



Review Article

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*Chrysanthus Chukwuma Sr*  
Executive Director, The Chrysanthus Centre for  
Future-oriented Studies, CTR Future-oriented  
Ltd, Abakaliki, Ebonyi State, Nigeria

## Conceptualization and Sustainability Analysis of the Prevalence and Management of Invariant Challenges, Issues and Opportunities in Nigeria and other Developing Countries: An Ecological Framework for Perspectives and Reflections

*Chrysanthus Chukwuma Sr*

### Abstract

Analysis and conceptualization in the extant throes of Nigeria and other developing countries may depict the challenges, issues and opportunities in inter alia expunge invariant vulnerabilities concerning the absurdities associated with human health and healthcare delivery, climate change, environment, natural resources, quality of life, food security, agriculture and equitable wealth distribution. An untoward trajectory is capable of leading to dire consequences in the economy with geopolitical destabilization and sociopolitical base. These features can enact the importance of sustainable agriculture for food security, promoting rural prosperity and eradication of insecurity in Nigeria and the developing world. It is imperative that sustainability dimensions are enacted and implemented with analysis and conceptualization of optimum ecological framework correlated to reflections and perspectives of our cultural heritage, politics and administration. In conclusion, further work is pertinent to elucidate how much reflections and perspectives validate vital spheres which are not inculcated in this article. This article contributes to strategies in sustainable human health, environmental quality, socioeconomic development and quality of life in both developing and developed nations as significantly impacted in by processes and products of anthropogenic and natural forces both externally and internally. Nigeria has become embellished within inextricably conflicting challenges, issues and opportunities of climate change, socioeconomic problems, environmental derangement, as well as insecurity of lives and properties. These require multidimensional and holistic newfangled approach for durable, salient solutions and policies for invariably effective and efficient healthy administration for sustainable governance devoid of inappropriate rustic and outlandish influences which irrevocably and adversely affect our traditional ethics. Beyond the constraints and ostensible failures, commendations must be given on the positive attitude and resilience of altruistic individuals who have lifted the pride of the entire country and other developing nations.

**Keywords:** Health, Healthcare Delivery, Rural Areas, Agriculture, Climate Change, Geopolitics, Mitigation Systems, Economy, Environmental Degradation, Insecurity, Asymmetric Warfare.

### INTRODUCTION

Several major challenges and issues are facing Nigeria and other developing countries in their health and healthcare delivery systems <sup>[1,2]</sup> as well as the economy, oil reliance, fiscal depreciation, inflation, recession and unemployment, with dereliction of sustainable agriculture and development of the rural areas. These challenges and issues create and provide opportunities for reform, growth and development, though. Diversification, wholesome administration and governance as well as transparency may present the opportunities to drive economic sustainability and resilience. The perturbing environmental challenges and issues incessantly encountered in Nigeria are inter alia land degradation <sup>[3,4]</sup>, deforestation, and terrestrial, aquatic and atmospheric pollution <sup>[5,6]</sup> as well as climate change, global warming and extreme hydrologic events <sup>[7-10]</sup>. In nature and anthropogenic factors, extreme events are increasingly impacting on Society. Extremes correlate in terms of massive extent or intensity invariable due to natural and anthropogenic mechanisms, such as floods and, heat waves as well as the level of human endeavours and preparedness as well as the determinants and repercussions. Succinctly put, diverse reflections, perspectives and strategies are needed to face the major challenges in the Nigerian issues when confronting extreme events and their varied facets <sup>[7,8,10]</sup>.

**Correspondence:**

*Dr. Chrysanthus Chukwuma Sr*  
Executive Director, The  
Chrysanthus Centre for Future-  
oriented Studies, CTR Future-  
oriented Ltd, Abakaliki, Ebonyi  
State, Nigeria  
Email: [chukwumasr@gmail.com](mailto:chukwumasr@gmail.com)

For subsistence and sustainability, the terrestrial sphere may be presented as the most vital resource in comparison to others. Nigeria faces diverse persistent challenges, such as insecurity, poverty, and economic strangulation, however, there are great expectations and significant opportunities for expansive growth and development. The progression of sustainable agriculture will create avenues for enhanced rural economies, job creation and improved quality of life for rural dwellers and communities. The interconnectedness between sustainable agriculture and rural prosperity highlights the need for innovative solutions which address the challenges, issues and opportunities encountered by farmers in ensuring developmental perspectives and reflections in society [3,4]. These are comprehensible through various perspectives and reflections, accentuating both the difficulties and potential resolutions.

