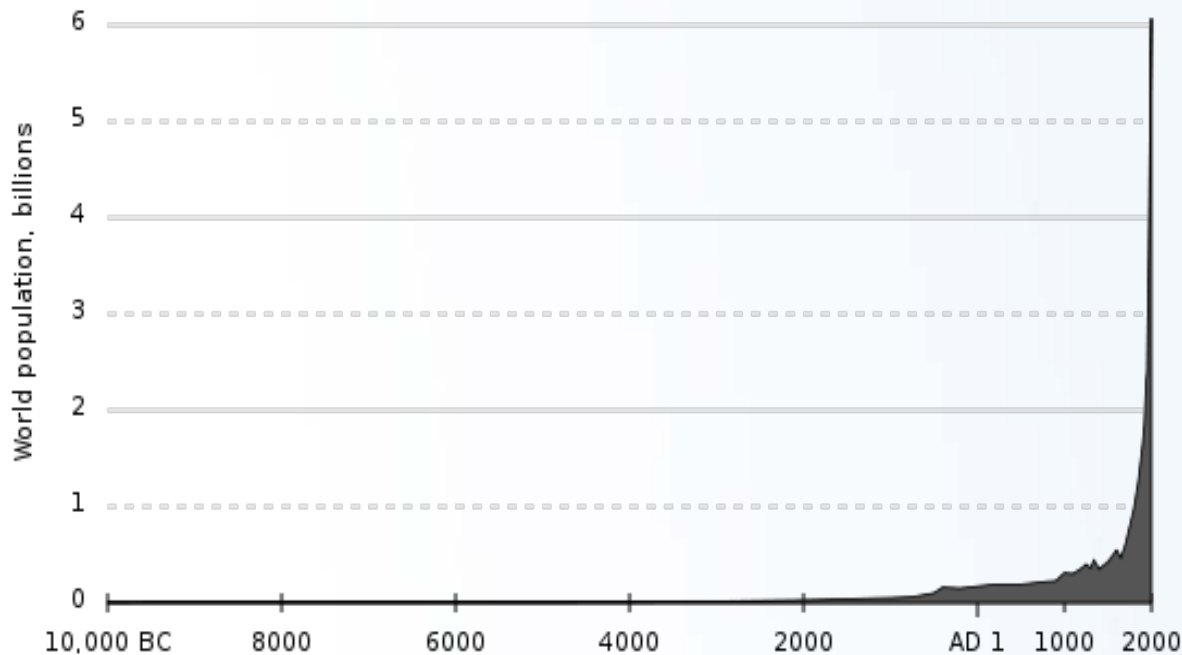
Nedostatek potravy – řešení?

- složitost problému !
- **snížit populační růst** (méně lidí méně sní)?



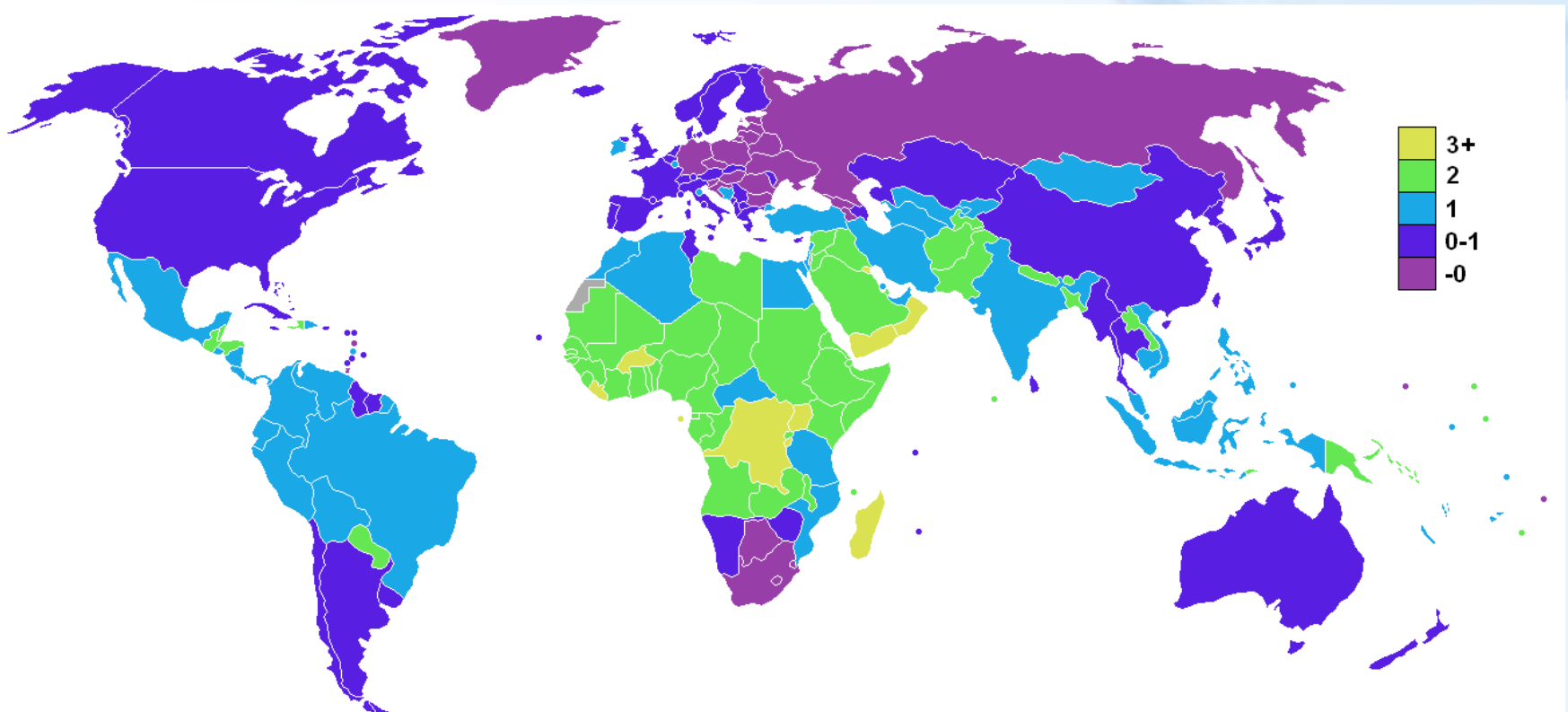
Vývoj počtu obyvatel

- přes 7 100 000 000 obyvatel na Zemi (2013) - [počítadlo](#)
- míra **růstu populace klesla** z 2.1 % v roce 1970 na 1.2 % v 2006
- ale **1,2 % ze 6.5 mld stále znamená přírůstek zhruba 70 000 000 lidí/rok**
- dle OSN dosáhne populace 8 miliard v 2025 a zhruba 9,1 miliard v 2050

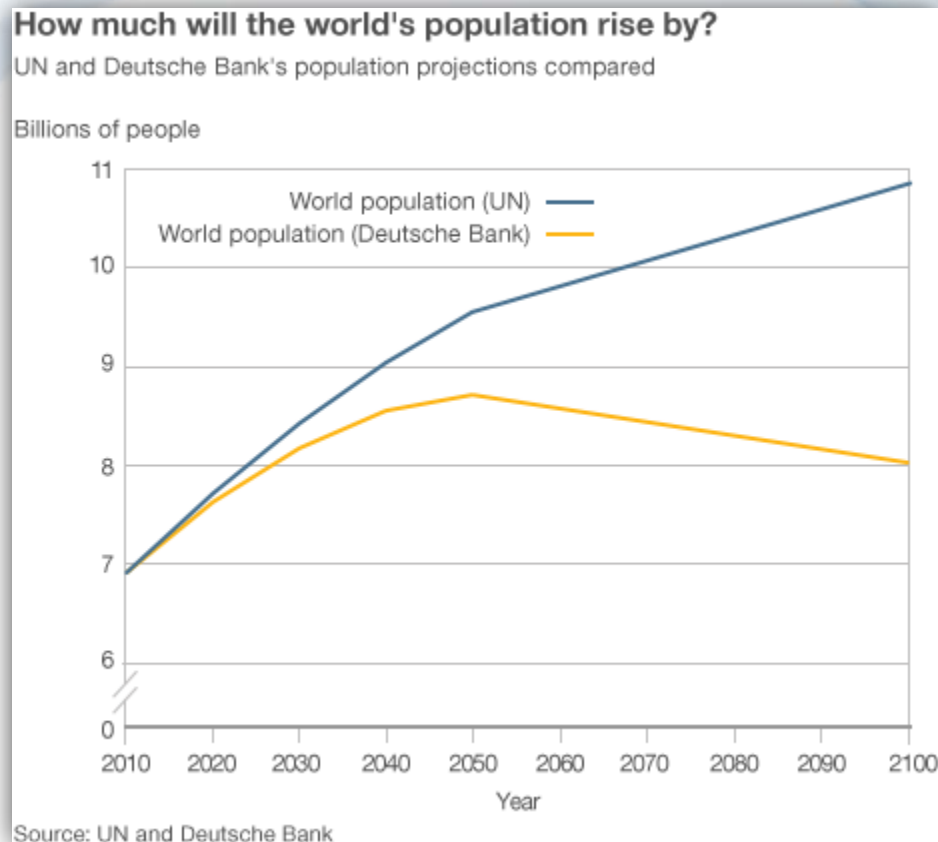


Vzrůst počtu obyvatel

- drtivá většina přírůstku obyvatel je v rozvojových zemích (95 %)
- v Africe je největší míra růstu na světě - 2,5 % ročně,
- **zdvojnásobení africké populace** se očekává do roku 2050 (2,3 mld.)
- naproti tomu v Evropě je situace opačná – porodnost klesá a dochází ke **stárnutí populace** (přesto ale díky „silným“ ročníkům počet obyvatel stoupá)
- např. v ČR připadá na jednu ženu 1,5 dítěte (Francie, Dánsko, Norsko 1,8)



Počet obyvatel - prognóza



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28 September 2013 Last updated at 23:14 GMT [Share](#) [f](#) [t](#) [v](#) [p](#)

Is population growth out of control?

By Hannah Barnes
BBC News

The respected broadcaster and naturalist, Sir David Attenborough, told the BBC recently that population growth was "out of control" - but one expert says the number of people on the planet could peak in 40 years. Who should we believe?

