

The Human Right to Sustainable Environment: Emerging Trends

The Inaction in Climate Change Adaptation and Mitigation in Sub-Saharan Africa: Some Policy and Legal Issues

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Abstract. This article seeks to examine as to how relevant environmental policy and legal principles deal with adaptation and mitigation challenges posed by climate change in Sub-Saharan Africa. It reviews and analyzes relevant provisions and processes of the UN Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, the Paris Agreement as well as other relevant principles such as common but differentiated responsibility and respective capability (CBDRRC) and binding emission reduction targets. The Sub-Saharan Africa's attempts to adapt to and mitigate the effects of climate change are reviewed along with the challenges in the region including the urgent need for climate financing. It concludes by urging the creation of a separate department of climate change by the Sub-Saharan African States, the implementation of environmental liability insurance, the revitalization of the West African power pool project, and the creation of a robust financial mechanism under the Paris Agreement for adaptation and mitigation policies in the Sub-Saharan Africa.

Keywords: Climate change, adaptation, mitigation, Paris agreement, Sub-Saharan Africa

1. Introduction

Climate change (CC) is a critical defining global environmental phenomenon and concern in the 21st Century.¹ Its existence is of ancient origin, as evidence of past climate change can be traced back 18,000 years.² The industrial revolution of the 18th century witnessed a rise in climatic change activism and awareness.³ Only after the 1972 Stockholm Environment Conference, did the global community pay attention to climate change in the twentieth century.⁴ However, most environmental declarations during that era were non-binding on state parties because they constituted soft laws.⁵ During that era, the Intergovernmental Panel on climate change (IPCC) was set up in 1988 by the United Nations Environment Program (UNEP) and the World Meteorological

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- 1 Lineman, M., Do, Y., Kim, J. Y., & Joo, G. J. (2015). Talking about Climate Change and Global Warming. *Plos one*, 10(9), e0138996. <https://doi.org/10.1371/journal.pone.0138996>
- 2 Garcia, R. A., Cabeza, M., Rahbek, C., & Araújo, M. B. (2014). Multiple dimensions of climate change and their implications for biodiversity. *Science* 344(6183), <https://doi.org/10.1126/science.1247579>
- 3 Chu, E. W., & Karr, J. R. (2017). Environmental Impact: Concept, Consequences, Measurement. *Reference Module in Life Sciences*, B978-0-12-809633-8.02380-3. <https://doi.org/10.1016/B978-0-12-809633-8.02380-3>
- 4 Paglia, E. (2021). The Swedish initiative and the 1972 Stockholm Conference: the decisive role of science diplomacy in the emergence of global environmental governance. *Humanit Soc Sci Commun* 8, 2 <https://doi.org/10.1057/s41599-020-00681>
- 5 Sand, P.H., McGee, J. (2022) Lessons learnt from two decades of international environmental agreements: law. *International Environmental Agreements: Politics, Law and Economics* 22, 263–278. <https://doi.org/10.1007/s10784-022-09572-9>

Organization (WMO) in response to United Nations General Assembly resolution 43/53⁶ on protecting and sustaining the global environment. Its mission was to provide internationally coordinated scientific assessments of the magnitude, timing, and potential environmental and socioeconomic impacts of climate change and realistic response strategies.⁷ Two pronged approaches of adaptation and mitigation remain at the heart of the climate change challenge. These have been employed by nations of the North either through environmental policy and legal instruments that has raised concerns for countries in the South.⁸ This study has sought to examine as to how relevant environmental policies and legal principles can help in addressing inaction concerning climate change adaptation and mitigation for Sub-Saharan Africa. It can, in turn, provide a basis for determining profits, losses, responsibilities and burdens of climate change that are equally shared through fair allocation between developed countries and developing countries in Sub-Saharan Africa.

