

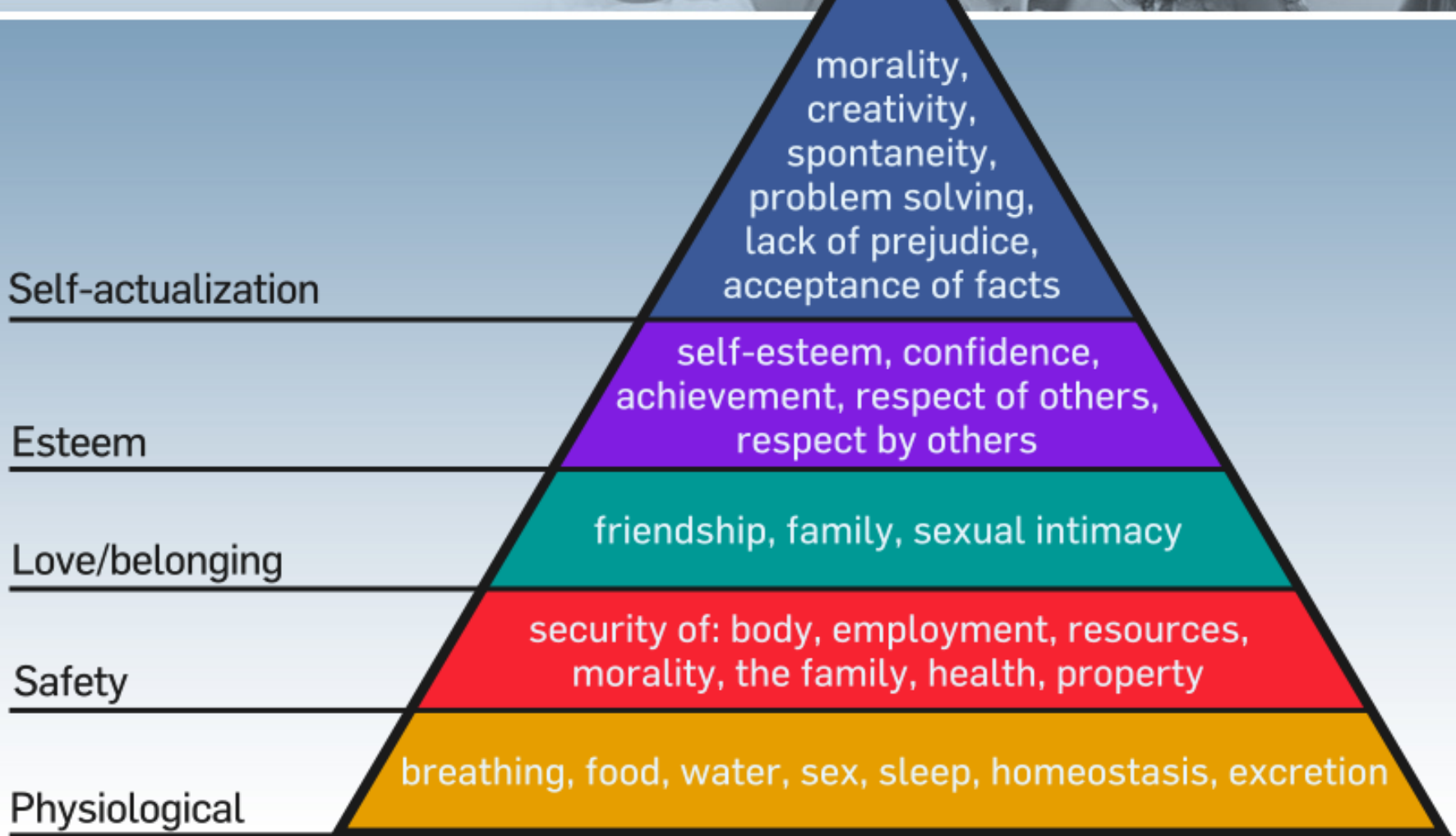
World Overview in Key Areas

Bahar Yetiř 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
- Shelter
- Sanitation
- Health
- Safety
- Education
- Environment



Essential Components of Life

- **Food**
- Water
- Shelter
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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.

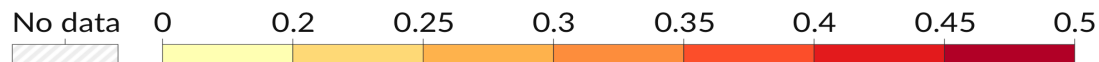
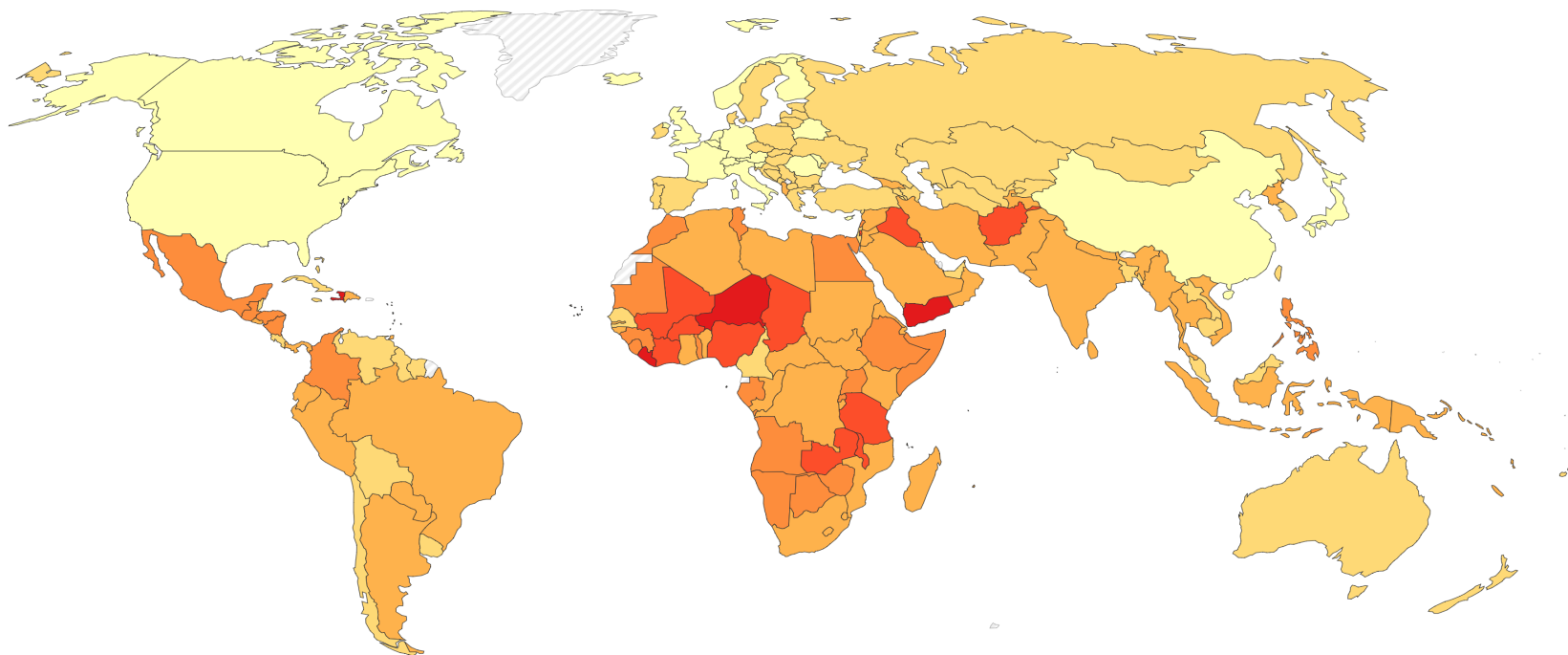
Food



Inequality in per capita calorie intake, 2020

Our World
in Data

The inequality in dietary calorie intake is measured as the coefficient of variation in energy intake. It represents the spread of intakes around the mean. Higher values represent larger levels of dietary inequality.



Hunger



- **Food security:** is the measure of an individual's ability to access food that is nutritious and sufficient in quantity

Some Statistics



- The world is **hungrier than ever!**
- 828 million people do not have enough food.
- Of those 828 million, over 40% are facing acute levels of hunger
- 29.6% of the global population do not have adequate access to food
- 9 million people die from hunger-related causes every year; many are children under the age of 5
- **45 million children under 5 years of age** are estimated to suffer from acute malnutrition.

