

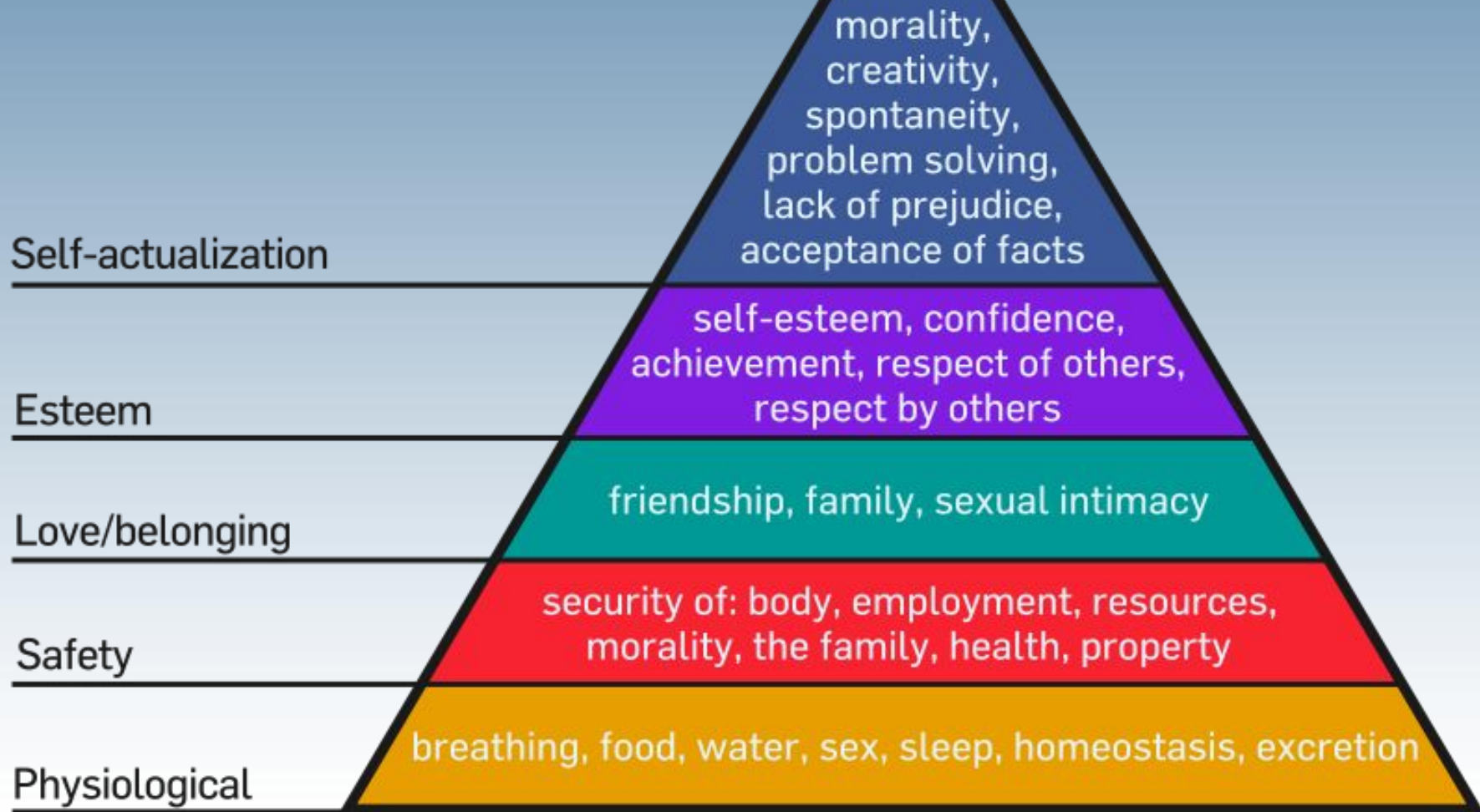
World Overview in Key Areas

Bahar Yetiş Kara

Adapted from P. Keskinocak's lecture notes



Essential Components of Life



An interpretation of Maslow's hierarchy of needs, represented as a pyramid with the more basic needs at the bottom. Wikipedia

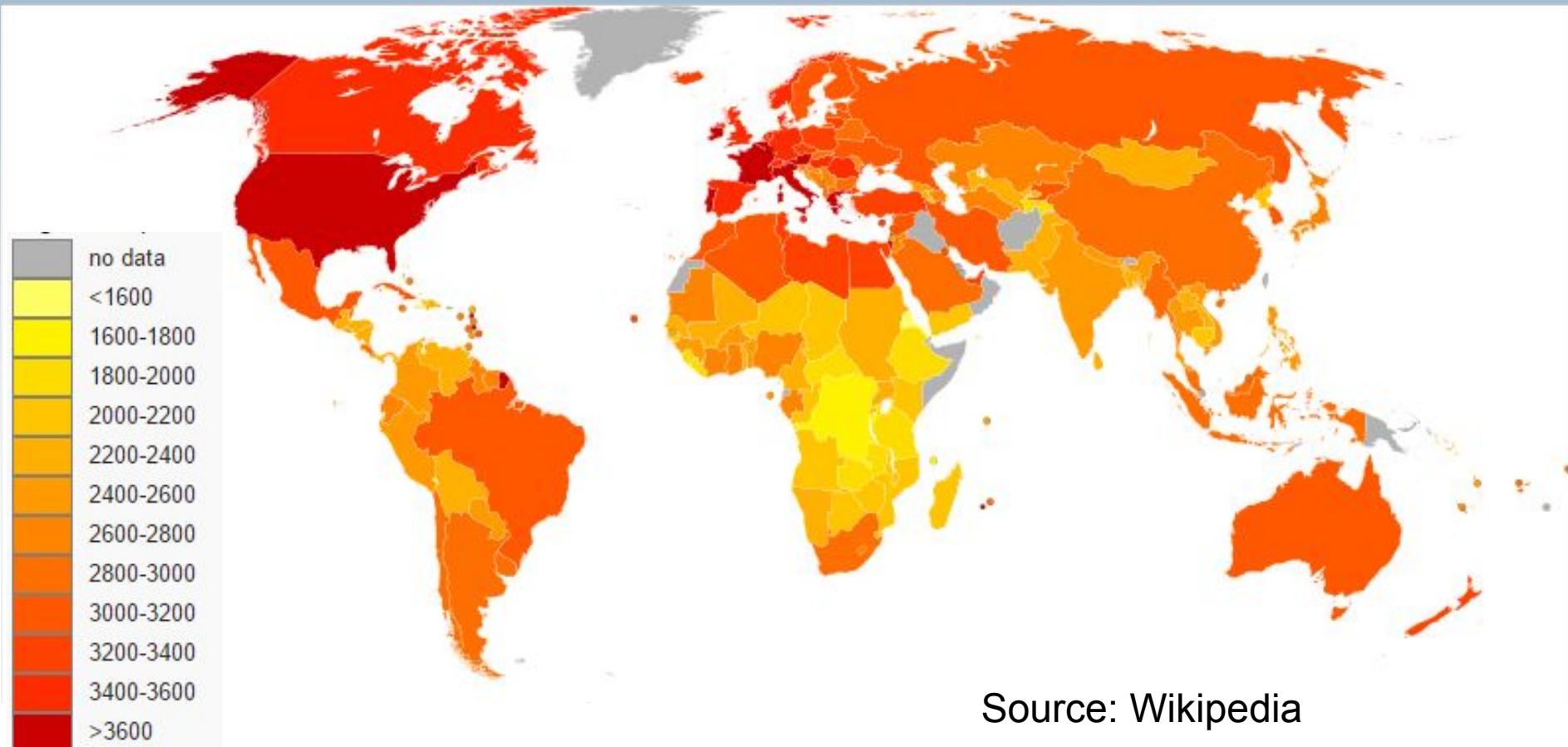


Essential Components of Life

- Food
- Water
- Sanitation
- Shelter
- Health
- Safety
- Education
- Environment

Food

- **Food is any substance or materials eaten or drunk to provide nutritional support for the body or for pleasure.**



Hunger



Hunger: the social condition of people (or organisms) who frequently experience, or live with the threat of experiencing, the physical sensation of desiring food.

