CATHOLIC UNIVERSITY OF CAMEROON (CATUC), BAMENDA

INTERNATIONAL CONFERENCE ON THE ENVIRONMENT

THEME:

NATURE AND TECHNOLOGY: REFLECTIONS ON ENVIRONMENTAL PHILOSOPHY IN THE AGE OF TECHNOSCIENCE

Introduction:

The relationship between nature and technology has been a perennial subject of philosophical inquiry, evolving significantly with humanity's increasing technological prowess. In the contemporary era, characterized by the pervasive influence of technoscience – a term that encapsulates the intertwined and mutually constitutive nature of scientific research and technological development – this relationship has become more complex and urgent than ever before. From climate engineering and synthetic biology to artificial intelligence and ubiquitous computing, technoscientific advancements are reshaping our understanding of the natural world, our place within it, and our ethical responsibilities towards it.

From genetically modified organisms and artificial intelligence to geoengineering and synthetic biology, the capacity of technoscientific tools to reconfigure nature poses unprecedented philosophical challenges. These developments do not merely add to the complexity of environmental issues; they transform our very categories of thought. What counts as “natural” when ecosystems are designed by algorithm or managed by predictive models? How do we understand “sustainability” when the solutions proposed rely on technological systems that have uncertain long-term impacts? Is the ideal of “restoring nature” even coherent in a world where “nature” itself is continuously reconstituted by human activity?

Philosophy, and especially environmental philosophy, must grapple with these questions by revisiting the foundational concepts: *nature*, *technology*, *value*, *agency*, *responsibility*, and *finitude*. Moreover, it must draw upon a plurality of philosophical traditions to adequately address the entangled ethical, metaphysical, and political dimensions of environmental crisis in the technoscientific age.

Objective of the Conference:

The primary objective of this conference is to critically interrogate and philosophically reframe the complex relationship between nature and technology in the epoch of technoscience. We seek to move beyond established dualisms and foster a robust, interdisciplinary dialogue that can address the profound conceptual and ethical challenges of our time. This gathering aims to assemble a diverse range of philosophical perspectives, from environmental philosophy and ethics to posthumanism, political ecology, and Indigenous thought, to collectively question how technoscience is reshaping our understanding of life, agency, sustainability, and the very concept of "nature." We welcome contributions that not only deconstruct the problems posed by technological mediation but also explore possibilities for a more thoughtful, responsible, and ecologically attuned integration of technology within the world. Ultimately, the goal is to advance a nuanced environmental philosophy capable of navigating the promises and perils of a planet increasingly configured by human design

The compelling significance of this conference lies in the fact that it will contribute to ongoing discussions about sustainability by providing a philosophical lens through which to view technological advancements. It encourages participants to critically engage with both environmental issues and technological innovations, fostering a more holistic understanding of their interconnectedness.

PANEL 1: METAPHYSICS, ETHICS, AND ONTOLOGY IN THE AGE OF TECHNOSCIENCE

1. **Rev. Prof. Peter Takov**: *Being-Toward-the-Planet: Ontological Dilemmas of Technoscientific Environmentalism*

This paper examines how technoscientific environmentalism produces dilemmas in which proposed solutions often reproduce the very problems they seek to address. It asks: How does technoscientific environmentalism transform our ontological relation to the Earth, and what alternative mode of being does this transformation require? Drawing on Martin Heidegger, Hans Jonas, and African relational environmental thought, the paper argues that dominant technoscientific approaches, even when framed in terms of sustainability, remain grounded in an instrumental ontology that reduces the Earth to a standing-reserve to be optimized and controlled. Against this background, the paper proposes a reconceptualization of the human being as "being-toward-the-planet," understood as a form of stewardship that combines ontological humility, ethical responsibility, and relational coexistence within a broader community of life. This alternative orientation resists both technocratic "salvationism" and passive resignation by emphasizing vulnerability, interdependence, and shared exposure to ecological risk. The central claim is that the ecological crisis is fundamentally ontological: it arises from a distorted understanding of what it means to be human on Earth, and therefore cannot be resolved by technoscientific means alone. A genuine response requires a transformation in how humans inhabit the Earth, one that reconfigures our self-understanding from masters of nature to co-dwellers within a fragile planetary habitat.