### **Vignette for concerns in the sustainable management of Nigeria**

Sustainability simply connotes actualization of proper quality of life pertinent to Mankind without compromising the ability of present and future generations to meet their needs and fundamental human rights for the preservation of inter alia natural, social and economic resources as well as determinants for development, environment and agriculture. As Nigeria and other developing countries incessantly romance with invariant challenges, issues and opportunities which have been prevalent for decades, it becomes imperative that these regions inculcate reflections and perspectives in the remote and immediate aetiologies of our stagnation and degradation. They are endowed with abundant anthropogenic and natural resources, but wallow in the throes and doldrums of incapability to harness these opportunities and benefits for sustainable development, progressive and prosperous spheres [11]. Wherein a Nigeria is embroiled in depreciating resources from deforestation, land degradation due to non-ferrous metal mining operations, industrial pollution, economic stagnation, and impaired quality of life in Nigeria, the unwholesome effect is gross life and property insecurity. Established neglect from certain pertinent quarters and deficient sustainable management from industries exacerbate the challenges, issues and opportunities culminating in crises where the communities indulge to adapt whereas external forces unsustainably benefit from wanton exploitation, with resultant cycle of poverty and environmental deterioration [11]. Environmental issues emerging from our chemical world are diverse such as pollution, climate change, extreme events, resource depletion and dissipation, with expansive necessity for a multifaceted and holistic strategy for effective and efficient management. These are inextricably connected and are frequently due to interactions of multitudinous factors which involve industrial processes, agricultural activities, and human behaviour. A multidimensional approach takes into cognizance the socioeconomic, and environmental features of the incessant and extant problems to develop comprehensive and contemporaneous solutions [12,13] for salient solutions and the political will for implementation and administrative convenience.

Sustainability constructively patterns the trajectories within trade policies and strategic metamorphoses globally. Nigeria and other countries within continental Africa have expansive resourcefulness which uniquely and contextually depict an ambient of immeasurable geopolitical intersection of business and economic growth, trade accoutrements, and development modalities. These foster a sustainable society wherein the needs of the people come into fruition without suppressing the aspirations and opportunities of future generations. A sustainable society integrates three pivotal facets of environmental, social, and economic stimuli [14]. These intersect and pave trajectories for a holistic approach to sustainability reflections and perspectives. In order to circumvent the primordial impediments in the economic development of Nigeria, focus must be on infrastructural development as the undergirding determinants to abate progression in infrastructural debasement and derangement. The constraints encumbering Nigeria for economic and developmental essence are associated with the expansive population. As a vast majority of the population are designated as being in the poverty spectra, non-sustainable socio-economic inequality in Nigeria constitute the most significant development hindrance within the country which are pertinent to be addressed by confronting and ensuring that local and global government ignorance and corruption are expunged or extremely mitigated for proper wealth creation and equitable distribution [14,15].

These pertinently inculcate mechanisms for substantial energy supply, safe distribution of road networks, proper distribution and accessibility to ample and disease-free water sources for consumption, as well as private and public sanitation provisions. Although, there are abundant water resources in Nigeria [16,19], it is encumbered with excruciating water crises which have become resistant to veritable solutions, despite the availability of trained professionals in diverse disciplines who are conversant with public health and societal challenges, issues and opportunities. The consideration, introduction and implementation of these factors are capable of enhancing socioeconomic growth and prosperity for general development. The eradication of extant latent constraints for proper multidimensional approaches towards effective and efficient resource management [20], such as infrastructure or facilities for water distribution and treatment, as well as enacting advances in environmental legislation [21]. As pertinent in most developing countries, reliant and sustainable environmental legislation in conjunction with supportive citizen participation are essential to create avenues to address environmental challenges, issues and opportunities [21,22]. Although, numerous developing nations including Nigeria have extant environmental laws, the essence is assurance that these laws are enforced stringently for active citizen participation in their development and implementation. These provide the latitude for trust in government and ensure the relevance of policies to the necessitated preference of the communities.

The numerous current and incessant challenges, issues and opportunities prevalent in Nigeria locally, and as may be extrapolated globally include unconscionable poverty, widespread dependency on government employment, impaired healthcare or human security of life and property, extreme reliance on restricted sources of revenue and social welfare services or benefits, with limited academic educational exposures which irrevocably undergird priority in unreliable commercial sporting activities and interference in our affairs by the West in the long-run. Human security becomes inchoate in the absence of fundamentally sustainable human health that is inextricably-linked and dependent on the milieu that people execute, at the minimum, the basic necessity of life without qualms [23,24]. There are invariable concerns in the dissemination and transmission dynamics of diseases and the underlying characteristics of gain-of-function research and geopolitics globally. These concerns within and across borders are significant in the management of local and global health as certain diseases, such as AIDS and COVID-19 [23,25] geopolitically intersect with gain-of-function research because health diplomacy is focused on the present and future global emergence and reemergence of pandemics, infectious diseases and microbiome variants. These have generated vehement reactions with a propensity for extreme geopolitics and gain-of-function research due to natural and anthropogenic activities. Geopolitically, the social discriminatory economic consequences of AIDS have been ostensibly suppressed [23].