Malnutrition: a condition caused by improper diet or nutrition

Famine: widespread scarcity of food which is usually accompanied by regional malnutrition, starvation, epidemic, and increased mortality

Starvation: a state of exhaustion of the body caused by lack of food. This state may precede death



Some Statistics

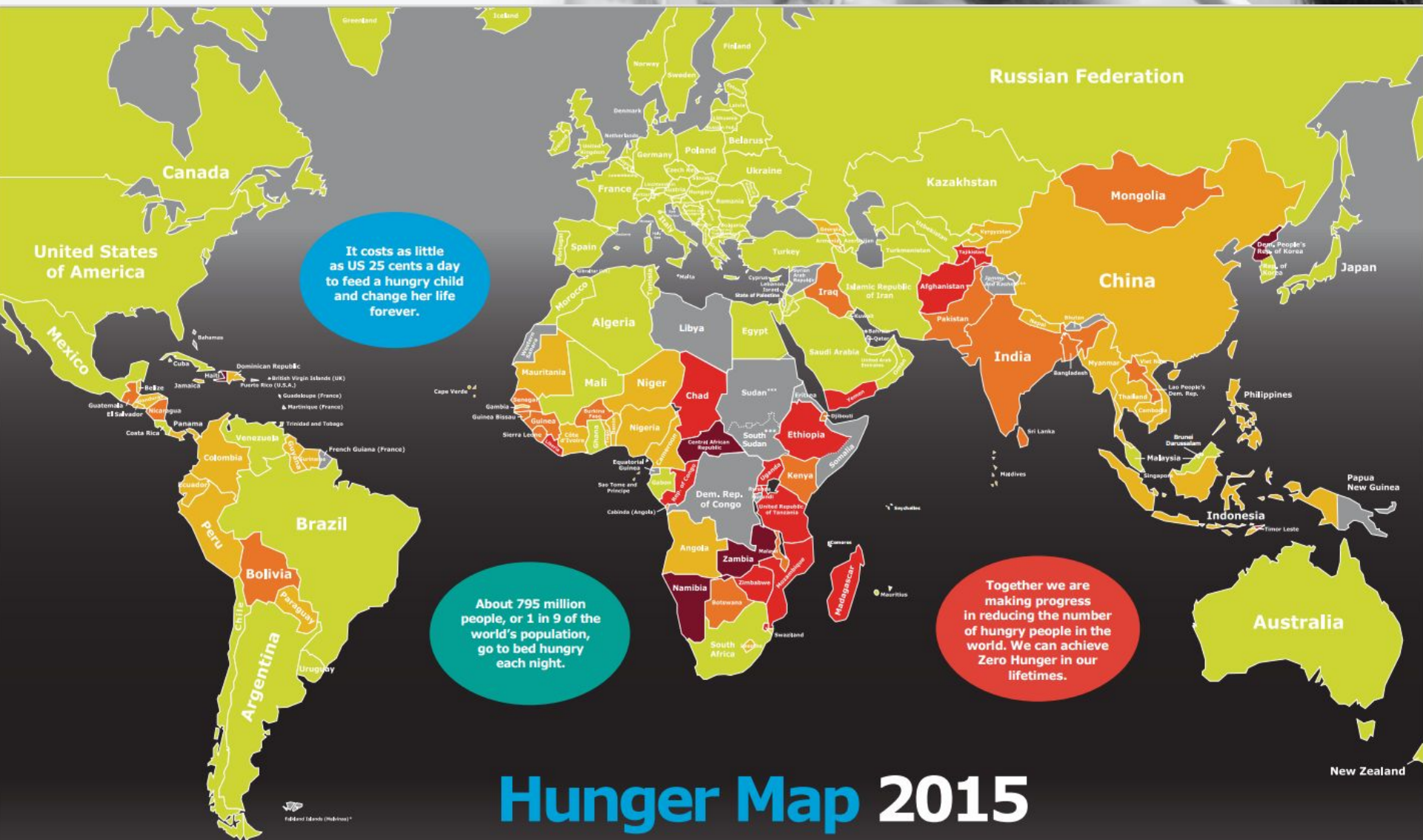


- 795 million people do not have enough to eat - more than the populations of USA, Canada and the European Union;
- Asia and the Pacific region is home to over half the world's population and nearly two thirds of the world's hungry people;
- In Sub-Saharan Africa one person in four is undernourished;

Some Statistics



- 65 percent of the world's hungry live in only seven countries: India, China, the Democratic Republic of Congo, Bangladesh, Indonesia, Pakistan and Ethiopia;
- More than 70 percent of the world's 146 million underweight children under age five years live in just 10 countries, with more than 50% located in South Asia alone;
- Poor nutrition causes 45% of deaths in children under five: 3.1 million children every year;



Hunger Map 2015

Prevalence of undernourishment in the population (percent) in 2014-16



The map shows the prevalence of undernourishment in the population of developing countries as of 2014-16. The indicator measures the probability that a randomly selected individual in the population is consuming an amount of dietary energy, which is insufficient to cover her/his requirements for an active and healthy life.

Sources: FAO, IFAD and WFP 2015. The State of Food Insecurity in the World 2015. Meeting the 2015 International Hunger Targets: Taking Stock of Current Progress. Rome, FAO. Further information is available at www.fao.org/publications/sofi/en/.
 Undernourishment date: FAO Statistics Division (2015) - www.fao.org/statistics/

© 2015 World Food Programme

The information contained in this map does not imply the expression of any opinion whatsoever on the part of WFP concerning the legal or constitutional status of any country, territory or sea area, or concerning the boundaries of States.

* A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

** Current tea expressed approximately the Lake of Central in Somalia and Eastern region by India and Pakistan. The final status of Somalia and Eastern has not yet been agreed upon by the parties.

*** Final boundary between the Republic of South Sudan and the Republic of Sudan has not yet been determined.



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PREVALENCE OF
UNDERNOURISHMENT IN
THE POPULATION
(PERCENT) IN 2014-16