In today's Magazine

Deported by Stalin



Důsledky růstu obyvatel

- pro zajištění plnohodnotného života je nutná určitá míra **spotřeby zdrojů**
- Zemský ekosystém však má **omezenou kapacitu zdrojů** a omezenou rychlost jejich obnovy



Důsledky růstu obyvatel

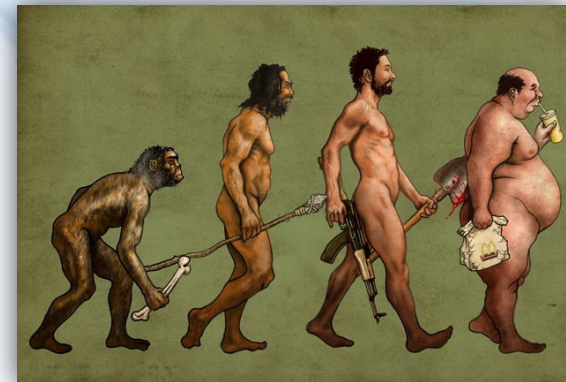
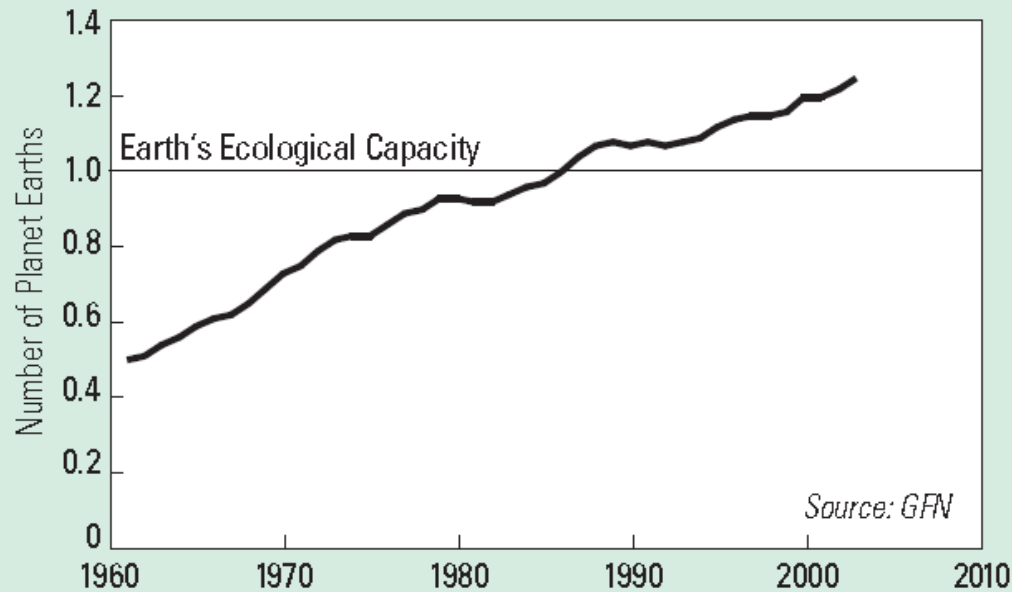
- pro zajištění plnohodnotného života je nutná určitá míra **spotřeby zdrojů**
- Zemský ekosystém však má **omezenou kapacitu zdrojů** a omezenou rychlost jejich obnovy
 - potraviny a voda
 - zdroje energie a materiálů (obnovitelné, neobnovitelné)
 - životní prostor (prostor na bydlení i rekreaci)
- omezené „samočistící“ kapacity Země – kam se všemi odpady včetně CO₂?



Důsledky růstu obyvatel

- poměr množství zdrojů a lidské spotřeby – **Ekologická stopa – roste !**
- **obyvatelé rozvojových zemí chtějí dosáhnout úrovně konzumu bohatého severu !!!**

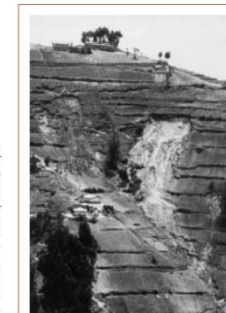
Figure 3. Humanity's Ecological Footprint, 1961–2003



Remember Rwanda?

The genocide of 1994 seemed inexplicable. But a study of links between extreme environmental degradation and the enormous violence that occurred between Hutus and Tutsis could have important implications for stressed populations in other regions.

by James Gasana



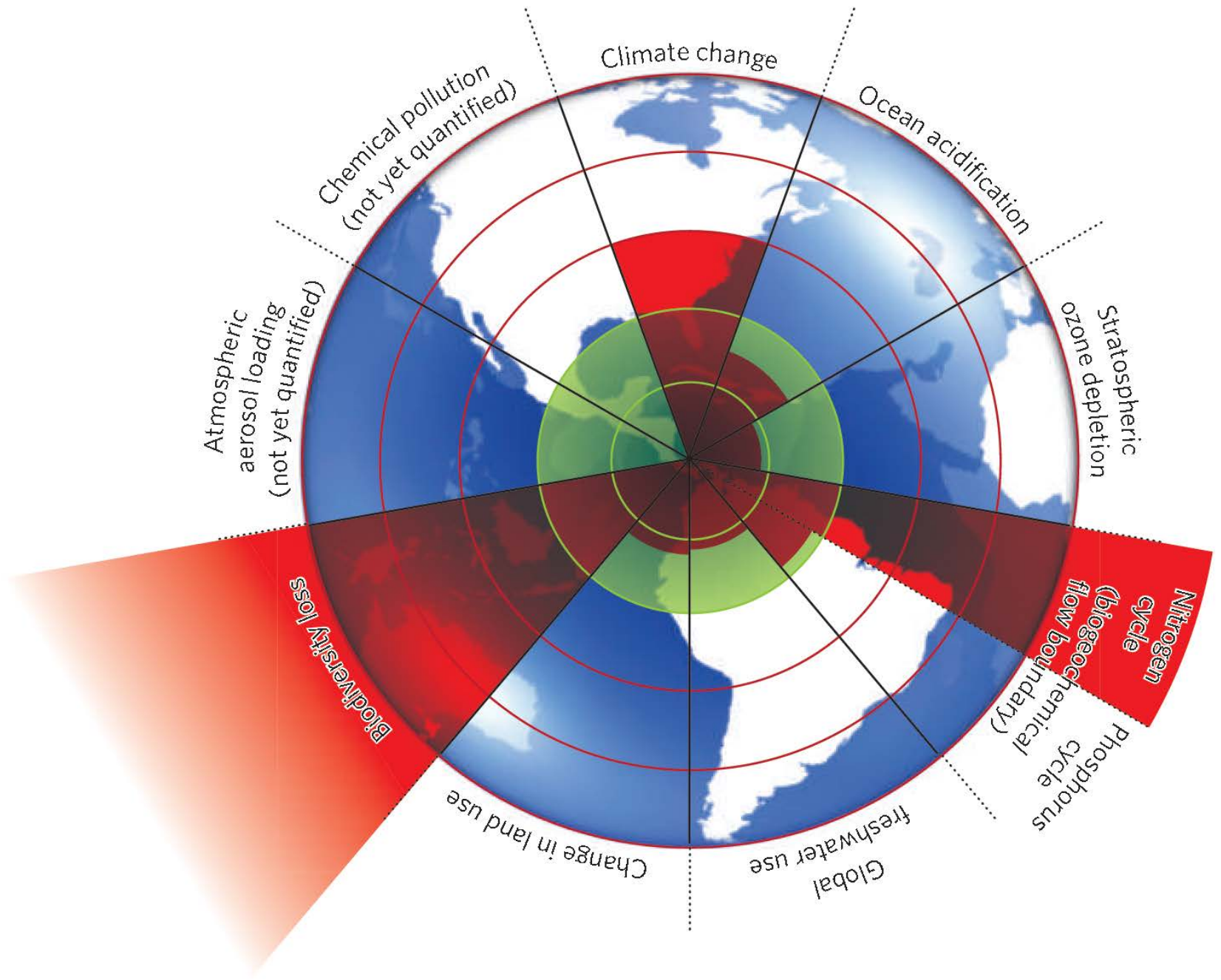
Erosion steals nutrients from a hillside farm in northwest Rwanda (Gicye commune), 1988.

EDITOR'S INTRODUCTION

On April 6, 1994, a plane carrying the presidents of two African countries was struck by a missile and crashed. Both presidents—Juvenal Habyarimana of Rwanda and Cyprien Ntaryamira of Burundi—were killed. Both were members of the Hutu ethnic group. Counting the murder of Burundi's president Melchior Ndadaye the previous October, a total of three Hutu presidents had been assassinated in six months.

tion to Rwanda until news of the genocide broke, were bewildered as to what could have caused such fury. The conflict was portrayed in the media as one of deep ethnic hatred. But to those who were on the scene during the years preceding, the story is far more complicated than that. The real causes of the blowup are rooted in a half-century history of rapid population growth, land degradation, inequitable access to





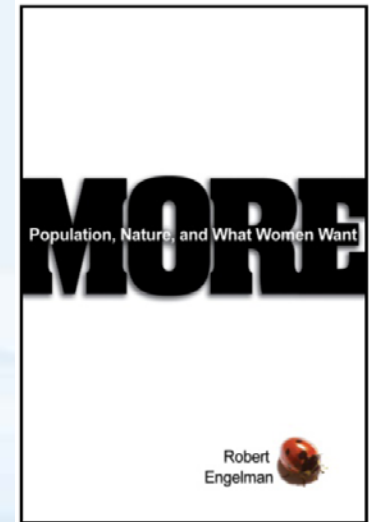
Řešení růstu populace?



Řešení růstu populace?

- dříve vysoká novorozenecká úmrtnost, nemoci a války

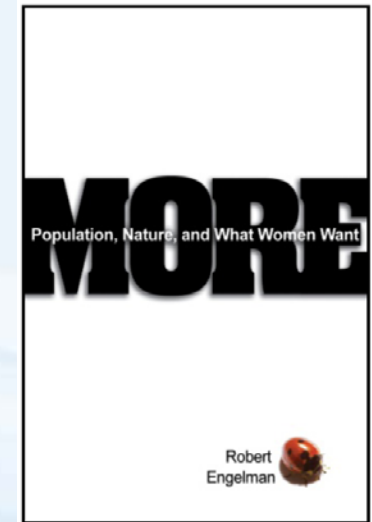
*Women don't want **more** children,
but **more for** their children (R. Engelman)*



Řešení růstu populace?