The greenhouse gas (GHG) and cosmic theories have been postulated to explain the origin and causes of climate change and global warming.⁹ The green house theory maintains that excessive carbon dioxide, methane, nitrous oxide, chlorofluorocarbons, and halocarbons, create an inability of the Earth to absorb the sun's ultraviolet radiations; hence the earth's warming and climate change.¹⁰ The proponent of this theory is the Intergovernmental panel on climate change (IPCC),¹¹ and the theory maintains that the concentration of greenhouse gasses such as carbon dioxide, carbon monoxide, Nitrous oxide, Methane, water vapor and oxygen in the atmosphere, blanket the atmosphere thereby preventing infrared radiations from escaping from the earth, hence the rise in surface temperatures which causes global warming and ultimately climate change.

Quing Bin-Lu propounded the cosmic theory that avers that certain cosmic rays in the atmosphere prevent the ozone layer from absorbing the ultra-violet radiations from the sun and the infrared radiations from the earth, hence the increase in the heat waves on the earth that lead to a rise in surface temperatures with the resultant global warming and then climate change.¹² The existing and developing disparities in the worlds political economy are the root causes of climate change and the inequalities between the north and the south are engendered by unequal development between the two blocks, hence developing countries' vulnerability to the effects of climate change.¹³ These inequalities between developed and developing countries are structural inequalities hindering international cooperation, as historical and existing structural imbalances between rich and developing nations in the international economic system continues to exacerbate the climatic vulnerability of developing nations.¹⁴ Adaptation and mitigation dichotomy has intensified climate change and were initially wrongly classified as local and international climate policy challenges, thus informing an unjustified and unequal policies that have evolved for adaptation and mitigation over the years.¹⁵

- 6 By its resolution 43/53 of 6 December 1988, the General Assembly recognized that climate change was a common concern of mankind. See UN General Assembly, *Protection of global climate for present and future generations of mankind : resolution / adopted by the General Assembly*, 6 December 1988, A/RES/43/53, available at: <https://www.refworld.org/docid/3b00eff430.html> (accessed 23 May 2023)
- 7 UN DOC.A/RES/43/53/6 December 1988.
- 8 Sinan, U. (2021), How Deep Is the North-South Divide on Climate Negotiations? Carnegie Europe; available at: <https://carnegieeurope.eu/2021/10/06/how-deep-is-north-south-divide-on-climate-negotiations-pub-85493>
- 9 Ollila, Antero. (2015). Cosmic Theories and Greenhouse Gases as Explanations of Global Warming. *Journal of Earth Sciences and Geotechnical Engineering*. 5. 27-43.
- 10 Forster, P., et al. (2007): *Changes in Atmospheric Constituents and in Radiative Forcing*. In: *Climate Change : The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M.Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge and New York, NY..
- 11 Intergovernmental Panel on Climate Change (2023) *Sixth Assessment Report (AR6)*; available at: https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf/ [accessed 23 May 2023]
- 12 Q.-B. Lu, (2009) "Correlation between cosmic rays and ozone depletion," *Physical Review Letters* 102, 118501. <https://doi.org/10.1103>
- 13 Diffenbaugh, N. S., and Burke, M. (2019). Global warming has increased global economic inequality. *Proceedings of the National Academy of Sciences of the United States of America*, 116(20), 9808–9813. <https://doi.org/10.1073/pnas.1816020116>
- 14 Roberts, J. Timmons and B.C. Parks (2007) *A Climate of Injustice: Global Inequality, North-South Politics, and Climate Policy*. Cambridge, MA: MIT Press
- 15 Kongsager, Rico. (2018) "Linking Climate Change Adaptation and Mitigation: A Review with Evidence from the Land-Use Sectors." *Land* 7.4 : 158. <http://dx.doi.org/10.3390/land7040158>

