

REVISITING THE ROLE OF UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC) AND THE KYOTO PROTOCOL IN THE FIGHT AGAINST EMISSIONS FROM INTERNATIONAL CIVIL AVIATION *

Abstract

The issue of Climate Change emanating from increasing climate emissions and the need for reduction of aviation emission are part of the prominent sustainable environmental rights issues facing the world. The United Nations Conference of Parties (COP24) in Poland in 2018 held under the auspices of UNFCCC and Kyoto Protocol declared that Climate Change is at the crossroad and ended with a general global consensus of limiting emission below 2° Celcius by the year 2020. However, a lot of issues have been raised on why the global increase in discharge of aviation emission has continued despite the activities of UNFCCC and Kyoto Protocol at reducing global atmospheric emissions that cause climate change and other environmental degradations like flood, hurricane, draught and diseases. This paper assesses the contributions of United Nations Framework Convention on Climate Change and Kyoto Protocol to global reduction of aviation emission with a view to providing distinct information that will further assist policy makers on a lasting solution to the problem of aviation emission. Using doctrinal research method, the paper concludes that even though both the UNFCCC and Kyoto Protocol laid the foundation for International law on reduction of aviation emission, they have not made a satisfactory contribution to reduction of aviation emission.

Keywords: Assessment, UNFCCC, Kyoto Protocol, Global Climate Emissions, Civil Aviation, Aviation Emission

1. Introduction

The issue of mitigating climate change through reduction of aviation emission is one of major issues of sustainability facing the present generation.¹ Consensus among scientists has shown that human activities involving discharge of emission are having a significant earth warming impact on the global climate system, with emerging signs of frequent extreme weather, abrupt sea level rise, flood, loss of communities and habitats and the spread of diseases, it is generally accepted that emission of greenhouse gases(GHGs) through human activities is the cause of climate change and that if the present rate of climate change is not checked, it may lead to a greater climatic problem in future.²

* **MURTALA GANIYU A. MURGAN PhD**; B.A,M.P.A,(ABU) LLB,BL, LLM(Unilorin) PhD Law(IIUMalaysia), is a lecturer, Department of International Law, Faculty of Law, University of Ilorin.

¹ S D Lee, 'Aviation and Climate Change: The Science' in S Gosslin & P Uphan (eds) *Climate Change and Aviation Issues*, (Edward Legar, London 2009) at28.

²F Olanrewaju and N Francisca, 'Law and Climate Change in Nigeria', in *Law and Climate Change*, O Egbewole, A Etudaiye, Muktar and A O Olugbenga (Ed), (Faculty of Law, University of Ilorin) 2011 at 240. Also see IPCC Report, https://www.ipcc.ch/..publication_ipcc_first_assessment_Report 1990. The first Assessment Report of Intergovernmental panel on Climate Change 1990 emphasized the rising profile

The general awareness all over the world now, is that aviation emission constitutes a growing source of climate change which is known as a global challenge. Since no one is solely responsible for the cause of climate change or can solve the problem alone, efforts must be made to come together and find solution to the problem of climate change through reduction in aviation emission. Based on this conception, the government policy makers and the international community agreed on the need to solve the problem of increasing aviation emission and climate change through application of international law. Undoubtedly, law has an important role to play in societal protection and maintaining balance in human activities. It also plays an important role in mitigating climate change by making sure people adapt to nature and its disasters, while ensuring that human activities especially economic activities like aviation industry that cause climate change through contribution of emission is properly regulated and managed.³

The international community responded to reduction of aviation emission in two ways: The first approach is to consider aviation emission as part of anthropogenic substance that affect the environment and to control it by means of international convention or treaty law such as, The United Nations Frame Work Convention on Climate Change (UNFCCC) and the Kyoto Protocol.⁴ A treaty law is referred to under international law as a binding instrument or agreement signed among sovereign states and international organizations who are actors in international law.⁵ Also relevant in this context are agreements and decisions made at the Conference of Parties (COP) such as the Copenhagen Accord of 2009, the Cancun Agreement of 2010 and others.⁶

The second approach is to address the issue of aircraft emission as a specific industry responsibility and to solve the problem through International Civil Aviation Organization (ICAO). This organization has since 1981 continually updated international standard on Recommended Practices (SARPs) which it used to govern the aviation industry.⁷ It should be noted however, that ICAO was created by International Civil Aviation Convention also known as Chicago Convention 1944. However, a general concern has been raised about the impact and relevance of UNFCCC and Kyoto Protocol to contemporary problem on global reduction of aviation emission judging by the increasing rate of aviation emission as reflected in the recent declaration at the Conference of Parties of the Intergovernmental Panel on Climate Change (IPCC) in its last meeting held in October 2018 in Poland, that the climate warming

of aviation emission and the severity of its impact on global warming if not promptly reduced. The First IPCC Report stands the most comprehensive assessment available on the effect of aviation on the global atmosphere. The Report reflected on how potential changes in aircraft technology, air transport operation, the institutional regulatory and economic Framework of air travel might affect emissions in future. The report recognized the complex nature of science of aviation emission, the range of engine technology available and the range of emission from aircraft engine at ground, climb and cruise altitudes and the relationship among aircraft control system. The report concluded that Radiative forcing could grow from 3.5 as at 1992, to as much as 11 times by 2050 if remained unchecked.

³ *Ibid.*

⁴ H L. Miller, 'Civil Aircraft Emission and International Treaty Law', Vol. 63 (1988) Journal of Air Law & Commerce, 679 at 763.

⁵ What is Treaty Law? <[https://www. Treatylaw.org](https://www.Treatylaw.org), accessed on 16 / 10/2020> .

⁶ P S. Dempsey. 'Trade and Transport Policy in Inclement Skies: The Conflict between Sustainable Air Transportation and Neo-classical Economics', vol. 65 (2000), Journal of Air Law & Commerce, 635.