- dříve vysoká novorozenecká úmrtnost, nemoci a války

*Women don't want **more** children,
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The infographic features a background image of two young children. Text elements include:


- UN logo and text: "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 icon: "MDG4 REDUCE CHILD MORTALITY" with a stick figure icon.
- Statistical callout: "14,000 FEWER CHILDREN DIE EACH DAY THAN IN 1990"
- Statistical callout: "6.9 MILLION CHILDREN STILL DIE BEFORE THEIR FIFTH BIRTHDAY EACH YEAR"
- Call to action: "LET'S STEP UP" and "SHARE #MDGMOMENTUM WITH YOUR COMMUNITY!"
- Vertical text on the right: "UN.ORG/MILLENNIUMGOALS"
- Small vertical text on the left: "COPYRIGHT © UNITED NATIONS. UN PHOTO/HEIN IMACHE"





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.

MDG4



REDUCE CHILD MORTALITY

17,000 FEWER

CHILDREN DIE EACH DAY THAN IN 1990

LET'S STEP UP

6 MILLION+ CHILDREN STILL DIE

BEFORE THEIR FIFTH BIRTHDAY EACH YEAR





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!



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.

MDG3



PROMOTE GENDER EQUALITY AND EMPOWER WOMEN

.....→ THE WORLD HAS

**ACHIEVED
EQUALITY**

IN **PRIMARY
EDUCATION**
BETWEEN GIRLS AND BOYS

**LET'S
STEP
UP**

IN MANY
COUNTRIES

**WOMEN STILL FACE
DISCRIMINATION**

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



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 roku 2000 nenarozeno přibližně 250 mil. dětí
- vážné etické a socioekonomické důsledky !
- nepřipravenost společnosti a venkovské ekonomiky
- upřednostňování chlapců



Řešení růstu populace?

- dříve vysoká novorozenecká úmrtnost, nemoci a války

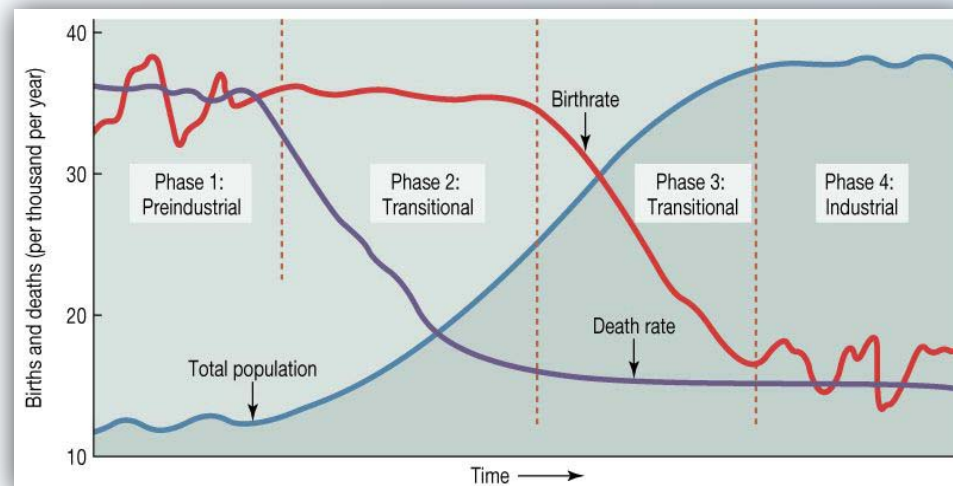
*Women don't want **more** children,
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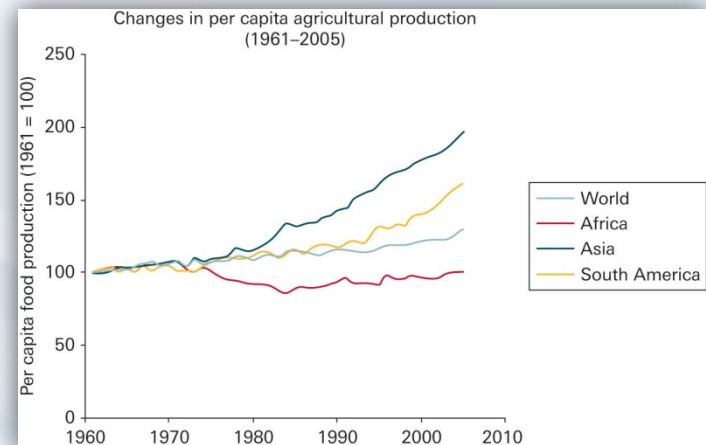
Dobrovolná politika jednoho dítěte?

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



Nedostatek potravy – řešení?

- složitost problému !
- **snížit populační růst (méně lidí méně sní)?**
 - obecně neplatí



Nedostatek potravy – řešení?

- složitost problému !
- snížit populační růst (méně lidí méně sní)?
 - obecně neplatí

Zelená revoluce?

- **sporné** – HYV – velké výnosy i díky industrializaci (viz ENV016)

Potravinová pomoc chudým regionům ? – **sporné**

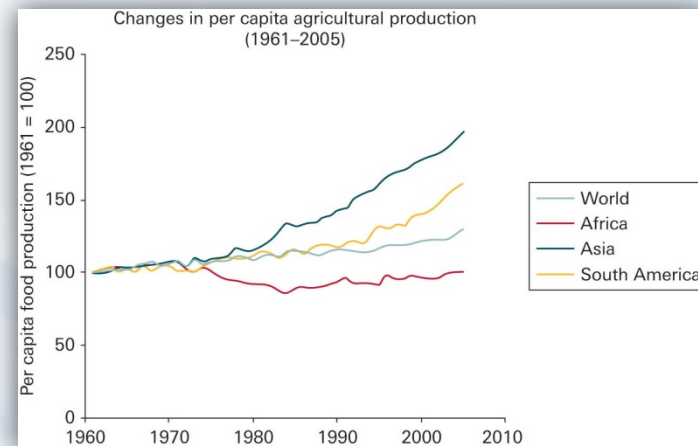
- **nelze nechat lidi hladovět X likvidace místní ekonomiky**
- příklady i v bohatých regionech – subvence

**„Dáš hladovějícímu rybu, a nakrmíš ho na jeden den.
Naučíš ho rybařit, a nakrmí se sám navždy“**

- podobně jako v Irsku – příčinou hladomorů nejsou jen extrémní výkyvy počasí, ale především geopolitické souvislosti (splácení dluhu, špatná distribuce...)

- nutno **pozvednout ekonomiku chudých regionů** jako takovou, zaměřenou na skutečné potřeby místních obyvatel (*Gándhí, Schumacher...*)

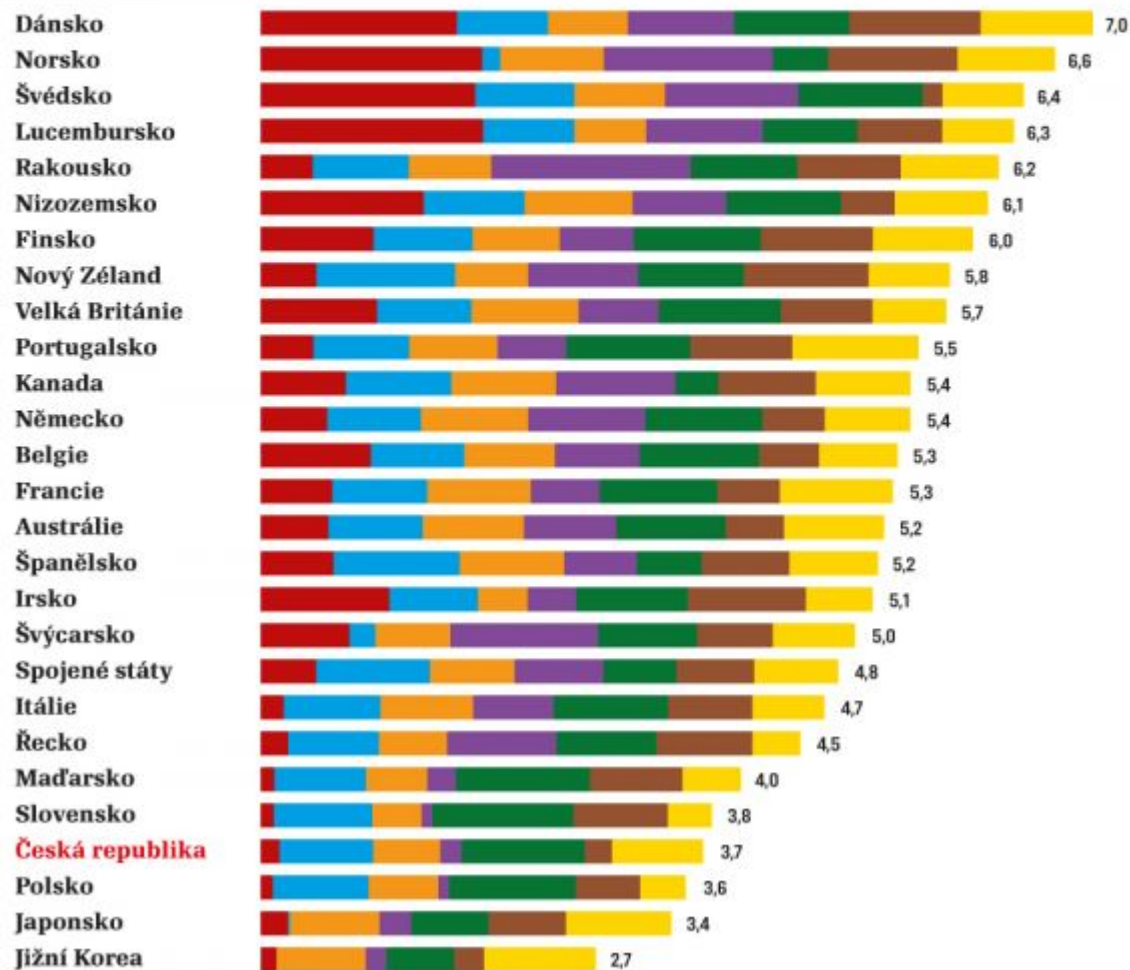
- Mikroúvěry chudým (převážně ženám)
- Podmíněné dotace



INDEX VSTŘÍCNOSTI K ROZVOJOVÝM ZEMÍM

Graf zachycuje míru, v jaké uvedené země pomáhají a neškodí rozvojevému světu

- rozvojová pomoc
- obchodní politika (tarify, kvóty, import apod.)
- podpora investic
- imigrace, vstřícnost k žadatelům o azyl
- ekologická politika (např. nevhodné subvence pro průmyslový rybolov)
- bezpečnostní politika (podpora mírovým misím OSN versus vývoz zbraní apod.)
- věda a technologie (přílišná ochrana duševního vlastnictví apod.)