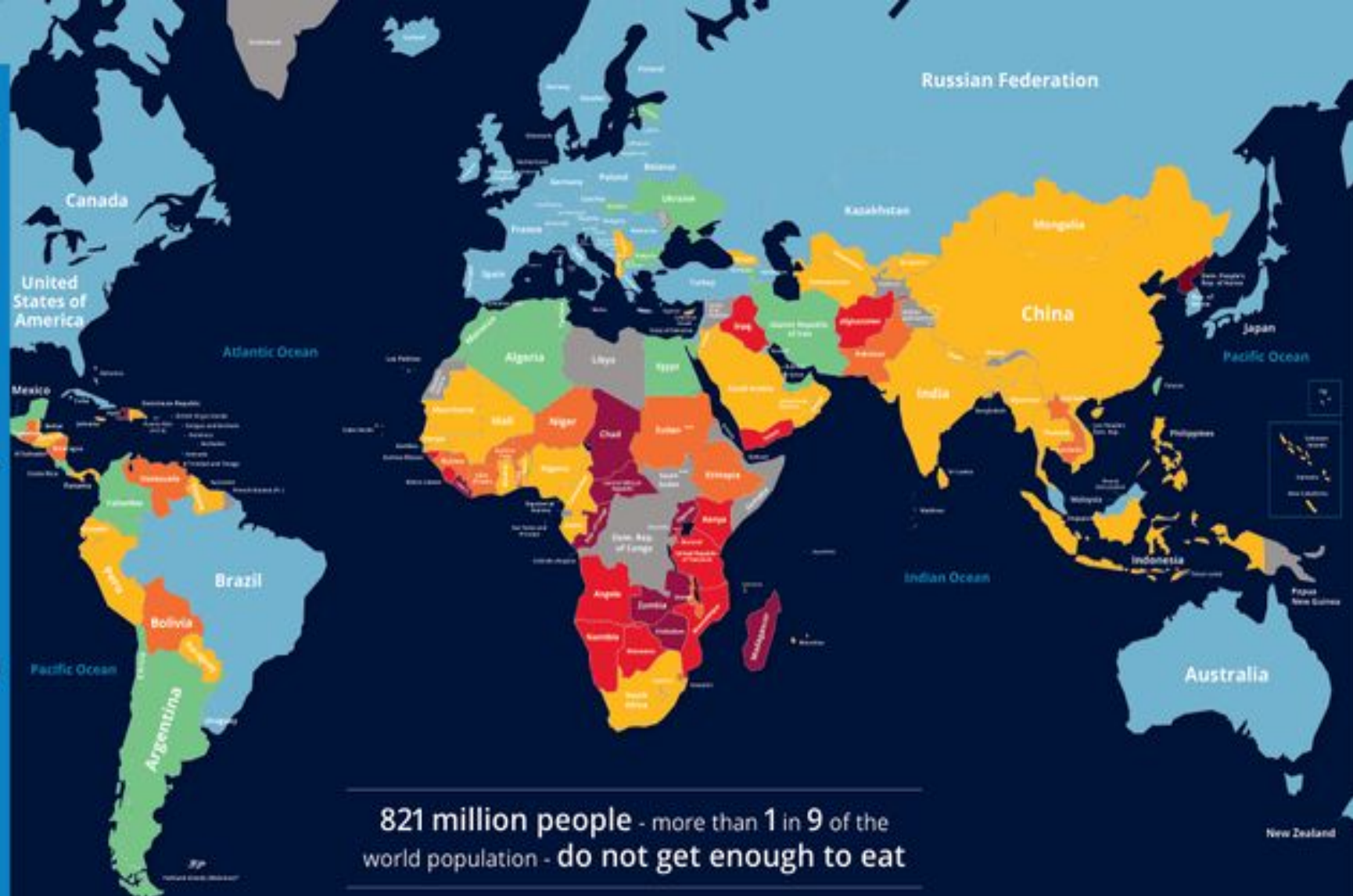


For the first time, a large-scale, multi-center study of the effects of a single session of a group-based, cognitive-behavioral intervention on the health of people with a history of substance use disorder is being conducted. The study is being conducted by the National Institute on Drug Abuse (NIDA) and the National Institute of Mental Health (NIMH).

© 2001 Blackwell Science Ltd *Journal of Internal Medicine* 250: 105–112

© 2006 Blackwell Publishing Ltd, *Journal of Internal Medicine* 260: 459–466

* *Indicates significant differences at the 5% level of probability according to the chi-square test.*



821 million people - more than **1 in 9** of the world population - **do not get enough to eat**

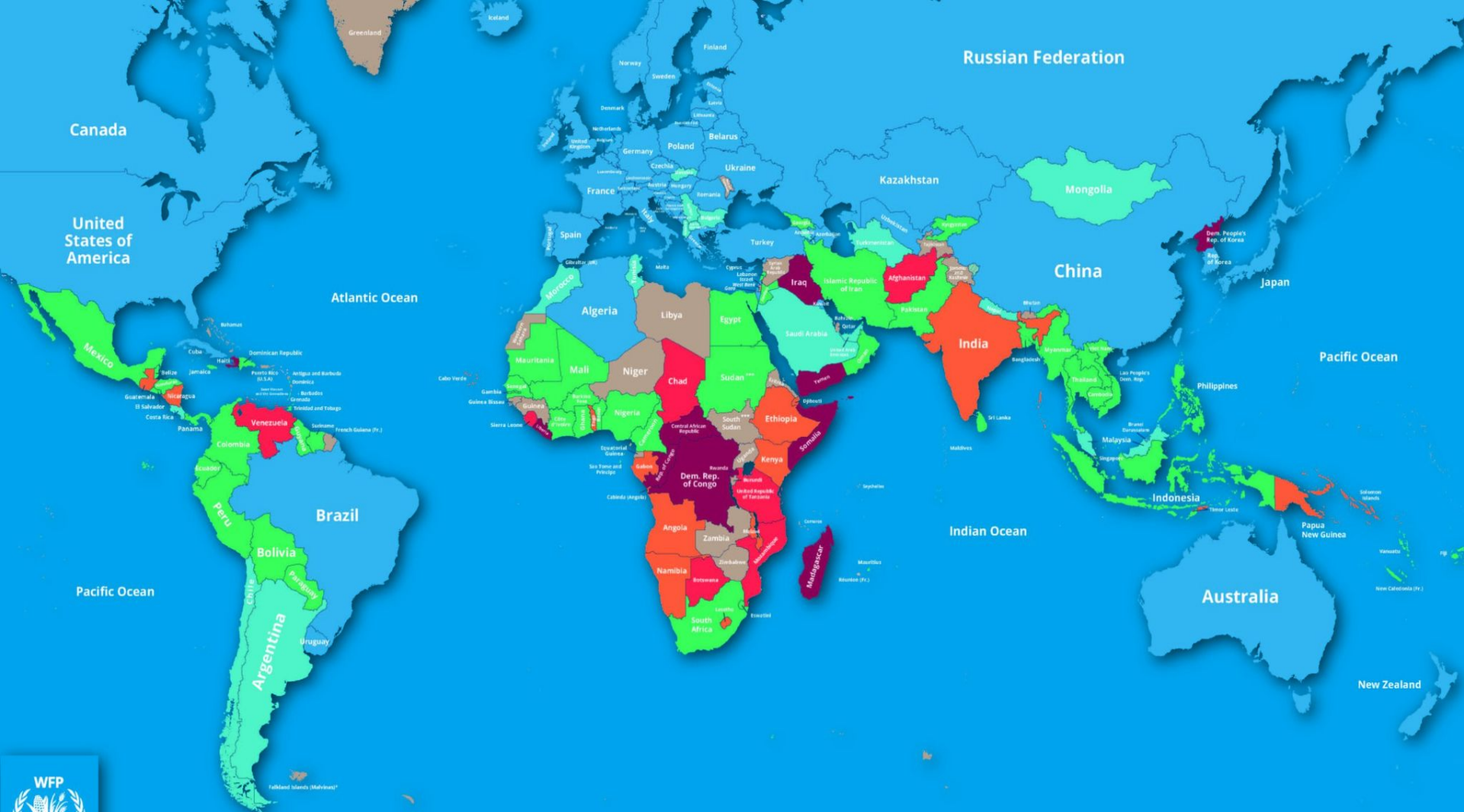


Prevalence of undernourishment in the TOTAL population (percent) in 2016-18

Statistical analysis is limited in the context of a case as individual "subgroups" (e.g., patients) have only the status of being drug users or not. Therefore, individuals are treated as repeated measures of a continuous variable (i.e., use of drugs), and the percentage of subjects in the first category (i.e., use of drugs) is considered continuous. In the case of a group of patients, however, the use of drugs is a categorical variable, and the percentage of subjects in the first category (i.e., use of drugs) is considered continuous. In the case of a group of patients, however, the use of drugs is a categorical variable, and the percentage of subjects in the first category (i.e., use of drugs) is considered continuous.

