



Global & International Health

Lecture 6

Dr. Kenesh Dzhusupov

**Public Health Department
International School of Medicine**



Learning Objectives

- **Upon completion of this lecture you should be able to give :**
 - **Concepts of globalisation, global health and international health**
 - **Short history of global health**
 - **History of International health**
 - **Millennium Development Goals and achievements**
 - **Sustainable Development Goals for 2020**



Introductory Quiz



1

Trachoma is caused by Chlamydia infection

True or False?



2

**What common term best describes all
these infections?**

Neurocysticercosis

Rabies

Schistosoma japonicum

Hydatid disease



3

**What does XDR stand for in terms of
TB?**



4

**Name the insect vector for River
blindness**

5

a. How many children 1-15 years are there in the world?

0.94 billion

2.00 billion

2.94 billion

b. How many people are estimated to live in poverty?

0.6 billion

1 billion

1.5 billion



6

a. What proportion of the world's population now lives in cities and towns?

one in six

one quarter

one half

b. What proportion of the world's population now lives in city slums?

one in six

one quarter

one half



7

Which disease causes most deaths in the world?

- a. HIV**
- b. Tuberculosis**
- c. Malaria**
- d. Measles**



- a. HIV – 0.69 million (2019 estimate) died from HIV related causes
- b. Tuberculosis – 1.4 million including 0.208 with HIV (2019 estimate)
- c. Malaria - 209 000 deaths (2019 estimate)
- d. Measles - 140, 200 died in 2018 (down from 2.8 million in 1980)



8

The infant mortality rate is...

- a. The number of deaths of infants under age 1 per 1000 live births in a given year**
- b. The number of deaths of infants under 28 days per 1000 live births in a given year**
- c. The probability that a newborn baby will die before reaching age 5, as a number per 1000 live births**

**Millennium Development Goals or MDGs program
finished in 2015.**

What did it replace?



10

**More women are affected by
depression than men**

True or False?



11

**What is the second leading cause of
death in children
under five years old?**



12

Which of these malaria species is most likely to cause severe, potentially fatal malaria?

- a. Plasmodium falciparum**
- b. Plasmodium vivax**
- c. Plasmodium malariae**
- d. Plasmodium ovale**



13

SARS is caused by which virus?

- a. Coronavirus**
- b. Influenza virus**
- c. Paramyxovirus**
- d. Adenoviruses**

14

Who is this person?





15

When was the WHO founded?

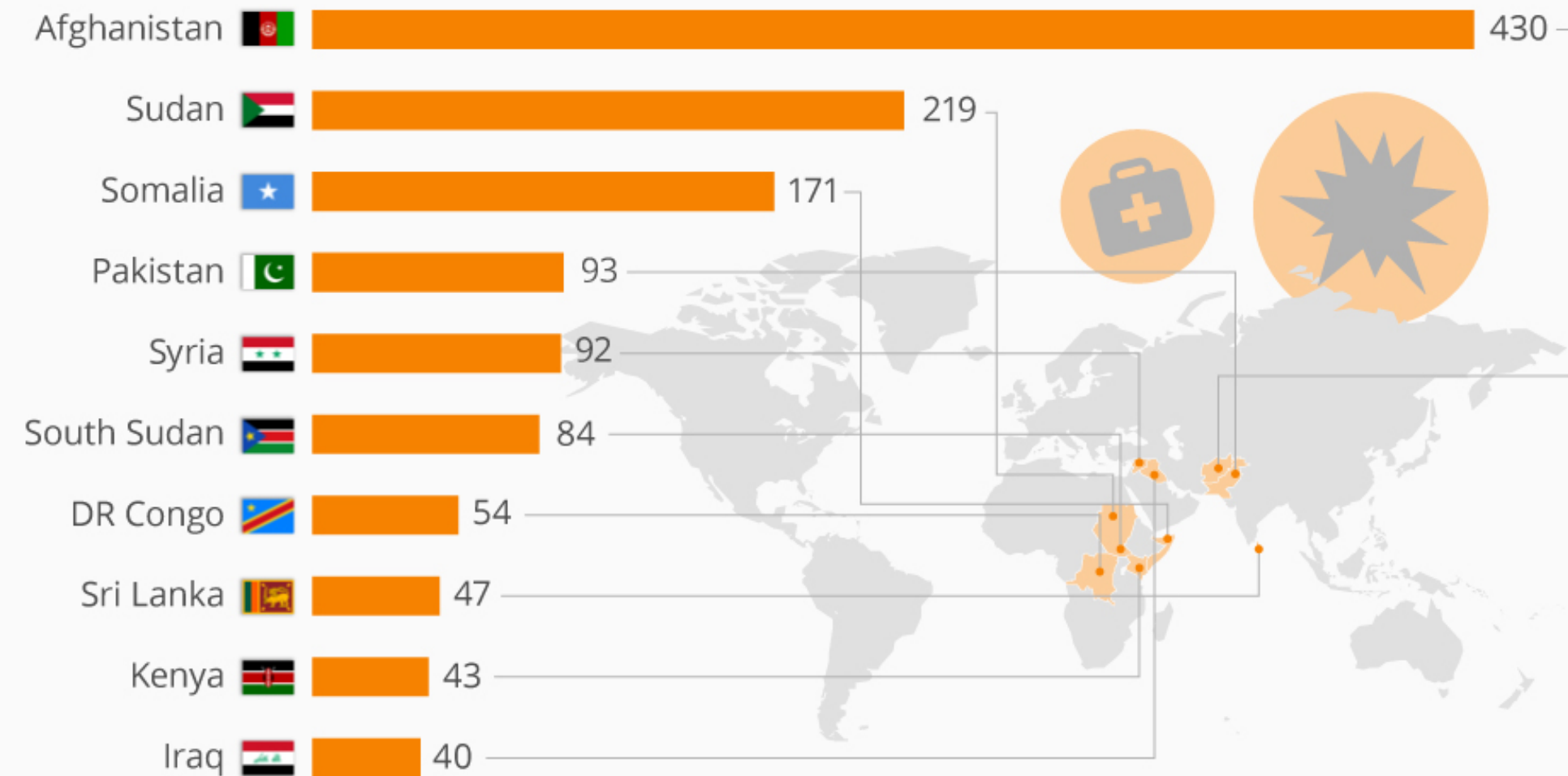


16

**What is the most dangerous country for
aid workers?**

The Most Dangerous Countries For Aid Workers

Countries with the most attacks on aid workers from 2004 to 2014





17

**What STD is becoming
resistant to antibiotics?**



18

HIV can be transmitted by a mother to her child during pregnancy, childbirth and breastfeeding.

True or False?



19

**What is the leading killer of people
living with HIV?**



20

Name the country with the highest life expectancy among men.

Among women?



21

100 % of deaths worldwide are recorded in civil registries along with cause-of-death information.

True or False?



22

**What is the leading
killer of newborn babies worldwide?**



23

Where do most HIV/AIDS deaths occur in the world?



24

Every day, about 830 women die due to complications of pregnancy and childbirth

True or False?



Global maternal mortality ratio - 216 per 100000 live birth in 2019

- **South Sudan - 1150,**
- **Hong Kong, Lichtenstein - 0**
 - **USA – 14**
- **Russian federation -26**
 - **Canada – 5**
 - **Kyrgyzstan – 24.8**
 - **Estonia - 9**



25

Tobacco kills 1 million people each year

True or False?



Total of 25 points



Thank you for participating! 😊



‘Modern industry has established the world market, for which the discovery of America paved the way. This market has given an immense development to commerce, to navigation, to communication to land. This development has, in its turn, reacted on the extension of industry; and in proportion as industry, commerce, navigation, railways extended, in the same proportion the bourgeoisie developed, increased its capital, and pushed into the background every class handed down from the Middle Ages.’