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.

MDG6



COMBAT HIV/AIDS,
MALARIA AND OTHER
DISEASES

**LET'S
STEP
UP**



**9.7 MILLION
PEOPLE
WERE
RECEIVING
LIFESAVING
MEDICINES
FOR HIV
IN 2012**



**3.3 MILLION
MALARIA
DEATHS
WERE
PREVENTED
IN THE SPAN
OF 12 YEARS**



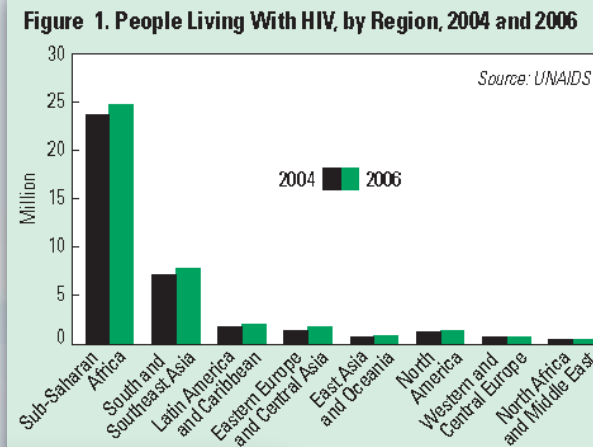
**EVERY HOUR
50 YOUNG
WOMEN
ARE NEWLY
INFECTED
WITH HIV**



**IN 2012
MALARIA
KILLED AN
ESTIMATED
627,000
PEOPLE**

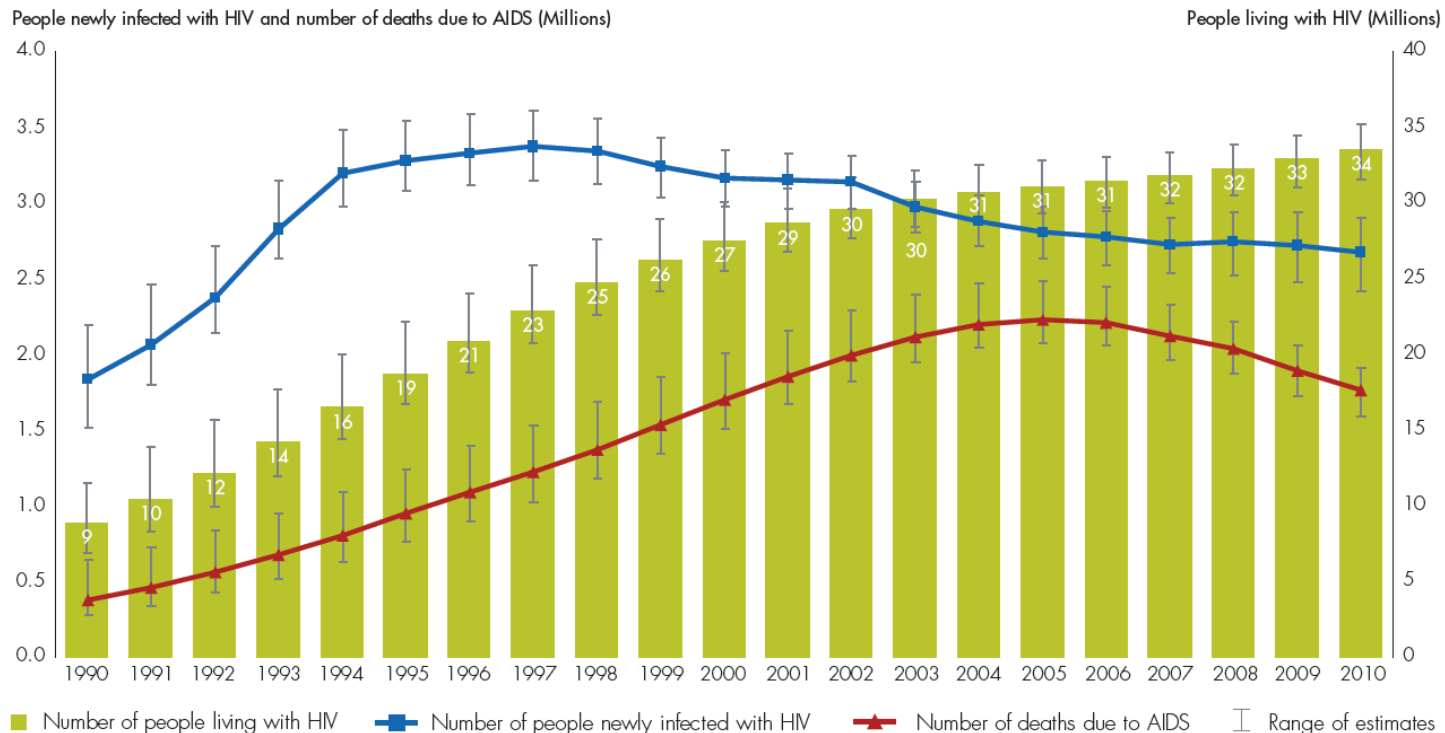
AIDS

- situace se zlepšuje!

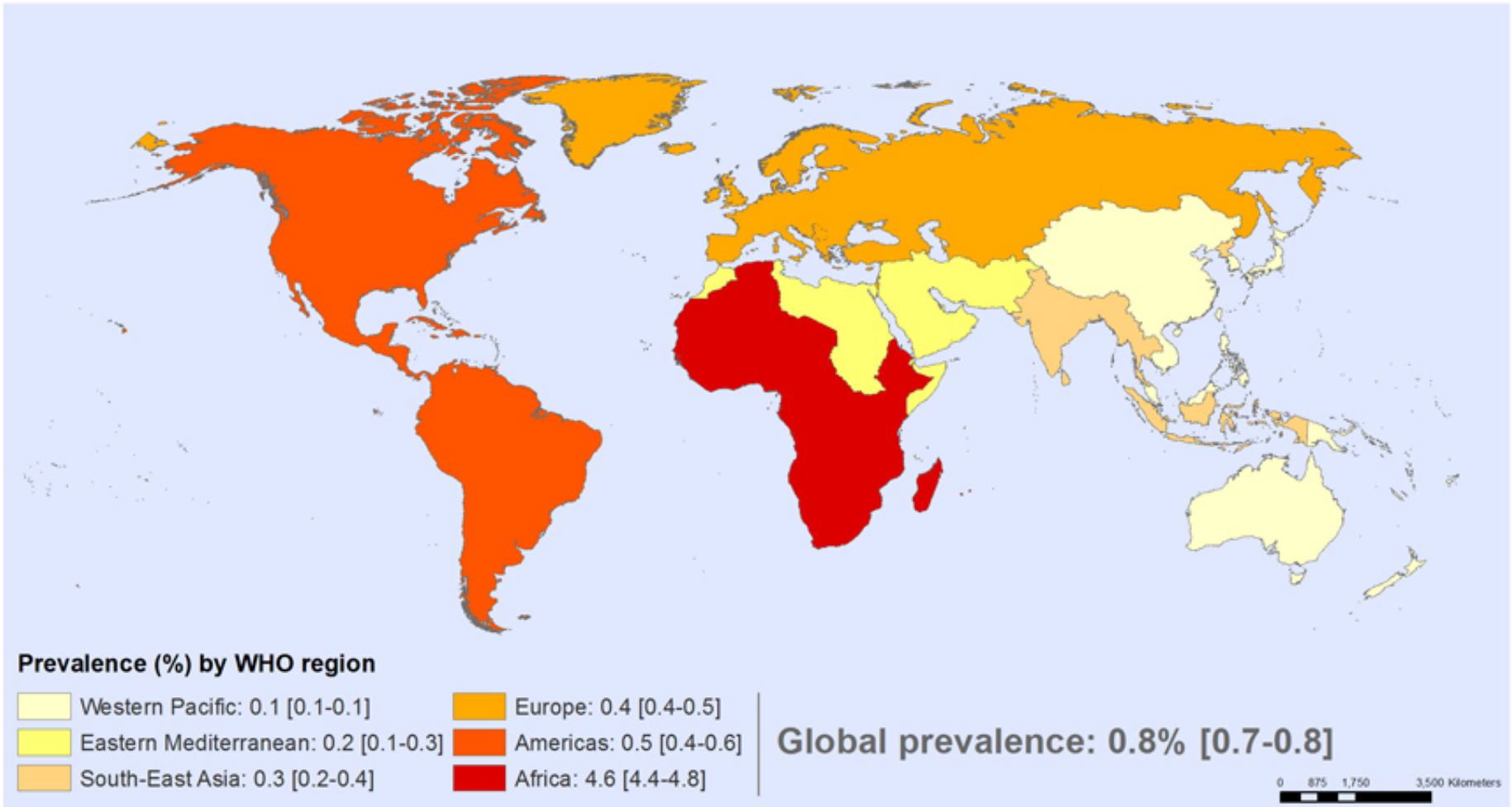


More people than ever are living with HIV due to fewer AIDS-related deaths and the continued large number of new infections

Number of people living with HIV, number of people newly infected with HIV and number of AIDS deaths in the world (Millions), 1990-2010



Adult HIV prevalence (15-49 years), 2011 By WHO region



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Public Health Information
and Geographic Information Systems (GIS)
World Health Organization