Some Statistics



- The world is **hungrier than ever!**
- Asia and the Pacific region is home to over half the world's population and nearly two thirds of the world's hungry people;
- **65 percent of the world's hungry live in only seven countries:** India, China, the Democratic Republic of Congo, Bangladesh, Indonesia, Pakistan and Ethiopia.
- In Sub-Saharan Africa one person in four is undernourished.



FIGURE 3 IN 2022, ASIA WAS HOME TO 55 PERCENT (402 MILLION) OF THE PEOPLE IN THE WORLD AFFECTED BY HUNGER, WHILE MORE THAN 38 PERCENT (282 MILLION) LIVED IN AFRICA

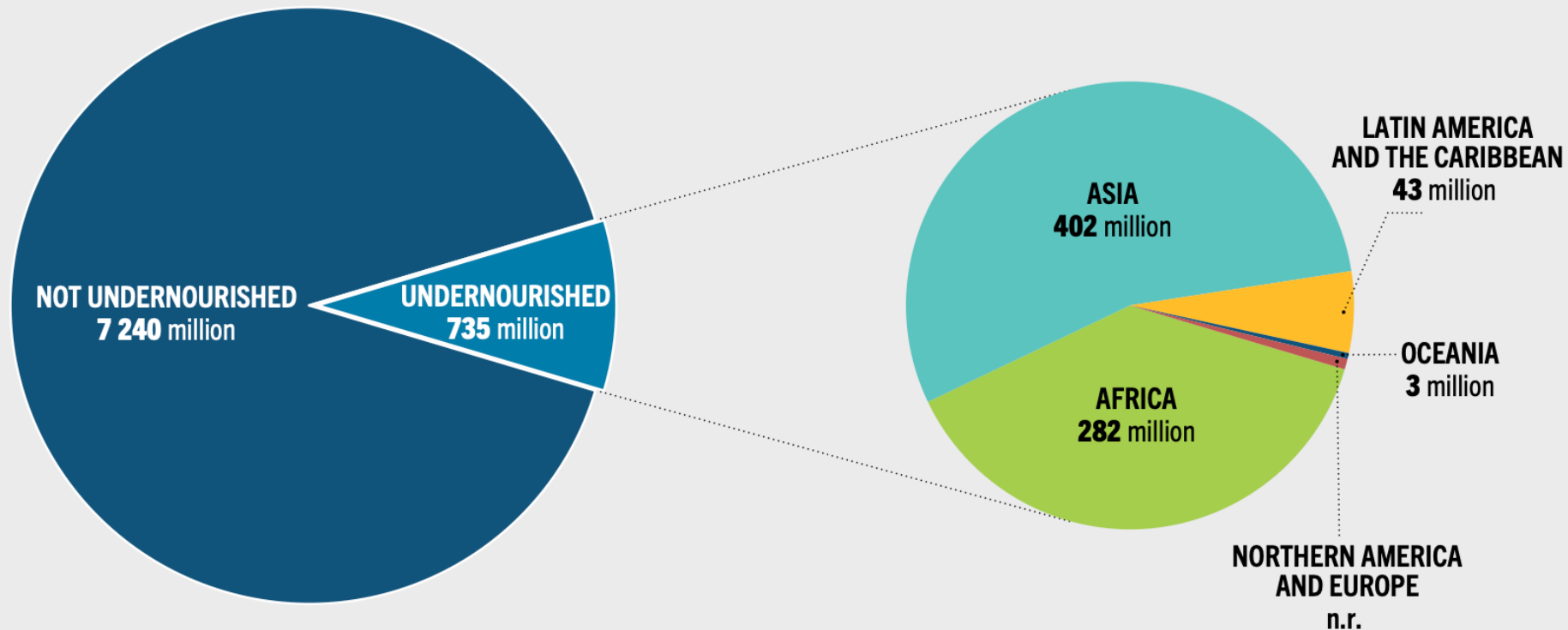
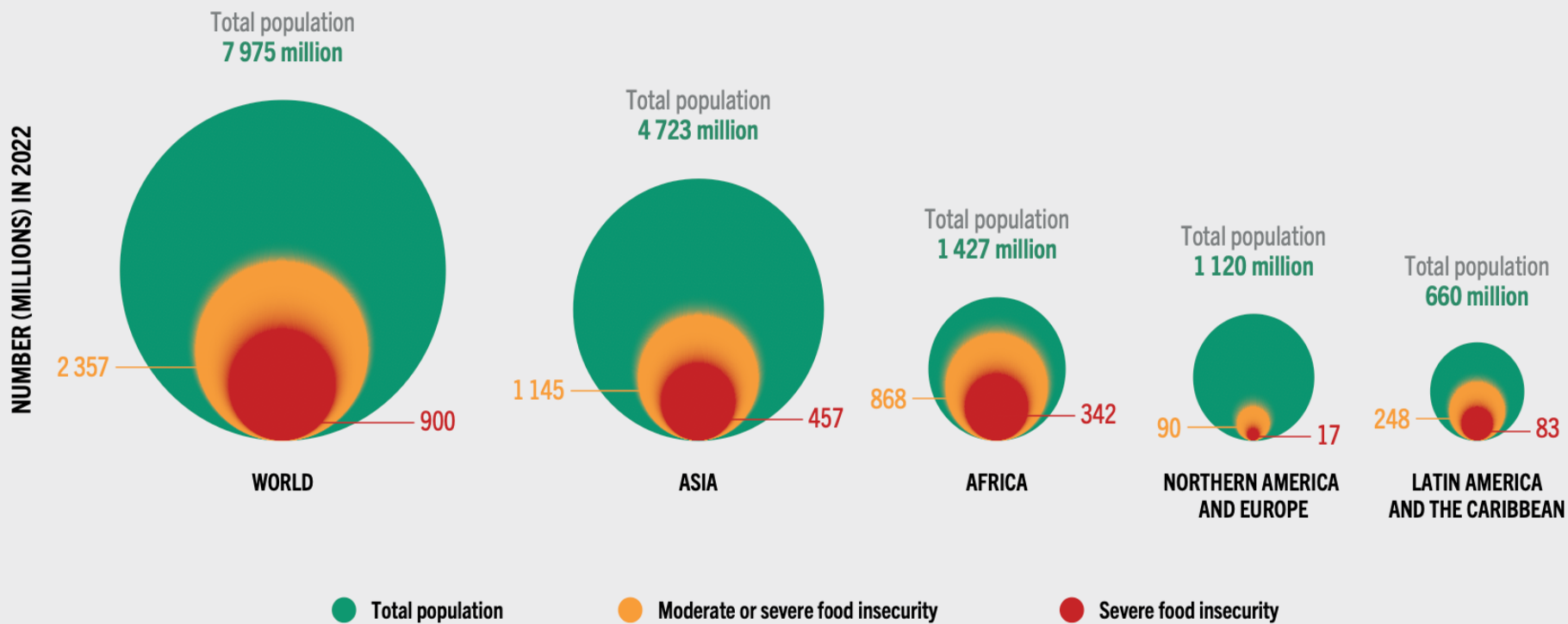


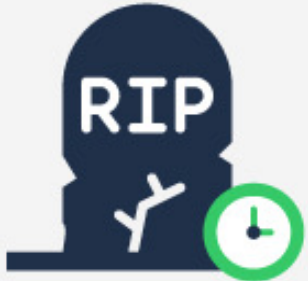


FIGURE 7 THE CONCENTRATION AND DISTRIBUTION OF FOOD INSECURITY BY SEVERITY DIFFER GREATLY ACROSS THE REGIONS OF THE WORLD





How Many Children Die from Hunger?



A CHILD DIES
from food deprivation
every **10 seconds**.



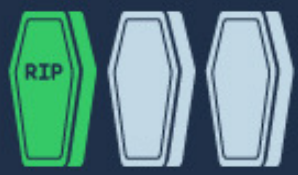
THAT'S MORE THAN 8,600
children each day.



ROUGHLY 3.1 MILLION
child casualties
per year.



Hunger accounts for
almost **half of all deaths**
in children under 5.



Malnutrition contributes
to **1 in 3 child deaths**
across the world.