2. Climate Change: Relevant Environmental Policies and Legal Principles

2.1. The principles of common but differentiated responsibility and respective capability

The United Nations Framework Convention on Climate Change (UNFCCC)¹⁶ which came into force in 1994, has been ratified by 198 parties¹⁷ and aims to stabilize greenhouse gas emissions at a level that would preclude dangerous anthropogenic interference with the climate system rather than reduce them, and mandates that stabilization be accomplished within a time frame sufficient to allow the ecosystems to adapt naturally to climate change, ensure that food production is not threatened, and enable economic development to proceed sustainably.¹⁸ The convention stipulates certain principles by which state parties must observe and guide their municipal actions to attain its objectives. These principles include the precautionary principle,¹⁹ the principle of inter-generational equity²⁰ and the common but differentiated responsibility principle and respective capability.²¹ These principles are novel; others principles include recognizing the unique needs of developing countries and state parties who should bear a disproportionate or abnormal burden,²² the right of all parties to promote sustainable development²³ and promotion of a supportive and open international economic system.²⁴ These principles are significant for attaining equity in climate change policy implementation, but the question is, have state parties achieved or observed them after 31 years? The UNFCCC's "common but differentiated responsibility and respective capabilities" (CBDRRCs) idea incorporates justice and fairness into international environmental accords.²⁵ According to the CBDRRCs concept, all nations are liable for global environmental issues including global warming, stratospheric ozone depletion, biodiversity loss, desertification, but some are more responsible than others.²⁶ Thus, CBDRRCs oblige all nations to contribute to global environmental protection based on their contributions to environmental issues.²⁷ The UNFCCC, one of the main platforms for coordinating international climate change mitigation and adaptation, acknowledges that climate change is a shared problem and that each State has a duty to safeguard the climate. The CBDRRCs concept analyzes industrialized nations' bigger historical contributions to climate change and their greater technological and financial capacity to reduce emissions when assigning roles and responsibilities. Given these facts, developed countries should lead the fight against climate change and its effects and provide Sub-Saharan African countries with funds, technologies, and knowledge.²⁸ The Paris Agreement clearly applies CBDRRCs to developed and developing nations' commitments and assistance. The Paris Agreement prioritizes funding and technology transfer from wealthy to poor countries and adds loss and damage compensation for them. Thus, the Paris Agreement places financial responsibilities on wealthier nations. It acknowledges that poorer nations need help in implementing the Agreement. CBDRRCs also assists Paris

16 UN (1992), *United Nations Framework Convention on Climate Change*, May 9, 1992, S. Treaty Doc No. 102-38, 1771 U.N.T.S Available at <https://unfccc.int/resource/docs/convkp/conveng.pdf> (accessed on 23 May 2023).

17 UNFCCC has 198 Parties (197 States and 1 regional economic integration organization); see *Status of Ratification of the Convention-UNFCCC*; available at: <https://unfccc.int/process-and-meetings/the-convention/status-of-ratification-of-the-convention> (accessed 23 May 2023)

18 Article 2 (Objective), UNFCCC; available at: https://unfccc.int/sites/default/files/convention_text_with_annexes_english_for_posting.pdf (accessed 23 May 2023)

19 Principles 3 (3). UNFCCC

20 Principles 3 (1). UNFCCC

21 Preamble (sixth paragraph) and Principles 3 (1). UNFCCC

22 Principles 3 (2). UNFCCC

23 Principles 3 (4). UNFCCC

24 Principles 3 (5). UNFCCC

25 Castro, P. (2016). "Common but Differentiated Responsibilities Beyond the Nation State: How Is Differential Treatment Addressed in Transnational Climate Governance Initiatives?", *Transnational Environmental Law*, 5(2), 379-400.

26 Onifade, T., & Orifowomo, A. (2015). "Differential Treatment in International Environmental Law and the Climate Regime: From 'Common but Differentiated Responsibilities' to 'Common but Differentiated Responsibilities and Respective Capabilities'", *University of Ibadan Journal of Public & International Law*, 1-23.

