



VETERINARY CAPACITY BUILDING in the context of the «One Health»



Con il contributo della  Regione Emilia-Romagna

CUP n. E17D20000040003

APPLYING THE ONE HEALTH AND WELLBEING CONCEPT TO LEARNING AND TEACHING FOR SUSTAINABLE DEVELOPMENT

July 14 & 15
2022

George Lueddeke PhD
Global Lead
International One Health for One Planet
Education Initiative





AFROHUN
Advancing One Health
ETHIOPIA

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APPLYING THE ONE HEALTH AND WELLBEING CONCEPT TO LEARNING AND TEACHING FOR SUSTAINABLE DEVELOPMENT

PART 1

14 July

14:00-17:00

ONE HEALTH AND WELLBEING IN A WORLD AT RISK

PART 2

15 July

14:00-16:45

CAPACITY DEVELOPMENT FOR A SUSTAINABLE FUTURE

APPLYING THE ONE HEALTH AND WELLBEING CONCEPT TO LEARNING AND TEACHING FOR SUSTAINABLE DEVELOPMENT

One Health and Wellbeing in a World at Risk

Part 1-Themes

- 'Putting Things in Perspective'
- Brief History of One Health
- Global Risks in the 21st Century

- The UN Sustainable Development Goals
- Transforming Our Worldview
- Propositions for Global Sustainability
- The One Health and Wellbeing Concept: From human-centrism to ecocentrism

- The International *One Health for One Planet Education* Initiative (1 HOPE)
(and Transdisciplinary Research)

Capacity Development For a Sustainable Future

Part 2 -Themes

- Applying the Instructional Systems Approach to Training and Education
- Integrating Ecocentric Values and Principles Across Curricula
- Learning Outcomes that Matter

- Matching Teaching Methods to Learning Outcomes
- Breaking Down Silos: The Ecological University



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PART 1

One Health and Wellbeing in a World at Risk

THEMATIC OVERVIEW

SESSION 1:

‘Putting Things in Perspective’
Brief History of One Health
Global Risks in the 21st Century
Questions

Self-Learning

Activity #1

“Top Priorities Facing the Africa Region”



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One Health and Wellbeing in a World at Risk

SESSION 2

Themes

The UN Sustainable Development Goals

Transforming Our Worldview

Propositions for Global Sustainability

The One Health and Wellbeing Concept: From human-centrism to ecocentrism

Self-Learning

Activity #2

Partnering for Change



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One Health and Wellbeing in a World at Risk

SESSION 3

Themes

The International *One Health for One Planet Education Initiative (1 HOPE)*
(and Transdisciplinary Research)

Self-Learning

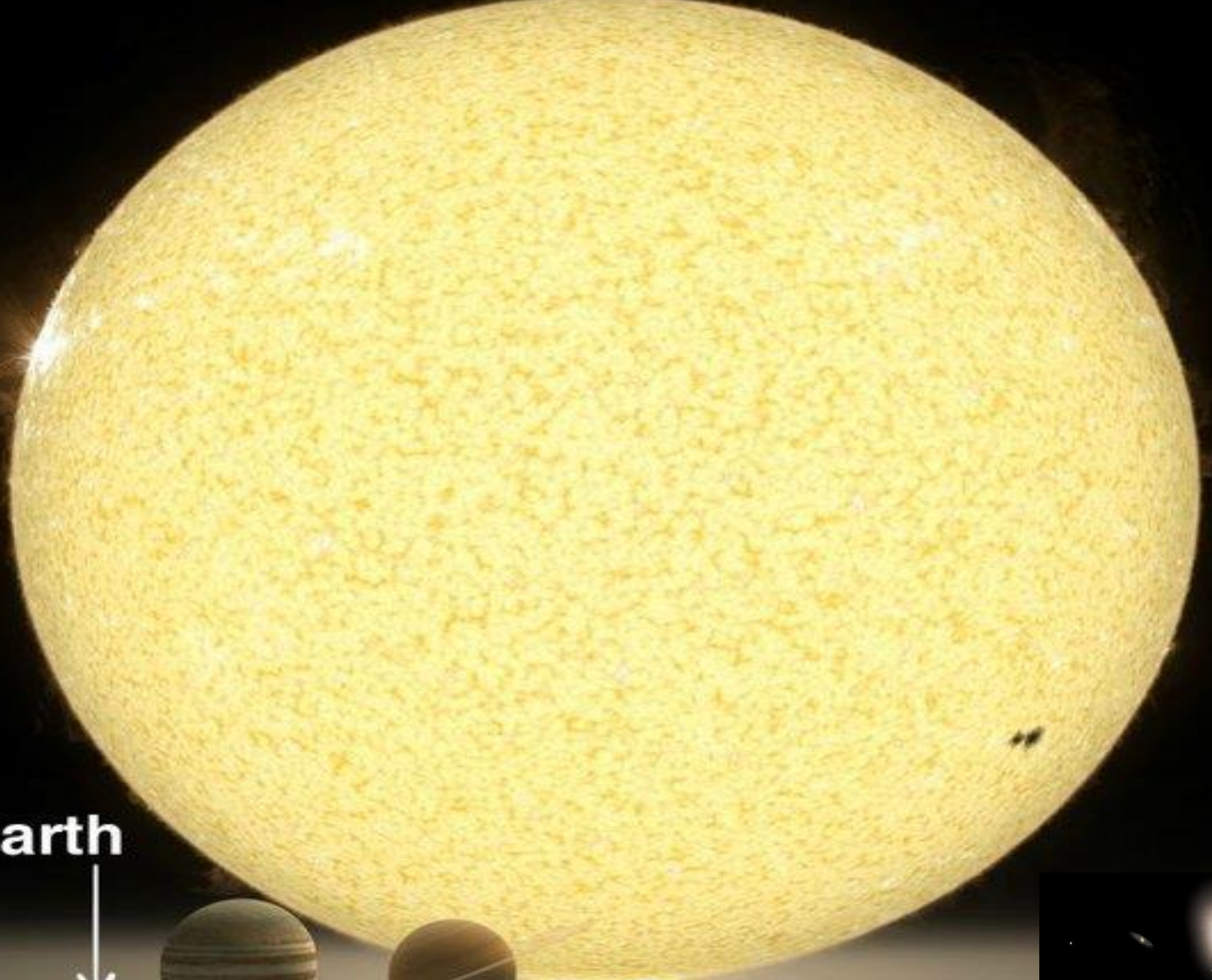
Activity #3

Engaging with the 1 HOPE Africa Consortium
Planning Team



*'Putting Things
in Perspective'*

Earth



Orion

Sagittarius



Milky Way Galaxy

Andromeda Galaxy

IC 1101

Putting things in perspective

Earth Evolution

13.8 billion years ago (BYA) - : matter, energy, time, space

3.8 BYA: organisms

575 million years ago (MYA): first animals

243 MYA: dinosaurs

210 MYA: mammals

c. 2.5 MYA- early human species

c. 200,000 YA modern *Homo sapiens* – from African continent-migrations

REVOLUTIONS SHAPING THE COURSE OF HISTORY

c. 70, 000 years ago (YA) : Cognitive Revolution / Imagination

c.12,000 YA: Agricultural Revolution – c. 4 M people

c.500 YA: Scientific Revolution- 60 M

c. 80 YA: first antibiotic (1935!)- c. 2 B people

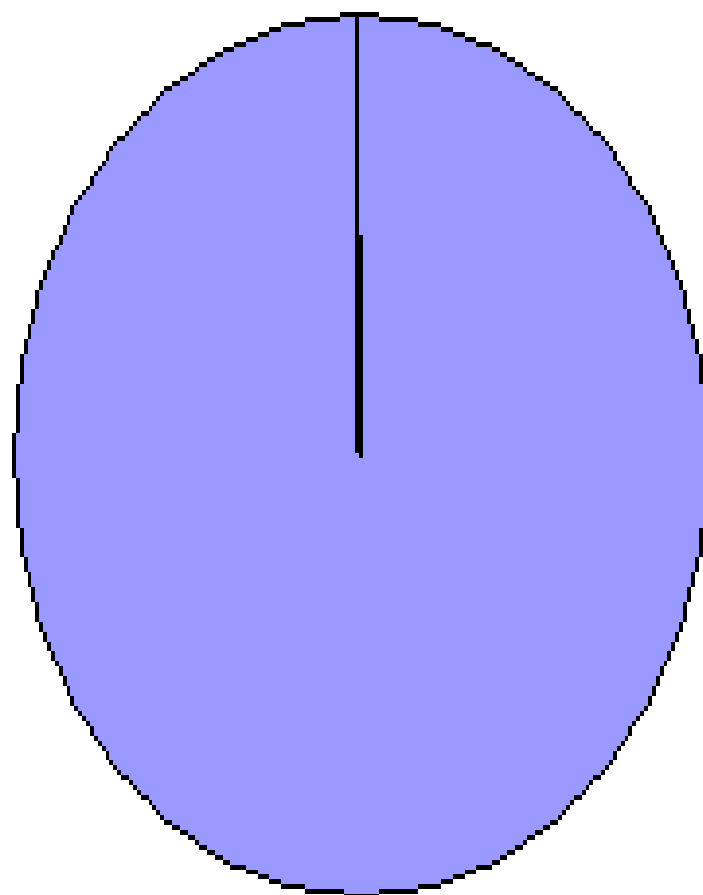
c. 30 YA: Digital / Information Revolution