Sources of Hunger



Food Waste



Poverty



Wars & Conflicts



Climate Change &
Natural Disasters



Job Industry



Poor Governance
and Infrastructure



Unfair Global Trade



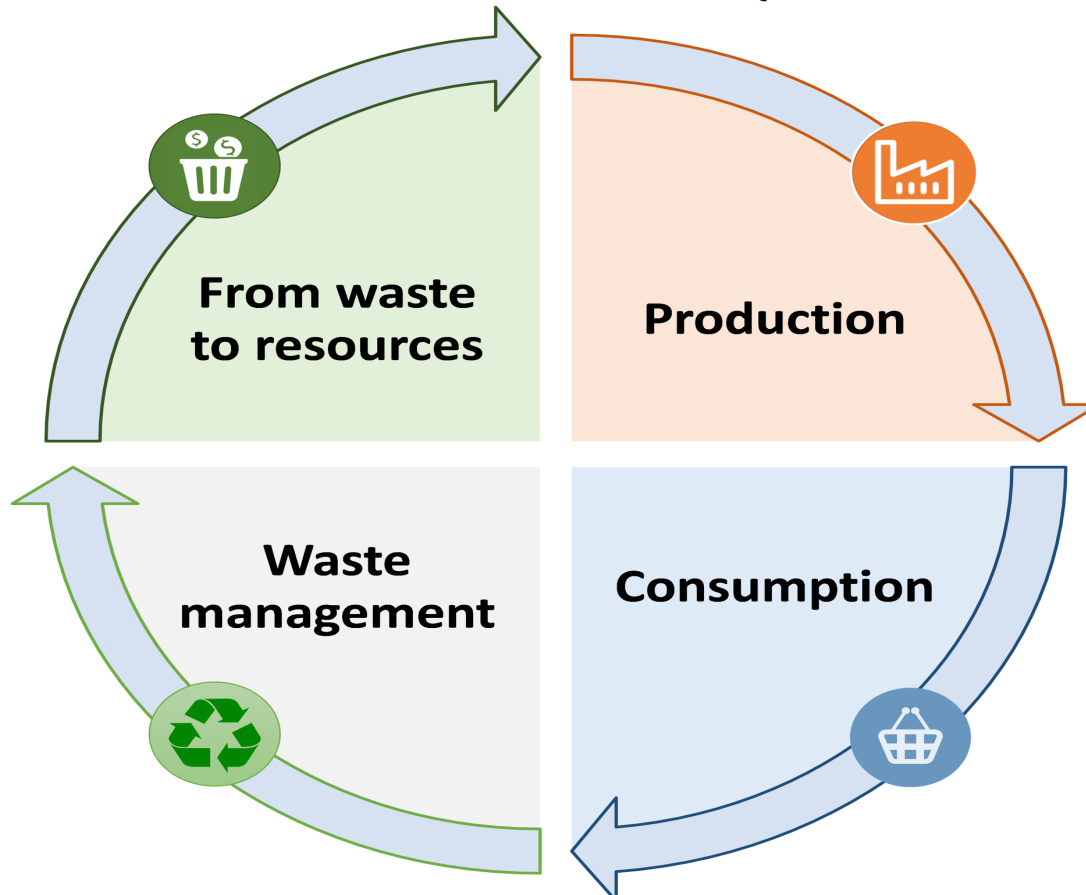
Social Inequality

WHAT CAUSES WORLD HUNGER?

Food Rescue



to a Circular Economy



Food Force: Humanitarian Video Game



- <http://www.wfp.org/how-to-help/individuals/food-force>
- Video 1

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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Essential Components of Life

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Water/Sanitation








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

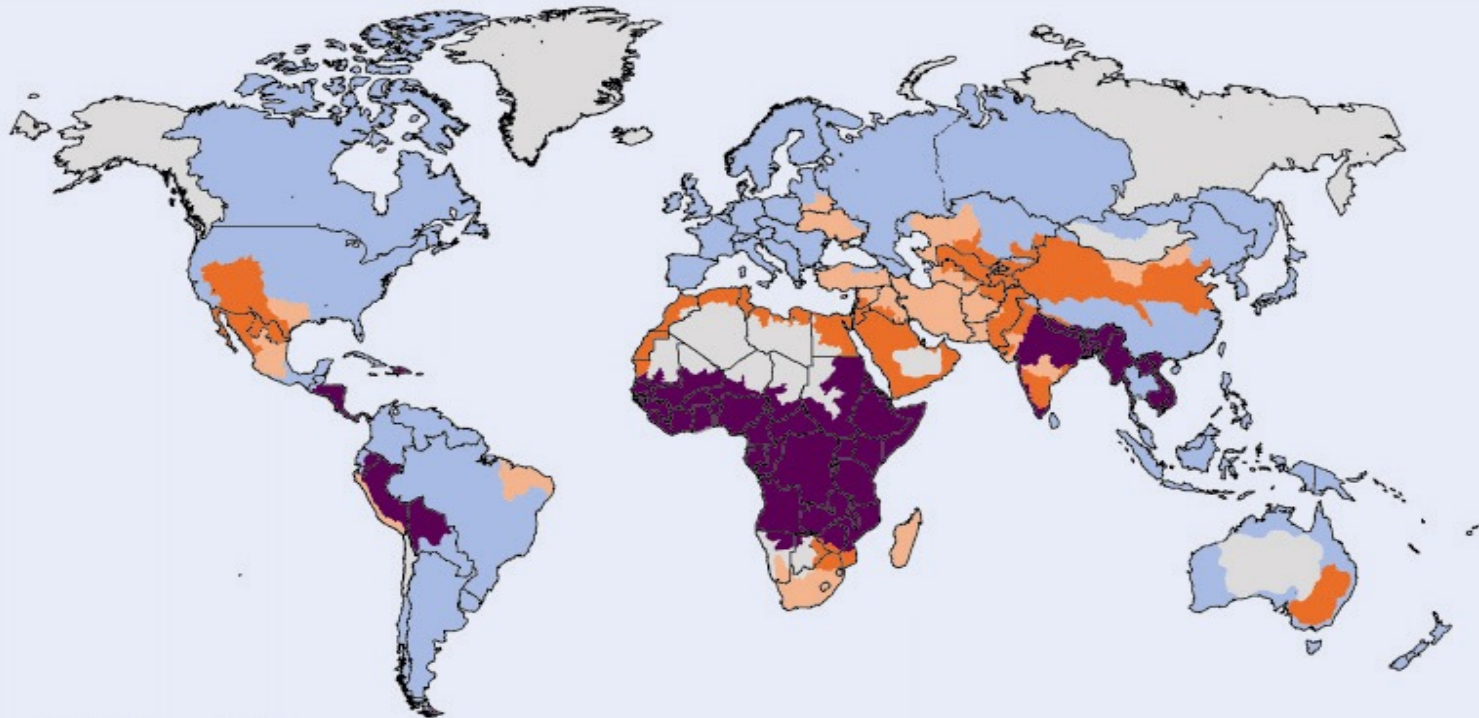


- More than 2 billion people lack access to clean drinking water

Water Problems



- | | | |
|---|---|---|
|  Little or no water scarcity |  Approaching physical water scarcity |  Not estimated |
|  Physical water scarcity |  Economic water scarcity | |



Definitions and indicators

- Little or no water scarcity. Abundant water resources relative to use, with less than 25% of water from rivers withdrawn for human purposes.
- Physical water scarcity (water resources development is approaching or has exceeded sustainable limits). More than 75% of river flows are withdrawn for agriculture, industry, and domestic purposes (accounting for recycling of return flows). This definition—relating water availability to water demand—implies that dry areas are not necessarily water scarce.
- Approaching physical water scarcity. More than 60% of river flows are withdrawn. These basins will experience physical water scarcity in the near future.
- Economic water scarcity (human, institutional, and financial capital limit access to water even though water in nature is available locally to meet human demands). Water resources are abundant relative to water use, with less than 25% of water from rivers withdrawn for human purposes, but malnutrition exists.

Source: International Water Management Institute analysis done for the Comprehensive Assessment of Water Management in Agriculture using the Watersim model; chapter 2.