Geopolitically, evidence suggest that behavioural, social, economic, political and legal repercussions pertain in the accelerated distribution of voluntary organizations, international collaboration, stigmatization expressed in the expansive concerns towards the emergence and reemergence of infectious diseases, such as AIDS and SARS-COV-2/COVID-19 [23,25]. There have been intermittent dissemination of these deadly diseases from developed to developing countries [23,26]. Nigeria and the developing world must keep abreast of advances in geopolitical parameters and gain-of-function research in industrialised countries as they impact on the social determinants of health in our spheres. The convening and convergence of countries for unprecedented epidemic or pandemic treaty settings or other formulations to tackle the emergence and reemergence infectious diseases provide for considerable opportunities regarding challenges and issues in action, preparedness and response. Provisions are immeasurably important for legal instruments, effective and efficient systems to curb present and future threats and outbreaks of diverse diseases [23-25].

### **Health, sustainable agriculture and rural development**

It is an axiom that sustainable agriculture and rural development are intrinsically linked, as healthy agricultural practices form a vital role in

the improvement of the quality of life and overall welfare and well-being in rural communities. The propensities on the focus of sustainable agriculture for ecological equilibrium, economic prowess, and equitable social amenities, invariably impact food security, nutrition, and the health and healthcare delivery of farming jurisdictions. Retrospectively, these lead to the mitigation of exposures and vulnerabilities to hazardous substances, encourage healthy diets and increasingly resilient communities [11-14].

The invariable spatiotemporal economic recession in Nigeria affects diverse economic spheres, such as health culminating in low productivity, inchoate healthcare service delivery and deficient health prognosis [1, 2, 27]. Our public and private health sectors strive to provide health and healthcare services but there are ostensibly stumbling blocks of diverse economic impacts and political views to achieve the laudable goals in the extant milieu of inordinate number of medical doctors and paramedics abandoning the country for better livelihood due to inexplicable extant challenges, issues and opportunities, such as inappropriate financial allocation to health, poor remuneration and motivation to personnel in the health sector, and widespread personal expenditure on healthcare without defined infrastructures, social security and insurance coverage. Adequate focus on the constraints in the health sphere, must unravel the challenges, issues and opportunities on health policy reforms, financing the health sector, institutionalisation of comprehensive healthcare system and implementation of an effective and efficient monitoring and evaluation system, perspectively, for a sustainable society [1, 2, 14] correlate with sustainable agriculture and rural development. The Food and Agriculture Organisation, FAO defines sustainable agricultural development as "the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such development conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable" [28]. Sustainable Agriculture and Rural Development (SARD) constitutes a holistic mechanism to agricultural activities that prioritizes environment-friendly processes, with improvement in rural livelihoods, and assurance of food security for both the present and future. Its focus is on the production of resilient agricultural systems adaptable to changing conditions concomitantly with the maintenances of long-run natural resource productivity in equilibrating food production with environmental health, economic viability and social equity. With rapid growth of the global population, food demand increases, exerting immense pressure on agricultural activities in Nigeria and the developing nations.

### **Insecurity and sustainability**

The characterization of insecurity encompasses instruments which are determinants of geopolitical controversies depicted inter alia in economic, social and political instability, strife, opprobrium, conflict, crime, abuse of rule of law, dissipation and excoriation of fundamental human rights which pose debilitating threats to sustainable development in Nigeria and other developing countries. Insecurity is an aetiology of invariable worsening of health and healthcare delivery systems, weakened food security, depleted agricultural base, economic disruption, impairment of social progress, and degradation of land and environment and expansive retardation to achieve the Sustainable Development Goals (SDGs) [29]. There exists a grave ideological threat posed by insurgents, terrorists, bandits, agitators and propagandists, particularly in the context of religion, emancipation and freedom. It should be emphasized that the local, regional and global view of the leadership is patterned and embroiled into ardent and stringent hero worship, religious and fanatic doctrine inculcated as victimization, deprivation, apocalyptic, expansionist and anarchist. This invariably reflects a deeply rooted spiritual crusade in lieu of traditional political modality, negotiations, geopolitical or international diplomacy but a divine and rescue modus operandi and obligation. The West that perennially and consistently suffices them with arms and ammunitions ostensibly underestimates or neglects the theocratic impulse and motivation, even though, the entire leadership is inoperable within the extant framework and trajectory of international diplomacy gone awry, though. Pinpointing the realities