⁷ *Ibid.*

is on the increase of 1.5⁰ Celcius and sought an urgent action at reducing this.⁸ The expectation is that since the UNFCCC and Kyoto Protocol constitute the two major treaties signed globally by members of international communities for reduction of global emissions and regular meetings held among head of member states for ensuring reduction in general emissions their respective countries, the problem of aviation should have been overcome if the treaties have been making significant contributions to reduction of aviation emission. Therefore, the main objective of this paper is to make an overview of the contribution of the aforementioned International treaties to reduction of aviation emission. In other words, the main task in this paper shall focus on a critical study of the United Nations Framework Convention on Climate Change (UNFCCC) 1992, the Kyoto Protocol to the United Nations on Climate Change 1997 and see in what way they have impacted on reduction of aviation emission with a view to providing policy makers on aviation distinct information for decision support for overcoming the problem of global warming, incessant flood and harsh weather across the globe.

2.0 The United Nations Framework Convention on Climate Change (UNFCCC) 1992

The international community (the United Nations) in order to combat the menace of climate change (which brought about uncomfortable living through unusual weather, flood and significant drought in various parts of the world),⁹ established the Intergovernmental Panel on Climate Change (IPCC) in 1988.¹⁰ The IPCC which was established under the auspices of the United Nations Environment Programme and the World Meteorological Organization, was to serve as United Nation's scientific body, directing international atmospheric research on global warming. It was to also provide policymakers with the best possible scientific assessment of global warming, review and assess the science relevant to climate change, assess the possible environmental and socioeconomic impacts of climate change, and to identify potential response strategies.¹¹ After submitting its findings in the First Assessment Report to the U.N. General Assembly and the second U.N. World Climate Conference in 1990, The U.N. General Assembly adopted the report of IPCC and it became the basis for the Framework Convention on Climate Change.¹²

The United Nations Framework Convention on climate change (UNFCCC) was adopted on 9 May 1992, at Rio de Janeiro Conference and came into force in March 1994.¹³ The convention provides a frame work for negotiating specific international treaties that may set binding limit

⁸ IPCC warns that climate is warming fastly and CO₂ Emission is Fast Increasing, Channel Television Nigeria, News at 10, 8 Oct, 2018.

⁹ D. M. Elsom, *Atmospheric Pollution: A Global Problem* 2nded, Oxford UK Blackwell, 1992, at 100.

¹⁰ The Intergovernmental Panel on Climate Change (IPCC) is a global body of scientists established in 1988 by the United Nations, for conducting research and providing advice on atmospheric effects of global warming.

¹¹ Intergovernmental Panel on Climate Change (IPCC): Special Report on Aviation and Global Atmosphere (published 1999) <<http://www.ipccipcc>> accessed 20/5/2015. According to International Institute for Sustainable Development Iisd Reporting Services, The UNFCCC, is an international governmental Framework Treaty for addressing Problem of Climate Change. The Convention which outlines an agreed framework dealing with issues of climate Change was negotiated and May 1992. and opened for signature in June 1992. It is also known as UN Conference on Climate or Rio Earth Summit.

¹² *Ibid.*

¹³ The United Nations Framework Convention on Climate Change 1992, status of ratification of convention <unfccc.int/essential_background/convention/status_of_ratification/items/263/php> viewed 20 August, 2015. The United Nations Framework Convention on Climate Change is an intergovernmental treaty developed to address Climate Change. The UNFCCC was opened for signature on 9 May 1992 and entered into force on 21 March 1994.

on greenhouse gases. It also recognizes the fact that developed and developing countries have common but differentiate responsibilities and respective capabilities. This convention, is however, regarded as major step and first attempt by international community at adopting legal mechanism for control of climate change. It includes legally nonbinding voluntary pledge, that major industrialized and developing countries would reduce their emission to a safe level. At present, the UNFCCC has 196 parties,¹⁴ These Parties are classified into Annex I and Annex II. The Annex I is made up of developed industrialized countries, while Annex II which is made up of countries that are required to provide financial and technical support to developing countries and Non Annex I parties that are mostly low income developing countries. The ultimate objective of this convention is to stabilize atmospheric concentration of Green Houses Gases (GHG) at safe levels, in line with Article 2¹⁵ and all countries have a general Commitment to address the issue of climate change, adapt its effects and report their actions for implementing the convention. In order to ensure that food production is not threatened and to enable economic development to proceed, such a level of emission was to be achieved within a time sufficient to allow ecosystems to adapt naturally to climate change.¹⁶

The UNFCCC establishes the Conference of Parties (COP) which serves as the supreme body of the convention. The COP carries out three categories of functions which include; Adopting protocol to the convention, Supervision of implementation programmes of the convention and assessment of implementation of the convention by parties.¹⁷ In this circumstance, the COP takes into account the environmental, economic and social effect of measures taken. The COP has the responsibilities for mobilizing financial resources as reflected in article and this amount should be determined in an identifiable and predictable way.¹⁸ The COP also decides on the policies, programmes priorities and eligibility criteria on financial assistance to developing countries.¹⁹

Apart from creation of UN Conference of Parties (COP), the convention also has a secretariat and two subsidiary bodies. The first body is for scientific and technological advice and the second (UNEP) for implementation of UNFCCC programmes.²⁰ The first session of the UNFCCC was held in Berlin in 1995.²¹ At the conference, the Conference Of Parties (COP) considered establishment of multilateral consultative process with regard to implementation of the convention and it was decided that anybody or agency, whether national or international, governmental or nongovernmental, qualified in matters covered by the convention, can be represented at a session of the COP. This first COP also adopted institutional arrangement on reduction of emissions.

¹⁴ See The United Nations Framework Convention on Climate Change Inventory Review Report 2014 , above, also see Introduction to UNFCCC and Kyoto Protocol IISd Reporting Service www.sd.c9/process/climate_atm-fccc.intro.htm at 1 accessed 20 August 2015, which states that the UNFCCC convention sets an agreed framework for dealing with the issue of climate change Parties to the convention meet regularly to assess the progress in implementing the obligations under the treaty to consider further action to check the threat of climate change Heather L. Miller, 'Civil Aircraft Emission and International Treaty Law', Vol.63 (1998) *Journal of Air Law and Commerce* 356.

