POLITICS OF GLOBAL WARMING AND CLIMATE CHANGE

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Abstract

The study examined some aspects of the politics of climate change. Climate change science, evidences, impacts, mitigation and adaptation have been unduly politicized because of the economic, developmental and strategic interests of nations (developed and developing) and multi-national oil companies who benefit from the fossil fuel-driven economy. United States of America, the largest emitter of greenhouse gases in the world failed to ratify the Kyoto Protocol - a global treaty of 1997 to reduce the global emissions of the four principal greenhouse gases (CO_2, NH_4, NO_2 and CFC_S). Also highlighted is China which is currently the 2nd largest economy and projected to surpass USA as the highest global emitter of greenhouse gases in the next two decades. There are areas of discord that have stalled many climate change conferences and negotiations between the developed and developing countries such as transfer of technology, intellectual property rights, payment of reparations, green funds, mitigation versus adaptation. The politics of climate change is a major distraction and it amounts to the proverbial fiddling why Rome burns. The global community should therefore jettison politics and face the reality of climate change headlong with a view to saving humanity and the environment from this "global time bomb".

Keywords: *Climate change, Kyoto Protocol, Greenhouse gases*

Introduction

Global warming and associated climate change is caused by the greenhouse effect, an effect related to the heat trapping character of some gases such as carbon dioxide, methane, nitrous oxide, water vapour and chloroflourocarbons. These gases are naturally present in the troposphere and tend to absorb some of the infra red radiation and reradiate it back to the surface of the earth. These roles are analogues to the glass in a greenhouse, hence the name greenhouse gases (Wright, 2005).

The science of greenhouse effect was first recognized in 1827 by a French Mathematician, Jean-Baptiste Fourier. John Tyndall, an Irish Scientist, later took on the idea for further investigation. Then, in 1898, Svante Arrhensius, a Swedish Scientist, actually coined the phrase "greenhouse effect" and went on to predict that if the concentrations of carbon dioxide in the atmosphere doubled, the global climate would warm by 4°C to 6°C (Bruges, 2007).

Though the global temperature has not warmed as Arrhenius had predicted about 114 years ago, observable warming of the global climate system has been established and recorded by individual scientists and corporate bodies such as the Intergovernmental Panel on Climate Change (IPCC). The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme (UNEP) as a network of the world's leading climate change scientists and experts (IPCC, 2007).

In the 2nd Assessment Report of IPCC, the increasing concentration of three greenhouse gases - carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) - were reported. The three gases have significantly grown by about 30 percent, 145 percent and l5 percent respectively (IPCC, 1996). These increases, according to the IPCC (1996), can be attributed largely to human activities especially the burning of fossil fuels, land use changes and agriculture. One of the outstanding findings of the IPCC 4th Assessment Report (IPCC, 2007) was that the warming of the climate system is unequivocal, as it is now

evident from observation of increase in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea levels. The report equally noted that eleven of the twelve years (1995-2006) rank among the 12 warmest years in the instrumental record of global surface temperature since 1850. Despite all the evidences, impacts and likely impacts of climate change on the global agriculture and food security, water resources, energy, human health, sustainable development and extreme weather events and vital ecosystems that sustain human economic base, the global communities individually and collectively are still playing dangerous politics with global warming and associated climate change issues. The truth is that adverse impacts of climate change are already manifesting in different parts of the world but more so in the developing countries where these impacts are hitting hardest because the people are very vulnerable. This paper attempts to highlight and analyse these political angles of climate change with a view to redirecting attention to achieving equitable, all inclusive and just climate change mitigation and adaptation programmes for the betterment of man and his environment.

Historical Perceptive

The Non Acceptance of the Connection between Global Warming and Climate Change

The economic and corporate interests of nations and organizations tend to becloud the basic science of global warming and climate change. For example, many developed countries have sponsored many studies to discredit the simple science of global warming and climate change by capitalizing on the complex nature and some uncertainties of the cycles and processes that drive the global climate systems. The climate change sceptics still argue that observed temperature increases and other signs of climate change have not been convincingly proven to be as a result of humanity's greenhouse gas emissions (Anthanasious and Baer, 2002). They also discredit all the 5 Assessment Reports so far issued by the IPPC. Their attitude is not helping climate change response. This is unlike ozone layer depletion regulation that had long started when there was only a laboratory demonstration that

halogenated compounds could destroy ozone layer and Roland and Molina then started to theorize that human-created CFCs could migrate to the stratosphere where the ozone shield is located (Desombre, 2002). That is, before any conclusive scientific evidence was arrived at in respect of the control of ozone layer depletion, the international community had already agreed to control all the substances identified as capable of depleting stratospheric ozone. In the same vein, the international community should recognize climate change as resulting partly from human-induced greenhouse gases.

