



Climate Change and Planetary Health

Concept note for a Short Course- University of Eldoret, Kenya

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| <p>Introduction</p> | <p>Planetary health is a recently established field of study that focuses on the human health impacts of global environmental changes and is defined as “the health of human civilization and the state of the natural systems on which it depends”. Planetary Health assesses how global pollution, climate change, biodiversity loss, altered biogeochemical cycles, changes in land use and resource scarcity are interlinked and decreasing the quality of the air we breathe, the water we drink and the food we eat; the risks of exposing us to new diseases; diminishing access to freshwater and other resources; and increasing incidence of natural disasters. Planetary health is an exploration through a wider lens of attaining equity of health and well-being in the world. Planetary health also focuses on the understanding and the quantifying of the global environmental disruptions and their effect on human health, along with a focus on solutions and actions which will allow both the human world and natural world of which it is a part to flourish and co-habit for future generations.</p> |
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| <p>Course Objectives</p> | <ol style="list-style-type: none">1. Introduce planetary health and one health concept and the health impacts of climate change.2. Describe the linkages between climate change one health and planetary health.3. Explore the effects of Climate Change on the Social & Environmental Determinants of Health in Africa4. Identify and elaborate the main climate sensitive diseases particularly as they relate to the Global South. 5. To explore areas of action, mitigation, adaptation & advocacy |
| <p>Course Description</p> | <p>This will be an elective course, organized as one-week daily sessions. It will be implemented starting 21st to 24th June 2022.</p> <p>Sessions 1 – 4 cover the topics listed below. The final session is for student group presentations and feedback.</p> <p>The five sessions are:</p> |

1. Planetary Health, One Health & Climate Change

Planetary Health is an emerging trans-disciplinary field, encompassing the vast interconnections between human health and the natural/physical sciences, and broadly integrating the related fields of Public Health, GeoHealth, One Health and Global Health.

One Health is a collaborative, multisectoral, and transdisciplinary approach — working at the local, regional, national, and global levels — with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.

The Anthropocene epoch is underway; human activities are profoundly changing the earth system. Global environmental changes, including biodiversity loss, the nitrogen cycle, and climate change, are exceeding the Earth's planetary boundaries, with tipping points in multiple systems possible over the coming decades. The field of planetary health recognizes that our lives, livelihoods, and societies rely upon the health of our planet. Climate change profoundly affects our health and wellbeing through, for example, extreme weather and climate events, the spread of infectious diseases, decreasing crop yields, and ecosystem degradation. Further health challenges arise from other types of

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| | <p>environmental change, including pollution of air, land-use change, and water pollution.</p> |
| | <p>2. Effects of Climate Change on the Social & Environmental Determinants of Health in Africa</p> <p>Evidence on how climate change impacts on social and environmental determinants of health and the link between these determinants and the vulnerability of local communities will be presented. Some community-based interventions that local populations in African countries can scale up and take ownership of in order to strengthen their resilience to climate-sensitive diseases and conditions, including in the context of climate-induced disasters.</p> |

3. Globalization, population health and Climate-sensitive Infectious Diseases

Both the infectious agent (protozoa, bacteria, viruses) and the associated vector organism (mosquitoes, ticks, sandflies, etc.) are very small and devoid of thermostatic mechanisms. Their temperature and fluid levels are therefore determined directly by the local climate. Hence, there is a limited range of climatic conditions—the climate envelope—within which each infective or vector species can survive and reproduce. It is particularly notable that the incubation time of a vector-borne infective agent within its vector organism is typically very sensitive to changes in temperature, usually displaying an exponential relationship. Other climatic sensitivities for the agent, vector and host include level of precipitation, sea level elevation, wind and duration of sunlight.

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| | <p>4. Scalable climate change adaptation strategies in the Global South: Eastern Africa</p> <p>Adaptation to the adverse impacts of climate change is urgent and indispensable to safeguard development gains and to address the needs of the poor and the vulnerable from the Global South. Healthy systems that are resilient to disruptions, shocks, and stressors are critical in achieving not only environmental benefits but also serve as a foundation for economic and human development. Climate resilience is a key component of any healthy system, particularly in vulnerable countries that depend heavily on climate sensitive natural resources and traditional agricultural practices for subsistence and livelihoods.</p> |
| | <p>5. Student presentation, and synthesis</p> <p>The lack of action and gap in knowledge about climate change, one health and planetary health remains the biggest challenge in addressing planetary health problems in recent times.. As such, this session will focus on individual and group ideas for possible areas of action, advocacy and mitigation. Students will be required to present their ideas in groups.</p> |
| <p>Course level</p> | <p>Post graduate (MSc and PhD)</p> |
| <p>Key words</p> | <p>One health, Planetary health, Climate Change and Health</p> |

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| <p>Learning outcomes</p> | <p>On completion of this course, the postgraduate students and researchers will be able to:</p> <ol style="list-style-type: none"> 1. Benefit from international speakers with high expertise 2. Have a critical awareness of planetary health, one health and climate change, and the possibilities for advocacy, trends of emerging infectious diseases, globalization, population health and Climate-sensitive Infectious diseases, air pollution, nutrition as well as Climate Change and Planetary Health opportunities and challenges in Kenya |
| <p>Graduate attributes, personal and professional skills.</p> | <p>This course directly addresses the following graduate attributes:</p> <ol style="list-style-type: none"> 1. Research and enquiry 2. Personal effectiveness and improved communication skills 3. Boost knowledge and ability to tackle planetary health, one health and climate change issues 4. Pro-active engagement 5. Creative and resourceful |
| <p>School of Environmental Studies</p> | <p>Department of Environmental Biology and Health, Environmental Planning and Monitoring, Social Sciences and Environmental Earth Sciences</p> |

Organized by Melvine Anyango Otieno (SOPHEA, UoE coordinator)