Marx & Engels, Communist Manifesto, 1848



Globalisation

- Term widely used since late 1980s – early 1990s
- Refers to deepening international interconnection between capitalist economies since 1980s
- Internationalisation not new:
 - Trade with East in luxuries in Ancient World and Middle Ages – confined to luxuries
 - Major impetus from trade with the Americas & industrialisation in 19th century



‘First Age of Globalisation’ (1870-1914)

- **By 1870 industrialisation taken place in Britain, US, Germany & France**
- **Gold standard provided stable international monetary system**
- **Rapid growth of trade; lowering of tariff barriers from 1890s**
- **Growth of international capital flows: investment (especially in Britain) in Americas in other settler colonies**
- **Major international labour migration (notably to the Americas)**



Fragmentation of international economy (1914-1945)

- **Gold standard suspended 1914; war economies**
- **Unstable growth 1920s**
- **1929 crisis & Great Depression led to growth of protection**
- **World economy fragmented into currency blocs (pound, dollar, franc....)**
- **World trade fell by 50% 1928-1938**
- **Collapse of international capital flows**



Post-war 'Golden Age' (1945-1973)

- **US-led reconstruction of international capitalist economy**
- **Strong growth of trade between developed capitalist countries (GATT)**
- **But: capital flows strongly controlled**
- **Soviet bloc & China closed to capitalist world market**
- **Rapid growth & full employment in developed capitalist countries ended 1973**
- **Election of Thatcher (1979) and Reagan (1980)**



Modern 'Globalisation'

- **Developed in 1980s; accelerated in 1990s**
- **Major internationalisation of**
 - **trade**
 - **production and multinational companies**
 - **finance**
 - **(information)**
 - **(culture)**
- **Included (some) developing countries & the former Soviet bloc**



Trade

- **Growth of trade, although slower than in ‘Golden Age’**
- **Manufactured goods exported by ‘Newly Industrializing Countries’ (Asia, Latin America)**
- **Opening of Soviet bloc 1990s**
- **Creation of World Trade Organisation 1995**
- **Some 30% of ‘trade’ between branches of the same multinational company**



Production and Multinational Companies

- **Response of large companies to crisis of 1970s was to internationalise**
- **Major growth of foreign direct investment**
 - **initial investment between advanced capitalist countries**
 - **extended to developing countries, especially from 1990s**
- **China: initiated changes 1978; opened to foreign investment in 1990s**
- **‘Global production chains’: sliced up geographically**
design – complex production – simple production – assembly – marketing
- **Control of ‘chains’ mainly based in developed capitalist countries**
- **Shift of lower skilled jobs from developed to developing countries**



International Banking

- **US big banks began to evade controls in late 1960s (branches in London)**
- **Major US & European banks operated internationally from 1970s**
- **Speculation in currencies: end of fixed exchange rates in 1973**
- **Growth of international bank lending accelerated 1990s**
- **Expansion of European banks in US in late 1990s**
- **European banks suffered major losses in US crisis 2007-2009**



International Capital Markets

- Controls on international capital flows eliminated in US (1974), Britain (1979) and other Western European countries in 1980s
- Growth of international investment in bonds and shares
- Promoted by US in order to attract foreign investment in US government bonds under Reagan
- Controls on capital flows in developing countries eliminated in 1990s (advice from IMF)
- Investment by US and European institutions in developing countries (Mexico, Asia...) from 1990s
- Major growth of cross-border investments in bonds and shares
- Growing influence of financial investors ('the markets') on government policy
- Growth of new financial instruments; commodity futures



Globalisation and Crises

- Crises regular feature of capitalism, 1825-1929; increasingly international, increasingly serious
- No serious crisis during highly regulated period 1945-1973
- Re-emergence of major crises since 1980s with widespread social impact (Latin America, Asia, Russia, Turkey...)
- US crisis in 2007-2009 transmitted to Europe through international banks
- Crisis transmitted from US & Europe to other countries through sharp decline in trade
- Widespread criticism of banks, but proposals to re-regulate international finance very limited
- Crisis is still continuing on the background of economic isolation of Russia and Iran.



What is Globalisation?

Definition:

An economic phenomenon?

A social phenomenon?

A cultural phenomenon?

The movement towards the expansion of economic and social ties between countries through the spread of corporate institutions and the capitalist philosophy that leads to the shrinking of the world in economic terms

Mankind consumed all of Earth's 2017 resources by August

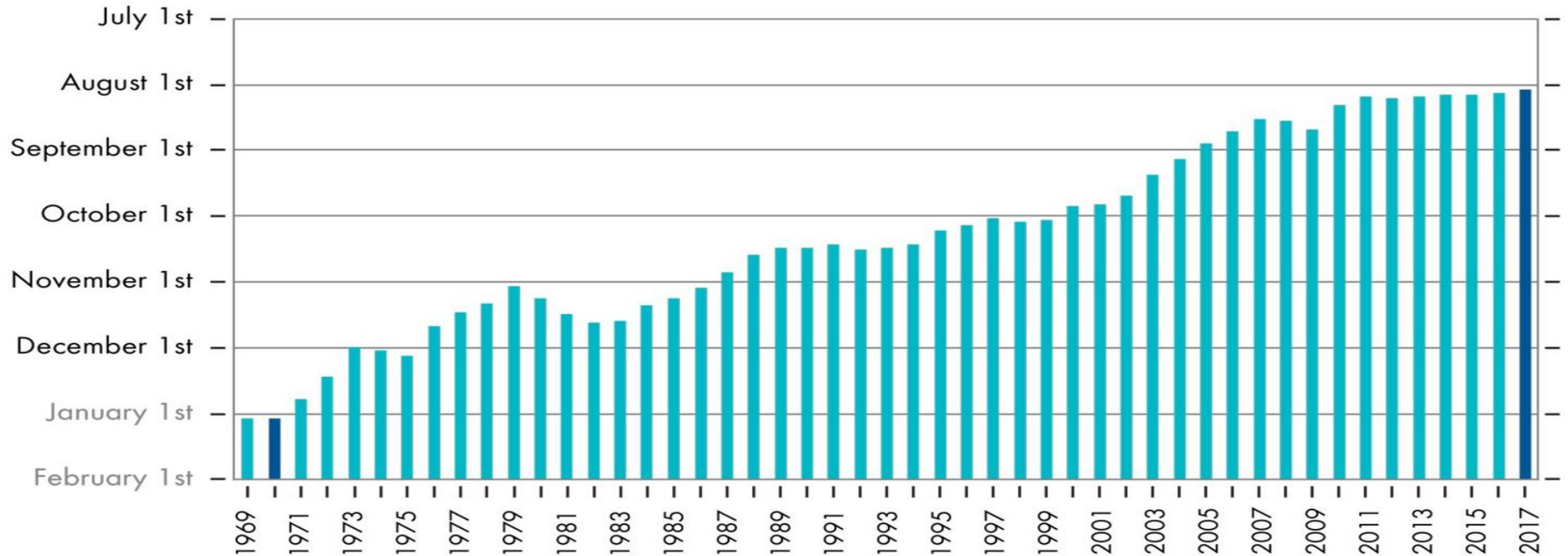


1 Earth

Earth Overshoot Day
1969-2017



1.7 Earths



Source: Global Footprint Network National Footprint Accounts 2017



Globalisation

“Globalization is the growing interdependence of the world’s people through shrinking space, shrinking time, and disappearing borders.”

Markets have been allowed to dominate the process, and the benefits and opportunities have not been shared equally.

The result is that “global inequalities in income and living standards have reached grotesque proportions.”

1998/9 Human Development Report,
UN Development Program

Globalisation is also...

“The collapse of space, time, and borders may be creating a global village, but not everyone can be a citizen. The global, professional elite now faces low borders, but billions of others find borders as high as ever.”