The non-binding nature of Kyoto Protocol

The Kyoto Protocol of the United Nations Framework Convention on Climate Change (UNFCCC) was adopted on 11th December, 1997. It entered into force on February 16th 2005 following ratification by Russia (World Bank, 2003).

As of September, 2011, one hundred and eleven countries and regional economic integration organizations have ratified, accepted, approved or acceded to the Kyoto Protocol. In Article 3 paragraph (1) of the UNFCCC, the parties agreed that:

First, the United States of America and Australia two major Annex I emitters signed the protocol but refused to ratify it. Canada another Annex I country ratified the protocol but in December 2011 made a u-turn and announced their discontinuation with the protocol. Second, the protocol failed to specify any policy or strategy that each country should adopt to achieve agreed reduction targets. These strategies are left at the whims and caprices of the individual nations to determine. Thirdly, the non inclusion of developing countries in the protocol created the first point of weakness because some of the developing countries such as China, India, Brazil and South Africa are already surpassing some of the Annex 1 countries in their emission levels Table 1.1 shows that China and India emission combined contribute about 18.66 percent of world CO_2 emissions, whereas five major

industrialized countries (Japan, Germany, UK, Canada and Italy) combined contribute about 15.15 percent of the world CO_2 emissions.

Table 1.1: Top 10 countries of global CO_2 emission.

S/N	World ranking	Percentage Share of world population	Percentage share of world CO_2 emissions	Percentage cumulative share of CO_2 emission
1	USA	4.76	24.45	24.45
2	China	21.47	13.91	38.36
3	Russia	2.55	6.44	44.81
4	Japan	2.18	5.07	49.88
5	India	16.97	4.75	54.63
6	Germany	1.42	3.70	58.33
7	United kingdom	1.03	2.43	60.76
8	Canada	0.52	2.09	62.85
9	Italy	1.00	1.86	64.71
10	Mexico	1.62	1.68	66.39

Source: The World Bank World Development Indicators (2003)

Political and economic interests of oil producing countries and oil companies

The importance of oil in global economy and global politics cannot be over emphasized. Bruges (2007) stresses the importance of oil by rightly observing that global economy would be determined by the amount of energy available and the economy of each country would depend on much energy it can command. Trade, manufacturing, services, exchange, everything would be limited not by money but by its energy use. In fact, oil has elevated many poor countries especially from the Middle East to both political and economic prominence. Before the era of petroleum economy, the Arab world was unknown except for the age lone territorial disputes with Israel. But the 1970s marked a watershed and oil started to be reckoned with both politically and economically. The Israeli-Arab War of 1973 led to the Arab World placing oil embargo on countries that supported Israel and price of oil sky rocketed. This factor affected the global economy very profoundly. The major oil producing nations of the world benefited immensely from this boom. The Arab World has never remained the same politically, economically and strategically. Instant millions of US Dollars were made, million of jobs were created and serious infrastructural transformation was achieved in all the oil producing

nations from Kuwait to United Arab Emirates and from Iraq to Qatar. With the possible exception of the United Arab Emirates, all the oil producing countries are monocultural economies that virtually depend on oil and gas. With fossil fuels as the life wire of the oil producing nations, any talk of alternative to oil or reduction in demand of oil have met with all manners of resistance such as discrediting the impacts of burning fossil fuels on global warming and climate change. What is said about oil producing countries is also true for oil producing companies whose businesses start and end with oil and gas. These companies employ millions of people and their combined assets and turnovers run into trillion of American dollars. To these oil firms, business as usual scenario is what they crave for. Consequently, some of the companies have sponsored counter researches and publicity to counter any link between fossil fuels burning and climate change. The oil companies are also not interested in investing in research and development of renewable energy as doing would amount to compromising their economic and business interests.