© 2000 Blackwell Science Ltd *Journal of Internal Medicine* 247: 399–406

Investment (€ million)	Number of employees (thousands)	Value added (€ million)	Number of employees (thousands)
100	10	100	10
200	20	200	20
300	30	300	30
400	40	400	40
500	50	500	50
600	60	600	60
700	70	700	70
800	80	800	80
900	90	900	90
1000	100	1000	100




World Food Programme
 SAVING LIVES
 CHANGING LIVES

Hunger Map 2021

CHRONIC HUNGER

<2.5% 2.5-4.9% 5-14.9% 15-24.9% 25-34.9% >35% DATA NOT AVAILABLE



Prevalence of undernourishment in the total population (percent) in 2018-20

Up to 811 million people – 1 in 10 of the global population – do not get enough to eat

Undernourishment is defined as the condition in which an individual's habit of food consumption is insufficient to provide the amount of dietary energy required to maintain a normal, active, healthy life. The indicator is reported as the prevalence of undernourishment (PoU), which is an estimate of the percentage of individuals in the total population that are in a condition of undernourishment. To reduce the influence of possible estimation errors in some of the underlying parameters, national estimates are reported as a three-year moving average. Source: FAO, UNICEF, WFP and WHO, 2021. The State of Food Security and Nutrition in the World 2021. Transforming food systems for food security, improved nutrition and affordable healthy diets for all. Rome, FAO. Further information is available at <https://www.afro.who.int/data/2021-state-food-security-nutrition-world-report-and-look-ahead>

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The information contained in this map does not imply the expression of any opinion whatsoever on the part of WFP concerning the legal or constitutional status of any country, territory or sea area, or concerning the delimitation of frontiers.

* A dotted line separates the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

** 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.

*** Food boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.

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



Sources of Hunger

- Natural Disasters
- Conflict
- Poverty
- Poor Agricultural Infrastructure
- Over-exploitation of the Environment

Food Force: Humanitarian Video Game



- <http://www.wfp.org/how-to-help/individuals/food-force>
- Video I

Video 2



Food Force: Humanitarian Video Game



6 Missions

- I: Hunger Assessment
- OR problems?

Continuous coverage

Video 3



Food Force: Humanitarian Video Game



Mission 2:

- Balance between nutritional needs, local diet and total cost
- OR problems?

LP Diet Problem

Video 4



Food Force: Humanitarian Video Game



Mission 3:

- Ability to airdrop food to communities isolated by war and/or geography without endangering their lives
- OR problems?

Where to drop?

Location

Cover Median problems

Video 5



Food Force: Humanitarian Video Game



Mission 4:

Buying the food: Players must calculate how and where to purchase food to satisfy immediate and long term needs

OR Problems?

Resource Allocation
Transportation (supply-demand)

Video 6



Food Force: Humanitarian Video Game



Mission 5:

Supply chain from donors via planes, lorries, ships.
The player is responsible for ensuring the safe arrival of a convoy of food trucks and must negotiate obstacles including fallen bridges, local rebel forces..

OR problems?

Location of the camp?

Route selection

Crew selection

Video 7



Food Force: Humanitarian Video Game



Mission 6:

- Longer-term development challenges which follow an emergency, rebuilding the lives.
- OR problems?

Camp Location?
Resource Allocation
??????

Video 8





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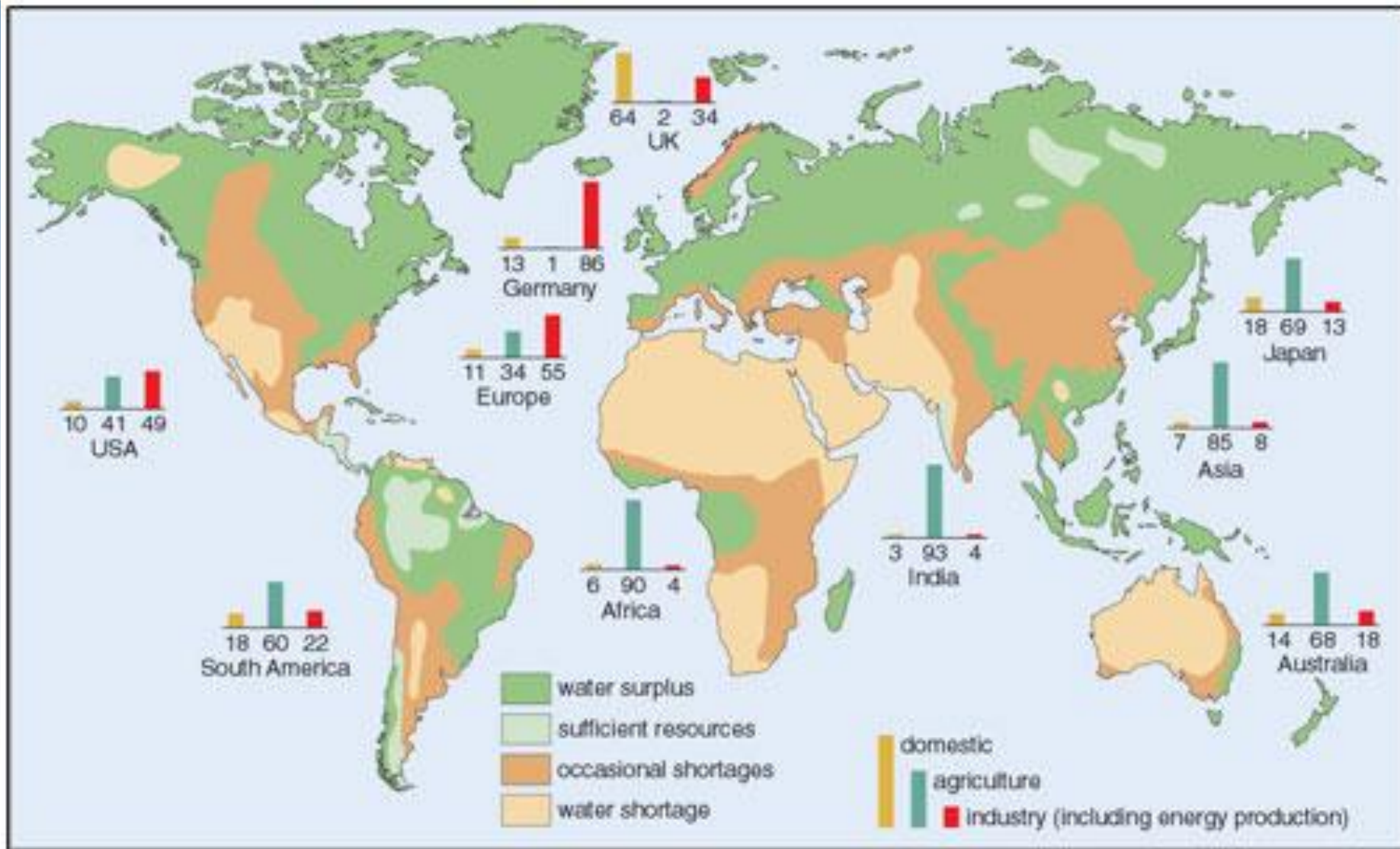
Water/Sanitation

- Each person requires 20-50 liters of clean water daily for drinking, cooking, etc.