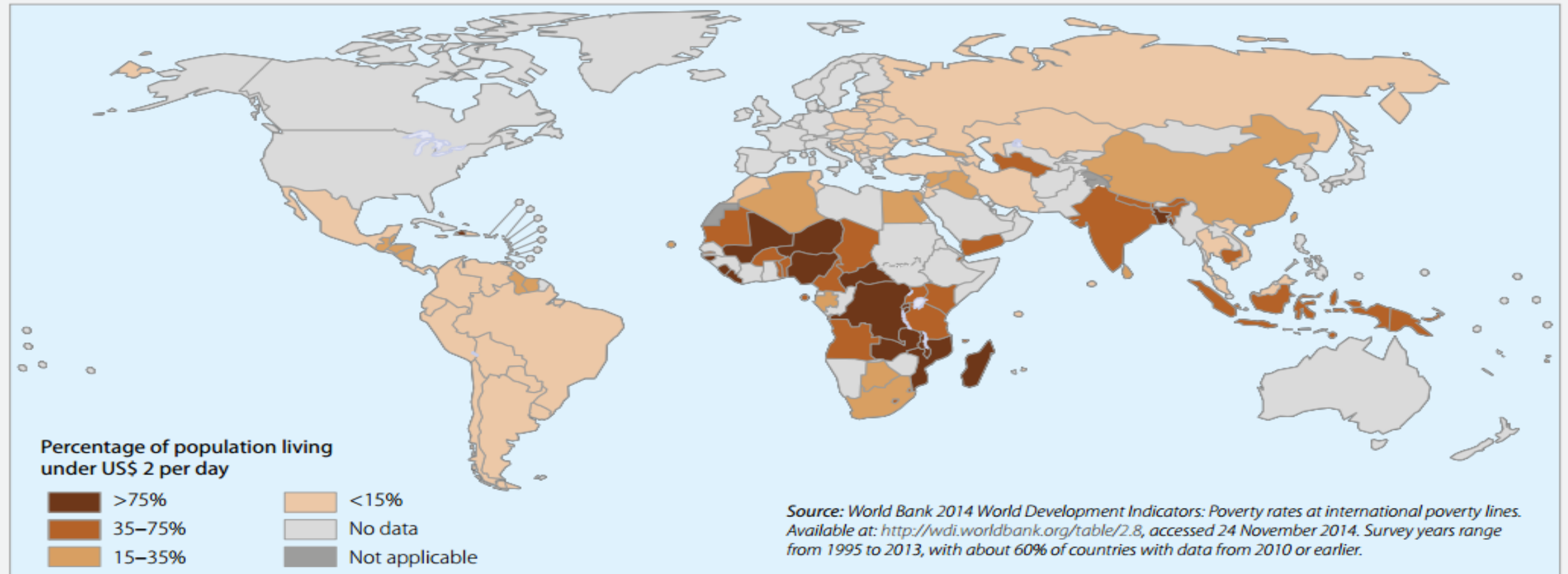
“The new rules of globalization – and the players writing them – focus on integrating global markets, neglecting the needs of people that markets cannot meet. The process is concentrating power and marginalizing the poor.”

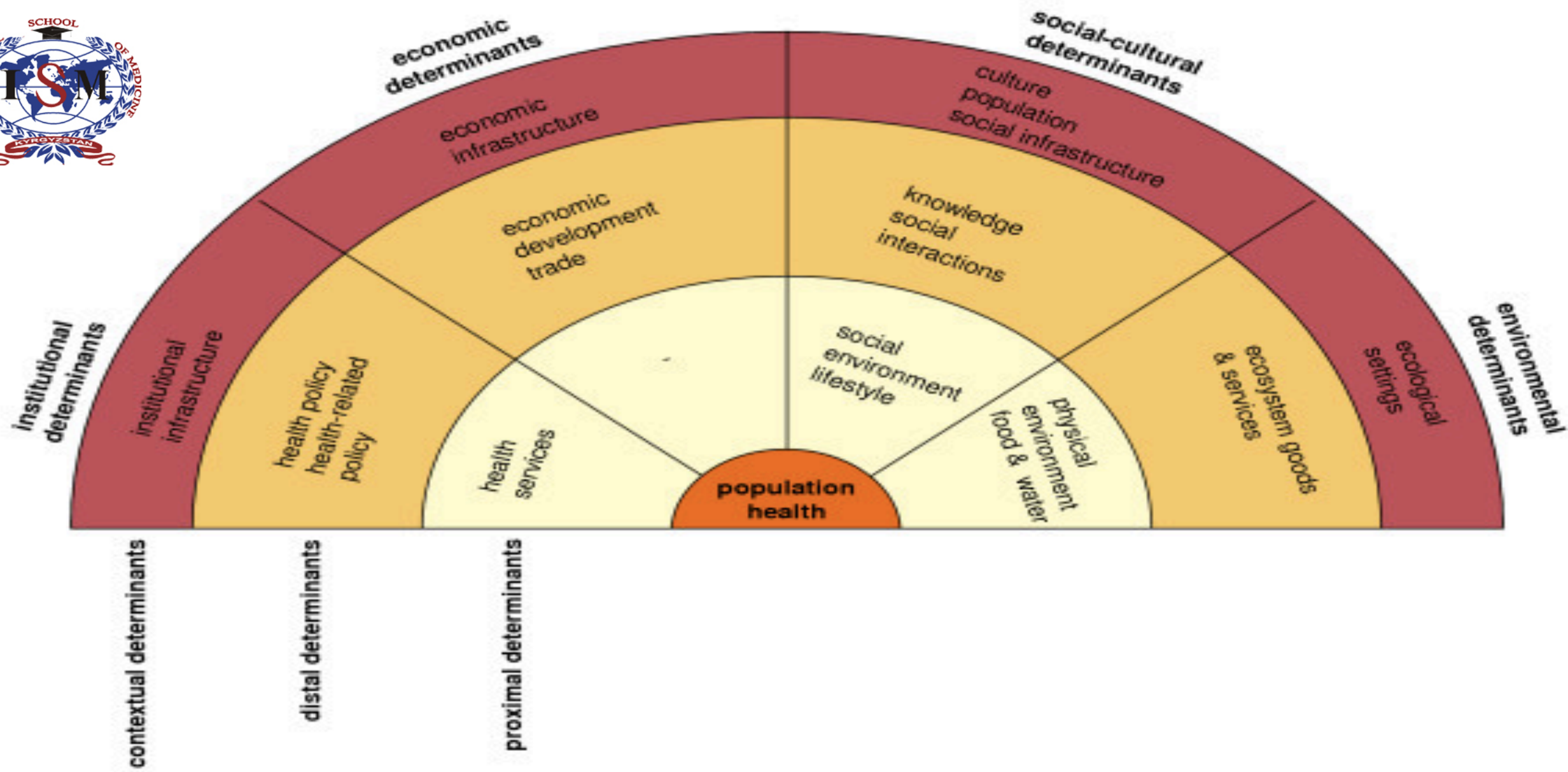
“When the profit motives of market players get out of hand, they challenge people’s ethics – and sacrifice respect for justice and human rights.”