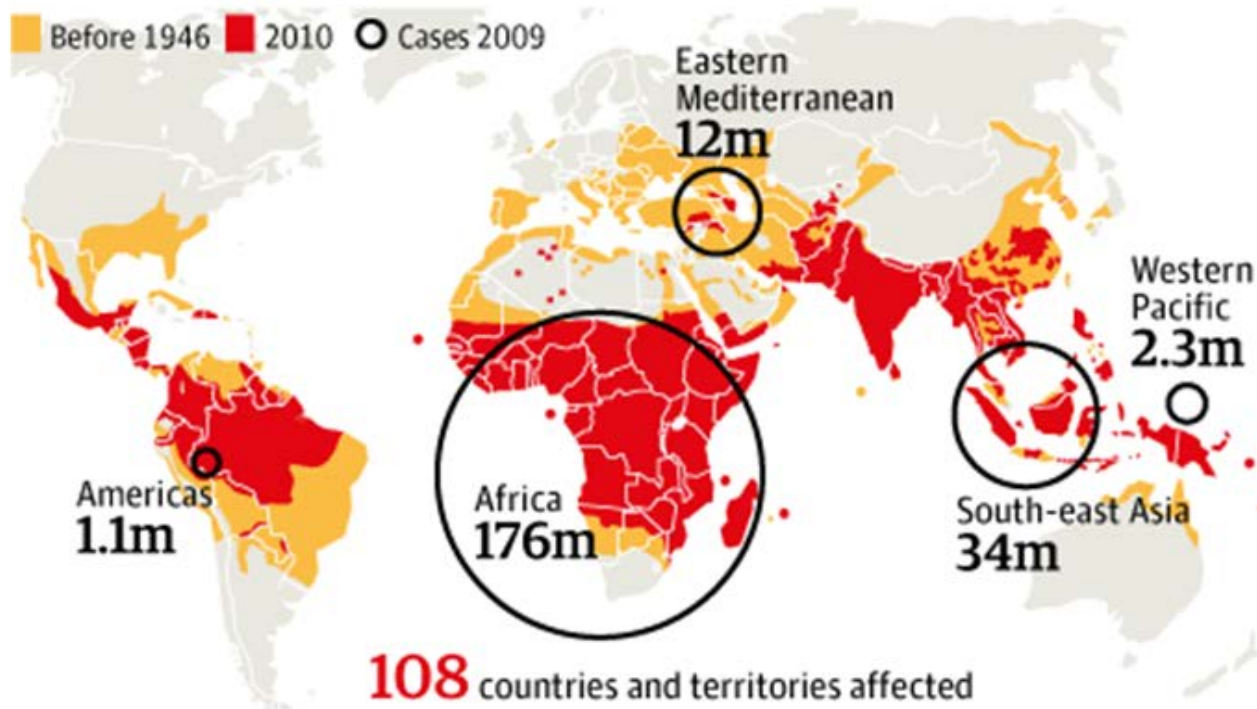


© WHO 2013. All rights reserved.

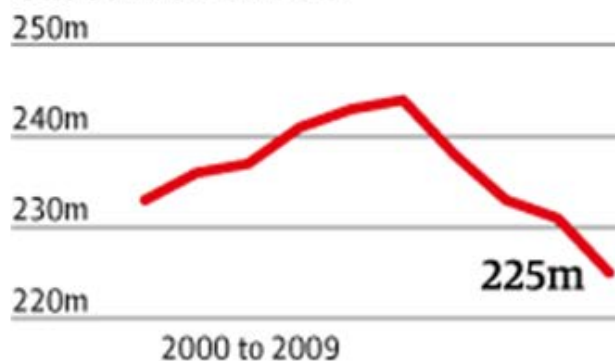
The fight against malaria

Affected countries

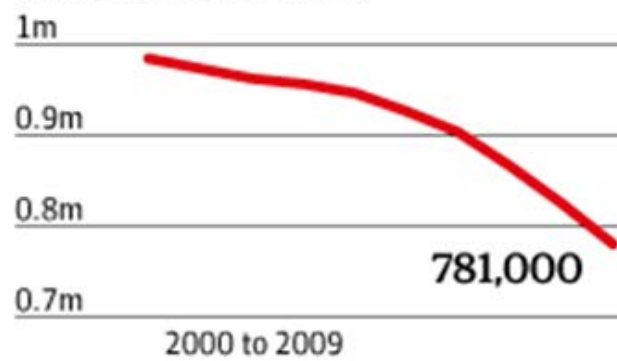
Before 1946 2010 Cases 2009



Cases worldwide



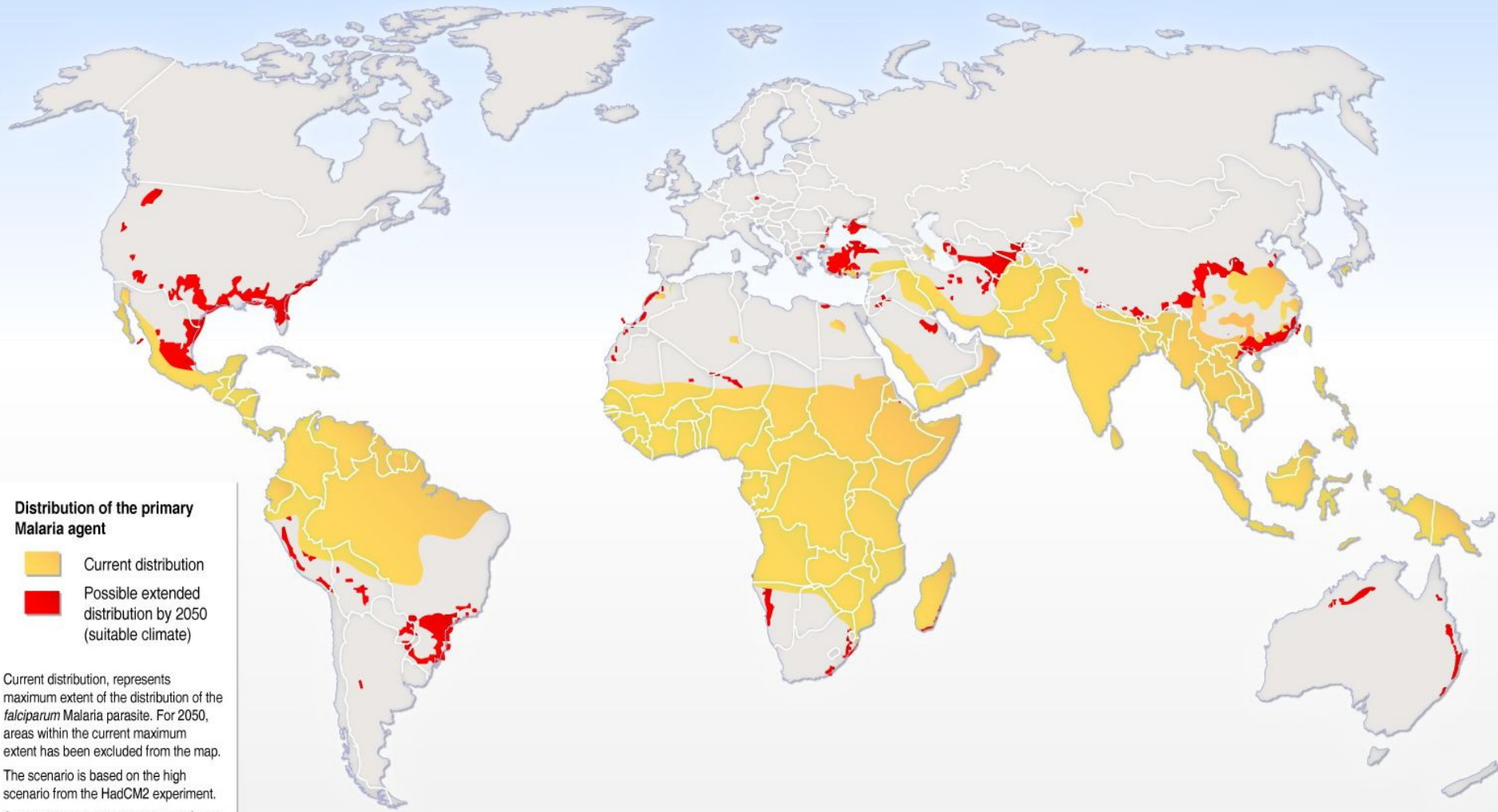
Deaths worldwide



SOURCES: WHO, ROLL BACK MALARIA PARTNERSHIP, REUTERS



Climate Change and Malaria



Distribution of the primary Malaria agent

- Current distribution
- Possible extended distribution by 2050 (suitable climate)

Current distribution, represents maximum extent of the distribution of the *falciparum* Malaria parasite. For 2050, areas within the current maximum extent has been excluded from the map.

The scenario is based on the high scenario from the HadCM2 experiment.

Source: Rogers, Randolph. *The Global Spread of Malaria in a Future, Warmer World*. Science (2000:1763-1766).



Nedostatek kvalitní vody

- nedostatkem vody trpí **1/3 lidí** na Zemi
- i v zemích bohatých na srážky jsou zaznamenávány nedostatky vody díky spotřebě v průmyslu, zemědělství, domácnostech či znečištění

22.3. Světový den vody – připomíná nezbytnost vody pro veškerý život

- **špatná kvalita vody** zvyšuje riziko průjmových onemocnění včetně cholery, tyfu, salmonelózy a gastrointestinálních viróz
- v celosvětovém měřítku je riziko plynoucí z používání nekvalitní pitné vody **2. nejvýraznějším environmentálním rizikem**
- nedostatek pitné vody nutí lidi v suchých oblastech k jejich uskladňování v domech
- to zvyšuje riziko kontaminace a je vhodným lůžkem komárů (malárie, dengue)



Nemoci spojené s vodou

choroba	počet případů	ztracená léta (v tisících)	odhadovaná úmrtnost (v tisících)	souvislost s vodou
průjem	4 miliardy	62 000 (54 000) ^b	1800 (1700) ^b	voda znečištěna lidskými výkaly
malárie	300–500 milionů	46 500	1300	přenáší komáři rodu Anopheles
schistosomóza	200 milionů	1700	15	přenáší mořští měkkýši
dengue a krvácivá dengue	dengue 50–100 milionů a krvácivá 500 tisíc	616	19	přenáší komáři rodu Aedes
onchocerkóza (řiční slepota)	18 milionů	484	0	přenáší muchničky
tyfus a paratyfové horečky	17 milionů			znečištěná voda, potraviny, záplavy
trachom	150 milionů, z toho 6 milionů slepých	2300	0	nedostatek základní hygieny
cholera	140–184 tisíc ^b		5–28 ^a	voda a potraviny znečištěny lidskými výkaly
drakunkulóza (guinejská nemoc)	96 tisíc			znečištěná voda

^a Vyšší hodnota je za rok 2001.

^b Průjem je nemoc přenášena vodou, ale ne všechny případy se pojí ke znečištěné vodě. Údaje v závorkách se vztahují k průměru ze znečištěné vody.

Příčiny nedostatku vody

- **nadměrné využívání** vody v zemědělství a průmyslu (př. Aralské jezero)
- výkyvy počasí – **globální klimatická** změna
- znehodnocování vody **znečištěním** organickým (BSK, CHSK), anorganickým (P, N - eutrofizace), jaderným, tepelným, atd.