TODAY – c. 7.9 billion people & 8.5 million species

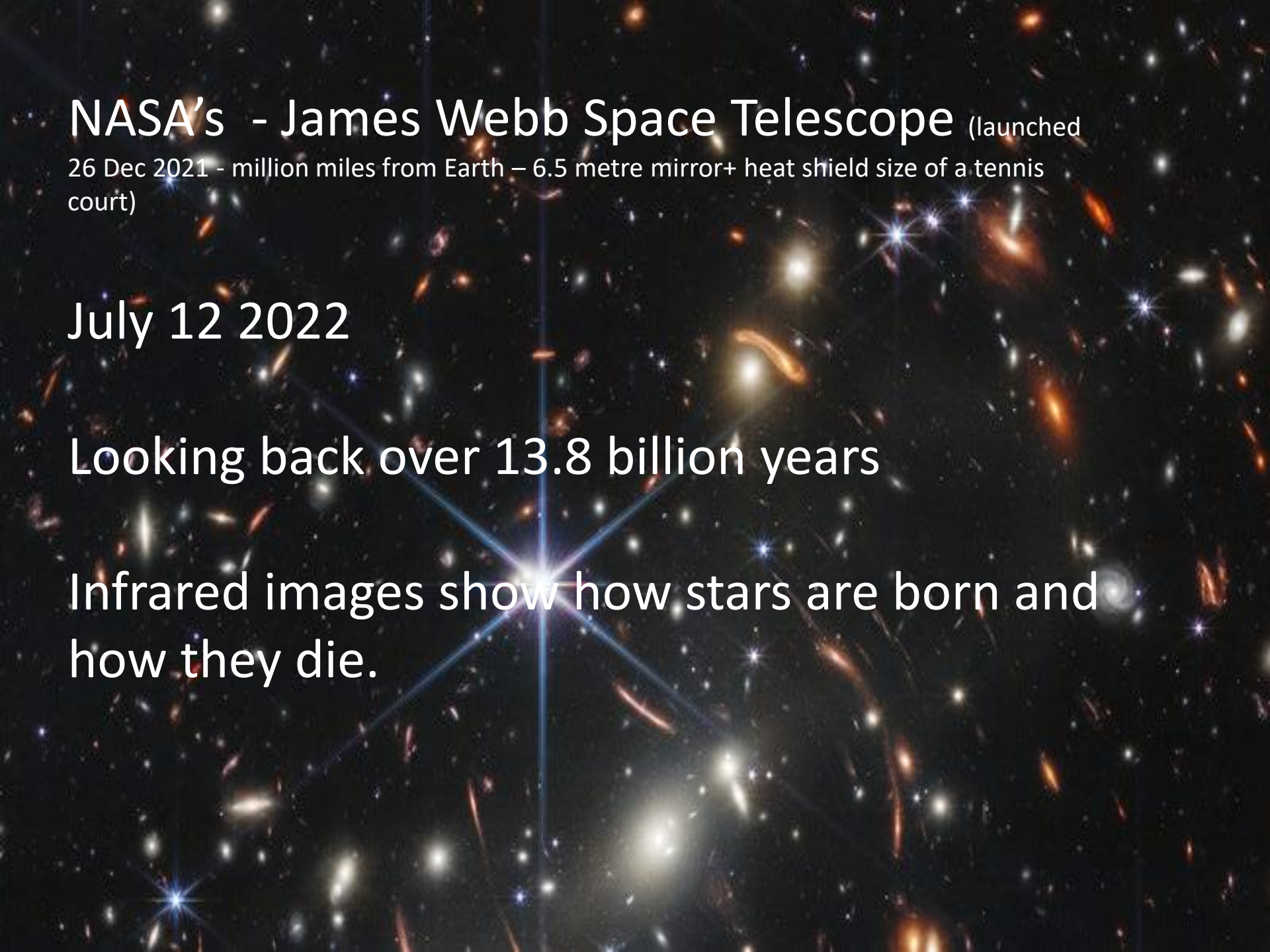
SURVIVAL



HUMAN HISTORY AND THE HISTORY OF THE EARTH



- period of earth's history in which there were no humans
- period of earth's history in which Homo sapiens has existed



NASA's - James Webb Space Telescope (launched
26 Dec 2021 - million miles from Earth – 6.5 metre mirror+ heat shield size of a tennis
court)

July 12 2022

Looking back over 13.8 billion years

Infrared images show how stars are born and
how they die.



Stellar graveyard

Southern Ring Nebula
Two dying stars

2500 light years away

One light year = 5.9 trillion miles



*BRIEF
HISTORY OF
ONE HEALTH*

History of One Health*

5th century BCE: Greek physician **Hippocrates** (460 BCE – c. 370 BCE) BCE): “**public health depended on a clean environment.**”

17th century: “idea that **human, animal and environmental healths linked**”
(Italian physician **Giovanni Maria Lancisi** (1654–1720))

Late 19th century:

- German physician and pathologist **Rudolf Virchow** (1821–1902) coined the term “**zoonosis**”: “**...between animal and human medicine there are no dividing lines – nor should there be**”.
- **1947**, veterinarian **James H. Steele** established the field of veterinary public health at the US Centres for Disease Controls (CDC).

20th century:

- phrase “**One Medicine**” was developed and promoted by **Calvin W. Schwabe** (1927–2006), veterinary epidemiologist and parasitologist – textbook “**Veterinary Medicine and Human Health**”.
- **1996**, **Conservation Medicine: Ecological Health in Practice** effort (Consortium for Conservation Medicine) -Cummings School of Veterinary Medicine [Tufts University, Harvard Medical School’s Center for Health and the Global Environment and EcoHealth Alliance)

History of One Health**

Viral pandemics 1990s / 21st century: proliferation of One Health organisations and networks”:

2004: [Wildlife Conservation Society](#);

2008: [American Veterinary Association](#),

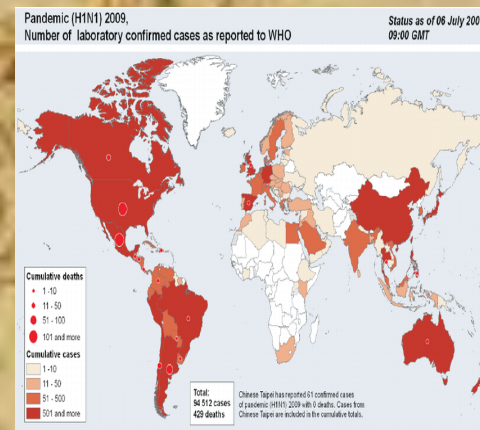
[One Health Initiative](#), the [Centres for Disease Control and Prevention](#);

2009: [Afrique One – ASPIRE](#) , [One Health Commission](#);

2010: [Tripartite FAO, OIE, WHO](#); [UNICEF](#); [UNISIC](#),

[World Bank](#); [EcoHealth Alliance](#); [European Union](#)....

Influenza Pandemic (H1N1) of 2009



One Health reports and conferences (e.g., Australia, Canada, China, South Africa, USA...
but?

More later....

****Part 1: [The One Health & Wellbeing Concept](#)**

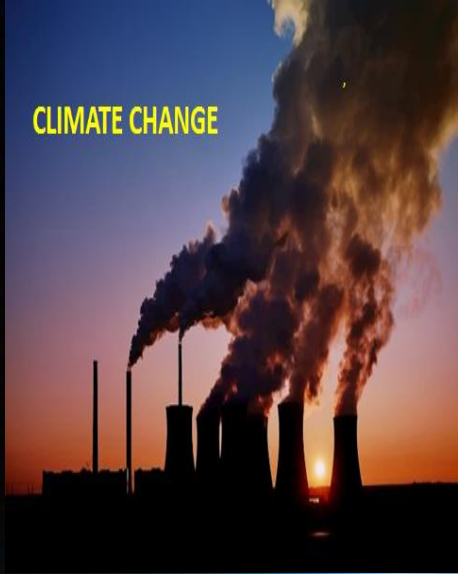




*GLOBAL RISKS
IN THE 21st Century*

Global Risks

CLIMATE CHANGE



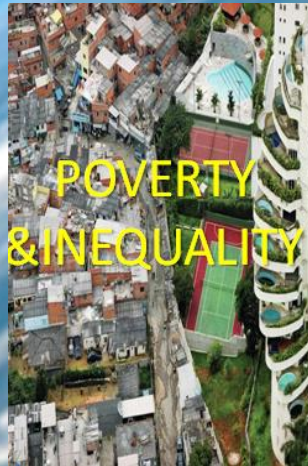
Rising Sea Levels



DE-FORESTRATION



BIODIVERSITY LOSS



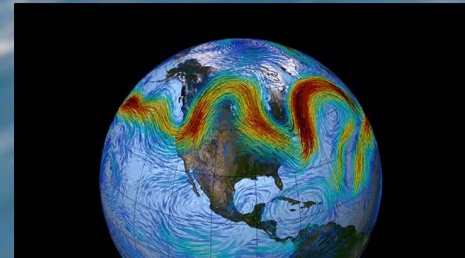
POVERTY & INEQUALITY



CLIMATE CHANGE

Rate of carbon emissions (CO_2)
highest in 66 million years.