1998/9 Human Development Report,
UN Development Program

Global Economy

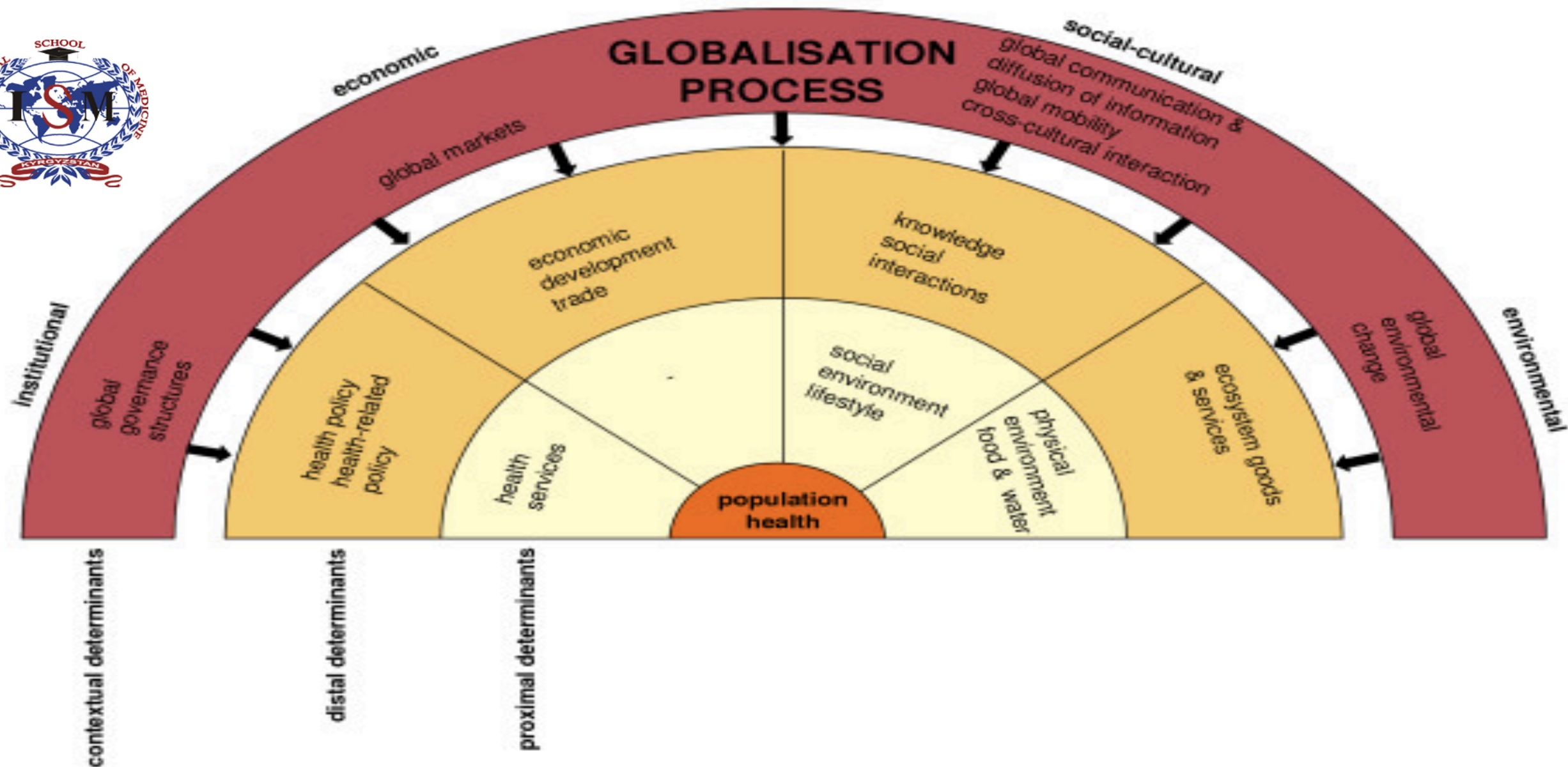
Figure 1.2 Percentage of population living under US\$ 2 per day, 1995–2013





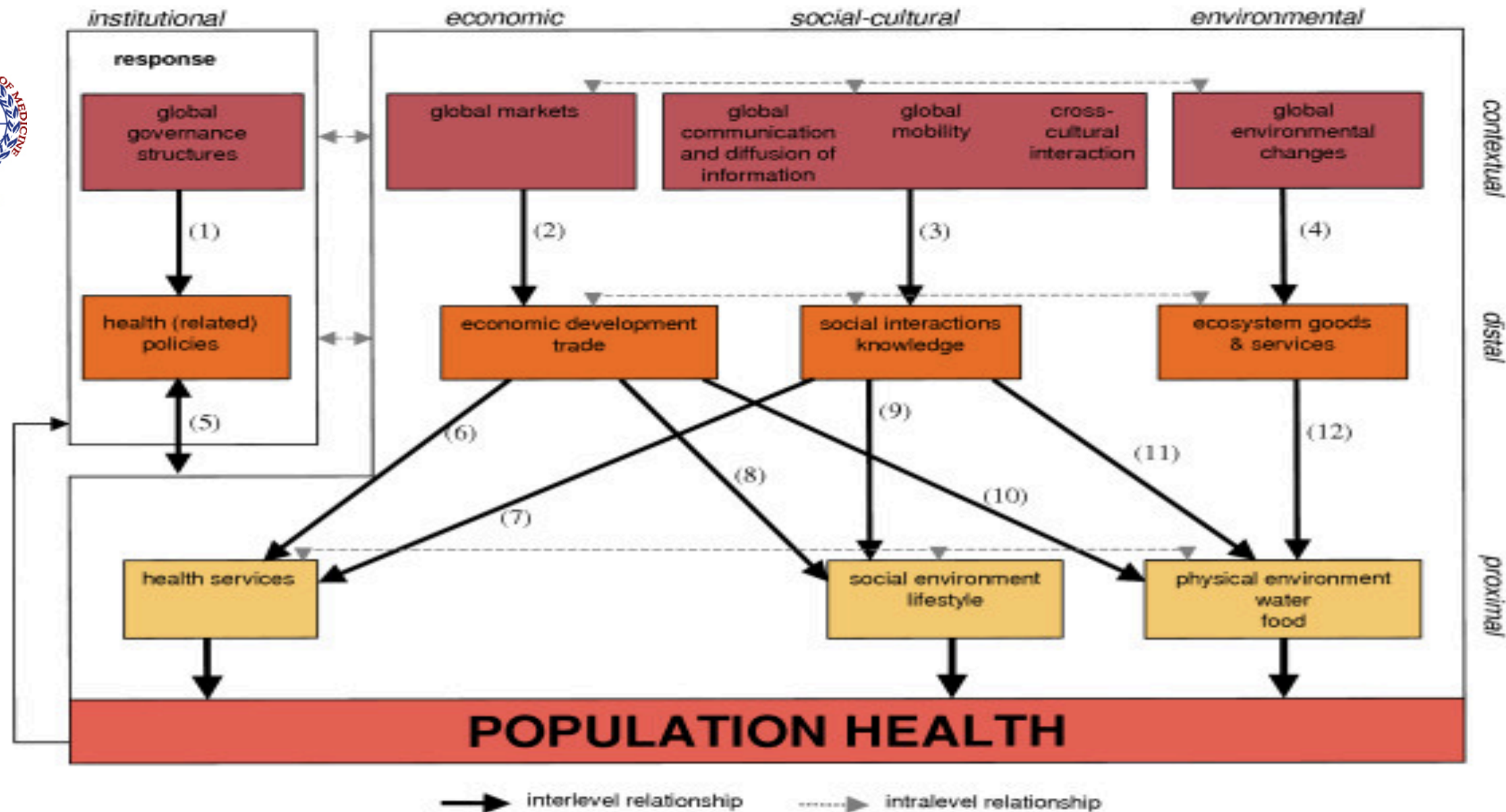
Multi-nature and multi-level framework for population health.

Huynen et al. *Globalization and Health* 2005 **1**:14 doi:10.1186/1744-8603-1-14



Conceptual framework for globalisation and population health.

Huynen et al. *Globalization and Health* 2005 **1**:14 doi:10.1186/1744-8603-1-14



Conceptual model for globalisation and population health.

Huynen et al. *Globalization and Health* 2005 **1**:14 doi:10.1186/1744-8603-1-14



Global Health

Health problems, issues and concerns that transcend national boundaries, may be influenced by circumstances or experiences in other countries, and are best addressed by cooperative actions and solutions

Board on International Health, Institute of Medicine.
America's Vital Interest in Global Health: Protecting Our People, Enhancing Our Economy, and Advancing Our International Interests. The National Academies Press 1997.





Global health

- **Health issues that transcend national boundaries and governments and call for actions on the global forces that determine the health of people (Kickbush, 2006)**
- **An area for study, research, and practice that places a priority on improving health and achieving health equity for all people worldwide (Koplan et al, 2009)**