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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Essential Components of Life

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Safety



- 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

Shelter



Many Styles, But Always Home



Source: www.habitat.org

Shelter



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

Shelter



- **Importance of clean, decent, and stable housing:**
- **Habitat for Humanity has shown that building homes is more than putting 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

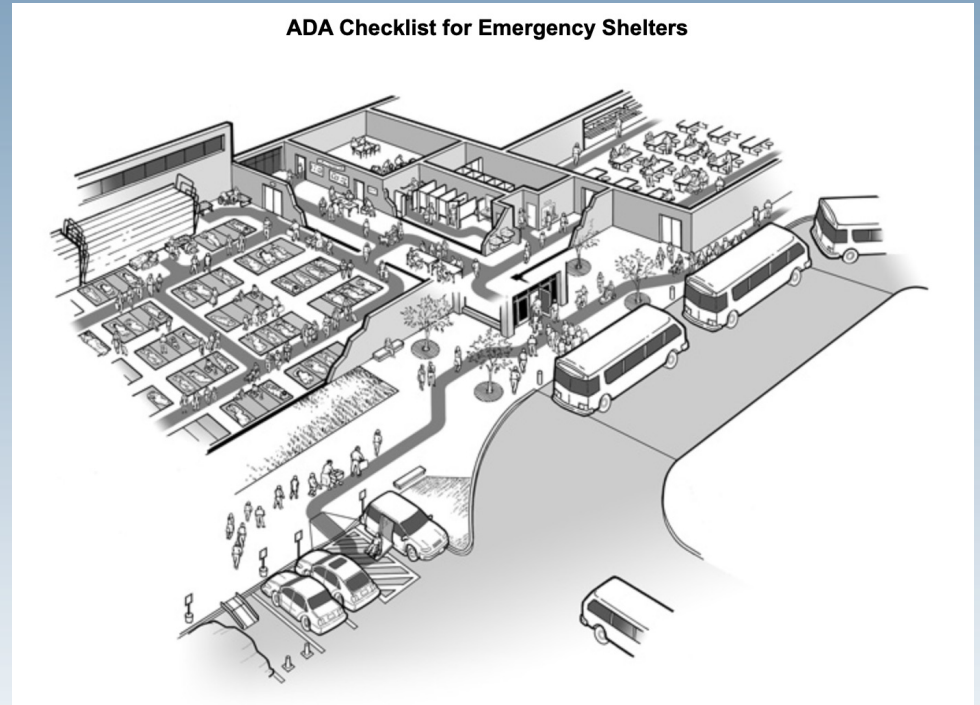


- **The world is experiencing a global housing crisis.**
- **About 1.6 billion people live in substandard housing and 150 million are homeless, according to the United Nations.**
- **These people are increasingly urban residents, and every week more than a million people are born in, or move to, cities in the developing world.**
- **Today, over a billion people live in urban slums.**

Shelter

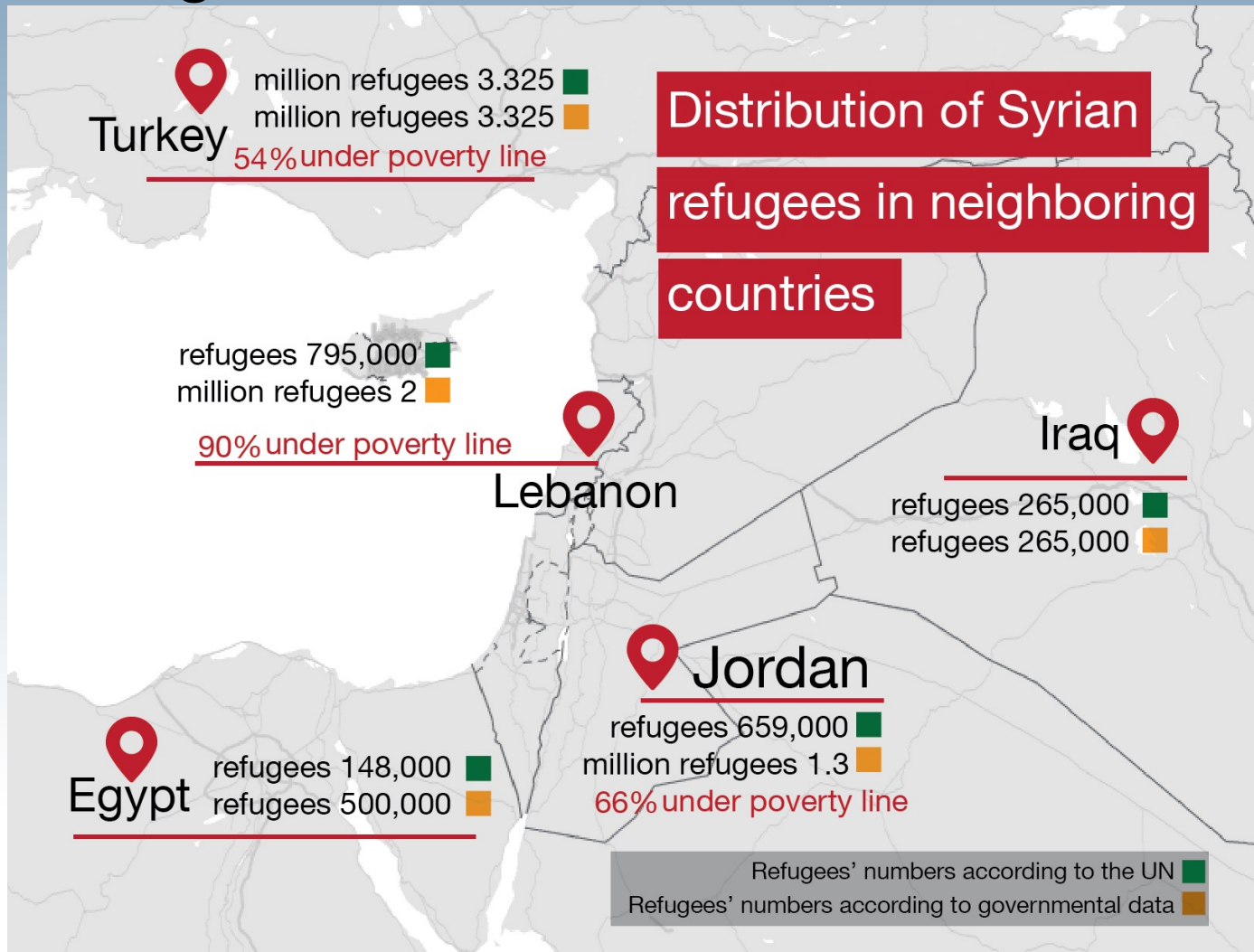


- Capacity
- Infrastructure
 - Electricity
 - Drinking water
 - Sanitation
 - Weather conditions
- Food – kitchen needs
- Health units
- Aid storage-distribution
- Accessibility to critical points and emergency access routes
- Population groups



Shelter

Syrian Refugee Crisis



Shelter



Syrian Refugee Crisis



98% of Syrian refugees live outside camps in Turkey.
The remaining 2% populates inside camps.