8

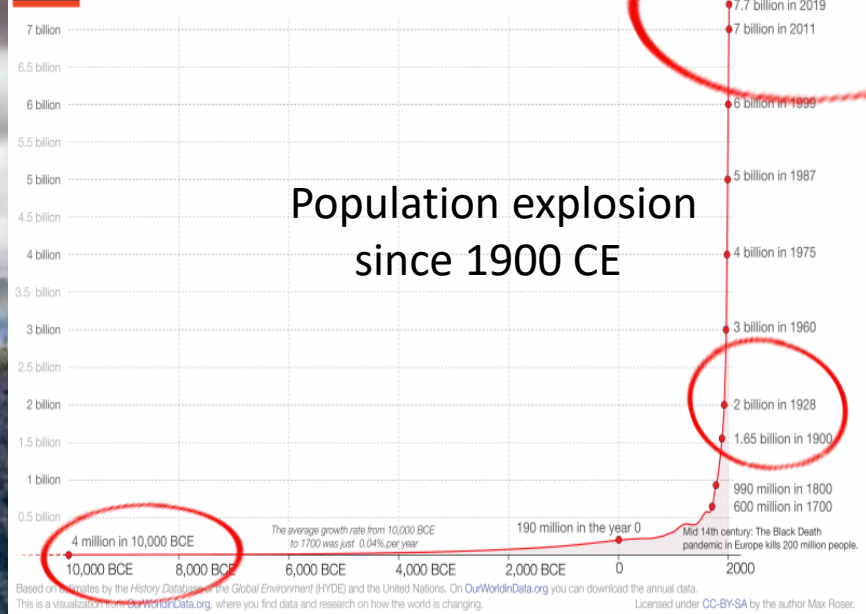


NASA: Waves in the atmosphere fueling extreme weather



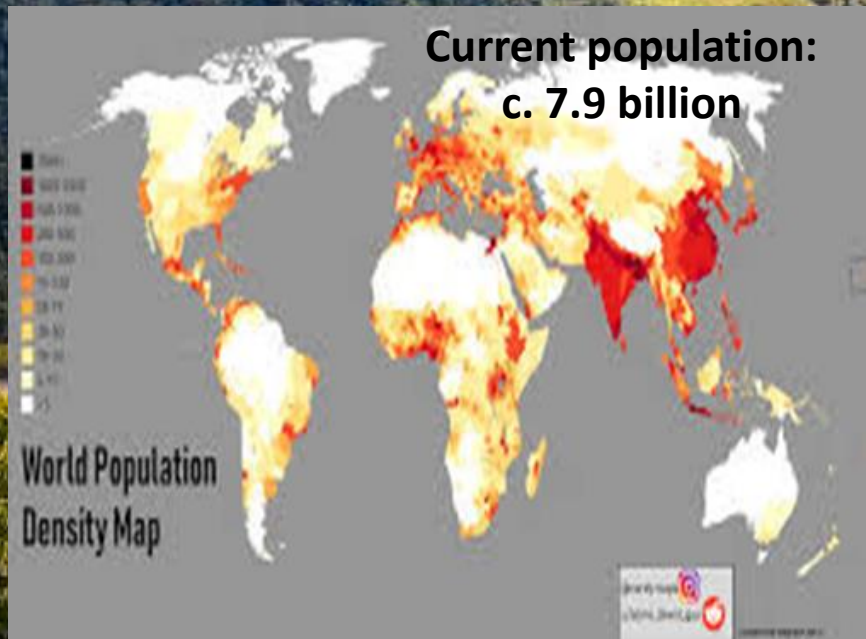
Our World
in Data


The size of the world population over the last 12,000 years



Present

> 8.7 million species!





Earth in midst of
sixth mass
extinction phase

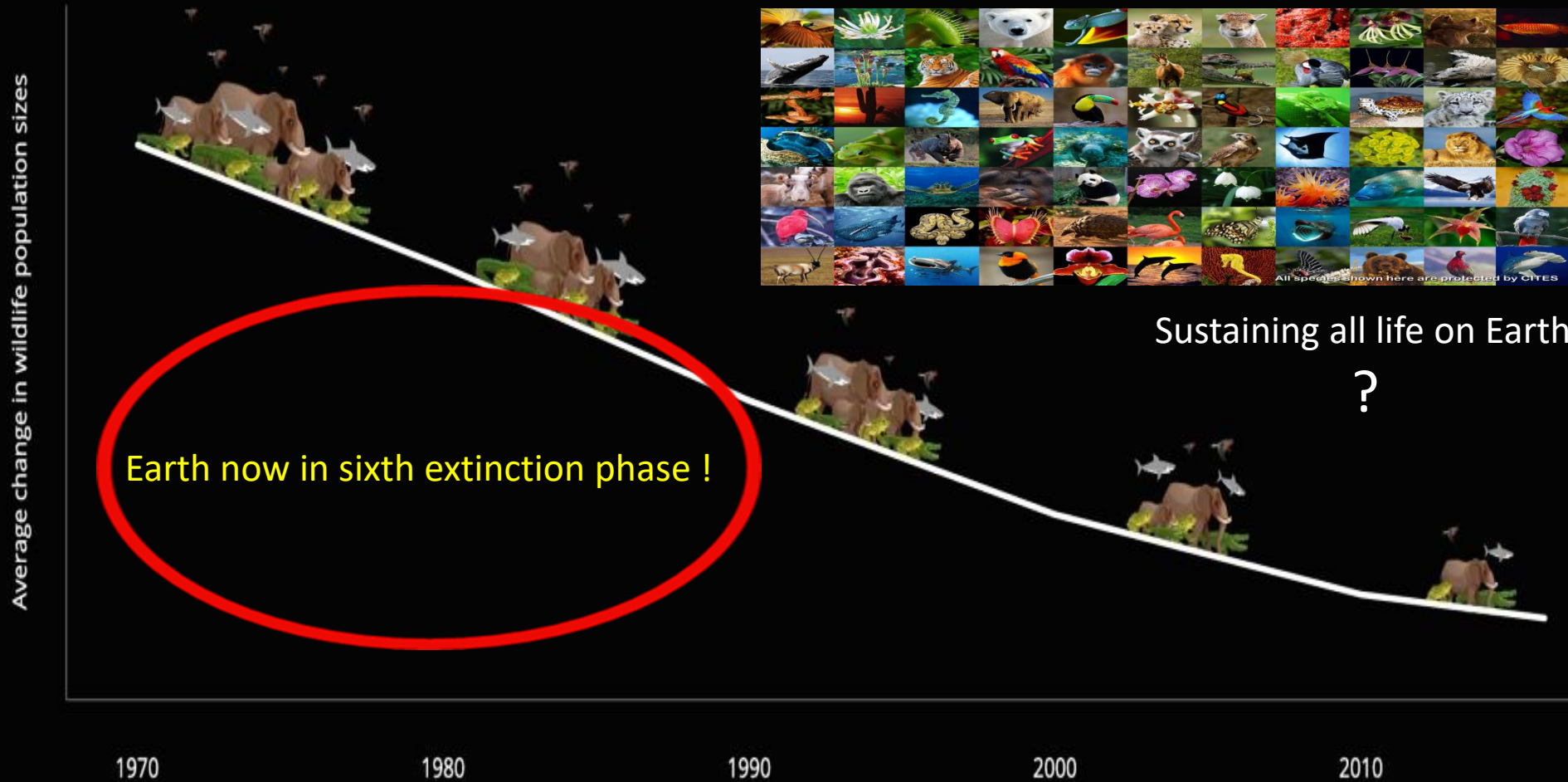
Anthropocene Period

**Human activity
dominant
influence on climate and
the environment!**



Living Planet Report 2020

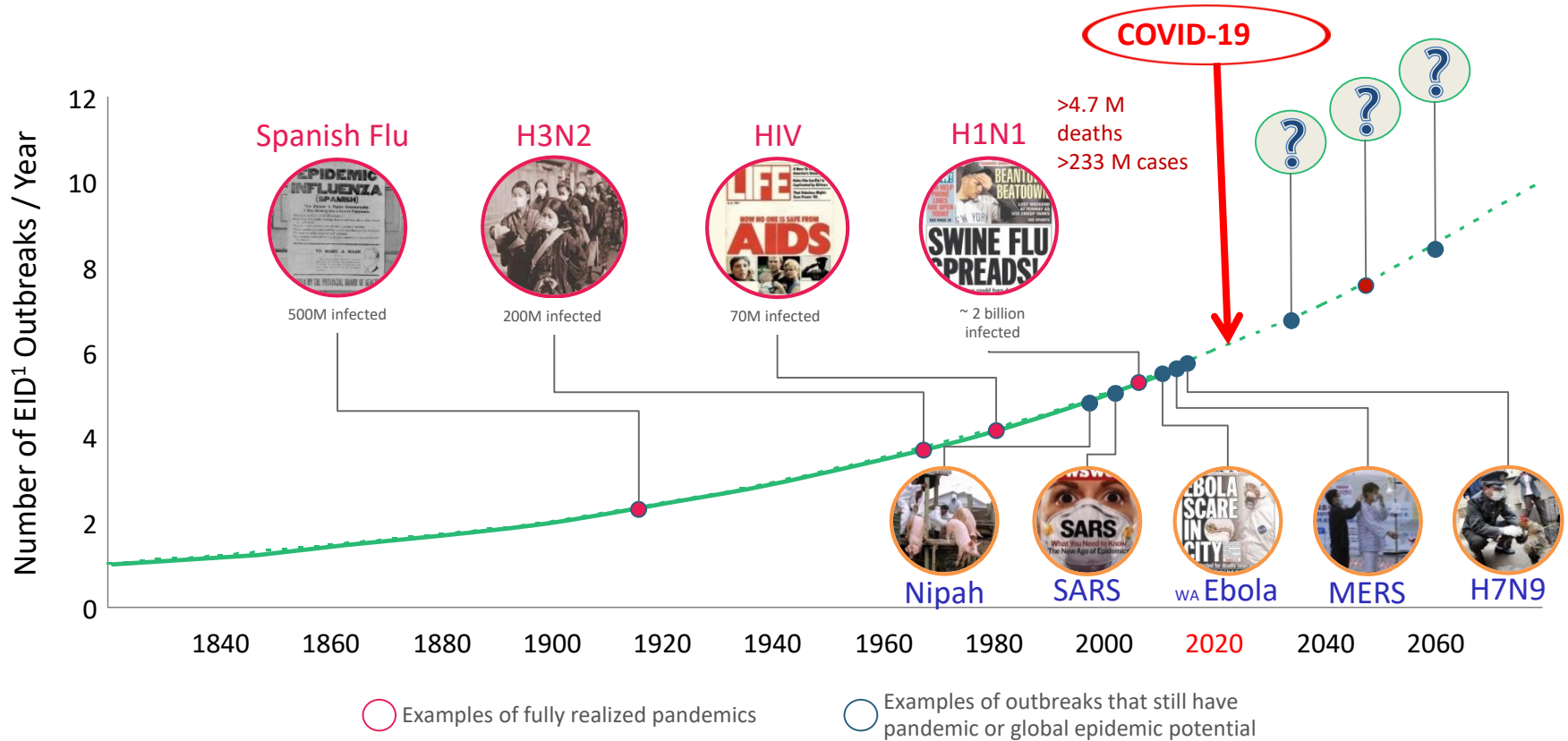
“The population sizes of mammals, birds, fish, amphibians and reptiles have seen an alarming **average drop of 68% since 1970.**”



ZOONOTIC DISEASES

The threat of viral outbreaks will grow rapidly...