- More than a billion people lack access to clean water

Water Problems



Water/Sanitation

- Lack of safe water and poor sanitation are important risk factors for mortality and morbidity
 - Diarrheal diseases, cholera, worm infections, hepatitis
 - 1.8 million people die every year of diarrheal diseases





Water/Sanitation

- Much of the world's freshwater is contaminated by natural or human causes
 - Lack of basic knowledge about sanitation and hygiene practices
 - Industrial Pollution
 - Natural disasters
 - Wars, terrorism, disputes over water supplies, etc.
- Inadequate distribution systems in many parts of the world
- Farming/water management



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Food Water Sanitation Shelter Health Safety Education Environment



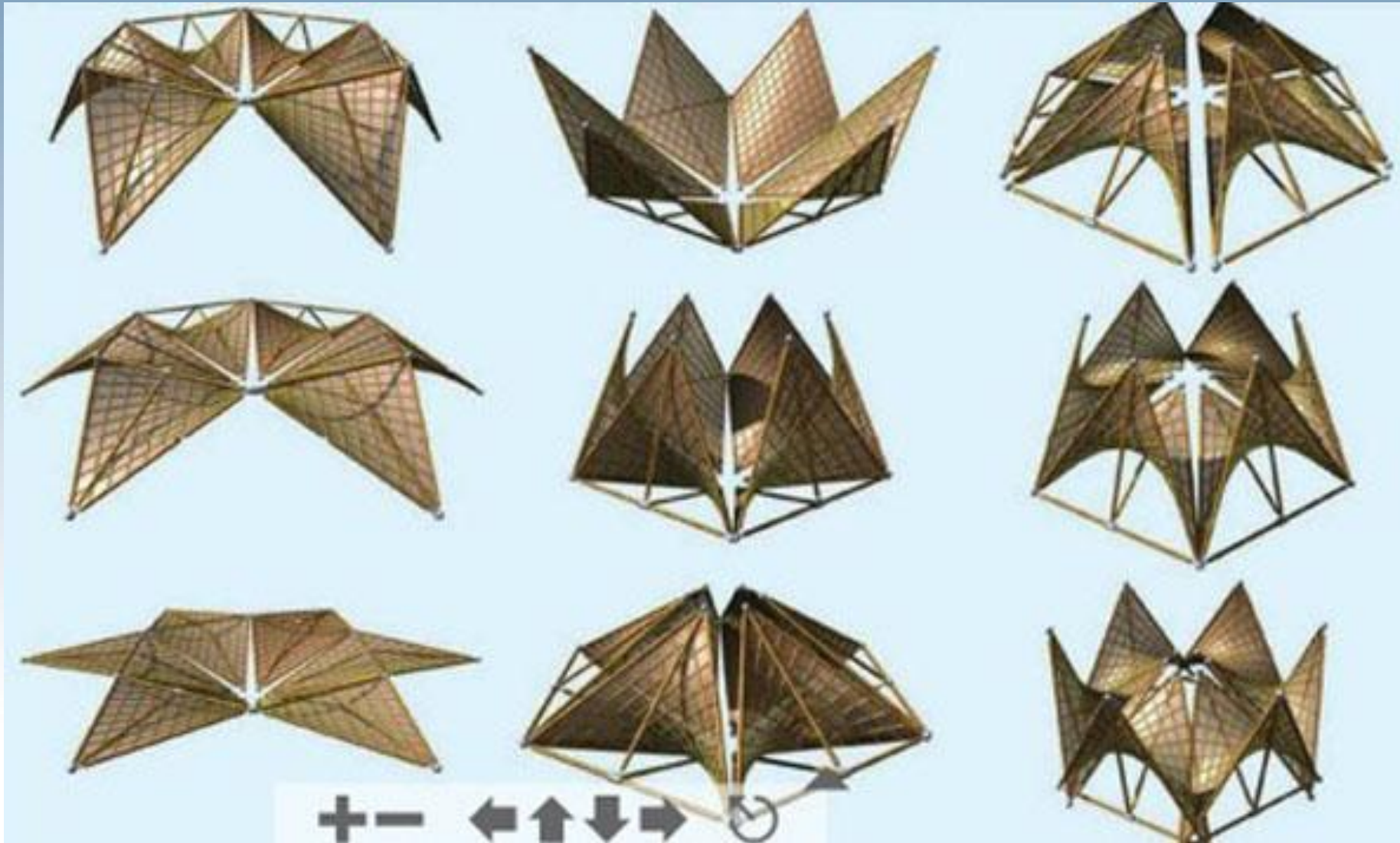
Source: www.habitat.org

Shelter



Bamboo house Yang and Tang's winning design used traditional local material and implemented geometry elements in a way that would allow structures to transform and reform themselves.

Shelter



Shelter



These rows of "coffins" were the men's sleeping quarters in London's Burne Street hostel. Circa 1900

Source: Wikipedia

Shelter



- The world is experiencing a global housing crisis.
- About 1.6 billion people live in substandard housing and 100 million are homeless, according to the United Nations.
- These people are increasingly urban residents, and every week more than a million people are born in, or move to, cities in the developing world.
- Today, a billion people—32 percent of the global urban population - live in urban slums.
- If no serious action is taken, the United Nations reports that the number of slum dwellers worldwide will increase over the next 30 years to nearly 2 billion.

Shelter

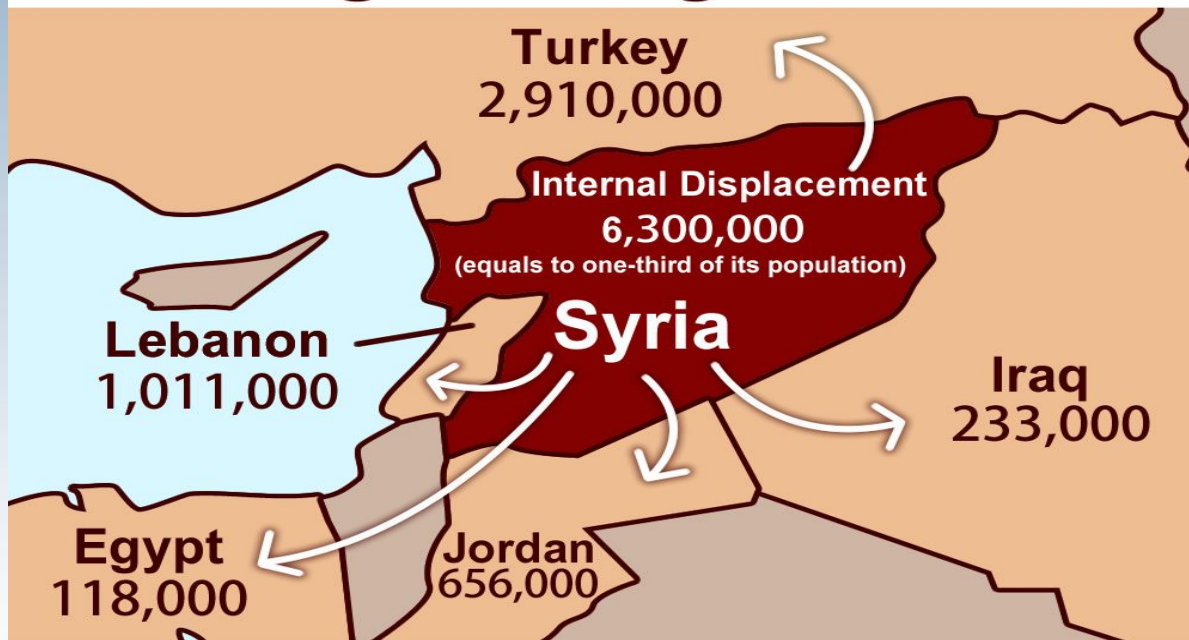


- Importance of clean, decent, and stable housing:
- Habitat for Humanity has shown that building homes does more than put a roof over someone's head.
- In clean, decent, stable housing :
 - Families can provide stability for their children.
 - A family's sense of dignity and pride grow.
 - Health, physical safety, and security improve.
 - Educational and job prospects increase.