encountered by the protagonists, antagonists and those caught in the middle of the regime of government and the opposition as well as the fundamental and internal experience of the citizenry, albeit, vulnerable population. It behoves all in the theatre of absurdities to observe dire obedience to choking restrictions and limitations in the era and times of crisis and hostilities.

When countries like Nigeria provide the latitude for the incursion of terrorism, banditry, agitation and propaganda, the people must understand the intricately complex and long-run characterization of the extant combat against terrorism, using the erstwhile war of the USA in Afghanistan as a pivotal instance of the issues, challenges and opportunities depicted by asymmetric warfare [30]. Following 20 years of asymmetric warfare in Afghanistan, how did the USA fare? The cessation of hostilities between the USA and Afghanistan following two decades of hostilities with the Taliban in 2021 constitutes a glaring realism of the difficulty of overcoming non-traditional antagonists operating in the absence of determinate structure, fear and concerns or respect for rule of international laws, peace and justice in warfare. Asymmetric warfare is explicitly distinct from conventional war because the antagonist is not an organized uniformed army but combatants with disparities in objectives, conduct of warfare and ideologies regarding life and property of self and others. Despite the application of advances in resources of technology and intelligence, and resources, the USA capitulated in defeat and departed Afghanistan without a miniscule achievement of her objectives in a foreign land. The situation in Nigeria cannot be characterized to share similar challenges, issues and opportunities as that of USA-Afghanistan [30,31], such as inoperable terrain, border porosity, extreme ideology, and poverty exploitation. The West must carry the brunt in the conflicts and disaffection in Nigeria and developing countries. The military can subjugate nonsustainable crisis and confrontations in Nigeria and other developing countries with the understanding stance of altruism and good governance for sustainability.

The responses of insecurity on sustainable development extend to disease dissemination due to emergence and reemergence of diseases, and the essence of biosecurity [32], economic stagnation or deviance resulting in investment decrement at the local, regional and global spheres as entrepreneurs are restricted to actualise their businesses in hostile ambients. These are manifested in the disruption in agricultural activities, trade and commerce, and security expenditure in lieu of essential infrastructural development which impact quality of life, welfare and well-being [14,32,33]. Pervasive insecurity can exacerbate inequitable distribution of resources, poverty, impetuous and impertinent migrations and crime levels, social and essential resource deprivation, such as education and recreational activities.

### **Reflections and perspectives**

Analysis and conceptualization in the extant trajectory of Nigeria and other developing countries may enhance opportunities to inter alia expunge their vulnerabilities to inappropriate human health and healthcare delivery, climate change, environmental impact, land and natural resources, quality of life, security, and wealth deployment [1,2,6]. Depreciation of the primordial and developmental essence can culminate in untoward declination of the economy with geopolitical consequences, increased impairment, destabilization and deterioration of their sociopolitical fulcrum. Although, the environment constitutes an interactively complex system encompassing atmospheric, aquatic and terrestrial spheres with innate buffering factors, there exist natural and anthropogenic factors which induce invariant climate change, extreme hydrologic events which must be harnessed as they constitute determinants of vulnerabilities of inter alia biodiversity and human health [7,8,10]. These highlight the pertinence of sustainable agriculture for food security needs and enhanced rural prosperity in Nigeria and the developing world. These entail the importance of the rural areas as endowed with expansive cultural heritage, natural resources and latitude for sustainable agricultural activities, as a vast majority of the world's population are dependent on agriculture and correlated activities [11,13]. Thus, it becomes imperative for the development of both productive and sustainable farming practices in Nigeria and the developing world. The realistic insight into our decision-making process highlights the intricate

balance Nigeria must undertake between risk and reward, and underscores the posturing of policy makers irrespective of the challenges, issues and opportunities extant or envisaged. It is pertinent that environmental policies are implemented within an ardent and holistic approach by means of a well-equilibrated, formulated and ecological analytical policy framework. In all these, it becomes pertinent for peace and justice to prevail in the absence of insecurity and geopolitical controversies and distortions.