Keywords: Technoscientific environmentalism, Ontology, Being-toward-the-planet' Environmental philosophy, Sustainability

2. **Rev. Dr. Wirnkar Rene Wongbi**: *Rediscovering Purposive Nature in the Age of Technoscience*

In an age dominated by technoscience, characterized by rapid technological innovation, data-driven inquiry, and the instrumentalization of scientific knowledge, the concept of purposive nature has largely receded from mainstream philosophical and scientific discourse. This decline is the result of a philosophical anti-teleological worldview, traceable to modernity, in which nature is conceptualized as devoid of intrinsic value, purpose, and meaning. In the view of science and technology, nature is simply "ateleological", that is, it lacks purposes of its own. Hence, it can be used and exploited solely for human ends and financial benefits.

This article revisits and critically examines the notion of purposiveness in nature, arguing for its renewed relevance in addressing the contemporary ecological crisis. It argues for the re-discovery or, better still, re-adoption of the teleological worldview as a better way to heal the ecological crisis at its roots. By tracing the historical marginalization of the traditional teleological worldview through modern mechanistic science to contemporary technoscience, it highlights how nature has increasingly been understood as inert, value-neutral, atelological and subject to human control.

Against this backdrop, this article contends that technoscience, while powerful and useful in itself, remains incomplete without a conceptual framework that acknowledges the intrinsic

value and purposiveness of nature and its processes. Drawing inspiration from the Aristotelian tradition, the paper proposes a rearticulated understanding of purposive nature that avoids both mechanistic reductionism and extrinsic design. Understanding nature to be purposive is not a regression to pre-modern thought, but a necessary step toward a more integrated and responsible engagement with nature in an age of technoscience tainted by the ecological crisis. This teleological perspective can greatly inform environmental policy today by promoting the stewardship model over the domination model of nature, prioritizing conservative trends over exploitative ones, and influencing educational and cultural attitudes towards nature.

Keywords: Technoscience, ecology, teleology, integral monism, ethics of responsibility.

3. **Prof. Shang Nelson**: *Reconfiguring the Natural: How Technoscientific Interventions Transform Ontological Categories*

Contemporary technoscience increasingly blurs the boundaries between the natural and the artificial, challenging foundational ontological categories that have structured Western thought. This paper examines how technological interventions (from synthetic biology and biomimetic design to digital ecologies) transform our understanding of what nature means and where its boundaries lie. I argue that technoscience does not simply instrumentalize a pre-given nature but actively participates in the ontological reconfiguration of the natural itself. This transformation demands that we move beyond both the nature-culture dualism characteristic of Western modernity and the uncritical embrace of technological solutionism. Instead, I propose that understanding technoscientific objects as possessing hybrid or third ontological statuses opens new possibilities for ethical and political engagement with our technologically mediated world.

Keywords: technoscience, ontology, nature, cosmotechnics, hybridity, postnaturalism

4. **Prof. Shang Nelson**: *Epistemology and Metaphysics of Technoscientific Environments: Knowledge Production, Planetary Management, and the Digital Gaze*

Technoscientific practices have fundamentally reconfigured both how we know the environment and what we take the environment to be. This paper examines the epistemological and metaphysical dimensions of these transformations across four interconnected domains. First, it analyzes how technoscientific practices (understood as the entanglement of scientific inquiry with technological intervention) reshape knowledge production about the environment, drawing on Federica Russo's informational approach to philosophy of technoscience. Second, it explores the metaphysical implications of viewing Earth as an engineered system, examining the tension between Lovelock's living Earth and the spaceship Earth metaphor through Heideggerian critique of technological enframing. Third, it investigates how digital technologies (particularly Earth observation systems, AI, and digital twins) transform environmental perception and understanding, creating what might be termed a new epistemic interface with the planet. Fourth, it examines the philosophical underpinnings of scientific models and simulations in environmental decision-making, focusing on questions of uncertainty, validation, and the distinctive epistemology of synthetic environments. The paper argues that these developments collectively constitute a shift from passive observation to active planetary intelligence, raising fundamental questions about the relationship between human purposes and Earth's own purposiveness, the ontological status of digital representations, and the normative commitments embedded in technoscientific modes of environmental governance.