Largely driven by population growth, wildlife encroachment, and globalization



1. EID: emerging infectious disease; only diseases with zoonotic emergence are included; Reference for graph: Allen et al. (2017) Nature Communications



HABITAT ENCROACHMENT

A red tracked excavator is positioned on a dirt path in a forest clearing. The excavator is facing right, with its arm and bucket raised. The background shows a dense forest of tall trees under a blue sky with light clouds. The ground is reddish-brown soil, and there are some green plants in the foreground.

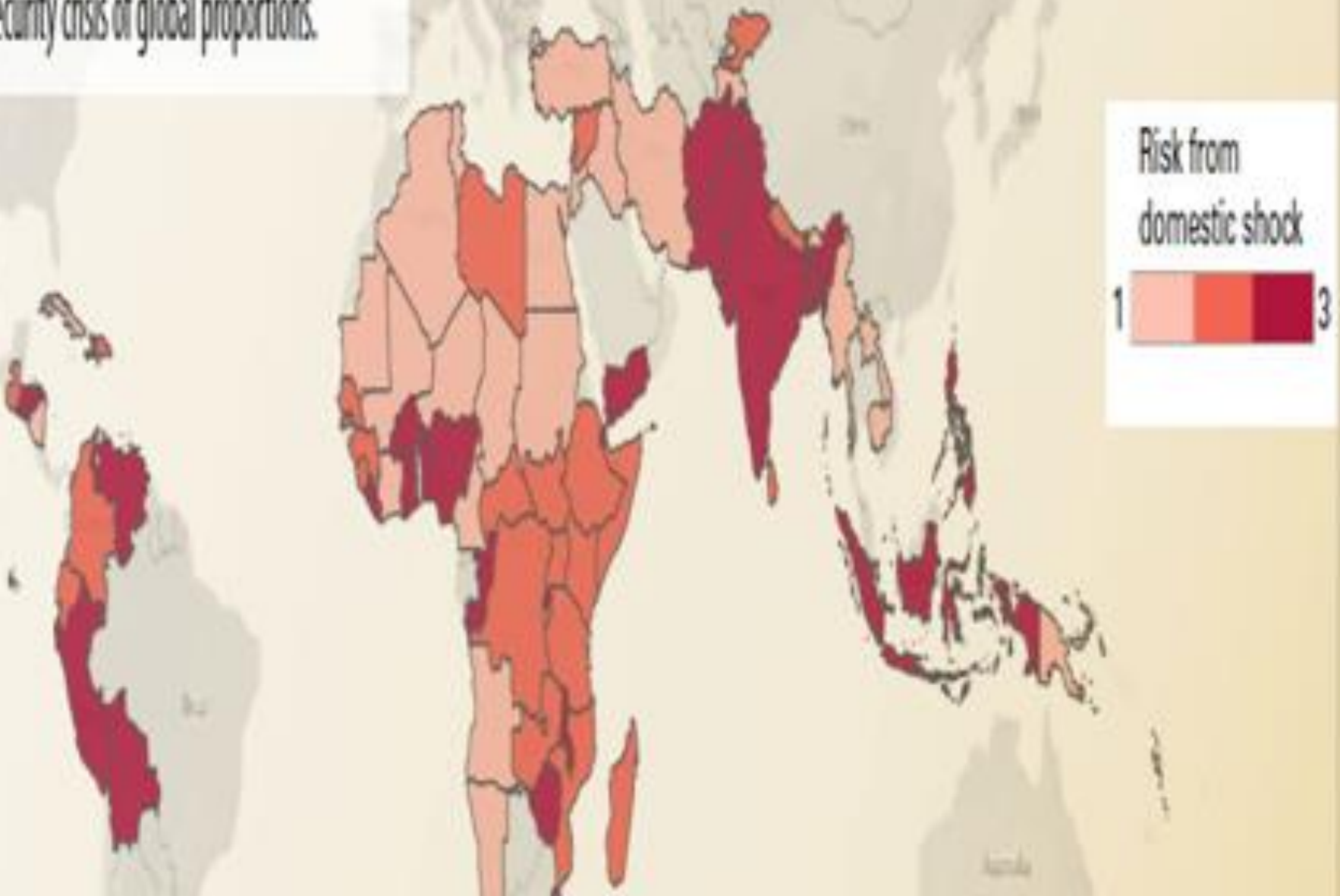
Conservation of Biodiversity is critical!
Humans and wildlife compete for same resources!

Habitat loss is main threat
to 85% of species listed as
either 'threatened' or
'endangered'

the hunger pandemic

the COVID-19 crisis could give rise to a food security crisis of global proportions.

FOOD SECURITY



**HORN OF AFRICA FACES HUNGER
FROM CATASTROPHIC DROUGHT
DJIBOUTI, **ETHIOPIA**, ERITREA,
SOMALIA, AND PARTS OF KENYA,
SUDAN, SOUTH SUDAN, AND UGANDA**

**PARTS OF THE HORN OF AFRICA ARE
EXPERIENCING THE DRIEST
CONDITIONS AND HOTTEST
TEMPERATURES IN 40 YEARS.**

**DROUGHT IS DECIMATING BOTH
CROPS AND LIVESTOCK, WHICH ARE
THE REGION'S PRIMARY SOURCES OF
FOOD AND INCOME.**





The State of Democracy

Global Democracy Index rates, by country/territory (2020)*



Full democracies

- 9.00-10.00 *c.7%*
- 8.00-8.99

Flawed democracies

- 7.00-7.99
- 6.00-6.99

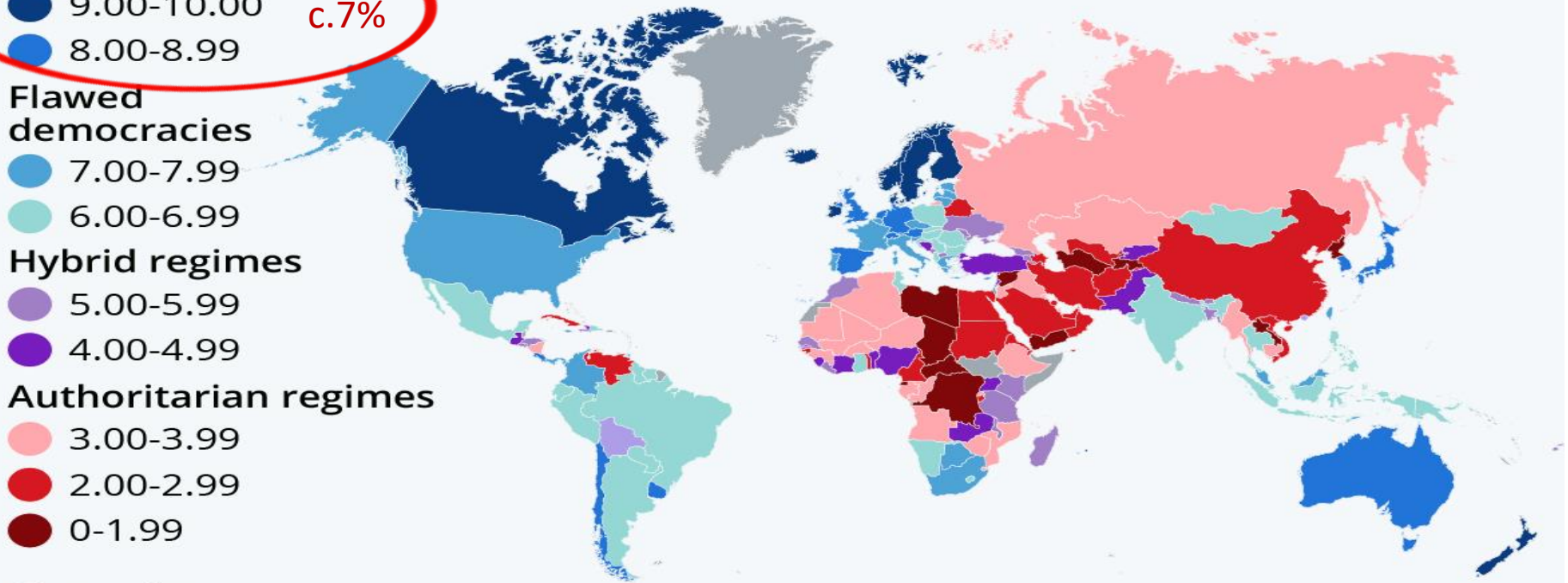
Hybrid regimes

- 5.00-5.99
- 4.00-4.99

Authoritarian regimes

- 3.00-3.99
- 2.00-2.99
- 0-1.99


● No data



* takes into account electoral process and pluralism; civil liberties; the functioning of government; political participation; and political culture

Source: The Economist Intelligence Unit






We spent c. \$ 2.1 TRILLION on war in 2021
(out of \$95 trillion GDP global)
and \$6 billion on peace!