¹⁵ The United Nations Framework Convention on Climate Change (UNFCCC), 1992 article 2,.

¹⁶ *Ibid*

¹⁷ See UNFCCC, 1992, articles 7 & 12

¹⁸ See UNFCCC, 1992, article 7 (2)

¹⁹ *Ibid*.

²⁰, UNFCCC, 1992, article 8

²¹F Brian, and S Gabriel, 'Toward An International Emission Agreement,' Vol. 36, (2012) *Harvard Environmental Law Review*, 7.

The second meeting of Conference of parties (COP) was held in 1996²² in Geneva. It considered the second Assessment Report of Intergovernmental Panel on climate change which indicated dangerous interference with climate change. The conference also emphasized the need for accelerating negotiation on a legally binding protocol and the direction of future action on climate change. The third COP which took place in Kyoto in 1997,²³ concluded negotiation by adopting Kyoto Protocol which served as a progressive step with development of precise rules for reduction of greenhouse gases. It is on record that the UNFCCC has through the process of Kyoto Protocol has continued to hold the annual climate mitigation meetings of Conference of parties to deliberate on how to reduce the increasing general atmospheric emission. The latest of such is the COP 24 meeting of 2018 in Poland. It is however be observed, that the main issue that dominates the debate on stabilization of emission at the COP conferences of UNFCCC, is on how to determine appropriate measure to be taken on reduction of general atmospheric emission among member States.

2.1 UNFCC and The Issue of Reduction of Aviation Emission

The UNFCCC has been accorded a major step for combating international challenges of climate change. In this regard, Some scholars of International Law such as Daniel Bodansky, Allen Pein Jan and AnnekPetsonk²⁴ have expressed their views that the UNFCCC as an international convention, has contributed to achievement of global reduction in aviation emission. According to this view, the UNFCCC is generally considered to be an adequate convention for addressing reduction in general emissions because even though, it is not primarily meant to address the issue of reduction of aviation emission, it is believed to be a major step in the efforts of International Community to combat serious environmental challenge of climate change which aviation emission also belongs.

It is also said that the emergence of United Nations Framework Convention on Climate Change makes the issue of climate change to be given global importance.²⁵ Further, the above scholars said that the UNFCCC is the only convention on climate change that provides an all-embracing regulatory frame work for negotiation on reduction of emissions. In addition, it is further observed that apart from the fact that the UNFCCC focused mainly on reduction of greenhouses gases that cause climate change, the convention should not be misconstrued for law or a binding agreement but should be seen as a framework that is meant to serve as a guide or provide general guide lines to member states for actions to be taken on reduction of general emissions that cause climate change. The scholars contend that the issue of using non-binding compliance among member states to judge its adequacy may not arise since it is not meant for that purpose.

²² See meeting of Conference of Parties to the United Nations Framework Conference on Climate Change (COP 2) Geneva 1996. < unfccc.int/bodies/body/6383.php > viewed 20 Aug 2015. According to Bureau of Conference of Parties, a key task of COP is to review the national communication and emission inventories submitted by parties. Following this information, the COP assesses the effect of the measures taken by parties and the progress made in achieving the ultimate objective of the Convention. The COP meets every year. The COP presidency is presently rotated among the five recognized UN regions: Africa, Asia, Latin America and the Carribean, Central and Eastern Europe and Western Europe.

²³ See meeting of Conference of Parties COP 3 in Kyoto, 1997.

²⁴ Daniel Bodansky is a scholar on International Law and Climate Change and the author of the Article titled, The United Nations Framework Convention on Climate Change: A Commentary, while Allen Pein Jan and AnnekPetsonk are also scholars of International Law and the writers of the Article titled, The Skies and Airline Base System for Limiting Green House Gas Emission From International Civil Aviation.

²⁵ See D Bodansky, 'The United Nations Framework Convention on Climate Change: A Commentary,' Vol 18 (1983) Yale Journal of International Law, 460.

Further to the above arguments on the adequacy of UNFCCC for reduction of aviation emission, one is bound to consider an important fact that the UNFCCC is an all-embracing convention which has so far provided for reduction of general emissions of which aviation emission is also inclusive. This position is confirmed by the provision in Article 4 (1) of UNFCCC,²⁶ which states that member states shall promote and cooperate in the development of practices and processes that control, reduce or prevent anthropogenic emissions not controlled by Montreal Protocol in relevant sectors including Energy, Transport, Industry, Agriculture, Forestry and Waste management sectors. From the above, although it may be said that article does not specifically mention about reduction of aviation emission, the fact remains that article provides for reduction emission in the transport sector which aviation industry also belong.

Therefore, the UNFCCC has through the Provision in Article 4(1)²⁷ equally contributed to reduction of aviation emission because if the provision is well implemented by member states, it will help a lot in tackling the issue of reduction in aviation emissions.

Another important issue to be considered is the perception about a Framework Convention.²⁸ If one considers the fact that the true meaning of UNFCCC as a Framework Convention, is to provide guide lines to member states on the need to achieve reduction of aviation emissions and not an enforceable law or a binding agreement on member states, one would say that the UNFCCC has creditably performed its function by providing broad guide lines on reduction of emissions in the Transport Sector of which aviation emission is inclusive. Therefore, the issue of basing adequacy of UNFCCC on the strength of enforceability of its Provisions on member states is not tenable because the Framework is not meant to be enforced on members.

Reflecting on the perception and purpose of Framework Convention, Bodansky, explains that Framework Conventions are like models which are to serve some functions. With provision of Framework Convention, states can begin to take action at solving a problem without waiting for consensus to emerge on the appropriate measure for solving a problem or even before agreeing on the fact that a problem exists. He also explains that Quite a number of states will adopt a convention since the convention does not commit them to any specific measures. The protocol can then be adopted when more scientific evidence emerged on the problem. Bodansky however, clarifies the fact that conventions have first served to clear away many procedural and other issues connected with the problem.²⁹

²⁶ United Nations Framework Convention on Climate Change (UNFCCC) 1992, Article 4 (1).