Keywords: technoscience, epistemology, metaphysics, digital twins, geoengineering, instrumental rationality

5. **Dr. Mbuwir Kizitor Laiven**: *The Search for a New Ethics of Life and Death in the Technological Age: A Dialogue Between Peter Singer and Hans Jonas*

In the prologue to his book, Rethinking Life and Death: The Collapse of Our Traditional Ethics Peter Singer makes the following revolutionary claims; "after ruling our thoughts and our decisions about life and death for nearly two thousand years, the traditional western ethic has collapsed" (Singer, 1994). This is because as he argues the development in medical technologies has expanded our moral and intellectual horizons, forcing humans to think and ask questions about issues they previously had no need to consider, or rethinking issues they had previously accepted without further reflections, like issues about life and death. Unfortunately, and according to Singer, the traditional ethics which humans often rely on to address issues about life and death stands on shaky foundations and needs a total replacement. Singer is not the first whistle blower on the impact of technological advancement on traditional western ethics. Hans Jonas in The Imperative of Responsibility: In Search of an Ethics for the Technological Age advocates for a new ethical framework that addresses the challenges posed by modern technology. While Singer and Jonas agree that there is something wrong with the traditional western ethics they disagree on the way out. Singer believes that traditional Western ethics has become obsolete and should be replaced, while Hans Jonas rather challenges the anthropocentric nature of this ethics, suggesting the need for it to be upgraded and made more inclusive to better address the moral dilemmas of the technological age. This paper is a dialogue between Peter Singer and Hans Jonas on the search for a new ethics in the technological age. The paper shall adopt philosophical conceptual and contextual analysis and clarifications.

Keywords: Peter Singer, Hans Jonas, New Ethics, Life and Death, Technological Age

6. **Dr. Berinyuy Frankline**: *Teaching the Future: Hans Jonas' Ethics of Responsibility and Environmental Education*

In today's world, where we're grappling with incredible technological advancements and a delicate ecological balance, education has a crucial role in equipping individuals to respond thoughtfully to the future of life on our planet. While traditional teaching methods often emphasize sharing knowledge about environmental issues or encouraging behavioral changes, they often overlook the importance of nurturing moral foresight and ethical imagination needed to tackle long-term ecological challenges. This paper posits that Hans Jonas's ethics of responsibility provides a powerful philosophical basis for environmental education, focusing on care, foresight, and accountability for both current and future life. The discussion starts by delving into Jonas's critique of modern technology and its unprecedented ability to alter nature, pointing out the shortcomings of classical ethical frameworks in dealing with these existential threats. It then lays out Jonas's key principle of responsibility, which is rooted in anticipating potential harm and the moral duty to protect the continuity of life. This ethical perspective broadens the scope of moral consideration to include future generations and the wider natural world. Building on this theoretical groundwork, the paper examines how Jonas's ideas can influence educational theory and practice. It argues that environmental education should

nurture students' ethical imagination, emotional involvement, and understanding of interdependence, fostering a profound sense of responsibility for the future. Teaching strategies inspired by Jonas's ethics include reflective inquiry, hands-on learning experiences, and interdisciplinary methods that blend scientific knowledge with moral and existential contemplation.

This paper argues that we need to rethink environmental education through the lens of Jonasian responsibility. It suggests that teaching should go beyond just passing on knowledge; instead, we should aim to cultivate ethical individuals who can nurture both life and our ecological systems. By doing this, it presents a vision of education as a forward-thinking and morally transformative journey, focused on safeguarding and promoting life for future generations.