Př. **Jang-c'-Tiang** – třetí nejdelší řeka světa

- 40 % odpadních vod Číny
- 80 % splašků ze 186 měst na řece neupravováno
- vyhynutí 65 % živočišných druhů za posledních 20 let
- prognóza - do 20. let řeka bez života, prakticky toxická stoka
- již dnes řeší 26 měst ležících na této řece vážné problémy s pitnou vodou
- Tři soutěsky – kontroverzní přehrada





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MDG7



ENSURE ENVIRONMENTAL SUSTAINABILITY

2.3 BILLION PEOPLE

GAINED ACCESS TO
CLEAN DRINKING WATER

SINCE 1990

2.5 BILLION DO NOT HAVE BASIC
SANITATION

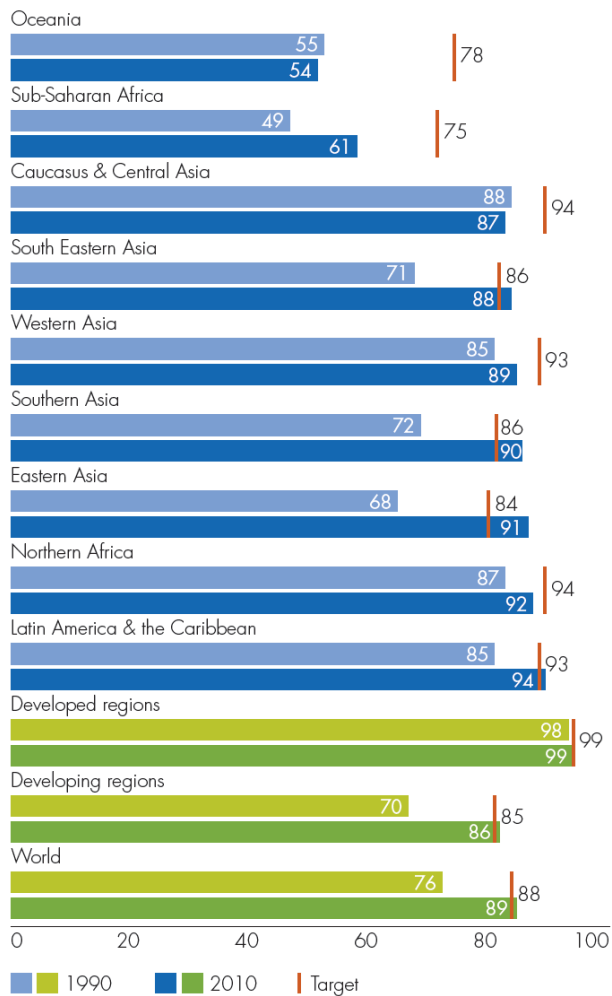
SUCH AS TOILETS OR LATRINES

LET'S STEP UP

Situace se zlepšuje

The world has met the MDG drinking water target, five years ahead of schedule

Proportion of population using an improved water source, 1990 and 2010 (Percentage)



Situace se zlepšuje, ale ne dostatečně

The world has met the MDG drinking water target, five years ahead of schedule

Proportion of population using an improved water source, 1990 and 2010 (Percentage)

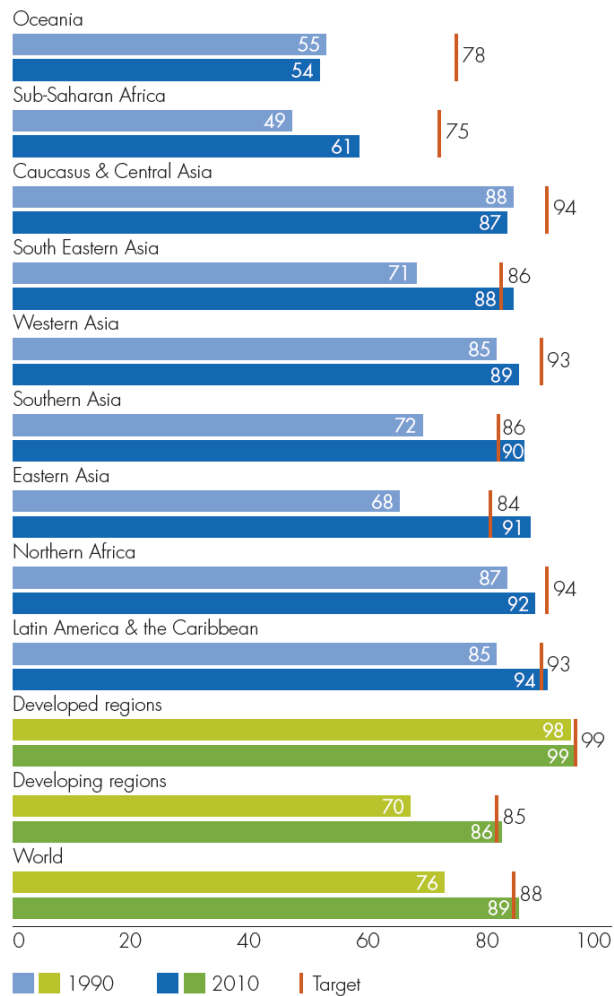
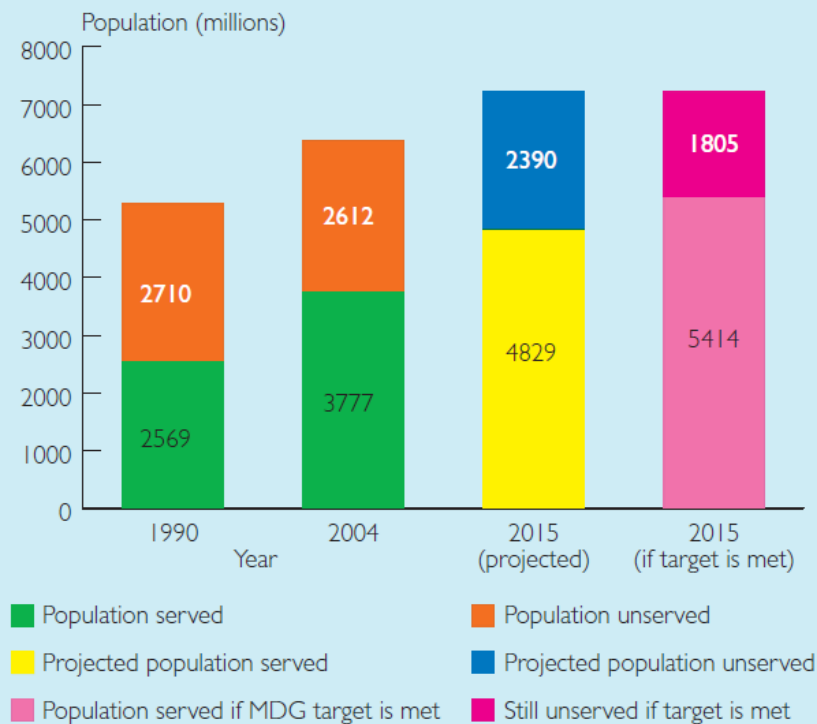


Figure 2

World population with and without access to improved sanitation in 1990, 2004 and 2015



- > The number of people without improved sanitation decreased by only 98 million between 1990 and 2004.
- > The global MDG sanitation target will be missed by more than half a billion people if the trend 1990–2004 continues up to 2015.

COPYRIGHT (C) UNITED NATIONS. [UNICEF PHOTO/INDIA]



24 JULY

SANITATION FOR ALL RESOLUTION

Today's decision to mark World Toilet Day on 19 November will help the UN raise awareness and mobilize action that can save millions of lives. 2.5 billion people lack toilets, and poor sanitation is a leading cause of disease and child deaths. Everyone needs a place to go!



- JAN ELIASSON
UN DEPUTY SECRETARY-GENERAL

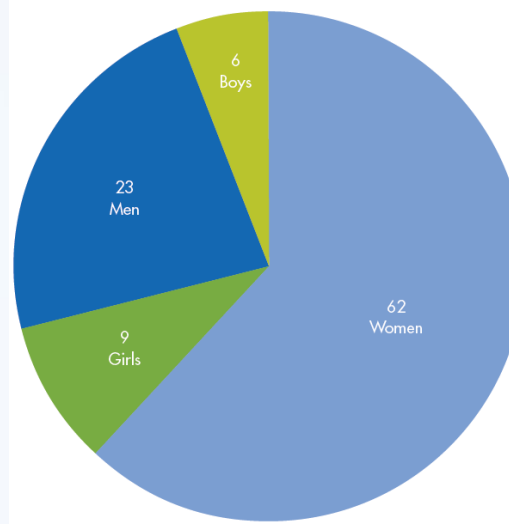
**JOIN THE UN IN CELEBRATING
WORLD TOILET DAY
19 NOVEMBER
#TOILETS4ALL**

Lidský rozměr nedostatku vody

- za statistickými údaji leží tragédie milionů lidí, kteří místo radosti ze života musí každý den řešit problém, kde obstarat vodu na přežití
- **nedostatek vody snižuje produkci potravin a zhoršuje chudobu a nemoci, urychluje velké migrace a podkopává morální kredit vlády (neúspěšné)**
- časem tyto tlaky mohou rozdrolit sociální strukturu společnosti, což vede k chronickým lidovým nepokojům násilností