²⁷ See Daniel Bodansky, n. 34 at 493.

²⁸ See M Luck, 'Framework Convention as Regulatory Tools', *Gottingen Journal of International Law*, Vol. 1 No 3, pp439-458, 2000, where it is explained that under the so called Framework Convention, parties agree on a more general Treaty. The Framework Convention is to fill the position left for specific regulation. Since there are no legal definitions and specific model for frame work convention, they have certain characteristics in common. Also see the online definition of Convention which states defines Convention as an agreement between states covering particular matters, it is less formal than a treaty. The UNFCCC is an international Environmental Treaty negotiated at the Earth Summit in Rio De Janiero from 3-14th June 1992, with no legal definition and fixed model for Framework Convention <<https://www.google.com.my/?gws-rdss#q=meaning+of+framework+Convention> Viewed 30/12/15.

²⁹ See Daniel Bodansky, n. 34, at 494, Where he made commentaries about the perception and purposes of framework convention under the United Nations Framework Convention on Climate Change.

MURGAN: Revisiting the Role of United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol in the Fight Against Emissions from International Civil Aviation

In addition, it is generally observed that most of the criticisms levied against UNFCCC above are more relevant to the performance of UNFCCC over reduction of general emissions, they do not directly relate to reduction of aviation emission where the UNFCCC has provided the necessary guidelines for the international community on how to combat the global emission problem in the transport sector inclusive of aviation emission.

Contrary to the above, it has been argued that the contribution of UNFCCC to reduction of aviation emission has some limitations. Scholars like Heather L. Miller, Jin Liu, David Freestone and Charlotte Streck contend that the issue of exclusion of aviation emission from the provisions of United Nations Framework convention climate change is based on Article 2³⁰ of the UNFCCC which strictly stipulates that the aim of the UNFCCC convention is to achieve stabilization of Greenhouse gases concentrations in the atmosphere at a level that will prevent dangerous anthropogenic interference with the climate system and as such not to stabilize aviation emission.³¹

By interpretation, the scholars maintain that the Article 2 above confirms the claim that the United Nations Framework Convention on Climate change was not meant for reduction of aviation emission but general emission that could lead to climate change. The scholars also observed that since the idea behind the drafting of this convention did not for see the need to include aviation emission in the articles of the convention and there has been no explicit provision for aviation sector throughout the convention, it means the convention lacks jurisdiction for effective control over reduction of aviation emission.³² They claim that the need to improve on this limitation led to the emergence of Kyoto protocol 1997, as a more specific regulatory regime on greenhouse gases with Article 2 (2) which transfers sectoral regulation of aviation emission to the international civil aviation organizational (ICAO). Therefore absence of explicit jurisdiction for aviation emission denied the UNFCCC the power to effectively contribute to reduction of aviation emission.

Also, vagueness of the ultimate objective of the UNFCCC is put forward as a factor affecting contribution of UNFCCC to reduction of aviation emission. As set out in article (2)³³ of the convention, the ultimate objective is to “stabilize all greenhouse gases concentration in the atmosphere at a certain safe level in order to prevent dangerous anthropogenic interference with the climate system”. Stabilization as a term of objective is considered too vague because it is devoid of qualification and specific measure. This stabilization does not also state the quantity of level to which aviation emission shall be reduced to but rather gives a general statement. This aspect of vague term of objective, has led to a problem of agreeing at a specific long term mitigation target, in the subsequent negotiations by member state to the convention.³⁴

³⁰ UNFCCC, 1992. article 2, Also see H Chang, ‘International Executive Agreement on Climate Change’, Vol. 3,) *Colombia Journal of Environmental Law*, 2010, vol. 337. According to Hanah Chang, as at June 2000, the Framework Convention has received 184 instruments of ratification. Article 2 of the Framework Convention establishes the ultimate objective of the treaty and of any related legal instrument that the conference of the parties may adopt in the stabilization of GHG concentrations in the atmosphere at the level that would prevent dangerous anthropogenic interference with the climate system and each party is required to track its greenhouse pollution, particularly the industrialized countries.

³¹ See UNFCCC article 2.

³² F H Brian. Havel and S Gabriel. Sanchez n. 21 at 357

³³ UNFCCC, 199, article 2 2.

³⁴ B F. Havel and Gabriel Sanchez, n. 22 at 9, Also see Laura Thomas, A Comparative Analysis of International Regimes on Ozone and Climate Change with Implication for Regime Design, Vol. 4, (2003) *Colombia Journal of Transnational Law* vol. 4, 2003,795.

Therefore, the vagueness of the objective set out in article 2 of UNFCCC is considered a barrier to progress in achieving reduction in aviation emission.

One of the arguments on the contribution of United Nations Framework convention on climate change is that the UNFCCC has no legal binding obligation but just mere agreements which lack the power for effecting reduction in aviation emission. According to article 4(2),³⁵ the annex 1 parties are expected to take step to mitigate negative effects of climate change by limiting emission of greenhouse gases and protecting greenhouse sinks. However, a careful study of the UNFCCC shows that the convention does not make limitation of emission of greenhouse gases a legal binding obligation on member states but just mere expectation and agreement. Since the wording of 1992 UNFCCC convention on limitation of greenhouse gases amounts to mere expectation and agreement, the extent to which the provision in article 4(2) represents a binding obligation has therefore become questionable. Therefore, this instance of lack of legal binding obligation on reduction of emission of greenhouse gases has constituted an obstacle to reduction of aviation emission. In view of the above, it is believed the UNFCCC system needs to provide a legally binding obligation for member states, if the UNFCCC will stand to have a meaningful impact on reduction of aviation emission.