The greatest emitters of greenhouse gases are also the largest economic power of the world. These super emitters are the industrialized countries of the world who benefited from the power of mechanical power driven by fossil fuels since the Industrial Revolution of the 1750s to achieve high level of industrialization as well as high standard of living among others. These countries include the USA, the European Union, Australia, Japan and the Russian Federation. Rich countries dominate the carbon dioxide emission of the world. The United State is the largest emitter accounting for about One-fifth of the total emission. The five top emitters are China, India, Japan, the Russia Federation and the United State account for more than 50 percent of the emissions A (Human Development Report 2007). The top ten emitters (Figure 1.1) collectively account for more than 60 percent of the total emissions. The industrialized economies of the world also rank very high in historical emissions per capital. For example, USA and Britain

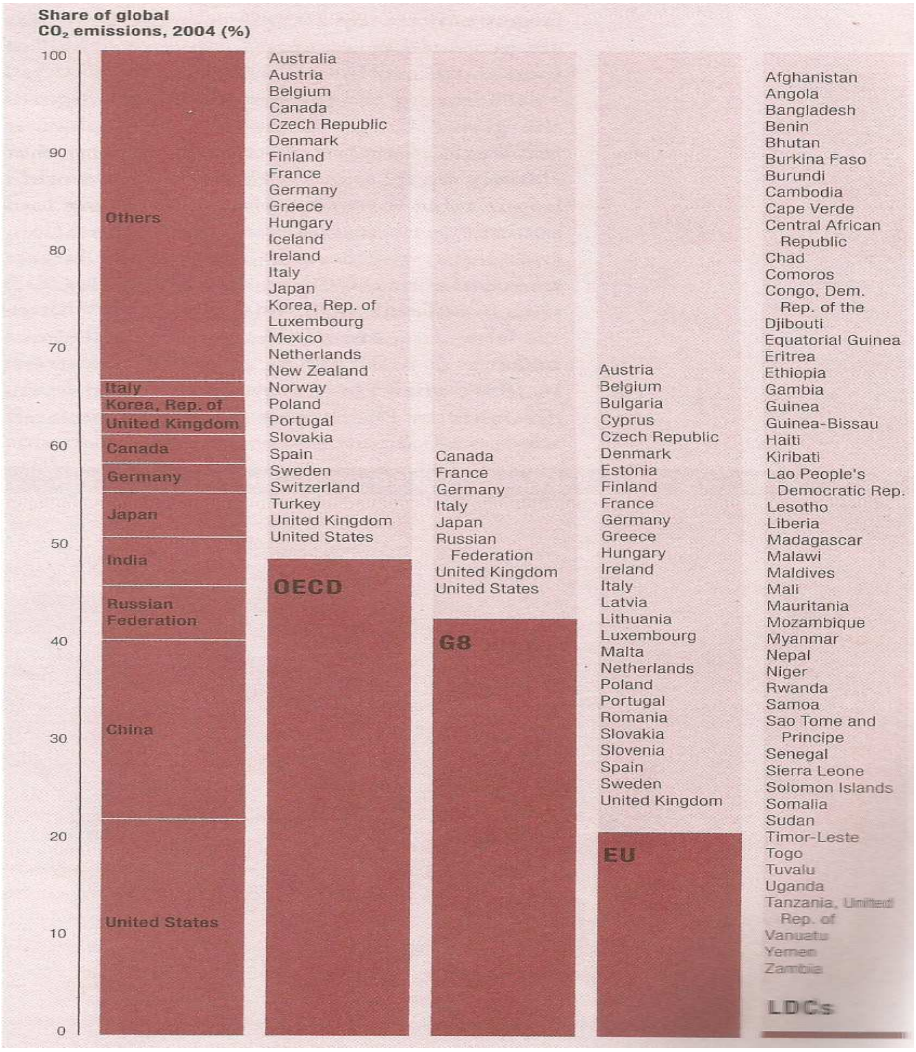

Fig. 1.1: The Top Ten Global Emitters of CO_2
Source: Human Development Report (2007)

averaged 1,100 tonnes of CO_2 per capita compared to China's 66 tones per capita and India's 23 tonnes in respect of historical emissions

(Human Development Report 2007). The position of the top green house emitters is clear and understandable because reducing emissions to them would amount to compromising their economic interest and this is capable of slowing down their economic growth, economic competitiveness and lowering the standard of living of their people. The position of United States as forcefully represented by their president, George W. Bush in 2001 is unequivocal.