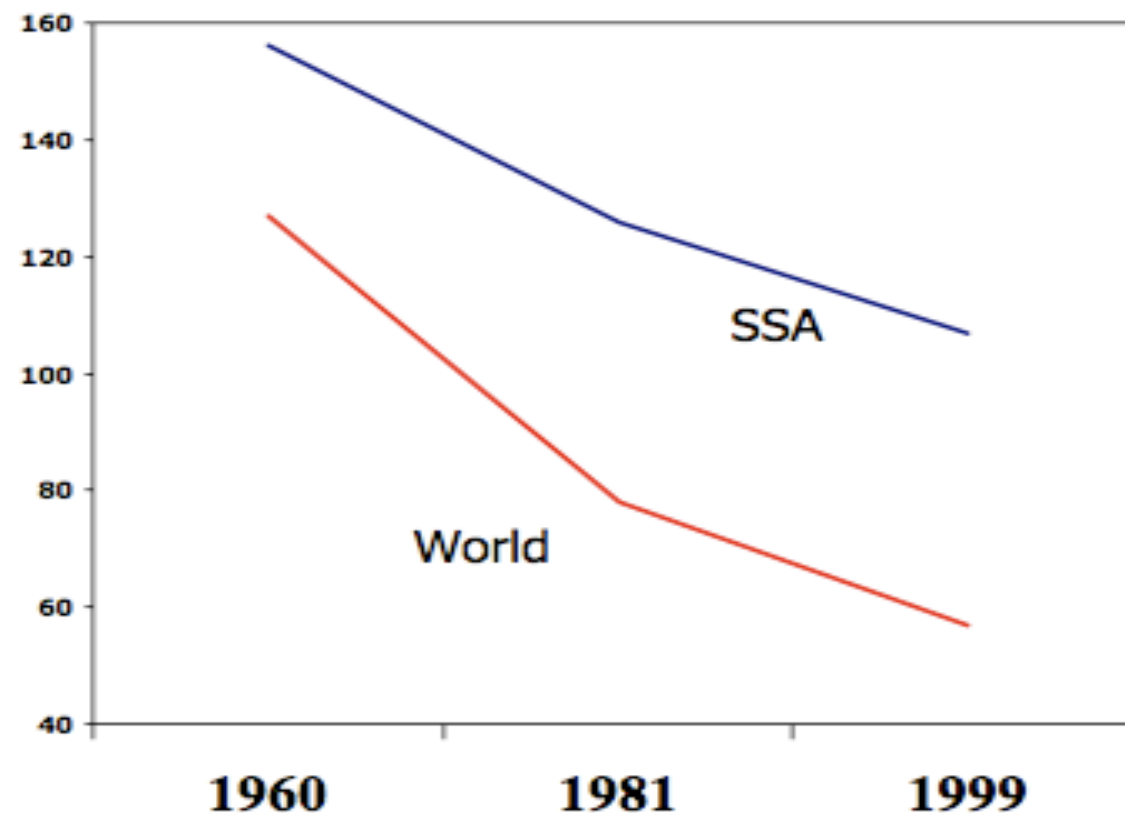


Growing inequalities in global health: the widening gap in infant mortality experience

IMR decline (Percent)	1960-1981	1981-1999
World	38.5	26.9
Sub-Saharan Africa (SSA)	19.2	15.1

(UNICEF, 2003)

IMR: babies dying before age 1 per thousand born live





Globalization and Health

- **“The spread of universal brand names of popular beverages and fast foods has ... contributed to the global epidemic of obesity by replacing traditional diets with fat- and calorie-rich foods”**
- **“TRIPS [WTO's agreement on Trade Related Aspects of Intellectual Property Rights] threatens to limit and undermine access to new medicines, especially to poor populations living in the developing world”**



Globalization and Health

- “...a person in the early stages of an infectious disease could be halfway around the world in 12–15 hours and thus function as a vector for that disease...”
- ...the development of an improved virus to kill mice...has created fears that the enhanced virus could be used for bioterrorism
- ...freely available scientific information might be at risk of being abused by terrorists



Smallpox vaccination: the case of global health effort in disease eradication



Edward Jenner
1749-1823





Most important problems of global health today

- Communicable diseases
- Maternal, perinatal and nutritional conditions
- Non communicable diseases
- Injuries



***Man's only competitors for the dominion of the planet
are the viruses – and the ultimate outcome is not
foreordained.***

Joshua Lederberg



- The new threats and challenges of infectious diseases in the 21st century have scarcely begun to be appreciated
- The sources of the threat:
 - Natural mutation; emergence from remote areas
 - Biological terrorism
- The threat is global

Solutions will require a far greater level of international cooperation and agreement than is now in place



HIV/AIDS

- **June, 1981 – first cases of AIDS identified**
- **April, 1984 – HIV is identified**
 - “the triumph of science over a dread disease”**
 - “a vaccine will be available in 2 years”**
- **A world-wide pandemic in progress**
 - **No vaccine as of 2016**
 - **No curative drug as of 2016**
 - **But 1-2 cases of full treatment of HIV-positive patients**



Emerging and waning health threats

Polio and HIV

Unexpected threats: Zika and Ebola viruses

The new threats and challenges of infectious diseases in the 21st century have scarcely begun to be appreciated

The sources of the threat:

Natural mutation; emergence from remote areas

Biological terrorism

The threat is global

Solutions will require a far greater level of international cooperation and agreement than is now in place



A race for new vaccines and the struggle to uphold the ones we have

In 2017 - hard work on the vaccines for Zika and Ebola viruses. Already in 2017 a group of prominent doctors announced that it had raised almost \$500 million to develop and stockpile vaccines for new and known viral threats

A massive outbreak of measles & mumps in USA. Both measles and mumps are easily prevented with vaccines

Superbug: Drug-resistant bacteria are here

- 7 common bacteria that cause serious diseases from bloodstream infections to gonorrhoea (*Klebsiella pneumoniae* - a major cause of hospital-acquired infections; *E. coli* ; gonorrhoea; *Staphylococcus aureus*; *P. falciparum*; TB; HIV; influenza A)
- Globally, 480 000 people develop multi-drug resistant TB each year; MDR-TB, XDR-TB (9.7%)
- Drug resistance is starting to complicate the fight against HIV and malaria, as well
- Superbugs kill some 700 000 people per year worldwide



Climate change and health

More extreme weather and rising sea levels, temperatures, and carbon dioxide levels could usher in a wide array of human health effects – from asthma to chikungunya to mental illness.

Will countries begin to make progress in curbing carbon emissions after the Paris climate accord of 2015?

Or will the commitments made there fall by the wayside?

And will progress come in time to protect the most vulnerable countries, such as the low-lying Marshall Islands, which are already disappearing as sea levels rise?



Global warming & Climate change

Global warming refers to the recent and ongoing rise in global average temperature near Earth's surface. It is caused mostly by increasing concentrations of greenhouse gases in the atmosphere. Global warming is causing climate patterns to change. However, global warming itself represents only one aspect of climate change.

Climate change refers to any significant change in the climate features lasting for an extended period of time. In other words, climate change includes major changes in temperature, precipitation, or wind patterns, among other effects, that occur over several decades or longer.



Major greenhouse gases

Carbon dioxide (CO₂)

Methane (CH₄)

Nitrous oxide (N₂O)

Hydrofluorocarbons (HFCs)

Perfluorocarbons (PFCs)

Sulphur hexafluoride (SF₆)

The first three are estimated to account for 50, 18 and 6 per cent, respectively, of the overall global warming effect arising from human activities. Although these gases are naturally occurring, their emissions have increased dramatically over the past two centuries due to human activities