**Conflicts: 'The greatest
failure of humanity!'**

Col Ron Garan
NASA astronaut
The Orbital Perspective
(2015)





*TOP PRIORITIES
FACING
THE AFRICA REGION*

Foresight Africa Report: Top priorities for Africa in 2022

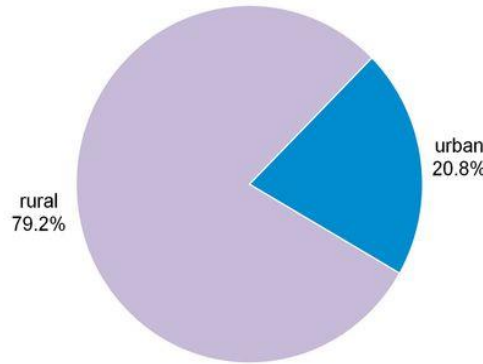
1.3 billion people (most under 30 years in age) “poor infrastructure high youth unemployment rapidly rising debt only 8 per cent fully vaccinated and climate Africa is facing considerable ‘obstacles.’”

Priority areas

- addressing the impacts of climate change
- policies for economic recovery
- shoring up Africa’s public health systems
- empowering African women and girls
 - harnessing technology for improved livelihoods
- exploring partnerships with emerging global players



Ethiopia urban-rural (2018)

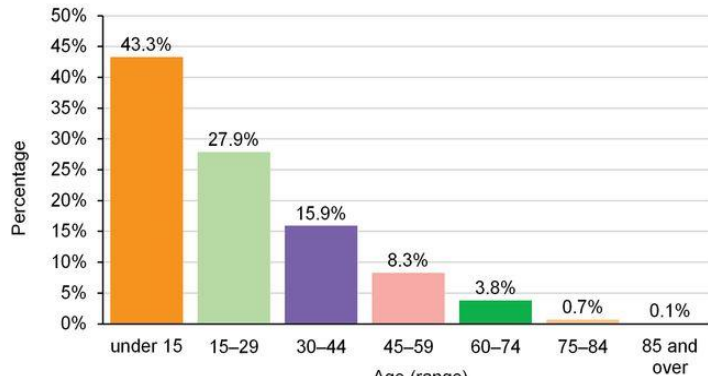


Population

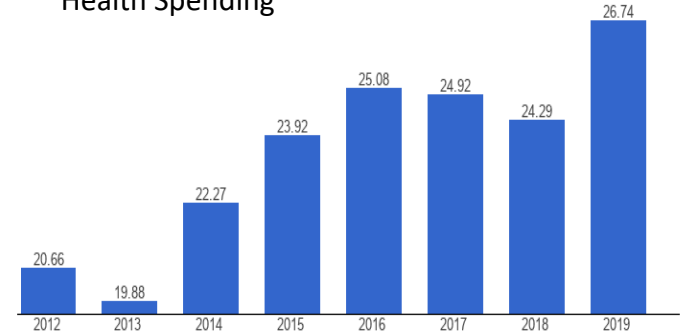
120,812,698 (2022) ^[3]

Labour force	<ul style="list-style-type: none"> • 53,746,763 (2019) ^[13] • 78.9% employment rate (2018) ^[14]
Labour force by occupation	<ul style="list-style-type: none"> • agriculture: 72.7% • industry: 7.4% • services: 19.9% • (2013 est.) ^[15]
Unemployment	1.8% (2018) ^[16]

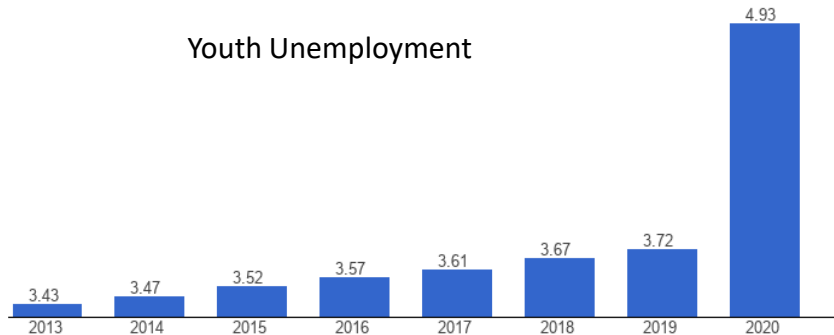
Ethiopia age breakdown (2018)



Health Spending



Youth Unemployment



UNICEF Ethiopia Humanitarian Situation Report No. 11; January - December 2021

*Self-Learning
Activity # 1*

Please access one of these reports and identify

**Purpose
Focus
3 Takeaways**

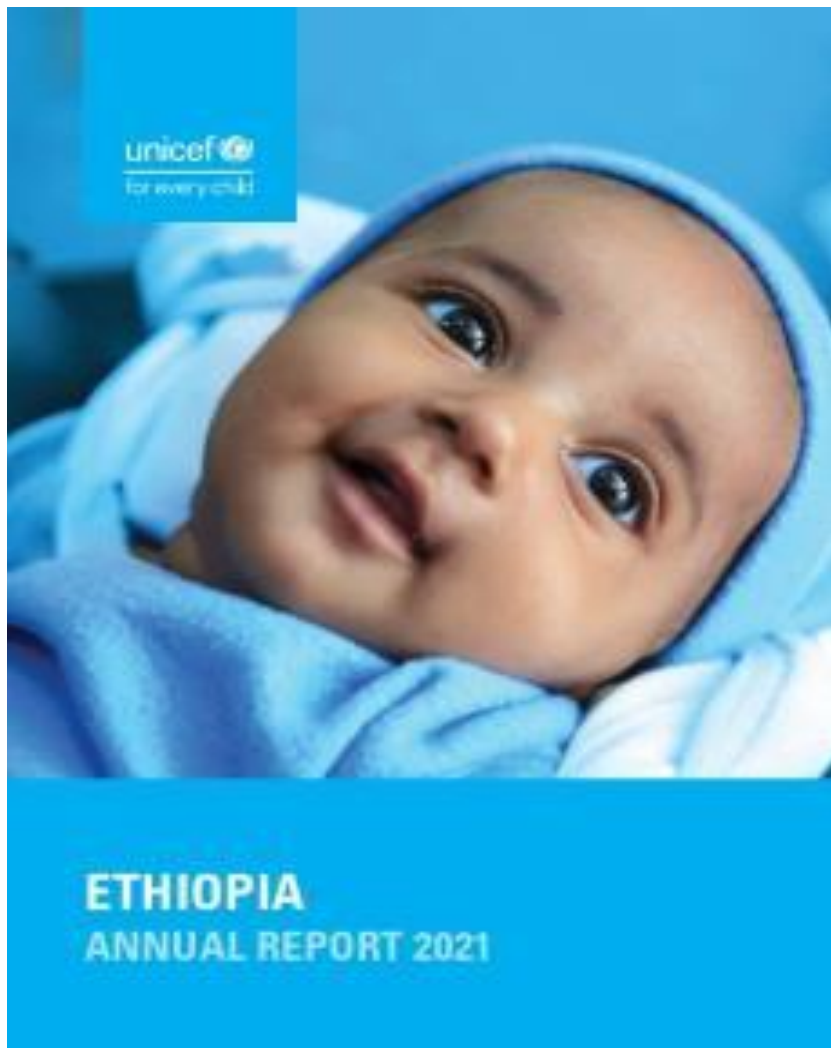
[Foresight Africa:Top Priorities in Africa 2022](#)

[or](#)

[2022 SUSTAINABLE DEVELOPMENT REPORT](#)

Jun 02, 2022

[https://www.unicef.org/ethiopia/media/5641/
file/Annual%20Report%202021.pdf](https://www.unicef.org/ethiopia/media/5641/file/Annual%20Report%202021.pdf)



BREAK TIME

ONE HEALTH & WELL-BEING:
Mapping Out the Future

PART 1

One Health and Wellbeing in a World at Risk

SESSION 2

Themes

The UN Sustainable Development Goals

Transforming Our Worldview

Propositions for Global Sustainability

The One Health and Wellbeing Concept: From human-centrism to ecocentrism

Activity #2

Partnering for Change



*The UN-2030
Sustainable
Development Goals*

A young boy with a backpack stands in a slum, looking towards a dense cluster of makeshift buildings with corrugated metal roofs. The ground is littered with trash and a small stream of water flows through the debris. The text 'GLOBAL EXTREME POVERTY COVID-19!' is overlaid in large yellow letters on the left side of the image.