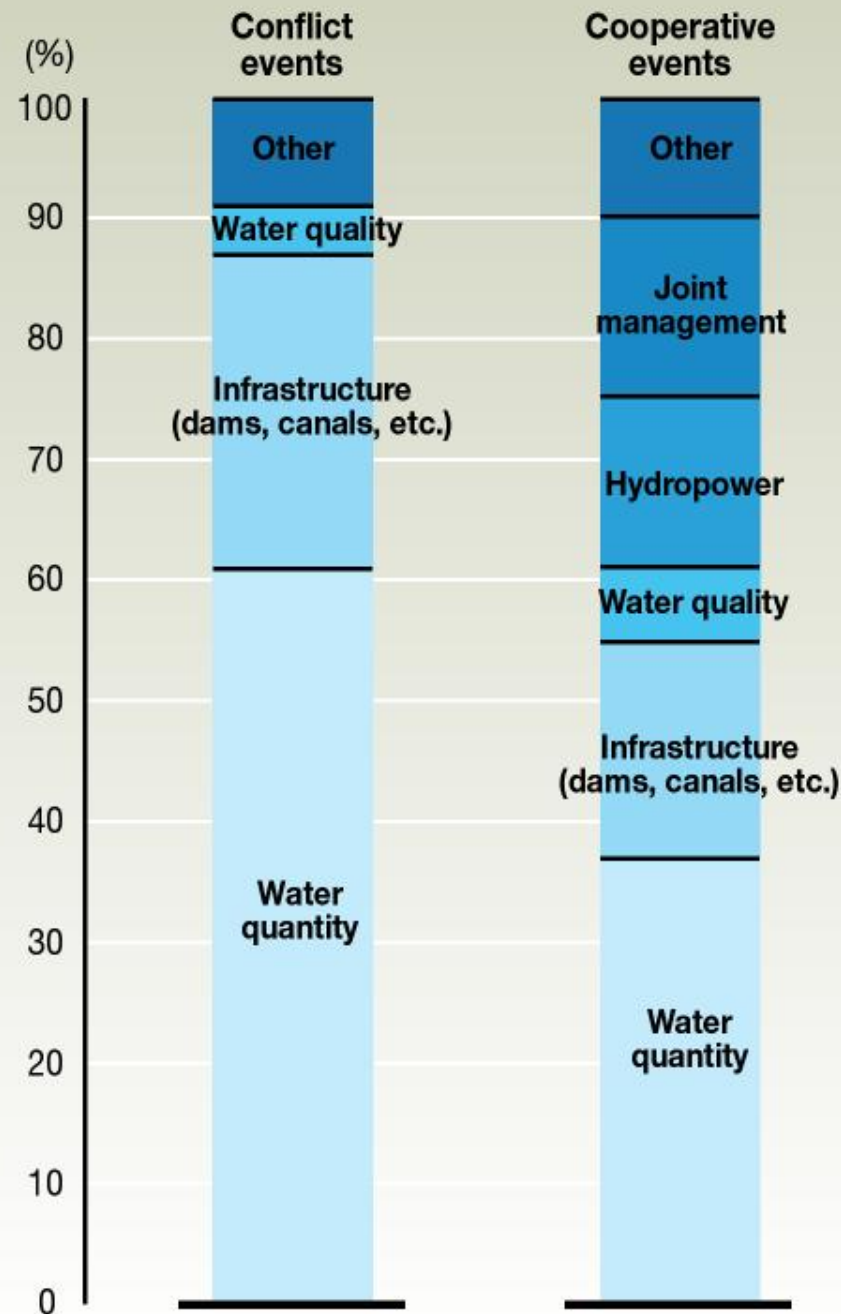


Distribution of the water collection burden among women, children under age 15 and men, in households without piped water on premises, sub-Saharan Africa, based on population-weighted averages from 25 countries, 2006/2009 (Percentage)



Řešení problémů využití vody?

- v období 1956-2006 bylo **37** násilných konfliktů o vodu (z toho 30 na Středním Východě)
- ve stejném období vyjednáno přes **200** mezinárodních úmluv



Source: Wolf 2006.



Chudoba – situace se zlepšuje

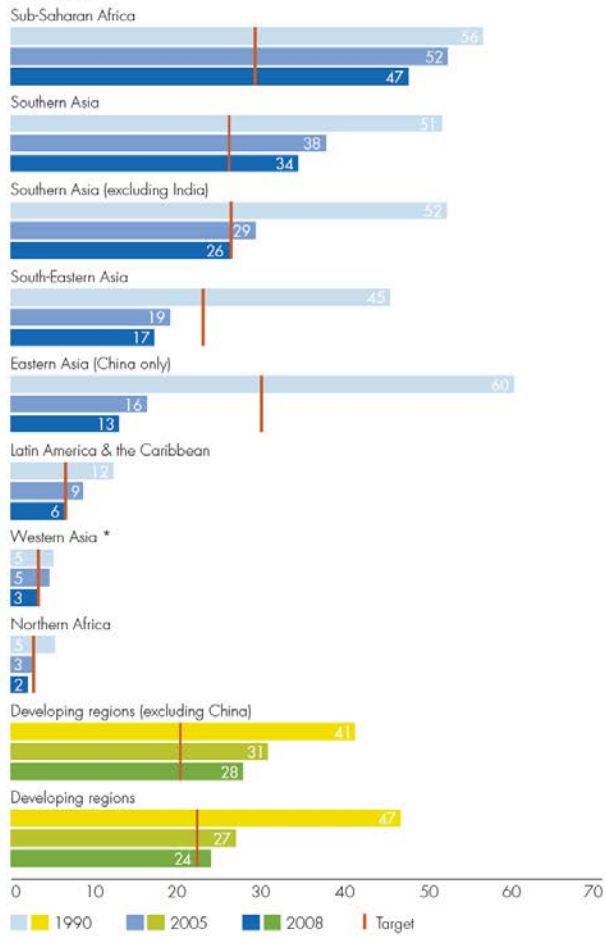
income distribution by country



TARGET
Halve, between 1990 and 2015, the proportion of people whose income is less than \$1 a day

Extreme poverty falls in every region

Proportion of people living on less than \$1.25 a day, 1990, 2005 and 2008 (Percentage)

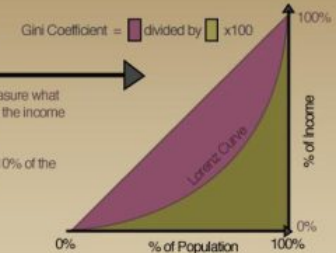


* The aggregate value is based on 5 of 13 countries in the region.
Note: No sufficient country data are available to calculate the aggregate values for Oceania.

What is this?

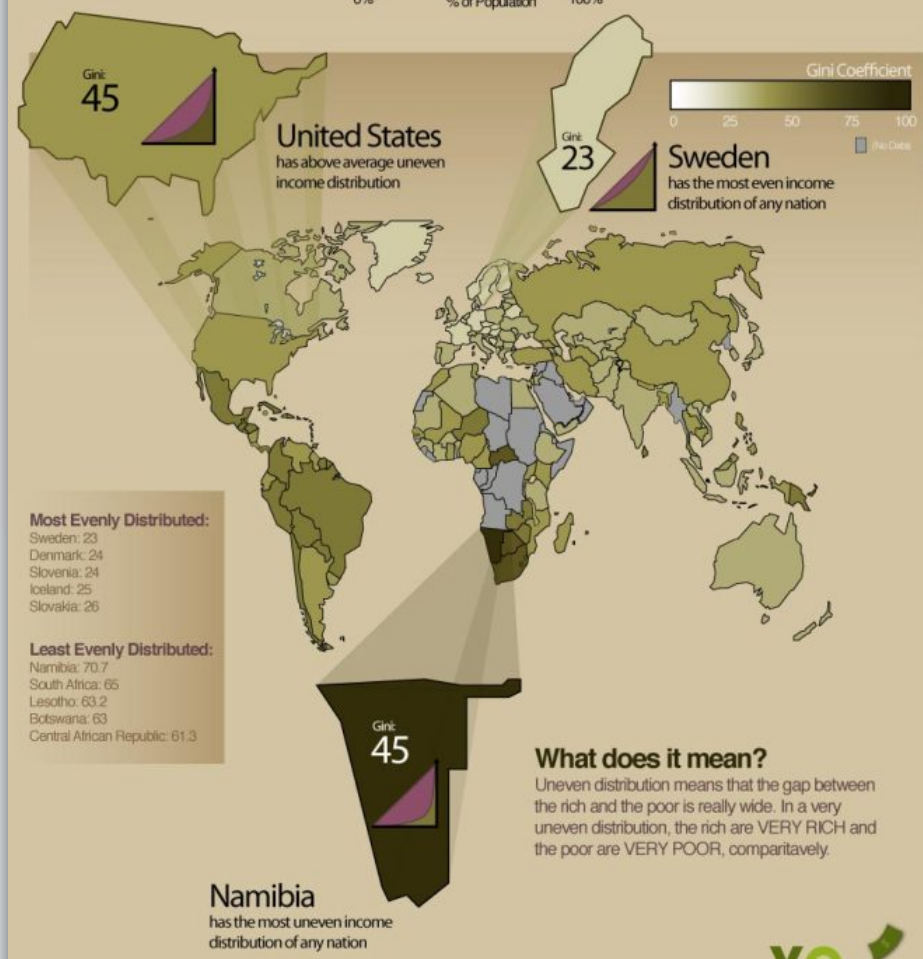
It's the Lorenz Curve, a way economists measure what portions of the population are responsible for the income within a group of people, such as a nation.

The curve helps you make statements like "10% of the population accounts for 80% of the income"



How does it work?

The closer the Lorenz curve comes to a straight 45 degree line, the more equally distributed the income is. When you divide the area above the curve by the area below the curve, you get a number that economists use to compare countries (called the Gini Coefficient). The lower the number, the more equally distributed the income.



What does it mean?

Uneven distribution means that the gap between the rich and the poor is really wide. In a very uneven distribution, the rich are VERY RICH and the poor are VERY POOR, comparatively.





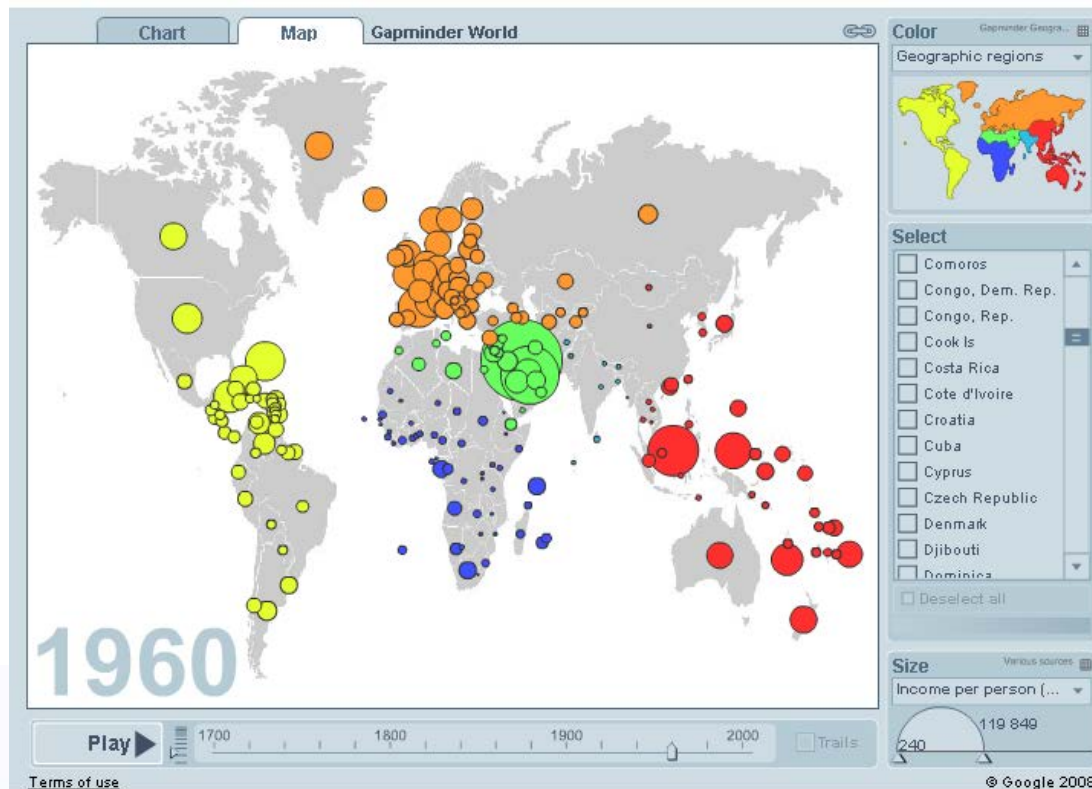
Vzrůst nerovnosti mezi bohatými a chudými