Main climate changes

Temperature change

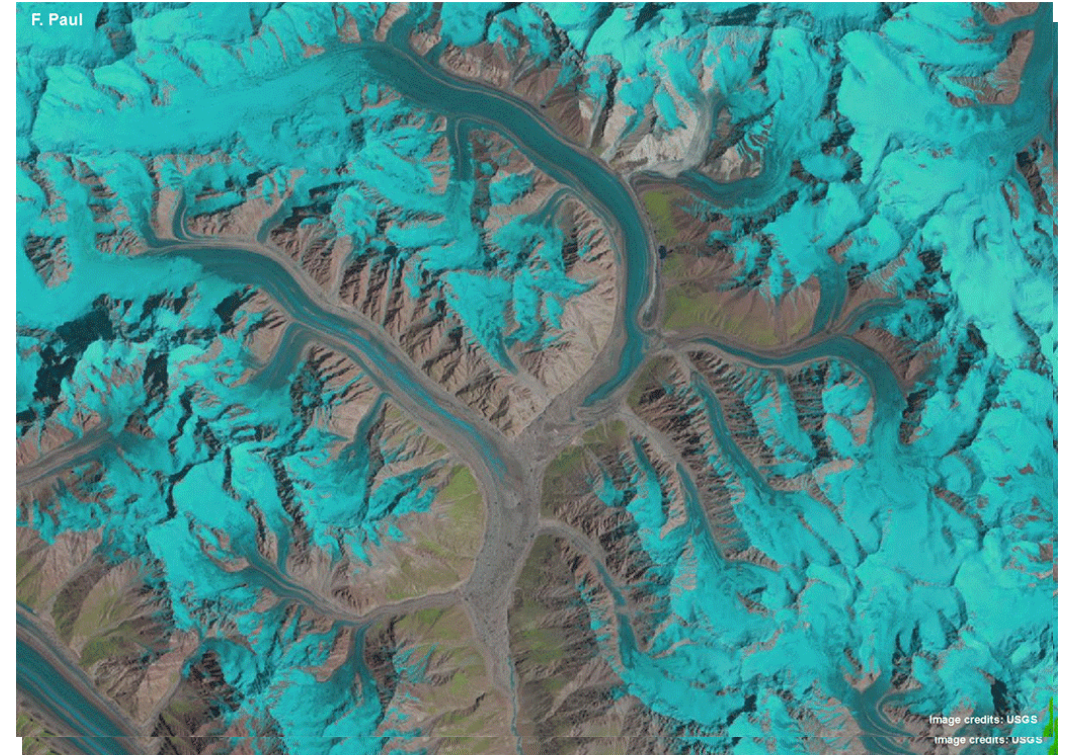
Precipitation change

Sea level change

Change in frequency of extreme climate events

Arctic sea ice and glaciers are melting

Arctic sea ice coverage has shrunk every decade since 1979 by **3.5 to 4.1%**. Glaciers have also been in retreat almost everywhere in the world, including major mountain ranges like the Alps, Himalayas and Rockies. In 2017, arctic sea ice reached a record low for the third straight running, according to NACA



Source: UK Wired, 2016

Sea levels are rising at their fastest rate in 2,000 years

Rising sea levels is caused primarily by the added water from melting ice sheets and glaciers, as well as the expansion of sea water as it warms. **Levels are currently rising at their fastest rate for more than 2,000 years** and the current rate of change is 3.4 mm a year



Global flooding could triple by 2030

The number of people exposed to flooding each year is at risk of tripling from 21 million to 54 million by 2030, according to a study from the World Resources Institute.

This would result in the economic costs of flooding increasing from £65 billion to around £340 billion

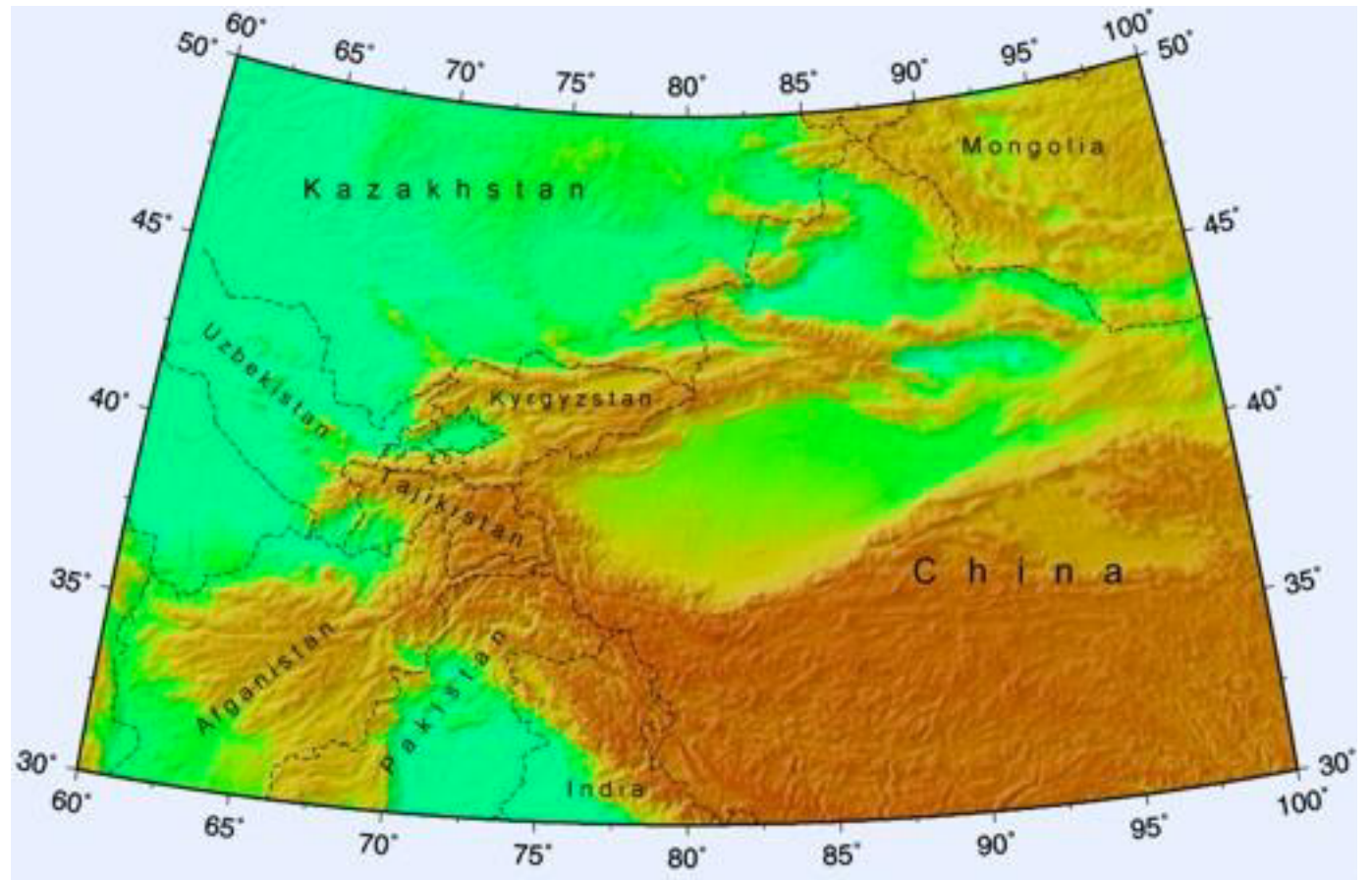


Source: Getty / Matt Cardy / Stringer

Climate change in Central Asia

Location in the middle latitudes, in the depth of Eurasia continent, far away from oceans and seas, and vicinity to largest Asian deserts of Gobi and Taklamakan;

Complex relief consisting of steppes, deserts, and mountains





Climate change in Central Asia

Kyrgyzstan: t° increased for 1.6°C , precipitation $+ 23 \text{ mm}$

Kazakhstan: $t^{\circ} + 1.3^{\circ}\text{C}$; precipitation $- 17\text{mm}$

Uzbekistan: $t^{\circ} + 1.0^{\circ}\text{C}$; precipitation $- \text{slight increase}$

Glaciers' retreat

According to regional researches conducted in Kyrgyzstan and Tajikistan, the glaciation area in studied locations has receded for 15-30% since the last monitoring surveys held in 1950-60s



What the science predicts...

The global temperature will rise by median **2.9°C** by 2100.

Central Asia will be warmed up for median **3.7°C** by 2100.

Whereas precipitation patterns are projected not to change much.





Climate change impacts in Central Asia

- **Reduction of river runoff (caused by intensive glacial melting) will lead to huge socio-economical and environmental implications in the region**
- **Agricultural production rate will probably decrease (due to lack of water and heat stress on crops);**
- **Increased frequency of extreme weather events (droughts, frosts, heavy snows/rains/hails)**
- **Intensive glacial melt might result in reductions in water in rivers and cause slumps in hydropower generation**
- **Decreased runoff of Amudaria and Syrdaria will exacerbate the Aral Sea Crisis;**
- **Increased evaporation will intensify the dryness of the climate and aggravate water losses during irrigation**



Climate change and health

- **Climate change affects the social and environmental determinants of health – clean air, safe drinking water, sufficient food and secure shelter.**
- **Between 2030 and 2050, climate change is expected to cause approximately 250 000 additional deaths per year, from malnutrition, malaria, diarrhoea and heat stress.**
- **The direct damage costs to health (i.e. excluding costs in health-determining sectors such as agriculture and water and sanitation), is estimated to be between US\$ 2-4 billion/year by 2030.**
- **Areas with weak health infrastructure – mostly in developing countries – will be the least able to cope without assistance to prepare and respond.**



Key climate change impacts on health

- **Extreme high air temperatures contribute directly to deaths from cardiovascular and respiratory disease, particularly among elderly people. In the heat wave of summer 2003 in Europe for example, more than 70 000 excess deaths were recorded.**
- **High temperatures also raise the levels of ozone and other pollutants in the air that exacerbate cardiovascular and respiratory disease.**
- **Increase of annual temperature might entail such consequence as dissemination of various diseases (not typical before)**

- **Climate change poses serious challenges for all of us impacting virtually all areas of human activities**
- **Climate change impacts are likely to be exacerbated in arid conditions of Central Asia**
- **These new challenges and trends have to be seriously taken into consideration while designing future programmes and projects**



GREENPEACE

Climate change will lead to a refugee crisis

UNHCR: Displacement of people as a direct result is not a hypothetical, it's already happening. An average of 21.5 million people have been forcibly displaced since 2008 due to climate changed-related weather hazards.