The economic and development interest of the 2 largest economies – The United State of America and China

United States of America and China are now the two largest economies in the world. China recently overtook Japan as the second largest economy. Table 2 shows the five largest economies in the world using their purchasing power parity (United States, China, Japan, India and Germany).

Table 1.2: Biggest economies by purchasing power parity (PPP)

Country	**GDP using PPP in US billion Dollar**
United States	11,651.1
China	7,642.3
Japan	3,737.3
India	3,389.7
Germany	2,335.5

Source: Pocket World in Figures (2007)

The implication of China becoming an economic and industrial giant is that its carbon footprints would also be very high if not higher than those of the United States. The politics of historical emissions versus current emissions has raged between the United States and China plus the 77 Group of Developing nations. This debate has stalled all the major Conferences of Parties (COP) of the United Nations Framework Convention on Climate (UNFCCC). In 2009, COP 15 in Copenhagen, Denmark ended without any major outcome. The same with COP 16

and 17 in Cancun (Mexico) and Durban (South Africa) respectively. Also politicized is the issue of who should pay reparations for causing global warming and climate change. The developing world who did not contribute much to global warming in the first instance asked the industrialized countries to pay reparations as they are most vulnerable to impacts and likely impacts of climate change. The developed world on the other hand asked some rich developing countries such as China, India and Brazil to contribute as their large economies and their poor pollution controls are projected to emit greenhouse gases into the atmosphere and possibly surpass whatever was emitted in the past by the industrialized countries of the world. The bickering between USA and China and their allies amount to the proverbial fiddling while Rome burns and this is very dangerous for the global human community as uncontrolled emission of greenhouse gases would overwhelm the earth's atmosphere and climb above the tipping point of 2°C. Scientists have warned that global warming of 2°C or more would happen in the business as usual scenario in the next 100 years and this portends serious danger to man and his planet.

The politics of climate change mitigation versus adaptation

Policy makers have two principal instruments for dealing with climate change. These are mitigation and adaptation. Mitigation involves limiting the amount of greenhouse gases emitted into the atmosphere. Adaptation on the other hand is all about easing the impact of a given change with appropriate protection measures such as development and deployment of heat - resistant crops, change in agricultural and forest management systems, building of dykes and sea walls, the construction of water storage and irrigation systems as well as adaptation of houses (Frankhouser, 1995). Since the climate change response debate started, more attention has been expended on mitigation to the detriment of adaptation. The focus has always been how to limit greenhouse gases but especially carbon dioxide (CO_2) concentration from the highest safe level which is 445 to 490 parts per million which is also the same as limiting average global temperature to increase of between 2.0 to 2.4°C. All the climate change negotiations since Kyoto have

concentrated on mitigation costs, mitigation technologies, protection of intellectual property rights of developed countries, e.t.c. But mitigation is only targeting future emission without recognizing that past emissions especially from the developed economies are already wrecking incalculable havocs on people and their supporting means of livelihood especially in the developed countries of the world. If significant mitigation measures are taken, little action may be needed in respect of adaptation.

Conversely, if the consequences of global warming can easily and cheaply be adapted to, there may be little need for preventive carbon abatement. The two sets of policy measures should thus be carefully coordinated and vigorously pursued. Analytically, the optimal combination of prevention and adaptation can be found by minimizing the total costs of climate change consisting of the costs of emission abatements PC, the costs of adaptation AC and the costs of greenhouse damage D represented in equation I (Fankhouser, 1995).

$$\min_{p,a} AC(a) + PC(p) + D(T,a) \quad \text{--------- 1}$$
$$\text{Subject to } T = f(p)$$

where: p denotes the level of prevention (emissions abatement)
A is the degree of adaptation
D is the greenhouse damage and depends positively on temperature level T, and negatively on the amount of adaptation.
AC is the cost of adaptation
PC is the cost of prevention.

From the above equation, climate change damage cost is minimized when both the increment costs of mitigation and adaptation are lower than the additional benefits. The equation representation underline the importance of both mitigation and adaptation measures. They are two sides of the same coin and efforts should therefore be geared toward

ensuring that none is promoted at the detriment of the others. Moreover, the developed nations of the world should live up to the commitment which they freely made and signed during the United Nations Framework Convention on Climate Change (UNFCC) in 1992 when they agreed to help the developing countries that are particularly vulnerable to meet their costs of adaptation to climate change (Human Development Report 2007).