Keywords: Hans Jonas, ethics of responsibility, environmental education, ecological ethics, future generations, moral imagination, pedagogy, sustainability

PANEL 2: AFRICAN INDIGENOUS KNOWLEDGE, DECOLONIAL ECOLOGIES, AND RESPONSIBILITY

1. **Rev. Dr. Remi P. Fonka**: *Testimony in African Indigenous Knowledge and Environmental Challenges Facing a Technological Age*

Overwhelmingly, African indigenous knowledge due to its rooted traditional and culturally based approach, suffers from marked biases/prejudices in the face of Western considerations and techno- science. The conceptualization of testimony as a central instrument (watchdog) in African epistemologico-environmental challenges highlights the fact that there is no antagonism with technology. This article estimates that integrating such an element in environmental conservation constitutes an opportunity for tele-guiding technological development; focusing on communalism, ethics of care and responsibility, promotion of human dignity, and welfare. Testimony as a cosmo-ontological guide and moral authority enjoys reliability and trust; fostering responsible technological innovation and progress. Fundamental features of testimony in African epistemology (reliability on communitarian framework/oral tradition), and moral authority as custodians of environmental preservation or sustenance, leads to confrontation with technological exigencies. Nevertheless, prospects and perspectives of testimony in indigenous knowledge influencing environmental concerns (as gadfly: check and balances), cautions against an epistemology and ethics of care, technological progress versus social disruption, integration of responsible innovation, and challenges of belief, truth, and justification. Consequently, testimony in African epistemology enhances a framework of values (care, solidarity, and social cohesion); ensuring that technology serves human and ecological flourishing, by reconciling nature exploration apropos technological advancements. Ultimately, scientific investigations alongside testimonial epistemic trust, encounters challenges of second-order assessment, trustworthiness, taboos, and occasional distrust of scientific expert testimony.

KEY TERMS: Testimony, indigenous-knowledge, environmental- challenges, Technological age

2. **Dr. Djia Voltaire**: *A Postcolonial Critique of Mark Coeckelbergh's AI-Driven Environmental Philosophy in an African Context*

This article interrogates the philosophical limits of Mark Coeckelbergh's account of AI-driven climate governance by situating it against the demands of a genuinely global political thought. While Coeckelbergh offers a sophisticated reconstruction of the relation between algorithmic authority and political liberty, his framework remains circumscribed within a Euro-American epistemic horizon. Such a restriction is not merely contextual but structurally problematic, given the planetary scope of both climate crisis and AI governance. The paper advances the thesis that Coeckelbergh's normative proposals become untenable when transposed into African contexts. The difficulty is not one of application but of paradigm: the model of centralized, AI-mediated authority he defends reproduces, at a conceptual level, the logic of colonial administration, thereby entering into tension with the historical and political realities of postcolonial African societies. Methodologically, the argument unfolds through a critical confrontation between Coeckelbergh's framework and Achille Mbembe's concept of necropolitics, which foregrounds the governance of life and death under conditions of asymmetrical power. The analysis concludes that any viable architecture of global AI and environmental governance must undergo a process of decolonization. This entails abandoning the universalization of Western political rationality in favor of a plural conception of the common world, one that integrates diverse philosophical traditions as indispensable resources for rethinking community, nature, and justice.

Keywords: AI Ethics, Climate Justice, Environmental Philosophy, Green Leviathan, Necropolitics.

