PMAC PRINCE MAHIDOL AWARD CONFERENCE 2026

PL 3

GOVERNING HEALTH FOR PEOPLE AND PLANET: GEOPOLITICS IN FLUX

| BACKGROUND

The world is undergoing profound population transitions, with aging societies, youth bulges, migration shifts, and urbanization reshaping economic and social landscapes. These demographic changes intersect with global polycrises—climate change, geopolitical instability, economic downturns, and technological disruptions—accelerating risks and widening inequalities. A 2023 study finds humanity has breached six of nine planetary boundaries, increasing risks of global instability and urgent need for action.

The World Economic Forum's Global Risks Report 2025 underscores the severity of these challenges (see figure 1), identifying state-based armed conflict as the most pressing immediate global risk, with nearly one-quarter of respondents ranking it as the most severe concern for the year ahead. Extreme weather events, driven by climate change, are the second-ranked danger, highlighting the intertwined nature of environmental and geopolitical threats.

Recent geopolitical shifts, particularly escalating tensions between major powers like the United States, China, and Russia, are profoundly influencing global health and planetary well-being. Demographic-driven geopolitical tensions, labor market imbalances, and forced displacement are exacerbating inequalities, particularly in fragile and low-income regions. Meanwhile, technological advancements such as AI, automation, and digital health are transforming economies but risk exacerbating intergenerational and global divides. Governments must navigate these crises with constrained resources, requiring new adaptive governance models and renewed international collaboration to effectively tackle these multifaceted challenges.

The relationship between population dynamics and planetary health is central to understanding global environmental change (see Annex 1 for a conceptual framework). On one hand, population growth, consumption patterns, and resource demands drive climate change through carbon emissions and ecological degradation. On the other, climate change directly impacts human health and well-being, disproportionately affecting vulnerable subgroups based on age, geography, and socio-economic status. A nuanced understanding of population size, composition, and distribution is critical for developing sustainable responses to the planetary crisis

In 2023, the global population exceeded 8 billion, with projections estimating 9 billion by 2040 and 10 billion by 2060. While rapid population growth strains resources and increases exposure to climate risks, declining fertility rates in over 55 countries by 2050 present a contrasting challenge. Some environmentalists argue that population decline could mitigate climate pressures, yet high-income, low-fertility countries remain the largest contributors to greenhouse gas emissions.

Furthermore, ageing populations reshape consumption and emissions patterns. Energy use peaks between ages 35–55, declines, and then rises again after age 70 due to longer indoor stays and larger home sizes. This demographic shift may offset expected reductions in emissions from population decline, reinforcing the need for equitable, consumption-focused climate policies. In many LMICs, large youthful populations are driving rapid urbanization, economic development, and demand for food, water, and energy. These countries often struggle with inadequate infrastructure, leading to unsustainable resource extraction, deforestation, and pollution.

The stark disparity in carbon footprints—with individuals in the U.S. and Australia emitting nearly twice as much as those in China, despite China’s total emissions being the highest—underscores the urgency of rethinking sustainability strategies beyond population growth control.

The intersection of climate change, migration, and global health is an escalating crisis, as climate-induced environmental changes force large-scale displacement. Climate migrants, displaced by rising sea levels, extreme weather, and droughts, lack formal recognition under international law, leaving them vulnerable to inadequate protection and resources. The WHO Global Research Agenda identifies the health of displaced populations in climate contexts as an urgent yet under-researched issue. Climate migration exacerbates disease burdens, introduces novel health risks, and disrupts health systems, affecting both climate migrants and broader migrant groups. Addressing this crisis requires legal recognition, healthcare access, and climate resilience strategies.

Gender dynamics further complicate the planetary health and geopolitical landscape. Climate change and environmental degradation disproportionately impact women and girls due to entrenched gender inequalities, including limited access to healthcare, economic resources, and decision-making power. For instance, UN Women estimates that by 2050, up to 158 million additional women and girls could be pushed into poverty due to climate-related shocks. In crisis contexts, women often bear the brunt of caregiving responsibilities, face increased exposure to waterborne and vector-borne diseases, and are more likely to experience food insecurity. Studies have also shown that gender-based violence and maternal health risks increase in the aftermath of climate disasters and displacement. Addressing these disparities requires integrating gender-

responsive approaches into climate adaptation, health governance, and peacebuilding strategies to ensure equitable outcomes.

Young people are not only disproportionately affected by planetary crises—they are central to shaping solutions. Youth-led movements have driven global climate awareness and catalyzed political pressure for urgent action. According to the World Economic Forum, youth participation in national climate action plans and innovation platforms is growing rapidly, particularly in low- and middle-income countries. Young people are contributing to both policy and practice, developing grassroots initiatives, digital tools, and climate resilience strategies. Empowering youth through education, leadership opportunities, and co-design mechanisms is essential to bridging generational divides, promoting intergenerational justice, and accelerating transitions toward sustainable, inclusive, and climate-resilient societies.

| OBJECTIVES

This subtheme explores the complex interplay of geopolitical transitions, demographic shifts, technological disruptions, and planetary health threats, focusing on how these dynamics reshape governance systems, population resilience, and global cooperation. In an era marked by polycrisis, the subtheme seeks to identify actionable strategies and inclusive governance mechanisms that foster health equity, sustainability, and intergenerational justice.

Analyze how demographic transitions—including population aging, youth bulges, fertility decline, and migration—interact with climate change to reshape global power, security, and governance

Assess how planetary health threats—such as climate-induced disasters, resource degradation, and ecological collapse—act as conflict multipliers and drivers of migration, health inequity, and geopolitical volatility.

Examine the dual role of technology—including artificial intelligence, surveillance tools, and digital health systems—as both a solution and a disruptor in demographic governance, planetary health protection, and global health equity.

Advance strategies for gender-responsive and youth-inclusive governance that strengthens planetary health, anticipates future population needs, and mitigates intergenerational inequities.

Panelist / Panelist

Gabriel Leung

Director

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Gabriel Leung is known for his commitment to improving human capabilities, nurturing impactful innovation and building strong institutions. He is Executive Director (Charities and Community) of The Hong Kong Jockey Club overseeing its Charities Trust, while serving as a governor of The Wellcome Trust – both of which are amongst the largest and most impactful philanthropies globally.

Gabriel's career has straddled academe, public service and philanthropy. From 2013 to 2022, he was the longest-serving Dean of Medicine and inaugural Helen and Francis Zimmern Professor in Population Health at the University of Hong Kong (HKU). Formerly, he was Hong Kong's first Under Secretary for Food and Health and fifth Director of the Chief Executive's Office in government.

Gabriel's research defined the epidemiology of three novel viral epidemics, namely SARS in 2003, H7N9 influenza in 2013 and most recently COVID-19. In government, he led Hong Kong's response against the 2009 influenza pandemic. He was founding co-director of HKU's World Health Organization (WHO) Collaborating Centre for Infectious Disease Epidemiology and Control and established the Laboratory of Data Discovery for Health (D24H) at the Hong Kong Science and Technology Park.

Gabriel is a member of the US National Academy of Medicine. He is currently serving as a member of WHO's Strategic Advisory Group of Experts on Immunization (SAGE).