Essential Components of Life

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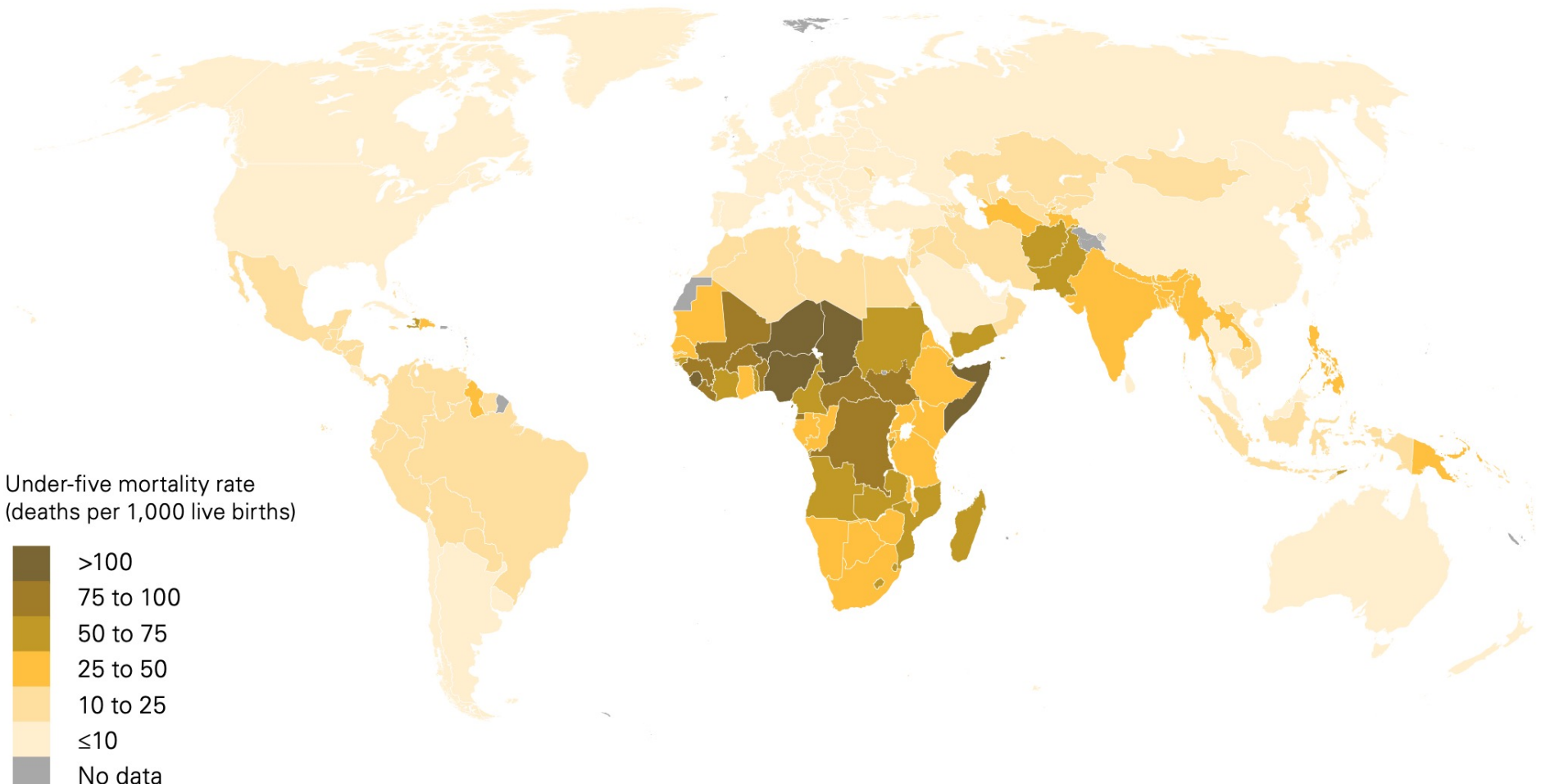
Essential Components of Life

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Health



U5MR (Under-five mortality rate):



Health



U5MR (Under-five mortality rate):

- A child born in an under-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 2020, 5.1 million children died before age 5. Africa and Asia together accounted for 80% of these deaths.
- Daily, 800 women die of complications during pregnancy or childbirth, 95% of them in low and lower to middle-income countries. (WHO 2023)

Video

- [Child Mortality.mp4](#)



Health



- In 2014, an estimated 3.2 billion were at risk of **malaria**
 - 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

MALARIA

learn more about this infectious disease



247 Million

cases of Malaria reported in 2008

7 to 28 Days

time for first symptoms to appear

35 Countries

where 48% of Malaria deaths occur



1 out of 5 childhood deaths in Africa is from Malaria

US\$12 Billion

average cost per year

20%

reduction in childhood deaths from insecticide-treated bed nets

89%

of Malaria deaths occur in Africa

5th

cause of death worldwide from infectious diseases

2 Million

children die each year



3.3 billion people are living at risk for Malaria

Health

- **Coronavirus (COVID-19): A Global Pandemic**
 - 684,906,699 confirmed cases
 - 6,837,598 deaths





Shortage of personal protective equipment endangering health workers worldwide

3 March 2020 | News release | Geneva | Reading time: 2 min (471 words)

WHO calls on industry and governments to increase manufacturing by 40 per cent to meet rising global demand

The World Health Organization has warned that severe and mounting disruption to the global supply of personal protective equipment (PPE) – caused by rising demand, panic buying, hoarding and misuse – is putting lives at risk from the new coronavirus and other infectious diseases.

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, that 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.



Mapping the vaccine cold chain

What happens when a vaccine leaves the manufacturer?
It's anything but simple, especially when the vaccine
requires ultra-cold temperatures.





Essential Components of Life

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Essential Components of Life

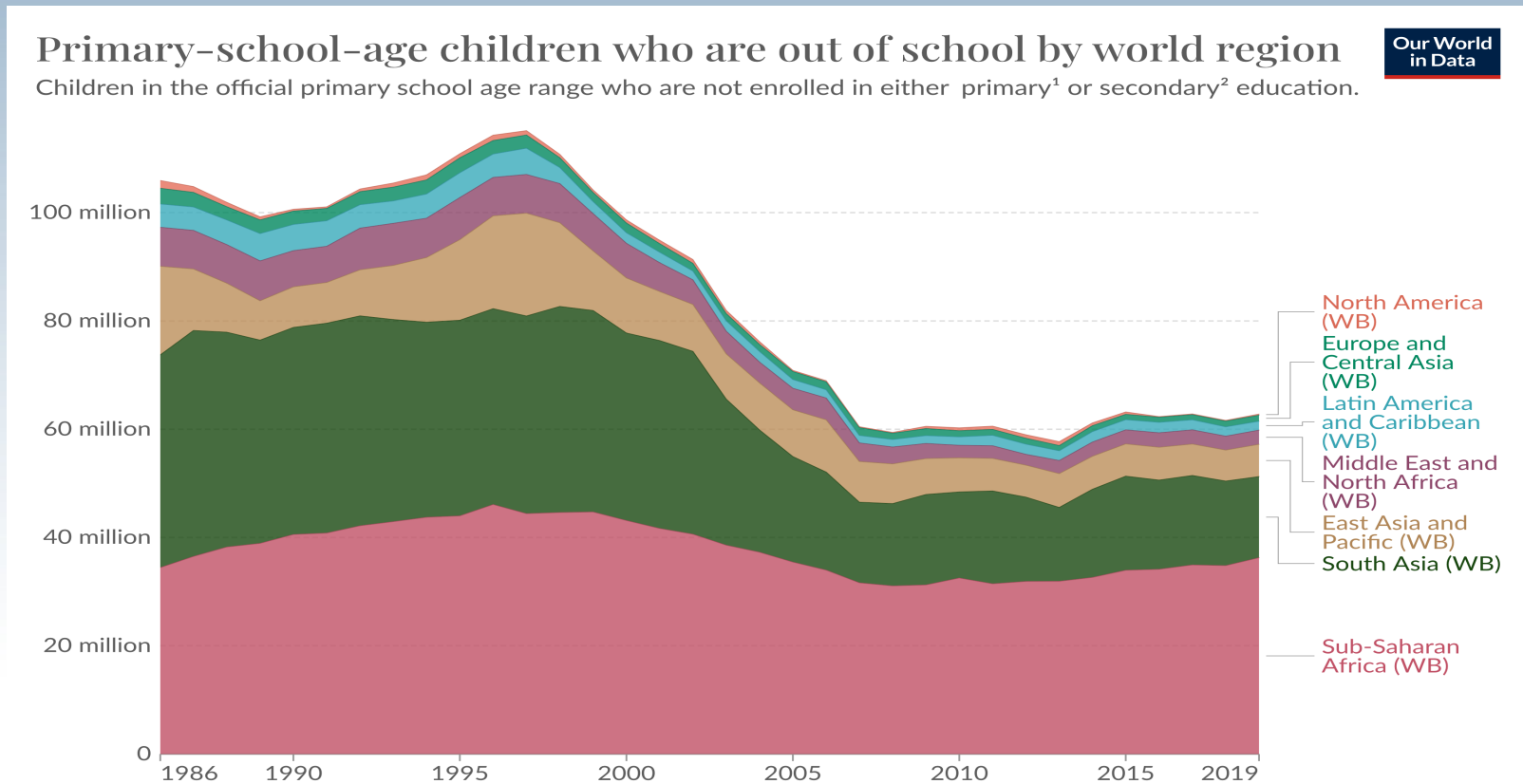
- Food
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- **Education**
- Environment

Education



A total of 62.8 million children of primary school age are out of school

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



Education



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

The girl effect





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Essential Components of Life

- Food
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- Education
- **Environment**

Environment



- Population growth: 8.1 billion to 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