3. **Mr. Syracuse Lee**: *The Logic of Vulnerability: Indigenous African Knowledge Systems as an Antidote to the Illusion of Control*

Technology—Western or Indigenous has come to stay. As a "handmaid of humanity", Western techno-science is predicated on a logic of control animated by the impulse of—total knowledge, predication and control over nature—the construction of walls against vulnerability. This article interrogates the epistemological cum ethical foundations of techno-modernity positing that the global socio-ecological crises witnessed by humanity are deeply rooted in a techno-science paradigm accelerated by the logic of invulnerability. In critical response, we explore the philosophical underpinnings of indigenous African knowledge systems (IAKS) through the framework of a "Logic of Vulnerability". IAKS cultivates resilience, not by domination but through proactive reciprocity, relational accountability and adaptive fluidity. Through the praxis of sustainable agriculture, conflict resolution and spiritual ecology, this article elucidates how the "logic of vulnerability" fosters long term sustainability and social cohesion. We contend the planetary crises born from the illusion of mastery and control of nature—as IAKS contends the illusion of building walls on nature and offers not alternative data but alternative logic for being human. Engaging with this logic is not a return to a romanticized past, but an essential step toward a viable and ethically grounded future founded on an epistemic-ethical position that embraces humanity's permeable and relational existence within a network of life forces, the environment, the ancestors and the spiritual world.

Keywords: Logic of Invulnerability, Logic of Vulnerability, Handmaid of Humanity, IAKS, Technology.

4. **Mr. Wirba Lucas**: *Transhumance: A Dichotomy of Philosophy vs Environment in the Tikar Plain of Cameroon*

Investigating the unique influence of transhumance- the seasonal, cyclical movement of livestock and herders between high-altitude and lower-altitude pastures, on the basis of philosophy, environment and technology in a zone of population mixing such as the Tikar Plain of Cameroon, can be a sustainable and a socio-ecological way to peaceful coexistence of communities, livestock and the environment especially in a milieu where tempers often flare up between farmers and grazers that may lead to loss of lives, property damage, tension and insecurity in the local communities despite UNESCO's inclusive views. The objective of this work is to create an awareness of this critical but current and sometimes imperceptive issue and to propose a sustainable solution to curb especially its negative impacts and to enforce strong community spirit among the diverse ethnic groups in the Plain. A multi-method approach involving different data collection tools and equipment, field surveys and observations, interviews, focus group discussion and questionnaires, has been used. Quantitative and qualitative data sources have been obtained from primary and secondary data and analyzed using SPI and SPEI and GIS. Spatial analysis and the contemporary issues of technology and development have been highlighted. Findings show a strong significance between the herders and the local agrarian communities and the modifications brought by the use of technological tools of change especially in tracking the herders and their flocks, spots of regeneration, water points, pasture, location of huts, and other land use heritage to facilitate movements. Land use management and zonation, creation of productive cattle parks/ranches for all-year-round grazing, environmental education, cultural-community living, more sedentary population and the inclusion under Intangible Cultural Heritage of Humanity by UNESCO, SWAC, ECOWAS and CEMAC would lead to sustainable transhumance and development in the Tikar Plain of Cameroon and in the Central, West and Sahelian states of Africa in general.

Key words: Transhumance, Sustainable, Multi-method approach, UNESCO, Tikar Plain

5. **Dr. NZENTI KOPA Ramsès**: *La responsabilité négro-africaine dans la crise environnementale actuelle : une analyse à la lumière de la pensée écocritique d'Aimé Césaire*

À raison d'une supposée bonté écologique précoloniale, d'une industrialisation ou d'une empreinte écologique inférieures, la raison négro-africaine à tendance à se déresponsabiliser de la crise environnementale actuelle, alors que la responsabilité de l'Afrique subsaharienne n'y est pas pour autant insignifiante. Dans ce sens, la présente étude se propose de décoloniser davantage l'écologisme négro-africain, suivant une approche écocritique de la pensée d'Aimé Césaire, qui délégitime la culpabilité unique de l'Occident et met l'Afrique devant sa responsabilité écoéthique locale et globale. Toutefois, cette responsabilité semble déterminée par des écueils endogènes et exogènes tels que les préjugés, la vaccine, le solidarisme ou la bureaucratie. Dans cet ordre d'idées, la présente étude s'inscrit dans l'axe de l'éthique et des politiques environnementales en Afrique subsaharienne.

Mots-clés : responsabilité, écocritique, décolonisé, environnement, négro-africain.