27 Nabaat, T.M. (2016), "Sustainable Development and its Evolution in the Realm of International Environmental Law", *Nnamdi Azikiwe University Journal of International Law and Jurisprudence*, 1-16: 14

28 Pananya, L. (2014) 'The Interaction Between WTO Law and the Principle of Common but Differentiated Responsibilities in the Case of Climate-Related Border Tax Adjustments' (6)(1) *Goettingen Journal of International Law*, 145-170: 149;

Agreement parties on increased implementation of the Convention, greater contribution to emission reductions, and creation and communication of long-term low greenhouse gas emission development goals.²⁹ Africa is not a major polluter, emitting 2–3% of the world’s energy and industrial carbon dioxide and leaving 0.8 metric tons per person compared to the global average of 3.9 tons.³⁰ CBDRRCs addresses equity issues in climate change abatement as it places more burden on great emitters of Greenhouse gases. Article 4 of UNFCCC promoted adaptation to the impacts of climate change through cooperation by state parties in scientific, technological, technical and socioeconomic research. Adaptation measures in sub-Saharan Africa still need to be improved because developed countries must comply with this treaty provision and obligation in their adaptation policies. Research communities on adaptation and mitigation also differ and need to be linked. Whereas research, as canvassed by Article 4 of UNFCCC into adaptation, uses an interdisciplinary “bottom-up” approach that focuses on local and environmental-driven analysis, research into mitigation policies uses a “top-down” method that places a strong emphasis on technological and economic policies. To proactively achieve a more effective and equitable climate change and global warming regime, there should be a synergy and trade-offs between communities for research into adaptation and mitigation costs and benefits.

2.2. *The Kyoto Protocol and the binding emission reduction targets*

The Kyoto Protocol³¹ was a legal response to adaptation and mitigation of climate change, and provides flexible mechanisms that depart from the joint responsibility agreements contemplated under the UNFCCC. The objectives of these mechanisms include emission reductions financed by developed countries to offset greenhouse gases emissions. These flexible mechanisms call for joint implementation measures, a clean development mechanism and an assigned amount of carbon credit trading. The Kyoto protocol provides three funds for adaptation; these are the levy-financed adaptation fund, least developed countries fund and the special climate change fund. These are funded by voluntary contributions of developed countries and are not mandatory; hence the money realized is insufficient. For instance, current global financial flows for adaptation, including from public and private finance sources, are insufficient and constrain implementation of adaptation options, especially in developing countries.³² Besides, the adaptation funds are inadequate and cannot cater for disease surveillance and response, sanitation, food and water security, boost capacities and capabilities for natural disaster preparedness and proactive actions in developing and less developed countries, particularly in sub-Saharan Africa.

The Kyoto Protocol’s definition of adaptation in terms of costs has whittled down its effects vis-à-vis mitigation as climate policy is treated as if it were some energy policy. The Kyoto Protocol, set legally binding targets to cut greenhouse gas emissions, committed by industrialized countries to reduce their greenhouse gases emissions in accordance with agreed individual targets. Under the principle of “common but differentiated responsibility and respective capabilities,” Annex B of the Protocol sets binding emission reduction targets for 37 industrialized countries and economies in transition and the European Union. The Kyoto Protocol created three market-based tools to help nations reduce emissions. Emissions trading allows countries that have emissions permitted them but not used to sell this excess capacity to countries that are over their targets. Thus, reducing emissions is profitable and countries may invest in emission-reducing projects and earn credit points through the clean development mechanism and joint implementation mechanism.

These innovative mechanisms to combat climate change through the instrumentality of regulations, systems and standards is fraught with complexities of rules, decisions, and guidance documentation and needs to be more transparent. Clean development mechanisms projects which involve the destruction of high-potential greenhouse gases cannot enhance sustainable development globally. The procedures and processes for additionality principle tests are lengthy, costly, and need to be more transparent. The clean development mechanisms leverages funds for renewable energy technologies and other emission reduction activities which have no significant impact on

29 Article 4(3) of the Paris Agreement

30 Carlos. L., (2021) Common but Different: Africa and Europe’s climate responsibilities, Conflict & Resilience Monitor. Available at <https://www.accord.org.za/analysis/common-but-different-africa-and-europes-climate-responsibilities>

31 UNFCCC (1997), *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, Dec. 10, 1997, 2303 U.N.T.S. 162; available at: <https://unfccc.int/resource/docs/convkp/kpeng.pdf> (accessed 23 May 2023).