**GLOBAL
EXTREME
POVERTY
COVID-19!**

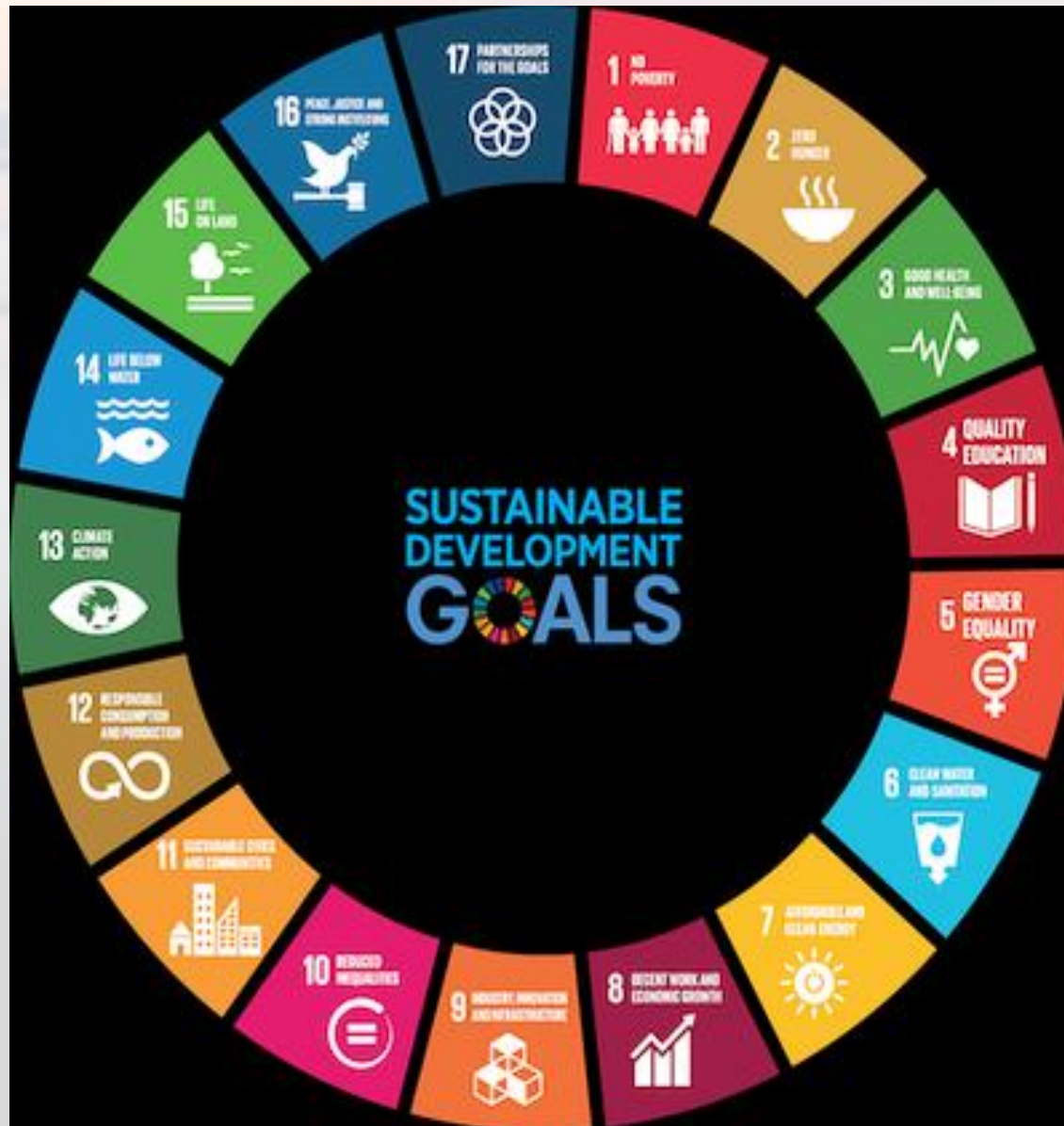
UN-2030 Sustainable Development Goals



AIMS
END POVERTY, PROTECT
THE PLANET, PEACE
AND PROSPERITY
BY 2030.

- adopted by 193 UN Member States on 25 September 2015
- 17 SDGs, 169 targets, 225 indicators
- **Slow uptake-**
major reversing –
Covid-19!
- **Ecocentrism?**

ALL ROOT CAUSES & SOLUTIONS ARE INTERCONNECTED!

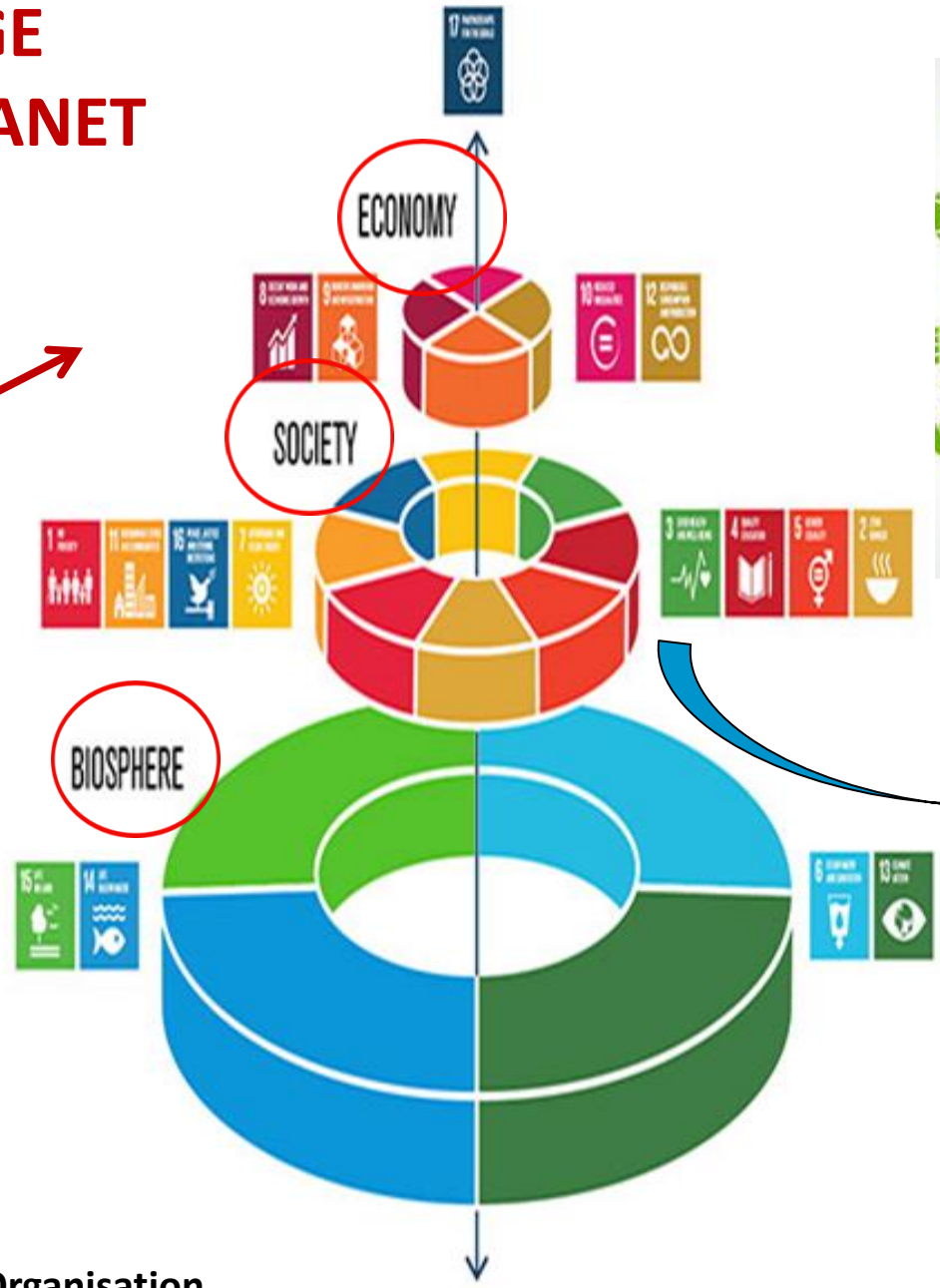




BIOSPHERE NOW IN CHARGE OF THE PLANET



SDGs



Circular Economy



*The One Health and
Wellbeing Concept:
From human-centrism
to ecocentrism*

A satellite view of the Earth, showing the Americas and surrounding oceans. The text "Transforming Our Worldview" is overlaid in yellow, italicized font.

*Transforming
Our
Worldview*



OUR GREATEST CHALLENGE?

“Unity Around a Common Cause”

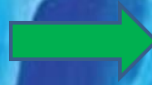
Transforming Our Worldview

-Belief Systems /Mental Models-

Rise Above Divisions WE Have Created!

Human-Centrism

‘it’s all about us’



Eco-Centrism

‘it’s about all species and the planet’

Ensuring the needs of
humans are compatible
with the needs of our ecosystems

“*Harmonious Coexistence*”

“[S]tandard interpretations of One Health are anthropocentric in that they tend to value non-human animals primarily for the sake of humans, which can lead to policies that harm and neglect nonhumans unnecessarily.”