6. **Dr. Siwiyni Christian**: *Toward a Decolonial Ecological Epistemology: Kwasi Wiredu's Linguistic Philosophy and the Rehabilitation of African Ecological Wisdom*

The aim of this article is to show that Kwasi Wiredu's philosophy of language offers the most philosophically critical tool that can presently rehabilitate and legitimize African ecological knowledge systems. These systems had been relegated by Western dominant epistemic frameworks, that constituted themselves as the sole arbiters of valid knowledge. Kwasi Wiredu significantly argues that language is not epistemologically innocent, but a culturally influenced medium that either permits or bars entire domains of knowledge from attaining epistemological visibility. This offers an influential systematic tool for clearly understanding how African ecological knowledge has been steadily eliminated from what Western rationality claims to be the universal epistemic authority. Using a critical analytic method, this article establishes that the relegation of African ecological knowledge is structurally entrenched in the Western language and theoretical categories that distinguish valid from invalid knowledge. Although Kwasi Wiredu's philosophy of language offers the basis for this rehabilitation, it does not fully apply its own insights within the context of ecological knowledge. Beyond Kwasi Wiredu, I propose a decolonial ecological epistemology (DEE), which is the philosophical commitment to recuperating African ecological systems, by critically dismantling the linguistic and conceptual structures that excluded and silenced them. Any philosophical theory that explains how we know and understand the natural world cannot pretend that the language it uses is neutral be it in what is said or silenced.

Keywords: Decolonial Ecological Epistemology, Linguistic Philosophy, African Ecological Wisdom, Epistemic Marginalization, Conceptual Decolonization

7. **Mohamed Moustapha NGOUWOUO, Ph.D/ Prudence DJUNNE AIMELI.** : *« Afro-écologie » et résilience des écosystèmes animales et végétales / 'Afro-ecology' and the resilience of animal and plant ecosystems*

Today, the trend towards specialisation in plant and animal biotechnology has only reinforced the divide that emerged in the second half of the 20th century between crop farming and livestock farming. Yet this divide has led to numerous ecological problems such as excess nitrogen in the environment, water pollution, loss of soil fertility and, above all, the decline in biodiversity. The aim of this article is to demonstrate that the project of diversification and the reconnection of livestock farming and agriculture, traditionally championed by Afro-ecology, is a key driver of the ecological transition. The challenge is to resolve the problem of ecological crises using ecosystem resilience techniques developed in Africa. The aim is to demonstrate how, using ecological resilience techniques developed by Afro-eco-integralists, we can achieve fair and biodiverse agroecological transitions.

Key words: Afro-ecology, Afro-eco-fundamentalists, biotechnology, ecological crises, ecosystems, ecological transition.

8. **Dr. Siani Edward**: *Pedagogy of the Earth: Decolonizing African Education Through Indigenous Technoscience and Ecofeminism in the Anthropocene.*

This paper argues that the intersecting crises of the Anthropocene demand a fundamental reconceptualisation of African educational philosophy – one that moves beyond the inclusion

of Indigenous knowledge as cultural ornamentation toward a genuine epistemological decolonisation rooted in ecofeminist ethics and Indigenous technoscience. Drawing upon critical new materialist pedagogies, decolonial theory, and African ecofeminist thought, I propose a "Pedagogy of the Earth" that reimagines education as a site of response-ability toward more-than-human worlds. Such a pedagogy rejects the nature-culture dualism inherited from colonial modernity, instead recognising that to educate is to participate in the lively relationalities of becoming that constitute planetary life. The paper examines how Indigenous Knowledge Systems in African contexts comprise sophisticated technoscientific practices (from fermentation technologies to sustainable agriculture) that have been systematically marginalised by colonial education. By reading these practices through an ecofeminist lens attentive to the entanglement of gender, race, and environmental justice, I argue that decolonising African education is inseparable from the broader project of cultivating modes of thought and practice capable of responding to anthropogenic ecological breakdown. The paper concludes by proposing pedagogical principles for a decolonised, ecofeminist technoscience education in African contexts.