32 IPCC (2023), *Summary for Policymakers (SPM) Sixth Assessment Report*, Intergovernmental Panel on Climate Change; available at: https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf (accessed 23 May 2023).

developing countries in Sub-Saharan Africa. The joint implementation has not effectively reduced emissions because it has instead evoked less concern for spurious emission reduction among Annex-B countries as joint implementation leaves room for backdoor trading by partners, which engenders non-accountability for emissions limitation. Joint implementation does not mandate developed countries to look into their development approach and embrace clean technologies.

As a result, the north-south equity is negatively impacted by this statutory lapse. Even though the emissions trading is a cost-effective approach to mitigate global warming and climate change, it is also fraught with a myriad of limitations, such as: being a complex mechanism that encourages pay to pollute and is meant for profit-making by participants; it cannot be used to fix an adequate price for pollution that is high enough to discourage pollution activities; it discourages investments in clean technologies because of its low and unpredictable market price; It enables rich participating countries to escape the obligation of reducing their emissions at home but instead encourages them to emit more green house gases into the atmosphere; and it breaches the polluter pays principle by rewarding polluters for their environmental degradation. The Kyoto Protocol required only developed countries to reduce emissions, while the Paris Agreement recognized that climate change is a shared problem and called on all countries to set emissions targets.

2.3. *The Paris Agreement*

The objectives of the Paris Agreement³³ are contained in its preamble. They are to promote the principles of UNFCCC, to wit: equity and common but differentiated responsibilities and respective capacities in the light of different national circumstances; encourage and enforce the need for an effective and progressive response to the urgent threat of climate change on the basis of best available scientific knowledge; recognize the specific needs and special circumstances of developing/vulnerable country parties in relation to funding and transfer of technology, effects of climate change and measures taken to mitigate it. The Paris Agreement promotes human rights such as the right to health, rights of indigenous peoples, local communities, migrants, children, disabled persons, vulnerable populations/communities, right to development, gender equality and women empowerment, and intergenerational equity. It also promotes conservation and protection of biodiversity and the ecosystem; public awareness and synergy amongst stakeholders in formulating municipal legislations to address climate change; promotes sustainable lifestyles and sustainable patterns of consumption and production which should be championed by developed countries.

It need be emphasized that these objectives can only be implemented if parties domesticate the agreement in accordance with provisions of their national constitutions. The agreement imposes a loose obligation on developed country parties to continuously assist developing country in Sub-Saharan Africa with scaled-up financial resources to enable them adopt appropriate mitigation and adaptation strategies,³⁴ as parties are only encouraged to provide or continue to provide such financial support voluntarily.³⁵ This provision is lax as it is not binding on developed countries and where financial contributions are made by them strings may be attached. Thus, technology transfer from developed country parties to developing and less developed country parties may not be feasible; hence the latter that are more vulnerable would suffer from the adverse effects of global warming and climate change more. However, the hallmark of the Paris Agreement is that the principles of common but differentiated responsibility no longer applies as all the State parties are committed by the agreement to reduce their greenhouse gases emissions, combat climate change and adapt to its effects. The Paris Agreement mandates that all countries reduce their emissions, with governments establishing targets known as nationally determined contributions (NDCs), with the aim of having each country reduce national emissions and adapt to the impacts of climate change, prepare, communicate and maintain successive nationally determined contributions that it intends to achieve³⁶ and pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions. Parties are requested to submit the next round of NDCs by 2025 and every five years thereafter by 2030, 2035, 2040 regardless of

33 UNFCCC (2015), *Paris Agreement to the United Nations Framework Convention on Climate Change*, Dec. 12, 2015, T.I.A.S. No. 16-1104; available at https://unfccc.int/sites/default/files/english_paris_agreement.pdf (accessed 23 May 2023).