- 1995 - HDP/os. 20 nejbohatších zemí 37x vyšší než 20 nejchudších zemí
x 1960 - poloviční nepoměr (18x)
- komplexní problém **nerovnosti, ekonomického růstu a chudoby**
- nerovnoměrné rozdělení příjmů brání **odstraňování chudoby i při ekon. růstu**

Table 1: Income Inequality in Selected Countries, 1990s

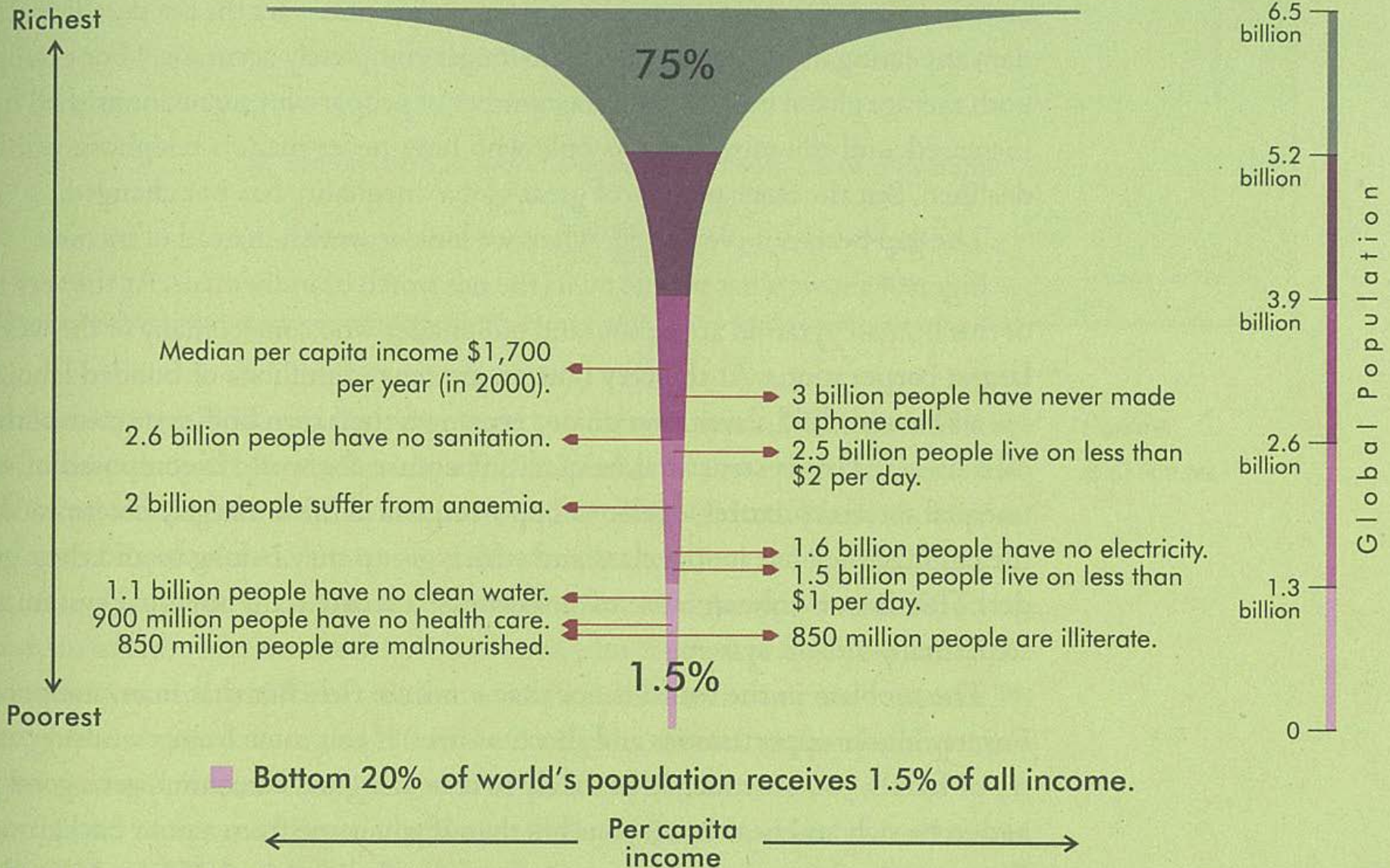
Country	Share of Income		Gini Index
	Poorest 20 Percent	Richest 20 Percent	
	(percent)		
Denmark	9.6	34.5	24.7
India	8.1	46.1	37.8
United States	5.2	46.4	40.8
Russia	4.4	53.7	48.7
Zambia	3.3	56.6	52.6
Brazil	2.2	64.1	60.7

Source: World Bank. Data are for most recent year available.



Distribution of global income

■ Top 20% of world's population receives 75% of all income.



■ Bottom 20% of world's population receives 1.5% of all income.



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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

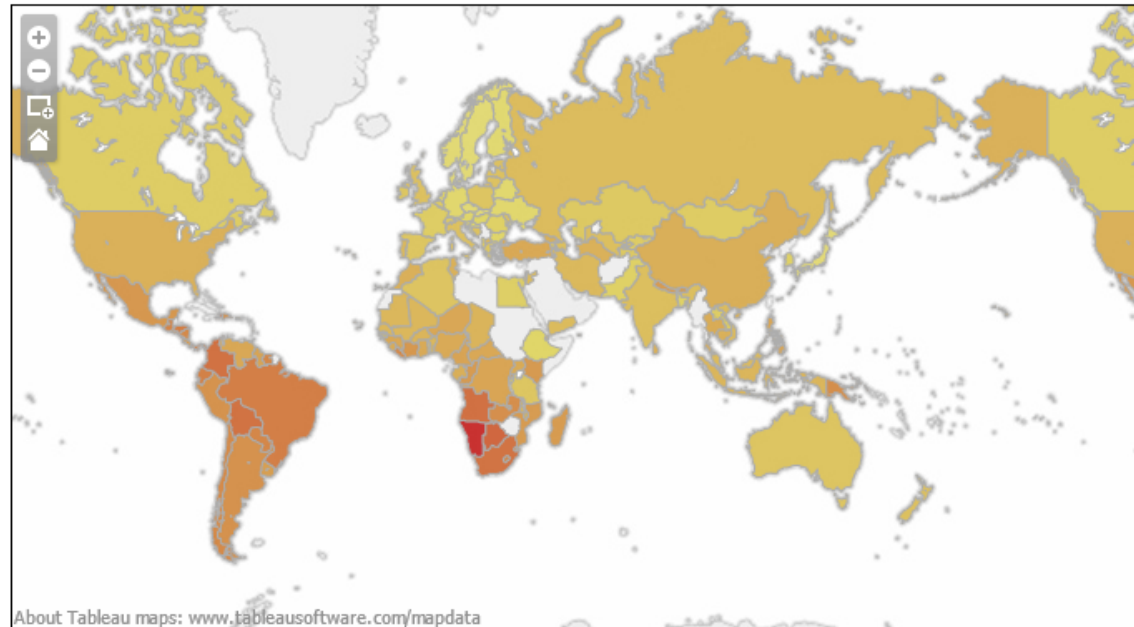
HIT A RECORD HIGH \$134.8 BILLION IN 2013, BUT **SHIFTED AWAY FROM THE POOREST COUNTRIES**

Inequality around the world

The world seen through the filter of inequality, plus the figures for the richest and poorest 10 per cent in each country **Nigel Hawtin**

Inequality around the world

NewScientist



About Tableau maps: www.tableausoftware.com/mapdata

The GINI coefficient is used to measure inequality on a scale from 0 to 1, in which 0 is total equality (everyone has the same income) and 1 is complete inequality (one member of the population has all of the income). Above a GINI score of about 0.3, inequality is associated with social ills, such as avoidable deaths

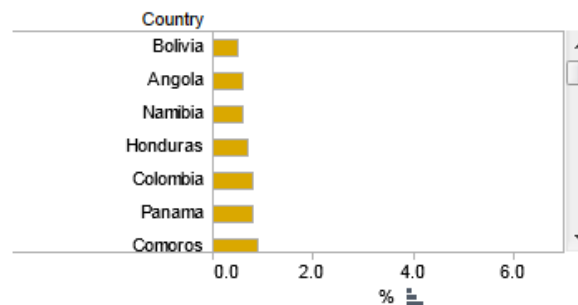
GINI coefficient
0.25 0.75

Select country
(All)

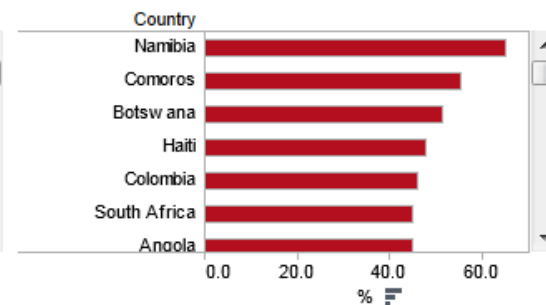
Grey: no data

Select "(All)" to restore view

Share of income or expenditure for poorest 10%



Share of income or expenditure for richest 10%



Jak se k této situaci postavit?



Jak se k této situaci postavit?



Aby lidé netrpěli hladem, žízní, chudobou v důsledku neočekávaných **změn Zemského systému?**