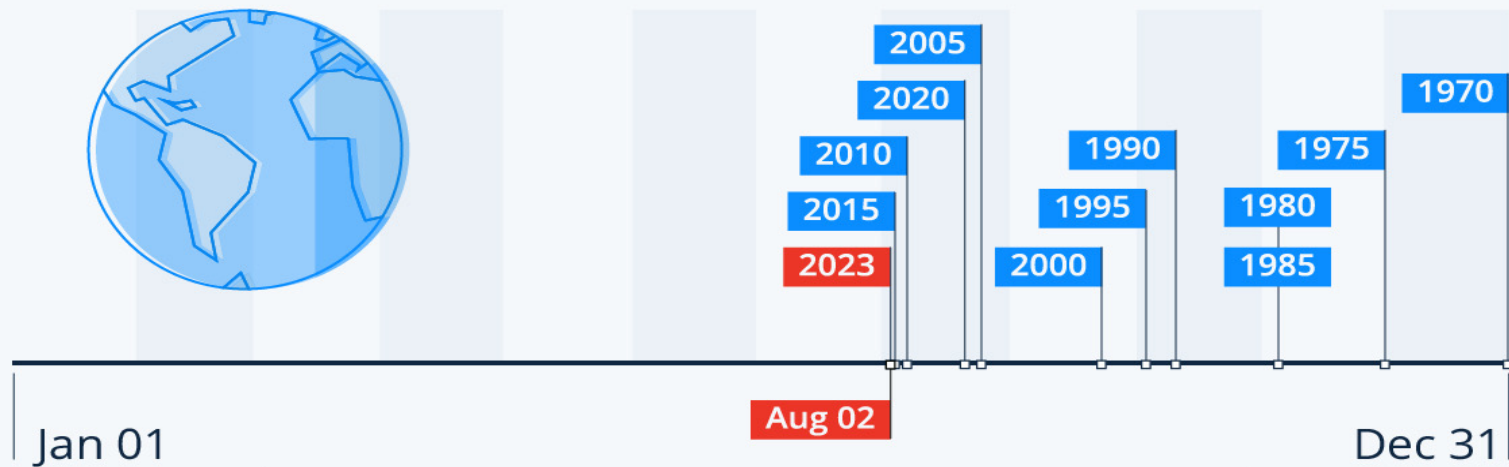
Source: Hot, flat and crowded by T. Friedman, National Geographic

Environment



Earth Overshoot Day Is Coming Sooner and Sooner

Historical dates of Earth Overshoot Day



Earth Overshoot Day marks the date when humanity's demand for ecological resources in a given year exceeds what Earth can regenerate in that year.

Poverty

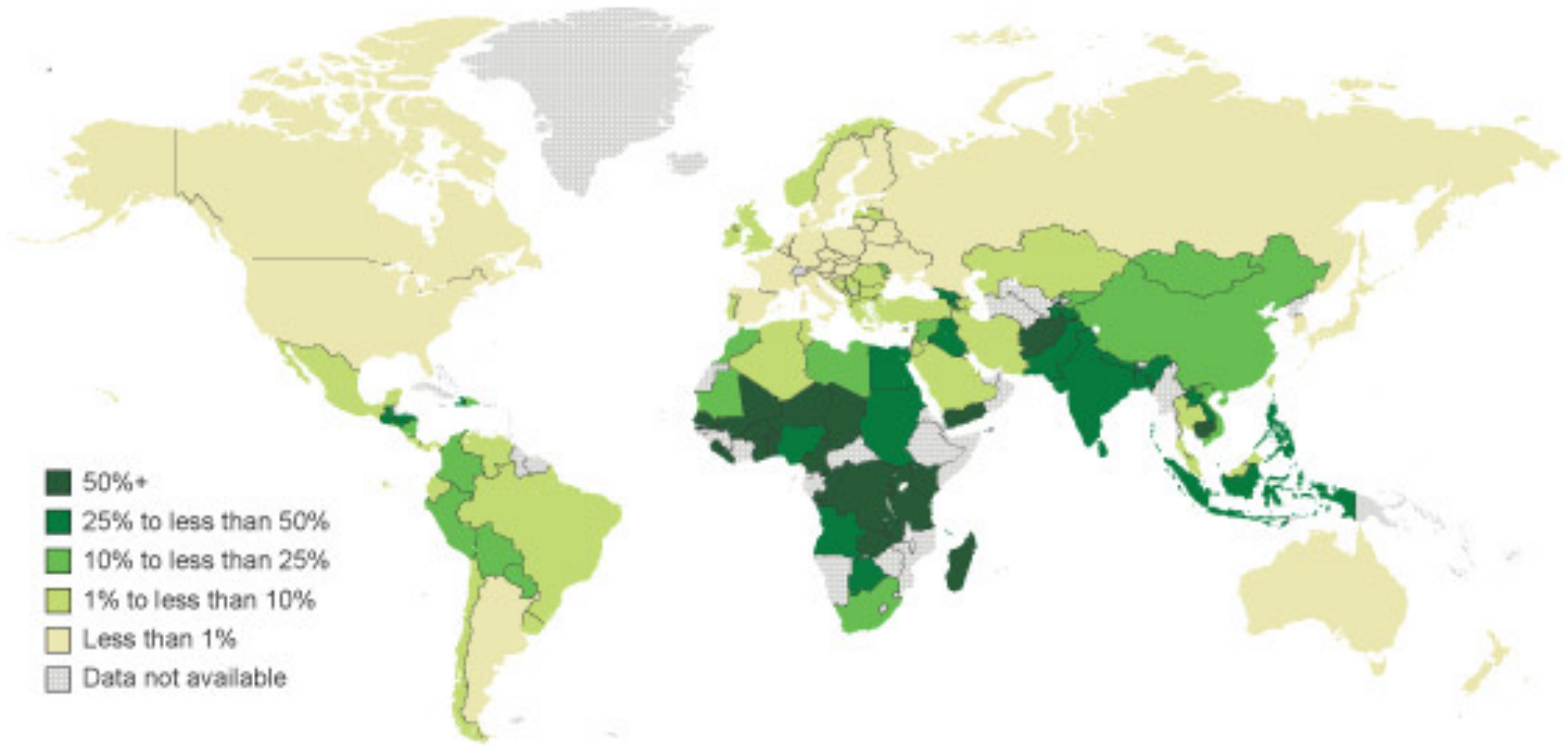


- **Poverty is the lack of basic human needs such as:**
 - **Clean water**
 - **Nutrition**
 - **Health care**
 - **Education**
 - **Clothing and shelter**
- **because of the inability to afford them**
- **More than one in five worldwide living in extreme poverty**

Poverty



Percentage of Population Living on Less Than \$1.25 per Day



GALLUP

Source: <https://news.gallup.com/>

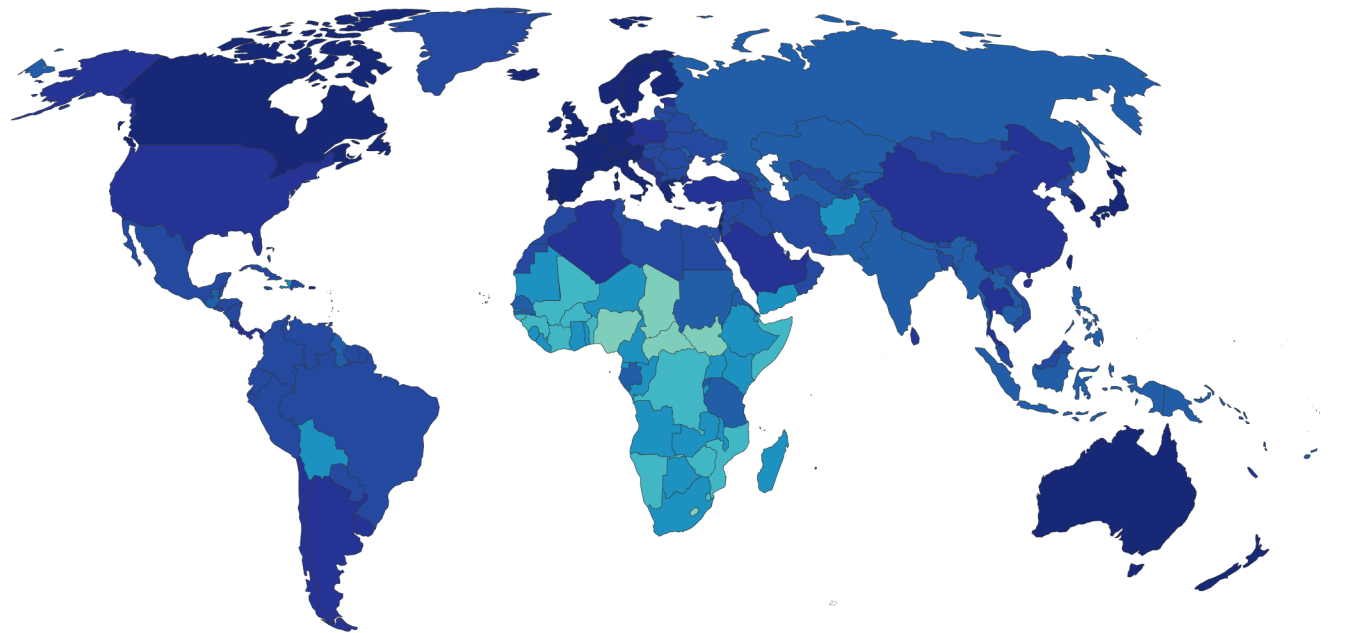
Life Expectancy



Life expectancy, 2021

The period life expectancy at birth, in a given year.