Shelter

Syrian Refugee Crisis

4.9 million Syrians seek refuge in neighbouring countries



UNHCR-Government of Turkey- March/2017

Shelter



- 90% of Syrian refugees live outside camps in Turkey.

The Nizip refugee camp in Turkey, near the Syrian border



- Remaining 10% populates inside camps.



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Food Water Sanitation Shelter

Health Safety Education Environment

	African Region	Americas Region
Life expectancy	52	76
Mortality (per 1000 live births)	145	19

- A child born in a least developed country is almost 15 times more likely to die during the first 28 days of life than one born in an industrialized country.
- In 2013, 6.3 million children died before age 5. Africa and Asia together accounted for 92% of these deaths.
- Daily, 800 women die (annually 289000 women) of complications during pregnancy or childbirth, 99% of them in developing countries. (WHO 2014)

Health



- In 2014, an estimated 3.2 billion were at risk of malaria
 - There were an estimated 198 million cases of malaria worldwide in 2013, and an estimated 584 000 deaths. 90% of all malaria deaths occur in Africa.
 - 75% of malaria deaths occurred in children under 5 years
- Number of people living with HIV : 35 million
 - Of the estimated 9.7 million people in developing countries that need treatment, only 3 million receive the medicines



Health

- Coronavirus (COVID-19): A Global Pandemic

Global Situation:

- 607,745,726 confirmed cases
- 6,498,747 deaths



Source: <https://covid19.who.int/> (September 2022)

Health



Number of Covid vaccine doses administered:

- 12,663,840,006 globally
- 150,289,743 doses in Turkey



- In Turkey, vaccines are distributed to each healthcare facility under the control of the Vaccine Tracking System (VTS).
- VTS is a domestically-developed system, which codes each dose, and tracks in real-time dose stock levels and temperatures accordingly.
- VTS thus prevents cold chain disruptions, tracks the vaccine, and quantifies which vaccine gets applied to which individual by which healthcare professional.



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Food Water Sanitation Shelter Health **Safety** Education Environment



- Domestic violence is the most common form of violence against women
 - Half of girls and women aged between 15-49 responded that a husband or partner is justified in beating his wife under certain circumstances (Household surveys in 67 countries)
- A study of 400 villages in rural areas of an Asian country revealed that 16% of all deaths among pregnant women were due to partner violence.

Sources: Armed Conflict: A New Dataset : 1946-2001 Gleditsch et al., UNICEF



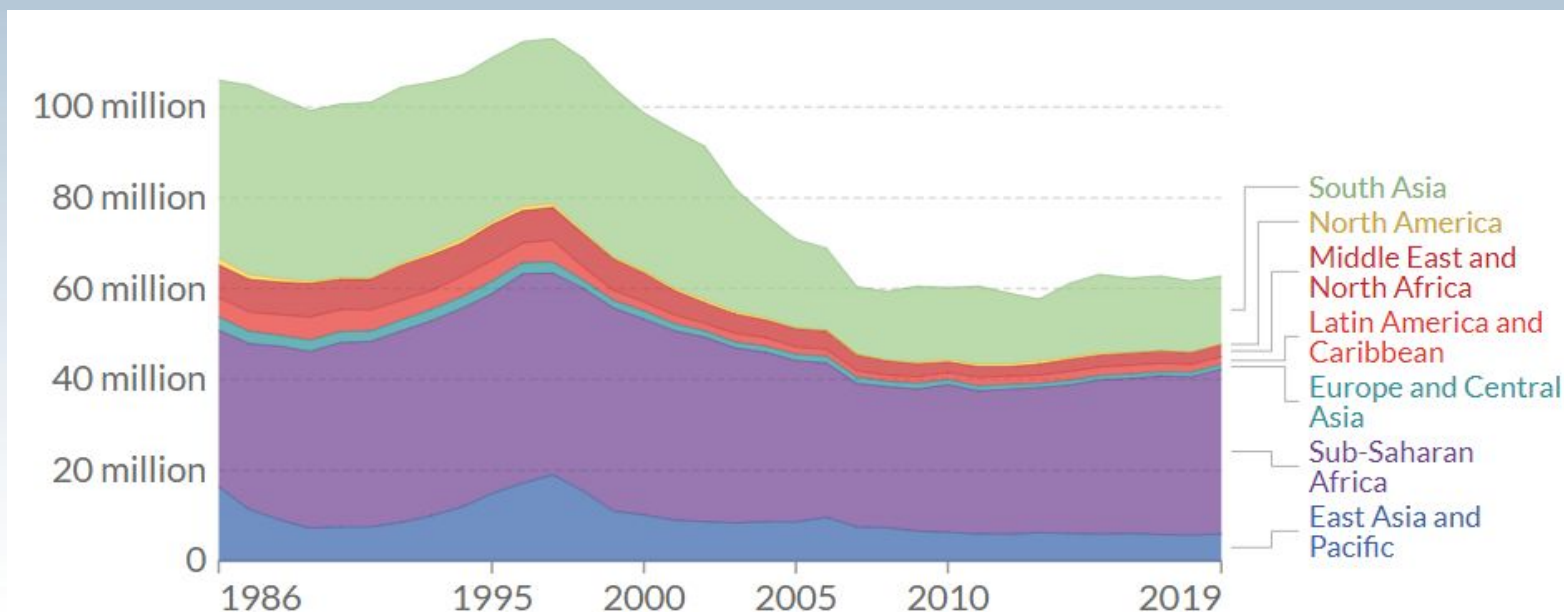
Essential Components of Life

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Food Water Sanitation Shelter Health Safety **Education** Environment

A total of 62.8 million children of primary school age are out of school as of 2019.

Out-of-school children of primary school age by world region, 1986 to 2019



Source: UNESCO (via World Bank)

[OurWorldInData.org/primary-and-secondary-education](https://ourworldindata.org/primary-and-secondary-education) • CC BY

Education



Educating a girl dramatically reduces the chance that her child will die before age of five, and improves her prospects of being able to support herself and have a say in her own welfare and in society.

Video: [the girl effect](#)





Essential Components of Life

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Food Water Sanitation Shelter Health Safety Education **Environment**

- Population growth: 7.3 billion in 2015 to 9 billion by 2040 and around 10 billion by 2050.
- Major energy sources: coal, oil, natural gas
- A pound of CO₂ for every mile we drive
- Global energy consumption will double between now and 2050
- More than 80% of the Earth's natural forests already have been destroyed.