## DISCUSSION

These depict that Nigeria is embedded in arduous challenges, issues and opportunities in the spheres of economic perturbations, environmental degradation, and expansive insecurities which necessitate adroit and stringent strategies, sustainable solutions, innovative, newfangled approaches and dynamic policies. Economic perturbations are characteristically depicted by high inflation, exchange rate volatility and disruptions, and sole dependence on a monoprodukt, such as oil for general maintenance of the economy. Environmental degradation encompasses land degradation, pollution of diverse media, and deforestation with resultant erosion and excoriation of biodiversity which stress all dimensions of the economy, as envisaged and impacted on water and agricultural resources [34].

In Nigeria, intendment of policies for environmental management and planning focus on the protection and improvement of the environment, natural resources, and ensuring sustainable agriculture, rural development and society [14,28]. These incorporate a national environmental policy, legislation, guidelines, and regulations on resource conservation, human health protection and healthcare delivery, mitigation of land degradation, pollution abatement in industries and waste production facilities, including regulation of solid and hazardous waste management. Insecurity of human life and property has tremendously exacerbated a stressed the challenges, issues and opportunities resulting in gross stagnation of necessary economic and social attributes [14, 23]. In order for Nigeria to harness or curb economic stagnation, she must focus to eradicate all determinants of poverty, and the restrictions in economic diversification. In Nigeria, Corporate Social Responsibility initiatives haven't been strategically positioned for inclusivity of entrepreneurs in societal and national perspectives, but have enacted reflections of our rich cultural heritage [35, 36]. Thus, there is ostensibly intersection of administrative policy and cooperative responsibility by government regulations and the Nigerian Cooperative Societies Act via agencies, such as the Federal Department of Cooperatives (FDC) which ensure compliance in regulations and development enhancement. Concomitantly, Cooperative societies must undergird principles of social responsibility with special emphasis on community development and economic empowerment within their jurisdictions.

In other instances, terrestrial, aquatic and atmospheric degradation due to pollution of heavy metals or trace elements due to anthropogenic from mining activities and natural aetiologies invariably exhibit negative feedback impacts on the entire milieu [4,6]. Also, the elevated levels of atmospheric carbon dioxide may culminate in invariant global warming, climate change and extreme hydrologic events which are accompanied by precipitation and flood disasters resulting in destruction of infrastructure and land, with expansive soil erosion as evidenced locally, regionally and globally, with immense public health disruptions [7-10]. As a result of extreme hydrological events and climate change, it becomes necessary for the critical application of a holistic approach for risk reduction in vulnerabilities of health, environment and biodiversity. With dependence on adaptive capacity by training and education, economic stability and inclusive governance, resilience to incessant disasters may result. The decrement in greenhouse gas emissions, and special emphasis on health spheres and disaster risk management can harness extreme weather and climate-associated incidents which suppress human health with resultant morbidity, mortality and socioeconomic attendant sequelae [7-10].

## CONCLUSION

This article contributes to strategies in sustainable human health, environmental quality, socioeconomic development and quality of life in both developing and developed nations as significantly impacted in by processes and products of anthropogenic and natural forces both externally and internally with geopolitical intendments. Nigeria has become embellished within inextricably conflicting challenges, issues and opportunities of climate change, socioeconomic problems, environmental derangement, as well as insecurity of lives and properties. These require multidimensional and holistic newfangled approach for durable, salient solutions and policies for invariably effective and efficient healthy administration for sustainable governance devoid of inappropriate rustic and outlandish influences which irrevocably and adversely affect our traditional ethics. Beyond the constraints and ostensible failures, commendations must be given on the positive attitude and resilience, emphasizing how the presence of certain altruistic personalities lifted the pride of the entire country. Nigeria and other developing countries must imbibe the attributes of resilience, tolerance, and compassion which are indispensable to accelerate forward sustainably for the future in order to exert robust health, agriculture, social, economic and development reforms. Insightfully spatiotemporal contributions into the future are needed to enact newfangled modalities to explore the complexities of interference, geopolitics, biosecurity, food security, health, environmental degradation, extreme hydrologic events and climate change in Nigeria and the developing world. Most scientific modalities on analysis and conceptualization research address how extant interest induce the resurgence of erstwhile challenges, issues and opportunities suggesting that diverse set of arguments intersect within these concepts. The author argues that invariably addressing these challenges, issues and opportunities may advance empirical research in the crises of sustainable development in Nigeria through holistic understanding and undergirding nascent theoretical and empirical approaches in health and healthcare delivery, environment, economy, climate change, sustainable agriculture, rural development and society.

## Conflict of interest

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ORCID : <https://orcid.org/0000-0001-9162-6604>

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