Our World
in Data



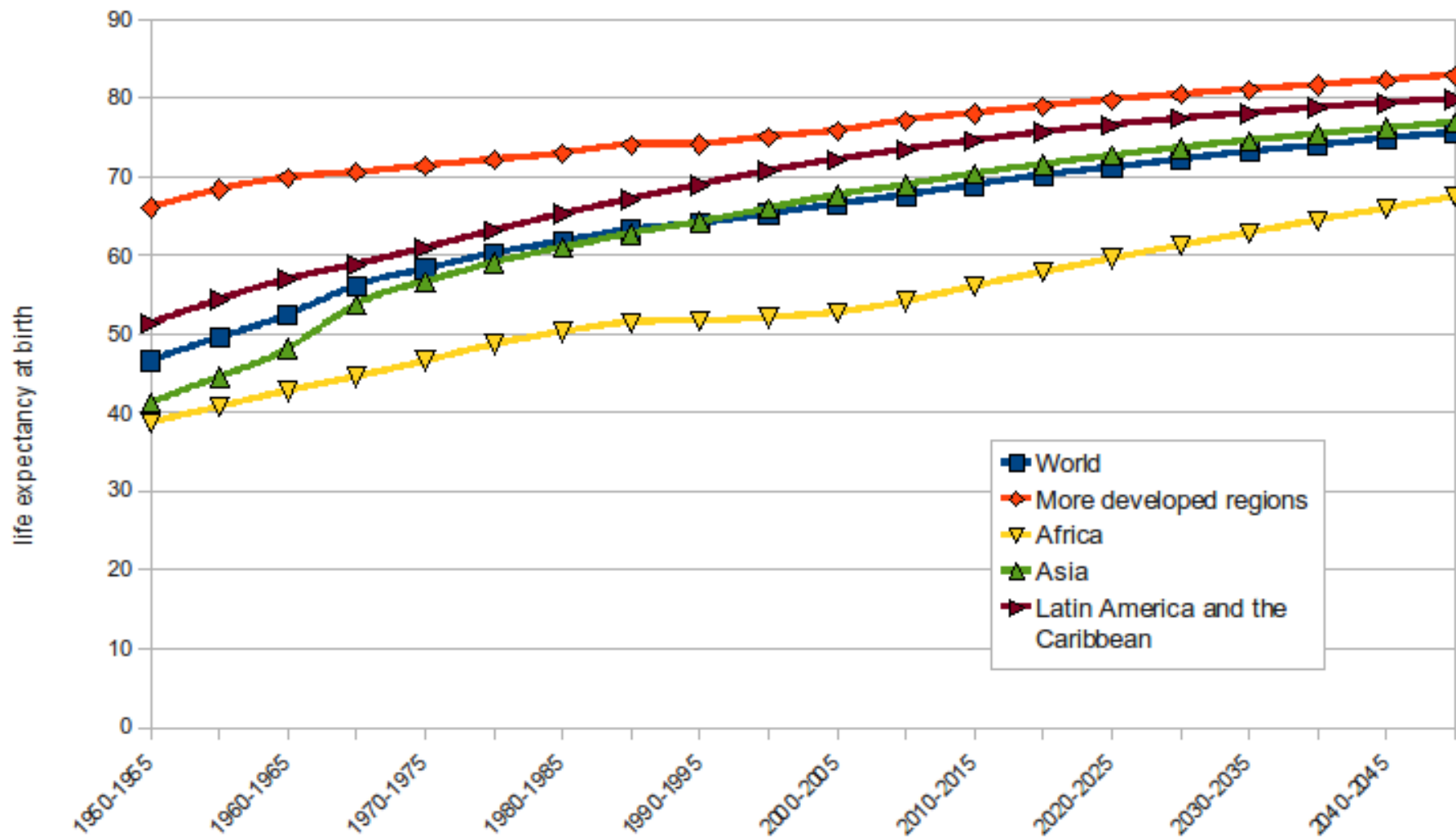
Data source: Human Mortality Database (2023); United Nations - World Population Prospects (2022)
OurWorldInData.org/life-expectancy | CC BY

Source: Wikipedia



Life Expectancy at Birth by Region, 1950-2050.

Source: UN World Population Prospects, 2008.



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

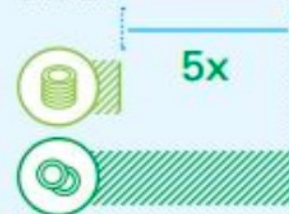


2012



Yet today...

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



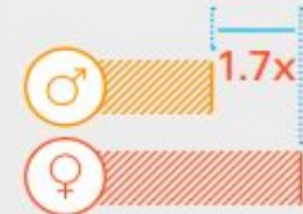
GENDER EQUALITY

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



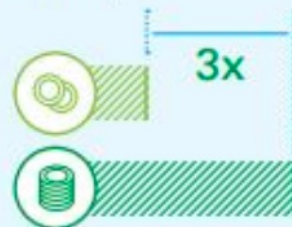
MATERNAL HEALTH

45% reduction in maternal mortality ratio since 1990



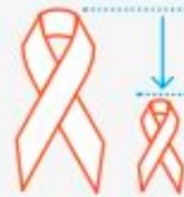
Yet today...

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



+2.6BN

+2.1BN

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



Millennium Development Goals

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Millennium Development Goals

- 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
 - In sub-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 environment



SUSTAINABLE DEVELOPMENT GOALS

- Provides a shared blueprint for peace and prosperity for people and the planet, now and into the future



- Sustainable Development Goals (SDGs) are the United Nations global development goals.
- These are bold universal agreements to end poverty in all its dimensions and craft an equal, just and secure world.
- SDG has 17 goals and 169 targets and it covers multiple aspects of growth and development.
- It is also known as a successor of MDGs (Millennium Development Goals)
- It was adopted by 193 countries of United Nations General Assembly on 25th September 2015



SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD

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

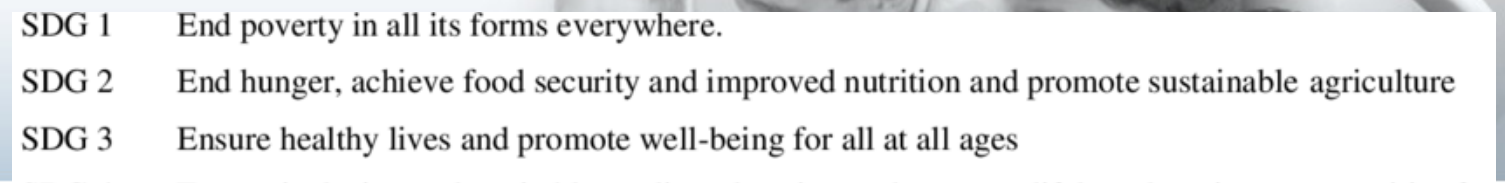
14 LIFE BELOW WATER

15 LIFE ON LAND

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

17 PARTNERSHIPS FOR THE GOALS

SUSTAINABLE DEVELOPMENT GOALS

- 
- SDG 1 End poverty in all its forms everywhere.
- SDG 2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture
- SDG 3 Ensure healthy lives and promote well-being for all at all ages
- SDG 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- SDG 5 Achieve gender equality and empower all women and girls
- SDG 6 Ensure availability and sustainable management of water and sanitation for all
- SDG 7 Ensure access to affordable, reliable, sustainable and modern energy for all
- SDG 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
- SDG 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
- SDG 10 Reduce inequality within and among countries
- SDG 11 Make cities and human settlements inclusive, safe, resilient and sustainable
- SDG 12 Ensure sustainable consumption and production patterns
- SDG 13 Take urgent action to combat climate change and its impacts
- SDG 14 Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- SDG 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
- SDG 16 Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
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SDG Actions Platform