Keywords: pedagogy, decoloniality, ecofeminism, African indigenous knowledge, education, technoscience

Panel 3: POLICY, INSTITUTIONS, HEALTH, AND SOCIO-ECONOMIC DIMENSIONS

1. **Dr. Sundjo Fabian**: *Livelihoods Under Siege: The Catastrophic Economic Burden of Multi-Drug-Resistant Tuberculosis Treatment on Rural Households in Northwest Cameroon*

Multidrug-resistant tuberculosis (MDR-TB) remains a persistent challenge to global health equity, particularly in resource-constrained settings where economic constraints compound clinical difficulties. This study investigates the substantial economic burden imposed by MDR-TB treatment in Cameroon's Northwest Region, employing a comprehensive mixed methods approach that captures both direct medical costs and indirect socioeconomic impacts. Through analysis of primary data collected from 56 patients and 37 healthcare providers at Bamenda Regional Hospital, we reveal that the average total cost of treatment reaches 3,184,716 FCFA (approximately $5,300) per patient over nine months, a staggering figure that includes often-overlooked components such as transportation expenses (averaging 5,969 FCFA monthly) and productivity losses. While healthcare providers shoulder 49% of these costs, patients and their families still bear a disproportionate 36% of the financial burden, exposing critical gaps in Cameroon's healthcare financing system. The study's human capital analysis demonstrates the substantial societal benefits of treatment, with productivity gains estimated at 9,270,600 FCFA per successfully treated case, a compelling economic argument for increased investment in MDR-TB programs. These findings contribute to contemporary debates in health economics by quantifying the true cost of MDR-TB care in a low-resource setting and identifying three key policy interventions: targeted transportation subsidies, decentralised diagnostic services, and enhanced social protection measures. The research underscores the urgent need for integrated economic and public health strategies to address what is fundamentally both a medical condition and a development challenge, offering valuable insights for policymakers grappling with similar healthcare financing dilemmas across sub-Saharan Africa.

Keywords: Health economics, Catastrophic health expenditure, Tuberculosis financing, Social determinants of health, Rural Households

2. **Dr. Sundjo Fabian**: *Bridging the Digital Divide: Education as a Catalyst for Pro-Poor Banking and Rural Inclusion in Cameroon*

While financial digitalisation presents a transformative opportunity for the banking sector, its benefits risk bypassing rural and low-income populations, thereby exacerbating the digital divide. This study argues that education is the critical catalyst needed to channel the gains from digital finance towards pro-poor banking and genuine rural inclusion in Cameroon. Analysing data from 14 commercial banks from 2017 to 2022 using a panel Generalised Method of Moments (GMM) estimator, we first establish that electronic accounts significantly enhance bank performance. Building on this finding, we contend that this improved profitability provides banks with both the capacity and the incentive to invest in rural markets. However, unlocking this potential is contingent upon parallel investments in digital and financial literacy. The study concludes that a synergistic strategy, one that strategically interconnects digital banking platforms with targeted educational programmes, is essential for translating bank-level gains into broad-based rural economic development and closing the financial inclusion gap.

Keywords: digital divide, financial literacy, pro-poor banking, rural inclusion, electronic banking, GMM

3. **Dr. Fomutar Stanislaus**: *The Fate of Africa amidst Global Environmental Challenges*