In addition to the above, the scholars put up an old argument that extent of commitment of UNFCCC in article (4)2 is doubtful and ambiguous.³⁶ To buttress this, it has been mentioned that article 4(2) of UNFCCC does not reflect a clear commitment by annex 1 parties to the UNFCCC to stabilize their carbon dioxide and other of per house gases emission by year 2000 at 1990 level, neither does it indicate whether or not the parties retain the right to increase their anthropogenic emission thereafter. Therefore, this issue of unspecific commitment in reduction of emission and the ambiguity about the term of commitment are said to have constituted serious obstacle to reduction of aviation emission in the convention. It is hereby suggested that specific commitment on reduction of emission and a clear term on the obligation of the parties to the UNFCCC would be required for attainments of reduction in aviation emission under the convention.³⁷ It is also suggested that the UNFCCC system needs to provide a legally binding mitigation target through a sectoral approach on aviation emission. The UNFCCC system would also need to improve on its vague and ambiguous terms on commitment to reduction of aviation emission. While political will in the international negotiation may make the suggested burden sharing system on mitigation of emission a difficult practice, it is suggested that a sectoral target for reduction of aviation emission through the international Civil Aviation organization (ICAO) might be easier to adopt in the absence of allocated mitigation responsibilities.

Based on all the above observations identified limitations, it is hereby submitted that the UNFCCC as an international treaty has not contributed much to reducing the contemporary problem of global aviation as it focused mainly on the ultimate objectives of preventing occurrence of climate change and achieving stabilization of greenhouse gases. The provisions on its guidelines are focused on reduction of general atmospheric emission and not solely

³⁵ UNFCCC, 1992, Article 4 (2).

³⁶ P Sands and P Galizi, *Documents in International Environmental Law (2nded)*, Cambridge UK University Press, 2003 at 33.

³⁷ D Bodansky 'The United Nations Framework Convention on Climate Change', Vol. 18 (1993) *Yale Journal of International Law*, 460 , Also see A Peijan and A Petsonk, 'The Skies and Airline based System for Limiting Greenhouse Gas Emission From International Civil Aviation' ,*Environmental Lawyer*, Vol. 6, 2000, 76.

aviation emission. This position is further corroborated by the terms of Paris agreement 2015, which explicitly indicate the need to reduce carbon emissions from all sectors to 2⁰ Celcius by 2020. As a confirmation of the above weakness, the Kyoto protocol to the United Nations on Climate Change emerged. The Protocol is to contain binding agreements on reduction of some specified emissions. The detail of Kyoto protocol, shall now be discussed.

3.0 The Kyoto Protocol to The UNFCCC, 1997

Having realized that the commitments of annex 1 countries provided for in article 4(2) of the United Nations Framework Convention on climate change (UNFCCC) were not adequate and because of the need to ensure that new commitments for post 2010 period was laid down in a protocol or a legal instrument, the Kyoto protocol was negotiated and adopted by the third conference of parties (COP) of the UNFCCC in Dec 1997³⁸ and this finally came into force in 2005. The Kyoto Protocol simply put, is a set of legally binding obligations which were set for 38 industrialized countries and 11 countries in central and Eastern Europe to reduce emission to 5.2% below 1990 level over the current period of 2008-2012.³⁹ With the emergence of the protocol, the UNFCCC which hitherto operated as a non-legally binding agreement, transformed into legally binding agreement among the member states. The Kyoto Protocol thus became the first international agreement that sets the framework for acceptance of legally binding emission reduction target for greenhouse gases by countries.⁴⁰

The Kyoto agreement which came inform of a set of binding articles commits industrialized countries listed as annex 1 countries to reduce six gases namely; carbon dioxide methane, nitrous oxide, Sulphur hexafluoride, hydrofluorocarbon (HFCS) and perfluorocarbons (PFCS) as well as reducing ground level ozone by 5% by year 2012.⁴¹ These annex 1 countries were required to cut their GHG emissions in the above national gases between 2008 and 2012 to the level that are 5 % below and 1990 levels. However, developing countries were not legally bound to emission reduction target, but required to take appropriate action for their developmental need. The reason for this was based on the fact that, developing countries were not responsible for large proportion of global emission of greenhouse gases (GHG).

According to this Protocol, each party included in annex 1 countries in achieving quantified emission limitation and reduction commitment for promoting sustainable development, shall implement and further elaborate policies and measures in accordance with national circumstances for enhancement of energy efficiency.⁴² Article 2(2) Also, that annex 1 parties shall pursue limitation or reduction of emission of greenhouse gases from aviation and marine bunker fuel, working through the International Civil Aviation Organization respectively. Article 2(2) The Annex 1 countries must indirectly or jointly, cut down their aggregate anthropogenic emission by at least 5% below 1992 level by commitment period of 2002-2012. While countries in transition economy may use a different base year for reduction of their mission such, countries may benefit certain degree of flexibility in the implementation of their commitments.⁴³

³⁸ The Kyoto Protocol to the United Nations Framework Convention on Climate Change 1997.

³⁹ Pl S. Dempsey, 'Trade and Transport Policy In Inclement Skies', n. 5 at 636.

⁴⁰ L Heather, n. 4 at 15.

⁴¹ F Brian, H G Sanchez, n. 21 at 29.

⁴² Kyoto Protocol to the United Nations Framework Convention on Climate Change 1997, Article 2 (1).

⁴³ Kyoto Protocol to the United Nations Framework on Climate Change 199, article 3 (5 & 6).