34 Article 9(1) of Paris Agreement, 2015.

35 Article 9(2) of Paris Agreement, 2015.

36 The Paris Agreement Article 4, paragraph 2

their respective implementation time frames. The Paris Agreement calls for the development of market-based approaches that conceptually resemble Emission Trading and Joint Implementation.³⁷ However, these strategies have yet to be developed.

3. Climate Change Adaptation and Mitigation Strategies in Sub Saharan Africa

The impact of climate change on Sub-Saharan Africa may overwhelm its capacity to cope with the consequences of climate change. The effects of global warming could cause a rise in the number of people living in poverty.³⁸ Adaptation strategies should be developed and implemented at all levels, from the family to the national and regional levels, to minimize climate change's impact on African economies. Strategies for both mitigation and adaptation may intersect in some situations. Carbon dioxide emissions might be reduced by conserving and expanding the Congolese rainforest which accounts for one-quarter of the world's remaining tropical forests.³⁹ Climate change exposure and vulnerability can be reduced by regulating water by increasing rainwater infiltration and replenishing streams and by allowing for the development of forest products that can be used as an alternative source of income for farmers who are affected by climate change. Agricultural adaptation approaches that might positively influence green house gases reduction, include decreasing soil erosion or enhancing crop rotations diversity.⁴⁰

The World Bank's Economics of Adaptation to Climate Change (EACC) report also highlights the need for irrigation, expanded water storage capacity, and development of drought-resistant species. The conservation and fishing pressure reduction measures would have to be implemented to ensure affordable access to fishes in the face of climate change.⁴¹ Reducing the amount of freshwater taken from rivers and lakes and creating thermal refugia, such as deep ponds, may help fish species survive.⁴² Direct and indirect health effects are expected from many of the climate change-related biophysical pressures. The World Health Organization, for example, highlights the need to create flood, drought, and fire early-warning systems to help communities anticipate and prepare for severe catastrophes.⁴³ It also emphasizes the need to broaden the geographic breadth of infectious disease surveillance systems to improve preventive and public health services.

The climate adaptation in Sub Saharan Africa is further impeded by transaction costs, market failures, ethics and distributional metrics playing out through vulnerability of different adaptive capacities of countries in the north and south, ineffective coordination, government failures and political economy. By assisting vulnerable countries in lowering their greenhouse gas emissions, climate financing is a crucial adaptation and mitigation approach that may boost resilience against the unavoidable future effects of the climate disaster. It will be less expensive to finance adaptation than to depend on catastrophe assistance. Despite being the region most susceptible to the effects of climate change, almost 55 percent of Africa's climate finance is in the form of debt, with private sector accounting for no more than 14 percent of total climate finance and 3 percent of adaptation finance.⁴⁴ Although the 2015 Paris Agreement specifies a global action framework that includes giving poor nations access to climate financing, this assistance has not yet been realized.

37 The Paris Agreement Article 6, paragraph 1- 4

38 Carter, M. R., Little, P. D., Mogue, T., & Negatu, W. (2007). "Poverty Traps and Natural Disasters in Ethiopia and Honduras", *World Development*, 35(5), 835–856. doi:10.1016/j.worlddev.2006.09.010

39 Malhi, Y., Adu-Bredu, S., Asare, R. A., Lewis, S. L., & Mayaux, P. (2013). African rainforests: past, present and future. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*, 368(1625), 20120312. <https://doi.org/10.1098/rstb.2012.0312>

40 Smith, P. & Olesen, J. E. (2010). Synergies between the mitigation of, and adaptation to, climate change in agriculture. *Journal of Agricultural Sciences*, 148, 543552

41 Gattuso Jean-Pierre et al. (2018), "Ocean Solutions to Address Climate Change and Its Effects on Marine Ecosystems", *Frontiers in Marine Science*. 5. 10.3389/fmars.2018.00337.