<https://www.cabi.org/news-article/experts-call-on-governments-to-start-including-animal-welfare-in-sustainable-development-governance/>

Commentary

Sustainable development matters for animals too

https://www.cabi.org/wp-content/uploads/Sustainable-development-matters-for-animals-too_CABI-One-Health.pdf

Jeff Sebo 1 , Cleo Verkuijl 2 , Maria José Hötzel 3 , Ploy Achakulwisut 4 , Mairon Bastos Lima 5 and Jonathan Green



One Health (and Wellbeing)

in the 21st Century



INTERDEPENDENCE OF HUMANS, ANIMALS,
PLANTS IN A SHARED ENVIRONMENT

NEW SOCIETAL NARRATIVE

Socio-Economic, Political, Environmental

Approach

All SECTORS & DISCIPLINES

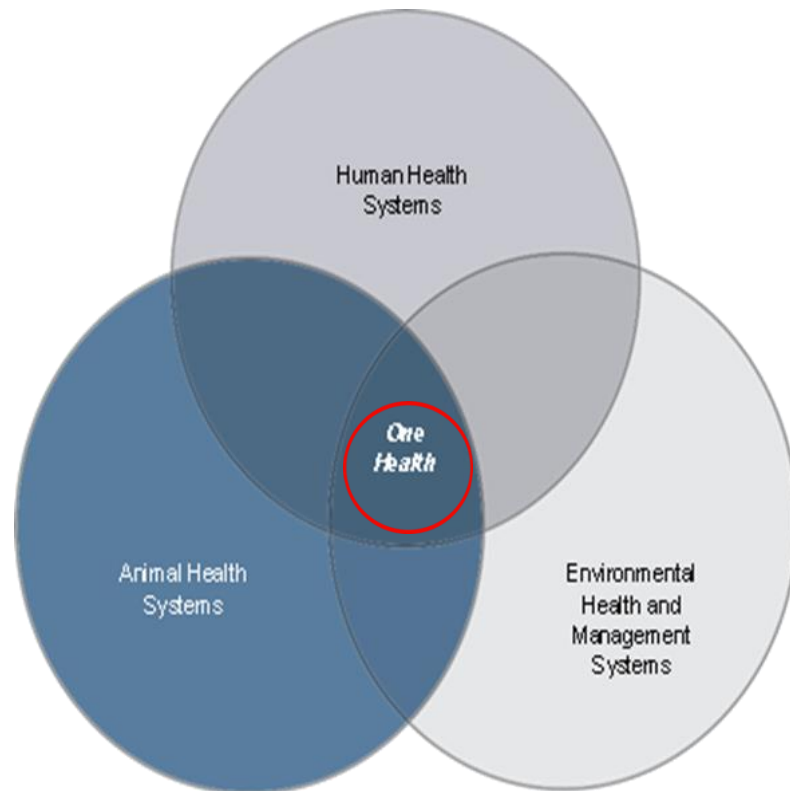
Collaboration

Root Causes

Prevention

Capacity-building

WORLD BANK ONE HEALTH OPERATIONAL FRAMEWORK



G7 and G20 summits.....

The Earth Charter....launched 2000



The Earth Charter Values & Principles grid consists of 16 numbered icons arranged in a 4x4 grid. The icons are: 1. Interdependence of all life (interlocking circles), 2. Love and responsibility (Venn diagram), 3. Democracy and justice (circles in a square), 4. Justice across generations (flower), 5. Protect Earth's diversity (rectangle with rounded corners), 6. Prevent ecological harm (leaf), 7. Sustainable lifestyles (circle with horizontal lines), 8. Share knowledge (curved lines), 9. Eradicate poverty (chevron), 10. Sustainable human development (staircase), 11. Gender equality and equity (cross), 12. Dignity, inclusion and well-being (four circles), 13. Transparency and participation (circle with horizontal lines), 14. Integrate values into education (X pattern), 15. Respect all living beings (circle with four petals), 16. Nonviolence and peace (peace symbol).

I
Respect and Care for the Community of Life

II
Ecological Integrity

III
Social and Economic Justice

IV
Democracy, Nonviolence, and Peace

1
Interdependence of all life

2
Love and responsibility

3
Democracy and justice

4
Justice across generations

5
Protect Earth's diversity

6
Prevent ecological harm

7
Sustainable lifestyles

8
Share knowledge

9
Eradicate poverty

10
Sustainable human development

11
Gender equality and equity

12
Dignity, inclusion and well-being

13
Transparency and participation

14
Integrate values into education

15
Respect all living beings

16
Nonviolence and peace

**ETHICAL FRAMEWORK
Values & Principles**

Turning conscience into action.

The Earth Charter is a document with sixteen principles inspiring a global movement for building a just, sustainable and peaceful world. It is the product of a decade-long, worldwide dialogue on shared values.

Founded by visionaries in the year 2000, we invite the visionaries of today to use the Earth Charter as a reference for decision-making and action.

When you incorporate it in your life, and apply it to your business, school or community, you begin turning conscience into action to make all life on Earth thrive.

We know you're ready. Now, let's get to work!

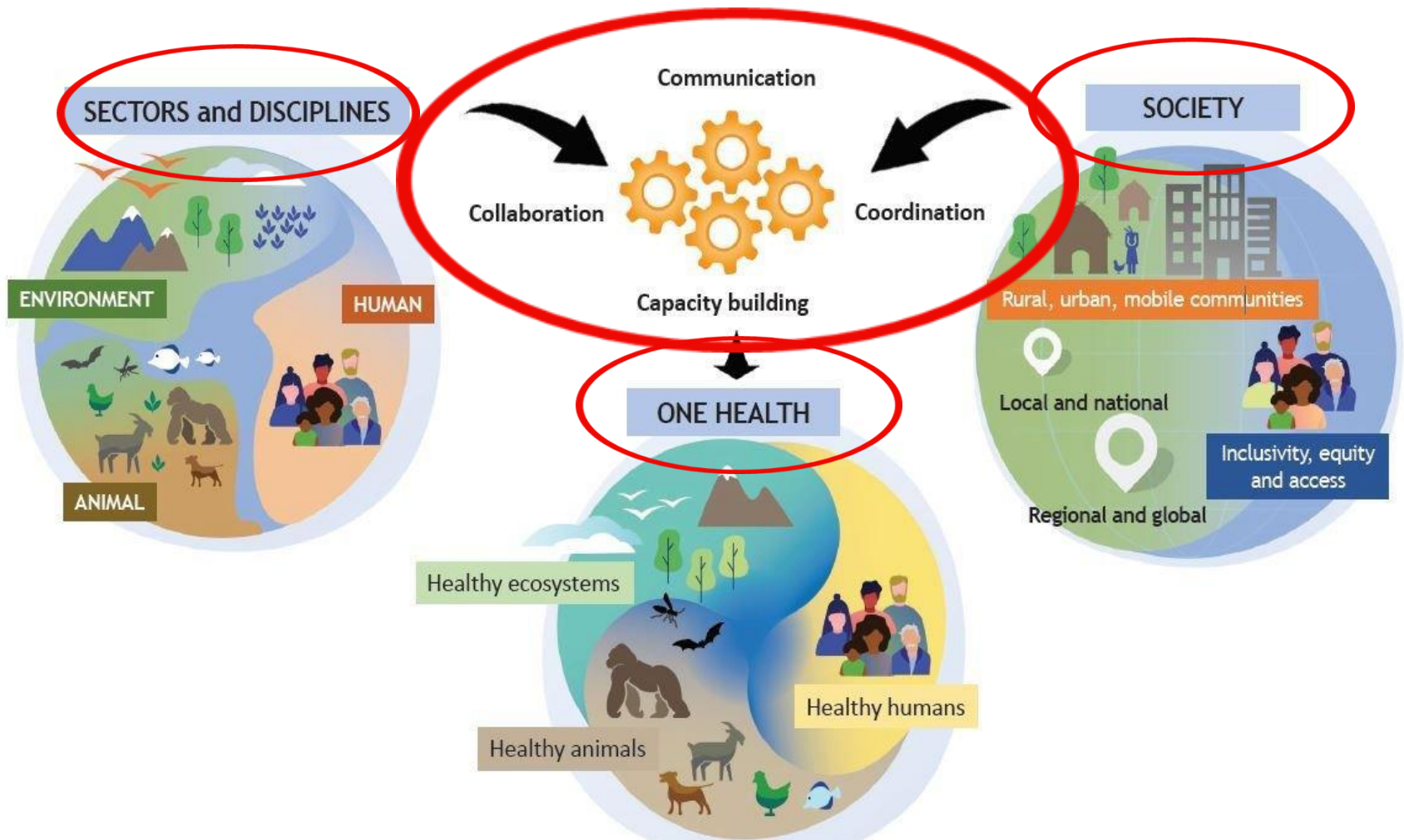


Earth Charter®

www.earthcharter.org

One Health High Level Expert Panel (OHHLEP- OIE, FAO, WHO, UNEP)

“One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people , animals, and ecosystems.”







*Ten Propositions for
Global Sustainability*

Addressing ROOT CAUSES

Ten Propositions for Global Sustainability



What if?

- 1 All 193 NATIONS OF THE WORLD could... aspirations set out in the UN declaration, 'Transforming our world: the 2030 Agenda for Sustainable Development', in word and deed - enabling actions?
- 2 GLOBAL GUIDELINES were evolved and agreed to ensure technology is used 'only' for peaceful purposes and in support of the health and well-being of all species and the planet?
- 3 DECISION-MAKERS treated migration as a historical, complex, global human reality that we need to manage collaboratively, compassionately and responsibly with an emphasis on mitigating root causes (socio-political, economic, environmental) while enacting integrated, preventative life-sustaining measures?
- 4 GOVERNMENT, BUSINESS AND CIVIL SOCIETY collaborated at all levels and adopted a new paradigm - a new world view - to ensure our needs as human beings are compatible with the needs of our outer world - our ecosystem?
- 5 HUMAN VALUES AND MODERN LIFESTYLES - especially national vested interests and overconsumption (energy, water, raw materials ...) - were recognised globally as the leading causes of environmental degradation, eventual loss of resource bases threatening the sanctity and sustainability of all life?
- 6 NATURE was acknowledged as a major source of human thought processes and feeling - inspiration and creative learning as well as being a main factor in personal growth and development, thereby contributing to each individual's quality of life, realisation of dreams and aspirations?
- 7 THE UNIFYING ONE HEALTH AND WELL-BEING CONCEPT became the cornerstone of our education systems and societal institutions, thereby helping to create a 'more just, sustainable and peaceful world' (UN-2030 Global Goals [SDGs])?
- 8 HUMANITY'S FUNDAMENTAL ROLE as ~~leading~~ custodians of the planet was recognised and adopted globally, thereby ensuring the true regenerative power of our societies and fostering compassion, trust and goodwill?
- 9 THE UNITED NATIONS GENERAL ASSEMBLY (UNGA), guided by the human experience over millennia alongside global wisdom, and in a spirit of compassion, kindness, harmony and moral authority, agreed to prioritise and actively promote the values of equality, democracy, tolerance and respect to bridge divisions between people and bind nations together?
- 10 ALL MEMBERS OF THE UNITED NATIONS SECURITY COUNCIL were held globally accountable for their role in maintaining world peace and security - based on a genuine commitment to shared people and planet values while giving a permanent voice to regions with the fastest population growth and social and economic disparities (e.g., Africa, India, Middle East, SE Asia - i.e., close to 6 billion people vs about 2 billion by 2030)?