Politicization of extreme weather events by not linking them to climate change

Extreme weather events including heat waves, frosts, floods, droughts, severe storms such as hurricanes, cyclones, tornadoes have intensified in many parts of the world. The magnitude, frequency and character of these extreme weather-related events have significantly changed especially in the last three decades.

For example, in Africa and East Asia, drought has intensified and equally prolonged in duration, heat weaves have not only intensified, but have come with more disastrous consequences. For example, in 1995, summer heat waves affected both US Mid- west and India. More than 700 people died in Chicago from heat exhaustion when temperatures exceeded 32°C (90°F) in July 1995 about 500 people died in Northern India when June temperatures soared to 50°C (122°F) (Enger and Smith, 2004).

Tornadoes have also been occurring more frequently and with more furry. In the United States alone, nearly 1000 tornadoes have ripped across the heartland killing more than 500 people and inflicting a billion US dollars in damage. The Midwest of the United States suffered the wettest April in 116 years, forcing the Mississippi to flood thousands of square miles. Texas suffered the driest month in a century (Begley, 2011). Hurricanes have also intensified and have come with more disaster especially in the North Atlantic Sea Board. During the Atlantic hurricane season of 2004, 15 named tropical storms developed (the average is around 10). Six were major hurricanes. One of the six was Hurricane Jeanne that killed more than 200 people in Haiti (World Climate News, 2005). Then came Katrina, a category 5 Hurricane that

devastated the ancient city of New Orleans. Katrina was the costliest hurricane in US history. In March, 28, 2004, the South Atlantic recorded her first hurricane off the Brazilian States of Catarina. Hurricane Catarina was a category one Hurricane with central winds of 121-129km/h. The amazement caused by the first recorded hurricane in the South Atlantic in recorded history made Climate Change Scientists at the United Kingdom Meteorological Office, Hadley Centre for Climate Prediction and Research to start to focus more on climate models that could possible throw some light on the various links between climate change and the behavior of tropical storms (World Climate News, 2005). Inspite of the available documented evidences linking climate change to recently observed extreme weather events, climate change sceptics especially in USA and Australia are still not convinced to link these extra ordinary events to global warming - induce climate change. The denial of climate change especially during the Bush Administration contributed negatively to the development of adaptation and mitigation structures and institutions in United States of America. In fact, climate change deniers argued that global warming was a hoax and as a result, there was no need to figure out any adaptation plans (Bagley, 2011).

The politics of technology transfer from developed to developing World

The technological transfer debate between the rich North and the poor South has been on for a long time. The rich North are far ahead in cutting edge research and development in all the relevant fields of human development. Millions and Billions of dollars are expended on these researches and development processes annually. The politics of technological transfer between the industrialized countries and the poor developing countries of the world affected the early deployment of antiretroviral drugs on HIV/AIDS that were developed in the United States of America. The pharmaceutical firms that first developed the drugs imposed high patented - protected prices as the main incentive

for the companies to engage in research and development in the first place. The patented - monopoly price for antiretroviral regimen was about $10,000 per year compared with actual productions costs of less than $1,500 per year. The difference is the patent incentive for the pharmaceuticals (Sachs, 2005). Just as in the transfer of patents in respect of HIV antiretroviral drugs from the North to the South was very problematic because of issues relating to protection of intellectual property rights, pricing incentives, etc. property rights, and pricing are already affecting the transfer of climate change mitigation and adaptation technologies developed in the laboratories and incubation centres of the developed world. For example, there are many renewable energy and energy efficient technologies, improved biotech seedlings etc. that are already in the market place but whose prices and deployment are very prohibitive and are therefore very unaccessible to the poor countries of the world who really need these technologies to reduce their vulnerabilities and to cope with some of the adverse impacts of climate change. The issue of technological transfer has been a knotty one between the developed and developing countries during climate change negotiation conferences. The developed countries have always pledged that climate change mitigation and adaptation technologies would be easily transferred to the developing countries but these pledges have most of the time been breached by the industrialized world. One of the ways of resolving this problem is that both the developed and developing countries of the world should enter into serious dialogues with patent holders of climate change mitigation and adaptation technologies to consider lower prices for products entering third world countries by charging only production costs and not the higher patent/monopolistic prices.

The politics of climate change mitigation and adaptation instruments such as Green Funds, REDDS, Clean Development Mechanism (CDM), etc.