As earlier discussed, the United Nations Climate Change Conferences of Parties (COP) are annual conferences that take place within the framework of UNFCCC. They are formal meetings conducted by parties to UNFCCC to assess on mitigation of climate change. In pursuance of the obligations of Kyoto Protocol at reducing global emission, several conferences of parties continue to take place under the auspices of United Nations Framework convention on climate change. The fourth meeting of conference of parties (COP) took place in Argentina in 1998 and was adopted as Buenos Aires modest mandate on reduction of emissions.⁴⁴ The 5th COP took place in Bonn Germany in 1999. The 6th COP met in Hague in year 2000, but failed to reach an agreement on implementing the Kyoto protocol partly because the United States of America indicated that it will no longer proceed to ratify the protocol it had earlier signed.⁴⁵ The 7th COP took place in Marakesh (morocco) in 2001 and this contributed a lot to the coming of adequate framework for implementing the Kyoto protocol. COP 8 was held in New Delhi India in 2002, COP 9 took place in Milan Italy 2003, COP 10 was held in Buenos Aires, Argentina in 2004, COP 11 was held in Montreal, Canada in 2005, COP 12 was held in Nairobi, Kenya in 2006, COP 13 took place in Bali Indonesia in 2007.⁴⁶

In the Bali Action plan, developed country parties agreed to have quantified emission limitation and reduction objectives on a comparative basis with other countries, taking into account the differences in their national circum. However this action plan was observed to have finally suffered bad implementation. COP14 took place in Poznan Poland in 2008, COP15 took place in Copenhagen 2009.⁴⁷ It is worth mentioning that Copenhagen accord agreed that emission should be limited to 2.0°C (3.6°F) and this may be strengthen in 2015 with a target on warming below 1.5° c, but the base line for temperature level was not specified. Also in the accord, 14 developed country parties and 27 EU states were known to have submitted mitigation target on reduction of emission. Despite the above, it is observed that the Copenhagen accord was finally not successful as it did not achieve a binding agreement on reduction of emissions while negotiation was also inconclusive.⁴⁸

The Cancun COP16 conference was held in Cancun Mexico in 2010⁴⁹. The COP 17 took place in Durban South Africa in 2011, COP 18 was held in Doha Qatar in 2012. Both in Durban and Doha conferences, country parties agreed to a renewed pledge to develop a protocol or another agreement with a legal force under the UNFCCC convention. The protocol was to be applicable to all parties and to be adopted at COP 21 in 2015 and be implemented in 2020.⁵⁰ COP 19 took place in Warsaw Poland in 2013, COP 20 took place in Lima Peru in 2014 while another conference of parties took place in Paris France in 2015 as COP 21.

At the conference in France, the Paris agreement 2015 was made and endorsed by majority of member states of the United Nations. The purport of Paris agreement is to ensure a drastic reduction in general atmospheric emission to 2° by all member states of the UN by the year

⁴⁴ See Report of 4th Conference of Parties on Climate, COP 4, 1998. See alongside with earlier Report of the Conference of Parties on its third session, held at Kyoto from 1-11 Dec 1997, UNFCCC, 3rd Session, an addendum pt2 Decision2/cp3 at31, UNFCCC/CP/1977/Add-191988) here in after COP Decision.

⁴⁵ See Report of 6th COP in Hague, 2000 on [http:// climate change.gc.ca/default.asp? lang_En%nc25889az-1](http://climatechange.gc.ca/default.asp?lang_En%nc25889az-1).

⁴⁶ See Report of COP meeting in Bali, 2007.

⁴⁷ Also see report of COP meeting in Copenhagen 2009.

⁴⁸ D King et al, *Copenhagen and Cancun: International Climate Change Negotiation*, School of Enterprise and Environment, University of Oxford, UK, 2011 at 44.

⁴⁹ See Report of COP Meeting in Cancun 2010.

⁵⁰ See the reports of COPs 17 and 18 in Durban and Doha, 2011 and 2012.

2020. COP 22 and 23 took place in 2016 and 2017 respectively placing emphasis on the need to abide by the Paris agreement of 2015. COP 24 took place in Poland in 2018. At the conference, the United Nations declared that climate change is at the cross road and concluded with a general resolution of actualizing the aim of limiting the general global atmospheric emission below 20 Celsius by the year 2020 as contained in the Paris agreement. However, usual observation from the Conferences of parties is that the reports indicate that slow rate of progress is being achieved on the issue of arriving at a specific agreement on the actual level of emissions to be deducted, by each of the developed countries under the climate change negotiation agreements.⁵¹ In addition, it is observed that the Conferences of Parties meetings focused majorly on mitigation of general climate change emission with little emphasis on aviation emission.

From the above, it should be understood that the Kyoto Protocol comprises of a number of steps, that are binding on all parties to the protocol. Such steps are: to formulate national and regional programme, to improve local emission factors and adaptation measures. The protocol also calls on parties to cooperate on promotion and transfer of environmentally sound technologies. As part of the effort to see that emission is reduced to the barest minimum, the Kyoto protocol equally made available to the developed countries that are parties to the protocol, flexible mechanism that allows commitment to be shared among developed countries or to be supplemented with reduction outside their jurisdiction.⁵² With regards to aviation emission, it should be noted that apart from making effort towards reduction of emission of climate change, Kyoto Protocol also specifically deals with issue of reduction of aviation emission although, through the International Civil Aviation Organization (ICAO). As reflected the provision of Kyoto Protocol, article 2(2), directs the developed countries in the Annex I parties to pursue reduction of aviation emission in the aviation sector through the International Civil Aviation Organization.

3.3 UNFCCC Kyoto Protocol and Corsia

CORSIA is referred to as Carbon Offsetting and Reduction Scheme for International Aviation. It is a market based mechanism developed by ICAO. According to the scheme, airlines will buy emission reduction offset to cater for increase made in the emission from operation of their aircraft or the use lower carbon fuel referred to as CORSIA eligible fuel.⁵³ The idea of setting up the CORSIA scheme by ICAO was based on the demand of UNFCCC Paris Climate Agreement 2015, where it was demanded that all sectors including aviation should reduce carbon emission by 2020. In 2017, at the 46 session of the UNFCCC Subsidiary for scientific and Technological advise in Germany between 8-18, May 2017,⁵⁴ that deliberated on how to reduce emission from international fuel used for International aviation considered ICAO'S submission on series of measures on how to improve aircraft technology, operation improvement and how to reduce significantly CO₂ emission. The measures considered also include global certification of CO₂ standard for aeroplanes operational improvement that will bear significant CO₂ emission reduction potential and the use of alternative fuel. ICAO

⁵¹ See comments on COP meetings in A Kiss and D Shelton, *International Environmental Law*, United Nations Environmental Programme, Trans National publication USA, 2004 at 323.