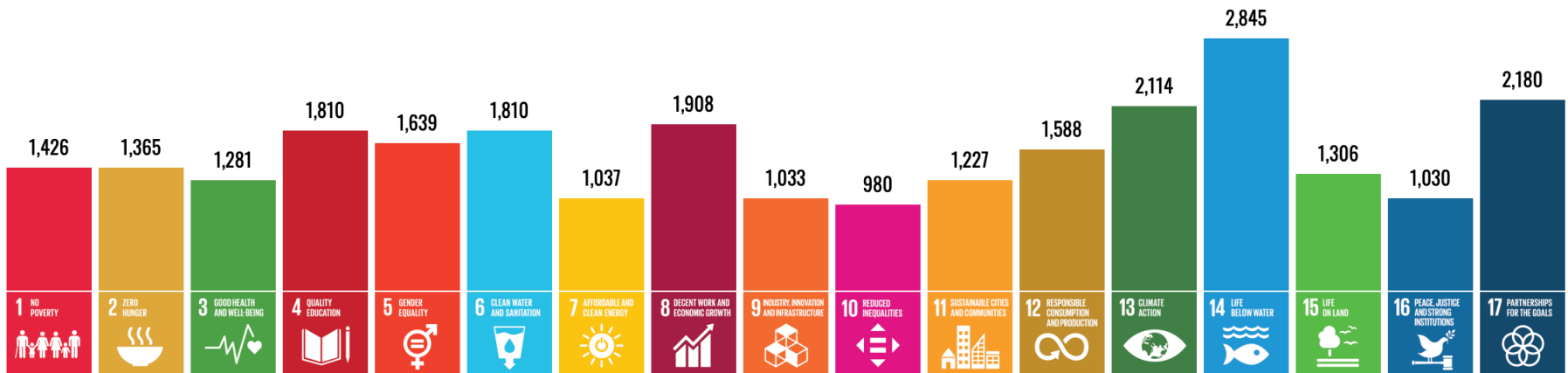


The SDG Actions Platform is a global registry of voluntary policies, commitments, multi-stakeholder partnerships and other initiatives made by governments, the UN system and a broad range of stakeholders to support acceleration of the UN Sustainable Development Goals (SDGs).

Governments and other actors are encouraged to register their policies, initiatives or commitments that accelerate the implementation of one or multiple SDGs on the platform by filling out a form that seeks detailed information about each policy/initiative, including details of implementation, beneficiaries, budget and resources, timeline and evaluation.

[REGISTER YOUR ACTION](#)

[GO BACK](#)





Target

4.1

By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

Indicators ▲

4.1.1

Proportion of children and young people (a) in grades 2/3; (b) at the end of primary; and (c) at the end of lower secondary achieving at least a minimum proficiency level in (i) reading and (ii) mathematics, by sex

4.1.2

Completion rate (primary education, lower secondary education, upper secondary education)



Target

1.1

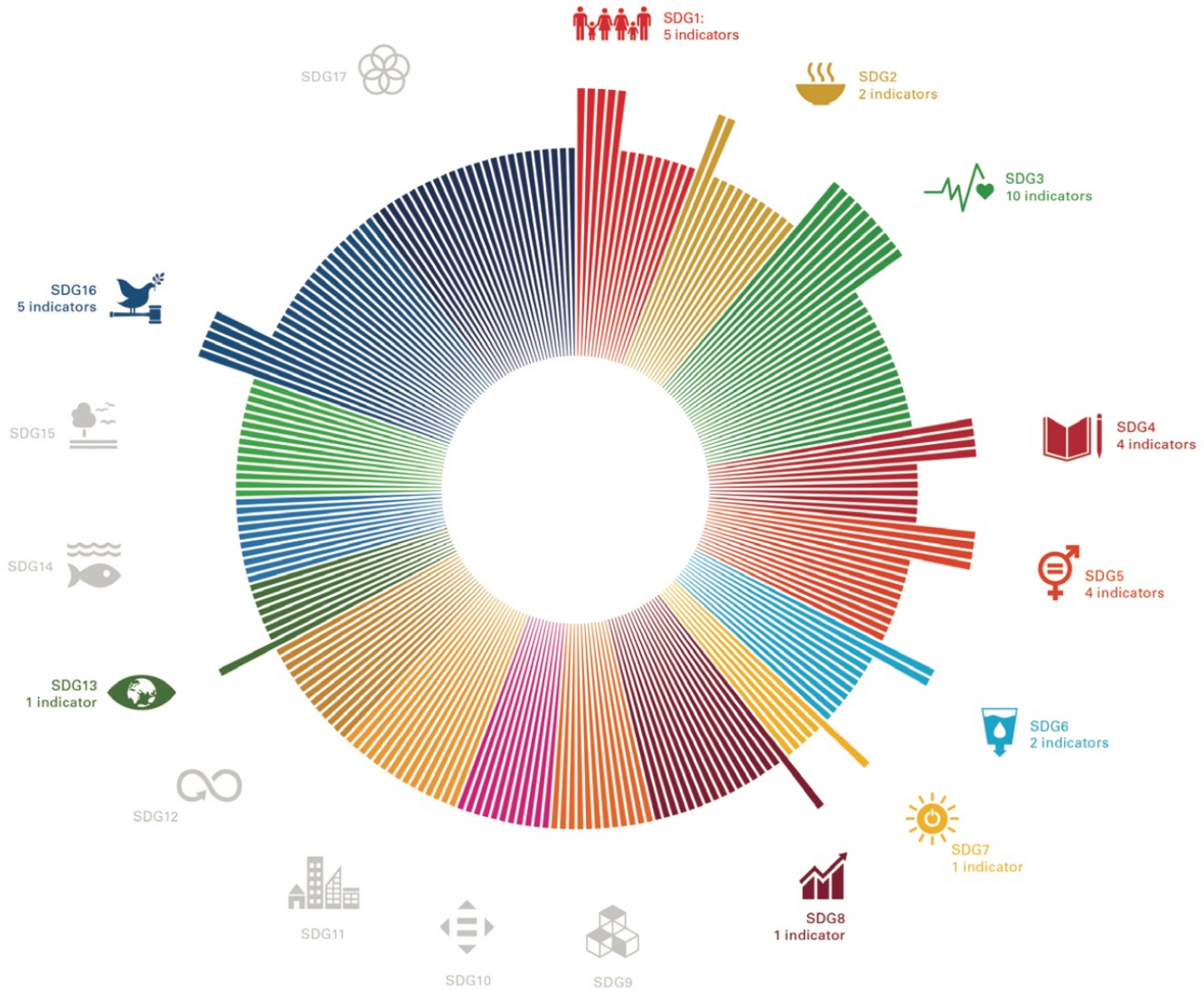
By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day

Indicators ▲

1.1.1

Proportion of the population living below the international poverty line by sex, age, employment status and geographical location (urban/rural)

Number of child-focused indicators within each SDG goal





1. Basic human needs: Meeting basic needs for food, water, and security

2. Foundations of wellbeing: Living long and healthy life with access to basic knowledge and clean environment

3. Opportunity: Having equal rights and freedoms and access to higher education



Basic Human Needs

Nutrition & Basic Medical Care



Water & Sanitation



Shelter



Personal Safety



Foundations of Wellbeing

Access to Basic Knowledge



Access to Information & Communications



Health & Wellness



Environmental Quality



Opportunity

Personal Rights



Personal Freedom & Choice



Inclusiveness



Access to Advanced Education



Social Progress Index (SPI)

- Measures the extent to which countries provide for the social and environmental needs of their citizens
- 0 represents lowest progress towards the SDGs and 100 represents the final goal set out to be reached by 2030.
- If the progress continues at this rate, the world will not achieve the SDGs until 2073.

Source: <https://waipa.org>



62.16

SPI 2014



64.47

SPI 2019



2.31

PROGRESS