42 Cantonati, Marco et al. (2020). "Characteristics, Main Impacts, and Stewardship of Natural and Artificial Freshwater Environments: Consequences for Biodiversity Conservation", *Water*. 12(1):260. <https://doi.org/10.3390/w12010260>

43 Fakhruddin B. et al. (2021). "Creating resilient communities with medium-range hazard warning systems", *Progress in Disaster Science*. 12. 100203. 10.1016/j.pdisas.2021.100203.

44 Bogolo J. (2023) The charge due to custodians of the world's lungs. In Aloysius Ordu (Eds.), *Climate Change: Adapting To A New Normal*. (pp. 137). Foresight Africa, Brookings.

It is now necessary to establish a financial mechanism for loss and damage, giving Sub-Saharan African countries resources beyond those allocated for mitigation and adaptation. Beyond the shortcomings of COP26, where the suggestion of such a facility was downgraded to “a dialogue,” this is necessary. Governments reached an agreement on how to advance the global goal on adaptation, bolstering the resilience of the most vulnerable populations, at COP27. At COP27, attendees made new commitments to the adaptation fund worth over USD 230 million. More vulnerable communities in Africa will be able to adapt to climate change with the support of these promises. The progress made on mitigation was greatly aided by COP27. It was decided to establish a mitigation work plan with the goal of rapidly increasing the ambition and execution of mitigation efforts. Following COP27, the work programme will begin and run until 2026, at which point it will be reviewed and possibly extended. Governments were also urged to revise and bolster the 2030 sustainable development goals targets in their national climate plans by the end of 2023, and to hasten the phase-out of inefficient fossil fuel subsidies and the reduction of unchecked coal power in favor of clean, renewable energy that is more secure, reliable, and resilient.

4. The Road Ahead

A robust financial fund should be established by the Paris Agreement for adaptation and mitigation policies for developing and less developed countries from which countries in sub-Saharan Africa would also benefit with a caveat for stringent sanctions for non-accountability and financial recklessness in using the fund by beneficiary states parties and finance provisions in the Paris Agreement should be amended to include the proposed financial fund. A cue can be taken from the Montreal Protocol and its compliance by states parties due to its provision for a financial fund. Also, the flexible mechanisms established by the Kyoto Protocol should be efficiently and effectively implemented. The aspect of Joint Implementation Mechanism which enables developed countries to pay for polluting environments of developing countries should be abolished.

Leaders of countries in sub-Saharan Africa should take definitive actions in relation to adaptation and mitigation strategies to combat global warming and climate change through evolvement of sound and implementable environmental policies and establishment of ministries of environment. Such ministries should establish the department of climate change to proactively enforce and implement all climate change policies and statutory frameworks. Sub-Saharan African countries should adopt alternative or green energy options through promotion of agriculture and other sectors of their economies to reduce poverty and vulnerability. These countries can revamp the West African Power Pool Project to improve electricity generation, transmission and distribution in the sub-region.

The countries in sub-Saharan Africa should evolve community participation approach and Public Environmental Inquiries (PEI) as a means to attaining environmental management and sustainability. This option requires the communities in sub-Saharan Africa to participate in environmental decision-making process. It promotes the decentralization of environmental management in the sub-region, as well as elicits public opinion on societal goals, policies planning and program on environmental management. The countries in Sub-Saharan Africa can take a cue from developed countries in Europe and America that have established Environmental Liability Insurance (ELI). This is a remedial technique that is used to reduce environmental recklessness and lawlessness of oil companies through environmental damage pricing and proactive monitoring of oil companies by authority structures.