Climate change also acts as a 'threat multiplier' in areas of ongoing conflict. "Climate change sows seeds for conflict, but it also makes displacement much worse when it happens."

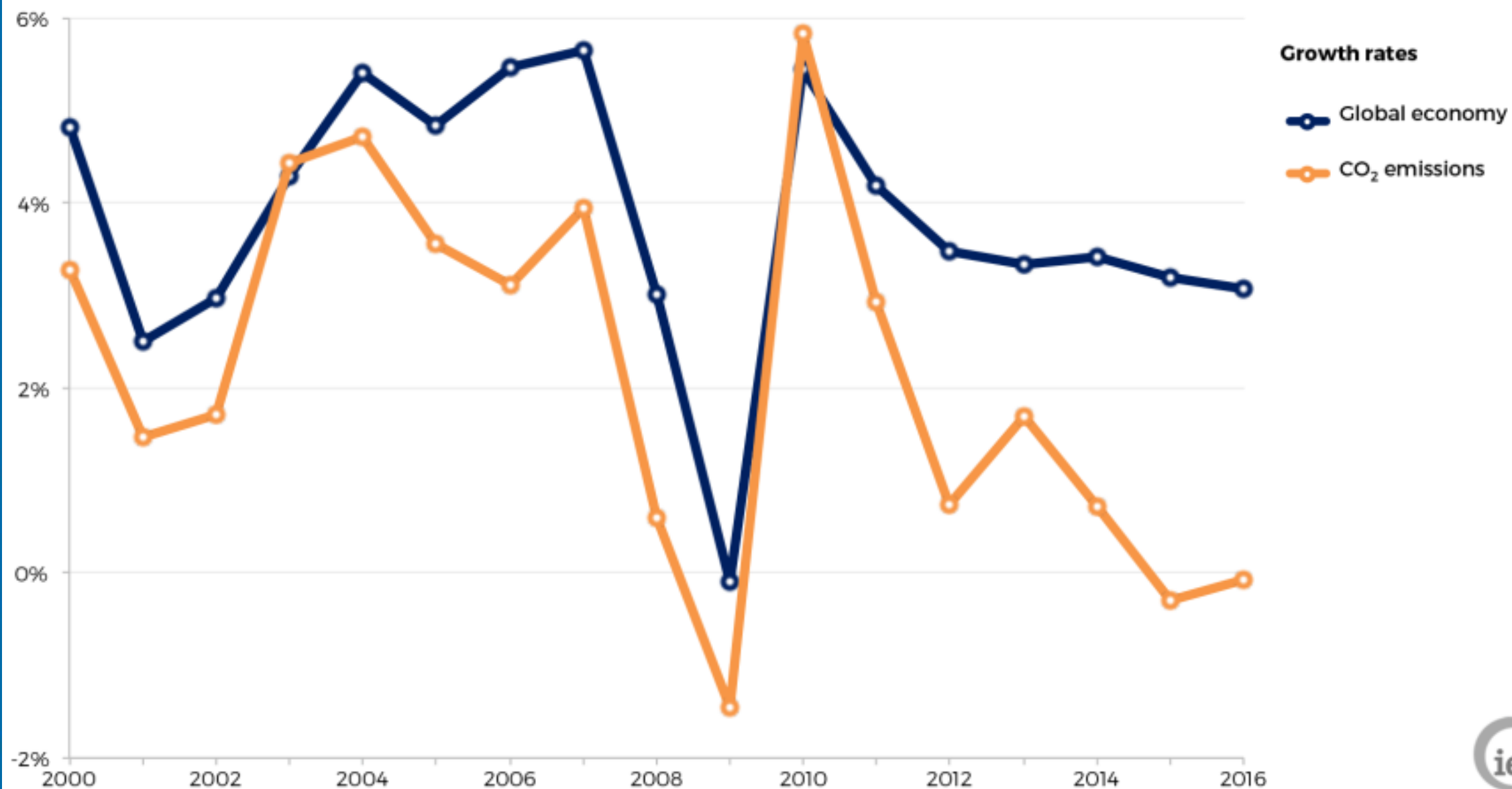




International response to climate change

- **1979 – First World Climate Conference**
- **1988 – Intergovernmental Panel on Climate Change was established by World Meteorological Organization and United Nations Environmental Program**
- **1992 – United Nations Framework Convention on Climate Change was developed and become open for signatures at Earth Summit in Rio de Janeiro**
- **1997 – Kyoto Protocol to UNFCCC was adopted**
- **2005 – Kyoto Protocol it officially entered into force**
- **4 November 2016 - The Paris Agreement entered into force on**

CO₂ Emissions and Global Economy Growth Rates





Globally, 70% (nearly 40 million) deaths in 2015 were due to non-communicable diseases

Non-communicable diseases (NCDs) caused 37% of deaths in low-income countries in 2015, up from 23% in 2000

Ischaemic heart disease and stroke killed 15 million people in 2015

Diabetes are among the 10 leading causes of deaths and disability worldwide

Injuries claimed nearly 5 million lives in 2015





Global Health

International Health

Public Health

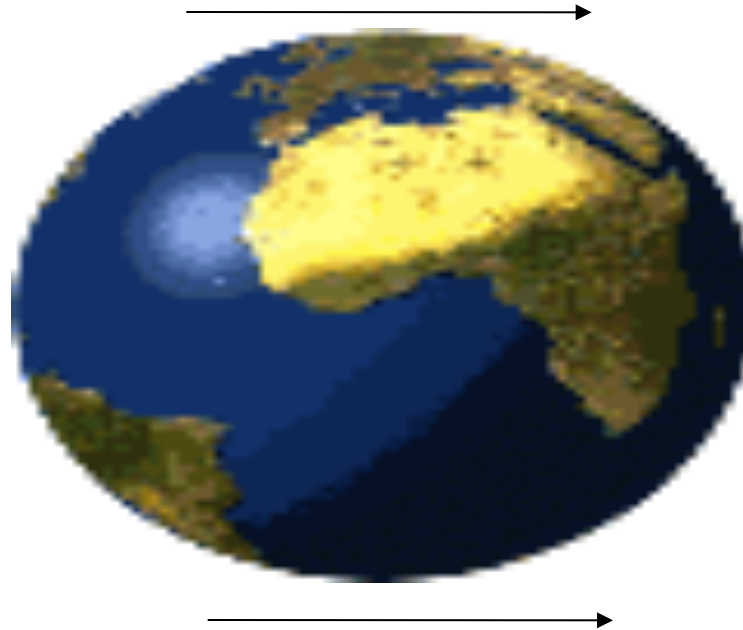
Geography	Health issues that transcend national boundaries	Focus on issues outside of one's own country	Focus on specific communities or countries
Cooperation	Global	Bi-national	National
Populations	Prevention and clinical care	Prevention and clinical care	Prevention
Access	Health equity among nations	Help other nations	Health equity within a nation or community
Disciplines	Highly interdisciplinary and multidisciplinary	Embraces a few disciplines	Multidisciplinary, particularly with health and social sciences

Source: Kaplan JP et al. *Lancet* 2009, 373:9679 pp 1993-1995



**Local public
health**

**International
health**



**Global
health**



International Health

“International health refers to the interlocking and interrelated health status of people throughout the world and to efforts to improve the health of all people of every country.”