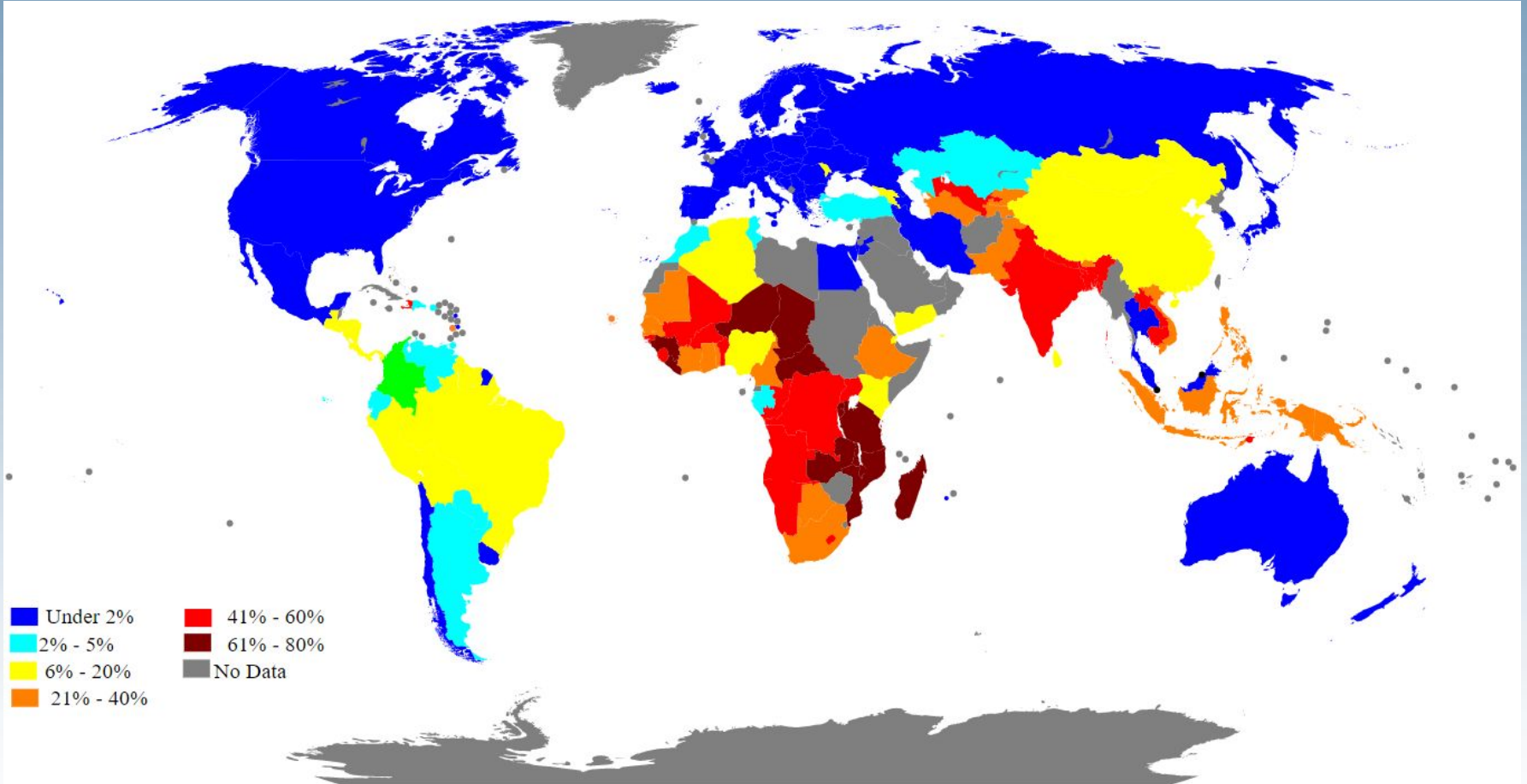
Source: Hot, flat and crowded by T. Friedman, National Geographic

Poverty



- Poverty is the lack of basic human needs such as:
 - Clean water
 - Nutrition
 - Health care
 - Education
 - Clothing and shelter
- because of the inability to afford them

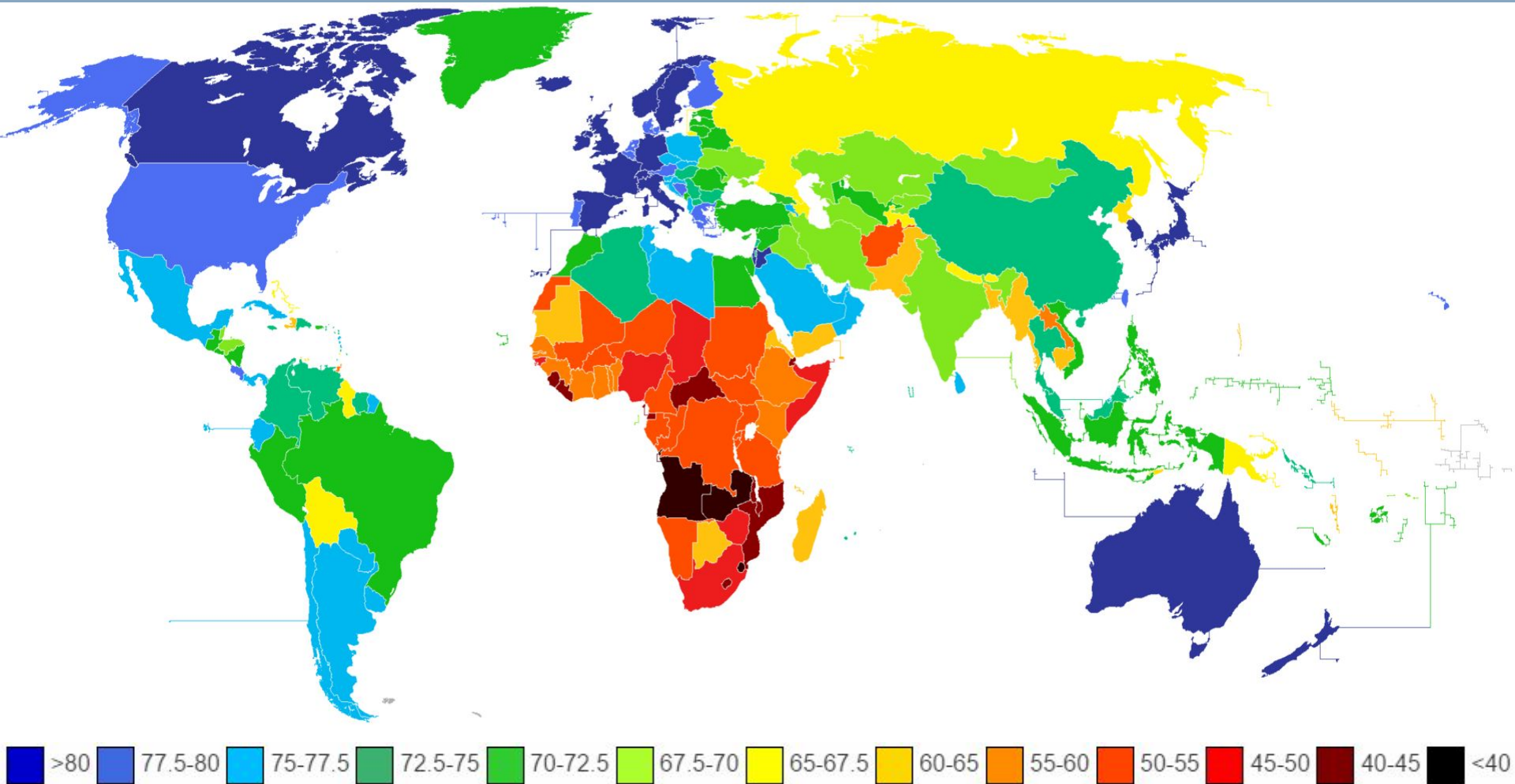
Poverty



Percentage of population living on less than \$1.25 per day. (August, 2015)