*The international
One Health
for One Planet Education
Initiative
(1 HOPE)*

International
One Health for One Planet Education Initiative
(IHOPE*)

2021-2023
Consortia Planning Teams
Africa, Asia, Americas, Europe, Middle East,
Oceania



SDGs



Regional Universities & Affiliations

MAIN AIM

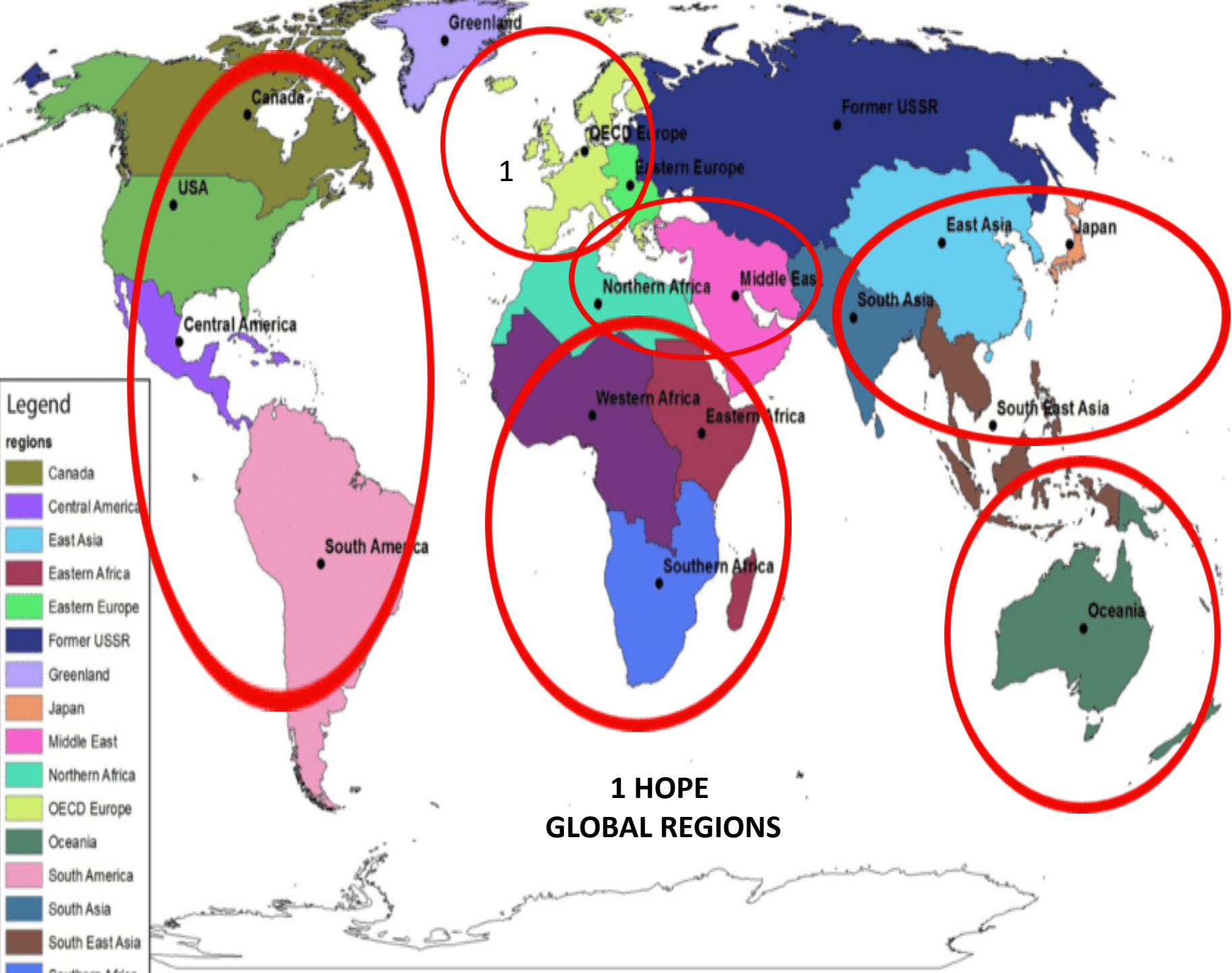
MOBILISE SOCIETY TO ADOPT THE ONE HEALTH & WELLBEING CONCEPT (OHW) & THE UN-2030 SUSTAINABLE DEVELOPMENT GOALS

VALUES and PRINCIPLES

- “interdependency of all life in a shared environment” ([ONE HEALTH & WELLBEING CONCEPT](#))
 - “compassion for the sanctity of all life” ([EARTH CHARTER](#))
 - “a more just, sustainable and peaceful world” ([UN-2030 SDGs](#))
- “multiple sectors, disciplines and communities at varying levels of society” ([ONE HEALTH HIGH LEVEL EXPERT PANEL](#))

Further Information: George Lueddeke PhD, Global Lead
glueddeke@aol.com

“Cultivating an active care for the world and with those with whom we share it.”
UNESCO



1 HOPE AFRICA CONSORTIUM PLANNING TEAM

- 1. AFRICA ONE HEALTH UNIVERSITY NETWORK (AFROHUN)**
- 2. GLOBAL ONE HEALTH EASTERN AFRICA OFFICE /OFFICE OF INTERNATIONAL AFFAIRS**
- 3. INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE (ILRI-CIGAR) AND THE ONE HEALTH RESEARCH, EDUCATION AND OUTREACH CENTRE IN AFRICA (OHRECA)**
- 4. NOVOMETRIX RESEARCH INC.**
- 5. INTERNATIONAL ONE HEALTH FOR ONE PLANET EDUCATION INITIATIVE (1 HOPE)**
- 6. INTERNATIONAL VETERINARY STUDENTS' ASSOCIATION (IVSA)**
- 7. RHODES UNIVERSITY**
- 8. RURAL WATER INITIATIVE FOR CLIMATE ACTION (RWICA)**
- 9. ONE HEALTH DEVELOPMENT INITIATIVE (OHDi)**
- 10. ORGANISATION FOR SOCIAL SCIENCE RESEARCH IN EASTERN AND SOUTHERN AFRICA (OSSREA)**
- 11. UN ENVIRONMENT PROGRAMME**
- 12. UNIVERSITY OF GLOBAL HEALTH EQUITY**
- 13. UNITED NATIONS DEVELOPMENT PROGRAMME**
- 14. UNITED NATIONS SUSTAINABLE SOLUTIONS NETWORK-YOUTH**
- 15. RHODES UNIVERSITY**
- 16. UNIVERSITY OF PRETORIA –FUTURE AFRICA**
- 17. UNIVERSITY OF SOUTH AFRICA**
- 18. UNIVERSITY OF YAOUNDE**
- 19. UNITED NATIONS DEVELOPMENT PROGRAMME**
- 20. UNITED NATIONS SUSTAINABLE SOLUTIONS NETWORK-YOUTH**
- 21. RHODES UNIVERSITY**
- 22. UNIVERSITY OF PRETORIA –FUTURE AFRICA**
- 23. UNIVERSITY OF SOUTH AFRICA**
- 24. UNIVERSITY OF YAOUNDE**

To be added:

- Public Health**
- Law**
- Education/University Associations**
- Physical Sciences...**





Activity #2 Ethiopia 1 HOPE HUB? Partnering for Change

Need to take a broader and more exclusive view “ to advance the OHW concept and SDG capacities, engaging, as examples, “ medical, veterinary, public health, engineering, architecture, agriculture, land management, economic, social and political science, conservation/wildlife science, etc. faculties“ and sectors.

Please identify organisations in Ethiopia which might be interested in learning more about 1 HOPE?

References

Survival: One Health, One Planet, One Future

Reflections on the Transformation of Higher Education in the 21st Century

Part 1: The One Health & Wellbeing Concept

"It is the long history of humankind that those who learned to collaborate and improvise most effectively have prevailed."

– Charles Darwin

Thank you!

Contact:

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AFROHUN
Advancing One Health
ETHIOPIA

VETERINARY CAPACITY BUILDING
in the context of the «One Health»



Con il contributo della  **Regione Emilia-Romagna**

CUP n. E17D20000040003

PART 2

Capacity Development For a Sustainable Future

SESSION 1

**Applying the Instructional Systems Approach
To Training and Education
Integrating Ecocentric Values and Principles Across
Curricula
Learning Outcomes that Matter**

Activity 1 :
Developing Subject-Specific Learning Outcomes



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PART 2

Capacity Development For a Sustainable Future

SESSION 2

Themes

Matching Teaching Methods to Learning Outcomes
Breaking Down Silos: The Ecological University



**Personal journey toward One Health & Wellbeing
(OHW)**