⁵², Kyoto Protocol on Climate Change, 1997, Articles 4- 6; L Thomas, 'A Comparative Analysis of International Regimes on Ozone and Climate Change with implications for Regime Design, *Colombia Journal of International Law*, Vol.41, 2003, 795.

⁵³ <http://www.icao.int/meeting/corsia17/pages/default.aspx>,6.

⁵⁴ United Nations Framework Convention on Climate Change 46 Subsidiary Act, Global ICAO Uniting Aviation on Climate Change', <http://www.icao.int/environment>, 5.

resolved to implement CORSIA with 67 states voluntarily participating in the scheme. The overall expectation is that carbon emission shall reduce by 0.8% per annum in order to meet up with 2⁰ Celcius target of the UNFCCC.

3.4 The Kyoto Protocol and The Issue of Reduction of Aviation Emission

An assessment of the Kyoto Protocol (1997) and its activities show that the protocol contributes to reduction aviation emission in many ways. Part of this is that Kyoto Protocol specifically provides for reduction of some gases and carbons which are connected with the issue of increase in aviation emission. Article 2 (viii)⁵⁵ of Kyoto Protocol provides for reduction of Methane emission from production, energy distribution and transport sector which aviation is inclusive. It also seeks for reduction of emission from Sulphur hexafluoride. Further, the Protocol seeks for reduction of emissions from hydrofluoro carbons and perfluoro carbons which are part of the carbons that affect aviation emission. By the above, it is considered that the protocol sufficiently provides and contributes to reduction of aviation emission. It is also observed that the Kyoto Protocol is an agreement that strongly aims at reduction of emissions in the transport sector which aviation emission also belongs. Article 2 (vii)⁵⁶ of Kyoto Protocol requires Annex1 parties to see among other things, reduction of greenhouse gases in the transport section. Through the above, Kyoto protocol has contributed to awareness of member states on the need to see to reduction of aviation emission in their respective areas.

It is equally observed that Kyoto Protocol is an agreement that specifically canvases and provides for reduction of emission from the aviation sector. The truth in this claim is reflected in Article 2 (2) of the Kyoto Protocol which requests parties in Annex 1 to pursue reduction of emission of Greenhouse gases from aviation and marine bunker fuels working through the International Civil Aviation Organization (ICAO) and the International and the International Maritime Organization. According to the text of Article 2 (2) of Kyoto Protocol:

The parties included in Annex 1 shall pursue limitations in reduction of greenhouse gases not controlled by Montreal Protocol from Aviation and Marine bunker fuels, working through the International Civil Aviation Organization and the International Maritime Organization respectively.⁵⁷

By interpretation, the above article directs the annex 1 countries in the Kyoto Protocol to pursue and achieve reduction of greenhouse gases from aviation sector through the international Civil Aviation Organization. Implementing the above, Kyoto Protocol transfers to ICAO, the authority and control on reduction of aviation emission. Through this singular act, Kyoto Protocol has shown its concern and made a fundamental contribution towards reduction of aviation emission. In addition to the above, Kyoto Protocol also ensures that ICAO continues to retain exclusive jurisdiction for global aviation policy, thereby avoiding fragmentation of global environmental policy.⁵⁸ This authority has continued to be enjoyed by ICAO to date despite the existence of other regional body like the European Union, which has shown equal interest in regulating Aviation Emission. By the above, Kyoto has shown genuine commitment to reduction of aviation emission.

⁵⁵ Kyoto Protocol to UNFCCC, 1997, article 2(VIII).

⁵⁶ See, Kyoto Protocol to UNFCCC, 1997 article 2(viii) Article 2.

⁵⁷ See Kyoto Protocol to the UNFCCC, article 2 (2),

⁵⁸ See H L. Miller, n. 4 at 697.

Another contribution of Kyoto protocol to reduction of aviation emission is that the Kyoto protocol has provided support for continuous meeting of State Parties at the Conference of Parties where issues involving reduction of aviation Emission are being discussed with aims of enforcement of agreement and imposition of sanction on member states in line with Articles 4(1).

This observation is corroborated by series of meetings of Conference of parties held under the platform of Kyoto protocol to discuss issues concerning reduction of aviation emission among member states. One of such global meetings is the final version of Bali Road Map for the COP meeting in Bali Indonesia in 2007, The Bali Road Map, provides for cooperative sectoral approaches and sector specific actions, in order to enhance implementation of Article 4(1)⁵⁹ of Kyoto Protocol, which commits all parties to promote and to cooperate in reduction of greenhouse gases. Included in the above cooperative language as agreed upon at the 13th COP meeting in Bali, were specific measures which will allow international aviation to be included in the negotiation and agreement that will replace emission limitation period set in the first commitments period of Kyoto protocol, so as to enhance post 2012 regulation of aviation emission.⁶⁰ Even though, the above agreement for sectoral cooperation initially proved difficult to enforce among member states, the agreement later achieved gradual compliance among member states with useful decisions on issues relating to reduction of aviation emission.⁶¹ Therefore, the above act also shows that Kyoto Protocol has contributed effectively to reduction of aviation emission.

However, Kyoto Protocol is noted to have some limitations on reduction of aviation emission. These include the claim that Kyoto protocol could not find solution to determination of national responsibility for international aviation emission and development of an effective instrument for this in the sector⁶². The argument about this, is that despite the transfer of responsibility for regulation of aviation emission to ICAO, it is expected of an effective Kyoto Protocol to be able to determine national responsibility for international emission and also develop international instrument for the aviation sector but this is not so. It is argued that Kyoto Protocol is still grappling with the problem of how to determine allocation of international emission to its member states and that failure to determine responsibility for international aviation emission or develop an effective instrument for the aviation sector hinders the contribution of Kyoto Protocol to reduction of aviation emission.