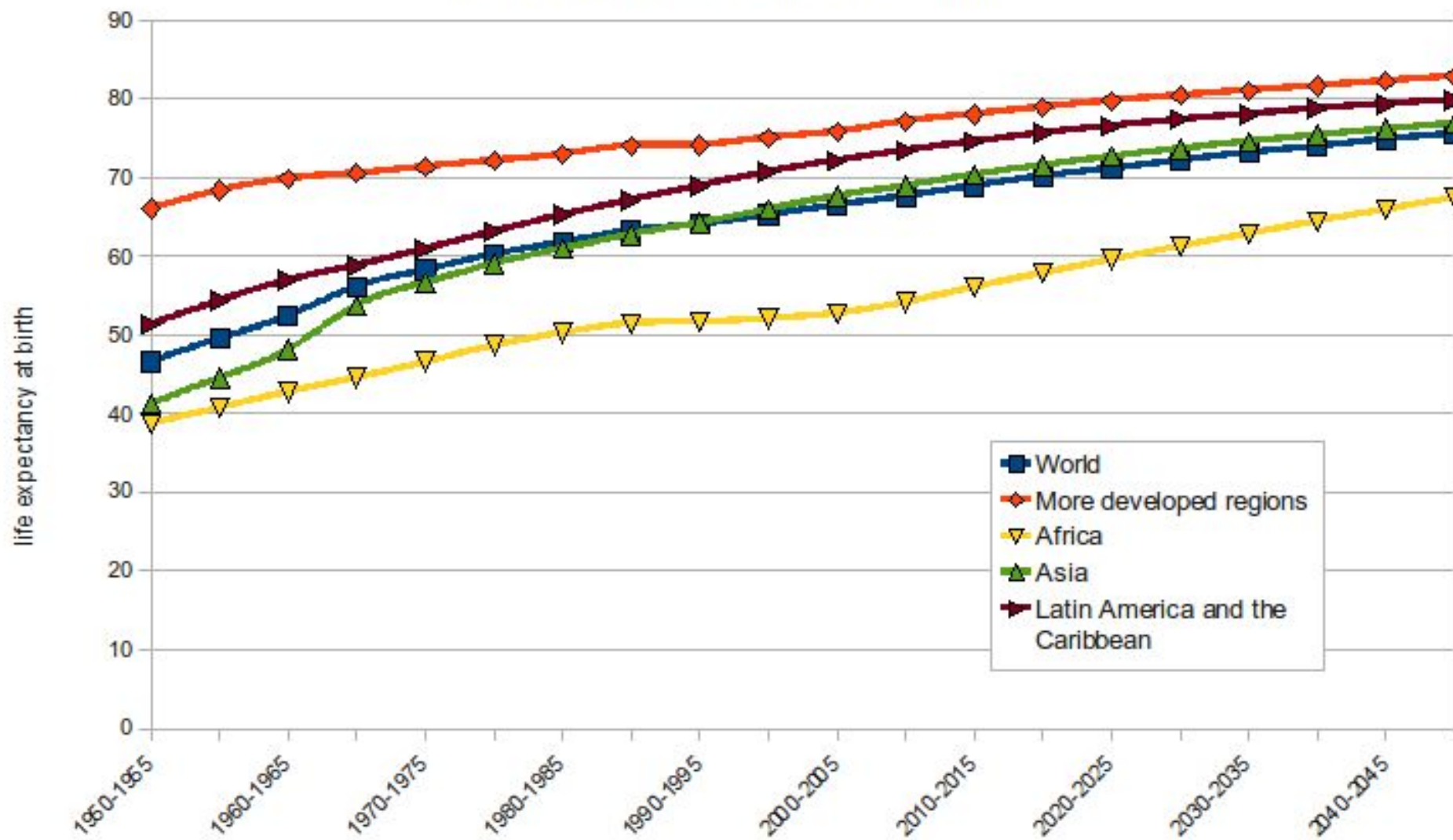
Source: Wikipedia

Life Expectancy



Life Expectancy at Birth by Region, 1950-2050.

Source: UN World Population Prospects, 2008.



Source: Wikipedia

2015 UNICEF Report

Progress and disparities for children...

NUTRITION

41% reduction in the stunting rate since 1990



Yet today...

Rural children are more likely to be stunted than urban children



POVERTY

Number of people living in absolute poverty

1990



2015



Yet today...

47% of people living in extreme poverty are 18 years old or under



PRIMARY EDUCATION

Number of out-of-school children

1990

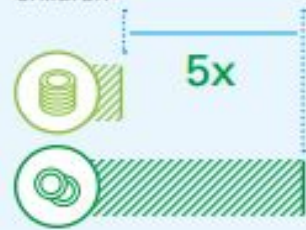


2012



Yet today...

The poorest children are more likely to be out of school than the richest children



GENDER EQUALITY

Four regions have achieved gender parity at the primary school level since 1990



Yet today...

Female youths are more likely to be illiterate than male youths



2015 UNICEF Report

CHILD MORTALITY

53% reduction in the number of under-five deaths

1990



2015



Yet today...

The poorest children are more likely to die before age 5 than the richest children



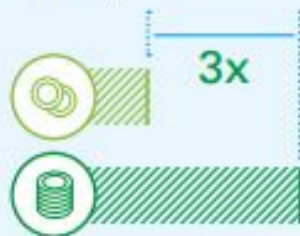
MATERNAL HEALTH

45% reduction in maternal mortality ratio since 1990



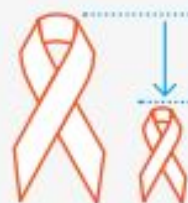
Yet today...

The richest women are more likely to give birth with a skilled attendant than the poorest



HIV/AIDS

58% reduction in new HIV infections (0–14 years old) since 2001



Yet today...

Girls account for nearly 2/3 of all new HIV infections among adolescents (15–19 years old)



WATER AND SANITATION

People who gained access to improved drinking water and sanitation facilities since 1990



Yet today...

90% of people who still use surface water live in rural areas





Millennium Development Goals

"This is the historic promise 189 world leaders made at the United Nations Millennium Summit in 2000 when they agreed to meet the Millennium Development Goals (MDGs). The United Nations Millennium Campaign supports and inspires people from around the world to take action in support of the MDGs."

- <http://www.endpoverty2015.org/>
- End hunger, universal education, gender equity, child health, maternal health, combat HIV/Aids, environmental sustainability, global partnership
- Clear goals, achievable, progress monitored/measured

UN Millenium Development Goals 2015



- “This is the historic promise 189 world leaders made at the United Nations Millennium Summit in 2000 when they agreed to meet the Millennium Development Goals (MDGs). The United Nations Millennium Campaign supports and inspires people from around the world to take action in support of the MDGs.”

UN Millenium Development Goals 2015



- Goal 1: Eradicate extreme poverty and hunger
 - Number of people living under international poverty line of \$1.25 / day declined to 1.4 billion by 2005
- Goal 2: Achieve universal primary education
 - Enrollment in developing regions reached 89% in 2008
- Goal 3: Promote gender equality and empower women
- Goal 4: Reduce child mortality
 - In some regions 1 of 7 die before age 5, many of preventable causes
- Goal 5: Improve maternal health
 - Insub-Saharan Africa, maternal mortality risk is 1 in 30
- Goal 6: Combat HIV/AIDS, malaria, other diseases
 - In Africa, malaria accounts for one-fifth of childhood mortality
- Goal 7: Ensure environmental sustainability
- Goal 8: Develop a global partnership for development