The various instruments and mechanisms for mitigating and adapting to climate change such as the Green Fund, Reduced Emissions from Forest Deforestation and Forest Degradation (REDD), Clean

Development Mechanisms (DCM) etc. have been designed and structured to protect the interests of the developing countries of the world. For example, the CDM was one of the flexible instruments designed by the Kyoto Protocol. The CDM is a project - based mechanism structured to allow Annex 1 parties in meeting their emission limitation commitment by investing in emission reduction projects in non- Annex 1 countries. But CDM projects have been skewed to favour few countries especially China, Brazil and India. Few of the CDM projects that have been approved went to Africa. The truth is that CDM Board is dominated by the developed countries of the world and project screening procedures are not only rigorous but also entails very expensive and time consuming documentation and processes. CDM required high administrative and transacting costs plus very weak financial incentives and difficult reporting processes. Consequently, African countries that need CDM projects most because of their more vulnerability to impacts of climate change turn out to benefit least from this global warming mitigation mechanism. The developed countries of the world have also made pledges to raise green climate funds, first, to contribute at least 30 billion US dollar annually from 2010 to 2012 and thereafter 100 billions dollar from 2020 to developing countries to address the impact of climate. But the pledges are not legally binding and most of the countries have not honoured their pledge. Globally, about 4730 CDM projects have received approval for execution as of 2009. Pacific Asia has the lion share of 3700 projects. Latin America and the Caribbean had 820 and Africa had only 210. In Africa, South Africa, Kenya Egypt and Morocco dominate CDM projects in Africa.

Nigeria, the giant of Africa has officially registered only 5 projects (Table 1.3).

Table 1.3: Official registered CDM projects in Nigeria as of Dec. 2010

Project	Sector	Location
Kwale Gas utilization project	Energy	Kwale, Delta State
Pan Ocean Gas utilization project	Energy	Ovade – Ogherefe Delta State
Asuokpu – Umutu Marginal Field Gas Recovery Facility	Energy	Asuokpu Umutu Delta State
Save 80 fuel efficient (wood stove)	Energy	Spread all over Nigeria
Municipal solid waste compostry	Environment/ Agriculture	Ikorodu, Lagos State

Source: Culled from Ajadike (2012)

Discussion and Conclusion

Climate change a straight forward science that has been turned into something very complex even for the best trained minds in the atmospheric sciences. For example, the oil producing countries of the world that depend on oil earning from fossil fuels for their economic development are pretending that they do not know that burning of fossil fuels generate greenhouse gases that contribute to global warming. The same is true for major oil companies whose business of producing and distributing fossil fuels contribute to global warming and climate change.

There is also the politics of who should pay for the emission of greenhouse gases between the industrialized (developed) countries and poor developing countries of the world. The developing worlds are advancing the augment that the industrialized countries owe them some debt and reparations for polluting the atmosphere since the Industrial Revolution of the 1750s. The developed world accepted to pay something but they quickly came up with their own defence that some emerging developing countries with large economies such as China, India, Brazil and South Africa are equally guilty of pollution and that future emissions of greenhouse gases may be worst than whatever the developed countries have done because of not just the size of their economies, but also because of poor environmental controls and weak abatement institutions and processes of the emerging economies of the world. This paper is suggesting that all polluters should be made to pay appropriately to reflect the polluters must pay principle. Both historical and current emissions should be calculated and those responsible must

be made to pay to the last kobo for the sake of justice. There is also politics of mitigation and adaptation. It is the position of this paper that both mitigation and adaptation processes and institutions be strengthened to reduce greenhouse emissions and also to protect those vulnerable to identified adverse impacts of climate change. The politics of technical transfer including human capacity building should be implemented without any further delay as agreed in Kyoto. The industrialized world should share their knowledge with the developing countries as part of differentiated responsibilities as clearly agreed in Kyoto Protocol without attaching so much dehumanizing costs. The past climate change negotiations especially those of COPs 15, 16 and 17 failed because of selfish national and economic interests of the world leaders. Until now, there is no replacement to Kyoto Protocol whose life span terminated in December 2012. The world leaders should put aside all selfish and myopic interests and work together in the COP 21 in Paris, France so as to come out with a binding treaty that is not only effective and efficient but also just, fair and equitable to the entire human kind. With concerted efforts and political will among the world leaders, the fight against climate change would be stepped up and the beneficiaries are the global community and our planet - the only living planet for now.

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