This article evaluates the concrete realities of environmental degradation in Africa and explores best practices that could foster a sustainable future for the continent. In recent times, following the outcry of Africans over environmental damage caused by rising emissions from industrialised countries; damage, that is increasing the vulnerability of African economies and ecosystems, Africans have continually demanded for reparation. Yet, since independence, Africa has received little genuine compensation from colonial and Neo-colonial masters, the same actors that the continent now looks to for adaption finance. While demanding adaption funds is a necessary and commendable step to take, especially given that mitigation strategies are most effective in industrialised regions that contribute the most to global emissions, it is difficult to say if these funds will ever adequately reach Africa, cognizant of past failed initiatives and unmet pledges. Without reparation and real accountability from major global polluters, Africa is likely to face ever more perilous conditions and a diminished capacity to adapt to environmental challenges, unjustly imposed on her by industrialised nations. This article argues that, for Africa to obtain justice and accountability from those responsible for the continent's deteriorating environmental conditions, she must first become a serious political contender on the global stage. A strong and united African bloc of continental negotiators would constitute a voice that cannot be ignored in international forums. Unless such a unity is achieved, individual African States and fragmented regional bodies risk remaining supplicants in Western corridors of power, asking for what they justly deserve rather than claiming it as a matter of right.

Key words: Africa, Industrialised Nations, Environmental Deterioration, Reparation, and Mitigation.

4. **Dr. Suiven John Paul**: *Global Governance of Transboundary Environmental Challenges in the 21st Century*

Transboundary environmental challenges extend beyond national borders and require cooperative management among countries. They stem from pollution, climate change, biodiversity loss, and resource depletion. Atmospheric pollutants from industry or vehicles can travel long distances, affecting air quality in neighboring states. Acid rain exemplifies transboundary air pollution. Shared water bodies like rivers, lakes, and aquifers also create disputes over water rights. Over-extraction, pollution, and altered flows impact multiple countries, as seen with the Nile and Mekong Rivers. Climate change affects all nations regardless of emissions levels, with rising sea levels, extreme weather, and ecosystem shifts demanding international cooperation for mitigation and adaptation. Biodiversity issues are similarly transboundary since many species migrate across borders. Deforestation, habitat loss, and poaching have regional impacts, while protected areas spanning several countries help address conservation. Ocean currents distribute plastic waste globally, harming marine ecosystems and coastal communities, which calls for international agreements on plastic production and waste. Invasive species disrupt ecosystems and economies as they spread across borders, requiring coordinated management. Nuclear waste and facility accidents also pose cross-border risks that need international safety and accountability frameworks. Addressing these challenges depends on treaties such as the Paris Agreement and the Convention on Biological Diversity. Collaborative frameworks enable dialogue, best practice sharing, and resource mobilization. Effective regional and global governance is critical, with bodies like the United Nations Environment Programme fostering cooperation. Raising public awareness is essential to build support for joint initiatives, with NGOs and community groups playing key advocacy roles. Overall, transboundary environmental problems demand a multifaceted approach combining scientific research, policy development, stakeholder engagement, and international collaboration.

Keywords: agreements, challenges, diplomacy, political ecology, environmental crises

5. **Sr. Dr. Chin Pia**: *Catholic Universities as Juridical and Moral Agents of Integral Ecology*

This presentation examines Catholic universities as juridical and moral agents of integral ecology within the mission of the Church. Grounded in the canonical framework of the 1983 Code of Canon Law and the Apostolic Constitution Ex Corde Ecclesiae, the study argues that Catholic universities are not merely academic institutions but ecclesial realities entrusted with a specific responsibility toward the care of creation. Drawing from the Church's contemporary magisterium, particularly Laudato Si' and Laudate Deum, the paper situates environmental responsibility at the heart of the Catholic university's identity and mission.

The presentation explores how integral ecology reshapes the understanding of Catholic higher education by integrating environmental stewardship into governance, teaching, research, and campus life. It highlights the juridical obligations of Catholic universities in the administration of temporal goods, institutional decision-making, and ecclesial accountability, while also emphasizing their moral role in forming consciences and promoting ecological conversion. Particular attention is given to the university as a "laboratory of ecological conversion," where

sustainable practices, interdisciplinary dialogue, and ethical engagement with technoscience become concrete expressions of faith in action.

Ultimately, the study proposes that Catholic universities, faithful to their canonical identity and educational mission, are uniquely positioned to model a holistic response to the ecological crisis—one that unites faith, reason, law, and science in service of the common good and the dignity of creation.

Key words: Catholic Universities; Integral Ecology; Canon Law; Stewardship.