Last, Foege



**Nothing on earth is more International
than
Disease Quarantine-Failed**



History and Development of International Health

- First International Sanitary Conference (1851)
- Pan American Sanitary Bureau (1902)
- Office International D' Hygiene Publique (1907)
- The Health Organisation of the League of Nations (1923)
- The United Nations Relief and Rehabilitation Administration (1943)

Birth of the WHO

- April 1945
- 7th April 1948-Formal Existence
- World Health Day-7th April
- Specific theme each year; 2011 – **Health systems financing: the path to universal coverage**
- 2019 World Health Day topic - **Universal health coverage**

Objective:

**ensuring that everyone can obtain the care they need, when they need it,
right in the heart of the community**



Constitutional Function: Act as the directing and coordinating authority on all International health work:

1. Prevention and Control of specific Diseases
2. Development of Comprehensive Health Services
3. Family Health
4. Environmental Health
5. Health Statistics
6. Bio-Medical Research
7. Health Literature and Information
8. Cooperation with Other Organization



**World Health
Organization**

Structure:

- World Health Assembly
- The Executive Board
- The Secretariat

Regions:

- South East Asia: New Delhi
- Africa: Harare (Zimbabwe)
- The Americas: Washington DC
- Europe: Copenhagen (Denmark)
- Eastern Mediterranean: Alexandria (Egypt)
- Western Pacific: Manila (Philippines)

SEARO: Bangladesh, Bhutan, India,
Indonesia, Korea, Maldives, Timor-Les
Myanmar, Nepal, Sri Lanka, Thailand,
Pakistan



WHO's 6 points

- **2 health objectives:**
 - Promoting development
 - Fostering health security
- **2 strategic needs:**
 - Strengthening health security
 - Harnessing research, information & evidence
- **2 operational approaches:**
 - Enhancing partnership
 - Improving performance

Other UN Agencies

- UNICEF
- UNDP
- UNFPA
- UNHCR
- FAO
- ILO
- WORLD BANK

Bilateral Agencies

- USAID
- DFID
- SIDA
- DANIDA
- PAHO



Other INGOs

- International Red Cross
- Bill & Melinda Gates Foundation
- Rockefeller Foundation
- Ford Foundation
- Christensen Foundation
- CARE International
- Global Health Council



Websites

- www.who.int
- www.whosea.org
- www.usaid.org
- www.fordfound.org
- www.dfidindia.org
- www.whoindia.org
- www.careindia.org



Millennium Development Goals



- Eradicate extreme poverty & hunger
- Achieve universal primary education
- Promote gender equality & empower women
- Reduce child mortality
- Improve maternal health
- Combat HIV/AIDS & other diseases
- Ensure environmental sustainability
- A globe partnership for development





Measuring MDGs

Progress towards the eight Millennium Development Goals is measured through 21 targets and 60 official indicators





Children aged <5 underweight (%)

Country

1990

2012

Timor-Leste

40.6 (2002)

45.3 (2010)

India

59.5 (1990)

43.5 (2006)

Kyrgyzstan

8.2 (1997)

3.7 (2012)

Australia

0 (1996)

0.2 (2007)

Globally: 160 mln in 1990, 99 mln in 2012 (15% of all children)

One in four children remains stunted

WHO, 2014





Sustainable Development Goals

- UN Conference in Sustainable Development in Rio de Janeiro, June 2012
- 17 goals, 169 proposed targets and 304 proposed indicators



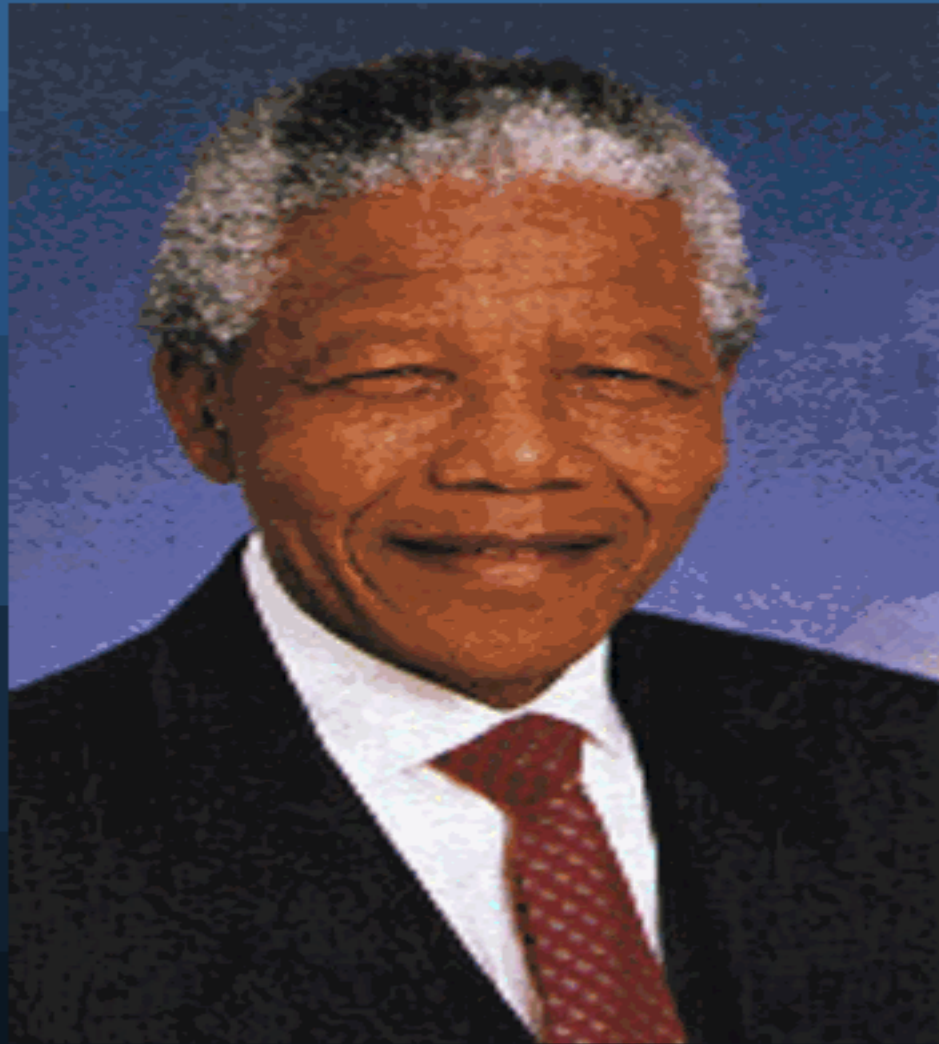


The importance of knowledge, learning, innovation, and IT

“The most fundamental resource in modern economy is **knowledge** and, accordingly, the most important process is **learning**”

Lundvall, Bengt-Åke (1992) National Systems of Innovation. Towards a Theory of Innovation and Interactive Learning. Pinter, London and New York, pp. 342





Education is the most
powerful weapon
which you can use to
change the world.

Nelson Mandela

Conclusion

- Global health is important, as similar conditions plague people in developed and developing countries alike
- Life expectancy in the 20th century was improved due to successes in global health efforts
- Medical students need to know more about global health research and form networks to share important global health knowledge



For further information:

- Wallace R.B. Public Health & Preventive Medicine. – Mc Grow-Hill Co, NY, 2008
- K. Park's Textbook of Social & Preventive Medicine. – Calcutta, 2008
- Global Health Initiative (2008). [Why Global Health Matters](#). Washington, DC: FamiliesUS
- White F, Nanan DJ (2008). "International and Global Health". In Maxcy-Rosenau-Last. Public Health and Preventive Medicine (15th ed.). McGraw Hill. pp. 1252–8
- UN: The Millennium Development Goals Report, 2014.
- ["Transforming our world: the 2030 Agenda for Sustainable Development ... Sustainable Development Knowledge Platform"](#). sustainabledevelopment.un.org
- <http://www.undp.org/content/undp/en/home/sdgooverview/post-2015-development-agenda.html>
- Brown TM, Cueto M, Fee E; Cueto; Fee (January 2006). ["The World Health Organization and the transition from "international" to "global" public health"](#). Am J Public H 96 (1): 62–72. [doi:10.2105/AJPH.2004.050831](https://doi.org/10.2105/AJPH.2004.050831). [PMC 1470434](#). [PMID 16322464](#)