Kyoto protocol is also criticized as having weak technical scientific capacity for effective control of aviation emission.⁶³ Under a binding Kyoto protocol, the general believe is that a successful global limitation of greenhouse gases will be achieved through international convention and protocols that are tailored to fix the problem to be addressed. This is because it is expected that Kyoto Protocol will contain a specific and quantitative approach necessary for limiting aircraft emission. Not only that, such protocol is expected to provide a comprehensive solution like flexible mechanism and other effective measures needed but which is not. The Kyoto protocol is therefore found more or less to be a legally binding

⁵⁹ See, Kyoto Protocol 1997 article 4 (1), which states that respective emission level allocated to the parties to the agreement shall be set out on the agreement.

⁶⁰ See H L. Miller, n 4 at 18.

⁶¹ D Freestone and C Streck, *Legal Aspect of Carbon Trading, Kyoto, Copenhagen and Beyond*, Oxford University Press, 2009 at 608..

⁶² D Freestone and C Streck, n60 at 609

⁶³ David Bodansky n 32 at 442

agreement that lacks specific quantitative approach on emission reduction and provision of international standards for regulating aviation emission.⁶⁴ This weakness in technical capacity therefore makes Kyoto protocol to be regarded as an agreement that could not contribute adequately to reduction of aviation emissions. It is suggested that Kyoto Protocol should develop strong technical capacities for adequate role in reduction of aviation emission. The above therefore lends credence to the claim that Kyoto Protocol is not to be the appropriate body for reduction of aviation emission but the ICAO.

To further prove lack of satisfactory contribution to reduction of aviation emission, it is recently observed that the Kyoto Protocol under the UNFCCC excluded reference to international civil aviation from the Paris Agreement of 2015. Instead of this, the COP 21 made it a key point that parties to the agreement should continue to mobilize climate fund from wide variety of sources for mitigation of climate change. As a reaction to this, ICAO at its 39th Assembly, urged member states present to express concern on the use of international aviation as a particular source for mobilizing fund for climate finance. Also, exclusion of CORSIA from the scheme of UNFCCC'S Kyoto Protocol on Climate Agreement of 2015 and finally conceding this role exclusively to ICAO is another weakness in the contribution of UNFCCC to reduction of aviation emission. The above shows that both the UNFCCC and the Kyoto Protocol were set up principally to focus on global reduction of general climate carbon emissions and solely for reduction of aviation emission.

Having considered all the above, it is hereby submitted that both the UNFCCC and the Kyoto protocol have not contributed significantly to reduction of aviation emission. The reason for this is that apart from the fact that Kyoto Protocol is a binding agreement among states with the main objective of seeing to reduction of some selective gases like Methane, Sulphur hexafluoride, hydrofluoro carbons and Perfluoro carbons that are connected with aviation emission, Kyoto Protocol provides for reduction of these gases in Article 2(vii).⁶⁵ Kyoto Protocol however, proceeds to make its most significant contribution to reduction of aviation emission in Article 2(2) where it requests Annex 1 countries to pursue reduction in greenhouse gases in the aviation sector by working through the ICAO. Not only that, Kyoto Protocol finally shows its commitment to reduction of aviation emission when it transfers the Authority over reduction of aviation emission to ICAO. It is hereby observed that even though Kyoto Protocol is not the appropriate forum for reduction of aviation emission as alleged in the criticisms, its implementation of Article 2 (2) through the transfer of authority on reduction of aviation emission to ICAO shows that Kyoto Protocol made significant contribution to reduction of aviation emission. In fact, it can be said that it is the desire to achieve more result in meeting sectoral target on reduction of aviation emission that prompted Kyoto Protocol to consider involvement of International Civil Aviation Organization (ICAO), as this might be easier means of achieving allocated mitigation responsibility.

4.0 Conclusion

From the above, the study has shown that even though the UNFCC and Kyoto Protocol have contributed their quota towards development of international platform for addressing the issue of aviation emission, reduction of international aviation emission is not effectively addressed within the general target of interstate approach of United Nations Framework Convention on Climate Change 1992 as there were difficulties in determining quantity of emission involved

⁶⁴ B F. Havel and Gabriel Sanchez, n 21 at 30

⁶⁵ Kyoto Protocol to the UNFCCC, states that Parties should take measures to limit or reduce emissions of Greenhouse gases which are not controlled by Montreal Protocol in the Transport Sector.

MURGAN: Revisiting the Role of United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol in the Fight Against Emissions from International Civil Aviation

in a flight and the atmospheric impact.⁶⁶ There was also difficulty on who should take mitigation responsibility based on unique characteristics of air transportation and its emission.

The Kyoto Protocol complimented the effort of UNFCCC in 1997, but aviation emission was eventually not fully addressed within the general mitigation target of Kyoto Protocol. As a result of the above limitations, a sectoral approach to solving problem of emission was considered necessary and the control on reduction of aviation emission was brought under International Civil Aviation Organization in 1997 via the UN's Kyoto Protocol Article 2(2).⁶⁷ Therefore, Based on all the above, the UNFCCC and Kyoto Protocol have not done much to assist on global reduction of aviation emission. In order to ensure that treaty law such as the UNFCCC and Kyoto Protocol continue to impact on reduction of aviation emission, it is suggested that more effort should be focused within the UNFCCC programme on determining the quantity of emission involved in aircraft flight including its environmental impact and who should take responsible for mitigation responsibility for air transportation and its emission. Also, the general mitigation target of Kyoto Protocol should be made to fully address the issue of reduction of aviation emission. It is further suggested that considering the rate of increase in aviation emission and its devastating effects on the global environment, the issue of reduction of aviation emissions should be accorded more priority at the subsequent meetings of United Nations UNFCCC climate change so as to give helping hands to the efforts of ICAO.

⁶⁶ Beatrice M. Romera and Haro Van Aselt, 'The International Regulation of Aviation Emission', *Journal of Environmental Law*, 2015, 12.

⁶⁷Article (2) of Kyoto Protocol to the United Nations Framework Convention on Climate Change states that "the parties included in Annex 1 shall pursue limitation or reduction of greenhouse gases (...) from aviation and marine bunker fuels working through the International Civil Aviation Organization respectively".