Many people, probably millions, will suffer and die due to greenhouse gas-induced climate change. The developed countries legal, moral, and political responsibility has contributed to the current global warming, and thus has to provide the large majority of the monies necessary to assist the poorer countries in adapting to its effects. Countries need more skills and financial resources to make adaptation achievable thus, restructuring institutions and frameworks to support structural transformation is one of the policy recommendations, as is establishing buffers such as foreign reserves. Sub-Saharan Africa’s population and financial resources can only implement some of these ideas simultaneously as increasing armed conflicts; political turmoil and security concerns might hinder effective climate change adaptation. Nonetheless, Article 4.4 (UNFCCC) states that “developed country Parties, and other developed countries in Annex II, shall assist developing countries that are

particularly vulnerable to adverse effects of climate change in meeting the costs of adapting to those adverse effects". Furthermore, adaptation and mitigation strategies will be required to address the adverse human rights, social and economic consequences of climate change, and its role in spreading pandemics. Their inclusion in the UN's Sustainable Development Goals proves their significance. For Sub-Saharan Africa's green economic recovery, carbon taxes, eliminating energy subsidies, using renewable energy and reforestation that enhances carbon absorption and financial rules that restrict the investment in polluting capital are all alternatives.

The leaders' leadership style in Sub-Saharan Africa must be modified from non-transformational, and impervious to change as these traits appear to impede socio-economic and political progress in the sub-region. These leadership traits appear to influence negatively implementation of adaptation and mitigation strategies of global warming and climate change. All the countries in the north and south should domesticate the UNFCCC, the Kyoto Protocol and the Paris Agreement for smooth and effective compliance, implementation and enforcement at the municipal level. The rising corruption in Sub-Saharan Africa should urgently be addressed to promote implementation of adaptation and mitigation strategies in the sub-region as Sub-Saharan Africa stands to benefit enormously from climate change adaptation and mitigation strategies that will aid the creation of additional jobs and boast Africa's economic recovery.

Therefore, regional cooperation will be critical to the success of adaptation as technology, knowledge and good institutional practices speed up the adaptation process if they are actively shared, especially in the context of regional initiatives. Humanity's behaviour towards the environment must be modified by responsibly reducing the desire for new products instead of recycling old ones, cultivating energy-efficiency lifestyles and reforestation; a new treaty regime to drastically reduce green house gases emissions globally should urgently be adopted. The new treaty regime that is canvassed in this article need to be proactively complied with, honesty and transparency must be installed in international environmental management diplomacy and domestication of the new treaty by all state parties. Sanctions should back up non-compliance with the treaty regime. Development and application of effective mechanisms for compliance with, promotion of the development and practical application of legal, economic and other incentives to enhance compliance with and entronement of civil liability approaches at the municipal, regional and interregional levels to enhance implementation should be enshrined in the canvassed new treaty regime; Reduced greenhouse gas emissions for example, switching to renewable energy sources and taxing or trading carbon emissions from fossil fuels and removal of existing greenhouse gases from the atmosphere through forestation, agricultural practices that sequester carbon in soils, ocean fertilizer and the development of technology that captures carbon dioxide are ways mitigation can be accomplished.

5. Conclusion

In view of the above discussion, it appears, the Paris Agreement need to state how parties will be held accountable for implementing their climate change mitigation and adaptation plans. The Paris Agreement should be amended to provide for a robust financial fund for developing and less developed countries; its provisions should be amended to bind all countries; states parties and non- states parties alike. The cooperative initiatives under Articles 6.2 and 6.4 of the Paris Agreement must be realistic, inclusive, and equitable to encourage African engagement. African countries must also participate in project development and African countries growth and development goals must be respected, and acknowledged. Africa's infrastructure, energy, and other economic barriers must be addressed before investing in climate change mitigation and adaptation.

Thus, funding strategies must include carbon trading, sustainable finance, and conventional funding. African countries must collaborate since climate is global, and a well-designed carbon market may enable many initiatives in Africa, including investment with demonstrable sustainable development advantages. There is need to strengthen the compliance design systems in the UNFCCC, the Kyoto Protocol and the Paris Agreement that would engender effective compliance with, enforcement and implementation of the instruments by states parties. The legal implication of the proposal is that the cost of adaptation and remediation to global warming and climate change in Sub-Saharan Africa should be borne by state parties that trigger pollution.